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**REPORT FROM THE COMMISSION
TO THE EUROPEAN PARLIAMENT, THE COUNCIL,
THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE
AND THE COMMITTEE OF THE REGIONS**

**ON THE IMPLEMENTATION OF THE TRANS-EUROPEAN ENERGY
NETWORKS IN THE PERIOD 2007-2009**

**Pursuant to Article 17 of Regulation (EC) 680/2007
and Articles 9(2) and 15 of Decision 1364/2006/EC**

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1. THE POLICY FRAMEWORK

Europe's future economic growth and stability depend on timely and adequate investments in energy infrastructure. In 1996, as part of EU moves to complete the single market, the trans-European Networks for Energy (TEN-E) were developed. Their purpose was to provide a more political impulse to energy infrastructure investment. The focus was on the feasibility stage of gas and electricity network projects which contribute to the working of the single market, particularly cross-border initiatives. At that time, the EU had no energy policy remit and no internal energy market. National state-run companies managed network investments projects where the overriding aim was security of supply.

Later revisions to TEN-E incorporated sustainability and supply security criteria. It was assumed throughout that EU intervention in the implementation phases of such projects would not be necessary, as commercial interests would drive projects forward. The TEN-E budget consequently remained very low – some €22 million annually in the period of this report.

This report summarises the progress which TEN-E has achieved in 2007-2009 in helping Europe's energy industry devise and implement strategic network projects. The period covered in this report falls under the TEN-E Guidelines¹ adopted in September 2006, replacing those of 1996² and 2003³. The new Guidelines reviewed the objectives of the policy and introduced a number of new concepts and tools such as different priority levels and European coordinators with the aim of ensuring a more targeted approach to project implementation and better coordination between Member States along transnational corridors. The report also sets out to assess where TEN-E has had a positive impact as well as analysing its weaknesses.

Detailed information on the projects of European interest and the priority projects can be found in the Annex⁴. The Annex includes a summary description of the projects, describes progress of their implementation and presents the sources of

¹ Decision No 1364/2006/EC
² Decision No 96/391/EC
³ Decision No 1229/2003/EC
⁴ SEC(2010)xxx

financing during the period 2007-2009. It includes a detailed assessment of problems encountered during the implementation of the projects.

The framework for energy policy in the EU has been fundamentally transformed during the period of this report. Ambitious energy and climate objectives (20-20-20 targets) and third internal energy market package were adopted. These targets now form a central part of the new EU2020 strategy⁵ launched by the Commission in March 2010. Also, during this period, the EU has been subject to the greatest economic crisis in its history. In addition, the geopolitics of energy has changed with the emergence of China and other emerging countries as major energy importers.

This report highlights the importance of energy infrastructure to the overall energy policy aims of the EU and the delivery of its 20-20-20 objectives. It provides input into the preparation of a proposal for a new EU Energy Security and Infrastructure Instrument, as requested by the European Council in March 2009⁶ and anticipated in the Communication on the Second Strategic Energy Review (2008)⁷ and on the Green Paper on energy networks (2008)⁸.

2. PROGRESS IN TEN-E PROJECT IMPLEMENTATION

The TEN-E policy has been developed and shaped in the 1990's through the successive TEN-E Guidelines and the corresponding Financial Regulation. The current objectives of the TEN-E policy are to (1) support the completion of the EU internal energy market, (2) reduce the isolation of less-favoured and island regions, (3) secure and diversify the EU's energy supplies also through co-operation with third countries, (4) contribute to sustainable development and protection of the environment. The current TEN-E policy framework includes electricity, gas and olefin transmission networks.

The Guidelines for trans-European energy networks introduced in 2006 listed the projects eligible for Community co-financing according to the above-mentioned objectives and priorities. In total there are approximately 550 TEN-E projects, ranked in three categories, according to their perceived importance in producing wider European benefits.

Projects of European interest have a cross-border nature or have a significant impact on trans-border capacity. They have first priority for funding from the Community TEN-E budget.

Out of the 32 electricity and 10 gas projects of European interest, 9 projects have been completed, of which five in the electricity sector and four in the gas sector. In addition, 12 projects are under construction of which nine in the electricity sector and three in the gas sector since 2007. Only a very limited number of projects of European interest have faced serious delays, such as Yamal (study phase not started) or the Baltic Interconnector (construction suspended though required authorisations

⁵ EU 2020 - A European strategy for smart, sustainable and inclusive growth, 3 March 2010

⁶ Brussels European Council, 19-20 March 2009, Presidency Conclusions 7880/1/09

⁷ COM(2008)781

⁸ COM(2008)782

have been granted). One project was abandoned (Stupava (SK) - south-east Vienna (AT) line).

Priority projects have a significant impact on the functioning of the internal market, on the use of renewable energy sources and/or on security of supply. The projects are selected from the projects of common interest and have second priority for Community financial assistance.

The number of electricity and gas priority projects amount to some 140 and 100 respectively. 21 have been finalised in 2007-2009, respectively 9 and 12 in the electricity and gas sector. Furthermore, 46 projects are under construction up today – of which 33 in the electricity sector and 13 in the gas sector.

Projects of common interest meet the objectives and priorities laid down in the Guidelines and display potential economic viability as determined by a cost-benefit analysis in terms of the environment, security of supply and geographical cohesion. The Guidelines list 164 electricity and 122 gas projects of common interest.

Over the period of this report, several projects in each of the three categories have been re-defined following changes in market demand or difficulties encountered during their implementation. This implies the need for a more flexible definition of the TEN-E projects to better respond to network development needs.

TEN-E has been most effective in those projects which were selected for first priority funding, namely projects of European interests, and which had considerable political support as well as commercial potential. There is a need to narrow the focus of TEN-E on a limited number of strategic projects demonstrating European priorities. At the same time, the definition of projects should be flexible to better respond to market development.

3. FINANCING TEN-E INFRASTRUCTURE

In the EU, energy infrastructure is mainly financed by Transmission System Operators (TSOs) through tariffs (“user pays principle”). The TSOs own resources amount to approximately 20-100% of the total investment required, depending on the scale of the overall investment. The rest is typically covered by loans from international financial institutions or commercial banks. Partnerships with companies active in the gas and power sector, other than TSOs, may sometimes also offer additional capital. Member States in most cases do not participate directly in financing TEN-E projects as these are usually undertaken and financed by the TSOs.

EU-funded support to TEN-E projects passes through a number of instruments:

- The **TEN Financial Regulation**⁹, revised in June 2007, complements the TEN-E Guidelines. The budget of the TEN-E funding programme amounts to € 155 million for the budget period 2007-2013 of which some € 70 million for the period 2007-2009. Although the maximum co-financing rate is up to 50% for

⁹ Regulation (EC) No 680/2007

studies and 10% of eligible costs of works, it rarely amounts to more than 0,01-1% of the total investment cost of a project.

- The **European Investment Bank** plays an important role in the implementation of the TEN-E projects. In 2007-2009 the financial envelopes amounted to €2.561 million and €3.407 million, respectively for gas and electricity projects.
- In recognition of their social and economic importance, energy infrastructure projects have risen in priority in other EU funding sources, including the **Structural Funds, Instruments for Pre-Accession (IPA) and European Neighbourhood Policy (ENPI¹⁰/NIF¹¹), RTD Framework Programme**. These programmes have a significantly larger budget than TEN-E for energy-related measures. However, the absolute amounts, however, remained low except for the Structural Funds, where the support to TEN-E projects reached almost € 700 million.
- In 2009, the Council agreed exceptionally to allocate €3.98 billion to energy infrastructure and technology in the **European Energy Programme for Recovery (EEPR)**. The 2009 economic crisis had a major impact on commercial infrastructure projects. These funds targeted projects where delays caused by credit withdrawal would be not only detrimental to the EU's security of supply, and therefore to future economic growth, but also have a serious impact on employment and skills in the energy and construction sectors, inhibiting the introduction of renewable and low carbon technologies into energy networks. A large proportion of EEPR funding will benefit projects which are TEN-E priorities.

The TEN-E budget is being used more effectively by increasing coordination with other energy infrastructure activities and instruments in the EU. The potential for more effective coordination, including with national measures, could be better structured to strengthen synergies and the delivery of results, not only in financial terms but also to ensure overall coherence of EU actions and policies. Increased coordination between TEN-E and IPA/ENPI instruments is needed in order to generate more possibilities for network and market integration and to better take into account issues such as the development of smart networks as well as the improvement of interconnections between the new Member States (Structural Funds and EIB) and third countries (IPA, ENPI/NIF). The impact of TEN-E could be considerably enhanced by reinforcing this approach.

4. ENHANCING POLITICAL IMPACT

The 2006 Guidelines reiterated the long-standing goals of TEN-E, namely to encourage the effective operation and development of the internal energy market and to reduce the isolation of less-favoured and island regions. They also put renewed emphasis on the need to reinforce the security of energy supplies and confirmed the

¹⁰ European Neighbourhood and Partnership Instrument

¹¹ Neighbourhood Investment Facility

new objective to contribute to sustainable development and protection of the environment.

During the reporting period, the TEN-E programme has positively contributed to the development and operation of the internal energy market. In particular, the eleven completed cross-border electricity projects accelerated by TEN-E policy framework have permitted increased energy trade and more competition, contributing to the convergence of average energy prices and stimulating market integration and thus the development of a true internal energy market.

Security of supply has also been reinforced through increased transmission capacity between as well as within Member States, both for electricity and gas, as well as the three LNG terminal and gas storage projects. In this respect, TEN-E has contributed to greater diversity in gas supplies. However, it is only through the EEPR that significant investments are being made in gas reverse flow technology for new and/or existing gas interconnectors, strengthening thus security of supply.

Progress has been more mitigated as regards the objectives to reduce the isolation of peripheral regions and islands. Four out of nine projects are under construction. The uncertainty over the future electricity generation mix (imported gas versus renewables) is a brake on infrastructure developments in isolated markets.

In recent years, the TEN-E framework has been strengthened by extending the aims beyond market interconnection to security and diversification of supply and sustainability objectives. However, the delivery of the programme remains to be most effective in the case of major interconnector projects which are largely supply-driven. The impact of TEN-E has been less relevant in dealing with the more recent challenges concerning the EU's strategic energy policy goals and targets .

5. STRENGTHENING COORDINATION AND COOPERATION

The Guidelines established a framework for closer cooperation including through a better exchange of information and coordination between Member States. In this period of reporting, TEN-E for the first time was used to appoint European Coordinators and in September 2007, four Coordinators were appointed for four years¹².

The role of the Coordinators was to mediate in strategic cross-border projects to resolve practical difficulties holding up those projects. Two years later two of the Coordinators have successfully completed their mandate and two are still active. Coordinators were most effective where they were able to bring Member States together at the highest level to iron out political or administrative problems. This was possible due to their impartiality and political experience, clear mandate, tight time schedule and close interaction with the Commission and Member States at the highest level. A drawback is the risk of confusion between the relative roles of the

¹² Mr Mario Monti, Mr Josiaz van Aartsen, Mr Georg Wilhelm Adamowitsch and Prof Wladyslaw Mielczarski. See the annual reports and other relevant documents from European Coordinators at: http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm.

Coordinators and the Commission, in particular if their mandate covers projects going beyond the borders of the EU.

In parallel, the Commission has taken an active role in bringing relevant stakeholders together with the aim to build consensus on the way ahead of politically sensitive and complex regional projects. These include in particular the Baltic Energy Market Interconnection Plan (BEMIP), the Southern Corridor including Nabucco, as well as the support to regional initiatives such as the Pentalateral Forum (gas and electricity), and the new Heptalateral Forum (in electricity) now promoted by Germany and Poland.

Coordination between Member States and national regulatory authorities has become more important as work to complete a fully interconnected European electricity and gas network intensifies.

The intervention of the European Coordinators has addressed some of the weaknesses in the existing TEN-E framework. Their work has led to significant progress in the projects concerned, especially when the projects face clearly defined obstacles and involve a few countries and companies.

The role of the Commission to facilitate the implementation of complex regional projects involving several countries and companies and requiring a multi-sectoral approach has proven essential.

6. AUTHORISATION PROCEDURES

By definition, nearly all TEN-E projects face some obstacles during their implementation. The obstacles are related mainly to financial and technical constraints, particular problems of the chosen route and legal and political framework. However, one of the greatest obstacles is related to authorisation procedures. TEN-E has no remit to tackle this issue.

The TEN-E Guidelines require Member States to take all necessary measures to reduce delays to projects (in particular the projects of European interest) whilst complying with environmental procedures. This applies also to third countries involved, in accordance with the Energy Charter Treaty. However, the unpredictable length of authorisation procedures, which may sometimes be several years, even decades, is a growing problem. In rural areas this can be exacerbated by environmental requirements and public opposition to major construction projects. In long-distance projects, which TEN-E projects often are, the problems can be multiplied for each commune, region and country the project passes.

Most, if not all, Member States are aware of this problem and some have begun to tackle them through new national legal acts aiming at the acceleration or simplification of the authorisation procedures. Since this legislation is very new, its vulnerability to legal challenges and other practical problems has not yet been tested.

To ensure the necessary support at national level some Member States may declare certain projects as projects of national interest. This can avoid delays during the authorisation procedure and speed up the implementation of infrastructure projects.

Yet, this has not been done in all Member States and is often not coordinated at a wider regional or European level for cross-border projects. In addition, currently, there is no mechanism in the TEN-E guidelines that would ensure consistency between European and national energy infrastructure priorities.

There is a clear need to streamline planning and authorisation procedures in the case of projects which cross several jurisdictions. In the last two years, there has been some progress in simplifying authorisation procedures for major energy infrastructure projects in Member States. However, there is a need for action at EU level to ensure more coordination and consistency.

7. CONCLUSIONS AND OUTLOOK

The TEN-E has made a positive contribution to selected projects by giving them political visibility and helping leverage funds from the financial market. The "TEN-E label" given to projects with the highest European interest and the creation of European Coordinators have been conducive in delivering these results.

However, the European energy policy framework has undergone a dramatic change in the recent years, calling for a thorough review of both the concept and rationale of the TEN-E framework. Already in 2008, the European Commission's Green Paper on energy networks examined the suitability of TEN-E for the delivery of the 20-20-20 targets and security of goals. The Green Paper suggested that a new instrument was required to tackle the growing challenges of energy security and network investment in the EU. The European Council endorsed these conclusions in March 2009. This report substantiates these arguments further. This report also coincides with the conclusions of the European Council in March 2009 which call on the Commission to develop a new Energy Security and Infrastructure Instrument.

The agreement on a **EU Energy Policy**¹³ in 2007 set ambitious goals and binding targets on both greenhouse gas emissions¹⁴ and energy from renewable sources¹⁵ in order to fight against climate change, improve competitiveness and guarantee security of energy supply for European consumers. An appropriate energy infrastructure development is needed to enable meeting these objectives particularly concerning the integration of renewable energy sources into the grid, the mitigation of the higher technological risks of low-carbon technologies, the integration of the European energy markets and to ensure security of supply.

The regulatory framework related to gas and electricity infrastructure has considerably evolved: the **3rd internal energy market package**¹⁶ was adopted in summer 2009 and is under implementation. It provides new instruments for better cooperation between Transmission System Operators and Regulators. The Agency

¹³ COM (2007) 1 endorsed by the Council conclusions in spring 2007

¹⁴ Directive 2009/29/EC amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, Decision No 406/2009/EC on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020

¹⁵ Directive 2009/28/EC on the promotion of the use of energy from renewable sources ("RES directive")

¹⁶ Directives 2009/72-73/EC, Regulations (EC) 713-714-715/2009

for the Cooperation of Energy Regulators (ACER) will start operations in 2011, with the objective to ensure coordination of rules on network access and investment across borders. The European Network of Transmission System operators for gas (ENTSO-G) and electricity (ENTSO-E) are tasked to put the market integration in practice by providing a European view on network access and network investments. One of their key tasks is the elaboration of Ten-Year Network Development Plans; a first draft for gas was published in December 2009 and for electricity in March 2010.

In July 2009, following up on the Second Strategic Energy Review of November 2008 and calls from Council and Parliament amplified by the January 2009 gas crisis, the European Commission proposed a new **regulation concerning the measures to safeguard security of gas supply**. Whilst the regulation places the main emphasis on the internal market as best guarantee for security of supply, it provides for common standards for security of supply - the infrastructure standard (n-1) and supply standards for protected customers. It also requires reverse flows to be established on all interconnection within 2 years from its entry into force (some exemptions).

To stimulate economic recovery, the **European Energy Recovery Programme** allocated almost €4 billion to leverage private funding in gas and electricity infrastructure, off-shore wind and carbon capture and storage projects. It provides useful lessons on the benefits of greater Member State collaboration and strategic involvement at a high level.

Against this background, the weaknesses of TEN-E have come to the fore in 2007-2009. The programme has responded too slowly to the major challenges which have emerged in recent years, and is poorly equipped to deal with the growing challenges which will arise from the 2020 and 2050 ambitions.

The new policy environment creates a challenge for TEN-E, which has neither the resources nor the flexibility to make a full contribution to the delivery of the ambitious energy and climate goals. In the course of 2010, the Commission will examine the need for a new instrument which fully reflects the importance of infrastructure to the delivery of policy targets.

Based on the findings of this report, the following priorities emerge which will be further elaborated and analysed in the forthcoming revision of the TEN-E and its accompanying impact assessment.

First, **EU energy infrastructure strategic priorities need to be better defined**. The energy networks must be modernised to allow Europe to meet its energy policy goals, including the 20/20/20 targets. Networks need to become more Europe-wide, to enable the development and proper functioning of the internal energy market, to strengthen security of supply but also to allow new technologies to be applied. The networks must also become flexible, to allow a variety of renewable sources, more decentralised power generation, incorporating smart energy demand technologies, including the concept of an EU-wide "super grid" for electricity and gas as well as the networks for carbon capture and storage (CCS). The external dimension of infrastructure and the diversification of supply routes and sources will also need to be looked at, especially in the gas sector but possibly also for oil.

Second, **a new approach is needed to project definition.** The current categorisation is confusing and fails to give a clear overview of the objectives. The approach adopted in the Commission's second Strategic Energy Review, whereby multiple projects are brought together into a regional initiative, such as the Southern Corridor for gas imports from the Caspian, or the Baltic Interconnection Plan, may be pursued. A thorough political debate is needed to decide what the future priorities of European infrastructure should be.

Third, **the potential for cooperation between Member States involved in individual projects must be better exploited.** This applies at the level of planning and at the level of political coordination. Situations where projects of European interest are not given national priority status, or where these projects are not equally supported by all Member State involved are untenable. The possibility should be explored of setting up of one (central) authorising body within a Member State, at least for the cross-border projects to speed up implementation.

Fourth, **a stronger EU infrastructure strategy needs to attract investment at a level commensurate with the challenges.** The funding of network investments from tariffs paid by network users is the established approach in Europe. This will remain the main feature also in the future. There may, however, be few instances where public funding can be motivated due to widespread European benefits and clearly demonstrated market failures, which prevent the investment to be undertaken. Existing funding available under other EU instruments must be better used and coordinated with energy policy actions.

The Commission presents in parallel to this report first reflections on the future Energy Action Plan, of which one of the top priorities should be the development of a stronger and more flexible energy infrastructure, which is fully attuned to the political challenges of our age.