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European approaches to changing patterns of energy consumption and supply ¹

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For many years the United States and Europe have been without an energy policy. Abundance and low price of energy during more than ten years led people to think this situation could last and therefore there was no urgent need for action. Before the tragic events of September 11th, following the price surge in fall 2000 both Europe (Commission Green paper, November 29, 2000) and the US (report of the national energy policy development group, May 18, 2001) have begun to focus once more on security of supply issues.

On November 2000 the European Commission launched a broad debate on the security of energy supply in the European Union. The debate will run until next November. Then the Commission will submit propositions to decide in 2002. Fortunately these debates are occurring simultaneously in Europe and in the US, thus providing an opportunity for a transatlantic debate and further cooperation between what we might consider as the two strategic partners in the new era opened by last september's events.

Today I would first like to come back to European facts and figures, then to stress the dramatic changes in the context since 1990 and finally to discuss the policy options. Energy is the driving force behind our economy, it determines everything we do and our way of life. Hence more than ever Europe and the US must cooperate to face the new energy issues.

1 – European Union cannot achieve energy self-sufficiency.

Since the first oil crisis, **Europe's economy has grown faster than its energy consumption.** Yet the Union's energy needs are still increasing and internal resources are inadequate to meet them. With the prospect of enlargement Europe should witness a rapid surge in energy demand, since the applicant country economies in the period leading up to 2010 will be growing much faster than those of the present member states (3 to 6% as compared to 2-4% for the EU).

The European Union is growingly dependent on imported fossil fuel sources. Following the best available estimates² and under business-as usual assumptions Europe's overall

¹ Remarks delivered in the European Institute's annual energy conference – Panel on « Reducing energy dependence on the Middle East » with Vicky Bailey, Assistant Secretary for Policy and International Affairs, US DOE and Judith E. Ayres, Assistant Administrator for Office of International Activities, Environmental >Protection Agency. Washington, October 10, 2001

² European Commission green paper – Technical document

dependency will rise from today's 50% to about 60 to 70% in 2020. Especially critical is the import share of oil and natural gas.

Imported oil is likely to increase from 80% of total EU oil supply to 87% in 2010. North sea oil is relatively expensive to exploit and reserves are limited (at best 25 year's supply at current production levels). Unless a breakthrough is reached, which removes the almost complete dependence of the growing transport sector on oil, Europe's reliance on Middle East, Russia and North Africa is likely to be virtually complete.

Gas imports share is forecast to rise from 40% today to 66% in 2020. The dependence on Russia is likely to increase considerably as a result of enlargement. In the event that Russia and the FSU are called upon to supply the growing markets in East Asia, EU countries could face significant competition and increased prices.

Europe has substantial reserves of solid fuel (80% of Europe's fossil fuel reserves are solid fuels, including coal, lignite, peat and oil shale). However European coal is highly uncompetitive compared with imported coal (3 to 4 times the international market prices).

In 1998 European demand was covered by 16% coal, 41% oil, 22% gas, 15% nuclear and 6% renewables. In 2020 in a business-as-usual assumption the only big change would be the share of natural gas : 27 %..

Although Europe is a major player in the international energy markets (15% of world energy consumption ; first importer), its dependence is aggravated by the lack of free market :

- 57% of oil consumed is traded internationally but the market is dominated by a « cartel »³.
- 20% of natural gas is traded and the market is dominated by regional oligopolies.

The increasing external dependence increase the concern of Europe for transit issues. With regard to supplies originating in Russia, the Caspian Basin, North Africa and the Middle East, two regions deserve special attention : Eastern and Northern Europe on the one hand and the Mediterranean Basin on the other.

Europe energy supply is not under any immediate threat of disruption. However the physical supply of energy has increasingly to respond to sometimes conflicting economic, environmental and market pressures.

2 – The context of the energy policy has been dramatically transformed during the 1990's.

Europe still need an energy policy for the same reasons the United States do.

- Economical and reliable supplies of energy play an important role in fostering economic growth and development ;
- the combustion of fossile fuels is the primary source of air pollution ;
- several energy sector (electric power and natural gas) have been subject to price and entry regulation for many decades and **time come to a more efficient regulation** ;
- the more the European market is integrated, more the responsibility for energy policy involves both Member States and the European Union.

Any consideration of the future of Europe's energy supply must include first the importance given by the European people to climate change concerns and second the completion of a fully integrated internal market which is the primary goal of the European countries.

³ Some economists argue that OPEC cannot be described as a cartel since its function is not to fix prices but to moderate competition between producers.

Climate change

Climate change is a new challenge to which the European Union has committed itself by signing the Kyoto protocol ; EU has to manage the balance between the growing demand for energy and the impact on environment.

European people through their representatives and governments believe there is an **urgent need to combat climate change**. The European Commission wrote in its Green Paper and I quote :

« the industrialised countries would have to cut their emissions by at least 35% between 1990 and 2010 to keep the temperature increase by 2050 down to around 1.5°C and to contain the rise in sea levels to 2 cm every ten years. The longer we wait, the more drastic the measures taken will have to be »

Transport sector is particularly targeted because it is estimated to be responsible for 90% of the expected increase in CO2 emissions between 1990 to 2010.

Europe has succeeded in stabilising its CO2 emissions in 2000 at the 1990 level. However, according to the Commission, this has been due largely to cyclical factors such as the economic slowdown in the early 1990's combined with industrial restructuring in the United Kingdom and in the new German Lander. Total emissions of greenhouse gases by the 15 Union members are expected to increase by at least 5.2% between 1990 and 2010 if no action is taken. Total emissions by applicant countries are set to decline by 11% but must be expected to catch up rapidly as a result of strong economic growth following the integration in the European Union. **So far Kyoto implementation has not been painful in Europe, the most difficult is ahead.**

Climate change concerns should play a growing role in the European energy policy in the next few years. The European Commission aims to reduce consumption and increase the share taken by less carbon-intensive energy products, particularly in road transport and buildings.

Completion of the internal market

At the beginning of the 1990's European industry was paying an average 40% more for its electricity than its US rivals. Electricity and natural gas markets have been opened up to competition. The impact on prices has already been a success : several Member states have gone beyond the requirements laid down in the Directives with the result that two-thirds of the electricity market and 80% of the natural gas-market has been opened up.

Unlike the USA, Europe has a uniform legal framework for opening up the markets to competition. This European framework provides for a greater degree of interconnection and hence of network security. This helps to avoid the risk of power cuts since the network operators can call on neighbouring operators via a coordination body.

Nevertheless the completion of the internal market is hampered by the low level of intra-community trade (only 8% for electricity) and by the weakness of infrastructure network due to local reservations. An European coordination would be desirable but it meets with the willingness of member states and local authorities to keep control on new infrastructures. Like the USA, Europe has a « balkanisation » problem.

Integration of energy markets will provide Europe with more security of supply and in some way less volatility. Further progress has to be made in opening up energy markets to

competition. However some member states, like France and Germany, argue that further liberalisation could jeopardize the long term investment needed to meet security of supply (nuclear energy, transport infrastructures...), or protection of environment (renewables). They are also afraid that the market forces could lead to over-concentration on a single source for primary energy used in electricity generation (natural gas) and they want to keep under control the risk of unleashing of consumption as a result of the falling prices (consumption could be 20% higher as a result of falling prices). Finally there are also concerns that opening up to competition without judgment could override the universal right to be connected to the electricity grid and to be supplied at a reasonable price. These questions will impact the energy policy debate.

To manage this situation and prevent it developing into a crisis Europe has very limited options.

3 – Europe has few options.

At the end of the 1970's coal and nuclear energy were thought to be the only alternative to oil. The countries participating in the 1979 G7 summit in Tokyo undertook to encourage energy saving and the production of coal and nuclear energy.

With an increasing dependence and in the new framework drawn by climate change concerns and opening up to competition, the European Union has little flexibility.

Among the propositions made by the Green Paper five measures seems to me more crucial to face the new challenges. Moreover they offer opportunities to strengthen transatlantic cooperation on energy:

Nuclear energy :

Five out the eight member States with nuclear power have now adopted or announced a moratorium. Except possibly Finland there are no new reactors likely to be built in the next few years. Moreover with enlargement the principal task is to secure reactors in Central and Eastern European countries and there is still a lot to be done. **With the climate change issue, Europe cannot meet its energy demand without building new reactors.** Maintaining nuclear fuel's present share in electricity generation would keep CO2 emissions in this sector to roughly their 1990 levels and would require construction by 2025 of 100 Gwe (some 70 reactors). Keeping existing nuclear plants for a lifetime of 40 years without building new ones would entail exceeding the 1990 emissions by 4% ; phasing out existing nuclear plants would make the Kyoto objectives extremely impossible to achieve as CO2 emissions would exceed their 1990 level by 12%.

The future of nuclear energy depends on the ability to solve the problems of managing and stocking nuclear waste, to ensure nuclear safety in Eastern countries, to develop a competitive new reactor and to fight against nuclear proliferation in the FSU. Moreover the future of nuclear energy is dependent on the quality of the political leadership. Even with a lot of transparency and safeguards nuclear phobia could not be reversed without institutions and a political leadership ready to assume the risk inherent in the nuclear process. This is not an European problem but an universal one. Technically and politically Europe and the USA have a strong interest in cooperation. **A nuclear revival in a single country is unlikely.**

Tax policy :

Only a revision to energy pricing mechanisms which would incorporate external cost into market prices could make some indigenous and renewable energy sources economically

more attractive and lead to an efficient effort in energy savings. It is still a long way before the Union can have a single energy tax framework. Today the tax policy decisions have to be made by unanimity and Member States want to keep control on which is, in most cases, the most important source of public revenue.

This also is a central question in the United States. The energy greedy American way of life cannot evolve without a change in relative prices of energy. All effort to introduce new technology are doomed to fail if the consumer has no interest in buying and using these energy saving technologies.

Europe and the United States face the same question. Providing energy generate costs to protect environment and to ensure the security of supply. How to incorporate these external costs in the price paid by the consumer.

Further progress in opening up the markets :

The process of market's opening up is not irreversible. Following the Californian crisis we have seen many States in the USA wondering whether pursuing and how to open up the electricity markets and some people are more vocal today to ask for more public regulation. Although this debate is not new we still have, if you don't want to see soon a backlash in opening up markets to competition, **to invent new form of regulation to ensure free market will deliver its promises and that regulation serve as a stimulus to innovation, supply security and environment protection.**

Promoting international trade and investment :

Opening up the producing countries market to investment is of great importance. **Free market for energy is a good way to ensure the security of supply.** The European Commission could have mentioned a legal instrument which is of great interest for Europe and the USA : the Energy Charter Treaty (ECT).

ECT is the only existing legal instrument dedicated to the protection and promotion of international energy investment, and to liberalization of international energy trade. Given the difficulties (to say the least) to progress toward a general and universal multilateral investment agreement, ECT offers the safest avenue toward a liberal investment regime in energy. There are good prospects for ECT enlargement in the future, with several African and Mid Eastern countries already having a status of "observer". By signing ECT, the US would be in a position to facilitate and accelerate such enlargement. It would also be easier to have Russia ratifying ECT if the US were a party to the treaty.

Promoting a freer and safer environment for energy investment is clearly in the interest of every country concerned about the future of world energy supplies; the US is probably more so than any other industrial country in the world. The new round of trade negotiation which is going to begin next month in Doha offers the opportunity to enlarge this approach.

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Europe and the USA share similar concerns and face similar challenges in their energy supply security. Both of them are more dependent on imported fossil fuel sources, both share a common interest in a nuclear revival, they face the same questions on how to change price

signals to allow energy savings and domestic production, they want to enlarge the free market approach in the energy market on a domestic level and an international one

There is only a major obstacle which is the way Europe and the USA manage the climate change issue and therefore the role given on each side of the Atlantic to the demand management.

President Bush decision to withdraw support for the Kyoto protocol hampers the implementation of the Framework Convention on Climate Change. The agreement reached in Bonn last July is a turning-point which could lead to the ratification of the Kyoto protocol. However the goal set by the Convention of Climate Change would not be reached unless the United States participates fully in the international agreements.

A domestic climate change policy could make a significant contribution to achieve the emissions reductions required by the international agreements. But a domestic policy should be closely coordinated particularly with the European Climate Change program which is going to be decided after COP7 in Marrakech. Coordination is especially important for companies that operate and compete both domestically and abroad. Moreover coordination is crucial to maximize the effectiveness of emissions trading and other flexibility mechanisms and to prepare the US to enter one day in an international agreement.

As major players on the energy markets and major sources of GHG emissions Europe and the United States have a strong interest to cooperate so as to promote the best solution for a sustainable and secure development./.