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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

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1. PROGRAMME IMPLEMENTATION IS PROGRESSING

The European Energy Programme for Recovery (EEPR)¹ provides financial support to selected highly strategic projects in the energy sector. By co-financing these projects, the programme helps the European Union to progress towards its energy and climate policy objectives: security and diversification of energy supply; completion and smooth operation of the internal energy market; and reduction of greenhouse gas emissions. At the same time, by sustaining capital expenditure in the real economy, the programme aims at stimulating economic activity and promoting growth and job creation.

Since last year's report, the implementation of the EEPR has progressed. To recall, the year 2010 was devoted mainly to setting the EEPR in motion. Most of the budget available was allocated to 59 projects in the following sub-programmes: gas infrastructure (€1363 million); electricity infrastructure (€904 million); offshore wind energy (€65 million); and carbon capture and storage (€1000 million). Overall, by the end of 2010, grant decisions and grant agreements had been made for a total amount of €833 million i.e. 96.3% of the total EEPR budget. An amount of €146 million that could not be committed to projects in these sectors by the deadline of 31 December 2010 was reallocated to a new financial facility, the European Energy Efficiency Fund², focusing on energy efficiency and renewable energy investments.

The EEPR was set up in the wider context of the global effort undertaken at EU level to face the financial crisis that erupted in 2008 and to stimulate economic recovery. Since then, an even more severe crisis is sweeping Europe and therefore policies to stimulate recovery remain highly necessary. Given the complexity and the magnitude of the crisis, no single policy initiative or spending programme can be expected to deliver economic recovery on its own. However, in this difficult context, the EEPR has been and continues to be a useful tool that allows progress in a number of key investment projects, which without public EU funding would be at risk of being delayed, downsized or cancelled.

This annual report focuses on the state of play of the programme implementation. A more in-depth analysis of the impacts of the EEPR is provided by an independent mid-term evaluation³ carried out in 2011. According to this survey, it appears that the programme, by setting in motion construction works and procurements of equipment and intermediate manufactured goods, is already generating a meaningful impact on the real economy. From an energy policy perspective the programme concretely contributes to deploying low carbon technologies and improving the way the gas and

¹ Regulation (EC) No 663/2009 of the European Parliament and of the Council of 13 July 2009 establishing a programme to aid economic recovery by granting Community financial assistance to projects in the field of energy.

² Regulation (EC) No 1233/2010 of the European Parliament and of the Council of 15 December 2010 amending Regulation (EC) No 663/2009.

³ http://ec.europa.eu/energy/evaluations/doc/2011_eepr_mid_term_evaluation.pdf

the electricity internal markets work, by providing interconnections between western and eastern parts of the EU, in peripheral Member States and in Central and Eastern Europe, by improving the storage capacities, by progressively completing a bidirectional gas pipeline network and by bringing "energy islands" closer.

The actual implementation of the projects supported by the programme had started already in 2010 but it is only in 2011 that it gained momentum and achieved cruising speed. Several projects are finalised and many others are on track, as illustrated in the following chapters. In some cases project implementation is challenging and is advancing slower than initially planned. The economic and regulatory context is particularly challenging for the Carbon Capture and Storage sub-programme, which is at a crossroad.

A problem common to the three sub-programmes lies in the complex and lengthy permit granting procedures. The ensuing regulatory uncertainty has led to delays in the final investment decisions. Successful implementation of the EEPR needs a strong commitment from all stakeholders including the Member States, in order to speed up the regulatory and permitting processes. In this respect, the Commission proposal on the energy infrastructure guidelines⁴ is expected to bring about major improvements. The proposal contains provisions to accelerate permit granting procedures, by setting up single national authorities to manage permit granting process, establishing a three year time limit for the permit granting decision and increasing transparency and public participation.

Furthermore, as a consequence of the credit crisis and the regulatory measures which followed (Basel III, Solvency II), it has become increasingly difficult for infrastructure projects to access long term financing. This coincides with the unprecedented investment volumes expected as many Transmission System Operators (TSOs) will need to step up their investment plans even threefold. The Commission proposal on the Connecting Europe Facility (CEF)⁵, a cross-sector infrastructure fund, is designed to help projects put together the necessary financing package. The financial instruments under CEF, by bringing in new classes of investors (pension and insurance funds) and mitigating certain risks, should help project promoters in accessing the necessary long-term financing for their projects.

The Commission monitors closely the progress of all projects and the achievement of the relevant milestones. The Staff Working Document accompanying this report provides the state of play of each project. In case of delays the Commission is taking action to facilitate implementation through intensified dialogue with the beneficiaries based on frequent reporting and on-site visits. However, when a viable solution to mitigate the delays is not found and progress in implementation cannot be achieved, the Commission may terminate its financial support to the project.

The European Energy Efficiency Fund is in an early stage of implementation as it has been operational only since July 2011. Very intense activities have been carried out during the first months of operations to launch it and to start to identify projects with a potential for being supported by the Fund.

⁴ Proposal for a regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure , COM(2011) 658 final

⁵ Proposal for a Regulation of the European Parliament and of the Council establishing the "Connecting Europe Facility", COM(2011)665

2. GAS AND ELECTRICITY INFRASTRUCTURE

2.1. Introduction

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

- Gas infrastructure and storage projects. The infrastructure for transporting and trading gas across the EU needs to be further integrated by constructing the missing links between Member States and removing bottlenecks within countries. Security of supply requires integrated energy networks within the EU, as well as the further diversification of EU's energy sources and routes, including Liquid Natural Gas (LNG).
- Gas reverse flow projects. The origins of this strand of activities were in the 2009 gas supply crisis that followed the disruption of flows coming from Russia through Ukraine. Most of the Central and Eastern Member States were left without gas, not because of lack of gas in Europe, but because the existing infrastructures lacked the technical equipment and capabilities to reverse the gas flows from East-West to West-East direction.
- Electricity infrastructure projects. The integration of increasing electricity from variable renewable sources, high standards of reliability and system security and affordable energy prices require huge investments in new infrastructure. Furthermore, a number of Members States are still "energy islands" because poorly connected to their neighbours and the internal energy market.

The projects are implemented by the transmission system operators (TSO) in each Member States or by project promoters. The average length of the projects is 3-5 years. An amount of €2,268 billion has been committed, of which about €86 million, i.e.25.9%, have already been disbursed to the beneficiaries by the end of March 2012. It should be underlined that no payments can be made until the projects have secured the environmental permits. Furthermore, to safeguard the EU's financial interests, payments are also subject to the firm commitment of the promoters to implement the project through a final investment decision.

2.2. Progress to date

2.2.1. Projects completed in 2011

Out of the 44 projects co-financed by the programme, the following 13 (30%) were completed at the beginning of 2012:

- Two gas interconnections connecting Hungary for the first time to both Croatia and Romania fostering market integration and development in the region,
- The reinforcement of the Belgian gas pipelines network on the Germany-United-Kingdom axis enabling also reverse flow capacity from the Dutch/German border to Zeebrugge in Belgium and towards the UK,
- Seven gas reverse flow projects, of which four in Austria and two in Slovakia and one Czech Republic. The projects provide better access to the Austrian storage facilities in Baumgarten to all the neighbouring countries.
- Two electricity interconnections between Portugal and Spain, which improve the Iberian electricity market functioning and the integration of renewable energy sources;

- One electricity interconnection between Austria and Hungary, which provides considerable additional transfer capacity on the congested south-south direction and enables thus further market integration and trade.

2.2.2. *Progress of the on-going projects*

Out of the remaining projects, 18 (10 for gas and 8 for electricity) are progressing according to schedule (40%). They have engaged in tendering procedures and construction works, stimulating growth and creating jobs through the purchase of cables, pipes, compressor stations or other equipment.

For gas, the project implementation has progressed well in the following three European regions:

- The five projects in the *Baltic region* (Poland, Denmark, Lithuania and Latvia)
- Two projects in *Central Eastern Europe* (Slovenia and Czech Republic)
- Three projects in *Western Europe* (Belgium, France and Spain)

Regarding electricity, good progress has been made in implementing the projects in the following two regions:

- The three interconnection projects in the *Baltic region* (Estonia, Latvia, Finland and Sweden)
- Five projects in *Western Europe* (Germany, Ireland, United-Kingdom, France, Spain, Italy and Malta)

Eventually, only 13 projects out of the 44 (30%) are progressing slower than originally expected because of technical, regulatory and commercial difficulties. In this case, project promoters have requested, on average, 18 months extension of the implementation period.

Difficulties in the finalisation of agreements for gas supply are at the origin of delays in three important projects aiming at diversifying EU's gas imports through new routes and new sources: Galsi from Algeria to Italy, Poseidon from Greece to Italy and Nabucco from Turkey to Austria bringing new Caspian gas and new counterparties (Azerbaijan, Turkmenistan) and possibly Iraqi gas. The support offered by the EEPR to these projects has been essential to bring them closer to a final investment decision which ultimately depends on a decision by the gas producers to ship gas through these pipelines. Negotiations in view of such decisions are on-going⁶ and could hopefully be taken in the course of this year. Any sign of a weakening EU support to these projects would send the wrong signal to the gas producers at this time of intensive commercial negotiations.

In other cases, tendering procedures have turned out to be more complex than initially expected for technical reasons, in particular for three projects: the interconnection between Bulgaria and Romania, the interconnection between Italy and Malta and the reverse flow project in Portugal. Granting of administrative authorisations is another major factor delaying the implementation of several projects, in particular the reverse flow projects in Poland and the Czech Republic. Some projects were delayed because of regulatory aspects or decrease of market interest because of the economic slowdown, as it appears to be the case for the

⁶ In the case of the Poseidon project, the negotiations with the developer of the Shah Deniz 2 field have recently been discontinued and the project sponsors consider other sources of supply available in the Caspian or Middle East.

reverse flow projects in Romania and Hungary, for the expansion of one gas storage in the Czech Republic located in Tvrdonice and for the interconnection between Hungary and Slovakia. Finally the interconnection between Bulgaria and Greece, highly important for the security of supply of the region, has been delayed due to legislative changes in Bulgaria.

2.3. Conclusion

During the second year of implementation, good progress has been demonstrated for electricity and gas infrastructure projects, notably for the reverse flow gas projects, with 13 projects completed and in operation. A large majority of the projects, 31 out of 44 or 70 %, are either completed or progressing according to plan.

Overall, the EEPR is concretely improving the way the internal market works, by providing interconnections between western and eastern parts of the EU, and increasing the security of supply of the country and regions concerned⁷. The EEPR is giving the gas infrastructure a truly European dimension, allowing quicker and more efficient implementation of the third internal market package and of the Regulation on security of gas supply⁸. Some remarkable steps forward are being taken: the reverse flow gas projects are up and running and avoided a gas supply crisis in the recent February 2012 cold spell. The strong EEPR support to the Southern Gas Corridor projects has been instrumental in the negotiations with supply countries, which are intensifying. The electricity projects supported are lending strong impetus to completion of the internal market with the full participation of all parts of the European Union and bringing major improvements to the security of supply of the countries and regions concerned. The electricity network projects will contribute to absorb the electricity produced from renewable sources. The completion of an EU-wide energy infrastructure system is progressing thanks to the clearing of bottlenecks and the progressive integration of "energy islands" such as the three Baltic States, the Iberian Peninsula, Ireland, Sicily and Malta. Moreover, the programme has sped up implementation of projects by financing specific action and construction works, helped project promoters to secure additional funding from financial institutions and helped a great number of project that were facing serious environmental permit problems to receive priority from the national administrations.

To date, it is foreseen that the majority of the 31 on-going projects should be completed during the years 2012-13 whilst only a few projects will run until 2017 given the technical, regulatory and commercial challenges they face.

3. OFFSHORE WIND ENERGY (OWE)

3.1. Introduction

The EEPR Offshore Wind Energy sub-programme consists of nine projects in two main areas of activities:

- Support to the large scale testing, manufacturing and deployment of innovative turbines and offshore foundation structures,

⁷ An in-depth analysis of the Danube Region Gas Market Model carried out by the Regional Centre for Energy Policy Research demonstrates the benefits of interconnections and their impact on the reduction of gas prices in the region, which may reach up to 6%. (The projects examined for instance are the HU-SK interconnection, the BG-EL interconnection and the PL LNG project.) For more information: http://www.rekk.eu/images/stories/letoltheto/kaderjak_drmmm_ep_20120620_v2.pdf

⁸ Regulation EU n°994/2010 of 10 October 2010. OJEU L295 of 12.11.2010

- Support to the development of module-based solutions for the grid integration of large amounts of wind electricity generation.

The beneficiaries of the grants include project development companies, engineering companies, renewable energy producers and TSOs. The full available EEPR envelope of €65 million has been committed and payments to all nine project totalled €189 million at the end of March 2012.

3.2. State of play of the OWE projects

The state of implementation of the projects shows a diverse picture, with one project already completed; others well on track, but some facing major delays.

3.2.1. Offshore turbines and structures (six projects)

Through the EEPR grants, the installation of the first large size (400 MW) offshore wind farms far from shore (more than 100 km) and in deep waters (more than 40 m) is now secured. Indeed, EEPR money has been instrumental for the selected projects to obtain the necessary loans from banking consortiums in order to achieve financial close. The EEPR action on the Thornton Bank in Belgium has been completed in September 2011.

The four German wind farm projects are all already in the manufacturing and/or installation phase. Furthermore, the first offshore wind electricity generated through infrastructure co-financed by the EEPR has already been fed into the German grid in Autumn 2010. While these projects are overall advancing very well, they do show some delays as compared to the original planning. These are due to three main reasons: delays of the guaranteed grid connection; delays in the permitting process; and delays for technical reasons (quality deficiencies in production and adverse weather conditions). As a consequence, one project (Bard I) has already been formally rescheduled through amending the grant agreement and the others are expected to request an extension of the grant agreement duration of one to two years.

The project aiming at installing an offshore wind energy technology test centre off Aberdeen (UK) faces more important delays. An appropriate company structure, with involvement of multiple beneficiaries, had to be put in place to allow for the combination of a commercial wind farm with a testing facility. In addition, the permitting process takes longer than expected.

3.2.2. Offshore wind-grid (three projects)

The three offshore wind-grid projects, aiming to install innovative technologies for the integration of offshore wind electricity (High Voltage Direct Current – Voltage Source Controlled), are less mature. The major objective of these projects is to provide the first fundamental building blocks for a European offshore grid. They have a high level of complexity not only from a technological but also from a regulatory and commercial point of view. Delays in decisions on the co-financing by national regulatory authorities mean the timeline of these projects should be rescheduled, requiring an extension of project duration until 2016-2018. However, despite these difficulties, wind-grid integration projects took significant step forward in 2011, by refining their business cases and by defining the optimal routes for cables and the technical specification of the interconnection modules.

3.3. Conclusions

The EEPR support to "turbines and structures" projects will result directly in an additional 1500 MW of carbon-free electricity production capacity and some projects

are already delivering part of this result. The EEPR projects are also generating important learning effects, for instance shortening of production time of offshore foundations and decreases in the installation time of foundations.

In some cases project implementation is challenging and is advancing slowly. Timely implementation of the EEPR actions depends heavily on swift progress in permitting procedures. Other framework conditions are also crucial such as the guarantees for offshore wind farms to obtain a grid connection.

For the wind-grid integration projects, the licensing of the wind farms to be connected as well as the co-financing to be obtained through the regulatory authorities are the crucial hurdles to be addressed before the final investment decisions can be taken.

4. CARBON CAPTURE AND STORAGE (CCS)

4.1. Introduction

Achieving the ambitious EU energy and climate policy objectives, in particular the decarbonisation of the energy system by 2050, requires the deployment of low carbon technologies, including carbon capture and storage (CCS). The EEPR, in line with the Strategic Energy Technology (SET) Plan, targets the demonstration of integrated CCS projects with a view to making this technology commercially viable by the end of the decade. The programme provides financial support of €1 billion to six projects in the power generation sector, out of which €392 million have already been paid to the beneficiaries as of March 2012. The selected projects cover three different CO₂ capture technologies as well as different onshore and offshore CO₂ storage concepts: hydrocarbon fields (with and without enhanced oil recovery) and saline aquifers. This approach recognises that integrated CCS projects are a novel technology challenge and their demonstration needs to address the range of technical, economical and regulatory challenges. The coordinators of the projects are utilities or energy companies. Other beneficiaries include energy transmission companies, equipment suppliers and research institutes.

4.2. State of play of the CCS projects

The EEPR enabled a fast start of all six projects (in Germany, the United Kingdom, Italy, the Netherlands, Poland and Spain). For one of these the EEPR was instrumental in leveraging national funding. In the area of permitting, the EEPR has triggered a targeted dialogue and cooperation with authorities and local populations. Some projects may have also helped in speeding up the actual implementation at Member State level of the legal framework. Furthermore, the detailed engineering studies performed so far have allowed utilities to gain insight know-how on the future operation of an integrated CCS facility. The characterisation work on specific geological storage locations has also led to the identification of suitable sites for the permanent and safe storage of CO₂.

The CCS sub-programme includes an obligation for projects to exchange experiences and best practices, which was made operational by the establishment of the CCS Project Network. As in 2010, the Network published in 2011 public summaries of the lessons learned by projects on CO₂ storage, public engagement and permitting.

In 2011 most projects concluded the Front End Engineering Design (FEED) studies for the capture unit, including pre-selection of the equipment supplier which is the last technical step before commissioning. Characterisation work on the selected

storage sites has continued alongside development of the optimal CO₂ transport routes.

Despite these positive steps, the CCS sub-programme as a whole is facing some major regulatory and economic uncertainties that risk undermining its successful implementation. The fact that none of the projects have yet adopted the final investment decision (FID) illustrates the on-going difficulties. The first project expected to be ready to adopt the FID – by October 2012 – is in the Netherlands. For all others, FID is not expected before 2013. This milestone has been delayed for a variety of reasons, including: all permits have not yet been secured; characterisation of the storage sites has not been finalised; financial structure has yet to be completed. Furthermore, the low carbon price under the Emissions Trading System (ETS) renders the short and medium-term business cases for CCS unattractive and has also increased the estimated operating costs of the plants. Finally, due to the current economic context, projects are facing increasing difficulties to access to financing.

In early 2012 the EEPR project in Germany, Jaenschwalde, was terminated. In addition to facing public opposition in the potential storage locations, the promoters concluded that the substantial delays in the German transposition of the CCS Directive would not allow the necessary CO₂ storage permits to be obtained within the project timeframe.

Given this difficult context, it appears that the future of CCS is at a crossroad. The Commission is closely discussing with the CCS stakeholders and project promoters the most appropriate follow-up to the EU support to this strategic sector, as well as options that could enable EEPR funds to be used to best effect by projects taking a positive FID.

4.3. Conclusions

Good progress was achieved in finalising detailed technical studies for capture units and, to a lesser extent, validation of storage sites.

However, after its second year of implementation the CCS sub-programme is at a crossroads: one project has been cancelled and none of the remaining five have yet adopted the final investment decision. There are several reasons for the delays: all permits have not yet been secured; characterisation of the storage sites has not been finalised; financial structure has yet to be completed.

As a result, most plants are likely to postpone operation to 2016/2017. CCS is a novel activity that, in addition to validating technical and economic aspects, needs to comply with new regulatory frameworks (e.g. for CO₂ storage). Industry and Member States will need to intensify their efforts if the delays relating to regulatory and financial aspects are to be mitigated for these projects.

5. THE EUROPEAN ENERGY EFFICIENCY FUND (EEEF)

5.1. Characteristics and objectives of the Fund

Regulation (EU) No 1233/2010 provides for the creation of a financial facility to support energy efficiency and decentralised renewable energy investments. The Regulation allocates to the new facility the amount of about €146.3 million, corresponding to the EEPR appropriations for commitments not used at the date of 31 December 2010.

Following the entry into force of the EEPB amended regulation, the Commission entrusted the European Investment Bank (EIB) with the task to create an investment fund and launch its operation. A Delegation Agreement between the Commission and the EIB was signed for this purpose in March 2011. The "facility" takes the form of an investment fund called the European Energy Efficiency Fund (EEE F)⁹, a technical assistance (TA) and awareness raising activities. The Fund is endowed with a capital of €265 million, of which the EU conferred €125 million. Other founding partners contributed as follow: the EIB €75 million, Cassa Depositi e Prestiti (CDP) €60 million and Deutsche Bank €5 million. In addition to providing capital to the Fund, the EU contributes €20 million for technical assistance (TA) grants and €1.3 million for awareness raising activities. Participation in the Fund is open to other financial institutions that may be interested in joining

In line with the Europe 2020 strategy for smart, sustainable and inclusive growth, the EEE F complements and contributes to the current energy efficiency policy framework, in particular the Energy Efficiency Plan 2011¹⁰, and the proposal for an Energy Efficiency Directive¹¹.

The Fund invests in energy-saving/energy-efficiency measures (70%), renewable energy projects (20%), and clean urban transport (10%), with a focus on investments in urban settings. The beneficiaries of the facility are local, regional and, where justified, national public authorities; and public or private entities acting on behalf of public authorities.

The Fund offers different types of debt and equity instruments¹² adapted to the project structure and needs. In particular, it may provide the following types of financial services: medium and long-term senior loan, subordinated loans, mezzanine debt investments, guarantees, equity and quasi-equity investments, or forfeiting¹³. The technical assistance component provides project promoters with financial support in form of grant to help structuring projects and preparing applications to the Fund.

The EEE F was established to address energy efficiency main market barriers: the lack of adapted financing, low market confidence for these investments and high capital cost for project development. The Fund thus aims at financing concrete replicable "lighthouse projects" to demonstrate the bankability of energy efficiency investments by providing tailored financing, currently not offered by the market, especially supporting Energy Service Companies (ESCOs) development and attract private additional financing.

5.2. Progress to date

Following the signature of the Delegation Agreement, the EIB undertook expeditiously all the necessary legal steps necessary to have the Fund up and running and operations started on 1 July 2011. Deutsche Bank, selected as fund manager, first undertook a series of communication and marketing actions to advertise the Fund in

⁹ The EEE F SA is a structured finance vehicle (SICAV-FIS under Luxemburg law)

¹⁰ COM(2011) 109 of 8.3.2011

¹¹ COM(2011) 370 of 22.6.2011

¹² The EEE F does not provide grants or subsidised interest rates (soft loans). These financial incentives are not considered the appropriate incentive for projects generating sufficient revenue to be financially viable

¹³ A forfeiting scheme consists of selling future receivables (energy savings) at a discount rate. Forfeiting schemes under EEE F are additionally secured through energy performance contracts as collateral.

order to establish a deal pipeline and build valuable contacts with municipalities, local authorities and also potential investors to enlarge the size of the Fund in the future. In this context, the website www.eeef.eu was created and a web based project submission tool was activated to facilitate the interaction between the fund manager and applicants. As regards the technical assistance component, its management was sub-delegated to the fund manager by the EIB and the first requests are being examined.

During the first months of activity of the Fund, municipalities, ESCOs and other entities acting on behalf of public authorities have already submitted to the fund manager a large number of proposals for projects in the fields of cogeneration, public lighting, district heating and building upgrade. Several promising projects are undergoing in-depth assessment and the first deals are underway. As with other financial instruments, many pre-selected projects require long public procurement procedures and complex deal structuring. The first projects will serve as pilot experience to foster in particular ESCOs structures. In this context, a standard forfeiting contract for energy performance based services was elaborated, which will facilitate the development and replication of innovative deals with ESCOs.

After the typical fund ramp-up period, it is expected that further projects will materialize. By June 2013, as required by the Regulation 1233/2010, the Commission will report to the Parliament and Council on progress and possible future development of the Fund.