



Procedure file

Basic information		
INI - Own-initiative procedure	2007/2091(INI)	Procedure completed
Conventional energy sources and energy technology		
Subject		
3.60 Energy policy		
3.60.01 Solid fuels, coal mining, mining industry		
3.60.02 Oil industry, motor fuels		
3.60.03 Gas, electricity, natural gas, biogas		
3.60.04 Nuclear energy, industry and safety		
3.60.05 Alternative and renewable energies		
3.70.03 Climate policy, climate change, ozone layer		
3.70.20 Sustainable development		

Key players			
European Parliament	Committee responsible	Rapporteur	Appointed
	ITRE Industry, Research and Energy		27/02/2007
		PPE-DE REUL Herbert	
	Committee for opinion	Rapporteur for opinion	Appointed
	AFET Foreign Affairs	The committee decided not to give an opinion.	
	DEVE Development		17/07/2007
		Verts/ALE AUKEN Margrete	
	INTA International Trade		27/02/2007
		ALDE KARIM Sajjad	
	ECON Economic and Monetary Affairs	The committee decided not to give an opinion.	
ENVI Environment, Public Health and Food Safety		18/04/2007	
	PPE-DE SONIK Bogusław		
IMCO Internal Market and Consumer Protection	The committee decided not to give an opinion.		
TRAN Transport and Tourism	The committee decided not to give an opinion.		
REGI Regional Development		07/06/2007	
	PSE PLEGUEZUELOS AGUILAR Francisca		
European Commission	Commission DG Energy and Transport	Commissioner PIEBALGS Andris	

Key events

10/01/2007	Non-legislative basic document published	COM(2006)0843	Summary
26/04/2007	Committee referral announced in Parliament		
13/09/2007	Vote in committee		Summary
26/09/2007	Committee report tabled for plenary	A6-0348/2007	
22/10/2007	Debate in Parliament		
24/10/2007	Results of vote in Parliament		
24/10/2007	Decision by Parliament	T6-0468/2007	Summary
24/10/2007	End of procedure in Parliament		

Technical information

Procedure reference	2007/2091(INI)
Procedure type	INI - Own-initiative procedure
Procedure subtype	Strategic initiative
Legal basis	Rules of Procedure EP 54
Stage reached in procedure	Procedure completed
Committee dossier	ITRE/6/46096

Documentation gateway

Non-legislative basic document		COM(2006)0843	10/01/2007	EC	Summary
Document attached to the procedure		SEC(2006)1722	10/01/2007	EC	
Document attached to the procedure		SEC(2006)1723	10/01/2007	EC	
For information		SEC(2007)0012	10/01/2007	EC	
Committee opinion	INTA	PE386.708	07/06/2007	EP	
Committee draft report		PE390.517	07/06/2007	EP	
Amendments tabled in committee		PE392.077	10/07/2007	EP	
Committee opinion	REGI	PE388.628	25/07/2007	EP	
Committee opinion	DEVE	PE392.355	10/09/2007	EP	
Committee opinion	ENVI	PE391.977	11/09/2007	EP	
Committee report tabled for plenary, single reading		A6-0348/2007	26/09/2007	EP	
Text adopted by Parliament, single reading		T6-0468/2007	24/10/2007	EP	Summary
Commission response to text adopted in plenary		SP(2007)6028	21/11/2007	EC	
Commission response to text adopted in plenary		SP(2007)6302/3	20/12/2007	EC	

PURPOSE: to present a communication on the sustainable power generation from fossil fuels: aiming for near-zero emissions from coal after 2020.

CONTENT: this Communication is presented in the follow-up to the Commission Green Paper on 'A European Strategy for Secure, Competitive and Sustainable Energy' adopted in March 2006. Its aim is to present a global view of the actions needed for the continued contribution of fossil fuels and particularly coal to the security and diversification of energy supply for Europe and the world in a way compatible with the sustainable development strategy and climate change policy objectives.

Fossil fuels represent an important element of the energy mix in the European Union as well as in many other economies. They are of particular importance for the generation of electricity: over 50% of EU electricity currently comes from fossil fuels (mainly coal and natural gas). Worldwide, growing total energy production is expected to rely increasingly on fossil fuels at least till 2050, particularly in a number of key geo-economic areas. The use of fossil fuels can also be envisaged for the coproduction of electricity and hydrogen on a large scale, opening a realistic and economically viable route to a hydrogen economy.

However, all use of fossil fuels leads to CO₂ emissions, currently the most critical cause of global warming. If fossil fuels are to continue playing their valuable role in the energy mix, solutions must be found to limit the impact of their use to levels compatible with sustainable climate objectives.

As part of its Energy Policy for Europe, the European Commission has adopted this Communication on how to generate power from fossil fuels in a sustainable manner with a focus on sustainable coal technologies – these will enable coal to maintain its important contribution to secure and competitive energy supplies for Europe.

If the EU is to achieve its long term climate change objectives, much cleaner coal technologies and a significant reduction of CO₂ emission will be necessary. Furthermore, developing clean coal and carbon capture and storage technologies is crucial at the international level: it is expected that twice as much electricity as today will be produced world-wide from coal by 2030. This will in turn bring new opportunities for European export as well.

In order to make sustainable fossil fuels a reality after 2020, the EU must establish a favourable regulatory framework for the development of these novel technologies, invest more, and more efficiently, into research, as well as take international action. The EU Emission Trading Scheme will also need to incorporate capture and storage in the future.

The Commission will in 2007 start work to:

- substantially increase the funding for R&D in the energy area, making the demonstration of Sustainable Fossil Fuels technologies one of the priorities for 2007-2013. It calls on Member States to show an equal commitment to R&D and demonstration in this area. It will also seek to ensure that action at both EU and Member State level complement the efforts by industry in the framework of the Zero Emission Fossil Fuel Power Plant Technology Platform (ZEP TP). A European Strategic Energy Technology Plan will provide a suitable instrument for the overall coordination of such R&D and demonstration efforts and for the maximisation of synergies at both EU and national level;
- examine (inter alia by way of an in-depth impact assessment study to be undertaken in 2007) possible measures for achieving the demonstration of Sustainable Fossil Fuels, and particularly Sustainable Coal, technologies. On this basis, the Commission will determine the most suitable way to support the design, construction and operation by 2015 of up to 12 large-scale demonstrations of Sustainable Fossil Fuels technologies in commercial power generation;
- assess on the basis of recent and planned investments whether new fossil fuels power plants built and to be built in the EU use best available technologies regarding efficiency and whether, if not equipped with CCS, new coal- and gas-fired installations are prepared for later addition of CCS technologies ('capture ready'). If this turns out not to be the case, the Commission will consider proposing legally binding instruments as soon as possible, after a proper impact assessment;
- assess the potential risks from CCS and lay down requirements for the licensing of CCS activities and for adequately managing the risks and impacts identified. Once a sound management framework is developed, it can be combined with changes to the existing environmental regulatory framework at EU level so as to remove any unwarranted barriers to CCS technologies. The Commission will also assess whether to amend existing instruments (such as the Environmental Impact Assessment Directive or the Integrated Pollution Prevention and Control Directive) or propose a free-standing regulatory framework. It will assess which aspects of the regulatory framework are preferably addressed at EU level or, alternatively, at national level. The Commission will, in early 2007, hold a public internet-based consultation on different options for CCS to ensure the proper involvement of the European public in the evaluation of the environmental integrity and safety of the capture, transport and geological storage of CO₂. In the review of the EU Emissions Trading Scheme (EU ETS), the Commission will address the recognition of CCS activities in the EU ETS. A proposal for the revision of the ETS is planned in the Commission Work Programme for 2007; it will relate to the period from 2013 and will aim at the projection of necessarily regulatory stability. It will seek a level playing field in line with the actual CO₂ benefits, both between various CCS options and across the EU for investment in CCS technologies. The Commission will also consider intermediate options to take account of CCS activities undertaken during the period 2008-2012;
- continue its efforts to achieve a global agreement to limit and subsequently reduce global emissions of CO₂ and other greenhouse gases, in line with the objective of limiting the increase in the earth's average temperature to a maximum of 2°C above pre-industrial levels. The Commission will support the recognition of CCS activities respecting appropriate environmental safeguards as part of the broad portfolio of energy options necessary for the implementation of such agreement;
- support appropriate amendments to the international conventions (e.g. The Convention for the Protection of the Marine Environment of the North-East Atlantic – the "OSPAR Convention");
- aim for a clear and predictable long-term framework to facilitate a smooth and rapid transition to a CCS-equipped power generation from coal. This is necessary to enable power businesses to undertake the required investments and research in the secure knowledge that their competitors will be following a similar course. On the basis of the information currently available, the Commission believes that by 2020 all new coal-fired power plants should be built with CCS. Existing plants should then progressively follow the same approach. In order to make a decision, in terms of both the timing of any CCS obligation and the most appropriate form and nature of the requirement, the Commission will undertake in 2007 an analysis including a wide-ranging public consultation on the issue. On the basis of such an analysis, the Commission will evaluate what is the optimal retrofitting schedule for fossil fuels power plants for the period after the commercial viability of Sustainable Coal technologies is demonstrated;
- to accelerate the ongoing European collaboration with China in the demonstration of CCS (bringing the operation date from 2020 significantly forward), the Commission will look for opportunities to extend cooperation on demonstration projects to other key emerging economies (such as India, South Africa) and will seek to stimulate the creation of enabling policy and regulatory framework

in those countries. The Commission will examine options for co-financing such projects and for close coordination of demonstration projects in the EU and in third countries. At the same time, the Commission will seek to identify and exploit the synergies with efforts under way in other coal-using economies (including the US, Japan and Australia).

Conventional energy sources and energy technology

The Committee on Industry, Research and Energy adopted the own-initiative report of Mr. Herbert REUL (EPP-ED, DE) on conventional energy sources and energy technology drafted in response to the Commission's Communication entitled 'Sustainable power generation from fossil fuels: aiming for near-zero emissions from coal after 2020'.

Welcoming the Commission's communication on sustainable power production from fossil fuels, the Committee stresses that these forms of energy, like other conventional sources, make a major contribution to sustainability and security of supply, while at the same time improving export opportunities for EU producers;

Members stress the importance of diversifying energy sources in view of the increasing scarcity of resources, and believe that further improvements in the efficiency of fossil fuel power plant technology are essential, as are further improvements in the safety standards of nuclear power plants, the rapid development of nuclear fusion technology and corresponding increases in research funding;

They consider, furthermore, that the successful reduction of greenhouse gas emissions from the energy sector can only be achieved on the basis of increased use of low-carbon technologies, such as nuclear energy, clean coal and renewables.

Energy technology: the draft report recommends strong investment in innovation and applied research and capital investment in intelligent energy networks and smart grid technologies. It calls on the EU, the Member States and businesses to redouble their efforts in R&D in the field of energy, particularly with a view to enhancing the efficiency of energy production and supply, reducing environmental consequences, 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.

The Committee also recommends the forthcoming European Strategic Energy Technology Plan should favour technological developments that optimally exploit their potential in order to reduce overall greenhouse gas emissions. It also draws attention to the need to ensure that the most efficient available technology is used when new capacity is built and that greater use is made of cogeneration, district heating and cooling and industrial residual heat.

Fossil fuels: The Committee emphasises that fossil fuels will remain highly important to ensuring the EU's security of energy supply and stresses the value of natural gas as the fossil fuel with the lowest carbon content. It invites the Commission to submit rapidly a proposal for legislation on CCS so as to respond to the legal issues surrounding the storage and transportation of CO₂. The Commission is also called upon to lay down as soon as possible clear political guidelines for the further promotion of research into CCS technology, to explore ways in which CCS can be used in connection with commercial electricity generation and to submit proposals for avoiding inconsistencies between the application of CCS procedures and the emissions trading system.

The Committee also believes that it is important that CCS technology devices should be fitted to fossil fuel plants at the earliest practical opportunity. It has, however, noted that this technology is linked to losses of efficiency in power stations and thus calls for more research in this field.

Members also stress the significant impact of energy generation from biomass, the need for the EU to support synthetic fuels technologies and, with a view to the diversification of gas imports, the importance of natural gas.

The Commission is urged to carry out more extensive geological research aimed at finding new deposits of fossil fuels within the territory of the Member States and to launch information campaigns on CCS technologies.

Nuclear energy: the report emphasises that nuclear energy is indispensable if basic energy needs are to be met in Europe in the medium term. It also acknowledges the fact that nuclear energy is an important component of power supply in 15 of the 27 Member States, and thus for the Union as whole, providing one-third of the total EU electricity supply.

The report notes that nuclear energy is currently the largest low-carbon energy source in Europe and stresses its potential role in combating climate change. It also points out that nuclear energy generation is largely unaffected by any fluctuations in the price of uranium, since the cost of that fuel has little impact on the price of electricity. Lastly, it notes that the use of nuclear energy can create synergies with renewables, for example, by providing original methods for the effective and economic production of hydrogen or biofuels.

The Commission is invited to propose measures designed to maintain in the EU the high level of skills required if the nuclear energy option is to remain a viable one.

The Commission and the Member States are called upon to make progress on the issue of final disposal in order to bring an end to the interim storage of waste close to the earth's surface and to support projects aimed at developing prototypes of fourth generation reactors. Lastly, Members recall that dozens of nuclear power plants are planned or being built worldwide, and that it is vital for the EU to be involved in their construction, both from the point of view of industrial strategy and in order to promote the most stringent possible safety principles throughout the world.

Conventional energy sources and energy technology

The European Parliament adopted a resolution based on the own-initiative report drafted by Herbert REUL (EPP-ED, DE) on conventional energy sources and energy technology, in response to the Commission's Communication entitled 'Sustainable power generation from fossil fuels: aiming for near-zero emissions from coal after 2020'. Pointing out that, unless preventive measures are taken, the EU's dependency on imports of fossil fuels will increase to 65% of total consumption by 2030, Parliament welcomed the Commission's communications on sustainable power production from fossil fuels, on the European Strategic Energy Technology Plan and on the Nuclear Illustrative Programme. It stressed that improving energy efficiency makes a major contribution to sustainability and security of supply, and also considered it important, in view of the increasing scarcity of resources, to diversify energy sources. Parliament noted the importance for security of supply of

nuclear fission and the possible future importance, for some countries, of nuclear fusion. Further improvements in the efficiency of fossil fuel power plant technology are essential, as are further improvements in the safety standards of nuclear power plants, the rapid development of nuclear fusion technology and corresponding increases in research funding. It stated that the successful reduction of greenhouse gas emissions from the energy sector can only be achieved on the basis of increased use of low carbon technologies such as nuclear energy, clean coal and renewables. Member States and regional and local authorities must diversify and decentralise energy generation using the most appropriate resources taking account of specific regional characteristics. Parliament emphasised that market distortions will continue to be seen in the internal energy market until the polluter-pays principle is applied to energy policy. Accordingly, Member States were urged to internalise within energy prices all external costs, including all environmental and follow-up costs.

Energy technology: Parliament insisted that sustainable energy supplies to the EU could only be achieved with significant research efforts and changes in consumer behaviour. It noted that Europe leads the world in R&D in innovative energy technologies, including energy efficiency and renewables, and is, in particular, a leader in the area of nuclear fusion technologies. The Commission, Member States, the regions, and other stakeholders were urged to utilise the opportunities offered by cohesion policy and to invest in new energy technologies, both in renewable energy sources and in sustainable fossil fuel technologies ("low-emission power plants"). Parliament called on the EU, Member States and businesses to redouble their efforts in R&D in the field of energy, particularly with a view to enhancing the efficiency of energy production and supply, reducing environmental consequences, 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. Parliament welcomed the Commission's announcement that it intends to submit the European Strategic Energy Technology Plan to the 2008 Spring European Council. However, it questioned where the funding for the Plan will come from. It called on the Commission to support synthetic fuels technology, and noted that public funding to support start-ups for new energy technologies should be appropriate in amount, should take into account their level of commercial viability and should end at the latest once the new technologies thus supported have become competitive. Members stressed that it would be in the interests of combating climate change to meet, as a minimum requirement, the Lisbon objectives and to propose an internationally agreed minimum percentage of budget revenue to be earmarked for research.

Fossil Fuels: fossil fuels will have to be used in the long term for electricity production until basic needs can be met from renewables. Parliament stressed the contribution which can be made to security of supply by indigenous energy sources, particularly the large coal reserves and the substantial untapped oil and gas reserves in some Member States and Norway. Greater efforts must be made to curb emissions from fossil fuel power production and to increase its efficiency, inter alia, by supporting the development of combined heat and power (CHP) Parliament noted, nevertheless, that some European power stations are already among the most efficient in the world. The Commission should encourage investments in CHP production. Highly efficient CHP could achieve double the efficiency of a normal coal-fired condensing plant. Parliament regarded it as unwise, from the point of view of security of supply and cost-efficiency, to hamper the construction of the most efficient coal-fired power stations by giving the wrong market incentives. It then called on the Commission, when checking the operation of the emissions trading system, to ensure that proper account is taken of the specific problem of the heat generation market, which largely consists of individual burners (boilers) fired by fossil fuels and which, given the small size of the burners, is not covered by the emissions trading system. Members called for existing fossil fuel-fired power plants to improve their energy efficiency and environmental performance.

With regard to carbon capture and storage (CCS), Parliament called on the Commission rapidly to submit a proposal for legislation on CCS so as to respond to the legal issues surrounding the storage and transportation of CO₂ and thus establish the basis for investment security in connection with such projects. It called on the Commission to assess the potential risks from CCS and lay down requirements for the licensing of CCS activities and for adequately managing the risks and consequences identified. The report insisted that, while the possibilities for geological storage as part of CCS technology are being studied, it must be ensured that CO₂ is stored safely and permanently in locations that do not allow leakages of carbon back into the atmosphere. It took the view that demonstration projects relating to clean-coal technologies must be carried out in areas where there is a tradition of coal mining and which are suffering the consequences of conversion plans and have been affected by the financial framework 2007-2013.

Parliament warned against unilateral dependence on particular gas suppliers or supply routes, and stressed the importance of liquefied natural gas in the context of the diversification of gas imports. It urged the Commission to carry out more extensive geological research aimed at finding new deposits of fossil fuels within the territory of the Member States, and regretted that the Commission did not discuss in more detail security of oil supply in the context of the energy package, and calls on it to issue a communication on this topic. It pointed out that fossil fuels represent an important substratum which could be the basis for the large-scale production of hydrogen, both as an energy carrier and as a fuel.

Nuclear Energy: Parliament emphasised that nuclear energy is indispensable if basic energy needs are to be met in Europe in the medium term. Nuclear energy is an important component of power supply in 15 of the 27 Member States, and thus for the Union as whole, providing one third of the total EU electricity supply. Research funding in the nuclear energy sphere today is largely concentrated in the area of safety-related technology. The report noted that Finland, France, Bulgaria, Romania, Slovakia, Lithuania (with the collaboration of Latvia and Estonia), the United Kingdom, Poland and the Czech Republic are building new nuclear power plants or are planning to build them or are investigating such a possibility. Nuclear energy is currently the largest low-carbon energy source in Europe and Parliament stressed its potential role in combating climate change. The decision of each Member State for or against nuclear energy remains in its exclusive competence, but may have an impact on electricity price trends in other Member States. Short and medium term decisions on the use of nuclear power will also directly affect the climatic goals that the EU might realistically set. Abandoning nuclear power will make it impossible to achieve the objectives set regarding reductions in greenhouse gas emissions and the combating of climate change. The Commission is invited to propose measures designed to maintain in the EU the high level of skills required if the nuclear energy option is to remain a viable one.

Parliament stressed that known global uranium reserves are estimated to be sufficient for more than 200 years, and that these reserves make feasible some future options to diversify political risks to security of supply or make it possible to reach compromises between risk, price and location in selecting sources of nuclear fuels. Nuclear energy generation will be largely unaffected by any fluctuations in the price of uranium, since the cost of that fuel has little impact on the price of electricity. In view of the long investment lead times, Parliament stressed the need for a stable legal and political framework. There was a need for an open public dialogue on nuclear energy in every Member State in order to stimulate public awareness of the positive and negative effects of nuclear power before any political decisions are taken.

The Commission and Member States were called upon to finally make progress on the issue of final disposal in order to bring an end to the interim storage of waste close to the earth's surface.

Lastly, Parliament recalled that dozens of nuclear power plants are planned or being built worldwide, and that it is vital for European companies to be involved in their construction, both from the point of view of industrial strategy and in order to promote the most stringent possible safety principles throughout the world.

