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EUROPEAN PARLIAMENT

# Working Documents

1981 - 1982

25 June 1981

DOCUMENT 1-249/81

## Report

drawn up on behalf of the Committee on Transport

~~on~~ ways and means of effecting energy savings in the transport sector

Rapporteur: Mr W. ALBERS

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On 15 November 1979 the Bureau of the European Parliament authorized the Committee on Transport to draw up an own-initiative report on ways and means of effecting energy savings in the transport sector. At the same time the Committee on Energy and Research was authorized to deliver an opinion on this subject. On 31 October 1979 the Committee on Transport appointed Mr Albers rapporteur.

On 27 and 28 November 1980 the Committee on Transport held a public hearing in Brussels on the subject of energy savings in the transport sector.

The Committee on Transport considered the draft report at its meetings of 22 and 23 April and 14 and 15 May 1981 and on the last of these dates adopted the motion for a resolution and explanatory statement by 8 votes to none with 3 abstentions.

Present : Miss Roberts, acting chairman; Mr de Keersmaecker, vice-chairman; Mr Carossino, vice-chairman; Mr Albers, rapporteur; Mrs von Alemann, Mr Baudis, Mr Bonaccini (deputizing for Mr Cardia), Lord Harmar-Nicholls, Mr Moorhouse, Mr Moreland and Mr Voyadzis.

The opinion of the Committee on Energy and Research is attached to the present report.

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The Committee on Transport hereby submits to the European Parliament the following motion for a resolution, together with explanatory statement:

MOTION FOR A RESOLUTION

on ways and means of effecting energy savings in the transport sector

The European Parliament,

- having regard to the report of the Committee on Transport and the opinion of the Committee on Energy and Research (Doc. 1-249/81 ),
- having regard to the material collected during the hearing on this subject organized by the Committee on Transport on 27/28 November 1980 and the written contributions sent in by qualified organizations,
- having regard to its numerous reports and resolutions on the supply and consumption of energy in the Community and the action which needs to be taken to achieve savings,
- having regard to the Council resolution of 9 June 1980 concerning new lines of action in the field of energy saving<sup>1</sup>,
- conscious that world consumption of oil exceeds the rate at which new reserves are being discovered and brought to production, and that the world's oil reserves may be exhausted in a timescale of up to sixty years,
- pointing out that the transport sector relies to a very great extent on oil to cover its energy needs,
- very seriously concerned about the Community's present energy supply situation and possible future developments, particularly with regard to oil, and the effect these will have on the operation of Community transport,
- wishing at the same time to make a contribution towards reducing the Community's dependence on imported oil products,
- taking account of the fact that in many respects the efficiency with which oil is used as a source of energy for transport is open to improvement,

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<sup>1</sup> OJ No. C 149, 18.6.1980, p.3

1. Maintains that all possible efforts must be made to cut oil consumption in the transport sector by a substantial amount and that a reduction over 10 years of 20 to 30% is both advisable and feasible;
2. Is firmly convinced that a number of measures can be taken to this end without any significant cost arising to the Community;
3. Urges the Commission to take greater account than in the past of the possible repercussions of all its proposals in this field on oil consumption in the transport sector and states its intention to judge future transport proposals systematically by this yardstick;
4. Notes with regret that current research into energy saving in the various sectors of transport, despite some successes, must in general be regarded as inadequate;
5. Also regrets that the measures taken so far to effect energy savings in transport have failed to produce any notable results and, with one or two exceptions, the savings made bear no relation to the exigencies of the present and future energy requirements;
6. Considers it extremely desirable in the first instance and at the earliest possible date to make better use of the existing modes of transport by:
  - making technical adjustments and improvements to these modes of transport,
  - channelling traffic flows in a more efficient manner,
  - increasing the load factor of vehicles in both public and private transport;
7. Emphasizes the need to take measures in favour of public transport to make it more attractive particularly in towns and conurbations and thereby encourage more selective use of the private car;
8. Wishes therefore to see the service provided by public transport improved by:
  - modernizing existing buses, underground transport and other public means of transport,
  - better adjusting supply to demand and providing more frequent services,

- providing new routes and extending networks,
  - staggering working hours and holidays,
  - granting or extending special fares,
  - integrating the various public transport services in towns,
  - building car parks at the most important approach roads into towns,
  - general introduction of reserved lanes for buses and taxis,
- as well as organizing publicity campaigns to stimulate the use of public transport;
9. Considers that the development of telecommunications could help to reduce the number of journeys per person;
  10. Also considers it desirable to take measures in favour of combined road/rail transport and road/inland waterway/sea transport so that greater use can be made of them in future particularly for transporting goods over long distances;
  11. Is of the opinion that priority should be given to the more economical means of transporting goods; points out, however, that any measures aiming to transfer goods transport from road to rail or inland waterway must be well thought out and must take account of a number of factors such as consumers' legitimate interests, the overloading of some stretches of railway track and the capacity of transport infrastructures;
  12. Considers it necessary, if transfers are to be made within transport as a whole from one mode to another, that account should be taken of their effect on employment and that this matter should be discussed at an early stage with employers' and workers' organizations and counter-measures taken on the labour market, for example in the form of public works contracts in the public transport sector;
  13. Requests the Commission to draw up an emergency plan without delay to deal with a serious energy crisis in order to ensure, on the basis of Community criteria, the fairest distribution of scarce fuels between the various transport sectors taking into account the demands of industry, trade and transport;
  14. Requests the Commission to draw up proposals for goods transport directed towards the use of those modes of transport which use less energy and are, if possible, less dependent on oil and its derived products;
  15. Calls for the introduction of recommended Community fuel consumption standards for road vehicles, particularly passenger vehicles;

16. Believes that the maintenance and correct tuning of private and commercial vehicle engines does make a valuable contribution to energy saving, consequently urges Member States governments' to publicize the advantages of proper maintenance and tuning and to encourage vehicle users to retrofit their vehicles with computer actuated engine management systems as a means of reducing the need for regular maintenance and tuning;
17. Recommends the introduction of road speed limits after careful consideration and harmonization at Community level since this is a measure which can considerably improve the efficiency with which fuel is used; nevertheless cautions against speed limits which might hinder the easy movement of traffic which in turn might lead to a wastage of fuel;
18. Recommends further that drivers of road transport vehicles should be urged to adopt better driving techniques to reduce fuel consumption by supplying them with information on their vehicle's energy consumption and providing adequate instruction and training courses for the drivers of commercial vehicles;
19. Recalls its previous remarks on the considerable wastage of fuel in aviation as a result of inadequate control systems in the European airspace and a lack of cooperation between national air traffic authorities<sup>1</sup> which cause aircraft to be held up in airports, circle aimlessly above them and fly considerably longer distances than necessary;
20. Considers it therefore desirable to introduce an integrated European system to regulate air traffic flows which will be concerned to produce a route structure compatible with an efficient use of fuel;
21. Believes that reform of the existing structure of air transport in the Community, including moves towards greater competition, can contribute to greater efficiency in the use of aircraft and, consequently, energy saving, in addition to meeting the needs of airline users;
22. Urges greater attention by Member States and shipping organizations to energy saving opportunities in shipping and, in particular, to the replacement of oil by coal or nuclear power, where practicable, as major energy sources for ship movement;

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<sup>1</sup> Report by Mr Janssen van Raay, Doc. 1-274/80, OJ No. C 197, 4.8.1980, p. 44



23. Appeals to urban authorities to take measures to prevent wastage of fuel in town centres and conurbations, including:
- appropriate general traffic planning,
  - an integrated system of public transport,
  - increased synchronization of traffic lights,
  - clear signposting,
  - the construction of ring roads,
  - diversion of traffic from busy town centres;
24. Is firmly convinced that energy consumption could be tangibly reduced by the construction of an improved and integrated Community transport infrastructure network and the elimination of numerous bottlenecks and refers in this connection to its resolution on the role of the Community in the development of transport infrastructure<sup>1</sup>;
25. Is of the opinion that additional efforts are required to improve cross-frontier transport within the Community and transport in its peripheral regions;
26. Requests the Commission to draw up practical proposals for the financing of energy-saving programmes in this field;
27. Considers that the Commission should incorporate in its proposals for tax harmonization measures which will encourage the use of energy-saving means of transport but which will not cause distortions of competition or produce difficulties in the labour market;
28. Is of the opinion that at the same time inquiries should be made to ascertain to what extent tax-free allowances and tax relief on travel expenses could be replaced by the provision of public transport vouchers;
29. Urges the Commission to undertake research into possible alternative energy sources and means of propulsion for the transport sector;
30. Invites the Commission to consider that areas for further Community-sponsored research should include :
- (a) the potential for electric power-based road vehicles,
  - (b) the use of methanol, ethanol and hydrogen for road vehicles,
  - (c) the use of lighter vehicles with a better aerodynamic design,
  - (d) the energy savings potential of lighter airframes, more aerodynamic fuselage and wing shapes through the establishment of a cryogenic transonic wind tunnel,

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<sup>1</sup> Report by Mr Klinkenborg, Doc. 1-601/80

- (e) the potential for coal-burning locomotives, inland and maritime vessels using fluidized bed boilers,
- (f) coal liquefaction,
- (g) the development of very high-speed trains,
- (h) improved utilization of shipboard computer systems for fuel purposes at sea,
- (i) a Community research and development programme for the European aerospace industry,
- (j) new methods of oil analysis and specification;

- 31. Draws attention to the need for there to be, as part of a common policy on industry, consultations, exchanges of information and, where possible coordination between the Community and third countries on the research and development of new conventional or non-conventional energy-saving technologies;
- 32. Invites the Commission at its earliest opportunity to draw up a memorandum on the subject of energy savings in transport which will take up the recommendations and suggestions made here and set out an action programme with specific priorities, taking account of the ideas developed in the explanatory statement attached to this resolution;
- 33. States its firm opinion that, in view of the difficult energy supply situation the institutions and Member States of the Community must make greater efforts within the framework of the Treaties to give fresh impetus to the common transport policy;
- 34. Requests its President to forward this resolution and the accompanying report to the Council and Commission and to the committees responsible for transport matters in the national parliaments of the Member States.

EXPLANATORY STATEMENT

I. INTRODUCTION

1. The Committee on Transport is fully aware of the present excessive use of energy in the transport sector, of the Community's energy supply difficulties and of the danger that an energy crisis could represent for a properly functioning transport market in view of the great dependence of this sector on energy and in particular on oil.

2. At its very first meeting after direct elections, on 7 September 1979, the committee made this problem one of its priorities<sup>1</sup> and also agreed unanimously that it should draw up an own-initiative report on ways and means of effecting energy savings in the transport sector.

3. At the same time the committee believed that it was desirable, in preparation for this report and in order to formulate realistic and feasible proposals and recommendations, to invite the relevant international and European organizations to a public hearing.

4. This public hearing was held, after thorough consultation and preparation, in Brussels on 27 and 28 November 1980.

Of crucial importance in the preparation of this hearing was the selection of the organizations to be invited to represent the sector and the drafting of a carefully considered questionnaire which was sent to participants on 18 June 1980<sup>2</sup>.

Unfortunately, lack of time made it impossible to invite many organizations. However, the committee believed that a large number of questions had to be answered come what may and that this would be impossible if the number of participants was not restricted.

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<sup>1</sup> See the list of priorities of the Committee on Transport, PE 59,680

<sup>2</sup> Your rapporteur's questionnaire (PE 63.132 of 17 April 1980) is attached to this report as Annex 1.

Your rapporteur would like to offer his apologies for this at this point and thank those organizations which nevertheless sent in written contributions.

He would also like to address special thanks to all the experts and representatives of organizations who took part in this public hearing<sup>1</sup>, answered the questionnaire and/or submitted written comments<sup>2</sup>.

It goes without saying that your rapporteur gave careful consideration to all this factual material and drew conclusions which are embodied in the present report.

5. From the outset the Committee on Transport had decided to involve the Committee on Energy and Research closely in its activities. Many consultations took place between your rapporteur and the draftsman for the Committee on Energy and Research, Mr Beazley, and a certain demarcation of tasks was agreed in order to avoid pointless duplication of work and contradictions. Your rapporteur would like to thank Mr Beazley warmly for his cooperation and efforts.

6. Finally, your rapporteur would like to thank the various members of staff of the Commission who provided him with advice and in particular Mr Ventrella who was kind enough to act as coordinator between the various Commission Directorates-General concerned.

7. It would be an endless task to give detailed consideration in the present report to all aspects of the very complex question of energy saving in the field of transport, on which many studies have been carried out in the past few years and a large number of articles published.

Your rapporteur would therefore like to restrict himself to the main lines of this problem and to presenting cogent arguments for the recommendations and suggestions which are included in the motion for a resolution.

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<sup>1</sup> For a full account of the public hearing, see Doc. PE 69.952

<sup>2</sup> Annex II contains a list of participants and Annex III a list of all the written contributions received with references.

II. THE PRESENT ENERGY SITUATION AND ENERGY CONSUMPTION IN THE TRANSPORT SECTOR WITHIN THE COMMUNITY

8. We all know that the Community has been faced since 1973 with the problem of increasingly expensive and scarce supplies of the energy which is of crucial importance for the proper functioning of trade and transport.

9. The Community is highly dependent in its considerable and moreover continuously increasing consumption of energy on imports, particularly in the case of oil products which account for more than half of the Community's energy consumption.

The consequence of this situation is that the Community has very little control, if any, over the prices of imported energy: both the quantity and quality of supplies depend on the goodwill of third countries and there is also the ever-present risk that political incidents may result in serious energy shortages with all the consequences this would have for the economic situation of the Community. Apart from this, oil imports are also a heavy burden on the balance of payments positions of the Member States.

10. At the present time transport accounts for approximately one fifth of total Community energy consumption and virtually 30% of the consumption of oil<sup>1</sup>.

The dependence of the transport sector on imported oil products is especially great and amounts at the present time to over 90%.

Energy consumption by transport is of course not equally high in all the Member States. The proportion of energy consumed by the transport sector varies from country to country between 16 and 23%.

Road transport leads the way in energy consumption with 23% of total Community oil consumption (1978 figures).

11. If we remember at the same time that oil reserves are dwindling and may well not meet requirements in a few decades, it is clear that every attempt must be made as quickly as possible to achieve substantial energy savings in the transport sector.

Consequently in each country and in the Community as a whole the necessary extra effort must be made to reduce oil consumption in the transport sector by 20 to 30% over a ten-year period.

<sup>1</sup> In 1978 the transport sector in the United Kingdom accounted for 34% of total oil consumption.

12. These target figures, which are regarded by experts as realistic and feasible, will only surprise those who disregard the fact that the way in which oil is used in the transport sector is in many ways wasteful.

Indeed, your rapporteur is convinced that oil consumption in the transport sector is inefficient and open to a number of improvements if we are prepared to work for a significant increase in fuel productivity.

13. The following chapters examine the measures which can and should be taken to achieve these improvements in practice and to bring about the energy improvements mentioned above.

14. It is noticeable that a number of improvements in the energy consumption pattern in the transport sector such as energy-conscious driving habits, properly tuned engines, etc., can be achieved without considerable financial expenditure.

15. In order to realize the objectives the Committee on Transport considers that it is of the greatest importance that all future proposals for Community action in the transport sector should be orientated more than has been the case in the past towards energy conservation.

The Committee on Transport warns the Commission at the same time that from now on its opinions on relevant draft directives, decisions or regulations systematically and carefully look into the implications of the proposed measures as regards energy consumption.

16. To conclude this chapter, your rapporteur would also like to draw attention to the fact that during the public hearing and in the written contributions from the organizations it emerged that the research undertaken so far and the measures already implemented to conserve energy are unfortunately, apart from a few exceptions, inadequate and fall short of requirements in this field.

Many of the participants in the hearing expressed the wish that the Community should make available finance for scientific studies and research<sup>1</sup> and that these actions should be coordinated in view of the fact that research in Europe at present is too fragmented.

Furthermore political volition is required to translate the results of research into practice. Here too the present situation is unsatisfactory

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<sup>1</sup> By virtue of the Council's decision of 11 September 1979, 105 million EUA was set aside for a period of 4 years (from 1 July 1979) to finance a research and development programme in the energy sector up to 1983. See OJ No. L 231, 13.9.1979, p. 30.

and the Community has a task to fulfil. As regards research it is most desirable that there should be consultation, exchanges of information and, as far as possible, far-reaching coordination between the Community and other countries.

III. THE URGENT NEED FOR IMPROVEMENTS IN THE USE OF EXISTING TRANSPORT MODES AND TECHNOLOGIES

17. The energy yield in the transport sector can and must be increased in the short term by the optimalization of the use of existing modes and technologies of transport.

18. The proper use of existing modes of transport could be brought about by influencing the separate components of the transport system, i.e. the driver, mode of transport and infrastructure and the transport system in general.

As the International Road Federation has rightly pointed out, the separate components influence each other and as a result of this interaction uncoordinated measures for the separate components are incapable of producing satisfactory results<sup>1</sup>.

A. Measures to increase the fuel yield for separate components of the transport system

(i) The driver

19. It is an indisputable fact that a large number of drivers are at present careless in the way they use fuel and this includes drivers of private vehicles and, perhaps to a lesser extent, bus and lorry drivers. Each one of us can see every day that there is too much unnecessary braking, fast acceleration and driving at irresponsibly high speeds.

Better driving can save 20% of fuel.

20. Possible measures in this area are of two kinds:

- drivers can be encouraged to be more energy-conscious, by appropriate publicity drives and better information about the pattern of energy consumption and the best speed for their vehicle<sup>2</sup> and by emphasis on energy conservation when driving licences are issued,

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<sup>1</sup> See the written contribution from the IRF (PE 72.249, P.1).

<sup>2</sup> Information and publicity drives were expressly mentioned in the annex to the Council's resolution of 9 June 1980 concerning new lines of action by the Community in the field of energy saving, OJ No. C 149, 18.6.1980, p. 5.

- professional drivers can be made more aware in their training, schooling or practical preparation of the potential of more economic driving habits;

The driver will have a better idea of the energy consumption of his particular vehicle if:

- the manufacturer provides a handbook which deals with energy consumption;
- he is given an idea of the most economic speed range for each gear on the speedometer or revolution counter;
- the vehicle is equipped with apparatus (econometers) which give a precise indication of energy consumption while driving.

These measures were included in the Council's recommendation of 4 May 1976. However it is to be regretted that the Council went no further than making recommendations instead of passing binding rules<sup>1</sup>.

21. It would also seem a good thing for national or Community rules to be formulated to ensure better maintenance of vehicles and in particular correct tuning of engines (ignition, carburettors, air filters, etc.).

Such provisions would naturally have little effect if they were not at the same time accompanied by monitoring of compliance with these rules and if necessary penalties for non-compliance.

22. It is also important for drivers to be given truthful information on the energy consumption of each type of vehicle when they are buying a particular vehicle. In this connection misleading or false publicity must be banned as a matter of urgency.

Finally press campaigns should perhaps be recommended to make future buyers aware of fuel economies when selecting a car. The car clubs in the various Member States could make a positive contribution here.

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<sup>1</sup> Council recommendation 76/494 on the rational use, through better driving habits, of energy consumed by motor vehicles.

OJ No. L 140, 28 May 1976, p. 14.



23. Your rapporteur is fully aware that better driving habits could result in considerable energy economies, but that it is anything but easy to persuade the car driver that this is true in practice<sup>1</sup>.

(ii) The mode of transport

24. By improving the construction and equipment of transport vehicles considerable energy economies can be attained. This also applies to a greater or lesser degree to all branches of transport<sup>2</sup>.

25. In this connection it would seem desirable for the manufacturers of motor vehicles to give greater attention to<sup>3</sup>.

- energy regulators<sup>4</sup>
- more economic engines (ignition and combustion systems)
- the efficiency of transmission systems
- better streamlining (aerodynamics)
- a better payload : deadweight ratio
- reduction of the weight of vehicles (mainly for aircraft and also for inland navigation vessels)

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<sup>1</sup> In 1979 a large-scale publicity campaign was conducted in France under the slogan 'Chasse au Gaspi' (banish waste) the results of which have been good and which can therefore serve as a model. See the contribution from the European Bureau of Consumers' Unions (EBCU), PE 69,242, pages 5-7.

<sup>2</sup> The EAAEM (European Association of Aerospace Manufacturers) pointed out that economies of up to 30% could be attained in the short term by technological improvements in aircraft (PE 68.344)

<sup>3</sup> IATA recently published a comprehensive handbook containing technical advice on the increasing of fuel yield (PE 69.815)

<sup>4</sup> An energy regulator has been invented in France which enables savings of 5-8% in towns and in heavy traffic. Mr Glinne advocated its generalized use in a written question. OJ No. C'282, 12.11.1979, p. 12.

- tyres and brakes
- fuel injection systems
- electronic apparatus
- the coefficient of friction
- the installation of computers in aircraft
- non-metallic materials (in aviation)
- regenerative energy from braking (for railway transport)
- rudder installations (inland shipping)

With an eye to the greatest possible saving of energy in connection with lorries, vehicle manufacturers and hauliers' associations advocate an increase in the permitted maximum weight, as in Italy. However, in the discussion of this problem, the Committee on Transport pointed out that other factors also had to be taken into consideration such as environment management and traffic infrastructure potential. For further details, see the report on this subject by Mr Carossino (Doc. 1-865/80).

26. Two years ago all the major motor vehicle manufacturers in the EEC voluntarily promised their respective governments that they would reduce the fuel consumption of their vehicles by at least 10% by 1985<sup>1</sup>.

The question now is whether this figure is adequate and whether there should not be legal provisions at Community level on the model of the Corporate Average Fuel Economy Act in the United States.

27. So if for the present the introduction of maximum consumption criteria is not immediately required, the possibility of doing this must be left open so that they can be applied if certain adverse developments on the oil market make them necessary. Meanwhile the Committee on Transport advocates the formulation of recommendations in this respect.

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<sup>1</sup> See the answers to the questionnaire given by LCAI (Liaison Committee of the Automobile Industry), PE 67.908, p. 2