Opinion of the European Economic and Social Committee on The possible positive or negative impact of increased environmental and energy requirements (policies) on the competitiveness of EU industry

(2008/C 162/14)

On 20 September 2007, the Slovenian presidency asked the European Economic and Social Committee to draw up an exploratory opinion on

The possible positive or negative impact of increased environmental and energy requirements (policies) on the competitiveness of EU industry.

The Section for Transport, Energy, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 23 January 2008. The rapporteur was **Mr Wolf**.

At its 442nd plenary session, held on 13-14 February 2008 (meeting of 13 February), the European Economic and Social Committee adopted the following opinion by 128 votes with 1 abstention.

Contents

1. Summary and conclusions

1.1 The Committee has focused this opinion on issues surrounding energy policy and climate change. It will examine the question of under what circumstances advantages or disadvantages arise for EU competitiveness if energy consumption and the emission of greenhouse gases are significantly reduced. Here it focuses mainly on the economic aspects.

1.2 Given the interdependency between competitiveness, economic performance, jobs and citizens' social prosperity, the matter under consideration is also of major importance for Europe's social future.

1.3 The Committee concludes that the challenges linked to this bring with them an opportunity to generate a wave of innovation and investment and thus to strengthen the economy and the (global) competitiveness of European industry. If this succeeds, the advantages outweigh the disadvantages, inter alia in terms of the impact on employment and strengthening the European social model.

1.4 A key prerequisite for this is that, in the areas of energy, the economy and research, the right policy measures are taken, the right principles are applied, and overregulation is avoided. Failing this, there is cause for concern that the disadvantages — excessive use of overly expensive energy, loss of economic competitiveness, relocations, putting the European social model at risk — will outweigh the advantages and allow crises to develop. Affordable energy is the life blood of modern industrial and post-industrial societies with all of their social and cultural achievements. Therefore, the cost of energy must not — beyond what is necessary to protect the climate and because of scarcity of resources — be further increased by additional state measures.

1.5 The guiding principle of energy policy targets and instruments must therefore be the greatest possible efficiency. Only then will the economic costs and the social burden on the public be kept to a minimum. The measure of this regarding climate change is the cost of avoiding the emission of a particular quantity of greenhouse gases (e.g. CO_2). Regarding energy consumption and security of supply, the best measure is energy efficiency. (In each case, it is important to define these measures meaningfully.) Therefore, European energy and climate policy instruments should focus on economic energy efficiency measures and the use of economic and sustainable energy technologies.

1.6 The guiding principle of European policy measures should be an energy and climate policy that encourages cooperation involving partnerships between the public and private sector and brings together and makes best use of the economic, geographic and resource-related strength of each Member State. For example, techniques for using renewable energy should be used in those locations in Europe where the best conditions (in particular weather conditions) exist, including appropriate transmission pathways, and not where the biggest national subsidies happen to be. Beyond this, however, efforts should be made towards global cooperation on the development and use of energy-saving and greenhouse gas-avoiding technologies.

1.7 Although the climate issue is urgent, the speed of the required changes and adjustments to energy supply and consumption should not overstretch the capacity of business and society to make them. Yardsticks include depreciation cycles, the time it takes to train people, the stages of development of new technologies, and, in particular, adjustments to the social contract, training measures and other societal changes. Research and development have a major contribution to make.

1.8 Reflecting a bottom-up approach, the initiative of all stakeholders and the diversity, diversification and flexibility of technical and economic methods should be facilitated and encouraged. Only from diversity and healthy competition

between the various approaches, innovations and methods will the strength needed to withstand individual crises arise and the most efficient technologies emerge. Accordingly, a wide-ranging energy mix is needed, which means that no useful technology ([1]) should be abandoned prematurely.

1.9 When establishing energy policy targets, regulations and instruments, physical limits should be taken into consideration. It is imperative that over-regulation and duplication leading to contradictions should be avoided. The latter lead to misallocation and thus to unnecessary cost increases that damage prosperity and competitiveness. Just as importantly, these targets and instruments must have long-term credibility, as very costly investments and new developments will be made based on them. An economic return on these investments, and the jobs and prosperity that follow, can only be achieved if they are used for long enough.

1.10 Wherever possible, market incentives such as sensibly defined allocation of emission rights should be used in preference to detailed regulations. Affordable energy remains a prerequisite for global competitiveness, for basic social cover, and for the accumulation of capital by European industry that is necessary to fund new investment and R&D expenditure.

1.11 In addition, significantly increased and wide-ranging research into and development of climate-friendly and resource-saving energy technologies is necessary, along with training of the necessary engineers, scientists and technicians. New techniques for using renewable energy that are still a long way from being economically viable should be actively further developed, but should not be prematurely forced upon the market through expensive subsidies (or artificial purchase prices). Instead, this money should be invested in increased research and development of sustainable and CO_2-avoiding energy technologies until these approach viability. For this reason, the emphasis of all measures should be placed on the innovative development and efficient use of energy-saving, climate-neutral and competitive energy technologies.

1.12 However, global climate change targets that are binding on all significant emitters are necessary if a global level playing field is to be created. Only then can a scenario be avoided where the — in other respects — high energy costs in the EU lead to detrimental worldwide distortions of competition, beginning with the gradual relocation of energy-intensive industries without having in any way contributed to climate protection ('carbon leakage'). The Committee supports the efforts of all European stakeholders towards this aim (e.g. Bali conference). Until it is achieved, competition-distorting burdens on these industries must be avoided. Without these industries, Europe cannot remain competitive in the long term.

([1]) Notwithstanding individual decisions by Member States on nuclear energy.

2. Starting point and general comments

2.1 **Significance of energy.** The development and intensive use of energy-consuming industrial processes, machines and transport systems has made a significant contribution to achieving our current standard of living: Energy has freed people from the burden of the heaviest physical labour, multiplied their productivity, provided heating and lighting, revolutionised agricultural yields, and made previously unimaginable mobility and communication possible. Energy has become the life blood of modern social market economies and is a prerequisite for the supply of basic needs.

2.2 **The problem.** Most forecasts predict that, as a result of population growth and the developmental needs of many countries, worldwide demand for energy will double (or even treble) by 2060. It is well known that two significant developments stand in opposition to this, which need worldwide political action if serious conflicts and economic crises are to be avoided: **the depletion of resources and the protection of the environment.** While the main environmental problem in this context is the human contribution to climate change ('climate gases' or 'greenhouse gases', in particular CO_2, methane and nitrous oxide), the impact of any measures on biodiversity, health and sustainable use of resources and waste must also be taken into account.

2.3 **European Council.** Accordingly, the following energy policy priorities were outlined in the spring 2007 Council presidency conclusions:

— enhancing the security of supply;

— maintaining the competitiveness of European economies and the availability of energy at affordable prices;

— promoting environmental sustainability and combating climate change.

2.3.1 The Committee, has drawn up major opinions on this subject that point the way forward. These are listed in the appendix ([2]).

2.4 **Request from the Slovenian Council Presidency**. The Slovenian economic minister, Mr A. Vizjak, informed the Committee in a letter that the Slovenian presidency's priorities in the area of industrial policy would include the aim of a highly energy efficient European economy emitting as few greenhouse gases as possible. For this, incentives to innovate and to use environment-friendly technologies and products were particularly important. The letter went on to say that a corresponding action plan for sustainable industrial policy was being prepared, and that the European Council would discuss it at its spring summit in 2008. In this context, the Committee was asked to produce an opinion on the *possible positive or negative impact of increased environmental and energy requirements (policies) on the competitiveness of EU industry.*

([2]) The Committee's relevant opinions from the last four years are listed in the appendix.

2.5 **Competitiveness, economic performance and social prosperity**. Recent publications ([3]) from the Committee's Consultative Commission on Industrial Change ([4]) (e.g. *58 concrete measures to ensure the success of the Lisbon strategy*) have made clear the close relationship between competitiveness, economic performance and the room for manoeuvre for the necessary social provision. For this reason, this opinion focuses on the relevant economic aspects ([5]) of the issue.

2.6 **Industrialised countries.** Highly developed, industrialised countries have a special responsibility in this area, firstly because they emit a higher proportion of these gases, and secondly because they are ahead in terms of the development of new technologies. These include energy saving, higher energy efficiency, the use of emission-free (or low-emission) energy sources ([6]) and the development of appropriate technical processes. The task is to identify the right course of action against the background of the tension between what is necessary, what is desirable, and what is economically realistic, and then to take such action in a focused and decisive manner.

2.7 **Costs** ([7]). However, the use of climate-friendly types of energy is, in most cases, associated with significantly higher costs ([8]) for individual consumers and industrial processes. Examples are wind and solar energy ([9]) (in Germany alone, around EUR 4 billion were spent in 2007 on consumer-subsidised renewable energy ([10])) or coal-fired power stations with carbon capture and storage (CCS) that are currently under development. Heat pumps and vehicles with reduced CO_2 or even CO_2-free fuel consumption also require more complex and hence more costly technology.

2.8 **Risks.** If these considerable costs are not offset by equivalent savings from reduced consumption of resources, and as long as the competing third-country economies are not bearing similar costs, this will place a burden on European competitiveness. '*Europe can be an example for the fight against climate change, but Europe cannot accept unfair competition from countries that do not place environmental limits on their businesses*' ([11]). Staff costs (wages and social security contributions) are already significantly higher in Europe than in the emerging economies of countries such as China and India, and by themselves place considerable strain on Europe's competitiveness; any further, unilateral measures inspired by climate change that increase production costs would be very dangerous.

2.9 **Opportunities.** To be sure, in the event that a significant majority of non-European states, such as China, India and the USA, adopted similar climate protection measures, the opportunity would arise for Europe to export the energy technologies that it had developed, thus not only benefiting the European economy, but even contributing to a reduction in global consumption and CO_2. Furthermore, economic history shows that periods of near-crisis were often followed by a greater willingness to innovate, and the development and use of new technologies, which then led to an upswing and economic growth in the longer term (albeit, to date, with increased energy consumption). For this reason, the emphasis of all measures within Europe should be placed on the innovative development and efficient use of energy-saving, climate-neutral and competitive energy technologies. At the same time, foreign policy efforts towards appropriate global agreements should be vigorously pursued: the results of the Bali conference demonstrate that there is at least room for further negotiation (see point 2.11).

2.10 **Problems.** However, if these efforts are not successful, serious problems will arise. Firstly, sectors of industry whose production costs are largely determined by energy and CO_2 costs will no longer be competitive on world markets. They will cease their production here and move it to countries with lower energy costs and without CO_2 costs, taking the associated jobs with them. In certain industries, such as aluminium and cement ([12]), this process has already begun. The Commission is certainly aware of the problem thanks to an impact assessment ([13]); however, in the Committee's opinion, a good solution needs to be found quickly in this area if damage to the economy is to be avoided. Above all, alongside the relocation of existing industries, international capital will no longer invest in new plant in Europe, but in regions with lower energy and CO_2 costs.

2.10.1 **Relocation and leakage.** Moreover, whilst such relocations would lead to less CO_2 being emitted in the EU, but on a global level, just as much CO_2 as ever would get into the atmosphere, if not more; if the relocated production uses cheaper technologies than those used here now or in the future, this will generally mean that even more greenhouse gases will be released (with the exception of hydro power, e.g. in Norway). Transport-related increases in CO_2 emissions must also be factored in.

([3]) Own-initiative Opinion of the Consultative Commission on Industrial Change on *European environmental rules and industrial change* CESE 696/2007, Rapporteurs: Mr Pezzini and Mr Nowicki.
([4]) CESE-2007-09, preface by Mr Sepi.
([5]) Some of the social aspects that are also relevant for this opinion will be dealt with in the forthcoming own-initiative opinion on *The social implications of transport and energy developments.*
([6]) There have been disappointments here, too, as in the recent case of the hopes sparked by biofuels. See TEN/286.
([7]) On this subject, see the European Commission's assessment of the costs of the EU climate package, published on 23 January 2008: 0,45 % of GDP or EUR 60 billion a year or around EUR 3 per citizen per week (more than EUR 600 per year per family of four).
([8]) With the exceptions of hydro power and nuclear energy.
([9]) The storage technology that would become necessary if supply were to increase would lead to a further dramatic rise in costs.
([10]) And on the jobs thus created.
([11]) From President Sarkozy's speech on 13 November 2007 to the European Parliament in Strasbourg.
([12]) See CCMI/040, *The development of the European cement industry.*
([13]) 'Commission eyes end to free pollution credits', EurActiv, 10/01/08, http://www.euractiv.com/en/climate-change/commission-eyes-free-pollution-credits/article-169434.

2.10.2 **Energy-intensity in the economy.** If this were to happen, the European economy would have lost important industrial production and jobs, without having achieved anything for the climate. At the same time, the EU would have achieved (apparent) short-term ([14]) success in the competition for economic energy efficiency, i.e. so-called energy intensity (energy consumption/gross domestic product) because energy-intensive industries would have emigrated.

2.10.3 **Service sector.** Even the service sector, which accounts for a large proportion of Europe's economic output, can only prosper in the long term if European industry remains competitive, and is thus also affected by excessively high — compared to the rest of the world — energy costs.

2.11 **Global agreements.** Thus, binding and balanced global agreements to reduce emissions of these climate gases must — not just for the climate's sake — be the priority aim of all international efforts in this area, as a noticeable impact can only be expected if the significant emitters of CO_2 such as China, India and the USA also take on board the relevant climate-protection measures. Therefore, the Committee welcomes any efforts by the Community, the Member States and such organisations as the G8, the UN, UNESCO, OECD, IEA, etc. to move in this direction, e.g. the Bali conference that has just taken place.

3. Specific comments — Analysis and conclusions

3.1 **Energy and climate policy**. An effective energy and climate policy must ensure a significant reduction in energy consumption and greenhouse gas emissions, prepare society and relevant stakeholders (e.g. architects, investors, entrepreneurs, teachers, pupils, the general public, consumers, etc. — as this is a matter that concerns everyone from one end of the chain to the other) for the necessary changes, and, at the same time, shape this process of change in such a way as not to impair the global competitiveness of the European economy, thus maintaining a balance between the objectives set out in point 2.3. This presents both challenges and opportunities.

3.2 **The challenge.** Both the growth in the global demand for energy and European energy and climate policies over the last few years have resulted in energy and its derivatives becoming significantly more expensive. In order to give equal priority to the three objectives set out in point 2.3 while generating the requisite capital for future investments in innovative technologies, energy should nonetheless be made available to the European economy at prices which are affordable as possible, notwithstanding growing global demand, and at the same time as ensuring requisite climate protection. Therefore, the cost of energy must not — beyond what is necessary to protect the climate and because of scarcity of resources — be further increased by additional state measures.

In terms of the individual measures required and their impact, there is a strong probability of clashes of interests between energy suppliers and energy users.

([14]) Specifically, as long as there is no generalised recession.

3.3 **Incentives and emissions trading.** To achieve this, sufficient market incentives are needed to ensure that the investment cycles result in the use of energy-efficient technologies, even where this may involve higher investment costs. If, despite their economic viability, no such investments are made, the obstacles involved need to be analysed and removed, since, in the vast majority of cases, investments in energy efficiency (see also point 4.1) are the cheapest way of preventing CO_2 emissions. In theory, emissions trading could be one such market instrument. However, substantial improvements are needed in current usage (see also point 4.3) if a specific quantity of CO_2 is to be saved at lowest cost. The overlap with instruments to promote renewable energy, and inappropriate incentives in the allocation of certificates, in particular the lack of a correlation between allocation and actual production (so that emissions trading effectively also amounts to a decommissioning grant), results in windfall profits, which have pushed up electricity prices by billions of euros. The full-scale auctions proposed by the Commission would if anything push these up even further.

3.4 **Real opportunities.** If we succeed over the next 15 to 25 years in focusing the numerous new investments and reinvestments occurring over this period on cost-effective, energy-efficient and lower emission technologies, climate protection may well have a positive impact on the competitiveness of European industry and thus present an opportunity for greater prosperity despite higher energy prices.

3.5 **Prerequisites and recommendations**. For this reason, some of the prerequisites for capitalising on these opportunities are discussed below, along with a few appropriate recommendations. A key prerequisite is that, in the areas of energy, the economy and research, the right policy measures are taken, the right principles are applied, and overregulation is avoided. The policy instruments must stimulate and facilitate the most economically profitable solutions; the quantitative targets must take into account the pace of the requisite restructuring that is compatible with a healthy economy. Yardsticks of the possible pace include depreciation cycles, the time it takes to train people, the stages of development of new technologies, and, in particular, adjustments to the social contract, training measures and other societal changes. Research and development have a major contribution to make.

3.6 **Broad action — diversity, diversification, flexibility and reciprocity**. Reflecting a bottom-up approach, the initiative of all stakeholders and the diversity, diversification and flexibility of technical and economic methods should be facilitated and encouraged, without giving preferential treatment to individual sectors. Only from a broad-based approach and healthy competition between the various options, innovations and methods will the strength to withstand individual crises arise and the

most efficient methods, technologies and optimal combinations thereof emerge. Accordingly, a wide-ranging energy mix is needed, which means that no useful technology ([15]) should be abandoned prematurely. The most effective way to ensure security of supply is by appropriate linkage of producers, suppliers and users through the supply chain, from the wellhead to the consumer. This requires reciprocal economic relations, i.e. secure investment conditions for foreign capital in the EU, and, conversely, secure conditions for EU investments in supplier countries.

3.7 **European policy measures and global cooperation.** European energy and climate policy should encourage cooperation involving partnerships between the public and private sector, bringing together and making best use of the economic, geographic and resource-related strength of each Member State. For example, techniques for using renewable energy should be used in those locations in Europe where the best conditions (in particular weather conditions) exist, including appropriate transmission pathways, and not where the biggest national subsidies happen to be. Beyond this, however, efforts should be made towards global cooperation on the development and use of energy-saving and climate-gas-avoiding technologies.

3.8 **Contradictory** ([16]) **and overlapping quantitative targets.** Ensuring the greatest possible economic efficiency will keep the economic costs and the social burden on the public to a minimum.

However, overlapping energy and climate policy targets lead to an overregulated system and to uneconomic solutions; they should therefore be avoided. The following example may serve as an illustration:

— The overarching EU climate objective of a 20 % reduction in CO_2 emissions over the 1990 to 2020 period, in line with the Council decision of March 2007, would result in a GDP loss ([17]) of between EUR 480 billion (European Commission estimate, 23 January 2008) and 560 billion (GWS/Prognos) ([18]) over the 2013-2020 period; this needs to be accepted and should therefore be the main guiding principle for further action.

— However, an additional ambitious target of a 20 % share for renewable energy sources would increase these costs further, since the costs of avoiding CO_2 in renewables are significantly higher than other CO_2 reduction measures.

— Further disadvantages and complications arise if actual economic energy efficiency (see point 2.10.2) is set as an additional, explicitly quantified target (20 %), given that the simplest way of achieving this target is for industry to relocate or — because of the way that energy efficiency is defined — to switch the energy mix from nuclear energy and coal to (significantly more expensive) gas and renewable energy sources ([19]). These undesirable side effects show that energy efficiency should not be an end in itself, but a **means** — admittedly a very important one — of sustainably achieving the three fundamental **objectives** set out in point 2.3.

The Committee therefore recommends that any climate protection targets should first be carefully and objectively assessed for their impact on GDP so as to safeguard the competitiveness of European industry and to ensure optimal allocation of resources while at the same time achieving the necessary reductions in greenhouse gases.

3.8.1 **Studies.** Studies ([20]) suggest that

— an objective of reducing EU CO_2 emissions by somewhat less than 20 % ([21]) is economically viable if policy makers and society succeed in consistent implementation of the most cost-effective measures (McKinsey bottom-up study, which precisely identifies the necessary and possible measures for this purpose); whilst other studies exist, which portray higher reduction targets as being economically viable, these are top-down studies that do not really show how this is to be done;

— the cost of each additional percentage point of CO_2 abatement rises increasingly steeply however (a cumulative GDP loss of EUR 480-560 billion, see point 3.8); thus, a target of reducing CO_2 by 20 % requires a costly switch of the energy mix from coal to gas and renewable energy sources;

— setting an additional renewable energy target of 20 % will cost many extra billions of euros, as this goal could only be reached through massively subsidised use of uneconomic (at least at the current state of the art) technologies.

3.8.2 **Balance among the objectives set out in point 2.2.** Bearing in mind the balance that is needed among the three energy and environmental goals set out in point 2.3, the aim of

([15]) Notwithstanding individual decisions by Member States on nuclear energy.

([16]) Carbon capture and storage (CCS) technologies currently under development could be particularly effective at reducing CO_2 emissions. However, this process lowers the energy efficiency in comparison to similar plants without CCS. Thus, there is a clear contradiction between CO_2 reduction and energy efficiency. In view of the large coal reserves that are still available, this loss of energy efficiency could temporarily be absorbed. In this case, however, energy efficiency must not be called for as an additional **quantitative target**.

([17]) Speech by Commission President Barroso, 23 January 2008.

([18]) Study by GWS/Prognos on behalf of the German federal economy ministry, October 2007.

([19]) The reason for this is the definition of energy efficiency as the ratio of primary energy consumption to GDP. Primary energy consumption by electricity producers is in turn calculated using what is known as the 'efficiency method'. This means that energy efficiency can triple if for instance a nuclear power station is replaced by wind or solar energy without saving even one kWh of electricity. Replacing a nuclear power plant by natural gas would also increase energy efficiency, even although CO_2 emissions would actually increase.

([20]) McKinsey, German Cost Curve for CO_2 Reduction, September 2007; EEFA, study for energy-intensive industries, September 2007.

([21]) To be more precise: 26 % in Germany; around 15-20 % across the EU as a whole.

the policy instruments should be to use economically attractive CO_2 reduction measures to achieve everything that can be achieved without damaging the economy. However, calls for a shift in the energy mix to an excessively high share of renewable energies — which, with technology at its current state of development, would be premature and therefore costly — and for an *economically* over-prescriptive target for energy efficiency would result in a misallocation of production factors across the entire economy ([22]) and would also involve a risk that European production would, in itself, no longer be able to meet the demand for particularly efficient environmental technologies. For example, a study by the European Commission ([23]) showed that CO_2 prices of EUR 20-25/t already significantly impact on the competitiveness of many industrial sectors.

3.9 *Research and development, training*

3.9.1 Increased research and development (R&D) along the entire energy chain is an essential element of the technological developments that are needed to open up new options, cut costs and improve efficiency when tapping into and promoting resources, in energy conversion and energy storage, and in end use by industry, transport, households and the private consumer. As the Committee has repeatedly stated, R&D funding should be massively increased if this is to be achieved. Such funding should also benefit from a reduction in heavy market subsidies for technologies that are very far from attaining market viability in their own right.

3.9.2 State support for energy research should focus on crucial basic research (e.g. catalysis, white/green biotechnology, materials research, nuclear fusion, actinide decay, etc.), while support for applied R&D should primarily come from business (including SMEs). Beyond this, intensive training of all the necessary specialists, from technicians to engineers and scientists, is needed, as is awareness-raising among all those indirectly involved with energy, including consumers.

4. **Specific observations and recommendations**

4.1 *On energy efficiency, a no-regrets option*

— Energy efficiency improves security of supply, cuts pollution and stabilises energy prices.

— At global level, enhancing energy efficiency could cut CO_2 emissions by about 6 Gt (billion tonnes) by 2030, at negative costs ([24]).

— Energy efficiency is the key to including non-European countries in a global climate protection agreement.

— A sine qua non of optimum energy efficiency is the removal of conflicts between different legislative objectives: tenancy law, recycling quotas.

— 'Measuring' the energy efficiency of a given country must focus on how its consumers actually use goods, and not exclusively on energy consumption over GDP.

— Where there are conflicting aims in respect of energy-powered goods, the focus should be on the product's active life.

— Energy efficiency should be promoted most heavily where there is potential for significant savings, i.e. mainly in buildings and power stations.

— Investment cycles and payback periods determine whether or not it is economic.

— These should also be a key factor in renewable energy (see the section on renewable energy for more details).

— Industrial plants that already comply with energy efficiency benchmarks must not be burdened with any additional costs through policy instruments such as emissions trading (e.g. auctions).

— The potential for higher global energy efficiency should be explored sector by sector ([25]).

4.2 *On renewable energy*

4.2.1 Renewable energy contributes to sustainable energy supply (greater security of supply, and virtually CO_2-neutral or CO_2-free energy production). In the longer term, it must do without subsidies and thus become significantly more efficient.

4.2.2 Hence, future support for and development of renewable energies should take the following into consideration, with a view to making support more economically viable:

— Support should be geared to achieving maximum economic viability.

— Lead markets should be developed mainly by putting suitable conditions in place and should be compatible with, and not at the expense of, existing sectors which have already proved their worth.

— Support instruments should give preference to the most suitable locations in the EU. Biomass should be used for energy where it was produced (transport costs).

— Renewable energy technologies that are still a long way from being economically viable should first be further developed through R&D instruments rather than being prematurely forced upon the mass market through expensive subsidies.

([22]) This is reflected in existing short-term political measures involving five-year plans for the — often national-level — shares of renewable energies and CO_2 allocations

([23]) 'EU ETS Review. Report on International Competitiveness', European Commission/McKinsey/Ecofys, December 2006.

([24]) McKinsey, cost curve.

([25]) In line with the IEA's approach.

— Support for energy efficiency and renewable energies should be in a meaningful way; the initial priority should be energy-efficiency measures, followed by moves to promote the use of renewable energies. For example, the planned directive on renewable energy and heating should provide for support for the use of renewable energy for the heating only of buildings that have first been renovated to reduce heating requirements.

4.3 *Further recommendations for action*

— Before setting future targets, the technical prospects for implementation should be analysed, together with economic and social implications. Targets should then be set on the basis of a European agreement, or indeed preferably a global one.

— Policy instruments should therefore aim to exert the desired influence (e.g. incentives for investment in economic measures, development of new markets), while avoiding undesired impacts (e.g. relocation of investments and high costs for business and consumers).

— Policy instruments should be more consistent than hitherto in taking climate, energy efficiency and capital efficiency into account on the basis of quantifiable values. The best measure here is the cost of preventing CO_2 emissions.

— The EU should tidy up its over-prescriptive set of instruments (emissions trading, support for renewable energies, support for cogeneration of heat and power, energy taxes, and regulatory law, with its proliferation of individual directives). Clashes between differing objectives need to be resolved; cost-effective measures must be given priority over those that are not cost-effective (in general, energy efficiency should have priority over the further development of renewable energies).

— Emissions trading should be changed in order to promote energy efficiency and avoid production shutdowns. In order to ensure that businesses have the necessary capital to invest in energy efficiency, certificates should not be auctioned, but instead be issued on the basis of efficiency benchmarks linked to actual production volumes. Emissions trading would then have just as strong an impact in terms of increasing energy efficiency as in the case of full auctions, but it would avoid negative repercussions, such as consolidating unnecessary electricity price hikes — windfall profits — and placing burdens on energy-intensive industries. The overlap with instruments to promote renewable energy, and inappropriate incentives in the allocation of certificates, should be avoided. Instead, the correlation between allocation and actual production should be taken into consideration (so that emissions trading does not become a decommissioning grant). In some sectors, auctioning would see production costs alone rise by over 10 %, thus blocking plans to raise salaries.

— Support for renewable energies should be harmonised throughout the EU so that wind farms and photovoltaic plants are constructed in the most suitable locations in the EU. Extensive support for renewable sources of heat, electricity and fuel should be provided not on the basis of regional needs but of local climatic (and transmission) conditions which are most conducive to efficiency.

— Energy as a production factor should be largely exempt from additional (i.e. additional to those incurred by the energy supplier and factored in to the relevant purchase price of energy) government-imposed energy and climate costs (emissions trading, support for renewable energies and cogeneration of heat and power, energy taxes, etc.), in order not to undermine global competitiveness and to avoid relocations. Only economically sound companies are in a position to undertake the steps needed to improve efficiency, develop new technologies and raise the requisite capital.

— The focus of global agreements should be on relative targets (energy efficiency, greenhouse gas emissions/GDP) so that countries with high potential for economic growth (and thus for increases in greenhouse gas emissions) have incentives to participate. These incentives should mainly take the form of technology transfer — like, for instance, the objective set by the AP6 forum ([26]) of six countries from the Asia-Pacific region — so that efficient technologies quickly reach regions where the need to catch up is most acute.

Brussels, 13 February 2008.

The President

of the European Economic and Social Committee

Dimitris DIMITRIADIS

([26]) The 'Asia-Pacific Partnership on Clean Development and Climate' is a new forum aimed at speeding up the development and use of clean energy technologies. Participating countries are Australia, Canada, India, Japan, Korea, and the USA. The aim is to work with business to achieve energy and climate goals in such a way as to promote sustainable economic development and the fight against poverty. The focus is on investment, trade and technology transfer.