



ENERGY FOR EUROPE

A RESPONSE TO THE EUROPEAN COMMISSION GREEN PAPER “TOWARDS A EUROPEAN STRATEGY FOR THE SECURITY OF ENERGY SUPPLY” FROM THE OIL AND GAS INDUSTRY

1. GENERAL

1. The Commission's initiative opens the way for a comprehensive debate on the issues associated with long-term security of energy supply, and for identifying a future energy path for the EU that is sustainable in economic, environmental and social terms. It is important that the debate is based on accurate information and thorough analysis. The oil and gas Industry - which meets more than two-thirds of the EU's current energy needs - wishes to contribute positively to this debate.
2. As a starting point, we believe it is important to recognise that the oil-price collapse and subsequent rebound between 1998-2000 can be explained by a series of unusual events: the collapse of Asian demand and the return of Iraq as a major exporter in 1998; strong demand in 1999; and refinery capacity problems in the US in 2000. Such events and their consequences are reasonably well understood but difficult or impossible to predict. They do not, however, signal the beginning of a new 'energy crisis'.
3. By the Commission's published projections, with which we are in broad agreement, oil and gas will remain a major source of energy for the EU for the foreseeable future.
4. We will continue our contribution to supply the oil and gas required by the market and to play a constructive role in the integration, liberalisation and efficiency improvements of energy markets in an enlarged European Union. We will also work to reduce the environmental impact associated with the supply and consumption of energy.
5. Upstream, the Industry has increased the availability of oil and gas resources both in Europe and in exporting countries. We have done this by developing new technology to identify new reserves of oil and gas, to increase exploration success, by adding new discoveries in existing and previously inaccessible provinces and, by reducing costs and improving the recovery of known oil & gas resources.

6. Downstream the Industry has adapted its operations and products to enable the environmental impacts of oil and gas consumption to be dramatically reduced. We are continuing to invest in the refining and distribution sector so that the EU's future objectives for air quality and safe transport operations can be met.
7. We support the continuing diversification of the energy choices available to consumers and society, including the development of economically sustainable additional energy sources and user technologies. The development of these sources and technologies into robust and competitive industries will, inevitably take time: infrastructure will need to be built; environmental impacts fully assessed; and commercial safety and operating practices developed.
8. We note the Green Paper's conclusions (p.11) that:
 - Europe will continue to import energy for the foreseeable future, with oil and gas as the major components.
 - In the short- and medium-term, EU policy cannot easily influence the supply side of the energy-mix. For the long-term, the development of substantial industrial base for new energy sources and technologies should be considered.
 - For our Industry to continue to play the major role required of it for the next 20-30 years and beyond, regulatory policies should be appropriate and consistent. Some of the new policy interventions suggested in the Green Paper are not, in our view, supported by adequate analysis. This paper seeks to address these points and we hope that the Commission will seek to deepen the analysis in the coming months, in conjunction with Member States and energy providers.

2. PROSPECTS

- There has been no supply disruption for more than 25 years - during this time energy consumption has risen significantly. For Industry to continue to play the major role required of it for the next 20-30 years, appropriate and consistent regulatory policies will be necessary.
- Oil and gas consumption as a proportion of total EU energy consumption is estimated to rise from 63% today to 67% by 2020.
- There is no reason why the market should not be able to meet the probable global demand profile for oil and gas in the period to 2020 and well beyond. The oil and gas Industry expects to invest US \$1 trillion worldwide in the upstream over the next 10 years.
- The oil and gas exporting countries depend on this expansion for their economic and social well being. With increasing competition between oil and gas and an increasing geographical diversity, producer/consumer inter-dependence seems assured.
- In this context, energy self-sufficiency is neither an attainable nor a necessary objective for an appropriate energy security policy.
- Energy trading is a permanent part of the EU's energy future.
- To achieve a secure diversity of supply, policy-makers have an important role to play in facilitating the maximum economic development of indigenous and international oil and gas reserves.
- Inappropriate policies in the shape of additional taxation and regulation would damage the competitiveness of EU resources and reduce indigenous supply.

9. The projections of a range of international agencies¹ suggest that, over the next 20 years, international supplies for oil and gas will expand under competitive conditions to be broadly in line with demand and without major long-term shifts in prices.

10. For OECD Europe, the growth rate of energy demand is projected to fall to around 1% and the growth of oil demand to fall to around 0.7%, so that the

¹ *IEA World Energy Outlook 2000, US EIA, International Energy Outlook 2000*

share of oil and gas will fall slightly to just below 40%. (World rates of energy demand growth will be higher, with the oil share remaining around 40%, because of the increasing weight of demand in developing countries, particularly in Asia)².

11. By 2030, the share of gas will grow to around 29% in Europe (around 25% worldwide) and oil's share will be around 38% in Europe.

12. There is no threat of exhaustion of oil or gas supplies in the short- or medium-term. It is important to distinguish, more clearly than the Green Paper does, the difference between the frequently quoted 'proved reserves' and their 'years to run out' and the resource base. Proven reserves do not take account of the following:
 - The large volumes of probable and possible reserves in existing discoveries which through the application of new technologies and improvement in the cost of the supply chain are likely to be commercialised in the years ahead.
 - The large volumes of potential reserves in unexplored prospects. In magnitude these are generally estimated to be equivalent to the existing stock of proven reserves.
 - The equally impressive reserves in unconventional discoveries such as heavy oil, tar sands, etc. (These are recoverable with present technology and oil prices, but are more costly to produce than conventional oil reserves.)

13. **Taking all this potential together, we estimate that the Reserve / Production ratio is likely to be closer to 100 years than to 40 years.**

14. **It's worth recalling that in the early 1970s, global oil reserves were estimated to be 700 billion barrels. Since then nearly 600 billion barrels have been produced, yet today's estimate of proved reserves is 50% higher than it was 30 years ago at close to 1 100 billion barrels.**

15. In the words of the IEA:

'One need expect [to 2020] no global supply "crunch". To transform these [oil] resources into production, however, will require significant and

² *These figures are from the reference case of the `IEA World Energy Outlook 2000,*

*sustained capital investment, particularly in Middle East OPEC. The issue of investment is more urgent than the resource base itself*³

16. The Green Paper's projections for indigenous oil and gas supplies are conservative compared to the range of possibilities. As well as maintaining or expanding production of oil and gas within the EU and Norway (an EEA member), the EU is situated in a geographically advantageous location to attract diverse, new supplies of oil and gas.
17. There are development projects for exporting from other interconnected and potentially interconnected countries such as Algeria, Egypt, Libya, and Russia and from the Caspian region. There are considerable political challenges implicit in developing and producing oil and gas for export from some of these states; an EU concerned about security of supply needs to place high on its list of priorities an active diplomacy aimed at establishing new routes to Europe for oil and gas. By stepping up its diplomatic efforts to find new routes for oil and gas into Europe, by seeking to finalise the Energy Charter Treaty and by turning the INOGATE initiative into a concerted effort for facilitating new pipelines into European markets, the EU can significantly ease any supply concerns it has.
18. The EU can play an important role in providing institutional support to help facilitate large-scale economic investments in new pipelines.
19. The Industry's projections also support the continued expansion of international trade in oil and gas, which links the development of resources to the growing consumer markets. The share of world oil production dependent on export markets will rise from some 40% now to over 50% by 2020⁴.
20. Trade and its benefits - rather than self-sufficiency and its implicit costs – is both the main justification for liberalising energy markets and the frame of reference of the oil community and is also of increasing importance for gas.
21. 'Dependence' on the benefits of trade is two-way. The dependence of Middle East and North African producers on export markets will remain at nearly 90%⁵. With few alternative sources of economic growth, and with diverse endowments of resources, these producing countries can be

³ *IEA World Energy Outlook 2000, p 76*

⁴ *IEA Table 3.2. p 83*

⁵ *IEA Table 3.1 p77 and 3.2. p 83*

expected to continue to compete to expand the oil and gas exports on which their economies and growing populations depend⁶.

22. Oil and gas exports are also likely to remain critically important to Russia's balance of payments into the long-term. By 2020, exports of oil from the four major Middle East producers⁷ will supply only about one-third of world oil-demand
23. For gas, there are increasing options and greater flexibility. The major share of European gas imports are, and will continue to be, delivered by pipeline. The combination of transport costs and dominant buyers in national gas markets has brought about regional gas markets.
24. But discoveries of gas in the Caribbean, the Caspian, Egypt, Qatar, Canada, Alaska and offshore West Africa have widened the range of potential suppliers. At the same time, liquefied natural gas (LNG), which had in the past been seen as a high-cost option suitable only for fixed long-term contracts, is becoming a more tradable commodity.
25. These factors, together with the liberalisation of gas and electricity markets in most major regional markets in the world, add to the flexibility and diversity of gas markets and ease security of supply concerns.
26. This context for oil and gas globally suggests that the EU should share with other importing areas the objective of promoting the expansion of global supply capacity where it is most economic to do so. **(GP Q4)**. The interconnection of national markets through international trade is good for consumers and good for producers. It is good for easing security of supply concerns as well. Bilateral agreements would reduce flexibility and probably impose avoidable costs.
27. The EU will benefit from the expansion of supplies in the international market generally and is particularly favourably situated, given that over 70% of global gas reserves lie within economic transportation distance.
28. It is, therefore, clear that the scale of the resource base is not the issue: fostering the right climate to encourage investment and facilitate distribution is where effort needs to be focused.
29. Policy-makers have an important role to play in facilitating the maximum economic development of indigenous and international oil and gas reserves. (See appendix 1 - the UK Experience).

⁶ See argument in Chapter 7 *The New Economy of Oil*, The Royal Institute of International affairs

⁷ After allowing for ca 7 mbd of internal consumption

30. The Green Paper does not reflect this interdependence. Although it states that 'security of supply does not seek to maximise energy-self sufficiency', it fails to draw the logical conclusions. Namely, that:
- 'import dependence' does not necessarily measure risk to energy security;
 - European security is served by the expansion of world-wide supplies through the free flow of investment and the integration of global and European energy markets; and
 - policies designed simply to reduce import dependence may deny to European consumers the benefits of access to competing supplies through international trade.
31. Moreover, some of the measures proposed in the Green Paper would adversely affect indigenous production. Special taxation, mothballing capacity against future disruptions or price-shocks, discouraging sea transport for offshore developments are all measures which fall into this category.

3. THE SECURITY OUTLOOK (GP Q1)

- Any interruptions to the continuity of supply are likely to be short-lived, with limited political and economic effects.
- The cyclical economic risks are a recurring feature - common to all commodities – involving price fluctuations due to mismatches of supply capacity and demand. This risk is best mitigated by investments and demand shifts in response to price signals.
- Long-term environmental issues - such as climate change, which result from the whole system of production and consumption, can be addressed by a variety of measures such as a shift to cleaner fuels, emissions trading, carbon sequestration and improvements in energy efficiency. Attempts to regionally influence global markets have so far been unsuccessful over time.

32. Since almost all countries are engaged in the international oil trade, security of oil supply is a relative, rather than an absolute, concept. What matters for competitiveness and strategic security is how energy costs in the EU compare with its principal trading and political counterparts.

Interruptions of supply (GP Q5)

33. Since 1973 there have been no material interruptions to the supply of oil or gas to Europe.
34. This is a direct consequence of an increased diversification of international oil and gas supplies, brought about by massive investments by the oil and gas industry. The industry has a proven record of securing energy supplies and has produced higher volumes of non-OPEC reserves at lower cost through the application of innovative technology enabling more fields to be economically developed than might otherwise have been possible. This has brought benefits to consumers, employees, contractors, and – through special taxes - to governments.
35. Compared to 1973, the market for oil in international trade and in the main consuming countries has been freed from government restrictions and inflexible bilateral arrangements.
36. In cases of severe crises and politically driven shortages in international trade, there are strategic oil stocks and an emergency oil sharing mechanism covering IEA countries. EU directives already provide for a 90-day cover for oil-consumption, which is sufficient to cover a 10% shortfall for period of over two years.

37. The EU should encourage other, non-IEA nations to build up similar strategic storage.

38. Gas supplies are also supported by a diversity of sources and by substantial storage of gas within Europe.

39. The Commission's Green Paper makes no reference to the 1999 Communication on Security of Gas Supply (COM (2000) 571), based on a study by Wood Mackenzie, determined that:

- Using existing load-balancing tools, seven Member States, covering about 90 percent of EU gas consumption, could withstand their most serious foreseeable supply disruption for more than 12 months;
- A further three Member States could also use bilateral co-operation to enhance security;
- The remaining five Member States would be able to attain similar levels of supply security, provided gaps in physical interconnections were remedied.

40. No case has been made for additional stocks and no criteria have been advanced for determining the optimum size of strategic stocks to deal with short-term disruptions.

41. It is important for long-term infrastructure investments by the private sector that a stable framework of regulatory rules and incentives is provided, allowing participants in the market the possibility of earning a fair and sufficient return on their investment. Alongside this, to bring new gas supplies to the market, companies need to be able to use a diversity of contractual and investment structures to manage their risk in developing production resources.

42. Within this context and driven by market forces, long-term contracts (with or without formal links to oil prices) and short-term spot sales will both evolve in response to the requirements of managing this risk and continuing competition between fuels in the market.

Vulnerability of the transport sector to supply disruption

43. National and EU security requires some consideration of the unlikely scenario of a prolonged collapse in or disruption of international oil supplies - for example, in case of war and civil conflict.
44. The key parameter here is the ratio between a country's domestic oil supply and the size of the transportation sector, where large-scale economic alternatives to oil are not available in the medium term.
45. In the US, for comparison, transport takes 70% (approx. 13 million b/d) of oil consumed (18.5 million b/d)⁸. Indigenous oil production is approx. 7.8 million b/d. The critical security ratio is much lower - about 60%. For Japan and Korea, with no indigenous oil production, the ratio is zero.
46. Europe's advantage over the US will increase as US transport demand is projected to grow more rapidly than in Europe⁹. In the strategic parameter of security of supply for transport fuel, therefore, Europe is less dependent on oil imports than its major industrial competitors.
47. Moreover, the rates of growth projected¹⁰ for EU transport energy demand (to fall to 0.5% between 2010 and 2020) may not take full account of the effect of accelerating trends for greater efficiency in vehicles.
48. In the longer term, the development of competing vehicle technologies (e.g. fuel cells) and urban transport policies may even reverse the growth of oil-demand for transport

Economic risks (GP Q4)

49. In the short- and medium-term, the main economic risks to oil-importing countries, such as those of the EU, from price-changes arise through the balance of payments: higher prices for oil imports relative to EU exports will adversely change the terms of trade and reduce the available national product. The key parameter is the exposure of the EU relative to its main competitors in export markets.

⁸ for 2020 the projection is 75% : Source, US EIA Energy Outlook 2000

⁹ Both ratios (production to transport demand) will fall by 2020 (to 67% for Europe and 30% for the US),

¹⁰ In the 'Shared Analysis' Project

Exposure to import price fluctuations

50. The EU already uses less of its export revenue to pay for energy imports than any other major industrial country. The cost of energy (mainly oil) imports for the EU in 1999 was just under 10% of total EU merchandise exports. For the US, and Japan the figure was around 12% and for Korea, Hong Kong, and Singapore 14% to 16%. In relative terms the EU, is less, not more exposed to the economic effects of price fluctuations than its major industrial trading competitors.
51. In the **short-term**, there are also automatic constraints on oil-price spikes (or collapses) in the international market. Oil-price volatility is now far more disruptive for those countries dependent on oil for the majority of their export earnings, government revenues, and growth in GDP. The oil-exporting countries are likely to co-operate, as they did in 1998-2001 to try moderate short-term price volatility by a policy of joint production agreements.
52. In the **medium-term**, stability, diversity, and competition in the international markets for oil and gas are further strengthened by the international flow of capital and technology. Foreign company investment in producing countries will continue to be a major contributor to the stability of oil and gas prices for consumers, and of markets for producers.
53. There is a role for the EU to promote the opening of investment and trade opportunities for the private sector in producing countries.
54. In the **longer term**, competition from other fuels, and from more efficient energy-using technology, will limit the scope for sustained oil (or gas) price increases. Even by 2020, in the mainline projections, 40% of global and EU liquid fuel supply¹¹ will still be sold outside the transport sector and will therefore face competition from the coal, nuclear and renewable energy sectors.
55. In the electricity sector, even by 2020 only around 50% of generating capacity in the EU will be gas-fired¹². There is scope for renewed competition from oil-fired generating stations in the short and medium-term, and for new competition from other energy sources in the long term.
56. In the longer term, the exposure of the EU and other developed oil importing countries to the effects of oil price-volatility will continue to decrease, as the oil-share of the energy mix and the energy intensity of their economies fall.

¹¹ *Shared Analysis, DOE and IEA all show similar figures*

¹² *Shared Analysis data*

57. Investment in energy efficiency and new energy technologies in the oil-consuming sectors will increase and the underlying trends of long-term investments in transport infrastructure and buildings will shift more rapidly to systems that are less oil and energy intensive.
58. Many environmental and 'sustainability' objectives on security of supply apply in the first instance to consumption sectors, rather than to the raw material supply. For example the demand for electricity is projected to grow faster than for transport in Europe and globally.
59. Analysing options within each demand sector - necessary for long-term environmental policy - would also give a deeper understanding of economic energy security. Unfortunately, the Green Paper focuses on the simple measures of the import component of total supplies of individual fuels.

EU gas liberalisation

60. Gas liberalisation has the potential to underpin short and long term security and diversity of supply by promoting efficient economic signals between gas consumers and suppliers, including the value placed on particular levels of supply continuity. Experience shows that this outcome is not necessarily a foregone conclusion. The current example of the California power crisis shows that where the regulatory framework for liberalisation undermines rather than facilitates effective market signals security of supply will come under threat. The recently published US 'National Energy Policy' makes clear the lessons of the current California energy crisis.

'California's failure to reform flawed regulatory rules affecting the market drove up wholesale prices. Actions such as forcing utilities to purchase all their power through volatile spot markets, imposing a single price auction system, and barring bilateral contracts all contributed to the problems that California now faces' (Report of the National Energy Policy Development Group May 2001.)

61. Moreover, the power supply problems in California were being exacerbated by artificially low end user price caps as well as over-onerous and inflexible environmental regulations.
62. These events deserve careful consideration by policy makers and industry in Europe.
63. Addressing the issue of increasing gas security of supply this can be significantly improved by:

- Liberalisation that liberates commercial forces and keeps regulation to the minimum necessary.
 - Establishing a level playing field for competition.
 - Making a clear and fair assignment of responsibilities and costs for delivering national security of supply requirements or obligations between the different market participants
 - Finding mechanisms to ensure respectively that:
 - dialogue occurs between transmission system operators and other parties;
 - there is free market entry to build, own and operate pipelines, sustained by adequate investment returns and incentives so that there is a downstream network provision which meets both customer and gas supplier requirements for capacity over the longer term.
64. There is opportunity to book or contract for long- as well as short-term capacity rights in EU gas transportation networks. This would provide assurance to producers in developing new fields and signals to network operators about the need for capacity investment. For both, this could ensure the ability to attract project financing.

Environmental risks

- 65. Climate change is not the only environmental issue for energy.**
66. In the short-term the Green Paper draws attention to the risk of environmental damage resulting from accidents such as oil spills. It does not mention the aims of a series of international agreements to prevent and control oil spills at sea (OILPOL, OPRC, and the IMO, and UNCLOS).
67. Ship design, maintenance, inspection, and training of crews and pilots and masters provide better regimes for minimising the risk of oil spills. In many cases such regimes are of international character and must remain so to secure the integrity of international conventions that are aimed at safety at sea. Movement of oil by tankers is inevitable because of the distance involved in imports from West Africa and the Middle East to Europe (and other importing areas).
68. The use of ships is also critical in the offshore producing areas such as the North Sea where the economics of small, short-life reservoirs cannot bear the costs of pipeline construction. There are severe economic constraints on shifting the balance of imports from ships to pipeline as implied on page 90 of the Green Paper.

69. In the medium-term, the main environmental issues relate to air-quality and the risk of water-pollution. These are being addressed in the EU, as in other developed countries, by progressively more rigorous regulations regarding fuel-quality, vehicle and combustion plant emissions, and operational procedures.
70. Renewable energies and new energy technology will present their own specific sets of environmental challenges, which need to be addressed in conjunction with the efforts suggested in the Green Paper to promote increasing use of these energy sources (GP Q.10).

Climate Change (GP Q9)

71. To meet the EU's Kyoto Protocol targets, Member States will require major changes in the consumption and management of energy. The necessary changes cannot be achieved by the development of renewable or 'new' energies alone.
72. Progress in the efficient use of energy will positively contribute to the solution of this long-term issue; cuts in CO₂ emissions equivalent to a doubling of renewable energy use by 2020 could be achieved either by a 15% improvement in the efficiency with which other energies are used or by replacing coal with natural gas¹³.
73. In our view the Green Paper does not sufficiently recognise the importance of improving conventional energy efficiency. This would enable consumers to reduce their CO₂ emissions, in particular, without massive government intervention and loss or redistribution of economic welfare.
74. The development of a practical, voluntary GHG emissions trading system is important for limiting the costs of emission reduction, since entities have neither the same scope nor the same opportunities for achieving cost-effective reductions – for example, increasing energy efficiency or switching to less carbon-intensive fuels.
75. The Industry supports work to develop an international GHG emissions trading system, voluntary in participation and applied over as wide an area as possible to maximise the potential economics of trading.
76. Meanwhile major obstacles to immediate progress are at the political level - in particular the absence of broad international support for the type of international emission-reduction targets to which the EU is committed.

¹³ *Based on EU Energy Outlook, Nov 1999 Table 4.3*

4. THE ROLE OF THE OIL AND GAS INDUSTRY

The Oil & Gas Industry is:-

- Central to future EU energy supply, given the predicted shrinking of nuclear power and economic and environmental problems of coal
- Continuing to develop European¹⁴ and international oil and gas resources
- Producing, refining and distributing oil and gas to ever-tighter environmental standards
- Expanding international supplies

77. The oil and gas Industry' has a demonstrable record in developing and supplying products to consumers, and continually improving its environmental standards in the face of intense market competition. We believe the Green Paper does not adequately recognise these achievements.
78. Though the share of oil may diminish slightly, as the Green Paper projects, it is still projected at around 40% in the EU energy mix of 2020¹⁵ with up to around 30% from natural gas. The Industry also provides employment in the EU for some 1.7 million people¹⁶ and is a contributor of some € 10 billion¹⁷ to Europe's high technology exports.
79. The Industry operates within competitive and open international markets for private sector investment, and for crude oil and oil products. This economic framework is critical to both the competitiveness of the Industry and its ability to support the security of European energy supply.

European supply

80. The Industry has succeeded in increasing European oil and gas production during a period of low oil and gas prices. It expects to continue to reduce the costs of oil production in Europe through a series of initiatives with the supply industries and producing governments.

¹⁴ *For the purposes of EU energy security, Norway is equivalent to an indigenous EU supplier : Norway is bound economically to the EU through the European Economic Area, and the OECD and politically to EU member states through membership of NATO, the WEU and the OSCE*

¹⁵ *Shared Analysis data, corrected to fuel input oil equivalence.*

¹⁶ *270,000 directly in upstream, 750,000 in oilfield services, and 950,000 in refining, marketing, and oil distribution.*

¹⁷ *EUROGIF data*

81. Like the US, the UK, the Netherlands and other oil and gas regions in the EU, are mainly producing from depleting fields. Norway has not yet reached the same level of maturity in oil development and has the possibility of a longer period of increasing gas-production over the next two decades
82. There is, however, the advantage of existing pipelines and platform infrastructure, representing sunk costs of some € 256 billion. As the fields served by this infrastructure deplete, opportunities are created for recoveries from higher cost potentially connected neighbouring reservoirs and for the development of small adjacent prospects. **(See appendix 1 the UK experience).**
83. Realising this potential depends on the European oil- and gas-producing countries maintaining regulatory and fiscal regimes, which are competitive with those of alternative investment opportunities.
84. The Green Paper proposals for reserving part of existing oil- or gas-production capacity and for delaying the development of potential production capacity for use during future disruptions of supply or price shocks work is unlikely to have any material effect on security of supply. Infrastructure, in such circumstances, is likely to have been removed and/or dismantled before the full geological potential is developed.

Supplies from imports

85. Security of oil and gas supply for European consumers is best realised by continuing investment in international supply sources, which are open to the free movement of trade, technology and investment.
86. As more countries open up to investment from the private sector, the risks of timing of capital investment can be increasingly diversified through financial markets and are thus less dependent on home government budgetary restrictions.
87. Within the international framework, the EU and its Member States can enlarge these opportunities by supporting international efforts to encourage the development of stable and attractive conditions for foreign investment in important exporting countries. The draft laws published this year by Algeria, a country seeking association with the EU, are encouraging and can be supported within the Mediterranean initiative without requiring any EU intervention in the energy trade and investment of Algeria.

88. The Industry is also participating in President Prodi's initiative with Russia. We believe that, in dialogue with producer countries, priority should be given to promoting investment opportunities for oil and gas, and liberalising access to export supplies under market conditions. In all areas, it is important to build on what has already been achieved and not to disrupt progress by introducing conflicting dialogues.
89. For future gas supplies from Russia and the Caspian States, there are major investment and financing requirements to be met. This is an important issue to be taken into account in taking the debate about supply security forward.

Refining

90. The oil Industry is investing to maintain refining and distribution capacity in the EU, to meet the changing product-mix resulting from increased demand for transportation products and new and tighter fuel specifications required to contribute to air quality objectives. These very significant investments in the past decade have not been reflected in higher product prices over the same time period. International oil markets are increasingly divided by product quality specifications introduced for environmental reasons. It is, therefore, important to maintain manufacturing flexibility to deal with both internal and external disruptions. The move towards tighter fuel specifications will, in the short term, contribute to product volume shortages, increases in manufacturing energy and consequent crude oil demand and reduced trading flexibility. In particular:
- Restrictive fuel specifications can potentially impact product supply through loss of volume at the refinery or difficulties in maintaining on-grade product through the distribution system
 - The combination of tighter specifications, strong seasonal demand and refining and distribution system incidents may cause temporary shortages and price escalation as has recently occurred in the United States.
 - Tightened and unique European product specifications reduce the possibility of offsetting short-term problems by importing products
 - Tighter specifications will increase CO₂ emissions from the refining system
91. Biofuels, together with other renewables, should be pursued within the framework of an energy market based on sustainable development principles. Biofuels, when both cost- and environmentally- effective on a "well to wheels" basis, are a potentially useful fuel supplement that should be progressed through sound research and development and a flexible

implementation in a free market context. Premature or prescriptive advancement of biofuels without sound environmental, logistical and economic consideration may lead to regretted actions. The Industry will continue to devote effort, as appropriate, to this and other areas of renewable and sustainable energy.

Distribution

92. EU sales of motor fuels (gasoline and automotive diesel) amount to 250 billion litres per annum. They are distributed to over 200 million EU vehicle users using a network of some 110 000 outlets plus privately owned facilities. The growth of total motor fuel sales has averaged less than 1% over the last ten years (though diesel has increased its share).
93. Competition in distribution and retailing continues notwithstanding recent merger and restructuring activities in the Industry. It is the role of companies to maintain supply and choice for consumers at competitive prices.
94. Measures are being adopted to develop systems to deal with internal disruptions - such as occurred in many EU Member States in September 2000 - in conjunction with affected governments.
95. Member State and/or EU intervention, which favours one product or Industry structure over another, will distort competition and carry an economic cost. In addition it must be recognised that the distribution sector remains highly competitive with an endemically poor return on capital employed for the participants.
96. Factors which are driving the pace of competition include:
 - Liberalisation of oil import regimes, retail pricing and the opening up of markets to new operators
 - Abolition of state monopolies and privatisation of state-owned oil companies
 - A restructuring and heavy investment in the oil distribution sector to comply with increasing legal and environmental requirements and customer expectations. However some companies have chosen to exit EU markets.
 - A highly competitive market structure (some 25 integrated oil companies)with the appearance of new brands, new participants investors from oil exporting countries and new types of operators such as supermarkets who supply 15% of the EU retail market
 - The five largest EU operators have market shares of between only 7% and 11%

97. It should also be recognised that the variation in retail pump prices (excluding taxes) reflects different market structures and conditions among Member States. Excise duty and VAT already make up around 70% of the total price of motor fuel; 35% of the increase between December 1998 (when prices were at a three-year low) and June 2000 (when prices peaked) was accounted for by higher taxes.
98. The Industry believes it would be ill advised and ultimately counter-productive to try to base long-term policy towards pump-prices on problems of a short term or transitory nature.

New energy technology

99. The Industry is developing and applying new technologies to reduce the environmental impact of its own operations throughout the supply chain and of the consumption of its products.
100. The Auto-Oil programme is an example of co-operation between the European Commission and the oil and automobile industries to strive for a systematic and holistic approach to these problems. It is an approach that we are ready to extend to other sectors.
101. A number of oil and gas companies are also investing directly in the development of new technologies for the supply of liquid fuels (for example gas-to-liquids) and the development of new energy technologies (for example fuel-cells for vehicles), via joint ventures and other collaborative projects with major automobile manufacturers.
102. All such commercial developments will increase competition and diversify the possibilities for making the continued use of hydrocarbon fuels acceptable under the constraints of both environmental and broader sustainability objectives.

Climate change (GP Q9)

103. Companies in the Industry have been active in setting greenhouse gas reduction targets for their own operations and studying and developing mechanisms for emissions trading.
104. Under business as usual, CO₂ emissions from electricity generation in the EU are likely to exceed those from the EU transport sector by 2020. Furthermore, there are more options for changing the supply-mix in electricity production than in the transport sector.

105. Switching to new gas-fired electricity generation in parts of the EU and applicant countries would assist significantly in slowing the growth of CO₂ emissions. For example, by moving largely from coal-fired to gas-fired power generation between the years of 1990 and 1998, the UK delivered a 13 million tonne carbon reduction.
106. Natural gas also offers higher energy efficiency in generation – a critical factor in any security of supply consideration. While demand management is one response to security of supply, maximising efficiency is another.
107. The Industry has developed techniques to sequester CO₂ from gas production (as in the Norwegian Sleipner field) and to re-inject CO₂ into oil reservoirs and thereby stimulate additional production. New technology also exists to sequester CO₂ from power station emissions. R&D in this area merits attention alongside other new energy technologies.

5. AREAS OF CONCERN IN THE GREEN PAPER

- The Green Paper fails to recognise the EU's indigenous potential and the robustness of internal trade in energy
- Bilateral 'framework import policies' distort investment
- 'Intervention stocks' would be costly and ineffective
- New taxes would damage the EU as a region to invest

Short and medium term risks

108. The EU is in many respects less exposed to the economic impacts of disruption and short-term import price volatility than its major competitors. Such risks are in any case mitigated by the combination of expanding and competing indigenous and imported supplies, the IEA stock and emergency sharing system, and the EU's own compulsory stock policy.
109. The Industry is concerned by the following ideas in the Green Paper and would welcome the opportunity to take part in a constructive analysis of any detailed positions which may be put forward.

Framework import policies (GP Q.4)

110. The idea of bilateral agreements between the EU and exporting countries on 'stable quantities and prices' would lead to government intervention (in both importing and exporting countries) in the sourcing of imports, the direction of investment, and the pricing of favoured supply-sources. This would interfere in the EU single market and require the setting up of new institutional arrangements such as price-controls and import allocation mechanisms. The unstable nature of such systems was demonstrated by US and Canadian policies in the late 1970s and early 1980s.
111. Rather, policy should focus on supporting the growth of flexible, competitive markets and investment opportunities, which will expand and diversify energy production for international trade as well as within Europe.

Intervention stocks (GP Q5)

112. The Green Paper raises the question of whether stocks should be built up for the purpose of influencing price when no disruptions of supply are

involved. The history of such mechanisms in other commodities is not encouraging. **(See appendix 2 strategic stocks)**

113. We strongly oppose this idea: it is unlikely to succeed for the following reasons:

- It is very doubtful whether EU intervention stocks could achieve any stabilisation objective.
- During 2000 the increase in OPEC supply which halted the rapid acceleration of prices was nearly 3 million barrels per day amounting to 500 million barrels over a 6-month period. This compares with 350 million barrels in EU government stocks and 860 million barrels in other IEA Government stocks in November 2000. The stocks required for intervention are therefore likely to be very large. To use stocks for supplying the European market by a quota system only would destroy the existing complex and commercially driven patterns of international trade and be contrary to IEA obligations. To try to develop an IEA wide system of intervention would meet the same problem – over 35% of oil imports go outside the IEA, and GATT obligations would be in question.
- Whatever the size of the stock its use would be commercially perilous. If intervention targets were announced in advance speculators would bet against them. If intervention were not automatic, governments would collectively have the task of managing the market and bearing responsibility for the resulting price.
- Since internationally traded crude oil is priced in US dollars it would be impossible to separate oil price intervention from currency interventions.
- Any major mechanisms for using stocks to manage prices in the interests of importers could easily be matched by opposite actions from OPEC. There is no indication that the major exporting countries are interested in seeing the development of stabilisation stocks under control of importers: their reaction to interventions could be destabilising to market adjustments.
- The idea of maintaining spare capacity production facilities carries large economic costs and would present technical problems. It would disturb the balance between production and transport capacity and reduce the advantages of using existing infrastructure to develop small reservoirs.

- The Green Paper appears to suggest unilateral EU intervention, thus disrupting the existing international free market for oil.
 - There is no indication that the major exporting countries are interested in seeing the development of stabilisation stocks under control of importers: their reaction to interventions could be destabilising to market adjustments.
114. Interventions would distort signals for production and consumption decisions in the short-term and investment to correct imbalances in the medium-term. We note that the recent US National Energy Policy report is clear in expressing the view that the Strategic Petroleum Reserve will not be used again for managing prices. We believe there is some merit in the recommendation of this document that non-IEA member countries be encouraged to consider the creation of strategic stocks, and that producers and consumers should co-operate in crafting a more comprehensive and timely world oil data reporting system.

Gas stocks

115. Given that the 1998 Wood Mackenzie study indicated that EU storage was essentially adequate to meet foreseeable supply disruption eventualities, the benefit of further EU initiatives in this area are unclear. In particular, what would the costs be and who would bear them when seeking to provide additional strategic storage in the EU? How would any EU initiative in this field interact with the Commission's proposals for gas market liberalisation? Who would own and operate any EU gas stocks and how would this fit in with or affect activity in the liberalised market? These questions should be viewed against experience of the UK gas market, which shows that it is possible to liberalise storage and encourage new entrants to provide storage and other flexibility services on the opening of the market.

Medium- and long-term issues

Taxation (GP Q.3)

On supply

116. The Green Paper proposes new taxes on the oil and gas Industry as a way of funding the renewable sector.

117. Oil and gas production in the EU is already the subject of special national taxation and the Industry has provided and continues to provide substantial income for host nations.
118. In the UK and Norway, for example, the Industry has paid in total € 272 billion and € 87 billion respectively in real terms, most of this in the form of special taxation. In the Netherlands the upstream Industry has paid €145 billion in taxes since 1980. The marginal tax rate for gas production in the Netherlands is as high as 95%. In Norway and the UK the marginal rate ranges from 70% to 80%. It would, therefore, be difficult to justify any further increase in the burden. No other energy source or Industry in the EU is subjected to comparable fiscal burdens.
119. Host governments increasingly recognise that to ensure the optimum economic development of indigenous production. This additional special burden needs to be reduced as the province matures and investment opportunities face increasing global competition. Fiscal actions over the last decade tend to support this.
120. The oil and gas Industry opposes any proposal that would increase the fiscal burden on oil and gas production. Such burdens are counter-productive to the aims of the Green Paper and would reduce the competitiveness of the North Sea, engendering reduced levels of indigenous production.
121. The oil and gas Industry believes that policy-makers should not use taxation to discriminate between favoured sources of energy supply. Investment decisions should be made on the basis of a 'level playing field' with no additional tax burdens.

On consumption

122. High taxation on energy consumption by energy-intensive industries will lead to a loss of competitiveness by the industries affected.
123. Outside the main energy intensive industries, the dangers of fiscal distortion are directly linked by international comparisons. EU Member States impose significantly higher oil consumption taxes (particularly on transport¹⁸) than the US, Japan, or South Korea. Since transport is an important factor of production, the same will be true for other industrial activities - other factors being equal. The economic and political consequences of this policy is now being manifested in the following areas:

¹⁸ *EU average gasoline excise taxes are some ten times those of US excise taxes and twice those of Japanese gasoline taxes*

- European taxes on energy are considerably higher than in the US and Japan, with negative effects on industrial competitiveness for the EU.
 - Non-oil sources of energy are exempted from such taxation to a large extent; refined products therefore are at a tax disadvantage.
 - Despite the recent very sharp rises in pre-tax prices, duties and VAT still account for broadly 70% of the aggregate EU gasoline pump price, which is equivalent to an effective rate of consumption tax of well over 200%.
 - Rates of duty and VAT vary widely across the EU and various fiscal incentives are offered to promote particular qualities of oil products.
 - There is no conclusive evidence of the effectiveness of increases in energy taxes to achieve environmental objectives in the longer term.
 - Demand for transport is so inelastic that higher taxes fall disproportionately on households with low incomes and in rural areas²³, where few if any transport alternatives exist.
 - The fuel tax protests that took place in many countries last year, enjoyed wide public support. There is public hostility to higher fuel taxation.
124. The Industry believes that increasing taxation on oil products is not the most effective instrument for enhancing environmental protection and it has a negative impact on the competitiveness of EU Industry. Energy tax policy should now aim at reducing energy prices to the consumer and industrial user in order to improve EU competitiveness.
125. The emphasis in recent competition and single market policies in the EU (and in Japan) has been to reduce energy prices to the consumer and the industrial user in order to enhance competitiveness. Imposing higher energy taxes would oppose this trend.
126. The 'double dividend' argument proposes that revenues raised could be used to reduce other taxes - such as payroll taxes - that damage competitiveness. Such recycling of taxation benefits the manpower intensive service sector rather than the more energy intensive industries.
127. The argument for higher energy taxes, implicit in the Green Paper, is that such taxes either 'correct for externalities' or are intended to achieve a particular environmental objective based on something other than an estimate of the externalities. The evidence of the effectiveness of taxes in the latter regard is somewhat mixed.
128. Attempts are being made for example by DG TREN¹⁹, and the European Council of Transport Ministers²⁰ to evolve a common approach to the

¹⁹ *Fair and efficient pricing in transport- the role of charges and taxes – April 2000*

setting of taxes on transport. We are ready to discuss this issue further with the Commission and other parties concerned.

New energy technology (GP Q.7)

129. Improvements in existing energy technologies and in energy efficiency, and the substitution of low impact conventional fuels (such as gas), can play a major role in improving both security of supply and environmental effectiveness in the long run.
130. We believe that a commercial approach and the private assumption of risk are essential to the future economics of new energy supply and demand technologies.
131. There may be a case for public sector support for R&D (research and development) in new technologies both for reducing the environmental impact of using existing fuels and for developing new ones, in a way designed to introduce competition and commercial criteria from the beginning, allowing assistance to be phased out as the new technologies take off.
132. With so much uncertainty about the relative economics and environmental impact of competing future technologies, it would be dangerous to set quantitative targets **(GP Q. 10)**. Subsidies, especially those financed by levies on the private sector, risk escaping both commercial discipline and fiscal review.

State aid (GP Q.3)

133. We support the idea of greater transparency for state aid for industries supplying energy and for major energy users.
134. The growth of the market for refined oil products has been limited, not helped, by state intervention. Those costs have been born by investors in private sector companies.
135. Moreover, special mineral oil taxes, even outside the transport sector, have existed in most countries. These have generally been to protect indigenous coal markets from competing oil products. In the power sector, subsidies to coal, and state investment in the nuclear industry have also been at the expense of the marketers for oil products.
136. Oil consumers have also contributed very large revenues through oil excise taxes on transport fuels in all EU Member States. In most cases

²⁰ *Efficient Transport Taxes and Charges ECMT 2000*

these have been in excess of direct expenditure on roads and other infrastructure for oil consumers and arguably even in excess of environmental 'externalities'.

Energy for transport (GP Q. 12)

137. The balance of transport demand between the taxed sector (private road transport) and the public or public-assisted sector (most rail and mass transit systems) reflects economic realities, which can only be shifted by very long-term policies. **(GP Q. 12)**
138. Vehicle and fuel taxes in the EU are between 2% and 4% of GDP - the same magnitude as the cost of EU oil imports. Fuel and vehicle taxes interact with each other (and with VAT). Harmonisation of one tax would disrupt the balance.
139. The structures and levels of tax reflect Member State revenue priorities and transport policies. Transport policies are evolving in most Member States and at EU level to address issues of urban congestion, and climate change.
140. To launch a prior initiative of tax harmonisation independent of an EU framework transport policy would be of doubtful merit. Cross-border travel and competition provides a political constraint against very wide differences in visible taxes. **(GP Q.3)**.
141. The idea of preferring oil transport by pipeline to transport by sea (GP page 90) is not explained. Long distance and offshore pipeline supplies are inflexible and of high capital cost compared to sea transport - even taking into account the costs of the extra vigilance necessary to minimise the risk of oil spills.

6. DEVELOPING COLLABORATIVE VISIONS (GP Q13)

The oil and gas Industry

- Is not convinced of the need for market intervention
- Wants more dialogue and better understanding among all stakeholders in the energy debate

142. It is not clear that there is a case for systematic new intervention in energy supply issues at an EU level for the oil and gas Industry. The effectiveness and coherence of existing policy depends on a degree of shared understanding of the problems and choices about implementation of existing and evolving policies.
143. We are ready to assist the Commission in analysing these issues further. They are complex and we would like to contribute to a better understanding of the technical and commercial factors that surround the Commission's apparent concerns.