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*Committee on Industry, Research and Energy*

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## **DRAFT REPORT**

on Conventional energy sources and energy technology  
(2007/2091(INI))

Committee on Industry, Research and Energy

Rapporteur: Herbert Reul

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## MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

### on Conventional energy sources and energy technology (2007/2091(INI))

*The European Parliament,*

- having regard to the Commission’s communication of 10 January 2007 “An Energy Policy For Europe” (COM(2007)0001),
- having regard to the Commission’s communication of 10 January 2007: “Sustainable power generation from fossil fuels: aiming for near-zero emissions from coal after 2020” (COM(2006)0843),
- having regard to the Commission’s communication of 10 January 2007: “Nuclear Illustrative Programme Presented under Article 40 of the Euratom Treaty for the opinion of the European Economic and Social Committee” (COM(2006)0844),
- having regard to the Commission’s communication of 10 January 2007: “Towards a European Strategic Energy Technology Plan” (COM(2006)0847),
- having regard to its resolution of 10 May 2007 on Assessing Euratom – 50 Years of European nuclear energy policy <sup>1</sup>,
- having regard to its resolution of 14 December 2006 on A European strategy for sustainable, competitive and secure energy – Green paper<sup>2</sup>,
- having regard to its resolution of 1 June 2006 on Energy efficiency or doing more with less - Green Paper <sup>3</sup>,
- having regard to its resolution of 23 March 2006 on security of energy supply in the European Union<sup>4</sup>,
- having regard to the Conclusions of the Presidency of the European Council of 8-9 March 2007 on the adoption of the European Council Action Plan for the period 2007-2009 “An Energy Policy for Europe” (7224/07),
- having regard to Rule 45 of its Rules of Procedure,
- having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on the Environment, Public Health and Food Safety, the Committee on International Trade, the Committee on Regional Development, the Committee on Foreign Affairs and the Committee on Development (A6-0000/2007),

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<sup>1</sup> Texts adopted, P6\_TA-Prov(2007)0181.

<sup>2</sup> Texts adopted, P6\_TA(2006)0603.

<sup>3</sup> OJ C 298 E, 8.12.2006, p. 273.

<sup>4</sup> OJ C 292 E, 1.12.2006, p. 112.

- A. whereas the EU's high level of dependency on imports means that energy policy is becoming increasingly centred on issues relating to security of supply, renewable energy sources, energy efficiency and the diversification of energy supply,
- B. whereas conventional energy sources (coal, oil, gas, nuclear energy) will continue to play a crucial role in energy supply,
- C. whereas in the case of fossil fuels dependency on imports will increase to 70% by 2030, and whereas gas and oil supplies are dogged by uncertainty owing to geopolitical risks and growing competition in terms of demand,
- D. whereas the percentage of gross power production in the EU-25 supplied by the various energy sources is as follows: nuclear energy 31%; coal 29%, gas 19%, renewables 14% and oil 5%,
- E. whereas the use of fossil fuels demands further efforts to combat climate change,
  - 1. welcomes the Commission's communications on sustainable power production from fossil fuels, on a European Strategic Energy Technology Plan and on the Nuclear Illustrative Programme;
  - 2. Stresses that improving energy efficiency makes a major contribution to sustainability and security of supply while at the same time improving the export opportunities for European producers;
  - 3. Considers it important, in view of the growing scarcity of raw materials, to diversify energy sources; also notes the significance of nuclear fission and fusion for security of supply;

### **Energy Technology**

- 4. Stresses that sustainable energy supplies for Europe can only be achieved with significant research efforts;
- 5. Notes that Europe leads the world in the fields of research and development (R+D) in innovative energy technologies, including energy efficiency and renewables;
- 6. Notes that other states and regions are currently making massive investments in R+D which might threaten Europe's leading position in technology in the medium term;
- 7. Stresses that this advantage in terms of research policy strengthens the competitiveness of European industry and creates jobs in Europe;
- 8. Calls on the EU, the Member States and businesses, in line with the subsidiarity principle, to redouble their efforts in the field of R+D on energy, particularly with a view to reducing environmental impact, improving the safety of existing technologies, developing storage techniques for renewables and developing new generations of nuclear reactors and new energy technologies, including nuclear fusion;

9. Welcomes the Commission's announcement that it intends to submit a Strategic Energy Technology Plan for the 2008 Spring summit;
10. Notes that public start-up support for new energy technologies should end once they have become commercially viable;
11. Stresses that an internationally agreed minimum quota to be set aside for research budgets would be in the interest of combatting climate change;

### **Fossil Fuels**

12. Stresses that fossil fuels will have to be used in the long term for electricity production, since renewables alone - even with improved energy efficiency - will not suffice to cover basic needs;
13. Stresses the contribution which can be made to security of supply by indigenous energy sources, particularly the large coal reserves in some Member States;
14. Considers that greater efforts must be made to curb the emissions from fossil fuel power production and increase its efficiency, while noting that European power stations are already the most efficient in the world;
15. Notes that it makes little sense, from the point of view of security of supply and cost-efficiency, to hamper the construction of the most modern and efficient coal-fired power stations by giving the wrong market incentives, while instead boosting the use of gas-fired power stations, which jeopardises security of supply and entails price risks;
16. Calls on the Commission to check that the emissions trading system is not preventing the replacement of existing plants, including nuclear power stations, by modern plants with a lesser impact on the climate;
17. Notes that carbon capture and storage (CCS) technology is linked to losses of efficiency in power stations and that issues relating to the storage of CO<sub>2</sub> must be clarified;
18. Calls, in connection with CCS technology, for research also to be carried out into chemical and biological processes for CO<sub>2</sub> capture;
19. Stresses that, while CCS is partly based on tried and tested individual technological components, it is not underpinned by an overall plan which has been proven on an industrial scale;
20. Does not regard it as useful to impose mandatory requirements for CO<sub>2</sub>-free power production in all coal-fired power stations after 2020 before the industrial viability of CCS can be evaluated;
21. Calls on the Commission to submit a proposal for legislation on CCS rapidly so as to respond to the legal issues surrounding the storage of CO<sub>2</sub>;
22. Calls on the Commission to submit an overall plan for the promotion of research into CCS technology;

23. Warns against unilateral dependence on particular gas suppliers or supply routes, and stresses the importance of liquefied natural gas (LNG) with a view to the diversification of gas imports;
24. Regrets that the Commission did not go into more detail on security of oil supply as part of the energy package, and calls on it to submit a communication on this topic;

### **Nuclear Energy**

25. Welcomes the PINC report which forms the basis for a comprehensive discussion of the nuclear option for Europe;
26. Supports the European Council's proposal for an unbiased debate on the opportunities and risks presented by nuclear energy;
27. Acknowledges the importance of nuclear energy as an important component of power supply in many Member States;
28. Notes that nuclear energy is currently the largest low-CO<sub>2</sub> energy source in Europe and stresses its important role in combatting climate change;
29. Refers to the 3<sup>rd</sup> IPCC report which stresses the importance of nuclear energy in achieving climate change objectives;
30. Notes that the decision by a Member State for or against nuclear energy may have an impact on electricity price trends in other Member States;
31. Notes that renunciation of nuclear power will make it impossible for the EU to achieve its climate change objectives;
32. Recalls that the Member States which use nuclear energy have committed themselves to complying with international security and non-proliferation standards, and acknowledges in this connection the particular importance of the Euratom Treaty;
33. Welcomes the establishment of a high-level group on Nuclear Safety and Waste Management and favours the founding of a nuclear energy forum;
34. Stresses that known global uranium reserves are estimated to be sufficient for more than 200 years, and that these reserves are to be found principally in safe countries;
35. Endorses the Commission's statements on the competitiveness of nuclear energy and notes that the majority of EU funds from the 7<sup>th</sup> Research Framework Programme are allocated to safety and nuclear fusion;
36. Stresses, in view of the long investment lead times, the need for a stable legal and political framework;
37. Refers to the 2006 Eurobarometer survey which showed that the level of people's knowledge has a major influence on their attitude to nuclear energy;

38. Notes that the issue of final disposal is susceptible of a technological solution and that the quantity of waste is relatively small in proportion to the amount of power produced;
39. Calls on the Commission and Member States to finally draw up comprehensive disposal plans and to implement such plans in order to minimise the interim storage of waste;
40. Recalls that 4<sup>th</sup>-generation reactors have improved the efficient use of fuel and reduced the quantity of waste;
41. Recalls that dozens of nuclear power plants are planned or being built worldwide, and that it is of major strategic importance for the EU to be involved in their construction;
42. Notes, finally, the role of the Euratom Loans and calls on the Member States to continue to permit the use of this important instrument in future;
43. Instructs its President to forward this resolution to the Council and Commission.

## EXPLANATORY STATEMENT

### 1. Introduction

In 2004 the share of fossil fuels as a proportion of gross domestic consumption in the EU-25 stood at 79%, the largest percentage being represented by oil (37.2%), followed by gas (23.9%) and coal (17.9%). Coal plays a predominant role in electricity production, oil dominates the transport sector, while gas is used in roughly equal proportions in power production and heating. Because of the prominent role played by fossil fuels and the lack of any equally cheap and efficient alternatives, they are universally predicted to remain a central component of the EU's energy mix up to and beyond 2020.

At the same time, dependency on fossil fuel imports will rise from 47% in 1990 to around 70% in 2030. Dependency on oil imports will be particularly high, at almost 94%. However, dependency on natural gas imports will also rise from 47.5% in 2004 to some 85% in 2030. The upward trend in both these figures is largely due to a drop in domestic production owing to exhaustion of oil and gas reserves. At the same time, demand for energy is increasing at around 1% per year. Demand for electricity is growing almost twice as fast as demand for other energy sources.

The EU should already be making plans for the future of energy supply. In particular, it must face the challenge of striking a balance between the three pillars of energy policy: competitiveness, sustainability and security of supply. The Commission's three communications are a step in this direction.

### 2. The importance of technology

Innovative energy technologies are not only an important economic factor but also make a crucial contribution to security of energy supply. The EU, the Member States and businesses in Europe must make further efforts to advance research into and development of new energy technologies. In this connection reducing the environmental impact and enhancing the safety of existing installations, developing new energy sources, more efficient and cleaner use of fossil fuels and the further development of nuclear fission and fusion technologies are of particular importance.

The export potential of such technologies is also increasingly significant. For example, as early as 2004, environmental technologies with a total value of EUR 22 billion were exported from the EU. The global market volume of energy technology could grow to 2 200 billion by 2020. The aim of EU technology promotion must be to secure the greatest possible share of this market volume for European businesses, including all areas of technology. This will also contribute significantly to securing and creating jobs.

This can only happen if the level of support for research into energy in the EU, which stood at 0.4% of GDP in 2004, is adjusted in line with the significantly higher level in the USA and Japan and is more effectively organised. In accordance with the subsidiarity principle it must



concentrate on technologies which are in the strategic interest of the EU as a whole while at the same time generating a substantial and visible added value as compared with support from individual Member States. Improved coordination between national and EU research programmes is also essential.

In addition to support for research, start-up funding is an important instrument for the promotion of future technologies. However, such funding must end once the product has become commercially viable, in order to prevent distortions of competition and windfall profits. Accordingly, greater emphasis should be placed on the construction of a European platform for innovative technologies, as proposed by the Commission in the form of a communication platform between producers and customers. This should permit a rapid overview of innovative technologies in the energy field which are in place or are being developed throughout Europe.

### 3. Fossil fuels

At present, the cost of producing electricity from fossil fuels in the EU is on average half as much as producing it from renewables (4.7 cents/kWh as opposed to 9.5 cents/kWh). With a view to the competitiveness of European industry on the global market in particular, it would be irresponsible to renounce fossil fuels so long as the alternatives engender significantly higher costs for businesses and consumers. This would also seriously jeopardise the EU's growth targets and the Lisbon objectives.

It is crucial in the interest both of future security of supply and of the environment that obsolete power plants should be replaced with new plants with efficiency levels as high as 55%. Replacing one third of the coal-fired power stations in the EU with modern plants by 2020 would mean a saving of one third of the EU's CO<sub>2</sub> emissions. Which source of fuel is chosen when building new capacity must, however, be left up to the electricity producers, who have the best overview of the costs and advantages of the various energy sources.

For reasons of security of supply, efforts to combat climate change must not lead to any one energy source being put at a disadvantage. This is particularly true of coal, worldwide reserves of which are sufficient for at least another 200 years. Coal is thus the globally most widespread fossil fuel. 26% of these reserves are in the USA, another 23% on the territory of the former Soviet Union. Within the EU, Germany (7%) and Poland (2%) possess a significant proportion of global reserves. The crucial factor is that most of these reserves are to be found in politically stable countries and that, unlike oil and gas, the price volatility of coal is extremely low. This in particular makes coal an indispensable fossil fuel for the EU.

For technological reasons, too, coal should not be neglected. Only if it continues to be used for power production within the EU will it be possible for European businesses to make technological advances in this area and export them to emerging countries such as China and India, which also have large coal reserves. This will secure jobs in the EU and will at the same time make a significant contribution to protecting the world's environment.

The degree of success achieved by European firms in this respect can be seen from the fact that, in spite of a significant increase in demand for electricity since 1990, there has been only a moderate increase in CO<sub>2</sub> emissions from power production. Conversely, the proportionate contribution of transport to European CO<sub>2</sub> emissions has risen considerably. Efforts to reduce

CO2 emissions must thus apply to all sources of energy.

In the case of CO2 sequestration, which is a welcome development in principle, it needs to be remembered that this technology inevitably leads to a 14% loss of efficiency in coal-fired power stations. This has an impact on future security of supply of fossil fuels and also raises environmental problems. Furthermore, there are still technical and legal issues to be clarified in relation to CO2 capture and storage.

#### 4. The role of nuclear energy

With a share of 31% of power production in the EU, nuclear power plants supply a significant proportion of the base load. In addition to their crucial contribution to security of supply, which proves their competitiveness, they also provide an important benefit to the environment. Thus the building of a fifth nuclear power plant in Finland engenders a 15% reduction in the country's CO2 emissions. In Germany alone, the existing nuclear power plants account for a saving of 160 million tonnes of CO2 emissions; globally, the saving is 700 million tonnes. On 8-9 March 2007 the European Council correctly noted that nuclear energy makes an important contribution to security of supply and helps the reduction of CO2 emissions.

The link between a high proportion of nuclear energy and low CO2 emissions in the energy economy is also stressed by the IEA in its most recent report for 2006. For example, CO2 emissions in Germany, with its 17 nuclear power plants, are some six times higher than in France, where 59 nuclear reactors are in operation. The 50 nuclear power plants which are currently planned or being built worldwide will thus make a further important contribution to combatting climate change and to security of supply. This is also stressed by international climatologists in the most recent IPCC report on climate change. This contribution will be all the greater since the latest generation of nuclear power plants are more efficient, thus cutting operating costs and boosting environmental performance. Furthermore, the largest uranium reserves are to be found in politically stable countries such as Australia and Canada.

The high level of fuel recycling in modern power stations also significantly contributes to security of supply, particularly since uranium reserves, which will suffice for several generations, can be significantly stretched by the deployment of the latest generation of nuclear power plants. At the same time this high level of recycling helps the avoidance of high-level radioactive waste. It should be stressed that the issue of the final disposal of radioactive waste can be resolved. Final disposal is often blocked not for scientific but for political reasons. In this connection the Commission and the Member States should finally submit and adopt a clear-cut overall plan for final disposal.

Neither should the rise in uranium prices give any cause for concern, unlike rises in the price of oil and gas, since the operating costs of a nuclear power station account for only 5% of its total costs. This guarantees a large degree of independence from price fluctuations. At the same time, it already costs significantly less to produce electricity from nuclear power than from fossil fuels and renewables. Consequently modern nuclear power plants can compete with oil from a price of USD 40 to 45 per barrel and with gas from a price of USD 5.70 per MBtu.

Nuclear fusion could make a further contribution to the environment and to security of supply.

The creation of the International Thermonuclear Experimental Reactor, in which the EU is a controlling participant, is an important step towards securing future energy supplies. In the EU's 2007 budget, 6% of the research allocations are already set aside for fusion research. In addition, in the context of the EU's energy budget, 27% of appropriations are spent on nuclear energy, most of it traditionally on nuclear safety.

The safety standards of European nuclear power plants are correspondingly high. In view of the worldwide resurgence of nuclear energy, the EU must ensure that the strict European safety standards are also applied globally. In this way the EU can make a significant contribution to global security of supply and environmental protection. This will also create an important market for European high technology, which will secure jobs in the EU.