

**Opinion of the Economic and Social Committee on 'Policies for the rational use of energy (RUE) in the European Union and in countries which are candidates for early membership'**

(98/C 407/25)

On 29 January 1998 the Economic and Social Committee decided, under Rule 23(3) of its Rules of Procedure, to draw up an opinion on 'Policies for the rational use of energy (RUE) in the European Union and in countries which are candidates early membership'.

The Section for Energy, Nuclear Questions and Research, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 22 July 1998. The rapporteur was Mr Hernández Bataller.

At its 357th plenary session of 9 and 10 September 1998 (meeting of 9 September), the Economic and Social Committee adopted the following opinion by 95 votes to one, with two abstentions.

**1. Recommendations of the Economic and Social Committee on the development of policies for the rational use of energy**

The Committee:

1.1. Having regard to the importance of the rational use of energy (RUE) for maintaining the competitiveness of European industry, protecting the environment, conserving natural resources and creating jobs.

1.2. Whereas, despite the plethora of initiatives which have been undertaken to optimize energy use, no in-depth analysis has been carried out of the results obtained; and whereas such an analysis would have made it possible to establish priorities and make best use of the various programmes under way.

1.3. Whereas national and Community programmes, both those aimed specifically at RUE and those of a horizontal nature, are not coordinated with initiatives in other areas, such as RTD, job creation and structural development.

1.4. Whereas the fall in energy intensity, measured as the energy necessary to produce a unit of GDP, has stabilized and has even started to rise in some countries.

1.5. Whereas the Kyoto agreements on reducing emissions of greenhouse gases<sup>(1)</sup> call for a redoubling of the effort to rationalize energy consumption since this is by far the principal culprit.

<sup>(1)</sup> This includes six gases in decreasing order of impact: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O); and the following compounds: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).

1.6. Whereas the reduction/stabilization of energy prices, although cyclical, can cloud users' and consumers' perceptions of the importance of rationalizing consumption.

1.7. Whereas the liberalization of the energy sector and the separation of the activities of generation, transport and distribution in electricity companies are beneficial in terms of enhancing efficiency in the sector, reducing costs and boosting European competitiveness, but these factors also blur the benefits of Demand-Side Management (DSM) programmes as they make it difficult to transfer the benefits of the improvement in the demand factor to distributing/marketing companies<sup>(2)</sup>.

1.8. Whereas this separation of activities impedes the introduction of Integrated Resource Planning (IRP) in which external factors related to energy production, processing and distribution have to be taken into account.

1.9. Whereas the Committee has issued several opinions on strategies to reduce CO<sub>2</sub>, and other greenhouse gases<sup>(3)</sup>, on the promotion of renewable sources of energy<sup>(4)</sup>, and on energy efficiency and rational use of energy<sup>(5)</sup>.

1.10. Whereas the Commission recently issued a Communication on Energy efficiency in the European Community — towards a strategy for the rational use

<sup>(2)</sup> There are, however, specific areas which require the introduction of this type of programme by distributing companies, as a result of saturation or inadequate networks. The same may be said of cases in which subsidies are granted on social grounds, where a reduction in consumption means a reduction of costs.

<sup>(3)</sup> The energy dimension of climate change (OJ C 19, 21.1.1998). Opinion on Transport and CO<sub>2</sub> currently being prepared.

<sup>(4)</sup> Green Paper for a Community strategy 'Energy for the future: renewable sources of energy' (OJ C 206, 7.7.1997) and Altener II (OJ C 19, 21.1.1998).

<sup>(5)</sup> SAVE II (OJ C 82, 19.3.1996).

of energy<sup>(1)</sup>, which sets out a series of ideas designed to provide the basis for discussion on the preparation of a coordinated action plan to promote RUE<sup>(2)</sup>.

1.11. Whereas the recently adopted Fifth RTD framework programme in which energy projects are an integral part of sustainable development and protection of the environment, provides a further opportunity to encourage the technological development of more energy-efficient solutions within the Community.

#### Recommends

1.12. Setting up a network of national committees in each of the Member States, coordinated by the European Commission's Directorate General for Energy<sup>(3)</sup> with the support of the European Environment Agency. This will make it possible to analyse the results of the various RUE programmes and to propose corrective measures.

1.13. That this network serve as a basis for the framing and implementation of the action plan proposed in the Commission Communication<sup>(1)</sup> mentioned above. The operation of the network should be cofinanced by the SAVE II programme and by each Member State.

1.14. Establishing criteria and procedures to provide pointers for the convergence of Member States' energy indicators, to be used for examining the consistency of national programmes, and to find explanations for possible discrepancies. Such indicators are of particular interest for the applicant countries, which generally start from a less favourable position.

1.15. Coordinating the various EU programmes so that their impact on energy consumption is taken into account from the outset, as is currently the case for environmental impact. The Member State committees involved in these programmes will have to adopt a more positive attitude to supplying information, pooling experience and accepting recommendations.

1.16. Encouraging the transposition of directives and developing specific regulations which incorporate appropriate inspection and monitoring mechanisms

from the outset. This is particularly important for the labelling of household electrical appliances, buildings and transport.

1.17. Relaunching properly designed and implemented general information campaigns and educating younger children, so that the public remains alert and insists on compliance with the regulations.

1.18. Carrying out demonstration projects and promoting the results, with the involvement of equipment suppliers, so that these suppliers can consolidate and diversify their range, providing more efficient solutions and replacing imported equipment.

1.19. That these demonstration projects and the application of the regulations are especially important in the case of the new countries applying for EU membership because their energy consumption indicators generally reveal lower efficiency.

1.20. That energy companies pursue an active policy of reducing their own consumption, and losses in transport and distribution, and should adopt DSM solutions which bring about the greatest economic benefits in the medium to long term.

1.21. Promoting energy-saving supply schemes for distributing/marketing companies that can rival the proposals of energy-producing and importing companies. The economic analysis behind these schemes should take account of the long-term benefits of measures designed to rationalize energy consumption.

1.22. Making the new RUE framework compatible with the principles of the single market for energy. To do so, it is necessary to strengthen the institutional role of the national and regional agencies operating in this sphere and promote the establishment of energy-services companies.

1.23. Encouraging and consolidating voluntary sectoral agreements between energy-consuming companies and national governments in which analyses and solutions incorporate not only energy/environment benefits but also other benefits linked to improved productivity and comfort.

1.24. Calling for the energy efficiency and environmental impact criteria applied in the EU to be extended to third countries.

1.25. Analysing the medium/long-term impact of reducing subsidies for the energy sector and introducing differentiated taxes in final energy prices which take account of external factors linked to the energy chain,

<sup>(1)</sup> COM(1998) 246 final.

<sup>(2)</sup> The Committee has drawn up an opinion on this Communication.

<sup>(3)</sup> Although different in approach, this proposal can also be found in the Commission Communication in relation to the energy efficiency sub-group of the group for convergence of national energy policies.

but do not have an adverse effect on the competitive position of economic sectors, both within the Community and in third countries. Such taxes should also reward the sectors which are most active in applying the most energy-efficient solutions.

## 2. Introduction

2.1. Energy is a basic factor in daily life, with a major impact on production costs, the family budget, the environment, technological development and job creation.

2.2. The trend in energy demand is linked inter alia to: the growth in GDP and its structure, available fuels, efficient energy-use policies and price structures, each with a different degree of elasticity.

2.3. The rational use of energy means maintaining the same production capacity and the same quality of life while using less energy. RUE therefore implies a series of measures comprising technological modernization, the use of more energy efficient materials and changes in user behaviour to cut down on inefficient energy use. In general RUE should be understood as coordinated action on all these fronts.

2.4. The EU has improved its energy intensity (measured in terms of the energy required to produce one unit of GDP), reducing it by 1,7 % per annum between 1985 and 1990 and by 0,6 % between 1990 and 1995, not taking climatic factors into account. The most efficient sectors have been industry (down 2,5 % per annum over the whole period), although affected by crises during which its production capacity was not put to optimum use, and the services and domestic sectors (down 1,8 % per annum). In contrast, the most inefficient was transport with a 1 % per annum increase. Hence there has been a slowdown in the improvement in energy intensity which varies from one Member State to another.

2.5. The differences between countries are due, among other things, to: their economic structure; the development of active policies to promote RUE and public awareness campaigns; the level of economic development; technological changes; price structures. This is undoubtedly an important point as there are considerable differences, as can be seen from some extreme cases taken from the industry sector: from 82 ECU/toe (Belgium) to 170 ECU/toe (Finland) for fuel oil; from 87 ECU/toe (Belgium) to 228 ECU/toe (Ireland) for natural gas and from 354 ECU/toe (Sweden) to 903 ECU/toe (Italy) for electricity. At all events, final prices are not transparent as there are bilateral agreements with the main consumer companies.

2.6. In this connection it is important to point out that according to the International Energy Agency (IEA), final prices to industry are much lower in the United States than in the EU (half for fuels and 60 % for

electricity). This same situation, especially as regards electricity, occurs in many developing countries and has an adverse effect on the costs structure of European firms, encouraging them to relocate. The situation with regard to Japan is different as prices (basically electricity and natural gas) are virtually double, but its industrial products generally incorporate greater added value.

2.7. Such high prices in Europe have acted as an incentive to energy efficiency; however, the fact that prices are currently tending to stabilize or even fall in real terms could act as a disincentive to the continuation and consolidation of RUE policies. Such policies should be retained and strengthened in the interests of competitiveness, protection of the environment and employment.

2.8. Many of the applicant countries for EU accession have lower energy prices than the Member States, especially for domestic consumers. Direct and cross subsidies should, therefore, be phased out, and measures taken to ensure that there is no significant impact on living standards.

## 3. Energy and environment

3.1. The mining, processing and use of fossil fuels accounts for three-quarters of the human contribution to CO<sub>2</sub> emissions, the main culprit for the potential climate change caused by the greenhouse effect. It is this gas, together with N<sub>2</sub>O and methane, that makes the energy sector far and away the main source of this effect. In general terms, CO<sub>2</sub> emissions in EU countries have remained constant over the last ten years, although with some reduction in per capita terms (0,2 %) over the same period. The four largest Member States account for 70 % of emissions, with Germany at the top of the list, although it has shown a 3 % decrease over the last five years.

3.2. The main source of CO<sub>2</sub> emissions is electricity generation. Emissions are practically stable (0,3 % per annum growth) despite a large increase in electricity production (1,5 % per annum) due to the more widespread introduction of gas-fired power stations and combined cycle and CHP systems. In terms of demand, only transport shows continuous growth, its share rising from 19 % in 1985 to 26 % in 1995. The share of the other sectors has remained more or less stable.

3.3. The Environment Ministers Councils of 3 March and 19 June 1997 adopted the target of a 15 % reduction in greenhouse gas emissions between 1990 and 2010, with an intermediate objective of 7,5 % in 2005. Although the specific objectives for the reduction of these emissions set within the agreement concluded at the Kyoto Conference on global climate change established a target of just 8 % for the EU, it is considered that this initial objective is realistic in the current context of economic growth.

3.4. Besides CO<sub>2</sub>, other energy-related pollutants are SO<sub>2</sub> and the NO<sub>x</sub>, which are linked to acid rain, health problems and are seen as additional contributors to the greenhouse effect. Generally SO<sub>2</sub> emissions are falling due to improvements in the sulphur content of fuels, better regulation and monitoring systems for industrial plants, and the replacement of solid fuels by oil and natural gas. NO<sub>x</sub> emissions are also falling, though less than for SO<sub>2</sub>, thanks to the introduction of catalytic converters and combustion control systems, both mobile and stationary.

3.5. However, most of the applicant countries use coal to produce electricity and for district heating, which will cause a significant increase in greenhouse gas emissions in the EU. It is therefore necessary to introduce more technologically-efficient measures and management improvements that will reduce these emissions without significantly affecting production costs.

3.6. Some of these countries, whose transport systems used to be based on rail transport, have seen a major shift towards road transport. Many vehicles are inefficient, causing problems for energy consumption and pollution.

#### 4. Rational use of energy and employment<sup>(1)</sup>

4.1. Job creation is generally boosted by the income generated by energy which is not consumed, which is linked to plant diversification, better and more continuous plant maintenance and a larger outlay on services when plants are designed, built and fine-tuned. However, CHP and independent energy production offer job opportunities.

4.2. Some projects to improve energy consumption have introduced automation and integrated process management, which have meant both higher productivity and internal reorganization, though this has not generally had an adverse effect on employment.

4.3. One important point is that RUE projects avoid the diseconomies which are linked with major projects once they are completed and which make it difficult to convert/reutilize the firms that supply the equipment. Small-scale plant also encourages product diversification by enterprises with the positive result of optimizing resources and being less vulnerable to possible crises.

4.4. In conclusion, three final comments are necessary. All non-utilized energy automatically means economic benefits in the production sector concerned, which is very likely to improve competitiveness. In many cases replacing energy by equipment broadly means replacing marginally imported energy (the EU's energy deficit is generally covered by imports) by technology, material and labour which may well be European. Thirdly, the same applies to the domestic sector, where the process is accentuated by an increase in disposable income, encouraging higher savings (a self-sustaining process) and higher spending on potentially job creating activities.

#### 5. Policies for the rational use of energy

5.1. Given the micro and macro-economic advantages of better energy use, and in an effort to sustain the improvement in energy intensity, governments have launched programmes designed to rationalize energy consumption and further the following objectives: improving industrial competitiveness and people's quality of life, reducing the impact of emissions on the atmosphere, diversifying the range of equipment available and minimizing the vulnerability of economic growth.

5.2. RUE policies follow three main lines of action: financial measures implemented through subsidies or tariff increases (mainly taxes), measures providing information on the most appropriate solution for individual cases, and finally, measures establishing a legal framework forcing changes in behaviour and habits. The attached tables show typical measures introduced in EU Member States which correspond to these three lines of action (see tables in Appendix).

5.3. In the new countries which have applied for membership, there have been some examples of bodies established with international support which now must be incorporated into the network of agencies currently in operation within the EU. The most significant challenge is, however, to incorporate the expertise of the former energy inspection services established in some countries.

5.4. The range of measures introduced is impressive and although some of these are no longer in force, practically all have been implemented with varying degrees of success. Although the approach to rationalization of energy use depends on many factors, the success of RUE measures depends heavily on the level of public awareness.

5.5. Measures designed to provide information and promote the most appropriate solutions for individual

<sup>(1)</sup> The SAVE programme has financed a comprehensive study on the impact of RUE on employment, the results of which will be published shortly.

sectors are those which are most common in all countries. Such measures include:

- Audits, a key measure used at the beginning of the 1973 and 1979 oil crises to highlight the importance of the energy consumption issue, are now used only in specific cases instead of systematically as in the past.
- General information campaigns, which are rarely used now because of the high cost involved, the lack of continuity and absence of follow-up to results.
- With regard to conferences and publications, saturation point has been reached to a certain extent, particularly in the case of publications, which are often out-of-date. Some countries have however neglected to provide the general public with even basic information.

5.6. As regards incentives and public support measures, the following comments may be made:

- Technological development is always a clear incentive to promote RUE, although there has been a lack of coordination between the various programmes and no attempt to seek possible added or induced benefits in the event of project failure.
- Sectoral agreements may provide appropriate solutions if they are combined with government incentives to encourage the other party, whether these be companies or large-scale users. In the same way as standards, sectoral agreements need to be properly monitored. It would be useful to have some feedback on the initiatives implemented.
- Subsidies have demonstrated their clear limitations, since in many cases projects would have been implemented regardless and sometimes the energy advantage is difficult to isolate from the other inherent advantages of the project.
- As the tendency has shifted towards greater economic liberalization, state intervention has been gradually

reduced and emphasis has been placed more on promotion campaigns than on subsidies or strict enforcement of specific standards.

- In some cases, excess capacity has made it difficult to implement demand-side management programmes. In other cases, only specific technologies designed to level out the load curve have been encouraged. Furthermore, unbundling in the electricity sector (generation, transport and distribution) has affected the development of DSM measures, as the benefits linked to the reduction in the peak load cannot be transferred to the distributor. Network saturation in specific areas clearly justifies the introduction of DSM measures by distributors and a reduction in costs where subsidies have been granted (e.g. for islands).
- Energy-services companies, although widely supported and promoted, have experienced limited growth and have in many cases been involved in CHP projects which are easier to tailor to individual needs in terms of energy consumption.

5.7. The standards introduced in practically all countries have provided clear advantages for consumers but have not been rigorously enforced or monitored. The situation has of course varied between countries, since compliance with standards depends on how alert consumers are. This demonstrates the importance of promotion and information campaigns at all levels.

5.8. Furthermore, increasing economic liberalization and the reduction in the public deficit have cut the budget allocation to public agencies, thus forcing them to a certain extent to operate within a market-driven context. This has affected their independence and has in some cases distorted competition.

5.9. The European Commission has also developed important initiatives designed to improve energy use, and these have had considerable influence over national programmes. They are summarized in the table below:

Programme	Type	Scope	Results
Joule/Thermie	Technology-based programme covered by the Fourth RTD Framework Programme	The programme has two main strands: — R+D (Joule-DG XII) — Demonstration (Thermie-DG XVII)  It includes not just technological development programmes, but also promotion and flanking measures.	New technologies have come onto the market as well as various studies and promotion and training material.  Support has been given to energy-services companies.  The public agencies are involved in the OPET promotion network (supported by DG XIII).



Programme	Type	Scope	Results
SAVE	Institution-based programme for the preparation of directives and recommendations	It is mainly geared towards preparing directives, support for pilot projects and promotion measures.	Directives: <ul style="list-style-type: none"> <li>— 92/75/EC: labelling of domestic appliances in general</li> <li>— 94/2/EC: fridges and freezers</li> <li>— 95/12/EC: washing machines</li> <li>— 95/13/EC: tumble dryers</li> <li>— 96/60/EC: washing machines-tumble dryers</li> <li>— 97/17/EC: dishwashers</li> <li>— 98/11/EC: domestic lamps</li> <li>— 92/42/EC: water-heating boilers using liquid or gas fuels</li> <li>— 96/57/EC: energy efficiency requirements for fridges and freezers</li> <li>— 93/76/EC: limiting CO<sub>2</sub> through improved energy efficiency</li> </ul> SAVE I supported a total of 250 projects.
AUTO-OIL	Horizontal Commission programme for restricting emissions from surface transport	Proposal for a strategy to restrict emissions, resulting in the establishment of a legal framework.	Following initial studies, there are two proposals for a directive: <ul style="list-style-type: none"> <li>— Directive on fuel quality</li> <li>— Directive on emissions</li> </ul>

5.10. It is also important to mention measures promoted by other Community programmes such as MEDA, Synergy, Phare, Tacis and Alure<sup>(1)</sup>, which have facilitated exchanges of experience with third countries.

5.11. Other initiatives include the White Paper on public transport and various communications designed to develop voluntary agreements with the automobile industry to significantly reduce the average energy consumption of vehicles, the Communication from the Commission on Transport and CO<sub>2</sub>: developing a Community approach<sup>(2)</sup>, and the White Paper on Energy<sup>(3)</sup>. The ESC<sup>(4)</sup> too has been issuing opinions and proposals, and continues to do so with the same objective in mind: optimizing energy consumption in order to consolidate the competitive position of European industry.

5.12. Community programmes have succeeded in promoting technological development — although the

level of interest in certain areas has dropped recently — as well as market studies and new regulations. They have also made for greater coherence and exchanges of experiences between national programmes implemented in very different socio-cultural contexts.

5.13. There is, however, room for improvement in the level of coordination between all programmes, as a degree of overlapping and duplication occurs between certain projects. In this respect, the consultative committees should play a more active role in boosting exchanges of experience between the different Member States.

5.14. One issue of key importance is CHP and the independent production of electricity in general as this helps to reduce the consumption of primary energy, which influences the improvement in costs, environmental impact, and job-creation.

5.15. The situation is far from identical in all countries, as is clear from the table below. It is important to point out that although the percentage of CHP decreased relatively in the EU between 1974 and 1990, the situation has changed recently, due in part to the existence of an appropriate regulatory framework in some countries and a more positive attitude among some electricity companies.

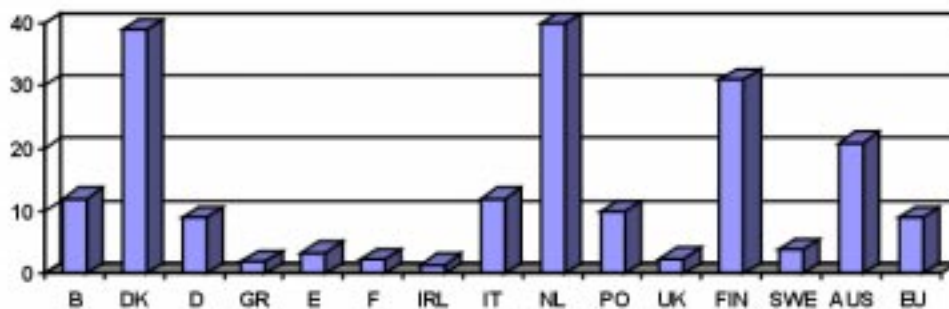
<sup>(1)</sup> Synergy: Promotion of international cooperation in the field of energy; Tacis: Technical assistance to the CIS countries; Alure: Use of energy resources in Latin America.

<sup>(2)</sup> COM(1998) 204 final.

<sup>(3)</sup> White Paper on An energy policy for the European Union (COM(95) 682).

<sup>(4)</sup> The energy dimension of climate change (OJ C 19, 21.1.1998), SAVE II (OJ C 82, 19.3.1996) and Transport and CO<sub>2</sub>.

% of total gross electricity generation by CHP in the EU



Source: Communication COM(97) 514 final

5.16. According to several studies mentioned in the Commission Communication on CHP<sup>(1)</sup>, the production potential of CHP in the EU is between 900 and 1 000 TWh per year. This is about four times the amount of CHP-generated electricity in 1994, and could reduce CO<sub>2</sub> emissions by 9 % by 2010. The objective set in the communication is to double the current 9 % share of CHP (204 TWh) to 18 % by 2010; this would mean reducing potential CO<sub>2</sub> emissions by an estimated 4 % compared with their present level.

## 6. General comments and forecasts

6.1. All the programmes implemented at national and Community level have not just improved energy use, but have also diversified energy sources, boosted auto-production of electricity and replaced fluorocarbon components in refrigeration systems.

6.2. Notwithstanding these achievements, and in spite of efforts made by the EU in this respect, there is a general lack of coordination between national RUE policies and other sectoral policies at national and Community level. Lack of coordination is a criticism commonly levelled at programmes with public involvement, but it is also the most difficult to resolve as it conflicts with a multitude of strategic and professional interests.

6.3. The fixed nature of energy demand in situations such as the present where prices are either decreasing or remaining stable, means that there is a need to fine-tune policies designed to improve energy use. To do so, it is important to learn from past experience and build on tried-and-tested methods or design new ones that help

to optimize energy consumption and prevent atmospheric pollution.

6.4. Various factors have contributed to the stabilization of energy intensity: the increase in living standards that leads to higher demand for electricity consumption, which generally means greater use of primary energy; the increased use of air-conditioning systems; consumer goods with a shorter shelf life; and increased mobility of both people and goods. Indeed, the proportion of energy used by industry has been falling progressively in the different countries, while the proportion used by the construction and transport sectors has shown a clear increase. The growth of the service sector is a further contributory factor.

6.5. In some countries, there is a loss of awareness of RUE issues, as a result of stable prices and a growing tendency to buy consumer goods on the basis of their retail price as opposed to their running costs. This is particularly alarming in the case of housing.

6.6. The necessary transparency of energy prices in some applicant countries must be accompanied by the technological measures needed to maintain energy spending and minimize production costs.

## 7. Proposals for action

7.1. Once again the Committee recommends greater emphasis on and coordination of the various programmes designed to combine efforts and pool experience both between Member States and between Member States and the EU.

7.2. The Commission should play a key role in developing, implementing and monitoring coordination, proposing corrective mechanisms to optimize the efficiency of RUE policies. It should also periodically publish the main conclusions on the progress of the different programmes.

<sup>(1)</sup> COM(97) 514 final. The ESC has drawn up an opinion on this subject (OJ C 157, 25.5.1998).

7.3. The recent Communication from the Commission on 'Energy efficiency in the European Community: towards a strategy for the rational use of energy' provides a good starting point which should trigger discussion between the players involved, so that a realistic and consistent action plan may be established.

7.4. Financially modest and well targeted public promotion campaigns should be boosted and maintained in order to counter the negative attitude that a decrease in energy prices may induce in the public. Training at primary and secondary level education should certainly not be ruled out.

7.5. The labelling of domestic appliances should be reinforced and consumers should be made aware of how important it is to demand sufficient information, the only way of ensuring that regulations are implemented. Technological developments which mean less consumption for the same price should be promoted.

7.6. The same principle applies to buildings, where ample information should be provided for both new and existing buildings, and for both privately-owned and rented buildings. Enforcement and monitoring of rules on materials, insulation and building should be strengthened for all countries.

7.7. Preventive maintenance and servicing of equipment should be improved in industry, construction and transport in order to maintain productivity and restrict emissions. An effort should be made to introduce tax breaks for investors who implement energy-efficient measures.

7.8. Agreements concluded with the main consumer sectors, particularly with industry, should be strengthened and consolidated, monitoring the development and impact of the different initiatives.

7.9. Support should be given to energy-services companies which should become involved in financing more advanced projects than to date. Risk could be covered by guarantees provided by manufacturers and by insurance companies, applying liability schemes for loss of profit due to poor equipment performance.

7.10. Energy should be incorporated as an added value to other policies such as:

- The development of new systems for the production and recovery of parts, including metallic parts and other materials.
- The removal of pollutants from wastes, favouring energy-effective solutions.

- The recycling/re-use of different materials both after usage or produced as a by-product of industrial processes.

7.11. The transport sector is particularly important, because of its adverse impact on the trend in energy intensity and on CO<sub>2</sub> emissions. Decisions in this sector are rarely taken on the basis of energy criteria, but they have a considerable impact on the subsequent level of consumption:

- speed limits and the obligation to perform periodic checks;
- reduction in urban congestion, preventing frequent stoppages and indiscriminate parking, and making best use of delivery services. Support for public transport;
- promoting the extensive use of CNG, bio-fuel and hybrid vehicles, all still largely theoretical;
- support for the use of energy-efficient vehicles;
- railway sector support for inter-modal transport systems.

As is mentioned in a Committee working document, the transport sector is particularly troublesome given its economic significance and its reluctance to change practices, but decisive action is necessary if it is to fulfil the commitments for reducing emissions.

7.12. Constant support should be given to CHP in industry and for the heating and air-conditioning of buildings. There should be support for more energy efficient solutions for producing drinking water in the southern areas of the EU.

7.13. The DSM and IRP programmes should be maintained and consolidated by electricity and natural gas companies, and geared towards levelling out the load curve and reducing energy consumption. The cost of these programmes should be passed on in prices, but results should be verifiable.

7.14. Community programmes and joint technological developments should promote other specific technologies in which the EU is lagging behind other countries, for example: absorption plants, water purification and low/medium-capacity turbines. Efforts should also be made to develop effective systems for monitoring industrial processes. There should, in any case, be effective coordination and steps to ensure that efforts are not diluted on costly projects to develop similar products.

7.15. Demonstration projects should be encouraged, with results promoted in cooperation with technology manufacturers and energy-services companies. 'Best



practice' solutions should be established, and public bodies should highlight the exemplary nature of specific projects adopting these solutions.

7.16. Emission-trading provisions should be stepped up in international agreements which should be implemented through specific projects at national level, analysing results, swapping information and setting a good example.

7.17. At a time when there are increasing numbers of European companies in other parts of the world, these companies should apply the same efficiency and environmental impact criteria as they do in their countries of origin or at least urge that the relevant legislation be adapted along these lines.

7.18. The transfer of technology, financing and management in general from EU Member States to the applicant countries should be stepped up. Programmes should establish priorities and their results should be quantifiable.

7.19. In the medium term, there is a need to analyse the socio-economic effects of removing certain subsidies granted to the energy sector and of introducing taxes on final tariffs which take account of external factors linked to the energy chain, without weakening the competitive position of economic sectors, both within the Community and in third countries. Such taxes should also reward the sectors which are most active in applying the most energy-efficient solutions.

Brussels, 9 September 1998.

*The President*  
*of the Economic and Social Committee*  
Tom JENKINS

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Country	Agency	Audits	Promotion	Technological development	Corporate agreements	DSM, promotion and assistance	Subsidies	Taxes	Standards and regulations
Austria	EVA	Organized by the government	Training courses and conferences	Programmes			Incentives		
Belgium	At regional level	Companies must have energy audits	Training courses and conferences. Priority given to SMEs Promotion of CHP	Little activity	Voluntary agreements		Incentives at regional level Tax concessions		Programme to reduce CO <sub>2</sub> emissions
Denmark	Danish Energy Agency	Necessary for entitlement to tax advantages	Various publications, courses and manuals (supermarkets, SMEs, local councils) Manual for energy consultancy Improving lighting	Support for initiatives designed to promote technological development	Agreements with foreign companies to reduce emissions	Programmes involving distribution companies	Subsidies at national level	CO <sub>2</sub> taxes	Many rules and standards
Finland	TEKES	Subsidized	Many promotion initiatives	Support for technological development	Agreements with industrial groups and large consumers		Various subsidies for industry	CO <sub>2</sub> tax	
France	ADEME, centralized and represented in all regions. Some regions have their own agencies. Energy and environment powers.	Subsidized, but have lost importance	Many leaflets, training courses and promotional activities. Improving public lighting. Accounting systems in the public sector	Subsidies for demonstration projects	Energy saving in public buildings. Voluntary agreements	ADEM-EDF agreement	Subsidies and support for leasing operations		Legislation on heating insulation in buildings
Germany	In some Länder	With support from distribution companies	Many campaigns, courses and conferences Energy-saving initiative	Through the BMFT Some energy companies are also involved in these programmes	Voluntary agreements Systems to reduce energy consumption in some associations	Pilot schemes in some länder	Preferential loans are preferred	CO <sub>2</sub> tax (proposal)	Codes in buildings Standards for the construction and upkeep of buildings

Country	Agency	Audits	Promotion	Technological development	Corporate agreements	DSM, promotion and assistance	Subsidies	Taxes	Standards and regulations
Greece	CRES	Mandatory audits in large companies	Campaigns, conferences and information leaflets		Voluntary agreements	Programme to optimize the electricity load curve PPF Programme for demand management	Support for energy-saving measures and penetration of natural gas		Control of emissions from industrial plants
Ireland	FORBAIRT	Financial support, and support from energy companies	Technical support and assistance Campaigns and conferences			IRP programmes with EC support	Limited support for subsidies		Standards for insulation of buildings and heating systems
Italy	ENEA	No longer any support for such audits	Promotion campaigns, training courses and leaflets	Support through ENEA	Voluntary agreements Energy-saving in public buildings		Financial support		Energy-management in large-scale plants
Luxembourg		Mandatory, supported by subsidies					Subsidies and accelerated repayment arrangements		
The Netherlands	NOVEM	Subsidized and in some cases supported by energy companies (Gasunie)	Many courses, publications and leaflets. Labelling of refrigerators in supermarkets	TSSE and TIEB support for RUE technologies	Action plan for energy distribution Initiatives under the Built Environment Programme Energy-saving in municipal buildings	Pilot schemes with different distribution companies	Subsidies and accelerated repayment. Environmental exchange agreements with third countries	CO <sub>2</sub> tax	Standards for construction of buildings. Support for CHP
Portugal	CCE for the whole country. AERAM in Madeira	Mandatory beyond a specified level of consumption	Various activities to promote RUE in different sectors				RUESI programme for subsidies and incentives to industry Support for third-party financing		Recommendations on RUE in industry. Regulation on buildings. Support for CHP.

Country	Agency	Audits	Promotion	Technological development	Corporate agreements	DSM, promotion and assistance	Subsidies	Taxes	Standards and regulations
Spain	IDAE Various agencies at regional level	Subsidized in some regions	Many campaigns, publications and leaflets	No specific line	IDAE voluntary agreements with some industrial sectors Energy-saving programme in government buildings	Programmes implemented by agreement between Ministry for Industry and Energy and electricity companies	PAEE programme and limited support from regions		Basic law on construction. Various regulations. Considerable support for CHP
Sweden	NUTEK		Various promotion activities	Support for technological development	Mandatory for large department stores	The electricity companies have launched programmes	Support for corporate agreements	CO <sub>2</sub> tax	Mandatory for new buildings and voluntary for existing buildings
United Kingdom	ETSU for all sectors, except buildings which are covered by BRESCU	Support and advice from ETSU and distribution companies	Many promotional activities, campaigns and leaflets	Support through provision of information	Campaign to encourage the conclusion of corporate agreements	Projects with support from the EC SAVE programme	Through the SCEEMAS, EDAS and EMAS programmes		Regulations on buildings
Czech Republic	SEVEN Law on energy saving		Various promotional campaigns	Good level of technology		Pilot programmes with distributors have been developed.	Subsidies for buildings and industries. Tariffs do not reflect costs		Standards for heating in buildings
Hungary	Energy efficiency office (set up with EU support)	Audits have been carried out with the help of international cooperation programmes	General campaigns, and campaigns for specific sectors such as industry and district heating			Some pilot schemes have also been carried out	Tariffs have recently been increased to reflect costs		Progressive penetration of Community standards
Poland	Centres supported by Phare in Warsaw and Krakow	Large number of audits with international support		Technological capacity to take part in joint schemes with Community partners			Subsidized tariffs		Progressive application of EU standards, especially as regards labelling and minimum consumption
Estonia	Establishment of an Energy Centre with Tacis support	Audits with international support							Community standards have just been adapted