

Contribution to the debate on the Green Paper
Towards a European strategy for the security of energy supply

| | |
|---------------------------------|--|
| Name | Leslie N. Stuffins - Enviro Working Group |
| Organisation | Combustion Engineering Association (UK) |
| What are you areas of interest? | All aspects of Combustion Engineering from Design, Manufacture, Performance, Costs and Benefits including Planning, Effects on the Environment and the wide context of Energy Usage. |
| Contact person | Leslie N. Stuffins |
| E-Mail | leslie.n.stuffins@tesco.net |
| Telephone | 0121 351 6520 |
| Fax | N/A |
| Address | 15 Brookhus Farm Road, Sutton Coldfield, West Midlands, B76 1QP, United Kingdom. |

Please add your answers after the question(s) which deal most closely with the subject(s) on which you wish to comment so that the Commission can deal with the remarks efficiently and swiftly.

| | |
|----|---|
| 1. | <p>Can the European Union accept an increase in its dependence on external energy sources without compromising its security of supply and European competitiveness? For which sources of energy would it be appropriate, if this were the case, to foresee a framework policy for imports? In this context, is it appropriate to favour an economic approach: energy cost; or geopolitical approach: risk of disruption?</p> <p>Answer: (1). We believe the EU Strategy should be one where the EU strives to be self sufficient for its energy requirements and, in so doing, sets an example to the rest of the world.</p> <p>This overall strategy should revolve around several KEY elements namely SUSTAINABILTY, ONGOING REDUCTION AND MINIMISATION OF EMISSIONS OF GREENHOUSE GASES achieved largely by INCREASING EFFICIENCY OF OPERATION AND ENERGY SAVINGS rather than SWITCHING FUELS, GREATER USAGE OF INDIGENOUS FUELS, INCREASED USAGE OF RENEWABLES WHERE PRACTICABLE, ON-GOING RESEARCH AND DEVELOPMENT AND CONTINUED USAGE OF NUCLEAR GENERATION: all against a backdrop of planned ENERGY EFFICIENCY and CONSEQUENT MINIMISATION OF REQUIREMENTS. A</p> |
|----|---|

| | |
|----|--|
| | <p>strategic balance of fuel usage should be maintained. We believe the EU should gradually plan to decrease its dependence on external energy sources and move towards self sufficiency at a rate which does not adversely affect either our security of supply or our European competitiveness. The fall-back position, in the event the above strategy is slow getting off the ground or failed for one reason or another, would be to import energy supplies from areas closest to the EU with a record of political and economic stability.</p> <p>The Green Paper indicates Russia could prove to be a potential supply for Gas with its good reserves, but many people question why the 'dash for gas' over the recent decades should have been allowed, with its resulting high consumption of a valuable resource. Ideally, gas should be reserved for small and medium scale direct thermal energy production. Gas also has a use as a Chemical Feedstock. Clean coal research has taken place over many years within the UK, enabling coal to compete for domestic and industrial applications, while also being ideally suited to power generation. But the benefit of that research is in danger of being lost through inactivity. The continuing declining forecast for the production and usage of Indigenous Coal is alarming and possibly due to expediency. The EU should be taking steps to counteract this trend.</p> <p>It appears the EU needs to also take on board a wider remit with a reduced emphasis on commercial, economic, social, and political dimensions and a greater bias towards those key thrusts identified and HIGHLIGHTED at the beginning of this paragraph.</p> |
| 2. | <p>Does not Europe's increasingly integrated internal market, where decisions taken in one country have on an impact on the others, call for a consistent and co-ordinated policy at Community level?</p> <p>Answer: (2). We believe a consistent and co-ordinated policy at Community level has a part to play: the governments of Member States promoting and managing a balanced fuel policy appropriate to their own circumstances. This should help to guarantee a reliable and economic supply of energy to meet EU demands but does not necessarily mean complete UNIFORMITY of approach. However this goal sometimes appears as a 'pipe dream' judging by the apparent existing uncoordinated approach. The easy option has ruled the day. Why has the use of coal in new installations been shunned and mainly relegated to the history books especially when it is a strategic reserve. We should surely dust down the files and recover the situation before the technology is lost. The use of coal should be actively encouraged in new installations.</p> |
| 3. | <p>Are tax and state aid policies in the energy sector an obstacle to competitiveness in the European Union or not? Given the failure of attempts to harmonise indirect taxation, should not the whole issue of energy taxation be re-examined taking account of energy and environmental objectives?</p> <p>Answer: (3). We believe financial support is essential to move energy related matters forward such as those we have mentioned above and this list is not exhaustive. Additional research, both fundamental science and practical technology, is required if we are to approach energy self-sufficiency. This cannot</p> |

| | |
|----|---|
| | <p>be left solely to private enterprise and it is inevitable that 'tax and state aid policies' should be in place and be instituted so that they are not an obstacle to competitiveness in the EU. It appears to us the whole issue of energy taxation across the EU is in need of a radical overall but this will involve not only co-operation between Member States but a better understanding of the background economics and science. A balance between EU action and Member States is required.</p> |
| 4. | <p>In the framework of an ongoing dialogue with producer countries, what should supply and investment promotion agreements contain? Given the importance of a partnership with Russia in particular, how can stable quantities, prices and investments be guaranteed?</p> <p>Answer: (4). It is inevitable dependence on external supplies of energy will be necessary in the short term irrespective of whether the EU becomes self-sufficient or otherwise. It makes good sense to have good supply lines and contractual agreements in place. We, as a broadly technical organisation, are not experts in this field of operation but suggest a balance needs to be struck between strategic stocks, materials in the pipeline and contractual arrangements. Self sufficiency and fuel flexibility give a bargaining point for discussion on lower import prices.</p> |
| 5. | <p>Should more reserves be stockpiled – as already done for oil – and should other energy sources be included, such as gas or coal? Should the Community take on a greater role in stock management and, if so, what should the objectives and modalities be? Does the risk of physical disruption to energy supplies justify more onerous measures for access to resources?</p> <p>Answer: (5). We believe more emphasis needs to be placed on the use of indigenous sources of energy and clean technologies to utilise them rather than on stockpiling but recognising some strategic stocks are essential. We have plenty of coal and a lot of proven technology to use it! The community needs to be involved in stock control but as advisors rather than controllers! Although in house sources may still give rise to shortages of supply these situations are easier handled than dependence on external supplies. Use of indigenous sources shortens supply lines and minimises the need for stockpiling.</p> |
| 6. | <p>How can we develop and ensure better operation of energy transport networks in the European Union and neighbouring countries so as to enable the internal market to function properly and guarantee security of supply?</p> <p>Answer: (6). Energy transport networks fall into several categories. These include pipelines inter and intra Member States for gas and/or oil (none for coal yet - may not be practicable but should be considered), by sea, road or rail and by overhead or underground power lines. Many of these systems are interconnected and these need to be optimised. Others such as road and rail transport, currently heavily biased toward road transport in the UK, need urgent study to achieve the</p> |

| | |
|----|---|
| | <p>optimum balance between the two, bearing in mind the factors outlined in this response such as ENVIRONMENTAL CONSIDERATIONS. The use of other fuels, singly and mixed, such as hydrogen, natural gas, electricity as well as petrol and diesel should be developed. The thrust should surely be towards fixed closed transfer means such as pipelines, underground power lines and minimisation of discrete single means of transport such as ships, road vehicles, rail, etc. This inevitably means less outlets such as petrol stations and more inconvenience. This is clearly a challenging objective and is hugely dependent on the EU becoming self sufficient in energy.</p> |
| 7. | <p>The development of some renewable energy sources calls for major efforts in terms of research and technological development, investment aid and operational aid. Should co-financing of this aid include a contribution from sectors which received substantial initial development aid and which are now highly profitable (gas, oil, nuclear)?</p> <p>Answer: (7). 'Renewables' still appear to be the poor relation from a funding point of view and yet may have an important contribution to make towards securing our future energy supplies. Maybe the reason is again because we are still wedded to the theory that 'big is best'. We have every sympathy with the 'economics of scale' approach but this should not cloud our judgement in planning for the future. 'No man is an island' in energy related matters and we believe the burden has to be shared. It appears to us, not only suppliers but end users, should bear some of the costs. We believe we should seek to develop renewable energy sources, where a good case can be made for specific well defined projects, and obtain the financial and other resources to progress this sector. Adequate control (not just monitoring) of financial incentives is essential particularly the use and outcome of Research and Development funding but hopefully not to the exclusion of entrepreneurs. We should not throw away good money to fund doubtful ventures.</p> |
| 8. | <p>Seeing that nuclear energy is one of the elements in the debate on tackling climate change and energy autonomy, how can the Community find a solution to the problem of nuclear waste, reinforcing nuclear safety and developing research into reactors of the future, in particular fusion technology ?</p> <p>Answer: (8). We believe Nuclear Energy may have a role to play in energy provision and the problems identified in this question (plus others, such as political problems) need to be tackled urgently. This will be of benefit to all Members of the EU and in our view does needs adequate co-ordination.</p> <p>As regards fusion, should we not solve the practical problems of delivering from nuclear fission rather than leave unfinished business and move on to nuclear fusion? On the other hand, if a hard and objective scrutiny of the outcome of fusion research confirms major benefits, e.g in generating costs, safety, minimal waste disposal, reduced decommissioning costs, etc, then fusion will merit further investment.</p> <p>Overall, we conclude that the nuclear option should still continue to be part of a long term strategy for mixed fuel usage, but should use tried technology and there is need to bear in mind the long term problems it can create. Ideally, energy from renewables such as wind, wave and solar is more desirable, but we have lost important time to</p> |

| | |
|-----|---|
| | develop these while enjoying a brief period of gas abundance. |
| 9. | <p>Which policies should permit the European Union to fulfil its obligations under the Kyoto Protocol? What measures could be taken in order to exploit fully potential energy savings which would help to reduce both our external dependence and CO₂ emissions?</p> <p>Answer: (9). Both ‘carrot’ and ‘stick’ policies need to be implemented based around reducing the emission of greenhouse gases: the Kyoto Protocol being a good start! Programmes for an on-going reduction must be agreed and implemented, alternate technologies with lower emissions of greenhouse gases must be developed and implemented, means must be developed to recover, ‘fix’, or ‘store’ CO₂ and in all cases more efficient use of energy must be the norm both in the manufacture of fuels and their usage.</p> <p>The practical problems of nuclear fission need to be resolved, in particular the storage of Radioactive Waste, to allow nuclear to also make a safe contribution to reducing CO₂ emissions.</p> <p>Unfortunately man’s influence on the greenhouse effect, whether caused by mankind’s actions or not, requires an enormous change in the use of energy and requires an almost unimaginable technological breakthrough.</p> |
| 10. | <p>Can an ambitious programme to promote biofuels and other substitute fuels, including hydrogen, geared to 20% of total fuel consumption by 2020, continue to be implemented via national initiatives, or are co-ordinated decisions required on taxation, distribution and prospects for agricultural production ?</p> <p>Answer: (10). We have the system in place to co-ordinate activities over a substantial part of the globe in the EU. Let us capitalise on what we have and not leave progress solely to national initiatives. The EU should have a strategy, not only in ‘bio’ and other substitute fuels such as hydrogen, but across energy harnessing, storage, distribution, usage and all other energy related parameters. This will involve co-ordinated decision making in other areas such as taxation and ‘bio’ agricultural activities. The use of so-called renewable bio-fuels is not a proven solution to the problem of global warming.</p> |
| 11. | <p>Should energy saving in buildings (40% of energy consumption), whether public or private, new or under renovation, be promoted through incentives such as tax breaks, or are regulatory measures required along the lines of those adopted for major industrial installations?</p> <p>Answer: (11). Self regulation did not work in The Garden of Eden and it has little chance of being effective in this 21st century! Although the efficient use of energy is vitally important, on its own, it is a little like ‘straining at gnats’. We need to tackle the gross waste of energy which occurs when we harness energy, (sometimes erroneously described as generating energy). We need to achieve far greater efficiencies than less than 40%.</p> <p>We need regulatory measures with teeth to force the pace in all areas of energy</p> |

| | |
|-----|--|
| | <p>harnessing and usage. Regulators should not seek to ‘dot every ‘I’ and cross every ‘t’ (PRESCRIPTION) but deal with the basic requirements (PRINCIPLES), allowing the regulated to implement what they should know best.</p> <p>We also need financial incentives in reducing the cost of all types of energy efficiency improving equipment and materials, such as insulation, backed up with appropriate regulation. Energy saving is currently the only way of making a major impact on the reduction of energy use and should be fiscally heavily promoted.</p> |
| 12. | <p>Energy saving in the transport sector (32% of energy consumption) depends on redressing the growing imbalance between road and rail. Is this imbalance inevitable, or could corrective action be taken, however unpopular, notably to encourage lower use of cars in urban areas? How can the aims of opening up the sector to competition, investment in infrastructure to remove bottlenecks and intermodality be reconciled?</p> <p>Answer: (12). We have created the imbalance in the transport sector and we believe it needs to be reversed, based not just on simple convenience, competition or even economic arguments, but on a more informed approach having a wider remit. In fact, pragmatically considering the two alternatives, there does not appear to be any doubt which should be the preferred option. However, the medicine to correct the self imposed sickness will be both costly, inconvenient and unpopular.</p> <p>We need to bite the bullet now, but we should get the thinking right (the key elements being SUSTAINABILITY and MINIMISATION of GREENHOUSE GASES, achieved largely by INCREASING EFFICIENCY OF OPERATION AND ENERGY SAVINGS rather than SWITCHING FUELS, GREATER USAGE OF INDIGENOUS FUELS, INCREASED USAGE OF RENEWABLES WHERE PRACTICABLE, ON-GOING R&D AND USAGE OF NUCLEAR GENERATION, all against a backdrop of planned ENERGY EFFICIENCY and CONSEQUENT MINIMISATION OF REQUIREMENTS) before we even consider competition.</p> <p>A balanced transport system is essential in a modern developed industrialised country and should receive appropriate investment.</p> |
| 13. | <p>How can we develop more collaborative visions and integrate the long-term dimension into deliberations and actions undertaken by public authorities and other involved parties in order to evolve a sustainable system of energy supply. How are we to prepare the energy options for the future?</p> <p>Answer: (13). To achieve adequate progress in the total energy field we need:-</p> <p>(i) an acceptance by all 'parties', the EU, Nation States, National and Local Governments, all enterprises, agencies, people etc harnessing or using energy, of the need to tackle the problems, not only of obtaining and guaranteeing an on-going supply of energy, but to recognise the framework in which these objectives must be met to ensure SUSTAINABILITY.</p> <p>(ii) regulation, not only to force the pace, but simply to ensure essential but</p> |

| | |
|-----|--|
| | <p>often unpopular policies are implemented. Regulation should deal with PRINCIPLES rather than PRESCRIPTION (MINUTIAE).</p> <p>(iii) but we must get the thinking right about SUSTAINABILTY, ONGOING REDUCTION AND MINIMISATION OF EMISSIONS OF GREENHOUSE GASES, achieved largely by INCREASING EFFICIENCY OF OPERATION AND ENERGY SAVINGS rather than SWITCHING FUELS, GREATER USAGE OF INDIGENOUS FUELS, INCREASED USAGE OF RENEWABLES WHERE PRACTICABLE, ON-GOING RESEARCH AND DEVELOPMENT AND CONTINUED USAGE OF NUCLEAR GENERATION: all against a backdrop of planned ENERGY EFFICIENCY and CONSEQUENT MINIMISATION OF REQUIREMENTS. All as stated previously.</p> <p>(iv) economics should not dominate all actions taken to ensure the optimum provision of our energy needs or continuity of supply.</p> <p>(v) more emphasis needs to be placed on the use of indigenous sources of energy and clean technologies to utilise them.</p> <p>(vi) all sources of energy are significantly different in terms of production, processing, storage and utilisation.</p> <p>(vii) there are substantial reserves of indigenous coal in the EU and a lot of effort has gone into development of processes to utilise this fuel. But, currently production is falling. We need to increase dependence on Coal (EU reserves estimated as 72 billion tons of coal units and coal is being used less than gas or oil) and capitalise on Clean Coal Technology including Advanced Pulverised Coal Fired Boilers (PCF), Atmospheric Fluidised Bed Combustion (AFBC), Pressurised Fluidised Bed Combustion (PFBC), Integrated Gasification Combined Cycle Systems (IGCC), Pressurised Pulverised Coal Combustion (PPCC), Integrated Gasification Fuel Cell Systems (IGFC), Magnetohydrodynamic Electricity Generation (MHD), Underground Gasification, etc with Combined Heat and Power (CHP).</p> |
| 14. | <p>Any other questions or proposals:</p> |

Thank you for replying to this questionnaire.