



*European Economic and Social Committee*

**TEN/263**  
**The definition of an  
energy policy for Europe  
(Lisbon strategy)**

Brussels, 12 July 2007

**OPINION**  
of the  
European Economic and Social Committee  
on  
**The definition of an energy policy for Europe (Lisbon strategy)**  
(Own-initiative opinion)

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On 14 September 2006 (confirmed on 26 October 2006) the European Economic and Social Committee acting under Rule 31 of its Rules of Procedure decided to draw up an information report on

*The definition of an energy policy for Europe.*

At the plenary session of 14 and 15 March 2007, it was decided to transform the information report into an own-initiative opinion (Article 29(2) of the Rules of Procedure).

The Section for Transport, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 19 June 2007. The rapporteur was **Ms Sirkeinen**.

At its 437th plenary session, held on 11 and 12 July 2007 (meeting of 12 July 2007), the European Economic and Social Committee adopted the following opinion by 126 votes with four abstentions.

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## **1. Recommendations**

1.1 Energy has become a central political issue with strong links to the Lisbon strategy for growth and jobs.

- Energy exercises a growing influence on the European economy. To meet the energy policy challenges of climate change, security of supply and competitiveness, EU needs to change into a highly efficient, low carbon energy economy.
- To this end, what is needed is a global approach and a Union-level debate about: how to curb Europe's demand for energy; ways of securing energy supplies by sources which are highly diversified, access to networks and a unified voice in external energy relations as well as other potential measures.
- The creation and uptake of innovations, which will make this shift possible, require certain conditions and some specific measures at EU, Member State, regional and local levels.

1.2 More and better jobs are at the heart of the Lisbon strategy. When market conditions change, some jobs are lost in the energy sector. At the same time new energy solutions can be strong drivers for creating high quality jobs. Education and training are key facilitators.

1.2.1 In addition to employment, also other aspects of the social dimension of energy are central in the Lisbon context. This includes, in particular, a high quality public service at affordable

prices. Civil society, including the social partners, need to be actively involved in energy policy development.

1.3 The EESC together with national Economic and Social Councils present the following recommendations on energy policy in the framework of the Lisbon Strategy, "Energy Policy for a Knowledge Society":

- Scrutinise energy policies and other relevant framework conditions against the EU goals of an efficient, low carbon economy.
- Provide for a skilled and well motivated labour force by ensuring a high class system of education.
- Provide for sufficient public R&D, comparable with main competitors, and stimulate growth of private R&D funding.
- Develop international co-operation in the energy technology field, in particular with other big players. Monitor systematically energy technology policies and measures by main competitors and partners.
- Ensure availability of risk financing in the development and business start up stages of SMEs as well as for investments in new technologies.
- Ensure open and healthy competition in the energy markets in order to force enterprises to innovate. In the case of renewable energy network access may be crucial to successful innovation.
- Erase obstacles to investments which are needed to take new technologies into use. Planning and authorisation requirements slow down and even hinder investments. To decrease the risks of investment the regulatory framework needs to be predictable and stable.
- Ensure access of new technology to EU and global markets.
- Ensure a global level playing field, for instance a global price on CO<sub>2</sub> all the while ensuring that it does not become a commodity like any other, since a genuine reduction in CO<sub>2</sub> levels will influence the very survival of the planet.
- Ambitious targets can help to develop a strong position for EU on the global markets in energy efficient and renewable energy technologies. Targets and their deadlines need, however, to be carefully set, so that there are realistic possibilities to meet them.
- The choice of measures to actively support innovation has to be made with great care amongst the following, in order to render results cost-effectively:
  - Funding of R&D
  - Education and training
  - Public awareness
  - Price mechanisms, taxation
  - Subsidies
  - Binding targets and obligations
  - Regulation and binding norms

- Voluntary standards, voluntary agreements
- Public procurements.

1.4 In order to achieve the urgent transformation of the energy sector which is needed, the pace of innovation needs to be accelerated. The Committee urges that particular attention be given to:

- measures to set a proper global economic price for carbon emissions,
- expanding public and private R&D to support new forms of energy and energy efficiency,
- using regulation (or other measures when more cost-effective) to drive faster progress in improving energy efficiency of products of all kinds,
- using public procurement much more proactively to drive higher energy efficiency standards, particularly in building.

## 2. **Introduction**

2.1 The EESC in collaboration with national Economic and Social Councils is to produce "a summary report" in early 2008 on the Lisbon strategy for growth and jobs priorities. This Opinion on energy policy forms part of this Summary Report. It has been produced in collaboration with national Economic and Social Councils, with active contributions in particular from the French, Italian and Maltese Councils.

2.2 This Opinion has bearing on Section B – microeconomic reforms to raise Europe’s growth potential of the Integrated Guidelines for Growth and Jobs 2005-2008. In particular it relates to guidelines 8 on strengthening competitiveness, 12 on R&D, 13 on innovation and ICT and 14 on sustainable use of resources<sup>1</sup>.

### **The European Council in March 2006**

2.3 The European Council in the conclusions of its meeting in Brussels on 23-24 March 2006 welcomed "the initiatives taken up by the European Parliament, the Committee of the Regions and the European Economic and Social Committee to increase ownership (of the relaunched Lisbon strategy for jobs and growth) at Community level. It encourages the European Economic and Social Committee and the Committee of the Regions to continue their work and asks for summary reports in support of the Partnership for growth and employment in early 2008" (Point 12 of the Presidency conclusions).

2.4 The European Council notes that "the background in Europe is characterised by intensified competition from abroad, an ageing population, higher energy prices and the need to safeguard energy security" (Point 7 of the Presidency conclusions). It further "confirms that the Integrated Guidelines 2005–2008 for jobs and growth remain valid. Within that

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<sup>1</sup> COM(2005) 141 final., Integrated guidelines for growth and jobs.

framework it agrees on specific areas for priority actions concerning investment in knowledge and innovation, business potential, especially of SMEs, and employment of priority categories; as well as the definition of an Energy Policy for Europe" (Point 16).

- 2.5 On the issue of energy the European Council notes that Europe is facing a number of challenges in the energy field: the ongoing difficult situation on the oil and gas markets, the increasing import dependency and limited diversification achieved so far, high and volatile energy prices, growing global energy demand, security risks affecting producing and transit countries as well as transport routes, the growing threats of climate change, slow progress in energy efficiency and the use of renewables, the need for increased transparency on energy markets and further integration and interconnection of national energy markets with the energy market liberalisation nearing completion (July 2007), the limited coordination between energy players while large investments are required in energy infrastructure (Point 43).
- 2.6 In response to these challenges and on the basis of the Commission Green Paper "A European Strategy for Sustainable, Competitive and Secure Energy" the European Council called for an Energy Policy for Europe, aiming at effective Community policy, coherence between Member States and consistency between actions in different policy areas and fulfilling in a balanced way the three objectives of security of supply, competitiveness and environmental sustainability (Point 44).
- 2.7 The European Council underlined that, to achieve this consistency both in internal and external EU policies, energy policy has to satisfy the demands of many policy areas. As part of a growth strategy and through open and competitive markets, it prompts investment, technological development, domestic and foreign trade. It is strongly linked with environment policy and is closely connected with employment, regional policy and particularly transport policy. In addition foreign and development policy aspects are gaining increasing importance to promote the energy policy objectives with other countries (Point 45).
- 2.8 The Energy Policy for Europe (EPE) should be based on shared perspectives on long term supply and demand and an objective, transparent assessment of the advantages and drawbacks of all energy sources and contribute in a balanced way to its three main objectives: (Point 46+47).

Increasing security of supply.

Ensuring the competitiveness of European economies and the affordability of energy supply to the benefit of both businesses and consumers, in a stable regulatory framework.

Promoting environmental sustainability.

2.9 In fulfilling these main objectives the EPE should:

- ensure transparency and non-discrimination on markets;
- be consistent with competition rules;
- be consistent with public service obligations;
- fully respect Member States' sovereignty over primary energy sources and choice of energy mix.

### **The "Energy Package" 2007**

- 2.10 The Commission is to present a Strategic Energy Review on a regular basis, starting in 2007. On 10 January 2007 the Commission published its first Review and a communication to the European Council and the European Parliament "An Energy Policy for Europe" – the "energy package".
- 2.11 The point of departure of the Commission for a European energy policy is threefold: combating climate change, promoting jobs and growth, and limiting the EU's external vulnerability to gas and oil imports.
- 2.12 The Commission presents as the core energy objective for Europe that the EU should reduce greenhouse gas emissions by 20% by 2020. The EU target needs to be seen in the context of the need for international action of industrial nations on climate change. When such a commitment exists, the EU will need to do more. The aim should therefore be to increase the target to a 30% reduction by 2020 and 60-80% by 2050.
- 2.13 The concern is not only about climate change, it is also about Europe's security of energy supply, economy and the wellbeing of its citizens. The Commission sees that achieving the objective also can limit the EU's growing exposure to increased volatility and prices for oil and gas, bring about a more competitive EU energy market, and stimulate technology and jobs.
- 2.14 In energy specific terms, meeting this overall greenhouse gas target will require the EU to reduce the amount of CO<sub>2</sub> from its energy use by at least 20%, and probably more, within the next 13 years. It will mean the EU taking global leadership in catalysing a new industrial revolution.
- 2.15 To achieve this objective, the Commission also proposes to focus on a number of energy related measures: improving energy efficiency; raising the share of renewable energy in the energy mix, as well as new measures to ensure that the benefits of the internal energy market reach everyone; reinforcing solidarity among Member States, with a more long term vision for energy technology development, a renewed focus on nuclear safety and security, and determined efforts for the EU to "speak with one voice" with its international partners, including energy producers, energy importers and developing countries.

- 2.16 The Review includes a ten-point energy Action Plan with a timetable of measures. A first package of concrete measures is presented with the Action Plan. This includes:
- a report on the implementation by the Member States of the internal market of gas and electricity as well as the results of an enquiry of the state of competition in these two sectors;
  - a Plan for Priority Interconnections in the electricity and gas networks of the Member States so that a European grid becomes a reality;
  - proposals to promote sustainable power generation from fossil fuels;
  - a roadmap and other initiatives to promote renewables, notably biofuels for transport;
  - an analysis of the situation of nuclear energy in Europe;
  - a work sheet for a future European Energy Strategic Technology Plan.
- 2.17 The Energy Efficiency Action Plan which the Commission adopted on 19 October 2006 also forms part of the Action Plan. The Commission's Communication "*Limiting Climate Change to 2° - Policy Options for the EU and the world for 2020 and beyond*" and the Strategic Review complement and reinforce each other.
- 2.18 The European Council endorsed fully the Commission's proposals at its Spring Summit on 8/9 March 2007. The Commission proceeds to draft detailed legislative and other relevant proposals in line with the Summit conclusions. A second Strategic Energy Review in two years' time will report on progress as Heads of State and Government have committed themselves to regularly discuss energy matters.

### **Previous Opinions on energy policy of the European Economic and Social Committee**

- 2.19 The EESC prepared during its mandate 2002-2006 several Opinions on energy policy issues, in particular on the features and role of different energy sources and technologies. At its Plenary session in September 2006 the EESC finally adopted an Exploratory Opinion, based largely on these previous Opinions, on "*The energy supply of the EU: a strategy for an optimal energy mix*"<sup>2</sup>. This Opinion covered many of the issues brought up by the European Council in March 2006. The main conclusions of the Opinion were:
- 2.20 The EESC found that Europe needs to set a strategic goal of a diversified energy mix, meeting optimally economic, security of supply and climate policy objectives. All energy sources and technologies have, in relation to these objectives, benefits and drawbacks, which have to be taken into account in an open and balanced way.

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<sup>2</sup> OJ C 318 of 23.12.2006, p 185.

- 2.21 Increased use of renewable energy sources has a potential that needs to be tapped. But even when the target for 2020 of 20% renewables would be met, it was not seen likely that renewables can substitute fully the traditional energy sources in the foreseeable future.
- 2.22 All options have to be kept open. The scenarios for EU-25 referred to in the Opinion clearly support this conclusion. Even a scenario based on assumptions of the strongest developments of energy efficiency and increase of renewables did not render any energy technology obsolete without negative impacts on either environment or economy.
- 2.23 The present mix should be developed by political strategies towards less external dependence and more non-emitting sources available in Europe, bearing in mind that market actors make decisions on investments in various technologies.
- 2.24 The EESC recommended developing a strategy for an optimal energy mix. In this context it is important to clarify the roles of the EU, Member States, independent authorities and market actors.

The strategy for an optimal energy mix was proposed to consist of the following elements:

- energy efficiency, including combined heat and power production;
- renewable energy sources including the use of biofuels for transport;
- energy efficiency in transports;
- even better nuclear safety and a solution to the question of spent fuel;
- clean coal technologies and preparing for re-increased use of domestic EU coal reserves;
- encouragement of investments in liquefied natural gas terminals;
- the right framework for sufficient investments in energy production and transmission;
- EU to speak with one voice as one of the strongest actors on the international scene;
- assessment of the impact of present and future climate and environmental policy measures on the other energy policy objectives;
- a global solution to post Kyoto climate policies, involving at least all major emitters;
- increased R&D efforts and EU support to energy R&D, both short and long term.

### **3. EESC comments on an energy policy for Europe in the context of the Lisbon Strategy**

- 3.1 Energy is a necessity in a modern society. To meet our needs of food, heating in cold climate, lighting, transport, commodities and consumer goods as well as – increasingly nowadays – telecommunications and information processing – we need a secured supply of energy. But the way in which we fulfil these needs can and has to be changed. In face of the present challenges, in particular that of climate change, we need a paradigm change as a matter of urgency towards a highly efficient, low carbon energy economy.
- 3.2 Energy has a strong link to the Lisbon strategy for growth and jobs. To achieve the Lisbon goals we need sufficient energy at affordable and competitive prices. At the same time new



energy solutions can, in particular if they are successful on global markets, be strong drivers for European competitiveness and creation of high quality jobs.

- 3.3 The general objectives of energy policy – competitiveness, security of supply and sustainability are and remain valid. The serious challenge of climate change requires curbing the growth of energy demand by much better energy efficiency and strongly increased shares of renewable and other low carbon energy technologies, like potentially in the future carbon capture and storage. Security of energy supply is also served by better energy efficiency as well as by diversification of sources and a unified EU voice in external relations. Competitiveness needs to be enhanced by an open market with well functioning and fair competition, including access to networks, while guaranteeing high quality public service.
- 3.4 Creating more and better jobs is central to the Lisbon strategy. As competition in the markets in general require better productivity, also enterprises in the energy market need to be more efficient. When jobs are lost in the energy sector workers concerned need to be duly supported. At the same time jobs in energy using sectors may be prevailed and increased. In particular, the thrust towards better energy efficiency and renewable energy and other developing technologies will create numerous, mainly high quality jobs.
- 3.4.1 The social dimension of energy policy needs due attention in the Lisbon framework. It covers the questions of employment and jobs as well as the availability of energy for everyone at affordable prices, i.e. high quality public service. Civil society, including the social partners, need to be actively involved in energy policy development.
- 3.5 The EESC has presented its detailed views on the above mentioned key energy policy issues in recent Opinions and will in due course produce Opinions on the legislative and other detailed proposals to be presented by the Commission based on the European Council's conclusions concerning the Energy Package.
- 3.6 In order to avoid duplicated work and to offer optimal added value to the energy debate, the EESC focuses in this Opinion on the relationship between energy policy and the underpinning vision of the Lisbon strategy of Europe as a knowledge society. In this Opinion we comment on the issues contained in the Energy package in relation to innovations.

## **The role of technology and innovation in meeting the energy challenges of this century**

- 3.7 Politically set targets and measures set the framework, but technology and other innovation, including change in behaviour, are key to real progress. This is true for better energy efficiency, both in conversion and use. Innovation can play an important role in reducing dependence on external energy sources by enabling diversification of the energy mix. Innovation is definitely needed to decrease emissions of greenhouse gases by development and use of renewable energy sources, clean coal and other fossil fuels as well as safe nuclear power.
- 3.8 Innovation means renewal in a broad sense. It is about developing and taking new ideas into wide use, turning them into economic value. It covers technological innovation as well as new management and other organisational solutions. It takes place in industry, but also in services and the public sector. Research is often the source innovation, but certainly not always. Here the Committee would also refer to its Opinion on Research needs for a safe and sustainable energy supply<sup>3</sup>.
- 3.8.1 Energy technologies, like more efficient combustion, windmills, solar collectors, or future fuel cells, hydrogen technology and fusion, are in the centre of attention. Equally important are flanking technologies, like materials development or meteorology, providing for efficient optimisation by better forecasts.
- 3.8.2 For more efficient energy use the range of relevant technologies is almost limitless; better insulation, less consuming electrical appliances, lighter materials, better industrial product and process planning, more efficient machinery. In this context the role energy intensive industries are important – if they don't provide for demand by investments and expertise, innovation in large parts of energy efficient technology for industry will stifle in EU.
- 3.8.3 Information and communication technologies offer a big potential. Applied in production, conversion and distribution of energy ITC can, as in any processes, provide for more efficiency and higher productivity. The same is true for safe and secure operations, including in particular of transmission networks. ITC-technologies help users and consumers master their energy use. One example with multiple benefits could be cutting peak loads by facilitating users' immediate reactions to price signals. In a wider context, use of ITC-technologies could substitute transport needs by, for instance, teleworking and conferencing.
- 3.8.4 We also need new ways – innovations – in operation and management of energy and energy related systems. The goal here is to ensure high quality services to an affordable price. Examples are management of safe operation of production and transmission systems and maintenance as well as operating the market (exchanges), peak management and daylight

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<sup>3</sup> OJ C 241 of 7.10.2002, p. 13.

adjustment. And last but not least – efficient logistics can add much to both energy demand and better fuel management.

- 3.8.5 Innovation in behaviour is also needed. The consumer is the key player – a more intelligent energy use is up to each one of us, and this requires new ideas and more knowledge. There is a big challenge of better awareness and adequate consumer information to guide choices. Regional and urban planning as well as architectural solutions and building requirements can do much to support citizens' choices vis-à-vis energy; to this end, official information campaigns urging efficiency energy use and savings should be promoted.
- 3.9 There is a need to come up with radically new solutions to problems, and change is needed urgently. Radical change takes time, and therefore it is important to start and allocate resources immediately. Meanwhile, existing best technologies should be taken broadly into use, for example to decrease energy use in households.
- 3.10 In order to lead innovation and investments in a cost-effective direction, the cost efficiency of upstream technologies should be quantitatively evaluated. One important example is the cost of different technologies for avoiding 1 ton of CO<sub>2</sub> – for instance windmills are much costlier than isolation of houses.

#### **Conditions and political measures to enhance innovation**

- 3.11 The creation and uptake of innovations require certain conditions and some specific political measures, both at local, regional, national and EU levels. As EU has the ambition to become world leader in energy efficiency and low carbon technologies, it is of crucial importance to scrutinise energy policies and other relevant framework conditions against this goal.
- 3.12 The first prerequisite for successful innovation is a skilled and well motivated labour force, supported by a high class system of education. Development of new technologies requires sufficient R&D as well as risk financing in the development and business start up stages of SMEs. Healthy and open competition forces enterprises to innovate. Market access, including globally, is necessary. In the case of renewable energy network access may be crucial to successful innovation. The regulatory framework has to be designed to enhance innovation, for instance by rewarding innovators specifically (example: the ETS does not reward those who have taken early action to decrease emissions). Overregulation stifles innovation.
- 3.12.1 Investments are needed to take new technologies into use. Companies need to be profitable in order to be able to invest. This is the case also for investments in better energy efficiency, even if the pay back period may be short. The energy business has been very profitable during the last few years, but still investments are low. It is known that planning and authorisation requirements and permits slow down and even hinder investments. To decrease the risks of investment the regulatory framework needs to be predictable and stable. As investments in

energy infrastructure often have long pay back periods, the possibility to use some forms of long term contracts would be beneficial.

- 3.12.2 For a company to invest in development or use of new technology, it needs to be able to get return on the investment from sufficiently big markets. In most cases national markets are not big enough for this – increasingly access to global markets is a prerequisite for making the investment. Likewise important is global demand and a level playing field. Unilateral EU measures do not create demand elsewhere, although it may happen over time. For instance, a price on CO<sub>2</sub> can be an important incentive, but it would need to be global.
- 3.12.3 EU's strong position on the global markets in energy efficient and renewable energy technologies should be further developed and strengthened. EU's ambitions to be a frontrunner in climate policies by setting ambitious targets as well as in energy efficiency and renewable energy use can support this goal. This does, however, not work automatically. Targets and their deadlines need to be carefully set, so that there are realistic possibilities to meet them, otherwise the result may only be extra costs and possibly loss of jobs. For instance, relevant technologies need to be in the development pipeline close enough to be ready in time for target deadlines. Also investment cycles in different sectors need to be taken into account.
- 3.12.4 The EU seems to put emphasis on interference in the market as a means to enhance innovation, which may not be sufficiently effective. The US and some other countries rely more on public financing of R&D. Europe needs to increase public as well as private financing of energy R&D. Technology co-operation with the other big players should be developed, and their policies and measures should be systematically monitored. We also need much more cooperation between Member States and national and EU efforts need to be better coordinated, without eliminating competition. Closer cooperation between public research and enterprises needs to be fostered, both in planning and executing research agendas, in order to assure that research efforts lead to innovation. The proposed EIT could play a role here.
- 3.13 To actively support innovation, a combination of instruments is usually needed. Different phases of development and different market situations require different measures in order for them to be effective. In relation to measures needed to turn them into successful innovations on the market, technologies can be grouped into, for instance, three categories:
- 1) Far from the market, in the R&D phase: In these cases targeted support to R&D and demonstration is needed. Price signals, like a price on CO<sub>2</sub>, are not sufficient.
  - 2) Close to the market, a functioning technology but still too expensive for the markets: a price on CO<sub>2</sub> may be the right incentive, as well as special support to ensure a fast growth of demand and thereby big production volumes.

- 3) A good product on the market, but low demand (examples are to be found in energy efficient technologies): The key issue is to raise awareness, which can be supported by energy auditing schemes and the like.
- 3.14 A broad choice in measures and instruments are available at EU, national and regional levels. The choice of measures for given objectives has to be made with great care in order to render results cost-effectively. The speed of action should be critically evaluated in order to avoid waste of resources and unintended implications. Measures that clearly serve both direct and indirect goals – no regrets-measures – should be implemented as soon as possible. More complicated, often new kinds of measures, like ways to set a market price for CO<sub>2</sub>, should first be carefully studied. To avoid complication, unexpected side effects and sub-optimal solutions multiple measures for one objective should be avoided. When choosing measures to be used, it is also important to take into account the efficient functioning of the internal market – this has so far not always been the case.
- 3.14.1 **Funding of R&D:** Here the Committee would refer in particular to its Opinion on Investment in Knowledge and Innovation (Lisbon Strategy) INT/325. The EU, as a whole, lags clearly behind the US and some other major competitors. The 7th Framework Programme for R&D allocates altogether some EUR 4 billion over seven years to energy (except the construction of ITER), while the US Energy Bill proposes in the Federal budget \$4.4 billion for 2007 only, and increasing later. In addition to increasing public money to energy R&D, there should also be incentives for allocating more private funding to energy R&D, while fostering cooperation between EU-countries.
- 3.14.2 **Education and training:** In addition to efforts to upgrade the quality of education and training in Europe, energy needs to be made attractive as a career choice with positive perspectives for young people. As technologies change ever faster, lifelong learning is essential.
- 3.14.3 **Public awareness:** It is a big challenge to change the behaviour of each and every one of us towards smarter energy use. Schools and campaigns have their role to play. The education of our "citizens of the future" on this topic could begin at primary school, since children are very receptive at this age to questions about the future of the planet and are eager to act. In professional spheres and companies, energy auditing based on, for instance, voluntary agreements have given good results.
- 3.14.4 **Price mechanisms, taxation:** Price signals can, if well designed, effectively support innovation by directing users' choices. As an instrument to decrease energy use in general, higher prices are not very effective - it is well known that price elasticity in energy is generally weak.
- 3.14.5 **Subsidies:** Well designed subsidies can effectively direct choices. In the early part of learning curves subsidies are often needed to counteract otherwise too high risks. In order not to distort

competition, they can be used only in the framework of existing EU rules that is to address market failures. Subsidies need to be limited in time and gradually phased out. To boost energy efficiency, appropriate incentives need to be developed to help overcome the initial, up-front extra cost of energy efficient appliances with often short pay-back periods.

- 3.14.6 **Politically set targets and obligations:** These give a signal of a desired direction of development. As important for investment decisions are the actual political instruments implemented in order to reach the targets. When setting targets it has to be kept in mind that usually some parts of the economy gain while other loose, and overly ambitious targets may cause more harm than benefit. Presently there seems to be a tendency to set overall and in addition subtargets related to the same goal, for example targets on reducing CO<sub>2</sub> emissions and, in order to reach those, targets on increasing the use of renewable energy. This may lead to suboptimal solutions in reaching the overall goal. Both targets and especially chosen instruments need thorough impact assessments, like agreements with industry in Germany and Finland.
- 3.14.7 **Emissions trading, green/white certificates:** These are effective instruments, leading to the set targets if correctly designed. The costs are, however, difficult to estimate on beforehand and may vary very much. The larger the market and the number of market players for trading rights or certificates, the better. If applied to enterprises competing on a global market, the system would need to be global in order not to distort competition.
- 3.14.8 **Regulation or binding norms:** Carefully planned regulation may enhance innovation. In particular, regulation can be an effective way to get rid of outdated technologies. It can also stimulate innovation to impose energy efficiency in products by setting ambitious medium targets for raising efficiency standards. The risk of stifling innovation is, however, always present. In any case, it must be assured that regulation does not create market barriers.
- 3.14.9 **Voluntary standards, voluntary agreements, certification:** These are innovation-friendly policy instruments. They may not always lead to meeting their exact targets or objectives, but they facilitate big steps forward in innovation, practically without risk of negative side-effects.
- 3.14.10 **Public procurement:** Procurement can play a big role in enhancing energy innovation. Methods for this purpose should be developed and spread widely. Normally "greener" procurement requires the use of life cycle analysis, and for this and other new methods the authorities often need further education. The EU rules for public procurement, which have to be respected, provide for "greening" of procurement, by requiring state of the art solutions.
- 3.14.11 In order to achieve the urgent transformation of the energy sector which is needed, the pace of innovation needs to be accelerated. The Committee urges that particular attention be given to:

- measures to set a proper global economic price for carbon emissions,
- expanding public and private R&D to support new forms of energy and energy efficiency,
- using regulation (or other measures when more cost-effective) to drive faster progress in improving energy efficiency of products of all kinds,
- using public procurement much more proactively to drive higher energy efficiency standards, particularly in building.

Brussels, 12 July 2007.

The President  
of the  
European Economic and Social Committee

The Secretary-General  
of the  
European Economic and Social Committee

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**N.B.:** Appendix overleaf

**APPENDIX**  
**to the Opinion**  
**of the European Economic and Social Committee**

**Contributions from the Economic and Social Councils**

**Contribution of the Central Economic Council**  
**to the Belgian national reform plan (2005-2008)**

Within the Central Economic Council (CEC), the social partners are discussing various subjects of central relevance to the Lisbon strategy. Since the 1996 law on promoting employment and preventive safeguarding of competitiveness, the social partners have been engaged in an in-depth analysis of the main elements determining wages and structural competitiveness factors in our economy. The results of this work can be found in the technical report on maximum available margins for increases in wage costs, used as a basis for biannual inter-sectoral negotiations.

The Council would point out that each time the wage margin is set in successive inter-sectoral agreements, account is taken of the various economic shocks experienced by Belgium and socio-economic changes in neighbouring countries. The most recent inter-sectoral agreement (ISA) was entitled "For an innovative economy and employment". It followed on from three preceding agreements, on adjusting the index (01/2006), the declaration on competitiveness (03/2006), and the agreement on reducing employers' payments and adjusting social allowances to increasing prosperity (09/2006).

The social partners agreed on and reaffirmed their determination to ensure stricter application of the 1996 law on promoting employment and preventive safeguarding of competitiveness. They recommended that, within the framework of the 2007-2008 ISA, sectors which had not yet done so should negotiate a correction mechanism to prevent excessive wage rises and the conversion of savings on employers' payments into higher wages. The inter-sectoral social partners agreed that a balance had to be struck between, on the one hand, keeping the growth of wage costs under control and, on the other, employees' purchasing power.

Officially, since the inter-sectoral agreement of 1998, the social partners have attached particular importance to continuing training, and they have set an objective of 1.9% of total wages on training measures. Since then, a chapter of the Central Economic Council's technical report has been devoted to evaluation of such training measures. In the course of joint work by the CNT (Conseil National de Travail) and the Central Economic Council, the social partners have developed a tool for evaluating these training measures. For them, vocational training must be a key issue for sectoral negotiations in 2007-2008. They are urging sectoral employers' and trade union negotiators to take appropriate initiatives enabling Belgium to catch up in this area.



For several years, the social partners have expressed their determination to pay particular attention to *structural competitiveness*. The most recent and inter-sectoral agreement tasked the CEC with continuing its analysis of this subject. Significant work is underway in collaboration with the Belgian Federal Science Policy Office, the Federal Planning Office, and various academics, by means of a network involving federal and regional players. This work has produced a diagnosis of the Belgian national system of innovation in the form of an opinion submitted to the government.

In implementing the joint declaration of 27 March 2006, the CEC has organised a conference to explore the factors behind underperformance in terms of innovation and discuss possible solutions. Based on the conclusions of this conference, the social partners intend to take steps to achieve a culture of innovation, both within companies and at the level of public authorities and society as a whole. They feel that an important requirement for this to happen is the involvement of all stakeholders - and therefore all social partners - in the formulation of innovation policy. Indeed, in countries which have succeeded in the field of innovation, national consensus on the importance of a strong innovation policy has helped to develop a strategic vision and an effective innovation system. They emphasise that a culture of innovation does not only depend on the level of expenditure on research and development but also on numerous other aspects: employees' training, the organisation of work, human resources policy, as well as the involvement and support of all employees; wage costs, mobility and career prospects for researchers, patent award systems, and contacts with research institutions. The CEC has also been requested to review innovation efforts by individual sectors and the problems which they are encountering, and to develop useful indicators. The social partners are currently working on a second opinion on policies which could improve our national system of innovation. To this end, the CEC has set up four working groups, tasked respectively with carrying out an analysis of patenting and standardisation issues; the exchange of knowledge, firstly between companies, and secondly between academia and industry; entrepreneurship; and fiscal conditions for research and development and the policy mix. At the request of the social partners, the CEC and the regional economic and social councils have decided to encourage the exchange of information on best practice between regional, federal and European levels. A joint seminar of the Central Economic Council, the FPS Economy/Energy and the European Economic and Social Committee will be held in 2008 on "energy policy, structural competitiveness and sustainable development: energy technologies and innovation".

In addition, the social partners issued an opinion in December 2005<sup>4</sup> and an additional opinion in April 2006<sup>5</sup> on energy efficiency in the housing sector, as a follow-up to the opinion of 2004 on the proposal for a European directive on energy efficiency and energy services. These opinions were intended to ensure better understanding of household energy consumption practices and socio-economic and technical factors behind changes and resistance to change in the field of energy

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4 CCE 2005-1391 Avis relatif à l'efficacité énergétique dans le secteur du logement en Belgique (Opinion on energy efficiency in the Belgian housing sector) (21/12/2005)

5 CCE 2006-422 Avis complémentaire à l'avis relatif à l'efficacité énergétique dans le secteur du logement en Belgique (Additional opinion on energy efficiency in the Belgian housing sector) (19/4/2006)

consumption in the residential sector. At present, the CEC and the regional economic and social councils are setting up a round table on this subject.

Over the last few months, the CEC has begun work on the subject of improving energy efficiency in transport. A diagnostic opinion<sup>6</sup> on commuting was adopted in 2007. This paid particular attention to emphasising best practices negotiated or supported by the social partners to improve commutes.

In collaboration with the European Economic and Social Committee and the Federal Planning Office, the CEC has carried out a series of studies and held a seminar on reforming network industries. These studies are included as part of the work of the CEC's energy and transport sub-committees. The CEC has a work programme on energy, covering four subjects: energy supply; the contribution of the energy sector or to competitiveness, growth and employment; liberalisation of the energy market in the EU and Belgium; and potential in the field of innovation, research and development. The CEC has adopted an opinion on the Commission's preliminary report on "Energy 2030"<sup>7</sup>.

As part of negotiations on the Inter-Generational Pact, the social partners introduced a link between the sustainability of public finances, employment rates, and upgrading social services to the level of prosperity. In implementing an agreement of September 2006 within the Group of Ten, the CEC and the CNT adopted a joint opinion<sup>8</sup> on a mechanism for adapting welfare payments to prosperity.

Finally, for the last few years a current affairs monitoring unit has been operating within the CEC. This unit will enable the social partners to select issues which are appropriate for discussion and will keep them in touch with the main developments on the Lisbon strategy. The unit is developing a cooperation network with academic experts and several Belgian representatives to European authorities, whether political decision-making institutions or consultative bodies. Regular hearings are held at the level of the CEC, involving the Belgian permanent representation to the European Union as well as Belgian representatives on the Economic Policy Committee and the Economic and Financial Committee.

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<sup>6</sup> CCE 2007-127 Avis diagnostic sur les déplacements des travailleurs entre leur domicile et leur lieu d'activité professionnelle (Diagnostic opinion on commuting) (30/1/2007);

<sup>7</sup> CCE 2007-357 Avis concernant le rapport préliminaire de la commission « Energie 2030 » (Opinion on the Commission's preliminary report on "Energy 2030") "Belgium's energy challenges towards 2030 " (1/3/2007).

<sup>8</sup> CCE 2006-1022 Liaison au bien-être - bonus annuel de bien-être pour les pensions - diminution des charges patronales - exécution du pacte de solidarité entre les générations (Linkage to prosperity - annual prosperity bonus for pensions - reducing employers' payments -implementing the pact for inter-generational solidarity) (21/9/2006).

## **Contribution from the Bulgarian Economic and Social Council**

### **Energy and climate change**

#### **The situation in Bulgaria**

The main activities in the area of energy and climate change are aimed at making the Bulgarian economy less vulnerable to outside shocks, as well as the wider introduction of ecologically suited and more efficient production technologies. The main priorities of Bulgarian energy policy are completely in line with the EU energy policy for development of competitive energy markets, protecting the environment and guaranteeing the safety of energy supplies. The priorities are based on the basic limitations of the Bulgarian economy and energy: high dependency on import of energy resources, while at the same time Bulgaria has twice the average energy intensity of the EU-25. Bearing this in mind, the activities of the State are directed increasing energy efficiency, stimulating production, the use of renewable energy and sustainable use of conventional energy resources. The energy balance within the country is well structured as regards diversity of the types of basic energy resources, but at the same time 70% of these resources must be imported. The only major local energy resources is low-calorie lignite with high sulphur content. In order to limit import dependency, serious efforts are being made to achieve sustainable use of energy resources:

- increase in energy efficiency;
- sustainable use of local energy sources;
- optimal use of renewable energy sources.

Industry uses most of the energy supply (38.2%). Over 40% of electrical power for industry is used by SMEs. In addition, the out-of-date machines and equipment do not meet the main requirements with regard to energy efficiency. Bulgaria is also lagging behind in the development of its low pressure gas distribution network. At the moment, natural gas is distributed in 35-40 municipalities which represent 15% of Bulgarian municipalities (80% for the EU-25) and about 0.4% of households are supplied with gas. Based on data provided by Eurostat, the energy intensity of the Bulgarian economy is about eight times higher than that of the EU-25. The policy is directed to achieving higher efficiency at all levels of the energy cycle (production, transfer, distribution, consumption). In order to achieve this, we rely on market mechanisms but also on strategies such as:

- encouraging investment in energy efficiency by the final consumers;
- stimulation of the development of cheaper alternatives for heating than electricity and improvement in ways of accessing them;
- redirection of electricity to the higher technological needs of the economy;
- elimination of deteriorations in defining prices of different types of energy for heating;
- improving efficiency in the processes of transforming energy, encouraging the combined production of thermal and electric energy and reducing transfer costs.

The main strategic documents setting out policy and measures on energy efficiency were adopted in 2005 by the Council of Ministers: the National programme for restoration of tenements which emphasises panel tenements; the National long-term programme for energy efficiency up to 2015 and the National short-term programme on energy efficiency 2005-2007. In order to achieve the goals regarding energy efficiency and use of local renewable energy sources, a number of projects under the “public-private partnership” scheme have been developed and successfully implemented. The government has worked to provide financial resources from the EU structural funds to co-finance projects in the area of energy efficiency:

- Operational programme "Regional development" will invest in work to extend the national gas supply system to the municipalities and to other sites that require access to the gas network.
- Operational programme "Development of the competitiveness of the Bulgarian economy" will support complex measures aimed at increasing the energy efficiency of companies and the use of technologies that use renewable energy sources.

In the area of renewable energy sources, Bulgaria has a policy of encouraging the use of such potential local sources. Bulgaria has set an objective of increasing the share of energy produced by RES (renewable energy sources) to 11% by 2010 (in 2004 it was 9.4% compared to 13.7% in the EU-25). In order to achieve this objective, a National long-term programme (2005-2015) has been developed that will encourage the following measures:

- the use of energy audit schemes and introduction of best practices in energy management;
- introduction of systems for Environmental Management and increasing energy efficiency;
- investment in energy saving and ecological technologies and RES;
- the use of biofuels in the transport system.

Bulgaria ratified the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol in March 1995 and at present complies with the requirements of the UNFCCC. The forecast for GHG emissions in Bulgaria until 2020, based on the assumption that the Action plan on climate change will continue to apply, shows considerably lower values than the admissible ones under the Kyoto Protocol and ensures a reserve for compliance with the commitments. As a member of the EU, Bulgaria will participate in the first period of the implementation of the European Scheme for the GHG trade and its participation will continue during the second period. Bulgaria actively participates in the “Joint implementation” mechanism under the Kyoto Protocol and is preparing to introduce the European Scheme for the GHG trade as from 2007.

Climate change is the greatest environmental challenge facing the world today. The basic documents guiding environmental policy in Bulgaria are the National Environmental Strategy 2000-2006 and the National Environmental Strategy 2005-2014 as well as the respective national action plans. The Operational Programme "Environment" was developed in the framework of the Convergence objective of the European Community and will be implemented with the financial support of the European Union (through the Cohesion Fund and the European Regional Development Fund). The entire programming process has been organised and led by the Managing Authority (MA) of the OP –

the "Cohesion Policy for the Environment" Directorate within the Ministry of Environment and Water.

### **ESC proposals**

The issues regarding global climate changes and goals to increase electricity production from renewable power supply sources, as well as commitments assumed by the country in compliance with the "Environment" negotiation chapter, require a clear evaluation of the challenges faced by the country and business, as well as of real resources, measures and actions. Mechanisms for financing renewable power supply sources are needed, as are effective measures for reducing administrative barriers. The matter of access by SMEs to environmental improvement projects has not yet been settled. The reason for this is that according to previous evaluations the funds required to comply with ecological requirements in the period 2007-2013 amount to EUR 3-4 billion.

Environmental protection is a fundamental part of sustainable development. The ESC suggests that specified approaches should be indicated to encourage SMEs to implement technologies protecting the environment as well as to ensure access to EU structural and cohesion funds. The stimulation of production and consumption of energy from renewable power supply sources is a priority in the energy sector and is directly related to the protection of the environment. Mechanisms for financing renewable power supply sources should thus be indicated.

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## **Contribution from the French Economic and Social Council**

### **DEFINING A EUROPEAN ENERGY POLICY**

In recent years the French Economic and Social Council (CESF) has been carrying out work in a number of fields, including energy, sustainable development, technologies of the future in respect of energy and its utilisation, research and development and innovation. A high degree of convergence has emerged in respect of the abovementioned major issues which have, furthermore, been addressed in the following green papers: November 2000 Green Paper on a European strategy for the security of energy supply; June 2005 Green Paper on energy efficiency; and the March 2006 Green Paper on sustainable, competitive and secure energy. These issues were also tackled in the *energy package* and the *energy action plan* adopted by the European Council.

#### **4. Global energy prospects**

The increase in the demand for energy is set to persist. Whilst growth in demand will be slight in the developed countries, it will be strong or indeed very strong in the emerging economies, in particular in China and India. The rate of growth in demand for energy will be variable in poor countries since those which lack energy resources will see their development held back to considerable extent by the increase in energy prices.

This increased level of consumption of energy can no longer be met by oil supplies in the near future and supplies of gas will only last for a few decades longer. The world is therefore entering into a new energy era which will be clearly marked 30 years from now with the advent of "peak oil", i.e. the date when global annual oil production peaks and then starts to decline.

The period of low energy prices is now in the past and a new balance will have to be formed on the basis of prices which are much higher than those which applied in the second half of the 20th century.

Annual consumption of gas is set to increase for a number of decades before levelling out and then decreasing. As for coal, it will be used to an increasingly massive extent, particularly in China and India, where it is the main energy resource.

The existing alternative options or new options which are to be developed are as follows: biomass (and, in particular, biofuels), nuclear energy, renewable sources of energy, carbon capture and storage, a change in patterns of behaviour with a move towards more moderate use of energy, and improved energy efficiency. None of these options can solve the energy problem of their own accord but all of them can make a significant contribution towards achieving this goal.

Oil and gas will remain the dominant sources of energy for several decades to come. Oil and gas fields are distributed throughout the world in a very unequal fashion, with two-thirds of oil fields being situated in the Middle East. There is a considerable risk that powerful cartels may control

supplies or that political crises could seriously affect deliveries. This is a factor which has to be taken into consideration by the importing states, including the EU Member States. The risk of a crisis arising will be all the greater in view of the fact that people will be slow to give up the habit of "business as usual".

Globalisation is increasing the risks but it may also open up new opportunities for those economic players for whom energy is a major component of their activities or their production costs. European industrial and service enterprises are directly involved on both counts.

Response times will be very long both as regards changes in patterns of behaviour and the implementation of new practices and new technologies, such as: the insulation of existing buildings; a major extension of the use of nuclear power and renewable sources of energy; the use of biofuels; and carbon capture and storage.

The link between greenhouse gas emissions and climate change has now been recognised. Although it is not possible, given the current state of progress reached in research, studies and simulation models, to forecast accurately the consequences which climate change will have on human beings, the economy and public health, it is perfectly possible that these consequences may be extremely serious in the case of a number of regions. Generating energy by burning coal, oil and gas is the cause of a very great majority of greenhouse gas emissions, particularly in the fields of transport, electricity generation and temperature control in buildings. These are therefore the three sectors in respect of which progress could be the most effective when it comes to reducing CO<sub>2</sub> emissions.

#### **5. The specific situation of the European countries**

- With a limited number of exceptions, available fossil fuel resources fall short of national requirements, let alone those of Europe as a whole;
- hydroelectric resources vary very considerably from one state to another and virtually all of these resources are already being exploited;
- the use of wind turbines offers a number of possibilities but represents an expensive solution and one which, in most cases, cannot guarantee to provide electricity throughout the year, particularly in periods of very low and very high temperatures when demand for electricity peaks;
- biomass has real potential. The degree of compatibility of biomass production with the production of food requirements and, from a more general point of view, with the sustainable use of the soil will, however, limit the impact which biomass may have. As regards biofuels, the question is whether such fuels produced in Europe will be reasonably competitive with those produced in countries which enjoy a warmer and wetter climate?
- European R&D in the energy field is carried out on a rather widely dispersed basis which places European states at a disadvantage when it comes to securing a significant proportion of new contracts - particularly for capital goods - which are bound to become available at global level.

## 6. The need for a European energy policy

Three goals of top importance emerge from an analysis of the situation in Europe over the next four to five decades. These goals are as follows:

- to guarantee security of supply of energy. Europe's rate of dependence on other countries for its supplies of energy is of the order of 50% and this figure is increasing all the time. Substantive measures, therefore, need to be taken if we are to avoid the attendant dangers;
- to control greenhouse gas emissions and, in particular, CO<sub>2</sub> emissions. European states, which are amongst the most prosperous and most advanced economies in the world, have a duty to set an example in this field whilst, at the same time, seeking to reach an effective, fair agreement at global level, which takes into account the special situation of both the poorest countries and those countries whose economies are marked by a very high rate of growth;
- if European states are to have a successful future, their industrial and service enterprises need to be competitive at world level which, in turn, means that they will have to have a high quality and economically effective organisation of their energy requirements;
- in the energy field, Europe still operates according to the principle of "everyone for themselves". If Europe were to pursue a joint policy, this would bring greater coherence, would make the most effective use of complementarities and would be a factor in ensuring optimal use of resources, in particular financial resources. There are therefore good grounds for pursuing a common policy with regard to purchases of oil and gas from exporting countries. There are also grounds for coordinating investments in production and networks: very high voltage interconnection lines; gas pipelines; and liquefied natural gas terminals. There are also good grounds for introducing a coherent tax system and marketing processes designed to bring about a reduction in CO<sub>2</sub> emissions at the lowest possible cost.

R&D, innovation, experimentation and the exchange of best practice are all undoubtedly sources of major progress. Europe needs to give priority to these fields in accordance with the spirit of the Lisbon Strategy and it should also devote larger, well-targeted, organised and coordinated funding towards these fields.

If it is to achieve the abovementioned three major goals, European energy policy will have to address both demand and supply.

We must limit the growth in demand – and even reduce demand wherever possible – by bringing about greater energy efficiency in respect of all uses of energy. Considerable progress could be achieved by making significant changes in patterns of behaviour and making systematic use of existing and emerging advanced technologies. The field of application of these measures is broad, ranging from spatial planning to transport systems and involving fields such as buildings, industry and individual patterns of behaviour. As regards energy supply, all options should remain open and the funding and human resources devoted to these options should be in proportion to the progress which they may bring. This concerns all of the following fields: nuclear power, renewable resources of



energy, biomass, "clean" coal power stations; carbon capture and storage; and stepping up the extraction rates from oil and gas fields.

The organisation and management of energy systems must also be marked by a spirit of innovation and a desire to make progress. This involves: taking account of the long term; harmonising general economic interest roles and competition rules; EU regulations; relevant and coherent tax and commercial incentives; new marketing instruments; and providing legal safeguards for investments.

The question of investments is of crucial importance. If we are to ensure a proper balance between supply and demand and to avoid sudden increases in price or excessive price volatility, it is essential that, in the fields of the production, transport and distribution of energy, the relevant investments are made in good time and at the right place. This presupposes that investors have a reasonable prospect of achieving a return on their investments. European energy policy will undoubtedly have to address these issues in different ways, depending upon whether we are dealing with electricity or gas or other forms of energy. The measures taken could go so far as the introduction of European rules or programming, whilst leaving degrees of freedom of action to each state, taking account of their specific situation and their conception of how resources should be organised.

As has been pointed out above, response times, in particular for industry, will be very long and it will take a considerable amount of time before tangible results are achieved. This should give us the incentive to draw up a European energy policy and to implement it without delay. There are, however, two further good reasons for losing no time in taking action. On the one hand, climate change is already in evidence: glaciers are disappearing and polar ice caps are shrinking. On the other hand, inertia is a major problem. Even if all of these changes have not yet been clearly explained, it would be irresponsible to fail to take account of them. Furthermore, as the recent Stern Report on the economics of climate change has demonstrated - and the soundness of this report has been backed up by specialists - the longer we wait, the more expensive it will be to carry out prevention and restoration measures.

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In the view of the French Economic and Social Council, it is essential to draw up a European energy policy which is geared to meeting long-term challenges and which is ambitious and seeks to ensure optimal use of financial and human resources. Such a policy should also form part of balanced, global arrangements which take account of the specific situation in the various groups of countries – be they advanced countries, emerging economies or highly impoverished countries.

In accordance with the principle of subsidiarity, the states themselves will be responsible for implementing this European energy policy, particularly as regards organisation, the enforcement of rules and services of general economic interest. All the parties involved will be obliged to demonstrate a successful record in respecting the jointly defined goals and framework in accordance with the Lisbon Strategy. The European Union will have the task of monitoring the policy and, if necessary, adopting corrective or complementary measures.

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**Contribution from the Italian CNEL (Consiglio Nazionale dell' Economia e del Lavoro)**

COMMISSION FOR MAJOR WORKS AND INFRASTRUCTURE NETWORKS FOR  
ENERGY POLICIES AND NETWORK SERVICES (V)

**Energy Group (21/2/2007)**

**ENERGY:**

- **SECURITY OF SUPPLY**
- **THE MARKET**
- **THE CHALLENGE OF CLIMATE CHANGE**

No one is in doubt that the long term availability of cheap energy is essential to ensuring modern economies can compete and grow. Achieving this objective, however, cannot be taken for granted. In March 2006 the European Commission published a Green Paper on *A European Strategy for Sustainable, Competitive and Secure Energy*, to provide appropriate guidelines at a time that marks a break with the past.

The green paper begins with the words "Europe has entered into a new energy era". This is not meant to be triumphal, as a perusal of the text shows; alongside the well-known and as yet unresolved problems of the lack of transparency and poor integration of national energy markets, we find an acknowledgment of the threats to security of supply and the sustainability of our model of development that are looming on the horizon. Thus, Europe faces a number of challenges.

For Italy, entering the "new era" is likely to be more difficult than for other European countries. For some time various institutions have been noting that the current structure of our energy supply – primarily a mix of primary sources, dominated by oil and gas – means that consumers face higher prices than in other European countries that have chosen a different path. In order to close – at least in part – the gap, measures have been recommended to eliminate various obstacles and to promote more open markets – in line with Community directives – to allow market access to a growing number of interested firms. It is believed that healthy competition between energy operators – still lacking in many European countries, owing to the importance of certain dominant positions – will deliver the objective of lower prices.

The energy situation in Italy has been the focus of attention and studies, including by the CNEL, which has set up a round table bringing together the social partners, the main national operators and respected experts in the field.

CNEL's Commission V (in liaison with EESC TEN/263) is currently examining the risks that Italy – perhaps more than other European countries – will face with regard to security of energy supply, at a

time when confidence in the long-term sustainability of conditions similar to those that have, over more than a century, provided the energy for the modern global economy to grow, seems to be on the wane.

Questions need to be asked about the sustainability – even in the medium-term – of the current energy consumption model, not only because of the risk of irreversible damage to the environment, particularly through climate change, but also because it is almost certain that the availability of important primary sources such as hydrocarbon fossil fuels will be reduced. This scenario of global crisis, particularly for oil, is not just a result of a lack of investment for exploring and exploiting oil fields, or the high political risks inherent in those few parts of the planet where the main reserves are concentrated; eminent scientists – geologists in particular – have also stressed that global oil reserves will inevitably be exhausted in the not too distant future, and that it will no longer be possible to offset this with the discovery of new major reserves as in the past. Top geologists are saying that if existing reserves of "conventional" crude oil (i.e. that can be extracted at low cost using tried and tested technology) are exploited at current rates, they will be exhausted in approximately 40 years' time.

Similarly, there seems to be no immediate promise of technological innovation on a scale that might provide enough energy from sources other than hydrocarbons (e.g. nuclear or coal) and that can be used without risk to the environment to deliver sustainable development for the global economy at current rates of growth. The prospect of cheap, large-scale energy production from renewable sources seems even more remote and uncertain.

The European institutions are already aware of these problems, and realise that various crises are more than likely to arise as soon as the next generation; Italian institutions and public opinion are also coming round to this way of thinking.

Against this background – dominated by the challenge of climate change and in the medium-term by security of supply – the Presidency of the European Council, at its recent meeting on 14-15 December 2006, showed it was fully determined to actively pursue a genuine global energy policy for Europe, to be developed in line with the periodic reviews planned by the Commission. The policy approach adopted will determine the action plans needed to guide the transition from the current model for the use of energy sources and energy consumption, which is the product of uncoordinated national decisions, to a new system whereby energy will presumably be more secure and sustainable. This might include a competitive energy market, but it will clearly no longer be one in which energy is both plentiful and cheap.

Looking ahead to the forthcoming transition phase, Italy – unlike other European nations – cannot currently count on producing energy from sources other than hydrocarbons, such as nuclear or coal. In adapting to the new system it will be obliged to rely, in the medium-term, on continuing with its current supply and consumption arrangements, based predominantly on natural gas, which is set to replace oil, including for the production of electricity.

The use of natural gas – which is a less critical issue than oil, both because it produces fewer carbon dioxide emissions and because there are greater global reserves – does, however, pose some problems in terms of continuity of supply and prices. The gas fields from which Italy gets its supplies (via gas pipelines, as is the case in other European countries) are located in Russia, North Africa (Algeria and Libya) and in the North Sea, and are managed by companies that are directly controlled by national governments. In future, sea transport will enable Italy to expand its pool of gas suppliers by developing relations and agreements with other producer countries such as Egypt, Qatar, and Nigeria.

The logistics of getting natural gas across the often great distances from its source to the consumer are highly complex.

Major long-range transport infrastructure is required, such as the overland gas pipelines that cross the territories of various countries, or undersea ones; or the systems for transporting liquefied natural gas (LNG) on sea tankers via fixed routes. Transporting LNG by sea is not without its risks and constraints, and requires meticulous planning (there is no comparison with the logistics for transporting crude oil, which travels long distances on tankers via routes that are not rigidly pre-determined, and is stored in coastal depots). The terminals for loading and unloading LNG are in reality rather complex and expensive plants, which are designed, equipped and managed (as are the specialised tanker ships) so as to ensure that operations can be carried out safely.

Given the heavy investment (which has a significant impact on the consumer price of gas) involved in the construction and management of logistical infrastructure and support systems for natural gas, whether overland or by sea, this requires long-term trade agreements and partnerships between suppliers and purchasers.

Those who buy gas directly at source, i.e. from producer countries, have to deal with partners who have a great deal of negotiating power over customers and are able (as Gazprom did recently, for example) to take unilateral decisions that cause difficulties for their European counterparts. Purchasers therefore need to have economic and political clout similar to that of their suppliers, otherwise the relationship will become one-sided. In recent decades, this state of affairs has resulted in a European gas market characterised, for example in France, Germany and Italy, by the presence of players who, whilst they are certainly dominant within their respective countries, have thus far been able to ensure an adequate level of security of supply. This security is especially important for Italy, where a significant proportion of electricity production (as has been pointed out) depends on the supply of natural gas.

Consequently, the journey towards the EU's goal of an open and competitive energy market has been, and continues to be, impeded in certain countries by an unwillingness to do anything that would substantially weaken the strong position enjoyed by the "national champions" (despite state institutions, inter alia in Italy, having studied and promoted initiatives to reduce their dominance in favour of the entry of new operators).

In the current climate, some operators in Italy are extremely confident that the current difficulties and contradictions can be overcome, trusting in the European Union to deliver. They see the EU as the only entity that is potentially in a position to set a common external energy policy and to develop such governance as to provide all countries with the prerequisites for secure supply, using a sufficiently diverse range of sources (including nuclear and coal) whilst respecting the environment.

These operators believe that concrete actions should be identified and promoted at European level in terms of energy-saving measures, the exploitation of reserves, and research and innovation in the energy sector. Individual European countries, for their part, should above all be more determined about opening up their domestic markets, resizing their national champions and allowing newcomers in so as to bring about effective competition; finally, national policies should ensure compliance with the fundamental rules regarding public services in competitive markets, ensuring that the processes of liberalisation really do lead to improvements in the level of service in the energy sector.

Certainly, the framework outlined above is not within easy reach.

According to the green paper, Europe should above all "speak with a common voice" on "a common external policy on energy" so as to play as effective a role as possible vis-à-vis difficult partners (such as Russia and Algeria).

In the current climate of uncertainty, an issue of such strategic importance as the energy supply to a continent with the industrial mix and population density of Europe undoubtedly needs decisive and consistent political action so as to carry the greatest possible weight at global level. However, it would seem difficult to achieve rapid tangible results in this area from a political entity like Europe.

Moreover, the countries of Europe, who need to be converging towards conclusions that can be expressed "with a common voice", each have very different needs and priorities. For example, for the reasons outlined above, a secure gas supply for the coming decades, allied with a broader supply base, are far more pressing objectives for Italy than, say, for France or Germany, whose mix of energy production is less biased towards hydrocarbons.

Given the aim of a single European market in energy and gas, the completion of the processes of liberalisation and opening of the domestic markets in each country of the EU seem certain to bring benefits.

However, it should not be forgotten that an energy market that benefits consumers would need a potential supply of primary energy sources exceeding demand, and some competition between the organisations that control the availability of those sources at global level.

These conditions are not currently in place. For example, Europe's main gas suppliers in Russia and Algeria seem more inclined to consolidate their positions of strength by means of cartel agreements than to opening themselves up to competition, possibly agreeing to partnership proposals from customers.

In this complex situation Italy needs to join its partners in the EU institutions in promoting the "common voice" that is needed to pursue effectively the important goals set out in the green paper and which affect all countries equally. For example:

- seeking to improve the efficiency and security of transmission networks and infrastructure;
- maximising energy efficiency in production processes, construction and transport;
- developing the uses of renewable energy;
- developing innovative energy technologies;
- providing adequate funding for new infrastructure and for research.

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**Contributions from the Social and Economic Council of the Netherlands** (*Nederlandse Sociaal-Economische Raad - SER*)

**The Netherlands: Towards a sustainable energy policy with economic potential**

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The rapid growth in the use of fossil fuels, the resulting climate problems and the increasing dependency on energy imports from politically unstable regions clearly demonstrate the need to restructure future energy supply along sustainable lines. This certainly applies to a country like the Netherlands with its energy-intensive economic structure and tradition of openness.

Thus, since 2001, the Dutch government has been pursuing a targeted strategy – the energy transition policy<sup>9</sup> – to foster a transition towards sustainable energy supply. Energy supply is deemed sustainable if the energy sources used are – and will remain – readily available; if the impact of energy use causes minimum possible harm to people and the environment; and if the energy supply is reliable and safe. Energy must also be universally available at affordable prices. This final point means, among other things, doing everything possible to prevent the high cost of energy from putting the competitiveness of Dutch trade and industry at risk.

The focus of this paper is the energy transition policy. The following questions are addressed:

- What is the Dutch energy transition policy?
- What are the SER's views on the energy transition policy?
- What role does the SER feel the stakeholders should play?
- What are the new government's objectives in energy and climate policy?
- What contribution do the stakeholders intend to make?

**The Dutch energy transition policy**

The key element of the energy transition policy is the switch to sustainable energy management. This process will take many decades to complete. Whereas the current policy is set on achieving various targets by 2010, the transition policy focuses on the period post-2010. The transition policy involves a mix of technological, structural and cultural changes designed to ensure that energy needs are met in a completely new and sustainable way. Among other things, the transition policy requires an administrative revamp, in other words more effective cooperation between government, market operators, civil society organisations and also individual players within government. Thus, while government is certainly not the only player in the transition process, it is quite clearly expected to lead the way. Government gives targeted direction to an uncertain, complex and interlinked process. Government is a stimulus, putting in place the requisite conditions, acting as a link between stakeholders and making sure agreements are met.

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<sup>9</sup> For information in English go to: [www.senternovem.nl/EnergyTransition/Index.asp](http://www.senternovem.nl/EnergyTransition/Index.asp).



Six platforms – public-private partnerships – have now been set up to consider the main energy transition issues: green raw materials; sustainable mobility; chain efficiency; new gas; sustainable electricity supply; and energy in the built environment. The platforms initiate and broker projects relating to the various issues. They aim to create innovative opportunities for Dutch companies and other organisations and to identify problems in policy and legislation. Their proposals have led to the selection of 26 transition paths that have the potential to achieve the aim of energy transition. In making its selection, each platform has considered which transition paths offer the best prospects from the perspective of the economy and the environment.

### **The SER's views on the energy transition policy**

The SER broadly backs the energy transition policy<sup>10</sup>. For the SER, the energy transition comes as a response to its 1999 call – in conjunction with an opinion on climate policy – for a "Delta plan" for sustainable energy supply<sup>11</sup>. The SER believes that the economic and social benefits of the transition to sustainable energy supply will be considerable, provided that the transition policy is drawn up with care.

It is important that a balance be struck between the energy price paid by households and companies and the cost of energy consumption to society (actual costs and external costs). Since the transition to sustainable energy supply will take many decades to complete, a consistent policy is needed that transcends individual governments' terms of office. It is also vital to ensure the policy also has a sound international base. Among other things, this means coordinating the strategy with EU policy and establishing alliances with international trailblazers. For the transition to be effective, the policy itself will also have to be stepped up, with government and the business community making major investments. Innovation will generate good opportunities for new forms of economic activity and employment.

### **The role of stakeholders**

The transition to sustainable energy supply will only succeed if all the stakeholders involved make an active contribution. Apart from government, other stakeholders must also take responsibility and play their part in this process. These include trade and industry, the social partners, business and sectoral organisations, environmental organisations and consumers (and consumer organisations). The SER feels there are various ways in which this can be put into practical effect:

- First steps include *raising awareness, providing information and conducting demonstration activities*. In this way, the business and sectoral organisations can raise the energy awareness of SMEs by providing information and conducting demonstration activities. They can also

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<sup>10</sup> SER opinion *Naar een kansrijk en duurzaam energiebeleid*, The Hague 2006. For a summary in English (*Towards a sustainable energy policy with economic potential*) go to: [www.ser.nl](http://www.ser.nl).

<sup>11</sup> A "Delta plan" refers to the Dutch sea flood protection system built using unique technologies in the second half of the twentieth century.

promote energy conservation and encourage the use of new "clean" energy technologies (best practices).

- *Dialogue* and *advice* can also help generate broad support for the energy transition policy. In a strategy much used in the Netherlands, stakeholders have the opportunity of entering into voluntary agreements in order to speed up various aspects of the energy transition policy.
- Banks, pension funds and other financial institutions can also support the switch to a sustainable energy supply by *granting loans and setting up funds*.
- When it comes to *new technological advances*, an important role is given to consumers and consumer organisations, including those representing home owners. A large pool of early adopters is an advantage as this offers more scope for experimentation. If disseminated on a large scale, the costs involved for "followers" can fall relatively quickly.
- By pursuing a *sustainable buying policy* as a "launching customer", government itself can also stimulate demand for energy-saving technologies and sustainable energy products.
- Generating support for energy transition will also require paying sufficient attention to the *social and employment aspects*. These include the importance of educating and training staff in businesses and sectors involved in the transition process. Employee involvement is necessary and can be enhanced through social dialogue, information or consultation.

### **Objectives of the new Dutch government**

The Dutch government – the fourth led by Jan Peter Balkenende – which took office on 22 February 2007 has laid down ambitious climate and energy objectives in its 2007-2011 policy programme: energy-saving of 2% per year; a 20% increase in the share of sustainable energies by 2020; and a reduction in greenhouse gas emissions, preferably at European level, of 30% over 1990 figures.

Realising these ambitious objectives requires new energy-efficient technologies; it also means establishing international partnerships and applying market incentives ("the polluter/user pays"). In consultation with stakeholders, a targeted approach is being pursued with regard to the built environment, the energy sector, industry, transport and farming.

### **Stakeholder input**

The ambitious government plans have encouraged stakeholders to come forward with specific proposals of their own. As a result, a large number of proposals have been forthcoming in a short space of time, including the following:

- The employers' organisations have joined forces to ask the new government to enter into a sustainability pact setting out arrangements for an innovation strategy designed to achieve the energy and climate objectives. Drawing on new technological developments, the strategy's aim would be a severalfold improvement in energy efficiency. A list of sector-based options and proposals is included in the publication *Nederland gidsland? Als het maar slim gebeurt*.

- The biggest Dutch trade union federation has worked together with a number of environmental organisations to draw up a scientifically based, green energy plan: *Green4sure*. The plan indicates how governments, industry and individuals can be encouraged to make energy-saving and sustainable choices that tie in with government objectives.
  - In their agenda *Energie 2007-2020*, the Dutch energy companies have joined forces to draw up plans for achieving the government's climate and energy targets. The energy companies are determined to make a strong commitment to tackling the issues involved provided that the government strives to secure a strong, bold, consistent policy in this area that also has a European dimension.
  - The energy companies, housing corporations and building and installation businesses have drawn up a joint plan – *Meer met minder [More with less]* – designed to save 30% of energy in dwellings and other buildings by 2020. Three-quarters of all existing buildings would qualify for schemes to promote, for instance, better insulation, more efficient installation systems and sustainable energy use (solar boilers and water pumps).
  - The government itself has announced its intention to be climate-neutral as quickly as it can. That is to be done as far as possible by saving energy and buying sustainable energy.
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