

Opinion of the European Economic and Social Committee on the 'Proposal for a Directive of the European Parliament and of the Council on rear-view mirrors for wheeled agricultural or forestry tractors (Codified version)'

COM(2007) 236 final — 2007/0081 (COD)

(2007/C 256/06)

On 29 May 2007 the Council decided to consult the European Economic and Social Committee, under Article 95 of the Treaty establishing the European Community, on the abovementioned proposal.

Since the Committee unreservedly endorses the proposal and feels that it requires no comment on its part, it decided, at its 437th plenary session of 11 and 12 July 2007 (meeting of 11 July), by 145 votes to two and four abstentions, to issue an opinion endorsing the proposed text.

Brussels, 11 July 2007.

The President
of the European Economic and Social Committee
Dimitris DIMITRIADIS

Opinion of the European Economic and Social Committee on 'The definition of an energy policy for Europe (Lisbon strategy)'

(2007/C 256/07)

On 14 September 2006 (confirmed on 26 October 2006) the European Economic and Social Committee acting under Rule 31 of its Rules of Procedure decided to draw up an information report on *The definition of an energy policy for Europe*.

At the plenary session of 14 and 15 March 2007, it was decided to transform the information report into an own-initiative opinion (Article 29(2) of the Rules of Procedure).

The Section for Transport, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 19 June 2007. The rapporteur was **Ms Sirkeinen**.

At its 437th plenary session, held on 11 and 12 July 2007 (meeting of 12 July 2007), the European Economic and Social Committee adopted the following opinion by 126 votes with four abstentions.

1. Recommendations

in external energy relations as well as other potential measures.

1.1 Energy has become a central political issue with strong links to the Lisbon strategy for growth and jobs.

— Energy exercises a growing influence on the European economy. To meet the energy policy challenges of climate change, security of supply and competitiveness, EU needs to change into a highly efficient, low carbon energy economy.

— To this end, what is needed is a global approach and a Union-level debate about: how to curb Europe's demand for energy; ways of securing energy supplies by sources which are highly diversified, access to networks and a unified voice

— The creation and uptake of innovations, which will make this shift possible, require certain conditions and some specific measures at EU, Member State, regional and local levels.

1.2 More and better jobs are at the heart of the Lisbon strategy. When market conditions change, some jobs are lost in the energy sector. At the same time new energy solutions can be strong drivers for creating high quality jobs. Education and training are key facilitators.

1.2.1 In addition to employment, also other aspects of the social dimension of energy are central in the Lisbon context. This includes, in particular, a high quality public service at affordable prices. Civil society, including the social partners, need to be actively involved in energy policy development.

1.3 The EESC together with national Economic and Social Councils present the following recommendations on energy policy in the framework of the Lisbon Strategy, 'Energy Policy for a Knowledge Society':

- Scrutinise energy policies and other relevant framework conditions against the EU goals of an efficient, low carbon economy.
- Provide for a skilled and well motivated labour force by ensuring a high class system of education.
- Provide for sufficient public R&D, comparable with main competitors, and stimulate growth of private R&D funding.
- Develop international co-operation in the energy technology field, in particular with other big players. Monitor systematically energy technology policies and measures by main competitors and partners.
- Ensure availability of risk financing in the development and business start up stages of SMEs as well as for investments in new technologies.
- Ensure open and healthy competition in the energy markets in order to force enterprises to innovate. In the case of renewable energy network access may be crucial to successful innovation.
- Erase obstacles to investments which are needed to take new technologies into use. Planning and authorisation requirements slow down and even hinder investments. To decrease the risks of investment the regulatory framework needs to be predictable and stable.
- Ensure access of new technology to EU and global markets.
- Ensure a global level playing field, for instance a global price on CO₂ all the while ensuring that it does not become a commodity like any other, since a genuine reduction in CO₂ levels will influence the very survival of the planet.
- Ambitious targets can help to develop a strong position for EU on the global markets in energy efficient and renewable energy technologies. Targets and their deadlines need, however, to be carefully set, so that there are realistic possibilities to meet them.

— The choice of measures to actively support innovation has to be made with great care amongst the following, in order to render results cost-effectively:

- Funding of R&D
- Education and training
- Public awareness
- Price mechanisms, taxation
- Subsidies
- Binding targets and obligations
- Regulation and binding norms
- Voluntary standards, voluntary agreements
- Public procurements.

1.4 In order to achieve the urgent transformation of the energy sector which is needed, the pace of innovation needs to be accelerated. The Committee urges that particular attention be given to:

- measures to set a proper global economic price for carbon emissions,
- expanding public and private R&D to support new forms of energy and energy efficiency,
- using regulation (or other measures when more cost-effective) to drive faster progress in improving energy efficiency of products of all kinds,
- using public procurement much more proactively to drive higher energy efficiency standards, particularly in building.

2. Introduction

2.1 The EESC in collaboration with national Economic and Social Councils is to produce 'a summary report' in early 2008 on the Lisbon strategy for growth and jobs priorities. This Opinion on energy policy forms part of this Summary Report. It has been produced in collaboration with national Economic and Social Councils, with active contributions in particular from the French, Italian and Maltese Councils.

2.2 This Opinion has bearing on Section B — microeconomic reforms to raise Europe's growth potential of the Integrated Guidelines for Growth and Jobs 2005-2008. In particular it relates to guidelines 8 on strengthening competitiveness, 12 on R&D, 13 on innovation and ICT and 14 on sustainable use of resources⁽¹⁾.

⁽¹⁾ COM(2005) 141 final., Integrated guidelines for growth and jobs.

The European Council in March 2006

2.3 The European Council in the conclusions of its meeting in Brussels on 23-24 March 2006 welcomed 'the initiatives taken up by the European Parliament, the Committee of the Regions and the European Economic and Social Committee to increase ownership (of the relaunched Lisbon strategy for jobs and growth) at Community level. It encourages the European Economic and Social Committee and the Committee of the Regions to continue their work and asks for summary reports in support of the Partnership for growth and employment in early 2008' (Point 12 of the Presidency conclusions).

2.4 The European Council notes that 'the background in Europe is characterised by intensified competition from abroad, an ageing population, higher energy prices and the need to safeguard energy security' (Point 7 of the Presidency conclusions). It further 'confirms that the Integrated Guidelines 2005-2008 for jobs and growth remain valid. Within that framework it agrees on specific areas for priority actions concerning investment in knowledge and innovation, business potential, especially of SMEs, and employment of priority categories; as well as the definition of an Energy Policy for Europe' (Point 16).

2.5 On the issue of energy the European Council notes that Europe is facing a number of challenges in the energy field: the ongoing difficult situation on the oil and gas markets, the increasing import dependency and limited diversification achieved so far, high and volatile energy prices, growing global energy demand, security risks affecting producing and transit countries as well as transport routes, the growing threats of climate change, slow progress in energy efficiency and the use of renewables, the need for increased transparency on energy markets and further integration and interconnection of national energy markets with the energy market liberalisation nearing completion (July 2007), the limited coordination between energy players while large investments are required in energy infrastructure (Point 43).

2.6 In response to these challenges and on the basis of the Commission Green Paper 'A European Strategy for Sustainable, Competitive and Secure Energy' the European Council called for an Energy Policy for Europe, aiming at effective Community policy, coherence between Member States and consistency between actions in different policy areas and fulfilling in a balanced way the three objectives of security of supply, competitiveness and environmental sustainability (Point 44).

2.7 The European Council underlined that, to achieve this consistency both in internal and external EU policies, energy policy has to satisfy the demands of many policy areas. As part of a growth strategy and through open and competitive markets, it prompts investment, technological development, domestic and foreign trade. It is strongly linked with environment policy and is closely connected with employment, regional

policy and particularly transport policy. In addition foreign and development policy aspects are gaining increasing importance to promote the energy policy objectives with other countries (Point 45).

2.8 The Energy Policy for Europe (EPE) should be based on shared perspectives on long term supply and demand and an objective, transparent assessment of the advantages and drawbacks of all energy sources and contribute in a balanced way to its three main objectives: (Point 46 + 47).

- Increasing security of supply.
- Ensuring the competitiveness of European economies and the affordability of energy supply to the benefit of both businesses and consumers, in a stable regulatory framework.
- Promoting environmental sustainability.

2.9 In fulfilling these main objectives the EPE should:

- ensure transparency and non-discrimination on markets;
- be consistent with competition rules;
- be consistent with public service obligations;
- fully respect Member States' sovereignty over primary energy sources and choice of energy mix.

The 'Energy Package' 2007

2.10 The Commission is to present a Strategic Energy Review on a regular basis, starting in 2007. On 10 January 2007 the Commission published its first Review and a communication to the European Council and the European Parliament 'An Energy Policy for Europe' — the 'energy package'.

2.11 The point of departure of the Commission for a European energy policy is threefold: combating climate change, promoting jobs and growth, and limiting the EU's external vulnerability to gas and oil imports.

2.12 The Commission presents as the core energy objective for Europe that the EU should reduce greenhouse gas emissions by 20 % by 2020. The EU target needs to be seen in the context of the need for international action of industrial nations on climate change. When such a commitment exists, the EU will need to do more. The aim should therefore be to increase the target to a 30 % reduction by 2020 and 60-80 % by 2050.

2.13 The concern is not only about climate change, it is also about Europe's security of energy supply, economy and the well-being of its citizens. The Commission sees that achieving the objective also can limit the EU's growing exposure to increased volatility and prices for oil and gas, bring about a more competitive EU energy market, and stimulate technology and jobs.

2.14 In energy specific terms, meeting this overall greenhouse gas target will require the EU to reduce the amount of CO₂ from its energy use by at least 20 %, and probably more, within the next 13 years. It will mean the EU taking global leadership in catalysing a new industrial revolution.

2.15 To achieve this objective, the Commission also proposes to focus on a number of energy related measures: improving energy efficiency; raising the share of renewable energy in the energy mix, as well as new measures to ensure that the benefits of the internal energy market reach everyone; reinforcing solidarity among Member States, with a more long term vision for energy technology development, a renewed focus on nuclear safety and security, and determined efforts for the EU to 'speak with one voice' with its international partners, including energy producers, energy importers and developing countries.

2.16 The Review includes a ten-point energy Action Plan with a timetable of measures. A first package of concrete measures is presented with the Action Plan. This includes:

- a report on the implementation by the Member States of the internal market of gas and electricity as well as the results of an enquiry of the state of competition in these two sectors;
- a Plan for Priority Interconnections in the electricity and gas networks of the Member States so that a European grid becomes a reality;
- proposals to promote sustainable power generation from fossil fuels;
- a roadmap and other initiatives to promote renewables, notably biofuels for transport;
- an analysis of the situation of nuclear energy in Europe;
- a work sheet for a future European Energy Strategic Technology Plan.

2.17 The Energy Efficiency Action Plan which the Commission adopted on 19 October 2006 also forms part of the Action Plan. The Commission's Communication 'Limiting Climate Change to 2° — Policy Options for the EU and the world for

2020 and beyond' and the Strategic Review complement and reinforce each other.

2.18 The European Council endorsed fully the Commission's proposals at its Spring Summit on 8-9 March 2007. The Commission proceeds to draft detailed legislative and other relevant proposals in line with the Summit conclusions. A second Strategic Energy Review in two years' time will report on progress as Heads of State and Government have committed themselves to regularly discuss energy matters.

Previous Opinions on energy policy of the European Economic and Social Committee

2.19 The EESC prepared during its mandate 2002-2006 several Opinions on energy policy issues, in particular on the features and role of different energy sources and technologies. At its Plenary session in September 2006 the EESC finally adopted an Exploratory Opinion, based largely on these previous Opinions, on 'The energy supply of the EU: a strategy for an optimal energy mix' (?). This Opinion covered many of the issues brought up by the European Council in March 2006. The main conclusions of the Opinion were:

2.20 The EESC found that Europe needs to set a strategic goal of a diversified energy mix, meeting optimally economic, security of supply and climate policy objectives. All energy sources and technologies have, in relation to these objectives, benefits and drawbacks, which have to be taken into account in an open and balanced way.

2.21 Increased use of renewable energy sources has a potential that needs to be tapped. But even when the target for 2020 of 20 % renewables would be met, it was not seen likely that renewables can substitute fully the traditional energy sources in the foreseeable future.

2.22 All options have to be kept open. The scenarios for EU-25 referred to in the Opinion clearly support this conclusion. Even a scenario based on assumptions of the strongest developments of energy efficiency and increase of renewables did not render any energy technology obsolete without negative impacts on either environment or economy.

2.23 The present mix should be developed by political strategies towards less external dependence and more non-emitting sources available in Europe, bearing in mind that market actors make decisions on investments in various technologies.

(?) OJ C 318 of 23.12.2006, p. 185.

2.24 The EESC recommended developing a strategy for an optimal energy mix. In this context it is important to clarify the roles of the EU, Member States, independent authorities and market actors.

The strategy for an optimal energy mix was proposed to consist of the following elements:

- energy efficiency, including combined heat and power production;
- renewable energy sources including the use of biofuels for transport;
- energy efficiency in transports;
- even better nuclear safety and a solution to the question of spent fuel;
- clean coal technologies and preparing for re-increased use of domestic EU coal reserves;
- encouragement of investments in liquefied natural gas terminals;
- the right framework for sufficient investments in energy production and transmission;
- EU to speak with one voice as one of the strongest actors on the international scene;
- assessment of the impact of present and future climate and environmental policy measures on the other energy policy objectives;
- a global solution to post Kyoto climate policies, involving at least all major emitters;
- increased R&D efforts and EU support to energy R&D, both short and long term.

3. EESC comments on an energy policy for Europe in the context of the Lisbon Strategy

3.1 Energy is a necessity in a modern society. To meet our needs of food, heating in cold climate, lighting, transport, commodities and consumer goods as well as — increasingly nowadays — telecommunications and information processing — we need a secured supply of energy. But the way in which we fulfil these needs can and has to be changed. In face of the present challenges, in particular that of climate change, we need a paradigm change as a matter of urgency towards a highly efficient, low carbon energy economy.

3.2 Energy has a strong link to the Lisbon strategy for growth and jobs. To achieve the Lisbon goals we need sufficient energy at affordable and competitive prices. At the same time new energy solutions can, in particular if they are successful on global markets, be strong drivers for European competitiveness and creation of high quality jobs.

3.3 The general objectives of energy policy — competitiveness, security of supply and sustainability are and remain valid. The serious challenge of climate change requires curbing the growth of energy demand by much better energy efficiency and strongly increased shares of renewable and other low carbon energy technologies, like potentially in the future carbon capture and storage. Security of energy supply is also served by better energy efficiency as well as by diversification of sources and a unified EU voice in external relations. Competitiveness needs to be enhanced by an open market with well functioning and fair competition, including access to networks, while guaranteeing high quality public service.

3.4 Creating more and better jobs is central to the Lisbon strategy. As competition in the markets in general require better productivity, also enterprises in the energy market need to be more efficient. When jobs are lost in the energy sector workers concerned need to be duly supported. At the same time jobs in energy using sectors may be prevailed and increased. In particular, the thrust towards better energy efficiency and renewable energy and other developing technologies will create numerous, mainly high quality jobs.

3.4.1 The social dimension of energy policy needs due attention in the Lisbon framework. It covers the questions of employment and jobs as well as the availability of energy for everyone at affordable prices, i.e. high quality public service. Civil society, including the social partners, need to be actively involved in energy policy development.

3.5 The EESC has presented its detailed views on the above mentioned key energy policy issues in recent Opinions and will in due course produce Opinions on the legislative and other detailed proposals to be presented by the Commission based on the European Council's conclusions concerning the Energy Package.

3.6 In order to avoid duplicated work and to offer optimal added value to the energy debate, the EESC focuses in this Opinion on the relationship between energy policy and the underpinning vision of the Lisbon strategy of Europe as a knowledge society. In this Opinion we comment on the issues contained in the Energy package in relation to innovations.

The role of technology and innovation in meeting the energy challenges of this century

3.7 Politically set targets and measures set the framework, but technology and other innovation, including change in behaviour, are key to real progress. This is true for better energy efficiency, both in conversion and use. Innovation can play an important role in reducing dependence on external energy sources by enabling diversification of the energy mix. Innovation is definitely needed to decrease emissions of greenhouse gases by development and use of renewable energy sources, clean coal and other fossil fuels as well as safe nuclear power.

3.8 Innovation means renewal in a broad sense. It is about developing and taking new ideas into wide use, turning them into economic value. It covers technological innovation as well as new management and other organisational solutions. It takes place in industry, but also in services and the public sector. Research is often the source innovation, but certainly not always. Here the Committee would also refer to its Opinion on Research needs for a safe and sustainable energy supply ⁽³⁾.

3.8.1 Energy technologies, like more efficient combustion, windmills, solar collectors, or future fuel cells, hydrogen technology and fusion, are in the centre of attention. Equally important are flanking technologies, like materials development or meteorology, providing for efficient optimisation by better forecasts.

3.8.2 For more efficient energy use the range of relevant technologies is almost limitless; better insulation, less consuming electrical appliances, lighter materials, better industrial product and process planning, more efficient machinery. In this context the role energy intensive industries are important — if they don't provide for demand by investments and expertise, innovation in large parts of energy efficient technology for industry will stifle in EU.

3.8.3 Information and communication technologies offer a big potential. Applied in production, conversion and distribution of energy ITC can, as in any processes, provide for more efficiency and higher productivity. The same is true for safe and secure operations, including in particular of transmission networks. ITC-technologies help users and consumers master their energy use. One example with multiple benefits could be cutting peak loads by facilitating users' immediate reactions to price signals. In a wider context, use of ITC-technologies could substitute transport needs by, for instance, teleworking and conferencing.

3.8.4 We also need new ways — innovations — in operation and management of energy and energy related systems. The goal here is to ensure high quality services to an affordable price. Examples are management of safe operation of production and transmission systems and maintenance as well as operating the market (exchanges), peak management and daylight adjustment. And last but not least — efficient logistics can add much to both energy demand and better fuel management.

3.8.5 Innovation in behaviour is also needed. The consumer is the key player — a more intelligent energy use is up to each one of us, and this requires new ideas and more knowledge. There is a big challenge of better awareness and adequate consumer information to guide choices. Regional and urban planning as well as architectural solutions and building requirements can do much to support citizens' choices vis-à-vis energy;

to this end, official information campaigns urging efficiency energy use and savings should be promoted.

3.9 There is a need to come up with radically new solutions to problems, and change is needed urgently. Radical change takes time, and therefore it is important to start and allocate resources immediately. Meanwhile, existing best technologies should be taken broadly into use, for example to decrease energy use in households.

3.10 In order to lead innovation and investments in a cost-effective direction, the cost efficiency of upstream technologies should be quantitatively evaluated. One important example is the cost of different technologies for avoiding 1 ton of CO₂ — for instance windmills are much costlier than isolation of houses.

Conditions and political measures to enhance innovation

3.11 The creation and uptake of innovations require certain conditions and some specific political measures, both at local, regional, national and EU levels. As EU has the ambition to become world leader in energy efficiency and low carbon technologies, it is of crucial importance to scrutinise energy policies and other relevant framework conditions against this goal.

3.12 The first prerequisite for successful innovation is a skilled and well motivated labour force, supported by a high class system of education. Development of new technologies requires sufficient R&D as well as risk financing in the development and business start up stages of SMEs. Healthy and open competition forces enterprises to innovate. Market access, including globally, is necessary. In the case of renewable energy network access may be crucial to successful innovation. The regulatory framework has to be designed to enhance innovation, for instance by rewarding innovators specifically (example: the ETS does not reward those who have taken early action to decrease emissions). Overregulation stifles innovation.

3.12.1 Investments are needed to take new technologies into use. Companies need to be profitable in order to be able to invest. This is the case also for investments in better energy efficiency, even if the pay back period may be short. The energy business has been very profitable during the last few years, but still investments are low. It is known that planning and authorisation requirements and permits slow down and even hinder investments. To decrease the risks of investment the regulatory framework needs to be predictable and stable. As investments in energy infrastructure often have long pay back periods, the possibility to use some forms of long term contracts would be beneficial.

⁽³⁾ OJ C 241 of 7.10.2002, p. 13.

3.12.2 For a company to invest in development or use of new technology, it needs to be able to get return on the investment from sufficiently big markets. In most cases national markets are not big enough for this — increasingly access to global markets is a prerequisite for making the investment. Likewise important is global demand and a level playing field. Unilateral EU measures do not create demand elsewhere, although it may happen over time. For instance, a price on CO₂ can be an important incentive, but it would need to be global.

3.12.3 EU's strong position on the global markets in energy efficient and renewable energy technologies should be further developed and strengthened. EU's ambitions to be a frontrunner in climate policies by setting ambitious targets as well as in energy efficiency and renewable energy use can support this goal. This does, however, not work automatically. Targets and their deadlines need to be carefully set, so that there are realistic possibilities to meet them, otherwise the result may only be extra costs and possibly loss of jobs. For instance, relevant technologies need to be in the development pipeline close enough to be ready in time for target deadlines. Also investment cycles in different sectors need to be taken into account.

3.12.4 The EU seems to put emphasis on interference in the market as a means to enhance innovation, which may not be sufficiently effective. The US and some other countries rely more on public financing of R&D. Europe needs to increase public as well as private financing of energy R&D. Technology co-operation with the other big players should be developed, and their policies and measures should be systematically monitored. We also need much more cooperation between Member States and national and EU efforts need to be better coordinated, without eliminating competition. Closer cooperation between public research and enterprises needs to be fostered, both in planning and executing research agendas, in order to assure that research efforts lead to innovation. The proposed EIT could play a role here.

3.13 To actively support innovation, a combination of instruments is usually needed. Different phases of development and different market situations require different measures in order for them to be effective. In relation to measures needed to turn them into successful innovations on the market, technologies can be grouped into, for instance, three categories:

- 1) Far from the market, in the R&D phase: In these cases targeted support to R&D and demonstration is needed. Price signals, like a price on CO₂, are not sufficient.
- 2) Close to the market, a functioning technology but still too expensive for the markets: a price on CO₂ may be the right

incentive, as well as special support to ensure a fast growth of demand and thereby big production volumes.

- 3) A good product on the market, but low demand (examples are to be found in energy efficient technologies): The key issue is to raise awareness, which can be supported by energy auditing schemes and the like.

3.14 A broad choice in measures and instruments are available at EU, national and regional levels. The choice of measures for given objectives has to be made with great care in order to render results cost-effectively. The speed of action should be critically evaluated in order to avoid waste of resources and unintended implications. Measures that clearly serve both direct and indirect goals — no regrets-measures — should be implemented as soon as possible. More complicated, often new kinds of measures, like ways to set a market price for CO₂, should first be carefully studied. To avoid complication, unexpected side effects and sub-optimal solutions multiple measures for one objective should be avoided. When choosing measures to be used, it is also important to take into account the efficient functioning of the internal market — this has so far not always been the case.

3.14.1 Funding of R&D: Here the Committee would refer in particular to its Opinion on Investment in Knowledge and Innovation (Lisbon Strategy) INT/325. The EU, as a whole, lags clearly behind the US and some other major competitors. The 7th Framework Programme for R&D allocates altogether some EUR 4 billion over seven years to energy (except the construction of ITER), while the US Energy Bill proposes in the Federal budget \$4.4 billion for 2007 only, and increasing later. In addition to increasing public money to energy R&D, there should also be incentives for allocating more private funding to energy R&D, while fostering cooperation between EU-countries.

3.14.2 Education and training: In addition to efforts to upgrade the quality of education and training in Europe, energy needs to be made attractive as a career choice with positive perspectives for young people. As technologies change ever faster, lifelong learning is essential.

3.14.3 Public awareness: It is a big challenge to change the behaviour of each and every one of us towards smarter energy use. Schools and campaigns have their role to play. The education of our 'citizens of the future' on this topic could begin at primary school, since children are very receptive at this age to questions about the future of the planet and are eager to act. In professional spheres and companies, energy auditing based on, for instance, voluntary agreements have given good results.

3.14.4 Price mechanisms, taxation: Price signals can, if well designed, effectively support innovation by directing users' choices. As an instrument to decrease energy use in general, higher prices are not very effective — it is well known that price elasticity in energy is generally weak.

3.14.5 Subsidies: Well designed subsidies can effectively direct choices. In the early part of learning curves subsidies are often needed to counteract otherwise too high risks. In order not to distort competition, they can be used only in the framework of existing EU rules that is to address market failures. Subsidies need to be limited in time and gradually phased out. To boost energy efficiency, appropriate incentives need to be developed to help overcome the initial, up-front extra cost of energy efficient appliances with often short pay-back periods.

3.14.6 Politically set targets and obligations: These give a signal of a desired direction of development. As important for investment decisions are the actual political instruments implemented in order to reach the targets. When setting targets it has to be kept in mind that usually some parts of the economy gain while other loose, and overly ambitious targets may cause more harm than benefit. Presently there seems to be a tendency to set overall and in addition subtargets related to the same goal, for example targets on reducing CO₂ emissions and, in order to reach those, targets on increasing the use of renewable energy. This may lead to suboptimal solutions in reaching the overall goal. Both targets and especially chosen instruments need thorough impact assessments, like agreements with industry in Germany and Finland.

3.14.7 Emissions trading, green/white certificates: These are effective instruments, leading to the set targets if correctly designed. The costs are, however, difficult to estimate on beforehand and may vary very much. The larger the market and the number of market players for trading rights or certificates, the better. If applied to enterprises competing on a global market, the system would need to be global in order not to distort competition.

3.14.8 Regulation or binding norms: Carefully planned regulation may enhance innovation. In particular, regulation can be an effective way to get rid of outdated technologies. It can also stimulate innovation to impose energy efficiency in products by setting ambitious medium targets for raising efficiency standards. The risk of stifling innovation is, however, always present. In any case, it must be assured that regulation does not create market barriers.

3.14.9 Voluntary standards, voluntary agreements, certification: These are innovation-friendly policy instruments. They may not always lead to meeting their exact targets or objectives, but they facilitate big steps forward in innovation, practically without risk of negative side-effects.

3.14.10 Public procurement: Procurement can play a big role in enhancing energy innovation. Methods for this purpose should be developed and spread widely. Normally 'greener' procurement requires the use of life cycle analysis, and for this and other new methods the authorities often need further education. The EU rules for public procurement, which have to be respected, provide for 'greening' of procurement, by requiring state of the art solutions.

3.14.11 In order to achieve the urgent transformation of the energy sector which is needed, the pace of innovation needs to be accelerated. The Committee urges that particular attention be given to:

- measures to set a proper global economic price for carbon emissions,
- expanding public and private R&D to support new forms of energy and energy efficiency,
- using regulation (or other measures when more cost-effective) to drive faster progress in improving energy efficiency of products of all kinds,
- using public procurement much more proactively to drive higher energy efficiency standards, particularly in building.

Brussels, 12 July 2007.

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