

# EEAC

Network of  
European Environment and Sustainable  
Development Advisory Councils (EEAC)



## STATEMENT

### ENERGY EFFICIENCY

**Key pillar for a competitive, secure and environmentally friendly European Energy Policy**

**This EEAC statement is supported by the following EEAC Councils:**

<i>Austria</i>	Austrian Association for Agricultural and Environmental Research (OeVAF) Forum Sustainable Austria (FORUM)
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<i>France</i>	National Council for Sustainable Development (CNDD)
<i>Germany</i>	Council for Sustainable Development (RNE) Advisory Council on the Environment (SRU) Advisory Council on Global Change (WBGU)
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<i>United Kingdom</i>	Royal Commission on Environmental Pollution (RCEP) Sustainable Development Commission (SDC)

<sup>1</sup> The Minaraad does not (yet) subscribe the passage concerning ETS. The Council works on a recommendation concerning this topic, and prefers not to take any positions at this moment.

## 1. Introduction

In times of growing global concern about climate change, energy prices and intensifying resource conflicts, the European Union has recently gained momentum for ambitious policies on energy and climate change. Energy efficiency plays a pivotal role in this new policy agenda.

At its spring summit on 8-9 March 2007, the Council of the European Union adopted the “Energy Policy for Europe”, a comprehensive energy Action Plan for the period 2007-2009 (COM (2007) 1 final). The Council’s conclusions and the Action Plan are based on the European Commission’s Energy Review of January 2007, which laid out a comprehensive energy and climate-change strategy. The Network of European Environmental and Sustainable Development Advisory Councils (EEAC) welcomes the renewed commitment of heads of state and government for unilateral action on greenhouse gas mitigation and the overall targets for efficiency and energy from renewable sources. Now it will become important to convert commitment into action.

An important part of the new policy is the adoption of the Commission’s Energy Efficiency Action Plan, which aims at saving 20% of the European Union’s energy use compared to business-as-usual projections until 2020. More specifically, the Energy Efficiency Action Plan aims at accelerating the projected decline in energy intensity beyond the current trend of -1.8% per annum to -3.3% per annum. This, in turn, would lead to an absolute reduction of energy demand at a rate of -1% per annum, resulting in 20% additional savings until 2020. EEAC welcomes this target, as it would represent a significant acceleration of past trends and goes beyond many forecasts. However, we think that even more could be economically achievable: None of the forecasts mirrors the complete set of measures laid out in the Action Plan. In addition, most of the forecasts assume rather conservative energy price developments from today’s point of view. Higher savings may be achievable through the combination of a proactive policy approach and high energy prices. Nevertheless, all forecasts regard energy efficiency as one of the largest ways to reduce greenhouse gases in the near and medium term.

In the field of energy efficiency policy there is a strong convergence between the Lisbon growth agenda, the EU sustainability agenda and the global security agenda, all of which effectively depend on urgent action to establish a more stable, secure and sustainable energy policy for the future. Fuel prices will most likely continue to be significantly higher and more erratic than during the 1990s as global energy demand continues to grow and to depend on politically volatile regions. Energy conservation is therefore an important means to enhance energy security. A policy approach pushing the European Union to become the most ecologically efficient world region would also place EU industry in a better position to meet future global demand for energy-efficient products. Without such a policy Europe would be in danger of eroding its own competitive position. A case in point are some car producers, who risk losing market shares by failing to meet growing global demand for clean and efficient vehicles.

It is crucial that Europe positions itself to become a credible negotiator in the discussions around a post-2012 international climate-change regime, which requires visible achievements at home. Energy efficiency can contribute at least half of the target to reduce greenhouse gases by 30% by 2020 at low cost, as confirmed by the Spring Council. A policy to reduce energy use should be made sufficiently strong in order to be consistent with further reductions in greenhouse-gas emissions that will be necessary after 2020.

The next priority must be to use the current momentum of the political process in order to translate the EU-wide reduction target into a burden-sharing agreement among the 27 member states, taking into account their different reduction potentials. This would further increase commitment by the member states and enhance credibility of the agreed actions.

Taken as a whole, the Action Plan provides a reasonably achievable benchmark and therefore represents an indispensable contribution to the EU climate and energy strategy. However, it will require strong and decisive actions by governments to turn the Action Plan into reality. Following political support from the heads of state and government in the March 2007 EU Council, priority should now be given to innovation-driving policy design, further specification of instruments and effective implementation.

Priority action is needed in the following areas.

## 2. Achieving Higher Energy Efficiency: Specific Policy Areas

### 2.1 Power Sector and EU ETS

The EU Emissions Trading Scheme (ETS) is the European Union's flagship instrument for a market-based climate policy. Provided that the reduction targets are set right, the ETS would be the most important driver for raising conversion efficiency on the supply side of the energy system and it would also provide incentives for increased end-use energy efficiency.

However the EU ETS Directive (2003/87/EC) and its national implementation need to be revised in order to fully exploit that potential. A major problem during the first phase (the first set of member states' "national allocation plans") was a lack of environmental integrity largely due to the widespread over-allocations of emission permits to participating entities, which resulted in a collapse of prices in the course of 2006. The economic integrity of the system was also strongly undermined by "grandfathering", the method of allocating emission permits for free to existing entities. Consequently, the scheme had partially turned away from the underlying principle of providing a simple market-based framework where participants may compete for the most cost-effective emission reductions. Under a misguided competitiveness debate, where high allocations were wrongly associated with high competitiveness, "grandfathering" has led to heavy rent seeking and an overburdening of the system with energy policy objectives, such as energy security by the promotion of coal firing. The result was an overly complex and non-transparent system with over-allocations across Europe.

First priority should be given to a clear signal that the EU internal CO<sub>2</sub>-reduction target of 20-30% by 2020 and of up to 80% by 2050 as adopted by the Spring Council will be transformed into a stringent cap for the power sector. This cap should also take into account the above-average cost-effective reduction potential in that sector and reduced demand for electricity based upon fossil fuels as a consequence of the implementation of the Efficiency Action Plan and the planned growth of renewable energy technologies. In total, reductions to be achieved by the cap for the power sector should be higher than for the EU average.

Therefore, the European Commission merits full support for its rigorous approach that intends to prevent a second round of over-allocation and market distortions in many second national allocation plans.

Auctioning of emission permits represents the best remedy to the complexities and overburdening of the ETS. Auctioning would allow more trading. Market actors would reveal their needs and their willingness to pay. The system would become more efficient and transparent. Hence, the overall cost for a given cap could be considerably reduced. Environmental and economic integrity of the ETS would provide for strong incentives to reduce energy demand and to redirect some of the estimated €1.2 trillion investment (as estimated by the European Commission) in power-plant renewal by 2030 in a profitable and climate-friendly way. Since this massive investment will be fixed in the next generation of power plants, we must not lose this opportunity to invest in alternative strategies with better performance in terms of climate change.

EEAC encourages the Commission to base its preparations for the next allocation period on a stringent cap and a non-distorting allocation method. Member states should accept a stronger role for the Commission and more harmonisation in order to prevent a further competitive race of over-allocations. EEAC welcomes the plans of the Commission to extend the ETS to other sectors (especially transport). Mechanisms to couple the different systems or even to move towards one single system should be considered. Furthermore, the need for a border-tax adjustment on very energy-intensive products in the view of maintaining the competitiveness of some industries under a stringent ETS should be further analysed.

### 2.2 Building Sector

A revision of the Buildings Directive (2002/91/EC) is needed to exploit better the huge potentials for energy efficiency in the European Union's building stock. The Buildings Directive foresees a labelling system for all buildings that are rented or sold. Furthermore, it sets energy efficiency standards for new buildings as well as major refurbishments. So far, the efficiency standards only apply to buildings larger than 1000m<sup>2</sup>. Lowering the threshold of 1000 m<sup>2</sup> to 100 m<sup>2</sup> would cover about 90% of the European Union's building stock and would double the Directives' saving potential. Therefore, the Action Plan's intention to revise the Buildings Directive with a view to include smaller buildings

is highly welcome and necessary. Furthermore, the applied standards themselves are not stringent enough to exploit the existing economic potential. Therefore, the Action Plan's intention to introduce performance levels equivalent to "passive house" standards for new houses is necessary and welcome.

Furthermore, large-scale investment programmes to redesign the existing building stock are needed. The German investment programme of €1.4 billion for each of the years 2006–2009 targeted to energy efficient refurbishment of houses is a positive example. The emergence of Energy Service Companies (ESCOs) will be essential in overcoming financial barriers by supplying third party financing by contracting services. There is an overlap here with the Energy Service Directive (2006/32/EC) that aims at providing an enabling environment for energy services.

EEAC welcomes the Buildings Directive's proposal for an energy-labelling scheme to overcome the so-called split incentives problem (for instance, when the landlord invests in insulation for a house and the tenant benefits from lower heating bills). The Directive's obligation to provide information on the energy consumption of a building when selling or renting it would trigger a competition for energy-efficient buildings. Unfortunately, there have been time-consuming discussions in some member states on how to implement the labelling scheme appropriately. Therefore, it is necessary to create a sense of urgency among those member states that have failed to implement the existing Directive in time.

### 2.3 Transport Sector

Transport growth and a shift towards less efficient modes of transport have contributed to an increasing share of the transport sector in energy use, its high energy intensity and its greenhouse-gas emissions. The EU internal market and liberalisation policies for freight and air transport that were not embedded in an appropriate environmental framework have reinforced these negative trends. These trends need to be reversed.

EEAC is optimistic that transport growth can be absolutely decoupled from economic growth, provided this overall strategic objective is transformed into a broad set of policies for demand-side management, ranging from a review of subsidies and economic development programmes, to spatial planning and

pricing policies. We recall the OECD and the EEA work on those issues and recommend that decoupling becomes a priority issue for the Common Transport Policy. There is also much potential to strengthen the more environmentally friendly modes of transport, especially in urban agglomerations and for long-distance land transport. Many policy efforts in the past achieved a stabilisation of public transport; more needs to be done to create conditions for a renaissance of public transport. EEAC calls upon the Commission to address the competitive distortions created by the different tax regimes applied to air, road and rail transport.

There is an important role for speed limits for interurban and urban transport. Speed limits may have multiple benefits for safety, traffic flow and the environment, including less greenhouse-gas emissions. Speed limits, enforced by technical devices to control maximum speed, may be an important incentive to stop trends towards to over motorized heavier and faster cars. Speed limits also may help to maintain average speed at the most energy efficient levels.

EEAC welcomes the Commission Communication assessing the progress of Community strategy on CO<sub>2</sub>-emissions from cars as far as it officially confirms the limited workability of a voluntary agreement and as regards the necessity for binding legislation. There is considerable technological and economic potential to increase fuel efficiency and hence to reduce CO<sub>2</sub>-emissions in each segment of the EU car fleet. Any serious cost calculation also has to consider the fuel-cost savings that a more efficient car can deliver over its lifetime. In this perspective the level of ambition for the planned new legislative instrument is modest. The foreseen target for the average new car is set at 130g CO<sub>2</sub> per km in 2012 (the EU target set in 1995 was 120g) plus another 10g stemming from accompanying measures (biofuels, air conditioning, tyres). In addition, emission reductions that are associated with biofuels may count for achieving the target as well. Since a continuation of business as usual would already result in 143g CO<sub>2</sub> per km in 2012 this raises the question whether the new target goes beyond business as usual at all. Considering that new low-to-medium-class cars, consuming around 110g CO<sub>2</sub>/km, are already on the market and that cars consuming 100g CO<sub>2</sub>/km or less could be built using existing technologies, such a target is not sufficiently innovation driving. An ambitious target contributes not only to climate protection but also to security of energy supply.

The Spring Council decided to raise the mandatory share of biofuels from 5.75% (by 2010) to 10% (by 2020) – also as part of the so-called integrated approach to reduce CO<sub>2</sub>-emissions for cars. Furthermore, a Commission proposal suggests requiring fuel suppliers to cut 10% of their fuels' life-cycle greenhouse-gas emissions. The strategy to count emission reductions from fuels towards the compliance for the cars' emission reduction targets raises a number of critical issues. Not all biofuels significantly contribute to greenhouse-gas reductions, and some do considerably less than others. If land-use changes, methane and nitrous oxide emissions from biomass cultivation are accounted for, the greenhouse balance of some biofuels may even be negative. Reducing greenhouse gases by promoting biofuels is considerably more expensive than other means and other energy uses of biomass. Therefore other energy uses of biomass should be given priority when designing support schemes. Ambitious targets may not be achievable in all EU member states and hence will require considerable imports from third countries, where negative environmental effects are difficult to influence. Therefore more sophisticated instruments are needed to mobilise efficient greenhouse gas reduction potentials by biomass and to avoid negative consequences on biodiversity. EEAC therefore calls upon member states to reconsider and revise the binding 10% target for biofuels. EEAC believes that the conditions upon which the Spring Council consider this target appropriate (that the production should be sustainable and second generation biofuels becoming commercially available, etc.) are not assured.

A serious debate on the appropriate instrument to reduce greenhouse-gas emissions from cars has not yet begun. Such an instrument must find a balance between the need to drive innovation towards fuel-saving cars, economic efficiency and with respect to the diversity of the car fleet, without compromising the overall target. In principle market-based as well as regulatory instruments may fit those criteria, although with a different profile of strengths and weaknesses.

The German Advisory Council on the Environment (SRU) has suggested the idea of an open trading system: a possible way forward would be to integrate the car fleets' emissions into the EU ETS and obligating the car manufacturers to surrender allowances for their respective car fleets. Using approximations of average kilometres driven, the producers' total car fleet emissions and associated averages per car can

be estimated. This would create a responsibility for car producers to participate in efficient CO<sub>2</sub>-reduction. The target level should be 100g CO<sub>2</sub> per km in 2012 and less thereafter in conjunction with the EU -30% target for 2020. In addition, other measures such as better labelling and a CO<sub>2</sub>-based vehicle tax should be used. Such an approach would have the advantage of efficient CO<sub>2</sub>-reductions and would create a financial responsibility of the sector for climate protection. However it might have limited effects on more fuel-efficient cars. For legal reasons such a system may only become effective in the course of the next decade.

Other options might be more targeted at driving fuel savings and become effective much faster, such as a trading system within the car industry or standards related to indicators such as weight, power, motor size or surface, which in average lead to the targeted performance of the fleet of new cars. Such approaches might only be achievable at a higher cost to car producers, however.

EEAC calls for an open debate on the performance of each of the instrument options but warns that the overall target for the performance level should not be compromised by that debate.

## 2.4 Appliances / Product Policy

### 2.4.1 Dynamic Labelling

A more dynamic approach for energy labelling plays a pivotal role in creating demand for energy efficient products and services. As with buildings mentioned above, labelling would allow for price differentiation with respect to energy use and would introduce competition for energy efficiency. This is true for the so-called "white ware" (fridges, washing machines etc.) as well as "brown ware" (TV, digital boxes, office appliances etc.) including additional information on stand-by and off mode as well. Furthermore, energy using systems in the (non-energy intensive) industrial sector (motor systems, air pressure systems, pumps etc.) need a similar labelling scheme as well.

The current scheme is static and does not contain all the necessary information that enables the average consumer quickly to assess break-even points when standing in front of an appliance in a retail market. The lack of periodic updates has led to the creation of ever-new efficiency classes (A+, A++) sending the message that class "A" is still good even though after an update of the scheme it would be "C" or less. In a

regular update all appliances on the market must be regrouped so that only the most efficient products (for instance the top 10-20% on the market) are labelled with the class “A”. In addition, for each product there should be not only information on energy (and water) requirements per use but also on *annual* energy (and water) *costs* using prices from the time of the most recent update.

The proposition of the Action Plan regularly to update the framework Directive on the energy labelling of household appliances (92/75/EC) and to expand it to more product groups is a step into the right direction. However, it will also be necessary to give information on annual costs so that the consumer is able to make quick assessments.

#### 2.4.2 Dynamic Standards for Energy-Using Products

Consumers may not make optimal choices despite the availability of adequate information. This is because energy efficiency does not belong to the core business of consumers and (non-energy intensive) manufacturers and energy-cost savings are often dispersed, as in energy-using products. In light of this (and the political unwillingness/inability to internalise many external effects), product standards may be useful to realise some of the low/no-cost potentials of energy efficiency. In addition, under the assumption that global demand for energy efficient appliances will rise in the future (global needs) the creation of lead markets at home may provide additional benefits (such as the first-mover advantage).

The work plan of the Commission on implementing measures within the Energy Using Product (EuP) Directive (2005/32/EC) merits full support. Focusing on energy-using products is of strategic importance since they account for a high and growing share of energy requirements. Under the auspice of the EuP Directive studies are currently carried out for 19 key energy using product groups. The Action Plan foresees regular assessments and updates of the standards and intends to combine it with a view to raise the minimum standard in the next round of standard setting to the level of today’s top performing product (Top Runner Approach). The Action Plan also intends to include more product groups and to use the studies for the above-mentioned improved labelling scheme.

### 3. Mainstreaming Energy Efficiency: Overall Incentives

#### 3.1 Energy Service Directive & Mainstreaming

The full integration of energy efficiency policies in other relevant policy strategies and programmes such as the follow up to the EU Sustainable Development Strategy and the forthcoming Action Plan for Sustainable Consumption and Production is pivotal in reaching lasting efficiency improvements. The Energy Service Directive (2006/32/EC), if fully implemented and strengthened, will provide important steps towards mainstreaming energy efficiency. However, the goal of the Directive appears moderate and an earlier proposition to require the public sector for higher rates of improvements did not pass the legislative process. The Directive contains a number of important measures for mainstreaming energy efficiency. These relate (i) to an exemplary role of the public sector, (ii) to an enabling environment for energy services and energy-service companies (ESCOs) and (iii) to information mechanisms to overcome informational barriers in order to enable consumers to reap the economic potentials of energy efficiency.

EEAC notes that the creation of a viable market for energy services and ESCO’s cannot be overestimated as it is a prerequisite for the successful implementation of the Buildings Directive. Therefore, the implementation of the Energy Services Directive by the beginning of 2008, the drafting of ambitious national efficiency action plans able to deliver at the very least its moderate reductions, and the correction of its technical difficulties will be pivotal. Together with the Action Plan’s priority action 5, “better finance for energy efficiency for SME”, this will play a crucial role for mainstreaming energy efficiency.

#### 3.2 Energy Taxation

The Action Plan’s priority action 7, “coherent use of taxation”, merits full support. This is in synergy with the renewed EU Sustainable Development Strategy’s (§23) suggestion of an active consideration of “further steps to shift taxation from labour to resource and energy use and/or pollution, to contribute to the EU goals of increasing employment and reducing negative environmental impacts in a cost-effective way”.

Historically, the level of energy prices has been one of the most important factors in explaining changing rates in energy intensity improvements. In the absence of an overarching EU ETS covering all sectors, energy/eco taxation is a most effective way to boost energy efficiency. In this context, EEAC welcomes the renewed discussion on market-based instruments by the Commission Green Paper (COM (2007) 140 final) and encourages the Commission to come forward with a proposal to revise the Energy Taxation Directive. The revision should introduce tax rates significantly above current levels and differentiate stronger according to the CO<sub>2</sub>-emissions of the different fossil fuels. Another important issue in this respect is the abolition of subsidies that have direct or indirect effects on increasing energy use, which are still prevalent in many member states. Subsidies for fossil fuels create perverse incentives in terms of enhancing energy efficiency as they reduce energy prices and maintain the illusion that we still live in a world of cheap energy. EEAC therefore welcomes the work of the EEA on transport and energy subsidies and recommends decisive action at EU and national levels to address the considerable price distortions against efficiency.

### 3.3 A new Paradigm to Energy-use

The immense challenges and also opportunities that Europe faces in meeting the overall goals of energy security and of competitiveness in the world arena, while pursuing a high level of environmental protection, can only be met if a shift takes place to a new energy-use paradigm based on energy efficiency and on energy-saving behaviours. The citizens and all stakeholders, not just governments and business, must be actively involved in this long-term process of transition to a more sustainable energy use, the success of which requires, alongside with technological innovation and the coherent use of economic incentives and market instruments, ambitious and persistent education, information and communication policies. The main target groups should be in this case the consumers, the municipalities, the non-governmental organisations and the media. EEAC proposes stronger actions at EU and member-state levels in raising public awareness on energy and climate-change issues and in mobilising citizens to search for adequate answers.

## 4. Conclusions

Energy efficiency is regarded as the largest factor in reducing emissions in the near and medium term. Increasing energy efficiency will therefore be pivotal in limiting global warming to 2°C above pre-industrial levels, a widely accepted threshold politically and scientifically. The Commission's Action Plan on energy efficiency, endorsed by the Spring Council, aims at raising energy efficiency by 20% until 2020. Even though we think that energy savings are potentially much larger the Action Plan provides a reasonably ambitious benchmark. Even still, the Action Plan will require strong and decisive actions by governments to turn it into reality. Crucial areas are the strengthening of the EU ETS, higher efficiency in the European building stock as well as higher efficiency of products sold in the European market, namely cars and electric appliances. Furthermore, a stronger mainstreaming of energy efficiency will be necessary through an enabling environment for energy services, economic incentives and a shift in paradigm in how we use energy. Only through continuous efforts will the European Union's economy manage the transition towards being the most energy efficient and knowledge-based economy in the world, able to serve as an engine for well being while limiting climate change.



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