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ROAD TRANSPORT AND ENVIRONMENT. A VIEW BY THE DUTCH ROAD HAULAGE ASSOCIATION (NOB WEGTRANSPORT)

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SUMMARY

The transport of goods over the road makes a considerable contribution to the overall air pollution. The completion of the European internal market will result in an increase of the cargo trade. The environmental policy should be shaped on a international level for the sake of effectiveness. More transport by rail and inland shipping; cleaner lorries; a more efficient transport, allowing larger dimensions and weights and a more efficient transport by allowing cabotage and applying telematics are directions in wich the solution to the enormous problems must be sought. In addition transport companies also have their own responsibility.

INTRODUCTION

The pollution with which society is confronted is enormous. The gradual heating of the atmosphere and acidity are subjects wich in the meanshile have become prominent on the political agenda.

In order to prevent future generations being saddled up with the consequences of the economic activities of the present generation, it is important that economic developments are tested on the conditions of "sustainable development". If we take "sustainable development" as a starting-point, road transport will also have to make its contribution.

If we leave aside issues such as (company)waste products, soil contamination, noise pollution and limit ourselves tot the emissions of polluting substances, then road transport makes an important contribution to acidity (in particular NO_x), the greenhous effect (CO_2) and the smog problems (NO_x, aerosols).

acidifying emissions (NH_3, NO_x, SO_2), sources in the Netherlands:

agriculture	50%		
road traffic	21%	of which (only NO_x):	
power plants	9 %	cars	57%
refineries	6 %	freight traffic	36%
other industry	11%	delivery vans	4 %
miscellaneous	3 %	busses	3 %

As is known, these problems -certainly with respect to the emissions of CO_2, NO_x- have an important international dimension: approx. 80% of the acidifying emissions in the Netherlands are exported and approx. 60% of acidifying substances falling down in the Netherlands come from abroad. There have never been boundaries for air pollution in Europe: realised emission restrictions on an international level are simply nullified as a result of depositions from other countries.

Another international aspect of the problems is the European unity. The disappearance of physical, technical and fiscal obstacles between the members states undoubtedly has positive effects on the economies of the members states, as a result of wich the demand for transport will increase considerably. In addition it is possible tot carry out the transport in a simpler way due tot the disappearance of physical restrictions. A study carried out on the authority of the European Commission [1] expects an increase of international freight traffic as a result of the completion of the internal market.

SOLUTIONS

The much discussed "Dutch Enviromental Policy Plan" (NMP) [2] and the following NMP+ [3] contains the strategy for the enviromental policy for the long-term period and aim at achieving a sustainable development. The NMP indicates what measures are required for all societal and economic sectors in order to guarantee a durable economy. In addition to the NMP, the "Structure Schem for Traffic and Transport" (SVV) [4] is very relevant to the transport sector. The SVV also makes the idea of "durable development" a central issue of its policy. Both policy documents indicate what policy the Dutch government should use in order to tackle the enviromental problems, which have also been caused by the cargo trade.

The main aim of the policy has been laid down in so-called emission ceilings. Within a number of periods, considerable emission reductions will have to be realised in order to stay under the ceilings. The most important means to achieve the goals can be generally divided into technical measures, a shift in modes of transport and measures increasing efficiency.

Emission ceilings:

	NMP: 1986	2000	2010	NMP+:2000	2010
NO_x road haulage	122	72	25	72	25
Carbon hydrogens road haulage	46	30	12	30	12
CO_2[1]	24,000	24,000	2,160	23,000	23,000

kilotons per year

[1] the emission maximum for both personal and cargo traffic

Measures to improve transport techniques contribute in an important degree to the emission reductions. Proposals to considerably highlight the emission standard are an important step in the right direction.

European emission standards for lorries:

standard:	R-49	88/77/EEC[3]	EEC proposal[2] first phase	second phase
NO_x	18	14.4	8.0	7.0
CO	14	11.2	4.5	4.0
Carbon-Hydrogens	3.5	2.4	1.1	1.1
soot	-	-	0.38	0.3 / 0.15

gram per kWh

It is estimated [5] that a NO_x reduction through technical measures by 35% in 2010 in comparison with 1980 is the maximum attainable. The technical measures must therefore be added by measures aimed at restricting the use of energy. A restriction in the use of energy is not only necessary to reduce polluting emissions, but also the greenhouse gas CO_2. The restriction in driving and rolling resistance and the application of lighter materials are the technical options with respect to the saving of fuel. Last, but not least, it is also possible to have a reduction in the emission of SO_2 and soot by using a better quality of diesel fuel.

A shift from part of the road cargo traffic to rail transport and inland shipping is also an important means to realise the intended emission reductions.

The expectations of a change in the modal split are high. It is without a doubt that the transport by rail and inland shipping is cleaner and sounder with respect to energy than road transport. The expected growth of road transport is so large that it is also for reasons of a smooth circulation that part of the growth will have to be taken over by other modes of transport. For the time being it seems that it is only for long international distances that the train can be an alternative for cargo trade. The use of containers and swap bodies offer a favourable perspective. In addition the international organisation and the necessary infrastructure for combined transport require much attention.

The road transport companies and the government stick tot the principle of a "shippers free choice", which means that the choice of a mode of transport by a loader is based on the relation price/quality and that a forced restriction of the road transport is not carried out.

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[2] The first phase would be enforced on 1 January 1993 and the second phase on 1 Oktober 1997.

[3] enforced starting from 1 Oktober 1990

Part of the expected doubling of the road transport in 2010 in comparison to 1986 could be taken over by train and inland shipping. It has been calculated [6] that the growth of the road transport on Dutch territory could be at most "restricted" to approx. 68% instead of 100%.

Besides an improvement in the transport techniques and a larger transport contribution by rail and inland shipping, measures that improve the efficiency can also realise a considerable reduction of the emissions. Allowing cabotage, extending the allowed dimensions and weights and increasing the loading degree of lorries by applying telematics very strongly contribute to the restriction of rides without cargo and a more efficient effort by lorries and therefore to the necessary decrease of the emissions.

According to estimates [7], the loading degree of the international road transport can increase by 10% to 25%, if national transport is allowed by foreign transport companies (cabotage). Cabotage will be allowed in the Benelux (Belgium, The Netherlands and Luxemburg) in 1991.

Finally, considerable reductions can also be realised by extending the allowed dimensions and weights. According to a study [8] on the consequences of changing the allowed dimensions of lorry-trailer combinations, a certain combination uses 9.2% less fuel than a vehicle with 10.85% less loading capacity for the same transport performance. Other data [9] also show that articulated lorries and lorries with trailers emit three to four times less per ton per kilometer than normal lorries.

The conditions to have the formulated policy succeed depends to a large degree on international arrangements. Emission standards, dimensions and weights, standardisation of containers and swap bodies are subjects to the determined on an European level. Telematics is already a subject of study through EUREKA. Allowing cabotage is an item which marvellously fits in with the spirit of European unity.

The completion of the internal market is not only - as a result of the consequences of the expected economic growth - a threat to the environment, but the unity also offers chances to tackle the environmental problems in an effective and efficient way. The EC should make the most of its opportunities to formulate a progressive european environmental policy. At present there is a chance that progressive member states are stopped by member states with less priority as regards the environment. The completion of the internal market is not only a success if the economic expectations are realised, but if in addition the result of the European environmental policy is more than just the sum of the environmental policies of the separate members states.

The success of the policy depends on the international efforts to realise a common approach of the problems. An important advantage of a international approach of the environmental problems is an equilibrium of the effect - also for the road transport - in the competition relations.

The road transport must and can make a contribution to the solution of the problems. The road transport also has its own responsibility with respect tot these problems. This responsibility demands from this branch of trade that it will actively pay attention to the maintenance of its fleet of lorries, the maintenance of the maximum speed and the driving behaviour of the drivers. Furthermore, transport companies must keep their minds open to developments like telematics and alternative modes of transport.

REFERENCES

[1] Environment and the Internal Market. Task Force. Brussels, 1990.

[2] Parliament, meeting year 1988-1989, 21 137, nos. 1-2.

[3] Parliament, meeting year 1989-1990, 21 137, nos. 20-21.

[4] Parliament, meeting year 1989-1990, nos. 20 922

[5] Milieu & Concurrentiekracht, Nederland Distributieland, Den Haag, 1990

[6] idem

[7] idem

[8] Kleinere laadlengte, grote gevolgen (Smaller loading length, greater consequences). NEA. Rijswijk, 1989.

[9] Goederenvervoer moet schoner kunnen (Cargo Trade can be cleaner), Schoenmaker, T.J.H.; Bouwman, P.A., Tijdschrift voor Vervoerswetenschap 1990, no. 1, NEA, Rijswijk.