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Report on the Analysis of the Debate of the Green Paper on Energy Efficiency

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The “Green Paper on Energy Efficiency, *Doing More with Less*” published on 22nd June 2005, opened a public consultation posing 25 questions to all interested parties in order to facilitate the evaluation of their opinions regarding energy efficiency and to give guidance for the outline of the Action Plan on Energy Efficiency. The period for replying to the public consultation ended on 31st March 2006.

THE DEBATE

The debate on the Green Paper was complemented by a series of events in order to promote a better understanding of the initiative and better prepare the future Action Plan on Energy Efficiency. Commissioner Piebalgs and Commission services participated in a number of events in several Member States and received delegations from several sectors and Member States at the premises of the Commission.

CONTRIBUTIONS

Aware of the importance of this issue, interested parties submitted a large number of contributions with concrete proposals and observations. The Commission services received a total of 241 contributions to the debate. (31 from NGOs, 66 from Member States and public Bodies, 106 from industry and private sector and 38 from private citizens). A list of the contributors is presented in Annex I. Annex III includes charts depicting the sectors and countries represented in the contributions.

The analysis also includes the recommendations made in the report¹ of the European Parliament as well as the results of public events in which Commission services participated.

THE ANALYSIS

An exhaustive analysis of the results has been carried out following a methodology that provided a precise quantitative and qualitative evaluation of the opinions of the stakeholders, taking into consideration their significance. To simplify the analysis of the outcomes (approximately 5000 answers), sets of keywords have been built reflecting the different opinions, suggestions and criticism from the participants to the debate. These keywords were the object of a statistical assessment and are presented in parallel with the most practical, original and innovative ideas. The sets of keywords were built for each question and the results provide the number of stakeholders from the different groups (NGOs, Member States and public bodies, industry and the private sector and private citizens) that support each opinion. A comprehensive list of the keywords and samples of results for each question have been enclosed in Annex II.

¹ Adoption of Vidal Quadras Report on EE Green Paper is foreseen on 31 May 2006.

The analysis of the debate was made question by question and the main conclusions are expressed in the following paragraphs.

This document is an objective analysis which reflects only the opinions of the contributors to the debate, and not necessarily the opinion of the Commission Services.

- **Question 1 – How could the community and the Commission in particular, better stimulate European investment in energy-efficiency technologies? How could funds spent supporting research in this area be better targeted?**

The answers delivered a clear message that there is a need for **sensitisation and information**. Citizens, local authorities and industry are often not aware of the possibilities they have to improve energy efficiency, neither of the implementation of technology nor of the funding possibilities to develop it.

Contributors claimed that funds would be better spent on demonstrating and validating the potential of current technology, avoiding the situation in which good solutions stay in closed boxes without delivering results. Stakeholders need to know that technology exists, is effective and works.

Specific research is also supported, meaning that research should be driven by specific needs – creating a solution to solve a particular problem, providing more flexibility and being more effective. Audits should be carried out to assess where to act.

The use of passive options in the housing sector (like natural ventilation and solar shading), is regarded as having a great potential for reducing energy consumption and these should have further support.

The use of tax incentives and other schemes should be used to promote market transformation, making energy-efficient solutions available on a commercial scale.

Further development of active measures like Clean Coal Generation Technology, Combined Heat and Power, electric/hydrogen vehicles, thermal insulation programmes and others should be supported as they represent a great potential for improved energy efficiency.

Financial support could also, according to the contributors, be targeted to promote simulation models that could easily say how effective equipment is, what the real cost of implementing would be, what the benefit would be and how long it would take to pay back the investment.

- **Question 2 – The emission trading mechanism is a key tool in developing a market-based response to meeting the goals of Kyoto and climate change. Could this policy be better harnessed to promote energy efficiency? If so, how?**

There is general agreement by the participants to the debate that the Emission Trading Scheme (ETS) is a key tool to meet Kyoto objectives and improve energy efficiency.

To make it more effective, some participants in the debate (mainly from the industry sector) state that its scope should be expanded by including additional sectors like transport, aviation and buildings, as well as other greenhouse gases. NGOs stress that benchmarking practices across Europe could also be a way to improve its effectiveness without creating market distortions, and the setting up of ambitious but real targets would boost action.

Certificates and allowances should be awarded based on energy efficiency practices/achievements and not only on the history of emissions. Reducing the number of allowances and auctioning them would be beneficial because it would encourage energy efficiency and would make investments take place where they would be cheaper (improving cost effectiveness).

The ETS should be integrated with other policies like the Combined Heat and Power, Large Combustion Plant and the IPPC Directives, boosting energy efficiency but always aiming at reducing bureaucracy and making the system more transparent, practical and appealing.

- **Question 3 – In the context of the Lisbon Strategy aiming to revitalise the European economy, what link should be made between economic competitiveness and a greater emphasis on energy efficiency? In this context, would it be useful to require each Member States to set annual energy-efficiency plans, and subsequently to benchmark the plans at community level to ensure a continued spread of best practice? Could such an approach be used internationally? If so, how?**

There is general agreement among contributors that energy efficiency plans would be beneficial in promoting sustainable development and boosting EU economy. Member States should follow EU guidelines putting forward Action Plans to improve energy efficiency and disseminate best practices. However, it is suggested not to have annual reports but rather with a periodicity of 3 to 5 years².

These action plans should have clear targets per sector. They should also have a strong emphasis on SMEs where creativity is more common and accepted.

In order to reduce bureaucracy (burden of several existing parallel policies) the reporting, evaluation, comparison and benchmarking would be more efficient if prescribed by an EU template, easy to use and analyse.

An integrated approach, meaning one clear plan for all energy policies (environment, transport, economic, housing, etc.) would be most effective as it would multiply the information and reduce bureaucracy.

A cost-benefit analysis (assessing the most promising policies/measures), together with the setting of international standards would be very useful to create effective harmonized action across Europe.

Setting indicators to measure the Action Plans` performance and making reports public would make Member States more responsible and action more effective.

On the other hand, there are remarks from the contributors that some regions/Member States already have energy efficiency plans, and that they just need to be stimulated and effectively implemented, not overburdened by more policies.

- **Question 4 – Fiscal policy is an important way to encourage changes in behaviour and the use of new products that use less energy. Should such use play a greater role in**

² Action plans are now required every 3 years by the new Directive on Energy end-use efficiency and energy services.

European energy-efficiency policy? If so, which sort of measures would be best suited to achieve this goal? How could they be implemented in a manner that does not result in an overall increase in the tax burden? How to really make the polluter pay?

The contributions to the debate show a very clear support for fiscal policy and the improvement of the current fiscal practices.

Fiscal policy could be improved by lowering VAT or giving other tax incentives for investments in clean technologies/energies (insulation, renewable energies, solar shading, heat pumps, Combined Heat and Power and others) in industry and households.

A higher focus should be given to the transport sector by raising taxes for less efficient models based on energy consumption or CO₂ and particulate matter emissions.

An EU-wide fiscal policy would be very much welcome in order to avoid incoherence and put industry or citizens at a competitive disadvantage. This policy must include a neutral net result, meaning that the tax increase on non-energy-efficient services must be compensated by reductions on labour or certain energy-efficient activities. It should also oblige Member States to use the revenues of such policies on energy efficiency measures instead of earmarking them for other initiatives and thereby unbalancing the aim of the fiscal measure.

Targeted low interest loans for renewal or implementation of energy efficiency appliances are also proposed, as well as higher taxes for low performance buildings in all sectors (households, industry, public buildings and others) and for energy-efficient technologies with high benefits that are not reinvested in research for energy efficiency.

There is also a call for “cost-reflective pricing”, showing the consumer (in a very clear system similar to labelling) how much they are paying for or saving with improved energy efficiency.

- **Question 5 – Would it be possible to develop State aid rules that are more favourable to the environment, in particular by encouraging eco-innovation and productivity improvements? What form could these rules take?**

State aid in favour of energy efficiency is supported and welcomed by participants in the debate. State aid rules should be simple, practical and transparent, removing barriers for the effective implementation of energy efficiency measures.

Projects should be submitted to an accurate evaluation and those with energy efficiency issues should be prioritised.

The revision of the EU Guidelines on State Aid should include energy efficiency related investments, but maximizing the potential of existing measures/rules is essential.

The market often gives the right incentives and signals, so state aid taking the form of tax exemptions should take place in limited periods just to stimulate market opening and they should be applied carefully in order to avoid market distortions.

State aid should also prioritise education, transforming people in ways that make things work. State aid should also only be used as a start-up incentive or seed capital and for a short period.

- **Question 6 – Public authorities are often looked to for an example. Should legislation place specific obligations on public authorities, for example to apply in public buildings the measures that have been recommended at Community or national level? Could or should public authorities take account of energy efficiency in public procurement? Would this help build viable markets for certain products and new technologies? How could this be implemented in practice in a way that would promote the development of new technologies and provide incentives to industry to research new efficient products and processes? How could this be done in a manner that would save money for public authorities?**

A large number of contributions from NGOs, private citizens and the private sector state that public authorities should definitely play an exemplary role by investing in energy efficiency, renewable energy sources (RES) and driving market demand and professional capacity (design and application of technology).

The implementation of clean technologies in public buildings should be mandatory and should be promoted/shown to the public – setting the example and showing citizens that their public authority succeeded and they can do the same. Building and public lighting infrastructure management should also be given more attention.

With the exception of public authorities, participants in the debate believe that energy efficiency should also be mandatory as a requirement in public tenders and procurement; however, there is an urgent need for information and training of the staff involved so that the requirement becomes a reality.

Concerning procurement, a clear and easy EU regulatory framework for public procurement is needed, together with guidance and promotion of best practices and also the possibility of joint procurement between public authorities (reaching better deals with volume purchases).

NGOs proposed that the European Commission should build a “road map” detailing opportunities, costs and benefits of efficiency improvements, identifying the biggest potentials.

- **Question 7 – Energy efficiency funds have in the past been used effectively. How can the experience be repeated and improved? Which measures can be adopted usefully at: international, EU, national, regional and local levels?**

It is generally admitted by participants in the debate that current initiatives still have a big potential to develop. Action should be directed towards the synchronization, assessment and re-prioritisation of existing policies in order to take full advantage of them.

“Green” ethics and behaviour should be encouraged and embedded in peoples` minds because the steering engine for action is society. Local and regional energy agencies have a major responsibility in this area, so they should be further promoted and be prepared to manage local projects, deliver advice and expertise based on local conditions, seek local opportunities for energy efficiency and manage knowledge transfer programs. For this purpose, structural and cohesion funds should be used to finance capacity building and promote energy efficiency.

Energy efficiency funds should be developed taking into account local conditions and funds should be targeted to where the potential is bigger. Even though there is strong support for the

creation of these funds, no mention is made regarding who is going to pay for them. A transparent and detailed analysis should be carried out to benchmark projects and business cases leading to bigger profits and robust decisions.

According to contributors, energy efficiency funds should also be developed through Public-private partnerships as they become more robust and effective.

- **Question 8 – Energy efficiency in buildings is an area where important savings can be made. Which practical measures could be taken at EU, national, regional and local level to ensure that the existing Community buildings directive is a success in practice? Should the Community go further than the existing directive, for example extending it to smaller premises? If so, how could the appropriate balance be achieved between the need to generate energy-efficiency gains and the objective of limiting new administrative burdens to the minimum possible?**

A large number of contributions (mainly from industry/private sector) states that the focus should be on implementing the current Energy Performance in Buildings Directive and to assess the cost-effectiveness of the measures undertaken. Only then should the review be carried out.

On the other hand, there is also a large number of contributions (mainly from NGOs) stating that the revision of the directive should be carried out as soon as possible, including buildings with less than 1000 m², as well as mandatory efficiency measures like Combined Heat and Power, renewable energy sources, integrated heating networks, heat pumps and other measures.

The revision of the directive should also include specific regulations for insulation, solar shading, blinds and windows as well as stricter obligations for the refurbishment of old buildings.

The system of certificates for buildings (something similar to labels) should be further promoted by energy agencies and shown to the public in order to raise awareness. This system should also come together with funds for performance diagnosis (audits) and inspection of buildings.

The difficult implementation of the directive was due to the lack of expertise for designing, building and implementing energy-efficient structures and equipment. It is urgent that the Commission supports and monitors the development of this expertise.

Buildings management, through Energy Services Performance Contracting (ESPC) or without, should be further encouraged as it represents a big savings potential and it could easily be implemented (especially if the company is paid based on the energy reductions it achieves).

- **Question 9 – Giving incentives to improve the energy efficiency of rented accommodations is a difficult task because the owner of the building does not normally pay the energy bill and thus has no economic interest in investing in energy-efficiency improvements such as insulation or double glazing. How could this challenge be best addressed?**

To start with, most contributors state that a proper implementation of the Buildings Directive is needed.

A system of certificates (ABC rating) should be mandatory for every building and should be reflected with every transfer of property influencing the price. In this way, owners would have an interest in having efficient buildings as they would have an added value and the buildings would be easily rented³.

To make such a system work, information campaigns on the meaning of the certificates and on the available energy-efficient technology are fundamental.

According to many contributors, tax incentives could also be used as a tool to encourage energy efficiency investments from owners. ESCOs could also be encouraged as a specialised company would have the responsibility of guaranteeing energy saving measures.

To mediate the “conflict” between the owner and the tenant, an authority should be created in order to find and propose solutions where both the tenant and the owner could benefit.

The improvement of standards necessary to rent a house should also be carried out, together with energy audits for buildings, making sure that Member States comply with the standards.

- **Question 10 – How can the impact of legislation on the performance of energy consuming products for household be reinforced? What are the best ways to encourage the production and consumption of these products? Could, for instance, present rules on labelling be improved? How could the EU kick-start research into and the subsequent production of the next generation of energy-efficient products? What other measures could be taken at: international, EU, national, regional and local levels?**

The current labelling system is widely recognised as a success story, but it should be applied to a larger range of products, and include more information about costs and savings. This information must be kept simple and easy to read. The life time cost of managing a product should also be assessed and displayed on the label.

The contributors consider that standards for labelling should be revised every 3 to 5 years in order to keep the labelling system for appliances dynamic. A better labelling system should also be implemented for vehicles, as they represent a significant share of energy consumption and source of inefficiency. Clear and simple labels could lead the way in the market shifting to efficient vehicles.

Most important, to make the whole system work, information campaigns are necessary to stimulate “labelling awareness” and to encourage the option for new, more efficient technology. The campaigns should not be conventional due to the risk that nobody pays attention. Think outside the box and create innovative ways of approaching the public, to provide food for thought but in a way that people really think about it, have been mentioned by several contributors.

³ The obligation for such a system exists already in Directive 2002/91/EC.

More research should be conducted in order to increase product efficiency and most important, reduce standby consumption, which is significant (5 to 10% of total consumption).

It is widely admitted by contributors that VAT reductions should also be allowed for efficient appliances and VAT increases for inefficient ones.

Mandatory minimum standards for energy efficiency in products should also be implemented on a large scale as well as benchmarking.

- **Question 11 – A major challenge is to ensure that the vehicle industry produces ever more energy efficient vehicles. How can this be done? What measures should be taken to continue to improve energy efficiency in vehicles and at which level? To what extent should such measures be voluntary in nature and to what extent mandatory?**

The encouragement of efficient vehicles should be carried out using incentives to develop a market for hybrids, fuel cells, stop and start, and to discourage sports cars, all-terrain or prestige pollutant vehicles. This could also be accomplished by implementing mandatory requirements for car manufacturers regarding efficiency, labelling and power.

Citizens and industry/private sector mention in their contributions that the taxation of vehicles should also be better fitted and more ecologically fair, meaning that the tax should be calculated taking into account the consumption of the car as well as CO₂ and particulate matter emissions. Other fiscal measures could be implemented to discourage car usage and encourage clean vehicles and fuels.

Some contributions (especially from NGOs) state that voluntary agreements from manufacturers are generally ineffective and policies do not work if they are not mandatory and touch the “pocket” of producers and consumers, while others favour the current voluntary alternative.

An EU-wide system of labelling could be further developed for cars, giving consumers an easier way to realise what kind of car they are buying and the benefits they would have from that, allowing a better choice. This labelling system should be accompanied with information campaigns to make the labels more “visible” and effective.

Eco-responsibility should be stimulated more among consumers, either with the acquisition of vehicles or during their use.

- **Question 12 – Public information campaigns on energy efficiency have shown success in certain Member States. What more could and should be done in this area at: international, EU, national, regional and local levels?**

There is a very widespread agreement that public awareness campaigns are essential to make any policy work, however they need to be more visible in the media, factual and appealing/innovative. There is a need for a change in people’s behaviour in order to make policy work.

If well managed, these campaigns could be self supported by sponsorships, so they could be simply contracted by objectives with publicity agencies.

However, the debate has shown that campaigns must be simple, clear and deliver information concerning costs and savings, and also linking energy efficiency and health to have a real impact.

An integrated approach is also needed - coordinating information campaigns, legislative, regulatory or policy measures and bringing together public administration, media and industry in order to better fit the approach and collect bigger profits.

A clear focus should be given to schools and universities where minds are more open and represent a major power-influencing segment of society.

Benchmarking best practices across the EU or making EU-wide information campaigns is beneficial; local and regional energy agencies could play a major role at their local levels as they know the specific conditions and how to better act and achieve results, so they should be given more significance and encouragement. They could act in capacity-building, training trainers to deliver appropriate messages in an effective way. It is widely recommended not to carry out this campaign from “Brussels”, but to promote it using structures that are closer to the public and stakeholders.

- **Question 13 – What can be done to improve the efficiency of electricity transmission and distribution? How to implement such initiatives in practice? What can be done to improve the efficiency of fuel use in electricity production? How to further promote distributed generation and cogeneration?**

The answers deliver a clear statement supporting the decentralization of energy generation and the further use of Combined Heat and Power, renewable energy sources and Clean Coal Generation Technology, as they represent a considerable added value for security of supply and less dependence on external suppliers. However, no clear strategy or proposal on how to change the situation is presented.

There is a considerable support by participants in the debate for more research on reducing grid losses, either by reinventing the materials used or by using software/devices to control grid peak demand or evaluate patterns of consumption, leading to better grid management. For this purpose, mandatory minimum standards for grid losses would be welcome, as well as more funds to support research and the renewal of old grids that are still operating.

Action towards the harmonization of rules across the EU would be welcome as it would facilitate grid connections and trans-national distribution.

- **Question 14 – Encouraging electricity and gas providers to offer an energy service (i.e. agreeing to heat a house to an agreed temperature and to provide lighting services) rather than simply providing energy is a good way to promote energy efficiency. Under such arrangements the energy provider has an economic interest that the property is energy efficient and that the necessary investments are made. Otherwise, electricity and gas companies have an economic interest that such investments are not made, because they sell more energy. How could such practices be promoted? Is a voluntary code or agreement necessary or adequate?**

There is strong support among contributors for the promotion and creation of Energy Service Companies (ESCOs). ESCOs could have a major impact on reducing energy consumption in households, office buildings and even industry, especially SMEs. However, these companies

will only work effectively if the consumers are aware of the possibilities they are offered so strong information campaigns are needed to show consumers the benefits they would have from contracting energy services. For this purpose, an entity like an “energy advisor” should be created in local authorities or in local and regional energy agencies in order to provide advice to consumers on the strategy to follow in each case.

Voluntary agreements for large companies to become more efficient are supported; however there are also a number of statements (mainly from NGOs) against voluntary agreements, stating that they will never work because the goal of companies is to sell as much energy as possible.

Market-based mechanisms would be more effective than regulations as they would stimulate competition and they would lead companies to make improvements and offer a better service (more efficient) for a lower price. However, no further innovative ideas are proposed.

Partnerships between energy suppliers and ESCOs could be a good solution and should be implemented in pilot areas, be monitored and evaluated to assess their real potential and effectiveness.

- **Question 15 – In a number of Member States, white (energy efficiency) certificates have been or are being introduced. Should these be introduced at Community level? Is this necessary given the carbon trading mechanism? If they should be introduced, how could this be done with the least possible bureaucracy? How could they be linked with carbon trading mechanisms?**

NGOs state that white certificates are a good scheme and should be supported and further implemented at EU level. However, a real and coherent analysis of the current experiences should be carried out, comparing them at EU level and assessing how to go forward. The implementation or extension of white certificates schemes should be done carefully and consistently with existing measures, bringing added value and not duplicating.

The white certificates scheme could be linked to the carbon trading mechanism through a transparent and EU-coherent measurement scheme that would control the attribution of certificates according to the savings. These initiatives could start on a pilot scale and then be disseminated if they were effective.

On the other hand, a number of contributions (mainly from industry/private sector) state that the attribution of white certificates is too complex and would represent a burden. This situation is even more aggravated by the fact that the certificates are not applicable to citizens that represent a substantial share of energy consumption and the potential for energy savings. They could be effective if designed as a market mechanism and linked to mandatory targets and product standards.

- **Question 16 – Encouraging industry to take advantage of new technologies and equipment that generate cost-effective energy efficiencies represents one of the major challenges in this area. In addition to the carbon trading mechanism, what more could and should be done? How effective have been the steps taken so far through voluntary commitments, non-binding measures adopted by industry, or information campaigns?**

In order to further promote efficiency in industry, some contributions claim that further financial assistance should be given to the acquisition and implementation of new efficient technologies but this procedure should be controlled for compliance by public authorities. However, no proposals are made concerning who should pay for that financial assistance.

The establishment of voluntary agreements with industry should be given preference over regulation, but NGOs state that mandatory targets would also be welcome in specific sectors.

Information should be given both to users/consumers and to industry, giving them an overview of the technologies available to achieve energy efficiency and to better design voluntary agreements.

Long (i.e. longer than 1, 2 or 3 years depending on the sector) pay back periods are also mentioned, especially by big industrial players, as impediments. When made aware, small and medium-sized enterprises seem to take a longer term approach.

Tax benefits should be given as an incentive to invest in energy-efficient equipment and for the replacement of old equipment, taking into account the costs of replacing (production and disposal) that equipment. The equipment should also be subject to a labelling system regarding energy consumption and efficiency, making the decision from consumers easier. The introduction of minimum performance standards to place a product on the market should be carried out, specifically to avoid unfair competition from cheap imports, going along with the effective implementation of existing rules.

- **Question 17 – A new balance between modes of transport – a major theme of the strategy set out in the White Paper that the Commission adopted in 2001 on a European transport policy for 2010 – is still a top priority. What more could be done to increase the market share of rail, maritime and inland waterway transport?**

In order to increase the market share of these transport modes, it is believed by participants in the debate that EU-basis integration is needed. A good articulation is fundamental for an effective transportation of goods all over Europe.

Pricing infrastructures like highways according to the efficiency (not only fuel but also transport efficiency) of the vehicles is also a strategy that contributors indicate to stimulate a shift to rail or waterway transport.

Offering better services regarding flexibility, regularity and punctuality would very much increase the use of rail transport, for example.

In cities, the pricing of infrastructures integrated with more attractive packages for public transport would encourage a modal shift and increase mobility in cities along with reducing pollution.

Better land use planning would favour efficient transport modes, together with more investment in intelligent transport and transport management systems.

That the White Paper on Transport Policy is difficult in its implementation is clear from the debate. The shift toward clean transport modes is taking place very slowly.

- **Question 18 – In order to improve energy efficiency, it is necessary to complete certain infrastructure projects from the trans-European transport network. How should the investment needed for infrastructure projects be developed, using what sources of financing?**

At a first stage, a transparent impact assessment of the projects should be made and those with bigger revenues/benefits in a shorter period in a cost-effective way should be prioritised.

The Polluter Pays Principle is largely supported by the contributors. Revenues from road pricing, congestion charges, and fuel taxes should be used in increasing the energy efficiency of infrastructures and building new efficient ones.

The Public-private Partnerships could also be an effective instrument as they would be a means of increasing investments, creating more jobs and have a catalyst effect on Community support.

An integrated financing scheme involving several simultaneous funds (public, EU, EIB, EBRD, extra-budgetary funds and auto financing in highways) could also be a solution to develop, probably with good revenues.

Contributors state that these funds should be managed by the governments; however, once again, the contributions deliver no proposal regarding who should pay for these funds, who should bear the burden.

- **Question 19 – Among the measures that could be adopted in the transport sector, which have the greatest potential? Should priority be given to technological innovations (tyres, engines...), particularly through standards defined jointly with the industry, or to regulatory measures such as a limit on fuel consumption of cars?**

There is a strong message supporting the implementation of clear and binding fuel efficiency standards as well as characteristics of tyres, air conditioners and other equipment that has a major influence on vehicle fuel consumption.

It is believed that more incentives should be given for a shift from combustion engines to energy-efficient or non-motorized vehicles. These incentives could go from tax incentives (for efficient vehicles) or penalties (for less efficient vehicles) to reductions in infrastructure charging.

There is also a suggestion from stakeholders for a more holistic approach. Not focusing on individual innovations but to create a balance between different policies, mandatory and voluntary.

A very important factor pointed out by stakeholders to make transport policies work is information and awareness. Citizens should know what they can and should do and what their responsibility is. The introduction of eco – driving would be a major achievement, but drivers need to realise that they, themselves, would profit from less aggressive driving. This issue should be tackled in strong, effective information campaigns.

Contributors welcome also more research , particularly in fields such as traffic management, as its inefficiency represents sometimes a major barrier to the implementation of new policies.

It is believed that the taxation of high consumption company cars could also be further pursued in order to discourage their use. Some NGOs and citizens stated that these vehicles represent a considerable share of inefficient vehicles that is too often disregarded.

- **Question 20 – Should public authorities (State, administrations, regional and local authorities) be obliged in their public procurement to buy a percentage of energy-efficient vehicles for their fleets? If so, how could this be organised in a manner that is technology neutral (i.e. does not result in distorting the market towards one particular technology)?**

A considerable number of contributions (mainly from NGOs and industry/private sector) state that public authorities should take the leadership, giving credibility to efficient technologies and policies and creating a market for efficient products and equipment and they should be obliged to acquire a percentage of fuel-efficient vehicles. On the other hand, some contributions (mainly from Member States/Public Institutions) state that the lack of expertise and budgetary constraints make this task not welcome.

A strategy to implement this could consist of establishing consumption limits for each vehicle and performance targets for the whole fleet. This would also mean that the scope would be enlarged and energy efficiency criteria would not only be applied to heavy duty vehicles.

Some contributors say that financial support for the acquisition of efficient vehicles would be necessary, as well as guidelines to implement the efficiency criteria in procurement and the definition of all the recognised technologies at international level in order to avoid market distortions. However, once more there are no proposals regarding where to get such financial support from.

- **Question 21 – Infrastructure charging, notably paying to use roads, has started to be introduced in Europe. A first proposal was made in 2003 to strengthen the charging of professional road transport. Local congestion charges have now been introduced in some cities. What should be the next steps in infrastructure charging? How far should ‘external costs’ such as pollution, congestion and accidents be directly charged to those causing them in this manner?**

There is a strong statement supporting the Polluter Pays Principle – those who use roads, cause accidents or contribute to congestion should be penalized for that.

NGOs claim that inefficient vehicles should be taxed more than efficient ones in order to internalise external costs and that the revenues from these schemes should be used to promote and improve green fleets for public transport and public authorities.

It is stated by NGOs that local congestion charges should be expanded and implemented in more cities. An EU framework would be useful to provide the necessary conditions and guidance for implementing infrastructure and congestion charges. In these terms, a clear and transparent method to calculate the cost of the charges should be implemented.

The revision of the “Eurovignette” Directive in due time is also mentioned by participants in the debate in order to avoid market distortions and avoid that all the costs are paid by society. However, no proposals are made regarding the issues to revise or the timeframe.

There is also a considerable number of opinions that do not support congestion charges, as they would bring increases in product prices and would generate social discrimination.

- **Question 22 – In certain Member States, local or regional energy-efficiency project financing schemes, managed by energy-efficiency companies, have proven very successful. Should this be extended? If so, how?**

There is a common agreement among the contributors that these schemes should be supported and enlarged. The EU should further encourage the use of structural or regional development funds in energy efficiency projects by local, regional and national powers. This would promote efficient alternatives and avoid inefficient ones.

Contributors believe that the development of these schemes would be more effective if done through Energy Services Companies (ESCOs) using performance commitments, long duration services and other similar solutions.

The dissemination of these practices and projects would be most useful and it would have a multiplying effect. It would also be useful for stakeholders to be aware of the possibilities they have and their benefits.

Partnerships between local companies and local authorities would be very useful as they would grant more funds and would lead to more coherence in projects.

- **Question 23 – Should energy-efficiency issues be more integrated in the Union's relationships with third countries, especially its neighbours? If so, how? How can energy efficiency become a key part of the integration of regional markets? Is it necessary to encourage the international financial institutions to pay more attention to demand management issues in their technical and financial assistance to third countries? If so, what could be the most effective mechanism or investments?**

It is widely requested that the European Union should improve its efforts in persuading third countries to adopt energy efficiency. This could be done firstly through the dissemination of best practices that are currently implemented in the EU.

Providing sustainable aid would also be very useful, meaning that the EU should allocate aid to sustainable projects that promote energy efficiency and renewable energy sources in third countries.

The creation of international energy standards would also be a very useful instrument to facilitate business relations and promote energy efficiency.

Regarding the promotion of European energy-efficient technologies and companies, the EU should take the leadership in energy efficiency and also support the engagement of the International Energy Agency.

Partnerships between SMEs could be useful as they would have the possibility to explore new markets and represent a good way to provide important expertise in third countries.

Contributors state that the EU should put pressure to make sure that energy efficiency projects are given top priority by International Financial Institutions, giving the example of the

European Bank for Reconstruction and Development (EBRD) that provides free energy audits before any lending.

- **Question 24 – How could advances in energy-efficiency technology and processes in Europe be put to effective use in developing countries?**

According to participants in the debate the simple provision of know-how to developing countries would open a market for European energy efficiency products and technologies. Knowledge transfers would be very useful, but always taking adaptation into consideration due to different cultural and socio-economic factors.

Participants suggest that the EU could stimulate cooperation programs between organizations, centres, associations and companies from third countries and EU countries. Clean Development Mechanism (CDM) projects would be a good solution for this and a good vehicle for dissemination of good technology. This would also create a market for exporting energy efficiency goods and technologies.

Most important is to give support for capacity building, helping third countries in creating their own structures to develop and implement technologies and policies.

- **Question 25 – Should the Union negotiate tariff or non-tariff advantages within the World Trade Organisation (WTO) for the energy-efficient products and encourage other members of WTO to do the same?**

According to a number of participants in the debate this kind of measure should be pursued in order to develop a market for energy-efficient products accessible to a broader range of countries, but in reality it is not the same in every country, so the negotiations should take this into account, avoiding market distortions.

Contributors suggest that the focus should be put on EU products with the best energy efficiency potential and take advantage of that within the negotiations – the best available technology should be available without barriers (e.g. high costs of implementation and the need for a large number of licences to import and export new energy-efficient equipment).

Disregarding the significance of tariffs or non-tariffs, according to contributors, setting minimum energy efficiency standards to place products in the market would also be beneficial as it would reduce unfair competition from other markets.

CONCLUSION

There is strong support for energy efficiency, demonstrating the win-win potential of a determined and resolute strategy for this initiative.

Ironically, considering the very strong interest and regardless of the contributor's specific sector, the analysis of the public consultation delivered a clear message that there is a lack of information. Citizens, industry and stakeholders in general are often not familiar with the instruments (technology and other policies) they can use to improve energy efficiency. This fact is also clearly identified in the recent Eurobarometer 64.2 (Attitudes towards Energy, January 2006), showing that the main instrument that European citizens miss is information. In synthesis, nearly all the contributors call on the Commission Services to address energy

efficiency through information, particularly using innovative approaches. Contributors request a bigger focus

on education in schools and universities. Their argument is that this would provide much needed expertise on energy efficiency issues, and also provide a “multiplier” for actions.

The importance of legislative and normative instruments is recognised by the contributors to the debate, however there is a strong call for less policy and more action, meaning that current legislation is not implemented effectively in all Member States yet and is not delivering its full potential. A very large number of contributors believe that local and regional energy agencies should be further promoted as they have a big potential to improve this situation. Furthermore, they argue that these Agencies are more aware of local conditions, meaning they could easily and effectively implement energy efficiency measures, including providing information. For the participants in the debate, the creation of “energy advisors” in local and regional energy agencies or public authorities would also be beneficial as a simple but effective vehicle for information to citizens/stakeholders. Finally, better use of public and EU financing such as structural funds or through International Financial Institutions is also mentioned as a means to better implementation.

The validation and dissemination of best practices is also strongly advocated by stakeholders as having a big potential. Projects and measures that were successful in a certain area should be widely disseminated and supported in areas with similar characteristics. They believe that this could be better done at EU level using adequate benchmarks. There is also support to further analyse the costs and benefits of the white certificates schemes at EU level.

The debate shows that Public Authorities have a major role to play on this issue, as they could act as a role model for improving energy efficiency while further developing the market for energy-efficient products and services. This could be strengthened by the introduction of energy efficiency in procurement guidelines at EU level. To make this work, Energy Services Companies (ESCOs) should be further encouraged. By their nature, Energy Services Companies could improve dramatically energy efficiency in public buildings, office buildings and particularly SMEs, that often have no staff allocated to energy issues and where energy efficiency is often disregarded. A stronger emphasis should be given to SMEs as they often have more flexibility and creativity to develop or implement new ideas, in particular due to the very high potential of job creation in the energy efficiency sector.

The current labelling system is considered very effective and there is a strong call to have it implemented on a broader range of products, including industrial equipment, vehicles and housing in a very clear and “user-friendly” manner. The system should also be updated regularly.

Regarding energy efficiency in buildings, many contributions support that the Energy Performance of Buildings Directive should be reviewed in order to have it applied to buildings smaller than 1000 m² and promote the use of energy-efficient solutions. But most indicate that this should be done in due course, giving the possibility first to fully implement the current directive and assess the impact of its measures.

The transport sector is also singled out by contributors as having a big potential and need for energy efficiency improvements. The participants in the debate recognise the need to significantly improve vehicle efficiency particularly through effective minimum efficiency

standards. The taxation of vehicles according to their efficiency is mentioned by NGOs as an instrument to promote a shift to more efficient vehicles, together with better land use planning, infrastructure pricing and intelligent traffic management systems.

The energy production sector has a huge potential for energy efficiency improvements mainly through the introduction of more efficient power plants (refurbishing or replacing old ones). Combined Heat and Power is widely supported by NGOs but also by industry as representing a huge potential if effectively connected to district heating grids by recovering heat in power generation and reducing energy consumption for heating in households.

Combined Heat and Power is also mentioned regarding decentralised energy production as it is very flexible and would give a strong contribution to reducing losses in energy distribution grids, together with more research on alternatives to new grids and the renewal of old infrastructures.

Concerning the market opening to efficient products and technologies, there is a clear support from debaters for the use of fiscal policies. Reducing VAT for energy-efficient products, using tax incentives for energy efficiency investments and other fiscal instruments would be widely welcomed as it could represent a major advantage on improving the overall energy efficiency and boosting economic competitiveness.

Finally, it is widely recognised by the participants to this wide debate that the EU could and should do more to spread better energy efficiency practices globally, both as regards emerging economies and developing countries, as well as in multilateral agreements and organisations such as G8 and in the International Energy Agency.

A FURTHER STEP

This analysis of the Green Paper on the energy efficiency debate represents the views of thousands of people that have debated for months on the need and the way forward to implement energy efficiency. Clearly, there are broad ideas that receive either strong consensus or even unanimous support, while other ideas are more divisive. This is the reason why the present document is one of the elements that will be used by the Commission to prepare its energy efficiency action plan. The other element will be an Impact Assessment currently underway. As requested by the Conclusions of the European Council on March 24, 2006, the Commission will carefully analyse these documents and in line with what was announced in the Energy Efficiency Green Paper it will submit later this year to the Council and to the European Parliament an Action Plan on Energy Efficiency.