

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

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Organisation	An Independent Norwegian Environmental NGO
What are you areas of interest?	Transportation; Energy; Carbon Sequestration; Hydrogen; Nuclear Power; Norway, Europe + Russia
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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: The EU has no possibility at present or in foreseeable future to be independent of imported energy. In order not to further compromise the security of supply, it is of importance to be able to switch between various forms of energy and suppliers. One option for improved independence is to reduce the consumption and increase the efficiency of usage.</p> <p>Furthermore it is possible to make a framework policy for import of energy in “bulk” form, like crude oil and coal, where the EU might choose to construct and maintain storage of such energy in addition to the member states own storage capacity.</p> <p>The EU is also dependent on import of natural gas. Presently this import is mainly based on Russian supply with supplements from Norway and North Africa. Close political ties with such suppliers is important, while ensuring longer-term incentives for these countries to maintain an interest in exporting.</p>
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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: Yes – in particular if the EU wants to pursue continued development towards a “level playing field” between countries and regions. At the same time it must be important for individual countries to have the freedom to choose the most appropriate spread of energy supply which is compatible with their regional, industrial and economic particularities. Given a “level playing field” then there is no reason why this should not be compatible with overall goals for energy security and environmental sustainability.</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: Harmonised taxation in the energy sectors within the EU should be a long-term commitment in a liberated EU-market. The Bellona Foundation believes in a completely “level playing field” for all energy carriers provided the real environmental costs are included so that the emitter pays. One area that already justifies such an approach is the use of tax on energy in order to combat the emission of CO2. Such taxation when independently fixed in the member countries will obviously distort competition between member states. A uniform approach is thus appropriate. An additional argument is that the EU is committing itself to a common reduction of CO2-emission level through ratification of the Kyoto Protocol.</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: Any agreement made between seller and buyer is only valid as long as both parties see a benefit in continuing the partnership. It is therefore very important that any agreement is considered fair to both parties. In order to maintain this, all obligations should be met properly. The sellers ability to keep his part of the contract may to certain degrees be influenced by non-contractual matters (such as political or socio-political issues) arising from events outside control of the buyer. In order to avoid this occurring, it is important to also allow other trade to develop in parallel with the energy supply agreement, and thereby integrating the economic bonds.</p> <p>The Bellona Foundation specifically recognises that the EU can play an active role in developing the economy in Russia—as well as in other supplying countries—thereby also developing a framework for tackling environmental issues relating to transportation, energy and infrastructure in these countries. We are already actively pursuing this in Russia through our offices in Murmansk and St. Petersburg.</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: Regarding energy security, then coal remains comparatively unique because it can be readily stockpiled and thus provide an extended period of energy independence in a crisis situation. Environmentally the merits for continued use of coal can only be defended if the fuel is decarbonised and the resulting carbon dioxide (CO₂) emissions sequestered. This requires development of “clean-coal” technology and investment in a CO₂-infrastructure. The use of CO₂ for enhanced oil recovery (EOR) is one possibility that is currently being evaluated by all the major oil companies operating in the North Sea and the EU should look more closely at such opportunities.</p> <p>Regarding natural gas, the possibility for preserving internal reserves by importing more gas and thus increasing storage of gas to cover critical periods, should be considered. Such management can be guided by framework regulations issued by the EU. But the EU would presumably also have to cover the financing of such build-up and control the draw down.</p> <p>The risk of physical disruption of energy supplies is greater for natural gas than for any of the other energy carriers. Alternatives that can be transported in bulk on vessels have less risk of being disrupted at the same time. However supply of natural gas by pipelines cannot at present be wholly replaced by LNG-transport. It is thus a sensible precaution to support build-up of supply capacity from various sources by entering into secure contracts with different suppliers, thus allowing them to make longer-term investments in infrastructure, multiple supply paths, and distributed production facilities.</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: As above, through multiple fuels and supply sources.</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: The potential barriers to entry for new “alternative-fuels” in competition with established energy-carriers is well recognised and needs to be addressed. The goal for government intervention between different energy-carriers should be to stimulate solutions compatible with environmental constraints and sustainable development, in transportation, power generation and industry sectors.</p> <p>The fiscal mechanisms by which government intervention can occur, should not distort the long-term competitiveness between the potential new energy alternatives. It is thus</p>

	<p>important that each is assessed according to its overall life-cycle benefits, taking into account all environmental and economic (and possibly socio-economic) benefits. Again this is just re-emphasising the importance of ensuring a “level playing field”.</p>
<p>8.</p>	<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: The Bellona Foundation has been actively working with nuclear waste problems in Russia for nearly 10 years. We maintain that the EU should make it clear that nuclear waste is a national problem, whereby each country must be responsible for disposal of its own waste. The EU should not allow any trade and export of nuclear waste to other countries. Such nuclear waste trade reduces the national efforts to find solution to the waste handling problems, while increasing the dangers associated with transportation, security and public concern.</p> <p>To ensure that the nuclear waste problem is solved by the generation who have benefited from the nuclear energy production, the EU should put forward a deadline for when each of the countries should have produced solutions for their waste problem. This deadline should be as short as possible to ensure that the problems are solved in the near future.</p>
<p>9</p>	<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: (i) Improved fuel efficiency and energy savings, (eg. unified building standards, regulations for fuel consumption in new vehicles, more use of combined heat and power, improved urban transportation).</p> <p>(ii) Fuel switching to lower carbon content fuels (eg. coal to gas, cogeneration, biomass co-firing, use of municipal waste).</p> <p>(iii) Capture and sequestration of carbon from fossil energy sources. This is particular relevant with respect to transportation and sustainable mobility, (ie. don't let the carbon molecules get into the vehicle because you'll never get hold of them again!).</p> <p>(iv) Promote the wider introduction of hydrogen through development of large-scale production facilities, hydrogen infrastructure, and introduction of commercially competitive hydrogen products. Hydrogen is a “zero-emission” energy carrier that can be commercially produced from a wide variety of sources ranging from poor quality coal through to natural gas, hydroelectric power and eventually new-renewables. The use of hydrogen in fuel cell-vehicles will reduce vehicle complexity and improve efficiencies compared to current “alternative fuel” options that will incorporate on-board reformers. Furthermore with economies of scale such a hydrogen economy can be commercially competitive with current practice. (See also question 14 below regarding hydrogen.)</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: This target will probably not be reached without a co-ordinated regulatory framework within the EU. However given this, then the specific mechanisms through which member states attain their goals (and preferred technology choice) can readily be left more open to local and regional circumstances.</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: Probably both, at least for complex buildings. It should also be employed for new private houses. For existing private houses, then special incentives have to be developed and offered.</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: Restrict use of cars within inner cities, and provide improved cheap public transport. Promote the use of “zero-emission” solutions as these are in the long term most cost-effective because they tackle both the question of local air quality and greenhouse gas emissions. Use a balance between regulation and market mechanisms to improve the quality of air in inner cities.</p> <p>The Bellona Foundation is currently developing a strategy for promoting a “<i>European Clean Air Act</i>” which would specify zero-emission vehicles at a credible date in the future. Despite substantial resistance in USA—primarily from industry—we feel that the emission goals set by the <i>California Air Resource Board</i> have stimulated constructive thinking by the vehicle manufacturers and fuel companies. There are considerable lessons to be learnt regarding how the “<i>US Clean Air Act</i>” has evolved and we are currently promoting a similar strategy for the EU based upon lessons learnt.</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: The Bellona Foundation believes that the EU must have a coherent policy promoting sustainable “zero-emission” energy solutions in the four key arena’s designated by: (i) Politics, legislation and fiscal measures; (ii) Industry, technology, R&D; (iii) Society, consumers, education and media; (iv) Finance, investment, and capital. It is important to recognise how these arenas are inter-related so that measures and initiatives will support and promote one another in all four arenas simultaneously.</p>
14	<p>Any other questions or proposals: Yes!</p> <p>How does the EU move from “Talking to Walking the Hydrogen Way”?</p> <p>The Bellona Foundation has a goal of ensuring a 5% usage of hydrogen within the EU energy market by 2010, with this increasing to 10% contribution from hydrogen by 2015. To achieve this we have a clear vision regarding the incremental steps (and decisions) that need to be made today, in order to arrive at the specified goal. [The EU has a not-dissimilar goal of 20% new alternative fuels by 2020.]</p> <p>We have a structured approach regarding for example the role of demonstration projects—how does one develop these to become anchor points for local, and subsequently regional infrastructures for hydrogen distribution? How do these then link in with existing natural gas infrastructures in Northern Europe, and an emerging CO₂-infrastructure within the North Sea Basin. Furthermore there is a commercial role for CO₂ in conjunction with enhanced oil recovery (EOR) before we can manage to attain competitive production of hydrogen from new-renewable sources. How do you develop these without undermining one or the other?</p> <p>The above issues, are just a couple among many related topics that we are currently promoting into the public debate, media, and as part of our collaboration with industry partners. Where are the key “drivers”—individuals, companies, regulations, media, etc. And what about major barriers—technology, seed capital, venture funding, misinformation, prejudices, poor knowledge and lack of detailed data!</p> <p>These are all issues which are currently being debated within our national arena in Norway, but which we feel have a considerable relevance to the on-going debate regarding energy, security and the environment within the EU.</p>

Thank you for replying to this questionnaire.