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**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN  
PARLIAMENT**

**On the implementation of the European Energy Programme for Recovery and the  
European Energy Efficiency Fund**

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# REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

## On the implementation of the European Energy Programme for Recovery and the European Energy Efficiency Fund

### I. PROGRESS IN PROGRAMME IMPLEMENTATION

Energy infrastructure and innovation, the driving forces behind the European Energy Programme for Recovery (EEPR), remain as important now as they were in 2009 when the EEPR was set up.

Information on all the EEPR projects, as adopted in 2010, are visualised on an interactive map produced by DG Energy and available on its website at the following link: <http://ec.europa.eu/energy/eepr/projects/>.

This report sets out, for each part of the EEPR, the progress made in implementing the projects and the European Energy Efficiency Fund (EEE F). It follows the report which was adopted in 2014<sup>1</sup>. It covers the implementation of the projects between 31 August 2014 and 30 June 2015 and the payments made during that period.

### II. OVERALL PROJECT IMPLEMENTATION

At the end of June 2015, 34 projects out of 59 were fully completed, and a total amount of € 1,860,487,739 (after deduction of the recovery orders for an amount of € 112,085,349) has been paid to the beneficiaries.

Most projects are completed and promoters are expected to present the final payment request by the end of this year. The situation for the gas and electricity infrastructures is generally positive and the remaining eight projects are on track while one project currently suspended.

Some difficulties remain, especially for the Off-Shore Wind Energy (OWE) integration in the grid and CCS. This is notably due to the high costs of the new technologies and the higher than initially expected financial risk involved.

The Commission has opted for maintaining its financial support to the investors as long as it remains clear that a Final Investment Decision (FID) is possible.

#### 1. GAS AND ELECTRICITY INFRASTRUCTURE

The EEPR infrastructure sub-programme supports 44 projects in three major areas of activities.

The projects are implemented by the transmission system operators (TSO) in each Member State or by project promoters. An amount of €2,267,574, 462 has been committed, of which € 1,094,297,460 was disbursed to the beneficiaries by 30 June 2015. Payments are subject to the promoters' firm commitment to implement the project through a Final Investment Decision.

Projects cover three areas:

#### - Gas infrastructure and storage projects:

Gas infrastructure is the backbone of the energy supply chain from producer to end-user. Transmission pipelines, storage facilities and LNG regasification terminals are among the physical elements which ensure that gas is delivered to customers where and whenever

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<sup>1</sup> REPORT 2014 adopted on 28 October 2014, COM(2014)669

needed. Gas infrastructure will need to be further developed and enhanced in the years to come. Constructing the missing links between Member States will help to safeguard secure supplies and to respond to new and growing flexibility requirements.

**- Gas reverse flow projects:**

During the 2009 gas supply crisis between Russia and Ukraine, most of the Central and Eastern European Member States were cut-off and not all import demand could be fulfilled. This was not because of lack of gas in Europe, but because the existing infrastructure lacked the technical equipment and capabilities to reverse the gas flows from West to East. The EEPR programme provided support to address this gap and reverse flows are now in place in Central and Eastern Europe.

**- Electricity infrastructure projects:**

The integration of increasing amounts of electricity from variable renewable energy sources requires important investments in new infrastructure. Furthermore, a number of Member States are still considered "energy islands" as they are poorly connected to their neighbours and the internal energy market.

**1.1 PROGRESS TO DATE**

To date, 31 out of the 44 infrastructure projects have been completed (compared to 27 at the beginning of 2014) with eight projects on-going and one suspended. Moreover, the financial aid was terminated for four projects in September 2014 (Nabucco, Galsi, Poseidon and the reverse flow project in Romania). In the electricity sector, nine projects have been completed. The remaining four projects are progressing well, with some projects expected to be completed in the course of this year or at the latest by 2016. In the gas sector, 22 projects are completed; five are progressing according to schedule, one is currently suspended and 4 have been terminated. All of the reverse flow and interconnections projects in Central and Eastern Europe have been completed, except the reverse flow project in Romania that was terminated by the Commission in September 2014.

The EEPR funds helped the projects to secure their financing and therefore to avoid or reduce delays. As a result, both the safety and reliability of the networks have improved, security of supply and diversification has increased and critical bottlenecks have been removed.

Important progress has been made for electricity and gas infrastructure projects since the last 2014 EEPR implementation report. For instance, the financial assistance disbursed within 2014 and 2015 helped to strengthen the Danish gas transmission system which was completed at the end of 2014. The new infrastructure will expand the gas transmission capacity from the entry point Ellund, on the Danish/German border, and will provide an operational link between the German network and the Danish transmission system. Moreover, the new pipeline significantly increases the security of natural gas supply in Denmark. This offsets the impact of depleting offshore fields and strengthens security of natural gas supply to Denmark, Sweden and to the Baltic region, enabling a better market integration.

Another success story was the completion of the "Nordbalt 02" project at the end of 2014 which helped complete the necessary upgrade in the internal Lithuanian transmission grid to facilitate the flow of electricity through the interconnector.

Another completed project is the development and modernisation of the Polish gas transmission system at the cross-border connection point between Poland and Germany. The EEPR funding supported the modernisation and construction works at the Lasow node and connecting pipelines in Poland.

The EEPR also supported the construction of a 48 km section of reverse flow gas pipeline between Portalegre-Guarda and Cantanhede-Mangualde, completed at the end of 2014. The project will reinforce security of supply in the Iberian Peninsula as it will be further developed to create a third interconnection with the Spanish gas network.

Another completed project, the France-Spain interconnection, will connect the renewable energy sources to the network and will contribute to the integration of the French and Spanish electricity markets, as well as reinforce the security of electricity supply on a regional, national and European level.

A new 225MW sub-sea cable connection between Italy and Malta was inaugurated in spring 2015. The project put an end to the isolation of the Maltese grid from the rest of Europe providing the necessary back-up power to make up for renewable energy's intermittent nature. It will improve the security of supply, reduce fossil fuel use and support the expansion of renewables in Malta.

The completion of an EU-wide energy infrastructure system is progressing as a result of clearing bottlenecks and further integrating "energy islands" such as the three Baltic States, the Iberian Peninsula, Ireland, Sicily and Malta.

To date, it is foreseen that the majority of the eight on-going projects should be completed during 2015 and 2016 with only two projects expected to run until 2018 and 2019 respectively.

EEPR supports the development of key European energy infrastructure projects within the context of the current energy policy priorities. The guidelines for trans-European energy infrastructure<sup>2</sup> provide measures for the timely development of projects of common interest (PCIs) in eight identified priority corridors. In particular, PCIs are entitled to benefit from accelerated procedures to obtain their permits (three and a half years maximum), regulatory incentives to facilitate the implementation of cross-border projects and may be eligible to receive funds from the Connecting Europe Facility (CEF)<sup>3</sup>.

From an overall budget of € 30.44 billion<sup>4</sup> for 2014-2020 covering transport, energy, and telecommunications, energy accounts for € 5.35 billion<sup>5</sup>.

CEF focuses on supporting and enabling projects of the highest relevance for European energy policy. Furthermore, the rules for CEF work financing are very strict - a project can draw on it as a "last resort" measure, when no other tool is sufficient to trigger the investment, such as financing by tariffs or long-term financing by debt instruments.

## **2. OFFSHORE WIND ENERGY (OWE) PROJECTS**

### **2.1 PROGRESS TO DATE**

The EEPR sub-programme consisted of 9 projects giving € 565 million of support split between two main types of activities:

- Large-scale testing, manufacturing and deployment of innovative turbines and offshore foundation structures (6 projects); and

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<sup>2</sup> Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure , OJ L115 of 25.04.2013, p.39.

<sup>3</sup> Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, OJ L 348 of 20.12.2013, p. 129.

<sup>4</sup> After redeploying €2.8 billion from the Connecting Europe facility for the EFSI fund

<sup>5</sup> After redeployment from CEF energy (€5,85 billion) allocated to the EFSI fund

- Development of module-based solutions for the grid integration of large amounts of wind electricity transmission (3 projects).

3 of 9 projects have been completed and 2 terminated prematurely. € 237,603,431 has been paid to the projects.

## **2.2 PROGRESS TO DATE BY SECTOR**

### **2.2.1 Progress with Innovative Turbines and Offshore Structures**

The Nordsee Ost project has run into some delays due to a combination of bad weather conditions in 2014/15 as well as technical issues with grid connection and wind turbines. An extension has been granted until the end of 2015.

Aberdeen Offshore Wind Farm and Wind Deployment Centre implementation remains subject to considerable difficulties. In Aberdeen, difficulties with obtaining both the offshore and onshore consents (which were legally challenged) have delayed the project. The best estimates for a final investment decision is the fourth quarter of 2016 (with commissioning in 2019). The Global Tech I project did not find a co-investor. Therefore the Commission confirmed in April 2015 the project termination retroactively as of 1 January 2014.

### **2.2.2 Progress with Wind-Grid Integration**

One project, HVDC Hub, has been terminated. The two remaining projects, Kriegers Flak and Cobra Cable, are on-going after several years of technology and costs difficulties.

For Kriegers Flak, the new proposal made by the companies is compatible with the EEPR. The project partners made the Final Investment Decision upon the new technical concept by signing the updated Cooperation Agreement in January 2015. The offshore interconnector is planned to be commissioned by end of 2018.

For Cobra Cable, the grant agreement has been amended and the action extended to December 2017. The procurement of the converters and the cable was initiated and the contract should be awarded in November 2015. The Final Investment Decision will be taken in the second quarter of 2016 if all the relevant permits regarding the routing are secured and the contracts with suppliers for the cable and the converter stations fit into the budget of € 621 million. If these conditions are fulfilled, the cable should be operational two years later.

## **3. CARBON CAPTURE AND STORAGE**

The EEPR sub-programme consisted of 6 projects and € 1 billion of support to aim at demonstrating the full carbon capture, transport and storage process.

One project has finished providing operational pilot plants for capture, transport and storage. Three projects have been terminated prematurely. Two projects are ongoing. € 426,982,066 have been paid to these projects.

### **Progress with CCS projects**

The remaining two projects, ROAD (in the Netherlands) and Don Valley (in the UK), continue to experience significant difficulties in obtaining the necessary funding for both construction and operation.

The Don Valley project is progressing well as regards developing CO<sub>2</sub> transport and storage infrastructure which would be used jointly with the NER300 co-funded White Rose project as well as other possible CCS projects in the Humber area. In contrast, the future of the CCS power plant is entirely dependent on obtaining operational support from the UK's Contract for

Difference scheme. In August 2014 the UK Government published a policy scoping document outlining its next steps on CCS which include the development of a Contract for Difference scheme appropriate for CCS projects like Don Valley. The Commission will continue its discussions both with the project partners and with the UK government on timing and prospects for achieving a positive final investment decision. It will also discuss amending the grant agreement to take account of the delayed development of the CfD scheme and the planned new CO<sub>2</sub> capture technology following the take-over of the project coordinator by a new investor in December 2014.

For the ROAD project, the low CO<sub>2</sub> price resulted in a financing gap compared to initial calculations. The European Commission has invested considerable effort in trying to bring together relevant Member States, the industrial partners concerned and Norway in order to find a solution. The result was that the project was investigating an alternative storage solution which became available in the meantime and which would significantly reduce CO<sub>2</sub> transport and storage costs due to its closer location to the shore. The Commission also received tangible expressions of interest to setting up an ERA-NET Cofund under Horizon 2020 to support the operation and make full use of the dissemination potential of what would be the first project in Europe demonstrating the application of post-combustion CCS technology to a commercial scale coal power plant. This would also mean the successful demonstration of technology capable of retrofitting existing coal power plants.

### **III. EUROPEAN ENERGY EFFICIENCY FUND (EEE F)**

In December 2010, € 146.3 million from the European Energy Programme for Recovery (EEPR) were allocated to a financial facility for sustainable energy projects<sup>6</sup>. € 125 million were used as the EU contribution to the European Energy Efficiency Fund (EEE F), created in July 2011 and which has so far reached a total volume of € 265 million<sup>7</sup>, supported by a Technical Assistance grant facility with a budget of € 20 million and € 1.3 million for awareness-raising activities.

The EEEF provides tailored financing (both debt and equity instruments) for energy efficiency, renewable energy and clean urban transport projects. Beneficiaries are local or regional public authorities or private entities acting on their behalf.

#### **1. PROGRESS TO DATE**

##### **European Energy Efficiency Fund (EEE F)**

In 2014, two new projects in France and in the Netherlands were signed. In France, it will provide € 5 million to a private company owned by the Rhône Alpes region to finance the refurbishment of public buildings (high schools, schools and gymnasiums), during their construction phase and to pave the way for raising further long term financing. The approach of this company is a good example of the aggregating mechanisms that are needed to upscale the size of investments in energy efficiency in Europe.

In the Netherlands, the City of Venlo signed a long-term financing contract for € 8.5 million to finance street lighting upgrades with the aim to equip a minimum of 16,000 lighting points

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<sup>6</sup> Regulation (EU) No 1233/2010 of the European Parliament and of the Council of 15 December 2010 amending Regulation (EC) NO 663/2009 establishing a programme to aid economic recovery by granting Community financial assistance to projects in the field of energy.

<sup>7</sup> Additional investments to those of the European Commission have been made by: the European Investment Bank EUR 75 million, Cassa Depositi e Prestiti SpA (CDP) EUR 60 million and the Investment Manager Deutsche Bank (DB) EUR 5 million.

with LED lights (73 % of the total lighting points of the city) and achieve more than 40 % in energy savings.

From its creation to 31<sup>st</sup> December 2014, the Fund has signed contracts with nine projects for € 115 million, which have generated € 216 million of final investments. In addition, € 70 million have been allocated to 3 projects<sup>8</sup>.

A project assessment and reporting framework on CO2 equivalent and primary energy savings has been developed. As of the end of 2014, EEE F investments have achieved savings of 96 000 tons of CO2, comparable to the annual CO2 equivalent emissions of 12 000 European citizens.

### **Technical Assistance facility**

In 2014, an additional € 5,5 million were allocated to seven local authorities<sup>9</sup> to finance their project development activities. This should leverage investments of € 127million, 23 times higher than the initial outlay.

In total, the Technical Assistance facility funded by the Commission will have supported the structuring of 16 projects for a total amount of € 17 million<sup>10</sup>. Several factors can explain the reasons for small amounts of unallocated funds. First, the projects identified in the ramp-up phase of the Fund had a higher advancement stage/maturity level and therefore did not need technical assistance. Moreover, the experience of the Technical assistance facility has shown that financing energy efficiency projects faces many challenges, such as a lower level of preparation of requests than initially estimated at the inception of the fund (few of the technical assistance requests received were ready for submission), changes in projects following political changes in governments, or necessary adaptations after the first set of feasibility studies.

### **Awareness Raising Activities**

The European PPP Expertise Centre (EPEC)<sup>11</sup> has finalised the awareness raising campaign focusing on 3 aspects: supporting the development of Energy Performance Contracting in the Member States, encouraging the optimal use of Structural and Cohesion Funds for energy efficiency and renewable energy and spreading information on recent policy changes and priorities for the Multiannual Financial Framework 2014-2020 (MFF). Based on the preparation of various fact sheets and country strategies, tailored workshops and follow-up activities were organised in various Member States.

### **Main Conclusions & outlook**

The EEE F will seek to increase its geographical coverage, in particular in Central and Eastern Europe, to accommodate the various needs of European local and regional public authorities.

By now, the Fund has progressively established a solid track record of profitable investments and will actively look for additional senior investors to leverage the EU contribution further.

## **IV. OVERALL CONCLUSIONS**

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<sup>8</sup> One of the projects to which financing had been allocated in March 2014 did not proceed.

<sup>9</sup> In the Netherlands, Belgium, Ireland, Portugal.

<sup>10</sup> Support from the Technical assistance facility has been allocated to four other projects.

<sup>11</sup> The European PPP Expertise Centre (EPEC) is a joint initiative of the EIB, the European Commission and EU Member States and candidate countries. EPEC helps strengthen the capacity of its public sector members to enter into Public Private Partnership (PPP) transactions. <http://www.eib.org/epec/>.

The EEPR has delivered good results. The majority of projects have been completed, particularly regarding gas and electricity infrastructures. The Commission has taken the decision to terminate projects where appropriate and maintains a strict control on project implementation and monitoring.

The Off-Shore Wind solution has proven to be more complex than expected and a lot of technological knowledge has been gained over the five years. The same applies to CCS projects where additionally problems with finding the necessary complementary funding delay progress or stopped projects.

The EEEF has also been successful: a commercial fund was established that will continue to grow, providing financing solutions and generating profits covering administrative expenses, shareholders' dividend and repayment of establishment costs.