

# Fuelling the Debate

A fair, efficient and  
environmental fuel tax policy

85  
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MOTEUR

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Alliance Internationale de Tourisme and the  
Fédération Internationale de l'Automobile



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# Introduction



An unprecedented protest against the cost of fuel took place across Europe in September 2000. Protests occurred in France, Belgium, the Netherlands, Spain, Germany, Italy and the United Kingdom. The actions of a minority of protestors caused severe disruption leading to transport chaos and fuel shortages. Although hugely inconvenient to millions of motorists and their families, these events highlighted widespread public concern about the effect of rising fuel taxes and prices.

For months and years before the protests, the automobile clubs of the AIT & FIA have warned governments about rising opposition to levels of fuel taxation. In our Manifesto for Mobility<sup>1</sup> published during the elections to the European Parliament in June 1999 we highlighted the unfairness of policies that penalised car-based mobility without providing adequate levels of investment in alternative modes of transport. Rising fuel prices, combined with increased levels of taxation for both petrol and diesel, have now finally pushed these concerns to the top of Europe's political agenda.

Governments have justified higher fuel taxes as a means to curb car use and to reduce vehicle emissions. However, today penalty-driven fuel taxation policies are discredited.

They have failed to meet their environmental objectives and have exceeded public tolerance with ever increasing levels of taxation. They have also proved to be extremely unfair, hitting hardest those who can least afford to pay.

A new strategy for fair taxation and environmental protection is urgently needed. In this paper the AIT & FIA propose the basis of a reward-led reform. The time is now right for a new approach at a European level using tax incentives to bring forward the cleaner fuels and vehicle technologies that can reduce both car emissions and the cost of mobility to the consumer. We hope that this time governments will listen.

Max Mosley  
FIA President  
Chairman AIT & FIA Eurocouncil

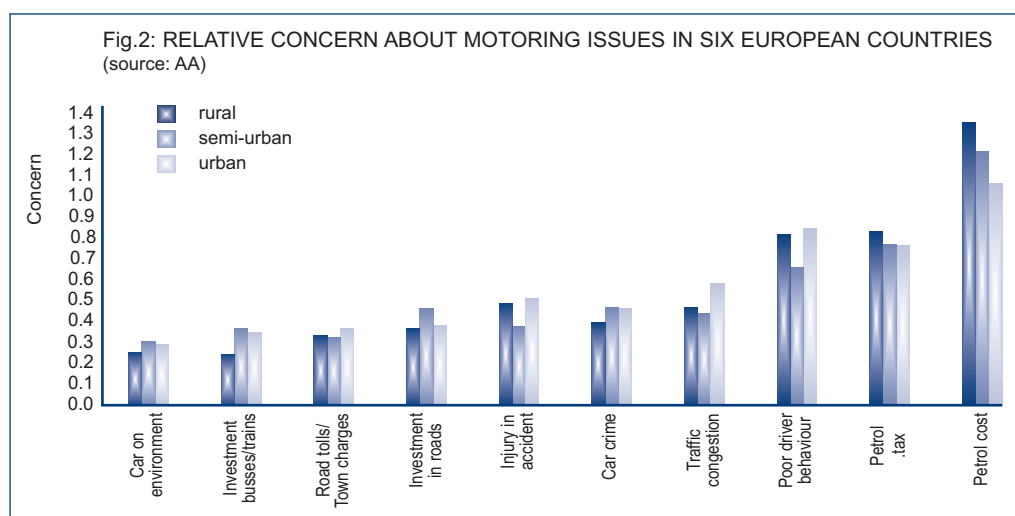
# The politics of fuel: the public cost of fuel

Throughout the 1990's governments used fuel taxation as an easy option for raising revenue. This was made more possible because throughout most of this period oil prices were low. However, it was perhaps, in retrospect, risky to link taxation and revenue to such a price volatile commodity as oil. Most governments justified large annual increases in fuel taxation by claiming it was an environmental policy that would reduce car usage and greenhouse emissions.

However, rather than reduce car use or even raise public awareness of environmental issues, higher fuel taxes have only succeeded in making people very conscious of the cost of motoring. Public concern over the cost of motoring and fuel taxes has consistently risen across Europe. As the polling evidence on the page opposite shows, environmental concern lags far behind cost issues.

**Fig.1: EUROPEAN UNION: TAXES ON FUEL**  
(source: ACEA)

|                 | Taxes on Motoring                          |                 |        |
|-----------------|--|-----------------|--------|
|                 | Excise duties in Euro/1000 litres on fuels |                 |        |
|                 | Unleaded 98 RON                            | Unleaded 95 RON | Diesel |
| Belgium         | 507  | 507             | 290    |
| Denmark         | 520  | 520             | 45     |
| Germany         | 562  | 562             | 378    |
| Spain           | 403  | 372             | 270    |
| France          | 590  | 590             | 392    |
| Greece          | 330  | 300             | 254    |
| Ireland         | 454  | 374             | 325    |
| Italy           | NA   | 527             | 388    |
| Luxembourg      | 372  | 372             | 253    |
| The Netherlands | 600  | 600             | 353    |
| Austria         | 408  | 406             | 283    |
| Portugal        | 289  | 289             | 246    |
| Finland         | 559  | 559             | 304    |
| Sweden          | 520  | 520             | 340    |
| UK              | 796  | 764             | 764    |
| EU minimum rate | 287  | 287             | 245    |



People are so sensitive to fuel price increases because they depend on their cars. In our modern society the car can be the key to economic mobility and social independence. It has enabled women to combine work and childcare. It has provided opportunities for millions. By focusing their attention on taxing the social costs of the car - emissions, congestion, CO<sub>2</sub> - and failing to recognise the social benefits of car use, policy-makers have alienated themselves from the concerns of ordinary people dependent on their cars to work and live.

Fuel tax exacerbates this political problem because it is a very simple, blunt instrument: it falls on urban and rural car users, rich and poor alike. The regressive nature of fuel tax is shown clearly in the case study on pages 7 & 8. Fuel tax also makes no distinction between areas of high and low traffic density, it cannot target environmental problem areas. The simplicity of fuel tax - which makes it such a popular revenue raiser for governments - makes it a very insensitive policy tool.

There is very little evidence that fuel taxes are helping the environment. For example, high fuel taxes have only a very limited capacity to reduce CO<sub>2</sub> emissions.

FIG.5: THE INEFFICIENCY OF FUEL TAX CO<sub>2</sub> SAVINGS IF FUEL DUTY WAS INCREASED BY 20% ABOVE 1999 UK LEVELS BY 2002\* (source: EUROPEAN COMMISSION)

|                 |        |
|-----------------|--------|
| Finland         | -0.43% |
| France          | -0.43% |
| Germany         | -0.61% |
| Greece          | -2.14% |
| Ireland         | -1.52% |
| Italy           | -0.54% |
| The Netherlands | -0.52% |
| Spain           | -1.41% |
| United Kingdom  | -0.55% |

Indeed, research conducted during the European Commission's Auto Oil II programme in 1999 suggested that CO<sub>2</sub> savings from an even more aggressive fuel tax regime would be limited (Fig 5). The chart shows that increases by 20% above 1999 levels, which are in fact extremely unlikely for political reasons, would achieve very modest CO<sub>2</sub> savings.

The recent protests merely reflect the underlying political reality that higher fuel taxes and the penalty driven approach to environmental progress have failed. The policies are hurting but not working.

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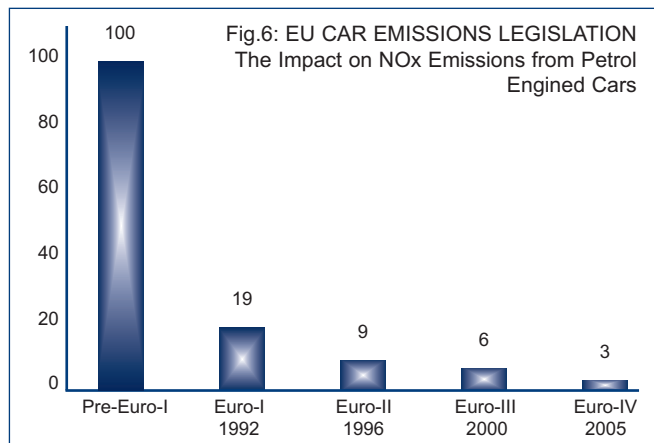
# Fuel policy and vehicle emissions: the legislative and technical framework

Although often ignored in the debate about the cost of fuel and car emissions, the European Union has recently adopted laws and agreements that will radically improve the environmental performance of motor vehicles. In 1998, during the British Presidency of the EU, two Directives were agreed which were a breakthrough in European environmental legislation. A Directive on vehicle emissions<sup>2</sup> mandated the introduction of new cars by 2005 meeting emission standards almost 100 times cleaner than those allowed in 1985. A Directive on Fuel Quality<sup>3</sup> mandated EU member states to introduce ultra low sulphur (50 parts per million) petrol and diesel also by 2005. These Directives are the latest in a series of legislative measures that have seen air quality improve dramatically over the past twenty years.

These Directives also have the potential, together with new engine technologies, to provide significant fuel economy savings, reducing CO<sub>2</sub> emissions. They have been reinforced by a Voluntary Agreement on CO<sub>2</sub><sup>4</sup> made between the European Commission and car manufacturers that will deliver 25% fuel efficiency improvements from 2008. The European Commission's first assessment of

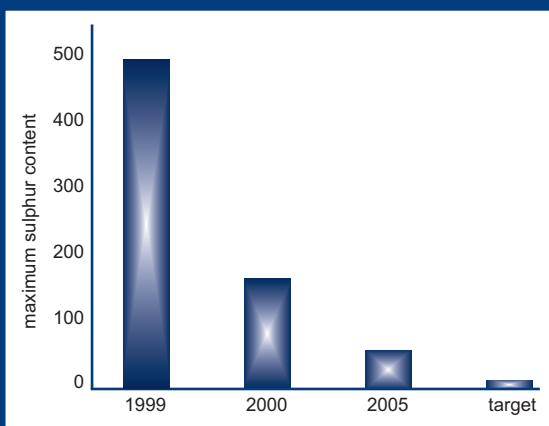
progress, in October 2000, suggests that most car manufacturers are on track to achieve the fuel efficiency targets, with CO<sub>2</sub> emissions being reduced by an average of 5.6% between 1995-99.

To achieve the full benefits of these Directives and the Voluntary Agreement, however, much more needs to be done. Vehicle technology is advancing more rapidly than the fuels available to serve it. New engine technology such as GDI (gasoline direct injection) and more advanced, lean-burn conventional engines need virtually sulphur free fuel to operate efficiently. GDI engines inject fuel at high pressure very close to the sparking plug. This highly complex operation requires accuracy in delivering fuel, timing the burn precisely and controlling airflow, to keep the injected fuel in place. The fuel efficiency savings from GDI systems average at 20%. Efficient new lean burn diesel engine technology, like the DeNox catalyst, that reduces nitrogen oxides to nitrogen, also requires extremely low sulphur fuel to work effectively.



Low sulphur fuel is the common denominator linking all these potential technological engine improvements. The environmental benefits of virtually sulphur-free fuel (10ppm or less) are compelling. Early results from research conducted by the German automobile club ADAC's Landsberg testing facility suggest that virtually sulphur-free fuel can reduce the emission components and fuel consumption of the existing car fleet by up to 17%, compared with 50ppm sulphur fuel. Greenhouse gas obligations under the proposed Kyoto Protocol and air quality considerations both point to early adoption of a 10ppm sulphur limit for petrol and diesel.

**Fig.7: IMPROVEMENTS IN PETROL SULPHUR CONTENT - EU 1999-2005**



This has been formally proposed by the German Government and is the subject of a review by the European Commission. As the graph below shows, introducing 10 ppm sulphur fuel would be a logical progression to the considerable improvements already made. There is also a very strong argument for substantially increasing and accelerating the market penetration of ultra low sulphur fuels.

The 1998 European Union legislation set a timeframe and a responsibility for the introduction of 50 ppm sulphur fuel. This is the foundation on which policymakers should now build. We need a twin track approach. Firstly, encouraging accelerated introduction of the 2005 fuel standards across Europe and promoting even lower sulphur content in fuel – to 10ppm as soon as possible. Secondly, promoting the purchase of new generation ultra clean, high fuel efficiency vehicles.

# Case study: United Kingdom 1993 - 2001

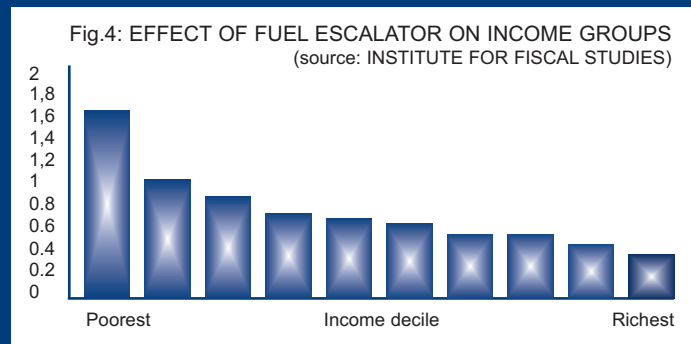
In Europe the country that has applied the most aggressive fuel duty increases has been the UK. It provides an interesting case study of the politics of fuel taxation.

In 1993, the then Conservative government introduced a ‘fuel escalator’, an annual increase of fuel duties of 5% above inflation, with the express aim of influencing car use and reducing CO2 emissions. In 1997 the new Labour government increased the annual escalator from 5% to 6%. The fuel escalator has resulted in a massive increase in motoring taxation over a ten-year period.

Yet there is no evidence of reductions in greenhouse gas emissions as a result of this punitive policy. Interestingly, the graph also shows that proportionally and in real terms, investment in roads fell over the same period. The same is true of transport expenditure overall.

In contrast to the negligible effects the escalator was having on CO2 emissions, research by the independent Institute of Fiscal Studies<sup>5</sup> showed the highly damaging effect that

the fuel escalator was having on lower income drivers. The poorest 10% pay far more proportionally than the richest.



This highly regressive social outcome was the logical result of the environmental argument for raising fuel duties. If the aim of the policy was to penalise motorists until they could no longer afford to drive, the people on the lowest incomes would obviously be first, and worst, affected.

However, the policy did not have the environmental impact anticipated because car dependent motorists absorbed the pain of tax increases and continued to drive. Conversely, higher disposable income across the population as a whole meant a higher proportion of income



Fig.3: Road taxation and expenditure 1989/90 to 1998/99, UK  
(source: House of Commons Library)

| Road taxation and expenditure 1989/90 to 1998/99, UK<br>£ billion 1998-98 prices |             |     |                     |         |       |                     |  |                                  |
|--|-------------|-----|---------------------|---------|-------|---------------------|--|----------------------------------|
| Taxation   |             |     |                     |         |       |                     |  |                                  |
|  | Fuel Duties | VAT | Vehicle excise duty | Car Tax | Total | Expenditure on road | Differences between taxation and expenditure | Ratio of Taxation to Expenditure |
| 1989/90  | 12.0        | 5.3 | 4.0                 | 2.1     | 23.4  | 6.8                 | 16.6   | 3.4                              |
| 1990/91  | 12.3        | 4.8 | 3.8                 | 1.9     | 22.8  | 7.2                 | 15.6   | 3.2                              |
| 1991/92  | 13.2        | 4.9 | 3.5                 | 1.5     | 23.2  | 6.8                 | 16.4   | 3.4                              |
| 1992/93  | 13.3        | 4.9 | 3.7                 | 0.6     | 22.5  | 7.3                 | 15.3   | 3.1                              |
| 1993/94  | 14.5        | 5.2 | 4.3                 | ..      | 23.9  | 7.3                 | 16.6   | 3.3                              |
| 1994/95  | 16.0        | 5.3 | 4.3                 | ..      | 25.5  | 7.3                 | 18.2   | 3.5                              |
| 1995/96  | 17.1        | 5.4 | 4.4                 | ..      | 26.8  | 6.7                 | 20.1   | 4.0                              |
| 1996/97  | 18.1        | 5.8 | 4.4                 | ..      | 28.3  | 6.0                 | 22.4   | 4.7                              |
| 1997/98  | 19.9        | 6.4 | 4.7                 | ..      | 31.0  | 5.4                 | 25.6   | 5.8                              |
| 1998/99  | 21.6        | 6.4 | 4.7                 | ..      | 32.6  | 5.3                 | 27.3   | 6.2                              |

could be diverted to car use without significant, behavioral changing impact. The policy has had virtually no impact on travel behaviour or CO2 emissions. New research<sup>6</sup> suggests that fuel duties would need to be increased by at least 10% a year to secure a significant reduction in car use. This is clearly politically unacceptable.

In November 1999, the UK Government announced that it would be ending the automatic fuel escalator – recognition that the political damage from ever-increasing fuel duty was becoming too great. The policy also suffered from a lack of credibility - few people believed that it was having the desired effect on CO2 emissions, many questioned whether it was ever genuinely intended to be anything more than a revenue raising measure. Despite this policy reverse, rising fuel prices combined with the lasting impact of the fuel duty escalator, caused unprecedented protests and fuel blockades across Britain in September 2000.

In response to this, in November 2000, the UK Chancellor of the Exchequer, Gordon Brown MP, announced tax incentives to encourage use of 50 ppm ultra low sulphur petrol and diesel, a policy which would raise demand for cleaner

fuels. The AIT and FIA welcomed this new policy direction which will benefit motorists and the environment. A similar incentive has also been introduced in the Netherlands. All EU governments should now follow this lead and introduce incentives for 50 ppm ULSP. The next step will then be to introduce and incentivise 10ppm virtually sulphur free fuel.

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# Raising the standard: a new direction for fuel and vehicle taxes in Europe

It is clear that the penalty-driven system of emission control through regularly increased fuel duties cannot work. The political cost is too high. But that does not mean that CO<sub>2</sub> emissions cannot be reduced, or air quality improved, through fiscal measures.

A reward-based system of fiscal incentives should now be at the centre of the new fuel taxation policy that has as its objective the early introduction of cleaner fuels and vehicles. The tools for such a policy already exist and as we have seen, some EU Member States have begun to use them. The EU Directive mandating lower sulphur fuel should be the starting point for a new strategy.

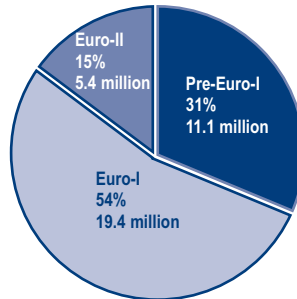
Combining fiscal incentives for cleaner fuels with incentives for the voluntary scrapping of pre-catalyst cars and early use of 2005 standard new cars would have a far more dramatic and positive effect on both local air quality and CO<sub>2</sub> emissions than the failed penalty-driven regimes of the past. A recent study by the European Conference of Transport Ministers (ECMT) points out that "Pollution from transport is being cut substantially through exhaust emissions regulations and vehicle manufacturers' investments in cleaner technolo-

gies...Car scrapping schemes can be used to accelerate the uptake of new, cleaner vehicles."<sup>7</sup>

The report goes on to analyse the role of fiscal incentives introduced by the German Government. The composition of the German car parc in 1997 is shown in Fig 8. According to the ECMT, tax changes introduced in 1997 for cars complying with Euro-3 and Euro-4 engine standards "[have] considerably accelerated the vehicles replacement rate and favoured the introduction of cleaner vehicles". The second part of Fig 8 shows a cautious projection for how the policy will have altered the composition of the German car parc by early in the new century.

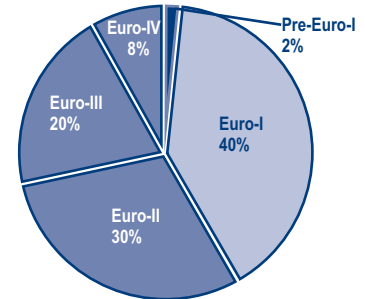
Fig.8: PENETRATION OF CATALYTIC CONVERTER - GERMAN CAR PARC

Use of Catalytic Converter - German Car Parc 1997  
(Petrol Engined Cars)



Total vehicles: 35.9 million

German Car Parc Projection  
(Petrol Engined Cars)



Impact on NOx Emissions = -67%

The graph shows that even in the most advanced car stock in Europe there were still, in 1997, some 30% of vehicles that had yet to meet even the first stage of the European Union's emissions Directive. The best way to reduce emissions, therefore, is to try to lower the number of pre-Euro 1 non-catalyst cars from the vehicle parc, whilst also seeking to advance the use of the ultra clean cars before 2005. Tax policy should now be trying to secure the fastest possible environmental modernisation of Europe's vehicle stock and fuel supply.

This policy would also make a coherent connection between fuel duties and environmental protection, and would provide governments with a constructive way to re-structure fuel taxes so as to avoid penalising rural, low income and other drivers who have marginal motoring budgets.

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# The way ahead

To move beyond the protests of September 2000, what is needed now is a real dialogue between all the interested parties concerned with fuel and vehicle taxation. It would be totally unacceptable to reward or 'buy off' minority interest groups that have the power to disrupt society whilst ignoring the legitimate concerns of the wider motoring public.

The time is ripe for a concerted response by EU governments, together with the European Commission, that examines all aspects of motoring taxation in a coherent way, on a pan-European basis. Concentrating on the objectives of modernising fuels, modernising the vehicle parc and encouraging lower car dependency, the review should promote a new reward-based strategy that encourages environmentally aware purchasing and travelling, rather than penalising essential mobility. The components of this strategy should include:

- No further increase in petrol taxes and a review of current levels of taxation in the context of global price movements;
- Commitment to examine revenue-neutral reform of all road user charges and taxes, with the aim of introducing variable, environmentally targeted fiscal instruments and incentives, including;
- Accelerated introduction of 50ppm sulphur petrol and diesel mandated for 2005, accompanied by fiscal incentives;
- Early agreement by EU governments on reduction to 10ppm sulphur for both petrol and diesel, with major fiscal incentives;
- Co-ordinated fiscal incentives to accelerate the modernisation of the European vehicle parc, accelerating introduction of cleaner, safer and more fuel efficient cars.

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# Conclusion

A wholesale reform of vehicle taxation in Europe, underpinned by a regime of fiscal incentives, is now more necessary than ever before. The lessons of penalty-driven fuel tax regimes should also be learnt in relation to other road-user charges, such as urban congestion charging and new tolls. Drivers will continue to absorb rising motoring costs, because they are dependent on their cars for a range of essential activities. Penalty-driven policies will reach the political breaking point well before most drivers reach a financial breaking point and change travel behaviour. A reward based system of fiscal incentives, in contrast, will bring real environmental benefits and reduced costs to the motorist.

## SOURCES

1. Europe in Motion – A Manifesto for Mobility, AIT & FIA, 1999
2. Directive 98/69/EC (amend. Directive. 70/220/EEC)
3. Directive 98/70/EC (amend. Directive 93/12/EEC)
4. ACEA/European Commission Voluntary Agreement, 1998
5. Institute for Fiscal Studies, 1997
6. The Effect of Fuel Prices on Motorists, Glaister & Graham, 2000
7. ECMT, Cleaner Cars: fleet renewal and scrappage schemes, 1999.

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# The Alliance Internationale de Tourisme & the Fédération Internationale de l'Automobile

The AIT & FIA are the worldwide federations of motoring and touring clubs, representing more than 100 million motorists across the globe. The FIA is also the world governing body for motor sport.

The AIT & FIA bring together some 150 national motoring organisations on five continents. On issues such as safety, mobility, the environment and consumer law the AIT & FIA actively promote the interests of motorists at the United Nations, within the European Union and other international bodies.

In the European Union the AIT & FIA represent more than forty million motoring consumers. It is the role of the European Bureau of the AIT & FIA to ensure that the motorist's voice is heard in the heart of the European Union. Our clubs assist more than 14 million members every year in vehicle breakdown situations, and another 20 million with touring, consumer, technical and legal advice.

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