Special Report

Cohesion policy funds support to renewable energy generation — has it achieved good results?



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Special Report

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

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Reply of the Commission



Source: European Court of Auditors.

04

Glossary and abbreviations

CF: Cohesion Fund

Concept of cost-effectiveness: It concerns the ability or potential of an audited entity, activity, programme or operation to achieve certain outcomes at a reasonable cost. Cost-effectiveness analyses are studies of the relationship between project cost and outcomes, expressed as cost per unit of outcome achieved¹. The concept is also emphasised in the EU's financial rules (see paragraph 6).

CO₂: Carbon dioxide

Deadweight: Deadweight occurs where funding is provided to support a beneficiary who would have made the same choice in the absence of aid. In such cases, the outcome cannot be attributed to the policy, and the aid paid to the beneficiary has had no direct impact.

EIA: Environmental impact assessment

ERDF: European Regional Development Fund

EU added value: On a general level, EU added value is the value resulting from an EU intervention which is additional to the value that would have been otherwise created by Member State action alone.

Feed-in tariff (FIT): A policy mechanism designed to accelerate investment in renewable energy technologies by offering long-term contracts to renewable energy producers, typically based on the cost of generation of each technology.

MS: Member State

PV: Photovoltaic

RES: Renewable energy sources — energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases:

- o **Geothermal energy** means energy stored in the form of heat beneath the surface of solid earth.
- Biomass means the biodegradable fraction of products, waste and residues from biological origin from
 agriculture (including vegetable and animal substances), forestry and related industries including fisheries and
 aquaculture, as well as the biodegradable fraction of industrial and municipal waste.
- **Solar energy** means radiant light and heat from the sun harnessed using a range of technologies such as solar heating, solar photovoltaic and solar thermal electricity.
- **Wind power** means the conversion of wind energy into a useful form of energy, such as using wind turbines to make electrical power.
- Hydro energy is the conversion of kinetic energy derived from falling and running water into electrical energy.

¹ ISSAI 3000: Standards and guidelines for performance auditing based on Intosai's Auditing Standards and practical experience.

RES directive: Directive 2009/28/EC of 23 April 2009 on the promotion of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

RES 2020 targets: Directive 2009/28/EC on renewable energy, to be implemented by Member States by December 2010, set mandatory national targets for all Member States so that by 2020 the EU will achieve a share of 20 % of energy from renewable sources in general and of 10 % in the transport sector particularly.

Measurement of energy units:

- o **GW, MW, kW** Giga/Mega/Kilo watt
- o **GWh, MWh, kWh** Giga/Mega/Kilo watt hour
- o **kWp** kilowatts-peak nominal power of the PV module

Executive summary

This audit sought to answer the question of whether good results had been achieved by the two most important funding sources among EU spending programmes for promoting renewable energy — the European Regional Development Fund and the Cohesion Fund (cohesion policy funds).

П

Approximately 4,7 billion euro was allocated for renewable energy in the 2007–13 programming period. The Court examined whether funds in that period had been allocated to well-prioritised, cost-effective and mature renewable energy generation projects with rational objectives and to what extent these funds had achieved good results in contributing to the EU 2020 target for energy from renewable sources (RES).

Ш

The Court found that the 24 audited² RES generation projects delivered outputs as planned. Most of the audited RES projects were sufficiently mature and ready for implementation when selected. There were no major cost overruns or time delays in the projects and the RES generation capacities were installed as planned and operational. No major risks to their technical sustainability were apparent.

IV

In one third of the audited projects the energy production targets had been achieved (or almost achieved) and properly measured. The Court found that the overall value for money of cohesion policy funds support to RES generation projects has been limited in helping achieve the EU RES 2020 target, because:

- cost-effectiveness has not been the guiding principle in planning and implementing the RES generation projects; and
- cohesion policy funds had a limited EU added value.

V

In more detail, the Court found potential for improvements in the Member States covered by the audit: some procurement processes did not ensure full transparency, fairness and efficiency in contractors' selection; preparation was insufficient for effective monitoring and evaluation; programmes did not explain how the EU funds could contribute cost-effectively to reaching the RES objectives; cost-effectiveness of measures in different RES sectors was not always considered when the budgets were earmarked; and the programmes failed to establish performance indicators for monitoring and evaluation.

VI

The Court concludes that improvements are needed if funding under these programmes is to make the maximum possible contribution to achieving the RES 2020 targets.

² The audit results were derived from an examination of 24 completed renewable energy generation projects from nine operational programmes financed through the ERDF or the CF in Malta, Austria, Poland, Finland and the United Kingdom. The projects were in the biomass, photovoltaic, solar thermal and wind energy sectors.

Executive summary 07

VII

Cohesion policy spending, in general, brings benefits to the broader economy, and although the direct measurement of economic growth or job creation — the overarching aims of cohesion policy — was outside the scope of this audit, the Court's observations and recommendations are also made in the context of these policy aims.

VIII

In view of a likely enhanced use of EU funds for promoting RES in the 2014–20 programming period, the Court makes the following recommendations:

Recommendation 1

The Commission, through guidance setting for programme and project preparation and selection as well as through conditions for making funding available for RES generation investments, should:

- o ensure that future cohesion policy co-funded RES programmes are guided by the principle of cost-effectiveness, including the avoidance of dead-weight. Programmes must be based on proper needs assessment, prioritisation of the most cost-effective technologies (while not discriminating between RES sectors) and optimal contribution to the EU RES 2020 target. Adequate RES generation objectives in relation to the budget as well as project selection criteria with a focus on the cost-effectiveness of the energy generation results (avoiding over-compensation of projects) need to be set:
- promote the establishment by the Member States of a stable and predictable regulatory framework for RES in general, along with smoother procedures for the integration of electricity from RES into the grid networks.

Recommendation 2

The Member States should establish and apply, based on Commission guidance, minimum cost-effectiveness criteria which are adapted to the projects' circumstances. They should also enhance the added value of cohesion policy funds by improving RES project implementation as well as monitoring and evaluation and by building a stock of measured data about energy generation costs in all relevant RES sectors.

Renewable energy

01

Energy from renewable sources (RES) is important for improving the security of energy supply in the EU and for reducing the EU's dependence on conventional (fossil) fuels and imported energy, and for reducing greenhouse gas emissions. Electricity and heat can be generated from a range of resources, from the sun (concentrated solar power or photovoltaic power), wind (onshore or offshore), water (large, small or micro hydro), earth (geothermal for electricity or heat) and biomass (solid, liquid, landfill gas and biodegradable fraction of industrial and municipal waste, and liquid biofuels).

02

RES also have an important role to play in reducing carbon dioxide (CO₂) emissions and enhancing environmental sustainability. Moreover, the development of RES technologies has a potential to boost Europe's economy, industrial competitiveness and employment. RES are expected to be economically competitive with conventional energy sources in the medium to long term³.

03

The development of renewable energy is laid out in 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.

EU policy objectives — the 2020 renewable energy target

04

Already in 1997, the EU had declared a 12 % RES target by 2010. The Council of the European Union (the Council) set a binding EU target of 20 % in RES in gross final energy consumption by 2020, based on the Commission's Renewable Energy Roadmap which lays down a pathway for mainstreaming RES into EU energy policies and markets (see *Annex I* concerning the national 2020 RES targets)⁴. The renewable energy directive adopted in 2009 constitutes a legally binding framework for the promotion of RES until 2020⁵:

- o Apart from setting the overall 20 % binding target for the EU and binding national targets of between 10 and 49 % by 2020 it improves the framework for promoting RES electricity (e.g. by introducing requirements for the Member States concerning access to the electricity grid and simplification of administrative procedures).
- It required the Member States to develop national action plans that establish roadmaps for the development of RES and created cooperation mechanisms between the Member States to help achieve the RES target cost-effectively.

- 3 COM(2010) 639 final of 10 November 2010 'Energy 2020: A strategy for competitive, sustainable and secure energy'.
- 4 COM(2006) 848 final of 10 January 2007 'Renewable Energy Roadmap — Renewable energies in the 21st century: building a more sustainable future'.
- 5 Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (*RES Directive') (OJ L 140, 5.6.2009, p. 16).

05

The Member States are required to ensure that their share of RES equals or exceeds indicative trajectories to reach the RES 2020 target. They must report every 2 years to the Commission on implementation of the directive and progress towards their individual targets. RES measures are to be introduced in a cost-effective way⁶. The Commission must produce, by 31 December 2014, a progress report on the implementation of the RES directive⁷.

06

In addition, the EU's financial rules stipulate that the cost-effectiveness principle must be an important determinant of public spending decisions8. Moreover, the European Parliament noted the need to identify the most cost-effective RES and cost-optimal policies for realising the potential of RES9. According to the Commission's latest progress report¹⁰ the EU's RES 2020 target will likely be exceeded as a whole, whereas not all Member States were on track in 2012 to reach their binding national targets, see Annex I. Following its Green Paper in 2013, the Commission laid out initial considerations for the Union's climate and energy policy for the period from 2020 to 2030, proposing a binding EU target of 27 % for RES¹¹.

Barriers to renewable energy

07

Apart from exogenous factors (such as evolution of energy prices or access to loans) multiple sector-specific obstacles hamper investments in RES throughout the Union and have not yet been eliminated by the Member States and the Commission¹²:

- Institutional and legal barriers, e.g. the priority given at EU level to energy issues is not always reflected at local, regional and national level whereby a lack of clear implementation strategies and flexibility in the relevant administrations or the national legal regimes as well as unclear legislative and contractual frameworks standing in the way of promoting RES; complex authorisation and permitting procedures for planning, building and operating RES installations together with environmental requirements discouraging project promoters to come up with feasible project proposals (lack of an effective administrative system)
- Difficulties in integrating RES electricity in the transmission or distribution grids (technical problems, insufficient infrastructure, discriminatory practices preventing grid access, distribution of costs among the grid operators, government and project promoters and a lack of measuring of energy generation)
- Non-stable or non-predictable promotion and incentive regimes and a lack of information for suppliers, customers and installers hampering the use of cost-effective technologies.

- 6 Preamble (9) and (41) to the RES directive.
- 7 Article 23(8)(c) of the RES directive.
- 8 Article 18(1)(h) of Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and the Council on the financial rules applicable to the general budget of the Union (OJ L 362, 31.12.2012, p. 1).
- 9 European Parliament Resolution of 21 May 2013: Current challenges and opportunities for renewable energy in the European internal energy market (2012/2259(INI)).
- 10 COM(2013) 175 final of 27 March 2013 'Renewable energy progress report'.
- 11 COM(2013) 169 final of 27 March 2013, Green Paper 'A 2030 framework for climate and energy policies'. COM(2014) 15 final of 22 January 2014 'A policy framework for climate and energy in the period from 2020 to 2030'.
- 12 See, for instance, COM(2012) 271 final of 6 June 2012 'Renewable Energy: a major player in the European energy market', and its 2010 and 2012 biannual progress reports, COM(2011) 31 final of 31 January 2011 and COM(2013) 175 final of 27 March 2013, See also reports by European RES industry associations (Européan Renewable Energy Council (EREC) and its member organisations), particularly 'Analysis of deviation and barriers, 2013 report', by EREC, www.keepontrack.eu/ publications.

Financial support for renewable energy by the cohesion policy

08

Cohesion policy instruments — the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) are the most important funding source among the EU spending programmes¹³ for promoting renewable energy. While during the 2000-06 programming period only 600 million euro had supported projects in this sector, approximately 4,7 billion euro was allocated to renewable energy in the 2007-13 programming period, reflecting a much higher importance to this policy area (see Annex II for the breakdown by Member States). In the 2014-20 programming period, cohesion policy support to the shift towards a low-carbon economy will further increase and may reach at least 27 billion euro from the ERDF14. Further support can also be provided through the Cohesion Fund.

- 13 Other EU programmes promoting RES in the 2007–13 programming period were: European Energy Programme for Recovery, Intelligent Energy Europe Programme and Framework Programme for Research.
- 14 Regions will have to invest a minimum share of ERDF resources (20 % for more developed regions, 15 % for transition regions and 12 % for less developed regions) in supporting the shift towards a low-carbon economy in all sectors, including investments in renewable energy (Article 4(1) of Regulation (EU) No 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006 (OJL 347, 20.12.2013, p. 289)).

Вох

Cohesion policy spending for RES — key facts

- o 270,8 billion euro total ERDF/CF allocations for 2007–13
- o 0,6 billion euro total ERDF/CF allocations to RES for 2000–06
- o 4,7 billion euro total ERDF/CF allocations to RES for 2007–13

At least 27 billion euro — estimated minimum ERDF allocations to supporting the shift towards a low-carbon economy, including RES, for 2014–20. Further allocations could also be made from the Cohesion Fund (footnote 14).

Shared management

09

In the framework of cohesion policy the Member States draft the individual operational programmes, set up and operate their management and control systems and issue annual implementation reports to the Commission. Moreover, as part of the day-to-day management, national or regional bodies select the projects and are responsible for their implementation and evaluation.

10

Managing authorities, intermediate bodies and certifying authorities are in charge of managing the implementation of the operational programmes¹⁵. Project funding is subject to rules and conditions laid down partly at EU¹⁶ and partly at Member State level (project selection; project cost, benefit and earnings assessments; and also economic, social and environmental impact assessments are responsibilities of the Member States' authorities).

11

The Commission issues guidelines for drawing up operational programmes, approves the operational programmes and supervises the setting up and the operation of systems in the Member States. In particular, it monitors the implementation of the operational programmes essentially through the implementation reports received and through participation in monitoring committees. In addition to annual implementation reports, the Commission may request specific programme information and 'project selection' data from the managing authorities.

- 15 A summary of the rules for the application of the European Regional Development Fund, the European Social Fund and the Cohesion Fund 2007–13, including on management and control systems, is available on: http://europa.eu/legislation_summaries/regional_policy/management/g24241_en.htm
- 16 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,
 31.7.2006, p. 25).

Audit scope and approach

12

The audit sought to answer the question whether the ERDF and CF projects investing in renewable energy generation had achieved good results. In this regard, multiple audit criteria were developed (see Annex IV) which were based on different sources and studies, including such by the Commission's services. The Court examined whether the audited projects were implemented and delivered outputs as planned and whether they attained their energy generation targets. The audit analysed in particular whether the funds in the operational programmes in the 2007-13 programming period had been allocated to well prioritised, cost-effective and mature renewable energy generation projects with rational objectives and the extent of the projects' contribution in achieving the 2020 RES target.

13

The audit results were derived from an examination of 24 completed renewable energy generation projects from nine operational programmes financed through the ERDF or the CF in Austria, Finland, Malta, Poland and the United Kingdom¹⁷. The projects were in the biomass, photovoltaic (PV), solar thermal and wind energy sectors¹⁸. **Annex III** presents a list of the audited RES projects.

17 Based on the allocation of funds to RES in the operational programmes the following were selected:

OP I — Investing in Competitiveness for a Better Quality of Life — 2007MT161PO001

OP Niederösterreich 2007–13: Ziel Regionale Wettbewerbsfähigkeit & Beschäftigung/EFRE — 2007AT162PO001

OP Salzburg 2007–13: Ziel Regionale Wettbewerbsfähigkeit & Beschäftigung/EFRE -2007AT162PO006

OP Steiermark 2007–13: Ziel Regionale Wettbewerbsfähigkeit & Beschäftigung/EFRE — 2007AT162PO007

OP Program Operacyjny Infrastruktura i Środowisko — 2007PL161PO002

OP Regionalny Program Operacyjny Województwa Lubelskiego — 2007PL161PO007

OP Alueellinen Kilpailukyky-ja työllisyystavoite; Länsi-Suomen EAKR-Toimenpideohjelma 2007–13 — CCI2007FI162PO003

OP West Wales and the Valleys ERDF Convergence programme — 2007UK161PO002

OP East Wales ERDF Regional competitiveness and Employment programme — 2007UK162PO012

18 Of the 24 audited projects, 9 were for electricity production from full-scale or micro-wind turbines or photovoltaic panels, 15 projects related to heat generation from biomass or hot water production from solar collectors. The size of the projects varied from household-scale single solar panel projects to a wind farm with 16 turbines.

Audited projects delivering outputs as planned ...

The overall picture is one of well-planned projects delivering according to plan

14

The audited RES projects were sufficiently mature and ready for implementation when selected. In spite of relatively long preparatory phases in some of the biomass and wind energy projects critical permits, licences and technical plans had usually been obtained prior to project approval. Where applicable, it was also ensured that the installations were connected to the transmission or distribution networks or that contracts were concluded with a sufficient number of consumers¹⁹.

15

There have been no significant cost overruns or time delays in the projects. Overall, the audited RES projects were implemented within the planned time

schedules or with only relatively small time slippages (implementation was delayed by more than 6 months only in two projects of which one was due to repair downtime of a small combined heat and power plant). No significant cost overruns occurred during implementation. **Box 2** shows examples of audited RES projects.

16

With the exception of one biomass facility²⁰, the RES generation capacities were installed and operational as planned. No major risks to their technical sustainability were apparent. Few deviations from initial planning and approved project proposals were found. The projects' installed energy generation capacities were generally in line with the co-financing decisions. The facilities have been in operation without major technical or other problems since their commissioning. Only a few generation units from the audited projects were not in operation mode. Operators had in place sufficient expertise and resources to ensure a smooth running and regular maintenance of their installations.

- 19 For instance, the approval of the audited biomass projects in Austria was conditional on a sufficient number of consumers of the produced heat energy.
- 20 One biomass power plant in Austria deviated from the original plan in that it utilised EU funds for heat network extension instead of installing a second boiler as per the original plan. This deviation was in anticipation of an extension of heating capacity to serve additional heat consumers and is therefore not a shortcoming from a sound financial management point of view.

Interior view of the biomass power plant in Bruck an der Mur, Austria (project installed and operational as planned)



Source: European Court of Auditors.

Dicture 1

Wood chips in a storage hopper in the biomass power plant in Bruck an der Mur, Austria



Source: European Court of Auditors.

Examples of audited RES projects co-financed by the cohesion policy funds — outputs

For more details concerning project outputs see Annex III.

Biomass

Three audited biomass heating plants (capacity from 3 MW to 8 MW) with district heating network lines (of 0,6 to 11 km) were constructed in Austria. The plants supplied heat and hot water for a total of 266 consumers (private individuals or industrial companies).

Three audited projects in Finland related to the construction of new biomass-pellet or wood chips boilers (capacity from 0,8 MW to 2,5 MW). They replaced old fossil fuel (heavy oil) boilers. Two of these projects included also construction of the required district heating network (0,6 and 3 km).

Wind power

Five wind farms with power capacities ranging from 3,2 to 38 MW were constructed in Poland. The facilities include all necessary infrastructures (high/medium voltage substations, connections to electricity grid and service roads).

Solar power (PV and solar collectors)

Two projects installed PV electricity systems with associated hardware and monitoring systems on public buildings in Malta. One project was complemented by a small wind turbine.

Five similar projects in Poland installed individual sets of flat plate solar collectors for households and public buildings in five municipalities to supply residents with hot water. In total, over 3 000 public and private beneficiaries installed solar collectors. One project included street lighting and PV.

... but encountering some difficulties in implementation

There is scope for further improvement at all project stages — from procurement through operations to monitoring and evaluation

17

Difficulties with RES electricity integration into the grid have hampered exploitation of RES. Throughout the EU the development of the grid has been identified as one of the key barriers to the large-scale integration of RES electricity into the transmission and distribution grids²¹. Accordingly, the Union and its Member States need to invest

in both national networks and crossborder links as part of building the internal energy market. The owners of the projects audited emphasised that spare capacity in the grids was insufficient²², the grids have to be expanded and modernised and greater transparency about the distribution of costs among the grid operators, government and project promoters could improve system-wide efficiency. While only few of the audited projects encountered grid connection problems, the deployment of RES generation is, nonetheless, not accompanied by improved grids in the Member States. Technical and cost issues were frequently cited by national authorities and RES operators as impediments to an effective RES integration to the grids. Box 3 illustrates problems in connection with RES electricity in the grids.

21 COM(2013) 175 final.

22 See also Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment (OJ L 33, 4.2.2006, p. 22). Article 3(2)(f) stipulates that Member States in implementing measures aimed at safeguarding security of electricity supply shall take account of the need to ensure sufficient transmission and generation reserve capacity for stable operation.

Picture

Windfarm in Golice, Poland



Source: European Court of Auditors.

Box 3

Access to the grid of RES electricity in Poland, integration of electricity from photovoltaic into the grid in Malta

The poor state and lack of spare capacity of the transmission and distribution grids have been key barriers to the further integration of electricity from PV and wind energy in Poland. Apart from the need for expansion and modernisation of grid infrastructure, complications with obtaining the necessary permits for grid connection (legal and technical problems as well as grid connection fees) hampered RES development²³. In the audited wind energy projects, the lead times to construction of the facilities, including for the required grid connection permits, have been 4 to 5 years.

Clear guidelines about planning permission and permits, where required, were available concerning solar and PV installations in Malta. However, in 2010 and 2011 when multiple EU co-funded projects were commissioned these frequently encountered difficulties with feeding-in of their generated electricity — usually the electricity in excess of producers' own consumption. Since meters had not been installed by the grid operator the producers were not compensated for their electricity by the feed-in tariff for periods of up to 4 months.

23 Integration of electricity from renewables to the electricity grid and to the electricity market — RES-Integration. National report: Poland. Eclareon, Oeko-Institut e.V., 20.12.2011.

18

The Commission in its analysis of Member States' 2011 renewable energy progress reports indicated that progress removing the administrative barriers was still slow, with complex and discouraging authorisation and permitting procedures²⁴. There is potential for improvements in the Member States where the audit took place. The audit found, for example, that Malta had embarked on RES development only during the 2007–13 period whereby

a market for RES has not yet developed to maturity. An effective administrative system has not developed in full yet. Moreover, in Poland and in the United Kingdom national or regional harmonised approaches to coordinate the work of the authorities were partially lacking. Notably measuring and reporting of projects' energy results were poor and hence data was not used for comparing projects and different RES sectors as a useful information in designing future measures.

24 SWD(2013) 102 final of 27 March 2013 'Renewable energy progress report'.

Project monitoring in Austria

All biomass district heating plants larger than 400 kW and/or feeding a heating network larger than 1 km are obliged to carry out an accompanying quality management. Coordination of the funding process and the management of the necessary planning and operating data is facilitated through a database which provides a standard platform for project beneficiaries, as well as technical and economic data for quality managers and an IT platform for monitoring and optimisation of the operations. Introduced in 2006, 'QM Heizwerke' contains data from over 100 biomass plants.

Web link: www.qm-heizwerke.at

Auditors visiting biomass power plant in Weissenbach an der Triesting, Austria



Source: European Court of Auditors.

20

The procurement processes did not ensure full transparency, fairness or efficiency in contractors' selection:

- o The tenders had to be cancelled in two audited PV projects in Malta because all bids had been technically or administratively non-compliant. This was due to either unnecessarily high technical requirements or overly complex procedures and requirements. In both cases some delay occurred and competition among bidders was hampered.
- o In two projects in Poland, the wind turbine models were specified unnecessarily in construction plans or construction permits. This prevented tender specifications which could ensure competitive procurement and best price/quality ratios. In another project, likewise, a specific solar collector type had been pre-determined. In each

- of those tenders only one bid of those submitted met the technical specifications.
- Implementing bodies and project beneficiaries lacked sufficient expertise on RES technologies, their markets and procurement frameworks. Multiple RES equipment and installation works have been of a similar, sometimes identical, nature and small in size, especially the operations under grant schemes. Therefore, conditions were there for a coordinated procurement managed by a specialised unit of experts at national/regional level to obtain better price/quality ratios, economies of scale and also shorter procurement periods. Examples are roof top water heating systems, PV panels and small biomass in Malta and Poland. There were temporary suspensions of projects in Malta, partly as a result of non-efficient organisation of procurement.

Biomass power plant in Flachau, Austria



Source: European Court of Auditors.

21

The preparation of the RES projects has been insufficient for effective monitoring and evaluation. The objectives and performance indicators set in all operational programmes audited were imprecise and not based on reliable baseline data. Thus, the projects in the same or different RES sectors could not be compared; nor could the contribution of the EU funds to the EU and national RES targets be verified by the competent authorities (see also paragraph 30).

... and results not properly measured or projects not attaining their energy generation targets in the majority of cases

RES data collection and reporting can be improved

22

No accurate, validated data about actual RES project results is available in the Member States. The RES sector was characterised by enormous volatility in terms of the costs of the technologies (most technologies saw massive price reductions) and increasing energy prices. It is important to analyse up-to-date information about RES technology costs in order to establish which technologies render the most favourable yields in the specific local circumstances and the appropriate levels of support.

23

However, while data is available about the projects' installed generation capacities, no or non-reliable data was available on the actual generated energy in 11 out of 24 audited projects. Actual measurement and reporting not having been conditions for public co-financing, project final reports provided only estimated, non-measured results — usually based on technical parameters of the RES technologies as supplied by the manufacturers and the specific local situations. Multiple RES producers did not measure their energy yields. Thus, in 11 of 24 audited projects (five in Poland — solar projects in the Lublin region, four in Malta and two in the United Kingdom) the energy results were not based on measured/validated data but on assumed values taken from literature or professional estimates made by engineers.

Project results not always achieved

24

Of 13 out of the 24 audited projects, in which energy generation results were actually measured, the targets were attained in only 5 projects, and almost attained in 3 further projects. The remaining projects did not reach or only partly reached their production targets. While in several cases this was due to insufficiently precise forecasts some projects had also encountered technical problems in their initial stages. *Table 1* compares the RES projects' planned with actual energy generation.

25

In summary, the evaluation of the 24 audited projects' cost-effectiveness, implementation and achievement of objectives has resulted in a mixed bag of good, satisfactory and poor projects, as is laid out in *Annex IV. Box 5* indicates reasons for weak performance in some RES projects.

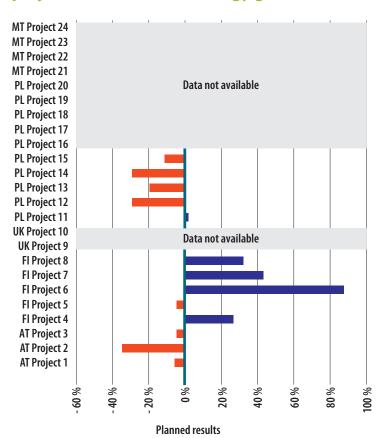
Reasons for weak project performance

In Austria, actual energy generation was in line with or above forecasts in those project stages which were directly supported by ERDF funds. However, in two projects which were later extended by additional heat capacity and networks serving additional customers the planned targets were not achieved. The main causes were overestimated heat demand or non-consumption of heat, temporarily, by major customers.

The reasons for a lower than anticipated performance in the Polish wind energy projects were too optimistic wind forecasts and technical problems during the first year of operation.

In the United Kingdom, moreover, although final data was not available and the audited grant schemes were not completed at the time of the audit, the results of sub-projects revealed nonetheless that some of them did not attain their planned energy generation targets — mainly due to high water contents in the biomass materials or lower energy demand than estimated.

Comparison of average planned and actual energy generation in audited RES projects with measured energy generation results, 2009–12, in %



Source: Court's own calculations based on 'QM Heizwerke' database (Austria), information about average investment costs of similar projects (Finland and Poland); project financing agreements, information about project results calculated by beneficiaries.

The principle of costeffectiveness is not fully considered in planning the RES projects

Cost-effectiveness — an important objective in EU spending

26

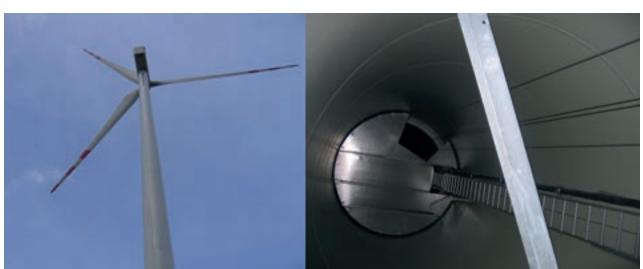
Cost-effectiveness concerns the ability or potential of an audited entity, activity, programme or operation to achieve certain outcomes at a reasonable cost. Cost-effectiveness analyses are studies of the relationship between project cost and outcomes, expressed as cost per unit of outcome achieved²⁵.

27

Optimal (or cost-effective) RES energy generation is important for economic performance. Cohesion policy funds constitute a significant part of support for RES activities and could be an important driver of both RES policy as well as regional economic development.

25 ISSAI 3000: Standards and guidelines for performance auditing based on Intosai's Auditing Standards and practical experience.

Windmill (outside and interior views of a wind turbine in Poland)



Source: European Court of Auditors.

Picture 6

There is scope for an emphasis on cost-effectiveness at an early stage

28

In connection with the preparation of the operational programmes, the national authorities did not conduct proper needs assessments to identify which technologies could contribute to attaining the RES targets in the most cost-effective way and how they could be complemented by other financial instruments or national support schemes. As a result, the operational programmes did not contain explanations as to how the EU funds could contribute cost-effectively to attaining the RES objectives.

The cohesion policy funds' use for RES has been variable among the Member States. As can also be seen from *Table 2*, for multiple Member States no adequate data is available for comparing the achievement of the cohesion policy projects in relation to the RES targets. This lack of data inhibits establishing baseline economic and energy data in different RES sectors and for different RES technologies.

29

Moreover, the Commission and the national authorities did not plan the cohesion policy (or national) funds' contributions in attaining the RES targets. From the audited operational programmes, those in Austria and in Finland did not lay out the planned and actual RES energy generated from the ERDF- and CF-supported measures. The installed capacity from RES in the five audited countries to meet the RES target in 2020 is 95 304 MW (see **Table 2**). The implementation reports submitted by the managing authorities to the Commission reveal that, by 2012, 4 464 MW or 4,7 % of the required capacity as per the 2020 target (or 8,1 % in relation to the 2013 trajectory target in the audited Member States) was contributed through the cohesion policy projects in these countries.

2007–13 cohesion policy funds for RES and their impact on achievement of RES 2020 targets in the Member States

O.D.	ERDF and CF funds allocated to RES (EUR) ¹	Additional RES capacity as a result of ERDF and CF investments (MW)		Required additional RES capacity to meet the RES 2020 target (MW)		ERDF/CF contribution of total RES
OP		Planned	Reported (end 2012)	by 2013	by 2020	capacity to meet the RES 2020 target (in %)
(1)	(2)	(3)	(4)	(5)	(6)	(7 = 3:6)
Austria	25 037 408	105	99	11 301	13 179	0,79
Belgium	11 851 495	No data available		3 062	8 255	
Bulgaria	16 710 959	No data available		4 232	5 189	Data not reported to the Commission
Cyprus	9 520 000	No data available		190	584	bata not reported to the commission
Czech Republic	397 759 730	131	12	No data a	available	
Germany	252 995 745	29	118	71 621	110 934	0,03
Denmark		No data a	vailable	6 017	6 754	
Estonia		0	6	No data available		Data not reported to the Commission
Spain	160 152 052	No data a	vailable	49 722 69 844		
Finland	20 682 247	No data available		24 690	33 420	Data not reported to the Commission
France	363 591 135	1 161 307	1 833 445	39 628	62 167	Data not confirmed
Greece	283 795 789	156	106	6 872	13 271	1,18
Hungary	349 310 777	0	0	1 109	1 537	Data not reported to the Commission
Ireland		No data available		3 496	8 339	
Italy	775 717 953	5 215	2 893	32 524	43 823	11,9
Lithuania	58 485 290	0	173	1 289	1 635	Data not reported to the Commission
Luxembourg	1 767 056	5 000	11 000	179	347	Data not confirmed
Latvia	67 180 000	77	21	1 661	2 168	3,55
Malta	78 200 000	No data a	vailable	36	160	Data not reported to the Commission
Netherlands	19 182 600	No data available		6 086	14 994	Data not reported to the Commission
Poland	825 761 396	972	246	4 444	10 335	9,4
Portugal	59 857 312	0	0	12 699	19 200	Data not reported to the Commission
Romania	331 542 611	200	275	9 635	12 589	1,58
Sweden	52 342 949	0	271	21 744	23 786	Data not reported to the Commission
Slovenia	54 186 553	355	120	1 258	1 693	21
Slovakia	90 252 216	98	72	2 144	2 746	3,57
United Kingdom	159 590 365	12 000	4 120	14 660	38 210	31,4
Croatia		No data available				Data not reported to the Commission
Audited MS	1 109 271 416	13 077	4 464	55 131	95 304	13,72
In total	4 665 401 221	1 185 643	1 852 975	318 998	505 159	Data not confirmed

¹ Allocations/output (EUR/MW) among Member States is not comparable due to different nature of investments (energy generation, RES promotion, networks, pilot projects, etc.).

Source: National renewable energy action plans (2010), Implementation reports of the operational programmes for 2012.

30

The cost-effectiveness of measures in different RES sectors was not examined and did not determine the budgets earmarked to RES under the audited operational programmes while proper needs assessment and midterm evaluations were lacking:

- o When operational programmes were designed in 2007 there had been a lack of detailed situation analysis (including needs assessment in different RES sectors in the regions); in particular, the costs per unit of energy capacity installed or the costs of energy generation per unit had not been estimated by national authorities thus neglecting the cost-benefit/cost-effectiveness of the measures planned to be financed through public means;
- Also, the operational programmes did not take advantage of the results of or lessons learnt from previous RES programmes financed by national or EU resources;
- No adequate justification for allocating public funds to RES generation interventions was provided.
 Fund allocations were, in general, based on rough estimation of the regional potential and fund absorption capacities rather than systematic analysis of the regional situation and comparison between potential alternatives in terms of types of RES or RES technologies;

Although the authorities in Finland and in the United Kingdom inserted some adaptations in their programmes along the way without formal assessments, in general however no mid-term evaluations or similar assessments of the 2007–13 measures were conducted which could have helped redirect the RES programmes.

31

Furthermore, the operational programmes failed to establish performance indicators for proper monitoring and evaluation of costeffectiveness of RES measures which could also have facilitated assessing the contribution of the EU funds to the committed RES targets (*Table 2*). While the operational programmes in Austria, Poland and Malta had indicators referring to additional RES capacity, the set of result indicators in Finland did not include indicators for creation of generation capacity, produced energy or reduction/avoidance of CO₂ emissions, and in the United Kingdom a result indicator in respect of RES capacity creation was also lacking. This means that, in these cases, the managing authorities and the Commission were not in a position to conduct adequate monitoring and ex post evaluation of the cohesion policy funds' investments in RES²⁶.

26 The annual implementation reports by Finland and the United Kingdom did not provide explanations about actual results and their measurement and no assessment of the barriers, the potential and the needs in the different RES sectors in the regions covered by the audited OPs had been conducted.

Transformer station in a wind park in Golice, Poland



Source: European Court of Auditors.

... and there is also scope for more cost-effective RES generation projects

32

Removing inefficiencies in the planning and implementation of RES projects will make a direct contribution to achieving the 2020 EU and national RES targets. But it can also benefit the energy consumers and boost the broader economy as well.

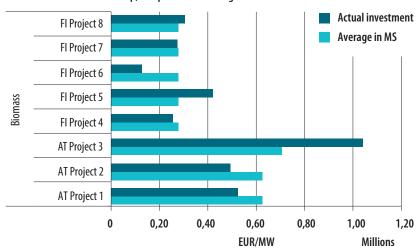
33

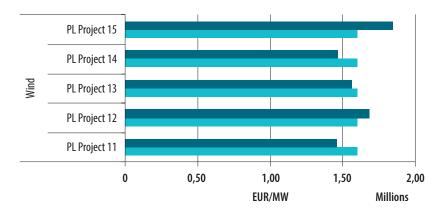
The results of the EU-supported projects varied in terms of their cost-effectiveness. The investment costs of RES technologies range widely and are site specific. There is no single most cost-effective RES generation

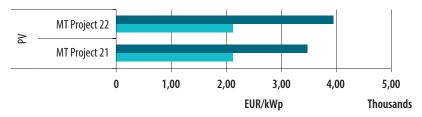
technology in the EU. Therefore the audit compared only costs within a particular RES sector in the same Member State. Four audited projects were significantly more expensive than similar projects in the same Member State (biomass and PV projects, see Table 3). The calculated average costs for installed capacity varied from 0,16 million EUR/MW to 1,8 million EUR/ MW in the audited projects. As calculated by the national authorities in one of the Member States where the audit took place, the payback periods varied from 2 to 537 years in the audited projects. Capital-intensive investments with payback periods of more than 100 years will not achieve an economically reasonable breakeven point. This indicates that public support was not always allocated to the most cost-effective projects.

Cost-effectiveness of the audited RES projects

Investment in 1MW or kWp, compared with average investment cost in the Member State







Source: Court's own calculations based on project documentation, analyses by the managing authorities¹.

¹ Note to FI projects: Average machinery and equipment investment costs of the audited projects. Project 5 includes piping costs on the site, Project 6 auxiliary boiler only. Data not available for projects MT 23 and 24 (PV), PL 16 to 20 (solar energy) as well as UK 9 and 10 (biomass).

34

Rational energy objectives were only partly set for the RES projects. The projects were in line with national strategic RES objectives. Fuel supply concepts existed where necessary (biomass projects in Austria, Finland and in the United Kingdom). Some projects were preceded by limited studies showing their economic viability and profitability but no analyses were made concerning the best and most cost-effective RES types and best technological solutions. Evaluations of previous similar interventions were not referred and thus no 'lessons learnt' were used in preparing the audited RES projects.

35

Only about half of the audited projects (13 of 24) had data through which the achievement of the indicators in terms of actually achieved energy generation could be verified (Table 1 and Annex III), see also paragraph 24. Furthermore, frequently baseline data about the costs of energy production, the quantities of conventional fuels used by consumers was not available before objective-setting and designing the projects (e.g. operational programme of the Lublin region in Poland). Consequently, in such cases, it is not possible to assess whether the funded projects actually generated the expected economic or financial results (e.g. for calculating payback periods).

36

The selection procedures did not guarantee cost-effective projects. In general, the project selection criteria, approved by the monitoring committees established for each operational programme, were not enabling the implementing authorities to identify the most cost-effective RES projects. The creation of energy capacity, actual energy generation and the relevant necessary investments were in many cases not weighted as selection or award criteria. In a few cases, no specific selection criteria in relation to RES generation had been developed but instead selection criteria universally applicable to multiple sectors covered by the operational programme were used²⁷.

37

There has been insufficient competition among project applications in some cases. Where the projects were identified through calls for proposals maximum cost-effectiveness of applications (payback period, investment to energy generation ratio) was not considered. Whereas usually project applications had to fulfil minimum criteria, the processes could not prevent subsidising relatively low quality projects in terms of their energy generation results. A determined minimum investment size risked that applications for smaller projects — possibly having better economic parameters were discarded.

27 For instance:

- the selection of RES projects under the operational programme 'Infrastructure and Environment' in Poland was based on the same criteria applied in different sectors, i.e. for non-comparable types of RES projects;
- in Finland, the project applications were not prioritised and only estimated payback periods were used as costeffectiveness and eligibility criteria;
- in Malta, the selection criteria applied to multiple sectors covered by the operational programme but not specifically to the RES sector. Though one criterion provided scores in relation to the projects' 'contribution towards indicators beyond minimum required', the selection criteria did not include any costeffectiveness or costbenefit criteria for RES generation;
- in Austria, a maximum cost-effectiveness of applications (payback period, investment to energy generation ratio) was not considered in the audited operational programmes.

38

On the other hand, Austria, the United Kingdom and to some extent Finland had technical and economic criteria in the financing rules geared towards preventing wasteful biomass projects to be selected. There was therefore less risk of selecting non-effective applications. Also, project profitability was taken into account whereby more profitable projects received less subsidies (*Box 6*). Such adaptation of the level of project co-financing was not ensured by the competent authorities in the other Member States where the audit took place.

39

The EU co-financing rates varied between 2 % and 85 % in the operational programmes, without this being justified in the relevant documents. The co-financing principle holds that part of the investment costs of a project is borne by the final recipient of a public grant whereby the revenue or profitability in the project are to be taken into account. The purpose of the grant should, furthermore, be to support an action which could not otherwise take off due to a financing gap or a lack of an economic incentive. There is an opportunity cost; high co-financing rates reduced the size or number of other RES projects which could have been supported through public funds. No links were made between rate of support and profitability or need for incentivising investors to carry out RES generation projects. Non-justified very high co-financing rates (public financial support to an amount higher than necessary for a project to be economically or financially viable) increased the risk of deadweight — i.e. replacing private funds, but also national funds and reduced the number of supported RES generation projects. Box 7 illustrates cases of high co-financing.

Project selection — cases in Austria, Finland and the United Kingdom

In Austria, when applying for co-funding, certain technical and economic criteria have to be met (heat density per running meter of the district heating pipe, district heating and boiler's efficiency). As a result, there is much less risk that non-effective projects are supported.

In Finland, the eligibility criteria and possibility to have consultation with energy consultant/advisor intend to eliminate non-commercially viable projects: the project applicants were required to provide information about the payback-period of the applied project, which should not be less than 3 years (commercially profitable) nor longer than 12 years (uneconomic), without the public aid.

In the United Kingdom, the proposed project costs were compared with target costs based on past similar biomass projects.

High public co-financing — cases in Poland and Malta

In Poland, the schemes for small PV and solar were allocated 85 % from EU funds, whereby individual project owners (households) could receive up to 100 % subsidy. Most large wind farms received maximum public support — either close to 70 % of total eligible investment costs or 10 million euro (4 of the 5 audited projects). While the maximum co-financing rates were applied in most cases they were, however, not modulated or justified based on cost-effectiveness considerations in any programming document. Four of five wind power project beneficiaries recognised that they could have implemented the projects without or with reduced grants and intended to use the EU grants for early repayment of loans.

Malta devoted a large part of available EU funding for supporting RES installations of public institutions thereby not sufficiently leveraging private funding sources. As a rule, the EU financed as much as 85 % of investment costs in those projects. Two large grant schemes, furthermore, for private households and enterprises financed RES installations by 50 % or 60 % respectively.

40

Picture 8

Profitability calculations were not made for different RES sectors or technologies. When planning the programmes the co-financing rates did not distinguish between the RES sectors, size and types of investments, other promotion/support regimes in the Member States (feed-in tariffs, premiums), likely profitability of the investments and the type of RES technologies used.

Solar collectors mounted on the roof of a family house in Poland



Source: European Court of Auditors.

Cohesion policy funds having limited EU added value — the RES projects did not make their full contribution to the EU's energy objectives

41

In only a few cases was significant EU added value demonstrated. In those projects the ERDF/CF co-financing facilitated the cap-funding, the cofinancing has been a welcome additional source of investment and thus contributed to the implementation of the projects. For the (larger) wind farms it was also regarded as a quality stamp for third-party financing institutions. It is clear that in countries with low RES penetration, which had few RES programmes and less administrative experience in this sector, the EU funds have had more value added in that they have helped to develop additional economic development, increase the quality of the relevant projects and also, to some extent, through acting as a catalyst and for leveraging other funds. Moreover, there has been an 'operational value added' to some extent as the EU projects imposed certain obligations on the implementing bodies through which some learning effects were assured for the organisations involved. Those effects were emphasised notably by organisations in Malta, Poland and the United Kingdom.

42

The Court also found that the RES allocations within the operational programmes in Austria and Finland were prone to a risk of replacing national funds. Indeed, in both these countries the ERDF merely complemented existing national/regional funding mechanisms and in Austria the EU support was virtually integrated, without changing anything else, into an existing subsidy scheme for biomass plants. Austria and Finland have a long-lasting tradition of RES (especially in the hydro energy and biomass areas) and it is difficult to assess whether the EU funds contributed to additional value added, particularly in regard to innovation.

43

In 2012, the Commission stressed that Member States and regions need to ensure that funding for RES complements private investment, leveraging it, and not crowding it out²⁸. The Court found that some RES projects could have been implemented without public support. It was evident that multiple project applicants could have set up the RES installations without or with smaller public grants thus freeing up money for additional RES measures. However, the grant decisions were nonetheless important in view of bankable project financing:

- The Austrian projects in question were all endorsed after completion of the construction works signalling that the subsidy was not a condition for investment.
- Four of the five audited projects in Finland could have been realised without subsidies (only one project would not have been implemented without support by public funds).
- Several wind energy project owners said they would have carried out their projects without public subsidies as the economic incentive through the wind yields and the 'green certificates' had been sufficient. Indeed, multiple existing similar wind farms had been constructed without being subsidised.

44

The RES investments had only a limited effect on building managerial capacities. One of the intended effects of EU added value is improved administrative or managerial capacities in the Member States. Albeit various stakeholders in Malta, Poland and the United Kingdom claimed there had been invaluable learning effects from the EU projects, in general no far-reaching contributions to improving project planning, implementation and operation could be demonstrated. The RES grant schemes and individual projects were generally managed with a focus on regularity issues without addressing value for money requirements. In Austria and Finland, the EU co-financing was merely made part of the national support mechanisms without particular innovation aspects (see as well paragraph 42). The experience gained during the implementation of the projects was not disseminated in these two Member States or neighbouring regions.

45

The RES projects were often operating in fragile regulatory environments. Although the EU funds devoted to RES generation were indeed not aimed at reforming regulatory frameworks, they could nevertheless have triggered improvements to those. The RES legal frameworks in many Member States have suffered multiple revisions, including retroactive changes in the subsidy and promotion regimes. Permitting procedures are often complex and discouraging or not applied consistently and, together with market uncertainty and volatility in energy prices, jeopardise investor confidence in the sector.

28 COM(2012) 663 final of 15 November 2012 'Making the internal energy market work'

46

There has been variable but overall low use of Cohesion Funds for RES in the Member States. Although the EU funds allocated to RES increased from 0,6 in the 2000-06 programming period to 4,7 billion euro in the 2007–13 programming period, this represents only 1,7 % of total ERDF and CF spending. In relation to the enormous investment needs in the sector for reaching the EU 2020 RES target the allocation of EU funds by the national and regional authorities was low²⁹. The Member States allocated between 0 % (the lowest value) and 10,7 % (the highest value) of total ERDF and CF funds. Even the 10 % allocated by Malta for RES is not significant to reaching its national RES target of 10 % by 2020 when considering that the country had practically no RES in 2007 and attained less than 2 % of RES in final energy consumption by 2012 (see Annex I). Of the Member States covered by the audit, Malta had failed to reach the first mid-term objective and Austria, Finland and Poland had not transposed the RES directive in national legislation by the end of October 2013 (the deadline was 5 December 2010).

47

The uptake of the funds allocated to RES has been slow. By the end of 2012³⁰, the absorption of the available ERDF and CF funds for RES for 2007-13 (only 58 %) has been much lower than the average for the total ERDF and CF funds (88 %) and also lower than for energy efficiency measures (84 %). Although the market failures and barriers are of a different nature in this sector the EU co-financed projects in almost all Member States have been managed by the same managing authorities, see Table 4. Relatively high complexity of the RES projects and a lack of administrative capacity to manage investment measures in this sector, clearly, had an impact on the lower ERDF and CF disbursement rates. Thus, overall, the Cohesion Funds were of a modest significance for achieving the EU RES target.

- 29 SEC(2011) 131 final of 31 January 2011.
- 30 The amounts allocated by the managing authorities to selected projects. The last available data is from the end of 2012

Table 4

Absorption of cohesion policy funds for RES projects in the audited Member States ('selected projects' as at end of 2012)

EU Member State	Total cohesion policy funds selected projects (%)	Cohesion policy funds selected Energy Efficiency projects (%)	Cohesion policy funds selected RES projects (%)
Austria	75,6	287,3	50,6
Finland	90,8	34,5	30,6
Malta	88,1	37,9	43,3
Poland	85,4	112,2	57,8
United Kingdom	84,7	73,6	49,9
Average all Member States	87,7	84,5	58,0

Source: DG Regional Policy database SFC 2007.

Conclusions and recommendations

48

Overall, the Court concludes that value for money of cohesion policy funds support to RES generation projects has been limited in helping achieve the EU RES 2020 target.

49

The audited projects delivered outputs as planned: Most of the audited RES projects were sufficiently mature and ready for implementation when selected, there have been no major cost overruns and time delays in the projects and the RES generation capacities, generally, were installed as planned (paragraphs 14 to 16).

50

However, the Court found also that there were weaknesses in implementation: In particular concerning performance indicators, measuring and reporting of project results as well as procurement procedures and outcomes. In general, difficulties of integrating RES electricity into the grids have been identified as a major impediment to the development of RES in the EU (paragraphs 17 to 21).

51

Moreover, the energy generation targets were not achieved or the results not properly measured in around two thirds of the audited RES projects. In most of these cases, insufficient or non-measured data about actual generated energy was available. The non-achievement of planned results was mostly due to imprecise forecasts or technical problems. Overall, the project outcomes have been mixed (paragraphs 22 to 25).

52

Furthermore, cost-effectiveness has not been the guiding principle in planning the projects. The underlying operational programmes were designed without prioritisation of the RES sectors and without assessments of the funds' contributions to the RES objectives. Fund allocations were, in general, based on rough estimation of the regional potential and fund absorption capacities rather than systematic analysis of the regional situation and comparison between potential alternatives in terms of types of RES or RES technologies. The cost-effectiveness of the measures was neglected when they were allocated the budgets. Rational energy objectives and performance indicators for energy generation had not been set well in all projects. The selection criteria and procedures were frequently not conducive to selecting the most cost-effective RES projects. Project results were mixed in regard to cost-effectiveness whereby in some Member States the high co-financing rates were not justified in the documents in relation to the projects' profitability (paragraphs 26 to 40).

53

The audit also found that the cohesion policy funds for RES had a limited EU added value. There has been a risk of public funding replacement in those Member States which simply used the EU funds to complement their national grants for RES as well as a risk of deadweight. While the EU co-financing had some 'operational value added' the investment projects have not, however, helped build up managerial capacities in a significant way. Overall the use of ERDF and CF for RES has been modest in relation to the need for increased efforts to reach the EU objectives (paragraphs 41 to 47).

54

The Court emphasises the need for improvements if cohesion policy funding is to make the maximum possible contribution to achieving the energy targets³¹. Furthermore, cohesion policy spending, in general, brings benefits to the broader economy, including economic growth and job creation which are overarching aims of cohesion policy. In view of a likely enhanced use of EU funds for promoting RES in the 2014–20 programming period, the Court makes the following recommendations:

Recommendation 1

The Commission, through guidance setting for programme and project preparation and selection as well as through conditions for making funding available for RES generation investments, should:

ensure that future cohesion policy co-funded RES programmes are guided by the principle of costeffectiveness, including EU funding support to cost-effective programmes that would not otherwise take place, so as to avoid deadweight. Programmes must be based on proper needs assessment, prioritisation of the most cost-effective technologies (while not discriminating between RES sectors) and optimal contribution to the EU 2020 target. Adequate RES generation objectives in relation to the budget as well as project selection criteria with a focus on the cost-effectiveness of the energy generation results (avoiding over-compensation of projects) need to be set:

 promote the establishment by the Member States of a stable and predictable regulatory framework for RES in general, along with smoother procedures for the integration of electricity from RES into the grid networks.

Recommendation 2

The Member States should establish and apply, based on Commission guidance, minimum cost-effectiveness criteria which are adapted to the projects' circumstances. They should also enhance the added value of cohesion policy funds by improving RES project implementation as well as monitoring and evaluation and by building a stock of measured data about energy generation costs in all relevant RES sectors.

31 Within this policy area, the Court published a report on the energy efficiency measures co-financed by the ERDF and the CF (Special Report No 21/2012 'Costeffectiveness of Cohesion Policy Investments in Energy Efficiency' (https://eca.europa. eu)). The audit analysed the cost-effectiveness of cohesion policy investments in energy efficiency, with a specific focus on the Commission's management role in relation to its approval of operational programmes and the monitoring of programme execution in the regions.

This Report was adopted by Chamber II, headed by Mr Henri GRETHEN, Member of the Court of Auditors, in Luxembourg at its meeting of 9 April 2014.

For the Court of Auditors

vice.

Vítor Manuel da SILVA CALDEIRA President **Annexes**

Annex I

Overview of Member States' progress towards the 2020 RES target

Member State	2010 RES share ¹	1st interim target²	2012 RES share ³	2020 RES target⁴
Belgium	5,0 %	4,4 %	6,8 %	13 %
Bulgaria	14,4 %	10,7 %	16,3 %	16 %
Czech Republic	9,3 %	7,5 %	11,2 %	13 %
Denmark	22,6 %	19,6 %	26,0 %	30 %
Germany	10,7 %	8,2 %	12,4 %	18 %
Estonia	24,7 %	19,4 %	25,2 %	25 %
Ireland	5,6 %	5,7 %	7,2 %	16 %
Greece	9,7 %	9,1 %	15,1 %	18 %
Spain	13,8 %	10,9 %	14,3 %	20 %
France	12,7 %	12,8 %	13,4 %	23 %
Italy	10,6 %	7,6 %	13,5 %	17 %
Cyprus	6,0 %	4,9 %	6,8 %	13 %
Latvia	32,5 %	34,0 %	35,8 %	40 %
Lithuania	19,8 %	16,6 %	21,7 %	23 %
Luxembourg	2,9 %	2,9 %	3,1 %	11 %
Hungary	8,6 %	6,0 %	9,6 %	13 %
Malta	0,4 %	2,0 %	1,4 %	10 %
Netherlands	3,7 %	4,7 %	4,5 %	14 %
Austria	30,8 %	25,4 %	32,1 %	34 %
Poland	9,3 %	8,8 %	11,0 %	15 %
Portugal	24,2 %	22,6 %	24,6 %	31 %
Romania	23,2 %	19,0 %	22,9 %	24 %
Slovenia	19,2 %	17,8 %	20,2 %	25 %
Slovakia	9,0 %	8,2 %	10,4 %	14 %
Finland	32,4 %	30,4 %	34,3 %	38 %
Sweden	47,2 %	41,6 %	51,0 %	49 %
United Kingdom	3,3 %	4,0 %	4,2 %	15 %
EU	12,5 %	10,7 %	14,1 %	20 %

 $\label{lem:condition} \mbox{Achievement of 2020 RES target according to information provided by the Commission:}$

¹ Source: Eurostat, 10 March 2014. Actual share of energy from renewable sources (in % of gross final energy consumption) in 2012 (which also provides data for 2010).

² Source: Renewable energy progress report (Report from the Commission to the European Parliament, the Council, the European Economic $and \ Social \ Committee \ and \ the \ Committee \ of \ the \ Regions, \ (COM(2013)\ 175 \ final, 27.3.2013. \ First \ interim \ target, \ calculated \ as \ the \ average \ of \ Committee \ and \ the \ average \ of \ average \ of$ 2011/2012 shares.

³ Source: see footnote 1 above.

⁴ Source: Directive 2009/28/EC.

Cohesion policy (ERDF and CF 2007–13) funds allocation to RES and selected projects 2007–12

	EU	allocated decided amou	int	Projects selected			
Member State	ERDF and CF total amount (euro) (A)	Allocated to RES amount (euro) (B)	% of total funds for RES (C)	Total projects selected EU Amount (euro) (D)	% of selected projects (D)/(B) ¹		
Belgium	990 283 172	11 851 495	1,2 %	7 242 095	61,1 %		
Bulgaria	5 488 168 381	16 710 959	0,3 %	4 226 413	25,3 %		
Czech Republic	22 751 854 293	397 759 730	1,7 %	131 059 678	32,9 %		
Denmark	254 788 620						
Germany	16 107 313 706	252 995 745	1,6 %	119 319 102	47,2 %		
Estonia	3 011 942 552						
Ireland	375 362 372						
Greece	15 846 461 042	283 795 789	1,8 %	392 484 152	138,3 %		
Spain	26 595 884 632	160 152 052	0,6 %	71 145 156	44,4 %		
France	8 054 673 061	363 591 135	4,5 %	245 249 934	67,5 %		
Croatia	705 861 911						
Italy	21 025 331 585	775 717 953	3,7 %	397 058 482	51,2 %		
Cyprus	492 665 838	9 520 000	1,9 %	5 191 095	54,5 %		
Latvia	3 947 343 917	67 180 000	1,7 %				
Lithuania	5 747 186 096	58 485 290	1,0 %	67 554 207	115,5 %		
Luxembourg	25 243 666	1 767 056	7,0 %	4 875 000	275,9 %		
Hungary	21 292 060 049	349 310 777	1,6 %	179 983 308	51,5 %		
Malta	728 123 051	78 200 000	10,7 %	33 879 548	43,3 %		
Netherlands	830 000 000	19 182 600	2,3 %	22 345 138	116,5 %		
Austria	680 066 021	25 037 408	3,7 %	12 676 799	50,6 %		
Poland	57 178 151 307	825 761 396	1,4 %	477 355 029	57,8 %		
Portugal	14 558 172 647	59 857 312	0,4 %	5 006 939	8,4 %		
Romania	15 528 889 094	331 542 611	2,1 %	209 940 000	63,3 %		
Slovenia	3 345 349 266	54 186 553	1,6 %	14 408 713	26,6 %		
Slovakia	9 998 728 328	90 252 216	0,9 %	66 524 170	73,7 %		
Finland	977 401 980	20 682 247	2,1 %	6 329 763	30,6 %		
Sweden	934 540 730	52 342 949	5,6 %	8 772 042	16,8 %		
United Kingdom	5 392 019 735	159 590 365	3,0 %	74 770 872	46,9 %		
Cross-border	7 893 300 818	199 927 583	2,5 %	148 745 005	74,4 %		
EU27 + cross-border	270 757 167 870	4 665 401 221	1,7 %	2 706 142 640	58,0 %		

¹ Rate of selection above 100 % means funds were reallocated from other priorities or measures within the same or from another Operational Programme.

Source: DG Regional Policy database SFC2007, 2012 Annual Implementation Reports for selected projects.

List of audited RES generation projects

Average en- ergy generated (planned/ actual)	MWh/a	2 440/ 2 319 MWh/a	18 659/ 12 263 MWh/a	24 009/ 23 026 MWh/a	4 136/ 5 215 MWh/a	2 500/ 2 394 MWh/a	4 000/ 7 500 MWh/a	2 800/ 4 000 MWh/a	1140/ 1500 MWh/a	2 700 MWh/ Not yet available	5300 MWh/ Not yet available
Invest- ments in audited projects (million	EUR/MW or EUR/kWp/a)	0,517	0,488	1,027	0,252	0,415	0,127	0,270	0,3	NA	NA
Additional RES capacity installed (planned/	or kWp/a	3/3 MW	8/8 MW	6/4 MW	1/1 MW	1/1 MW	2,5/2,5 MW	1/1 MW	0,8/0,8 MW	6 MW/Not provided	2,6 MW/Not provided
Of which co-financing	ERDF/CF (million euro)	0,117	0,882	0,885	0,011	0,056	600'0	0,02	0,036	20'0	0,49
Of which .	National (million euro)	0,117	0,871	988′0	0,017	0,085	0,022	0,029	0,054	0	0
Projectbudget (million euro)		0,745	5,658	2,667	0,405	0,711	0,388	0,324	0,447	0,2	1,2
Implementation mode		Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Grant scheme	Financing scheme
Intervention		Construction of biomass plant in Weissenbach an der Tristing	Construction of biomass plant and a district heating network in Bruck an der Mur	Construction of biomass plant and a district heating network in Flachau	Construction of biomass-pellet boiler replacing three fossil fuel boilers and main pipeline in Lievestuore	Construction of biomass-wood chip boiler replacing fossil fuel boiler and modification of existing district heatingnetwork in kyyjärvi industrial site	Construction of a new biomass- pellet boiler replacing fossil fuel boiler at Tikkakoski site	Construction of a new biomasspellet boiler replacing fossil fuel boiler and necessary district heating network in a converted storage facility in Kiukainen.	Construction of a new biomass- pellet boiler replacing fossil fuel boiler in Eura	Wood Energy Business Scheme 2 (80085)	Wood Energy Business Scheme 2 (80028)
Operational programme		Lower Austria	Styria	Salzburg	Länsi-Suomen	Länsi-Suomen	Länsi-Suomen	Länsi-Suomen	Länsi-Suomen	East Wales (Competitiveness)	West Wales and the Valleys (Convergence)
Mem- ber State			AT				ᇤ				Ä
Project No		-	2	3	4	5	9	7	8	6	10

Average energy generated (planned/actual)	MWh/a	46 735/ 47 288 MWh/a	14 153/ 10 074 MWh/a	59 211/ 47 825 MWh/a	80 332/ 57 393 MWh/a	8 286/ 7 381 MWh/a	1 502 MWh/a / Not provided	972 MWh/a/ Not provided	1 974 MWh/a/ Not provided	990 MWh/a/ Not provided	Not defined/ Not provided
Invest- ments in audited projects (million	EUR/MW or EUR/kWp/a)	1,460	1,685	1,562	1,467	1,848	0,528	0,588	0,415	0,519	N
Additional RES capacity installed (planned/	or kWp/a	20/20 MW	4,5/4,5 MW	20/20 MW	38/38 MW	3,2/3,2 MW	2,82/2,82 MW	1,55/1,55 MW	3,46/3,61 MW	1,89/1,89 MW	0,12/0,12 MW
Of which co-financing	ERDF/CF (million euro)	906′5	4,315	10,0	10,0	3,365	1,41	0,931	1,53	1,010	1,165
Ofwhich o	National (million euro)	11,81	1,85	15,35	35,41	1,51	0,24	0,14	0,27	0,17	0,2
Projectbudget (million euro)		29,209	7,584	30,179	52,75	5,914	1,659	1,096	1,866	1,188	1,371
Implementation mode		Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project	Stand-alone project
Intervention		Construction of wind farm East Margonin district II	Construction of three wind turbines in Stypolow, Kozuchow municipality	Construction of wind farm Jarogniew-Mołtowo	Construction of wind farm in Golice area	Construction of four wind power stations in the Pluznica Commune	Installation of solar collectors on public and residential buildings in Kłoczew Commune	Installation of solar collectors on public and residential buildings in Krašnik Commune	Installation of solar collectors on public and residential buildings in Potok Górny Commune	Installation of solar collectors on public and residential buildings in Ruda-Huta Commune	Installation of solar collectors, PV and street lighting in Goraj and Turobin Communes
Operational programme		Infrastructure and Environment	Infrastructure and Environment	Infrastructure and Environment	Infrastructure and Environment	Infrastructure and Environment	Lubelskie	Lubelskie	Lubelskie	Lubelskie	Lubelskie
Mem- ber State							П				
Project No		11	12	13	14	15	16	17	18	19	20

Average energy generated (planned/actual)	Average en- ergy generated (planned/ actual) MWh/a		5,23/5,28 MWh/a¹	9 015/13 824 MWh/a¹	5 000 MWh/a/ Not provided
Invest- ments in audited projects (million	EUR/MW or EUR/kWp/a)	3 464	3 949	NA	NA
Additional RES capacity installed (planned/	or kWp/a	134/134 KW p/a	3,48/3,51 KW p/a	9 216 KW p/a	6 023 KW p/a
Of which co-financing	ERDF/CF (million euro)	0,395	0,035	14,392	15,643
Of which o	National (million euro)	70'0	0,006		2,76
Projectbudget (million euro)		0,464	0,041	16,932	18,404
Implementation mode		Stand-alone project	Stand-alone project	Grant scheme	Grant scheme
Intervention	Intervention		Energy-Smart Authority (Hous- ing Authority)	Investing in Competitiveness Promotion of RES in the Domestic for a Better Qual-Sector ity of Life	ERDF Energy Grant Scheme for Enterprises
Operational programme		Investing in Competitiveness for a Better Qual- ity of Life	Investing in Competitiveness for a Better Qual- ity of Life	Investing in Competitiveness Promoi for a Better Qual- Sector ity of Life	Investing in Competitiveness for a Better Qual- ity of Life
Mem- ber State			5	<u> </u>	
Project No		21	22	23	24

1 Note: Actual results are not based on measured data.

Summary evaluation of RES project results

N.B. For reasons of comparability, in this annex some projects are divided in sub-projects so that the total is 27.

		Nu	Number of evaluated projects/sub-projects					
		Poor	Satisfactory	Good	Not applicable/ data not available			
	Installations functioning without significant problems (project performance is good , if instaliation is functioning without unplanned outage periods; satisfactory if outage periods have limited impact on energy production; poor if outage periods have significant impact on energy production)	0	2	25	0			
	Installed energy capacity (project performance is good if planned energy capacity installed; satisfactory , in case of non-significant deviations from plan and poor if energy capacity not installed/significant deviations)	0	0	27	0			
	Total production capacity in use in line with planning (project performance is good if energy capacity in use according to plan, satisfactory , in case of non-significant deviations from plan and poor if energy capacity not used/significant deviations from plan)	2	6	19	0			
ation	Technical Plan (TP) in compliance (project performance is poor if there are significant deviations from TP; satisfactory if some deviations with no real impact on results and good if there are no deviations)	0	1	26	0			
Project implementation	Budget in compliance (project performance is good if there are no deviations in price, satisfactory if increase of 0 %< x< 20 %, poor if increase of > 20 %)	1	0	26	0			
Project i	Operational Plan (OP) in compliance (project performance is good if there are no deviations from OP, satisfactory if few deviations with no real impact on results and poor if significant deviations)	2	6	19	0			
	Risk management, project complexity, implementation barriers (project performance is good if action taken where risks identified, satisfactory if risks partly analysed and mitigated, poor if no proper risk analysis conducted)	0	10	17	0			
	Transparent, relevant and measurable performance indicators and selection of the best prepared/mature applications (project performance is good if adequate indicators used to select best prepared and mature applications, cost-effectiveness of applications evaluated and if competition among applications ensured; satisfactory if these criteria only partly applied; poor - if not applied)	0	27	0	0			
	Licensing/permits/public acceptance (mature, ready project). Project performance is good if facility is in operation, no problems related to obtaining of necessary permits were identified; satisfactory if only critical licenses obtained, poor if serious problems identified in licensing/permits/public acceptance	0	2	25	0			

		Number of evaluated projects/sub-projects					
		Poor	Satisfactory	Good	Not applicable/ data not available		
	Operational efficiency. Project performance is good if operational efficiency is $> 95\%$; satisfactory if $80 < x < 95\%$; poor if $< 80\%$	4	7	7	9		
	Investment (construction) costs (EUR/MW or EUR/KWp). Project performance is good if investment costs are higher than average $<$ 10 % or less; satisfactory if higher than average 10 % <x< %;="" 30="" <b="">poor if higher than average $>$ 30 %</x<>	4	1	17	5		
	Cost-effectiveness criteria used in project selection. Project performance is good if most cost-effective projects selected: - best cost/energy capacity installed ratio(EUR/MW) - best cost/energy generation ratio (EUR/MWh); satisfactory - if cost-effectiveness criteria used partly; poor - if not used	12	10	5	0		
Cost - effectiveness	Project financing based on open call and selection procedure, competition between applications. Project performance is good if open call and selection procedure used; satisfactory - if used, but low number of proposals received; poor - if not used	8	14	5	0		
Cost -	Appropriate studies available. Project performance is good if feasibility/business or other studies used for planning; satisfactory - if not always followed; poor - if not used	6	10	10	1		
	Ownership (owners'/stakeholders' commitment to implement project). Project performance is good if there was solid ownership with adequate knowledge and assets committed to the project from project development phase through operation of the facility; satisfactory - if stable with some vulnerability of the assets or knowledge; poor - if unstable, no adequate knowledge and assets committed to project planning and implementation.	0	10	17	0		
	Coherence with RES strategic framework. Project performance is good if project objectives were relevant and coherent with RES strategic framework; satisfactory - if some components of projects not directly linked with RES objectives; poor - if objectives were not relevant or coherent with RES strategic framework.	0	0	27	0		

	Number of evaluated projects/sub-projects					
Achievement of objectives	Poor	Satisfactory	Good	Not applicable/ data not available		
Energy generated. Project performance is good if energy generated is $>$ 95 % of planned; satisfactory if 85 < x < 95 %; poor if < 85 %	6	2	6	13		

Reply of the Commission

Executive summary

Ш

The Commission welcomes the finding that all the audited RES generation projects delivered outputs as planned. In view of the increased cohesion policy investments that can be foreseen in sustainable energy, including renewable energy, over 2014–20, the report from the Court is very timely, and, generally, the report's drive to make optimal use of the funding is welcome.

IV

Until the installation is fully operational, the actual performance of the system is not known. The actual level of energy generation varies from year to year depending on several parameters (including e.g. weather conditions, reliability of the appliance and building occupancy). Actual data are reported once the project is fully operational.

IV — First bullet

Cost-effectiveness considerations may be defined in the selection criteria of the specific interventions. However, cohesion policy serves a broader purpose and 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 and place-based policy, and an increased share of RES is one of multiple objectives of its programmes, meaning that projects may simultaneously aim at more objectives than just RES generation. The Commission acknowledges the principles of efficiency and effectiveness as defined in the EU's Financial Regulation¹. The regulation states that the principle of efficiency concerns the best relationship between resources employed and results achieved and the principle of effectiveness concerns the attainment of the specific objectives set and the achievement of the intended results.

The Commission therefore considers that efficiency and effectiveness should not only be measured in megawatts of RES per euro invested, but also in terms of the overall success of the programme and the projects in attaining desired results.

The Commission considers that the cost-effectiveness concept can be defined in several ways: very short-term cost reduction, or medium- to long-term dynamic efficiency cost reduction through innovation for the overall transformation of the energy system in tune with 2020 targets and preparing the ground for beyond.

IV — Second bullet

The Commission considers that the cohesion policy investments in RES have been made in line with the objectives and requirements of the applicable legislative framework. Its views on the European added value in cohesion policy were set out in the June 2011 Commission Staff Working Document 'The added value of the EU budget'2. The bulk of investment in RES should be made by the private sector. Member States and regions need to ensure that public funding does not replace, but complements and leverages private investment in accordance with state aid rules. Cohesion policy funding should be used to complement existing national support schemes to ensure added value. The Commission considers that a variety of factors need to be taken into account in the analysis of added value of EU funds in this area.

¹ Article 30 of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002.

² SEC(2011) 867 final of 29.6.2011, Commission Staff Working Paper 'The added value of the EU budget', accompanying the Commission Communication 'A budget for Europe 2020'.

V

The Commission has constantly underlined to Member States the point on weaknesses of national administrative systems.

The reform of cohesion policy for 2014–20 will provide the monitoring committee of respective operational programmes with the necessary incentives to approve selection criteria, thereby ensuring maximum impact for this type of investment. Member States and regions will have to decide upfront what objectives they intend to achieve with the available resources and identify precisely how they will measure progress towards those goals for each priority axis. This will allow regular monitoring and debate on how financial resources are used.

For the programming period 2014–20, requirements have been introduced for a stronger intervention logic for all priorities, including a number of common output indicators, whose use is obligatory where relevant. In the area of RES, both the ERDF and the CF regulations for 2014–20 include a common indicator on 'Additional capacity of renewable energy production'.

As regards the observations related to cost-effectiveness aspects, the Commission refers to its reply to paragraph IV.

VIII — Recommendation 1

Under the framework for cohesion, the Commission is not involved in the selection of projects, except for the approval of major projects.

The new regulatory framework for 2014–20 nevertheless ensures from the start that, through the content of the adopted programmes and the intervention logic including objectives' result indicators and outputs encapsulated in priority axes, the selection of projects will be done by Member States as far as possible according to the Court's recommendation.

Also, based on the performance framework established for each operational programme, the Commission will be in position through milestones relating only to the indicators to encourage and review the performance of programmes.

Where there is evidence resulting from a performance review that a priority has failed to achieve the milestones relating only to the financial and output indicators and key implementation steps set out and that the Member State has not taken the necessary steps to rectify the problem, the Commission may suspend all or part of an interim payment or apply ultimately financial corrections. The performance reserve should not be allocated to such programme.

Under the 2014–20 legal framework, the Commission strengthens as well the *ex ante* conditionalities for the funds so as to ensure that the necessary conditions for their effective implementation are in place.

In addition, the Commission through its active and continuous work with the Member States will advise managing authorities to include the recommendations of the European Court of Auditors into the selection process and selection criteria of RES projects. Contribution to the expected results of the priority axis is now required to be included in the selection criteria.

The Commission partly accepts this recommendation. The Commission agrees on the importance of avoiding deadweight. To support a more market-based approach in the 2014–20 period, the Commission encourages, as foreseen in Regulation (EU) No 1303/2013, the use of financial instruments instead of grants to support investments which are expected to be financially viable but do not give rise to sufficient funding from market sources.

The Commission also agrees that programmes must be based on proper needs assessments. For that purpose, Regulation (EU) No 1303/2013 provides that the Partnership Agreement for 2014–20 shall set out an analysis of disparities, development needs and growth potential. Choices made in each operational programme shall be justified accordingly. Requirements stemming from the renewable energy directive (e.g. strategic approach, needs assessment and national renewable energy action plans) will also ensure optimal planning of cohesion policy RES investments.

45

Nevertheless, cohesion policy is an integrated and place-based policy, and an increased share of RES is only one of its multiple objectives. In particular other cohesion policy objectives, such as the promotion of innovation may justify the choice of technologies which are not the most cost-effective. Regulation (EU) No 1303/2013 provides that selection procedures and criteria need to ensure the contribution of operations to the achievement of the specific objectives and results of the relevant priority of the operational programme, which may aim at more objectives than RES generation.

As regards major projects, in the 2014–20 programming period the Commission will continue to require carrying out a cost-benefit analysis, including an economic and a financial analysis. As part of cost-benefit analysis, an option analysis is required, which, among other aspects, takes into account economic and financial considerations, such as construction costs, in order to choose the best option, while trying to maximise the project's benefits for society.

The Commission accepts the recommendation in the second indent. It has consistently reminded Member States of the need to ensure stability in the regulatory framework and has also constantly criticised frequent and retroactive modifications in the Member States' regulatory frameworks. The November 2013 Commission communication on 'Delivering the internal electricity market and making the most of public intervention' and the Commission's guidance for the design of renewables support schemes as well as the guidance on the use of renewable energy cooperation mechanisms address these issues³.

VIII — Recommendation 2

The Commission accepts this recommendation and considers it for its part, implemented. The Commission's November 2013 guidance for the design of renewables support schemes should be taken into consideration by Member States. The forthcoming energy and environmental aid guidelines will also contribute to increasing the cost-effectiveness of Member States support schemes for renewable energy.

Introduction

07

The Commission notes that the responsibility for removing sector-specific obstacles that hamper investments in RES lies with the Member States.

The Commission has addressed these obstacles in its regular reports making recommendations to Member States. Support schemes were not always well designed, leading either to unfavourable conditions or overcompensation. The Commission's guidance for the design of renewables support schemes, issued in November 2013, as well as the guidance on the use of renewable energy cooperation mechanisms underline the principles that should be followed to address this situation⁴.

³ C(2013) 7243 final of 5.11.2013, Commission communication 'Delivering the internal electricity market and making the most of public intervention' and accompanying Commission staff working papers SWD(2013) 439 final 'European Commission guidance for the design of renewables support schemes' and SWD(2013) 440 final 'Guidance on the use of renewable energy cooperation mechanisms'.

⁴ C(2013) 7243 final of 5.11.2013, Commission communication 'Delivering the internal electricity market and making the most of public intervention' and accompanying Commission staff working papers SWD(2013) 439 final 'European Commission guidance for the design of renewables support schemes' and SWD(2013) 440 final 'Guidance on the use of renewable energy cooperation mechanisms'.

Observations

17

While the Commission acknowledges that difficulties with RES electricity integration into the grid have hampered exploitation of RES, this is not directly dependent on project management. The requirement to improve RES electricity access to grids is a legal requirement under the renewable energy directive.

18

The Commission indeed considers that progress by the Member States in removing the administrative barriers in this area is slow.

As to the reference to the United Kingdom, the Commission considers that the formulation should take into account the constitutional arrangements and devolution process prevailing in this Member State. The various operational programme documents and programme monitoring committees within the United Kingdom are stand-alone and independent, and harmonisation is achieved through the use of cross-cutting themes embedded into all programmes in the country.

20 — First indent

The contracting authority recognised these issues and it was precisely to ensure transparency and more competition that the tenders were relaunched.

20 — Second indent

With regard to the wind projects in Poland, there were no obstacles (if as a result of the award procedure the offer of another supplier would have been selected) for the beneficiary to apply for a change to building permits issued and specify another model of turbines.

With regard to the solar collector project in Poland, the scope of the tender was described properly and in accordance with the applicable legislation. In the description of the tender, it was determined that the proceeding concerned the given solar collector type or another type with the same parameters. The project in question was also subject to two controls carried out by national authorities which did not question the compliance of the project with the public procurement law.

21

For the programming period 2014–20, requirements have been introduced for a stronger intervention logic for all priorities, including a number of common output indicators, whose use is obligatory where relevant. In the area of renewables, both the ERDF and the CF Regulations for 2014–20 include a common indicator on 'Additional capacity of renewable energy production'. However, evaluation will always be required to disentangle the contribution of the operations co-financed by the cohesion policy funds to changes in renewable energy production and consumption patterns from the influence of other external factors.

23

Until the installation is complete and fully operational, the actual performance of the system is not known. The actual level of energy generation varies from year to year depending on several parameters (including e.g. weather conditions, reliability of the appliance and building occupancy). Actual data are reported once the project is fully operational.

24

As regards the wind projects in Poland, of which 4 out of 5 did not attain the targets according to Table 1, the Commission considers that the results should be assessed during the full operational period of a wind farm, which was not the case for one of the projects. Better territorial planning of RES investments is advisable, taking into account the specific conditions for the RES type concerned in the particular location. The fact that RES projects sometimes do not reach or only partly reach their planned production targets confirms the high risk profile of such investments and thus, the need for public funding in order to get bankable projects and thus leverage private funding.

Box 5 — Second paragraph

The Commission has suggested to the Polish authorities and the 'Joint Assistance to Support Projects in European Regions (JASPERS)' partnership to assess results and the financial rate of return (FRR) of the wind farm projects on the basis of more realistic estimates. The result indicators would then better reflect the working time of wind farms.

Box 5 — Third paragraph

In the United Kingdom, two of the five sites audited have delivered lower outputs than expected due to lower demand on the systems than forecast. The data collection exercise planned by the managing authority for the end of the operations intends to collect site-specific data which should provide further clarity on why demand was lower than envisaged.

26

The Commission acknowledges the principles of efficiency and effectiveness as defined in the EU's Financial Regulation. The regulation states that the principle of efficiency concerns the best relationship between resources employed and results achieved and the principle of effectiveness concerns the attainment of the specific objectives set and the achievement of the intended results. The Commission therefore considers that efficiency and effectiveness should not only be measured in megawatts of RES per euro invested, but also in terms of the overall success of the programme and the projects in attaining desired results.

27

Cost-effectiveness considerations may be defined in the selection criteria of the specific interventions. However, cohesion policy serves a broader purpose and 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 and place-based policy, and an increased share of RES is one of multiple objectives of its programmes, meaning that projects may simultaneously aim at more objectives than just RES generation. Moreover, as regards investments in RES specifically, the Commission considers that the cost-effectiveness concept can be defined in several ways: very short-term cost-reduction, or medium to long-term dynamic efficiency cost-reduction through innovation for the overall transformation of our energy system in tune with 2020 targets and preparing the ground for beyond.

28

While Regulation 1083/2006 did not require 'needs assessments', the Commission agrees that a needs assessment can be useful. As a general requirement for all operational programmes funded under cohesion policy in the 2007–13 period, 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'.

In 2014–20, the priority axes will select one or more investment priorities according to the specific needs and context of the Member States. The specific objectives and the corresponding result indicators will then express what each priority axis aims to achieve — related to the analysis of the situation and the policy needs identified.

29

In the 2007–13 period, relative shares allocated to RES investments differed between Member States, to be seen in the light of total volume of funds available, national needs and priorities set by each Member State. The cohesion policy operational programmes for 2007–13 were planned and adopted before the adoption of the 2020 climate and energy targets and the respective EU legislation. Consideration of contribution towards 2020 RES targets was subsequently taken into account, if and when Member States notified revisions in their operational programmes.

However, it is important to note that the bulk of investment in this area should be made by the private sector. Member States and regions need to ensure that public funding does not replace but complements and leverages private investment in accordance with state aid rules. Cohesion policy funding should be used to complement existing national support schemes to ensure added value.

30

Since the adoption of the renewable energy directive in 2009 and the legal requirement to adopt national renewable energy action plans (NREAPs), Member States were in fact required to conduct proper needs assessment for RES investments, and NREAPs were based on such needs analysis. They also constitute a serious and well-reflected basis for RES-related investments in Member States. In addition, the fact that such plans were adopted in a transparent manner and made publicly available did contribute to better planning and transparency, allowing for the first time all actors, including investors and neighbouring Member States, to coordinate such investments and thus to increased added value and cost-effectiveness. Nevertheless, all 2007-13 cohesion policy operational programmes had been negotiated and approved before the NREAPs were due (June 2010).

30 — Fourth indent

A mid-term evaluation of operational programmes was not compulsory unless specific circumstances warranted it, according to Article 48 of Regulation (EC) No 1083/2006.

Nonetheless, all projects in Wales are, from 2014, subject to evaluation. In the course of 2014, the Welsh Managing Authority will commission a synthesis of all operation evaluations to draw out programme level findings, including those of energy operations.

32

The Commission agrees with the general statement but notes that no major inefficiencies in the planning and implementation of the audited projects have been identified.

36

As for the specific projects, Member States themselves are in charge of the selection. As regards considerations in relation to cost-effectiveness and the broader objectives of cohesion policy, the Commission refers to its replies to paragraphs 26 and 27.

37

The Commission refers to its replies to paragraphs 26 and 27.

39

The Commission agrees on the importance of avoiding deadweight. As regards the co-financing rates, the provisions are set out in Article 53 of Regulation (EC) No 1083/2006. This does not mean in itself that part of the investment costs of a project is borne by the final recipient of a public subsidy. There are also provisions as regards revenue-generating projects in Article 55 of the same regulation. In order to comply with the binding RES targets, Member States need to encourage investments in RES projects, which may not be bankable on their own, considering a higher risk profile of such investments. Co-financing rates of RES state aid projects are established by state aid decisions, in which case the funding gap methodology does not apply. Nevertheless, calculation of the funding gap is still encouraged as it helps to set the amount (or intensity) of aid and limit the state aid below the maximum level, as appropriate.

To support a more market-based approach in the 2014–20 period, the Commission encourages and Regulation (EU) No 1303/2013 provides for the use of financial instruments instead of grants to be implemented to support investments which are expected to be financially viable, but do not give rise to sufficient funding from market sources. Support via financial instruments shall be based on a detailed *ex ante* assessment in accordance with Article 37(2) of the above regulation which has, inter alia, established evidence of market failures or suboptimal investment situations, and the estimated level and scope of public investment needs, including types of financial instruments to be supported.

Box 7

The wind farm projects in Poland received between 22 % and 70 % of total eligible investment costs, up to a maximum of 10 million euro. It can be noted that the EU co-financing level of wind farm major projects, i.e. projects under Commission assessment, is 22–25 %.

42

As regards national public funding mechanisms, indeed cohesion policy funding was required to complement these in accordance with Article 9 of Regulation (EC) No 1083/2006. The ERDF complementing existing funding mechanisms have a financial added value in that more could be done than would be the case in the absence of the cohesion policy funds. For added value, the nature of the policy does not need to be changed.

44

The Commission points out that the EU added value in improving administrative capacities is one which takes time. RES investments are a relatively new area for cohesion policy and it will take some time for such learning effects to take place.

45

The Commission refers to its reply to paragraph 7.

46

The Commission refers to its reply to paragraph 29.

Conclusions and recommendations

Common reply to paragraphs 48 and 52

The reform of cohesion policy for 2014–20 will provide the monitoring committee of respective operational programmes with the necessary incentives to approve selection criteria ensuring maximum impact for this type of investments. Member States and regions will have to decide upfront what objectives they intend to achieve with the available resources and identify precisely how they will measure progress towards those goals for each priority axis. This will allow regular monitoring and debate on how financial resources are used.

For the 2014–20 period, Regulation (EU) No 1303/2013 provides that selection procedures and criteria need to ensure the contribution of operations to the achievement of the specific objectives and results of the relevant priority of the operational programme, which may aim at more objectives than RES generation. As regards major projects, the Commission requires Member States/ Managing Authorities to carry out a cost-benefit analysis, including an economic and a financial analysis, for each major project, in order to demonstrate that the project is desirable from an economic point of view (i.e. society is better off with the project) and that the contribution of the cohesion policy funds is needed for the project to be financially viable and, in some cases, bankable, taking into account its risk profile. As part of the cost-benefit analysis, an option analysis is required, which, among other aspects, takes into account economic and financial considerations, such as keeping construction costs as low as possible, in order to choose the best option, while trying to maximise the project's benefits for society.

The Commission also refers to its replies to paragraphs 25 to 26, 28 to 32, 36 to 37 and 39.

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The Commission has constantly underlined to Member States the point on weaknesses of national administrative systems. This is also a legal requirement addressed by Article 13 of the renewable energy directive. This is monitored and analysed in the Commission's biennial renewable energy progress reports.

The Commission also refers to its replies to paragraphs 17 to 21.

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The Commission refers to its replies to paragraphs 23 to 25.

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The Commission considers that the cohesion policy investments in RES have been made in line with the objectives and requirements of the applicable legislative framework. Its views on the European added value in cohesion policy were set out in the June 2011 Commission Staff Working Document 'The added value of the EU budget'. The Commission considers that the following factors would need to be taken into account in the analysis of added value of EU funds in this area:

- Contribution of supported technologies and projects to reaching the EU RES objectives, including promotion of technological development and innovation, and contribution to providing opportunities for employment and regional development, especially in rural and isolated areas;
- Contribution of supported projects for reaching of RES targets and progress of implementation of national renewable energy action plans (including by taking into account contribution to promotion of RES in different sectors (RES-Electricity, RES-Heating and Cooling and RES-Transport);

- Contribution of support to development of renewable energy markets in the MS and in the EU:
- Contribution of EU funds for reaching the RES targets in a cost- and energy-efficient way while promoting innovation and technology development (objectives of EU integrated energy and climate change policy).

The Commission also refers to its replies to paragraphs 42, 46 and 47.

Recommendation 1

Under the framework for cohesion, the Commission is not involved in the selection of projects, except for the approval of major projects.

The new regulatory framework for 2014–20 nevertheless ensures from the start that, through the content of the adopted programmes and the intervention logic including objectives' result indicators and outputs encapsulated in priority axes, the selection of projects will be done by Member States as far as possible according to the Court's recommendation.

Also, based on the performance framework established for each operational programme, the Commission will be in position through milestones relating only to the indicators to encourage and review the performance of programmes. Where there is evidence resulting from a performance review that a priority has failed to achieve the milestones relating only to the financial and output indicators and key implementation steps set out and that the Member State has not taken the necessary steps to rectify the problem, the Commission may suspend all or part of an interim payment or apply ultimately financial corrections. The performance reserve should not be allocated to such programme.

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Under the 2014–20 legal framework, the Commission strengthens as well the *ex ante* conditionalities for the funds so as to ensure that the necessary conditions for their effective implementation are in place.

In addition, the Commission through its active and continuous work with the Member States will advise managing authorities to include the recommendations of the European Court of Auditors into the selection process and selection criteria of RES projects. Contribution to the expected results of the priority axis is now required to be included in the selection criteria.

Recommendation 1 — First bullet

The Commission partly accepts this recommendation. The Commission agrees on the importance of avoiding deadweight. To support a more marketbased approach in the 2014-20 period, the Commission encourages, as foreseen in Regulation (EU) No 1303/2013, the use of financial instruments instead of grants to support investments which are expected to be financially viable but do not give rise to sufficient funding from market sources. Support via financial instruments shall be based on a detailed ex ante assessment in accordance with Article 37(2) of the above regulation which has, inter alia, established evidence of market failures or suboptimal investment situations, and the estimated level and scope of public investment needs, including types of financial instruments to be supported.

The Commission also agrees that programmes must be based on proper needs assessments. For that purpose, Regulation (EU) No 1303/2013 provides that the Partnership Agreement for 2014–20 shall set out an analysis of disparities, development needs and growth potential. Choices made in each operational programme shall be justified accordingly. Requirements stemming from the renewable energy directive (e.g. strategic approach, needs assessment and national renewable energy action plans) will also ensure optimal planning of cohesion policy RES investments.

Nevertheless, cohesion policy is an integrated and place-based policy, and an increased share of RES is only one of its multiple objectives. In particular other cohesion policy objectives, such as the promotion of innovation may justify the choice of technologies which are not the most cost-effective. Regulation (EU) No 1303/2013 provides that selection procedures and criteria need to ensure the contribution of operations to the achievement of the specific objectives and results of the relevant priority of the operational programme, which may aim at more objectives than RES generation.

As regards major projects, in the 2014–20 programming period the Commission will continue to require carrying out a cost-benefit analysis, including an economic and a financial analysis. As part of cost-benefit analysis, an option analysis is required, which, among other aspects, takes into account economic and financial considerations, such as construction costs, in order to choose the best option, while trying to maximise the project's benefits for society.

Recommendation 1 — Second bullet

The Commission accepts this recommendation. It has consistently reminded Member States of the need to ensure stability in the regulatory framework and has also constantly criticised frequent and retroactive modifications in the Member States' regulatory frameworks. The November 2013 Commission communication on 'Delivering the internal electricity market and making the most of public intervention' and the Commission's guidance for the design of renewables support schemes as well as the guidance on the use of renewable energy cooperation mechanisms address these issues⁵.

⁵ C(2013) 7243 final of 5.11.2013, Commission communication 'Delivering the internal electricity market and making the most of public intervention' and accompanying Commission staff working papers SWD(2013) 439 final 'European Commission guidance for the design of renewables support schemes' and SWD(2013) 440 final 'Guidance on the use of renewable energy cooperation mechanisms'.

Recommendation 2

The Commission accepts this recommendation and considers it for its part, implemented. The Commission's November 2013 guidance for the design of renewables support schemes should be taken into consideration by Member States. The forthcoming Energy and Environmental Aid guidelines will also contribute to increasing the cost-effectiveness of Member States support schemes for renewable energy.

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 via one of the sales agents of the Publications Office of the European Union (http://publications.europa.eu/others/agents/index_en.htm).nts/index_en.htm). The ECA assessed the results of renewable energy generation projects co-financed by cohesion policy funds contributing to the relevant EU 2020 target. It concludes that, while they delivered outputs as planned, multiple investment projects were not guided by the principle of cost-effectiveness or lacked a real EU added value. The ECA recommends that the Commission promotes the principle of cost-effectiveness in EU co-financed support programmes and that the Member States establish a stable and predictable renewable energy regulatory framework. Moreover, the Member States should apply minimum cost-effectiveness criteria, applied to projects' circumstances, and enhance EU added value through improved project implementation, monitoring and evaluation.

