CONFIDENTIAL

PRIME MINISTER 27 November 1984

EC STANDARDS FOR VEHICLE EXHAUST EMISSIONS

We are faced with the question of how to respond to today's environmental pressures (notably in West Germany) without being pushed precipitately, and very expensively, into today's technology when a superior new solution is already in sight.

Panicked by the Greens, the West German Government proposes to advance the introduction of stringent new vehicle emissions controls from the mid-1990s to 1988. On that timescale, the only solution available is the three-way catalytic converter. Accordingly, European car manufacturers have been spurred into implementing this inferior technology - at an estimated cost of £12.5 billion to European consumers. It is understood that only BL, Renault and Peugeot remain firmly opposed to the catalytic converter solution.

We cannot wish away the case against more stringent emissions standards; there is too much evidence of the dangers. However, the better way to comply is the lean-burn engine which operates with air/fuel ratios 60% higher than an engine fitted with a catalytic converter. The cost is lower. Moreover, compared with the catalytic converter, the fuel consumption would be reduced by 15-20%. (The widespread view in the oil industry is that by the 1990s, supplies of oil will again be tightening and prices will be hardening in real

terms.) Further improvements are in prospect. One American company believes that ignition by microwave will enable engines to burn an air/fuel mixture 50% leaner than the initial lean-burn engines.

The snag is that the lean-burn engine is not a realistic contender for the West German's accelerated programme of emissions control. That opens the unpalatable prospect of the European car industry either joining ranks to provide the consumer with expensive old technology or of falling into two camps serving a fragmented market out of step on emissions control. Either would be damaging to Europe's competitive position relative to Japan and the US.

Conclusion

We support DTI's proposal on handling and the recommendations in Point 10 of their memo.

JOHN WYBREW

Prime Minister

VEHICLE EMISSIONS

This is a very complicated subject, which will come up again in Paris and Dublin.

Ideally we want lean-burn, but the Germans are impatient and are ready to go for 3-way catalysts.

DTI propose a compromise with EC partners which effectively isolates Germany. We would concede 3 way catalysts on large cars (above 2 litres) for those countries which wanted them. But for smaller cars the standards would be such as to encourage lean burn.

DMB
27/4

CONFIDENTIAL

Qz.04065

MR POWELL Duncs 27/4

MINISTERIAL STEERING COMMITTEE ON ECONOMIC STRATEGY
SUB-COMMITTEE ON ECONOMIC AFFAIRS, 28 NOVEMBER

I attach a brief for the Prime Minister on European Community standards for vehicle exhaust emissions (E(A)(84) 65). The Chief Scientific Adviser is minuting separately on certain scientific and technical aspects.

I am sending copies to Sir Robert Armstrong, Dr Nicholson and Mr Gregson.

D F Williamson

D F WILLIAMSON

27 November 1984

CONFIDENTIAL

MINISTERIAL STEERING COMMITTEE ON ECONOMIC STRATEGY
SUB COMMITTEE ON ECONOMIC AFFAIRS, 28 NOVEMBER

EUROPEAN COMMUNITY STANDARDS FOR VEHICLE EXHAUST EMISSIONS

FLAG A

(E(A)(84) 65)

Brief for the Prime Minister

Purpose of meeting

1. To decide the United Kingdom line at the 6 December Environment Council on the Commission's proposed revised standards for vehicle exhaust emissions, in the light of the German announcement that it will apply stricter standards nationally.

Background

2. Vehicle exhausts emit harmful gases in the form of carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx). These emissions increase with the size of the engine and the speed of the car. Both nitrogen oxides and hydrocarbons are now considered to be factors in forest damage from "acid deposition". The most effective current means of reducing them is an additional piece of equipment known as a "three way catalyst"; these are used in the United States and Japan, but they only work with unleaded petrol; they are also vulnerable to damage, particularly at high speeds, inefficient in European driving conditions, impair performance, and result in a waste of fuel. European manufacturers are developing the "lean burn" engine which should be available in the early 1990s; this will lower NOx and HC emissions, remain robust in use, cut petrol consumption and be able to approach the reductions achieved by the three way catalyst. For particularly stringent emission standards it will be combined with a simple one way oxidization catalyst to reduce HC emissions further.

3. There has been a series of Community directives since 1970 harmonising emission standards for vehicle design. The most recent directive, agreed in 1983, enables standards close to

the limits of current technology, and varying for different weight categories, to be applied to new models from this year and new cars from 1986. The Commission's latest proposals would involve a further tightening of emission levels in 1989 for new models and 1991 for all new cars (Stage I), and the more stringent US standards by 1995 (Stage II). A very important feature is that this directive, like its predecessors, would be permissive, enabling member states to set lower, though not higher, standards nationally. The major impact for us therefore would not be on our own market but on our Community export market, which represents 55 per cent of our total car exports. United Kingdom manufacturers could meet the Stage I standards, albeit at some cost in terms of smaller fuel savings for medium and small cars and the fitting of three way catalysts to large and automatic car exports, but meeting the Stage II standards would at present require three way catalysts on all exported cars.

4. Discussion in the Community has been complicated by the Germans' decision, in response to political pressure to do something about the damage to their forests, to introduce the US standards for new large cars from 1988 and for all new cars from 1989, and to offer fiscal incentives from the beginning of next year to encourage the purchase of cars meeting these standards. Since this would require the use of three way catalysts, it would break up the common market for cars because it would not be economic to do a special production run for the markets in Germany and those countries like Denmark which are expected to follow her; the action could therefore effectively close them to car manufacturers in the United Kingdom, France and Italy. This would not only put at risk up to 30 per cent of our total car exports and divert frustrated French and Italian supplies into other markets, including our own, but could pressurise the Community into opting for the expensive and inefficient three way catalyst as the means of achieving further reductions in vehicle emissions, increasing motorists' costs in the Community by up to £12.5 billion a year.

5. It was the disadvantages of three way catalysts which led Ministers, when this subject was last discussed at your meeting on 19 June (flag B), to agree that the United Kingdom should

FLAG B

negotiate positively for the early introduction of unleaded petrol and for stricter emission standards provided that these could be achieved by lean burn technology and would not require three way catalysts.

6. The Minister of State, Department of Trade and Industry, notes that, while the Germans have so far been intransigent, their position has legal and commercial weaknesses, and he therefore proposes that we should use the Environment Council to explore possibilities for a compromise which could effectively isolate Germany and so improve the prospect of using the judicial weapons offered by the Treaty to bring them into line. He envisages working with France and Italy to prepare a two-stage proposal which would establish emission standards in 1989 in some respects more rigorous than those currently proposed, and a further improvement in the early 1990s that would be less stringent than the US standards, but which could be satisfied by lean burn engines, with one way catalysts where necessary. Since the formulation of such a compromise will depend upon complex manoeuvring on the dates for implementation, the levels to be achieved, and differentiation between different sizes of car, the intention is that the Council should commission a detailed report with a view to decisions in February/March 1985.

Main issues

7. The main issues seem to be:

(i) what the United Kingdom's objectives should be;

(ii) how far we should go to secure German endorsement of a compromise;

(iii) what steps we should take if no accommodation can be reached.

The United Kingdom's objectives

8. There is unlikely to be any disagreement that the United Kingdom's objectives should be -

(i) to reduce the level of vehicle emissions in this country, especially of nitrogen oxides;

(ii) not to accept any directive that would force us to impose standards nationally which are not economically achievable by British industry within the intended time-scale (ie which imposes catalysts on British motorists or prevents the development of lean burn);

(iii) to ensure that as many Community countries as possible adopt standards that keep their markets open to British car exports;

(iv) if it can be done consistently with (ii) and (iii), to find a Community compromise which the Germans can also accept.

9. All member states have accepted that the directive should be based on optional harmonisation. We must insist on this because the United Kingdom could then set acceptable standards in our own market. It would also, however, be in our interest to keep the maximum standards towards the lower end of the negotiable range in order to keep as many as possible of our car export markets open and to improve the chances of the standards being met by lean burn technology when it becomes available. Care will however be needed in formulating our target, since if we try to insist on maxima that are too low, France and Italy, who are already showing signs of wobble under German pressure, may not be able to support them and there would be no chance of Germany doing so. The compromise suggested in E(A)(84) 65 envisages standards for small and medium cars at Stage I which could be met by lean burn engines. For large cars above 2 litres member states would be permitted to set standards which would require three way catalysts but would not be obliged to do so.

10. The Foreign and Commonwealth Secretary may argue that the French and Italians have a much greater commercial interest in the German motor market than the United Kingdom and that, given the Germans' importance to us as allies on other Community issues, it would be appropriate for France and Italy to take the lead in emphasising to the Germans that their proposals could fragment the internal market on cars. The Secretary of State for Transport and the Trade and Industry Minister of State may argue that, if

we are to keep the door open for the adoption of the best available technology at Stage I, and avoid the serious implications of three way catalysts for motoring costs and the motor industry, we need to win the arguments in favour of the lean burn engine, particularly since both Austin Rover and Ford, who supply UK-made engines for their other European companies, are basing their plans on lean burn technology. These Ministers are therefore likely to argue for a positive presentation of our position. E(A)(84) 65 proposes that we should work with the French and Italians in promoting a compromise.

A compromise acceptable to Germany?

11. The Sub-Committee will need to be clear whether the purpose of the proposed trilateral plan of action is to formulate a compromise which the Germans can accept, or to isolate them. Mr Lamont's judgement is that the prospects for a unanimous agreement are bleak. There is unlikely to be any quarrel with this, given the problems of finding a compromise which will address the environmental difficulties, the industrial engineering problems and the coherence of the internal market in a very difficult political time-scale. There may, however, be just a chance that the Germans would be prepared to accept a compromise if it were sufficiently attractive and if the alternative was legal proceedings before the European Court. It would accordingly be desirable to seek Dutch concurrence on the proposed plan of action, since they have put forward an - over-ambitious - compromise of their own for a single stage tightening of emission levels in the early 1990s to a level between the Commission's Stage I and US standards. It should be noted, however, that any compromise is still likely to involve a two-tier market, with three-way catalysts being unavoidable in large car exports to Germany and like-minded countries. It would be in our interest to ensure that this was restricted to the luxury end of the market - ie to cars above 2 litres.

Alternatives to a compromise

12. Just as there can be no certainty that the Germans will go along with any generally acceptable compromise, so we cannot be

/sure

sure that they will be moved by the legal risks involved in rejecting one. The Commission already seem unwilling to take action on the Germans' fiscal incentives, even though these breach the competition rules. The Germans' proposed emission limits will, once published, be in breach of the current directive. Not only, however, may member states be reluctant for political reasons to press openly for legal proceedings, but, as Mr Lamont notes, a Community failure to reach agreement on new standards might well undermine the chances of the European Court outlawing the German measures.

13. It is important to emphasise that our priorities should be our own market, other markets in Western Europe (particularly France and Italy) and only lastly Germany which is not a big market for our cars. If no agreement proves possible, therefore, the United Kingdom's interest would lie in protecting our home market and keeping open the French, Italian and, if possible, Benelux markets. Steps we could take to this end would include introducing - perhaps in concert with other member states - counter-requirements which would exclude vehicles not fitted with lean burn engines; this might be justified on the grounds that it was legitimate to ignore auxiliary devices which could easily be misused, damaged or removed. We should in any case seek to maintain the provision in the current directive which provides for emission limits to be achieved with leaded petrol - with which three-way catalysts are useless. We could also advocate other measures in the Community to control emissions, such as the adoption of speed limits. The Sub-Committee will not need to consider such ideas in detail, but it may like to instruct officials to do contingency planning.

Handling

14. You will wish to ask the Minister of State, Department of Trade and Industry, to introduce his proposal. The Secretary of State for Transport, who has policy responsibility for the directive, will wish to comment on the interests of motorists

and the motor industry; the Secretary of State for the Environment on the environmental aspects; and the Foreign and Commonwealth Secretary on the relationship between this and other Community matters in which we are involved with the Germans. The Chief Scientific Adviser may wish to comment on the technical aspects of the proposals.

Conclusions

15. You may be able to reach conclusions on the following -

- confirmation that the United Kingdom's overall objective should continue to be, as decided by your meeting on 19 June, to move towards a tightening of emission standards provided this can be achieved cost-effectively, without damaging the development of the lean burn engine and without any mandatory requirement for three way catalysts

- that every suitable opportunity, including the Anglo-French summit on 29-30 November, should be taken to present this positively

- that we should work with the French, Italian and Dutch to construct a compromise which might persuade the Germans to change to less rigorous standards on a Community basis

- failing German agreement, that we should work for the endorsement of the compromise by the largest possible number of member states, and

- that officials should make contingency plans for further action to safeguard our markets.

27 November 1984

European Secretariat
Cabinet Office

CONFIDENTIAL

W 1206 D

10 DOWNING STREET

From the Private Secretary

20 June 1984

cc- H. Gregson
Dr Nicholson

Dear John,

Acid Deposition

The Prime Minister chaired a meeting on 19 June to consider the Government's policy towards acid deposition. In addition to your Secretary of State, those present were the Lord President, the Secretaries of State for Energy, Scotland, Wales, Transport, Mr. Gummer, Mr. Hayhoe, Mrs. Fenner, Mr. Baker, Mr. Rifkind, Mr. Waldegrave and Sir Robert Armstrong, Mr. Gregson and Dr. Nicolson and Mr. Pascall (No.10 Policy Unit). The papers before the meeting were your Secretary of State's minute to the Prime Minister of 15 June, and the Energy Secretary's minute of the same date.

Introducing his paper your Secretary of State said that at an earlier meeting Ministers had agreed on the need for a more positive approach towards acid deposition. This view had been reaffirmed at the London Summit. Following the valuable technical presentation which had taken place at Chequers, he was now putting forward a revised set of proposals which he believed constituted a positive and coherent response to our international critics. It was in his judgment a line that could be held successfully, even though it fell a long way short of the more extreme demands being made. The main features of his proposals were:

i) A continuing commitment to research and to the development of new cost effective technology.

ii) A statement of intent to reduce further emissions of both sulphur dioxide and nitrogen oxide, aiming at a reduction in each of 30 per cent by the year 2000 as compared with 1980 levels.

iii) The introduction of tighter standards for vehicle emissions, provided these were achieved through lean burn technology rather than three-way catalysts.

In discussion it was argued that considerable uncertainty attached to the forecast that 30 per cent reductions in SO2 and NOX emissions could be achieved by the year 2000 without significant additional expenditure. This forecast depended upon assumptions about the commissioning of new nuclear power stations which were, in the view of some Ministers, optimistic. Moreover, the environmental lobby regarded nuclear power with as much antipathy as they regarded acid rain. They would continue to press European Governments for flue gas desulphurisation.

The other area of uncertainty was the future level of emissions from industry other than the CEGB. Arguably the substantial reduction which had occurred in the early 1980s was a fortuitous result of the recession, which would gradually be reversed as economic growth resumed. On the other hand, the reduction also reflected structural changes in British industry which were in effect irreversible (for example, the contraction of the steel industry); and further technological developments which would benefit emissions, such as the use of fluidise bed combustion, were imminent. Concern was however expressed about the possible impact on industrial costs if target reductions did not materialise as expected but had to be achieved by other means.

In further discussion, firm support was expressed for "lean burn" technology as a means of reducing vehicle emissions. The consensus view was that when properly tuned lean burn engines could both reduce emissions and improve fuel economy; and British motor manufacturers favoured its introduction. It was widely agreed that the alternative approach using three-way catalysts on the American model was both less effective in controlling pollution, and vastly more expensive.

In discussion of the question of quantification, support was expressed for the concept of "aims" rather than commitments. Despite international criticism of the UK (much of which was ill informed), it was important not to move any faster than our industrial competitors towards implementation of improved environmental standards.

Summing up the discussion, the Prime Minister said that the meeting supported the main features of your Secretary of State's analysis and proposals. They offered the prospect of a positive and flexible response to international pressure. We should take credit for the benefits which would flow from the adoption of lean burn, and from the inclusion of NOX and hydrocarbons as well as sulphur dioxide in the package. The conclusions set out in paragraph 19 of your Secretary of State's paper were accordingly approved, subject to the following points:-

i) The deletion of the words "at least" from the

i) The deletion of the words "at least" from the last line of sub-paragraph (b).

ii) The deletion of the last three lines of sub-paragraph (d).

iii) The insertion of a specific reference to lean burn in sub-paragraph (e).

I am sending copies of this letter to those who attended the meeting.

Yours ever,

David

John Ballard Esq
Department of the Environment

CONFIDENTIAL

SECRETARY OF STATE FOR THE ENVIRONMENT

Prime Minister

c- Miss Lambert

ACID DEPOSITION

I was invited at our meeting on 17 May to set out the options for our policy on acid rain.

Background

2. This problem has, of course, both scientific and political components. The scientific issues are complex and long term and although there have been welcome recent developments in our understanding, it is still far from complete. We cannot be certain which causes determine which effects - and therefore what success might follow from the various actions we might take. We are giving a high priority to research designed to reduce these uncertainties. Meanwhile we have to make provisional and prudential judgements, in such a way that we can change direction without too much difficulty or expense.

3. The political problem is, however, a fairly immediate one. A number of other Governments (notably the members of the so called "30% club") have embarked upon programmes of sulphur dioxide emission abatement. A draft Directive now before the EC Environment Council calls for a 60% reduction in sulphur dioxide, 40% in nitrogen oxides and 40% in particulates from power stations and other major installations by 1995 (all percentages below a 1980 baseline). This pressure is attributable to genuine concern about transboundary pollution, especially in Scandinavia and Germany, as well as to a desire for evenness in industrial costs. And in Western Europe generally professional as well as public opinion is widely agreed upon the need for abatment of acidifying emissions. We can expect to be pressed to accept such action at the forthcoming Conference in Munich, mentioned with approval in the Summit declaration.

4. Against this background, I have considered four options:

(a) pursue a vigorous and well published research programme and welcome technological trends which bring emissions down, but take no other special action (our policy so far);

(b) join the "30% Club";

(c) support the Commission's draft Large Plant Directive;

(d) pursue a package of policies which achieves creditable gains in abating the air pollutants involved in acid deposition, but falls into none of the above categories.

5. I advocate option (d), but before outlining it I would like to summarize my objections to the other three.

6. Before starting this analysis, it is worth reminding ourselves of what has been happening. UK total sulphur dioxide emissions rose steadily during this century to peak at 6.2 million tonnes in 1972: they then fell to 4.67 million tonnes in 1980 and, if provisional figures are confirmed to about 3.75 million tonnes in 1983 (thereby giving us a 20% reduction in the past 3 years). Sixty-five per cent of these emissions come from power stations. Nitrogen oxide emissions have remained more or less steady at 1.65-1.75 million tonnes over the past 10 years: 46% of them come from power stations and the rest from a multiplicity of sources (statistical tables are at Annex A). But I must stress that there can be no guarantee that the gain in SO2 abatement will be held. It has come from such changes as the substitution of gas for other fuels, the reduced use of heavy fuel oils, energy conservation, and the depression of industrial activity. Some estimates imply that we could see a rebound as the economy picks up.

7. I turn now to the four options. In the first part of this analysis I concentrate on sulphur dioxide because that is the most difficult problem, but I discuss nitrogen oxides,

hydrocarbons and ozone when I come to option (d).

The research option

8. It is common ground that we must pursue research, and we proposed a collaborative programme at the Economic Summit. We are spending over £5m a year on the themes identified at the Chequers presentation, and in addition the CEGB has a £50m R & D programme on new technology for abating SO2 and NOX emissions from power stations. These costs are modest compared with the potential cost of emission control. We have to present this effort positively and get more credit for it than we have been doing. But research alone will not meet our political need, which is to have a credible response to the various international demands. While the research effort must be part of our package, I therefore reject it as the sole action.

The Large Plant Directive

9. At the other end of the scale, I am sure we are all agreed in rejecting the Large Plant Directive in its present form. Although the provisional figures suggest that we may have achieved a 20% reduction in national sulphur dioxide emissions between 1980 and 1983, and 15% in those from large plants as defined in the directive, to achieve a further reduction of 45% in the latter sector by 1995 could only be achieved by fitting flue gas desulphurisation to virtually all the CEGB's large power stations. This costs about £150m per 2 Gigawatt (2000 MW) installation and even assuming that we can hold the 15% gain since 1980, would incur expenditure of the order of £1.5 billion and very likely more. It is not a practicable proposition.

The 30% Club

10. I said in my earlier paper, I am much more attracted by the proposition that we joint the "30% Club". Unlike the draft Directive, this embraces total national emissions of sulphur dioxide and if we can hold to the 1983 position we are already two-thirds of the way there. Against this, there are however substantial uncertainties. The best estimates suggest that

CONFIDENTIAL

even without new special measures 1995 national emissions are likely to be less than those in 1980, but we cannot be confident of holding all or most of the recent advance. While reductions in the use of heavy fuel oil, further energy conservation, and a variety of ancillary measures may help there is a real risk that we could find ourselves having to secure at least a 15% reduction in national SO2 emissions by installing abatement equipment which in this time scale could only be FGD. Since each 2GW FGD installation reduces national emissions by 3% of the 1980 total, a 15% reduction would mean 10 GW - at a cost of £0.8bn. Although I have to stress that in my judgement nothing short of the "30% Club" will calm our international critics, the calculation leads me to look at the alternative.

The ingredients of a package

11. I start from a point evident at the Chequers presentation - that sulphur dioxide abatement deals with only one of the components of acid deposition (the generally accepted ratio is 70:30 sulphuric:nitric acids). The Large Plant Directive is in this respect more sensible than the 30% Club in dealing with nitrogen oxides as well as SO2. I believe that there are political advantages in our emphasising our concern to tackle both - and also the hydrocarbons that, with nitrogen oxides in sunlight, generate the ozone that is increasingly emerging as a cause of forest damage.

12. I have asked how far we might get by 1995 and then by 2000 if we do not commit any investment to flue gas desulphurisation (or the equally expensive and less proven Japanese technology for removing nitrogen oxides from flue gases).

13. For the purposes of this calculation I will make the optimistic assumption that we can hold onto the 20% reduction in national SO2 emissions between 1980 and 1983. From then

on, analysis of future trends in emissions and of the most cost-effective options open to us depends crucially upon assumptions about changes in demand for electricity and about the growth of nuclear power. There are considerable uncertainties here. The CEGB's "medium nuclear scenario", prepared for Sizewell, envisaged a 0.75% per annum increase in electricity demand and the construction of a further 10GW (the equivalent of 9 Sizewell Bs) of nuclear capacity by 2000. If this were achieved, CEGB SO2 emissions would fall by 20% by 2000 and 30% by 2002/3 - bringing national totals down by 14% - 20% and giving us a gain of 34% to 40% since 1980. CEGB are uncertain of achieving this and have referred to the possibility of no more than 5 or 6GW being commissioned by 2000, and in this case the improvement on 1980 falls to 27% to 30%. The gap could be narrowed by other technical advances, like the substitution of low sulphur coal - water slurries for heavy fuel oils, coal pre-treatment, the adoption of small scale atmospheric fluidised bed furnaces in industry and even the importation of some low-sulphur coal, but it is hard to estimate the gains from such a package. Taking all the data together, however, I remain optimistic that we could look for a 30% reduction in national SO2 emissions by 2000, and possibly more, without the use of FGD and without major investment above that already planned. I suggest that we make this a stated objective of our policy. It will not get us into the "30% Club" as currently defined, but it will display a positive commitment and make our international and domestic position easier.

14. At present we do not envisage building any new coal-burning power stations until the early years of the next century. When we do, I take it for granted that they will be designed with whatever technology for sulphur and nitrogen oxide control has emerged by then as "best practicable means". We have encouraged research on more cost-effective technology in this area, and much is going on, so that I am confident we shall

6

end up with something considerably cheaper than the £120m cost of FGD in a new 2GW station. All we need to say now is that we envisage such technology as part of the design of such stations - when we build them.

15. The nitrogen oxide position appears a little more tractable. Our "baseline" however has changed little between 1980 and 1983 (it is to our credit that our emissions have stayed more or less level while the Germans' have increased by some 50% over 15 years). The CEGB, in partnership with private industry, are developing low - NOX burners suited to UK conditions and if even partly successful these might allow a 10-20% reduction in these emissions from CEGB fossil-fuelled plants by 2000. Other equipment might be applicable to the 19% of national emissions from other industry: nuclear substitution at 5 and 10 GW would give the CEGB a 10% and 20% NOX reduction respectively. Given a parallel attack on the 19% of NOX from petrol engined cars (and the measures I advocate below would allow this to be halved by comparison with the current European standard), we might well achieve a 20% - 30% reduction in national emissions by 2000. I suggest we should declare 30% as our goal, and proclaim a positive initiative in that direction. We would then be mounting an attack on <u>total</u> acidity, which the members of the 30% Club are not.

16. Vehicle emissions should be the other component of our package. We are agreed that we must not accept the extremely expensive United States 3-way catalyst system (which could add £2.01bn to annual UK motoring costs) - but a reduction of 85% carbon monoxide, 60% hydrocarbons and 40% NOX emissions by comparison with an uncontrolled vehicle could be gained by a "lean burn" engine tuned for minimum pollution at a <u>benefit</u> in operating costs (from improved fuel economy) of £30 per car per year. The first stage of the Commission's current proposals for new petrol driven vehicle emissions could be met by this technology and I believe we should support them. We shall naturally go on pressing, in this context, for the

earliest possible achievement of unleaded petrol. The Commission's second stage proposals (for 1995) are not due to be confirmed until 1988 but it is most unlikely that further "lean-burn" engine development will suffice to meet them, though some further reduction in hydrocarbon emissions (which scientific studies indicate as the key factor in ozone formation) will probably be feasible at relatively small cost. I suggest that our policy should be to accept tighter standards provided that these can be achieved by engineered solutions that do not require costly, fragile and energy-wasteful systems such as the USA 3-way catalyst.

17. I accept that there is an element of optimism in this package. We shall need to monitor our performance carefully as we go along. Technology should be working for us, especially if we set clear goals for industry (including the CEGB). Should it become apparent that we shall miss the 30% objectives we have two options: to resile from the policy or to commit additional investment - and the case for the latter will be easier to judge as our research programme clarifies the issues. I therefore have no hesitation in embarking upon this course.

Negotiations at forthcoming meetings

18. I have deliberately left until now proposals for our stance at the Munich Conference, and in the Environment Council on 28 June when the Large Plant Directive comes forward for discussion for the first time. I believe that if we can agree the broad lines of policy set out here before the Munich Conference, a credible negotiating position will follow both there and in the Environment Council. Clearly we have to reject the Directive as drafted, but I believe we shall be well placed to explore the prospects of securing changes in the percentages, dates and industrial scope so as to achieve an acceptable final text. That would allow us to be positive (whereas outright opposition to the whole concept could undermine the gains we may hope for from the package of policies I set out above), without binding an economic millstone about our necks.

CONFIDENTIAL

SECRETARY OF STATE FOR THE ENVIRONMENT

Conclusions

19. On the basis of this analysis I propose that we:

(a) continue to support and publicise a well-balanced programme of research on air pollutants, their effects and the technology for their control, participating in the international exchanges that will make the most of all our national efforts;

(b) announce our intention to achieve further reductions in national sulphur dioxide emissions, consolidating the remarkable gains of recent years and aiming at a reduction of ~~abatement~~ 30% by 2000;

(c) announce that we shall pursue available measures to reduce nitrogen oxide emissions, aiming at a 30% abatement by 2000;

(d) make it clear to the public that the development of the nuclear component is an important element in our strategy, but that we also seek gains in a variety of other ways, and will expect any new fossil fuelled power stations to adopt the most cost-effective sulphur and nitrogen oxide abatement then available;

(e) support stricter emission standards for petrol-engined cars - but ensure that the latter do not require 3-way catalysts.

20. I am sending copies of this minute to Willie Whitelaw, Geoffrey Howe, Peter Walker, George Younger, Nick Edwards, Norman Tebbit, Tom King, Michael Jopling, Peter Rees, and Nicholas Ridley, and to Sir Robert Armstrong.

William Waldegrave

(William Waldegrave for Patrick Jenkin)

15 June 1984

2.4 Sulphur dioxide: estimated emissions from fuel combustion: by type of consumer and fuel[1]

(a) By type of consumer

Million tonnes

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982[P]	*Percentage of total in 1982*
Domestic	0.37	0.36	0.35	0.30	0.28	0.29	0.26	0.26	0.22	0.21	0.20	*5*
Commercial/ public service[2]	0.31	0.29	0.26	0.24	0.24	0.24	0.23	0.24	0.20	0.18	0.17	*4*
Power stations	2.87	3.02	2.78	2.82	2.69	2.74	2.81	3.10	2.87	2.71	2.65	*66*
Refineries	0.26	0.29	0.30	0.26	0.28	0.27	0.29	0.29	0.28	0.22[R]	0.21	*5*
Other industry[3]	1.75[R]	1.77[R]	1.59	1.44[R]	1.42[R]	1.37[R]	1.36[R]	1.38[R]	1.05[R]	0.84[R]	0.76	*19*
Rail transport	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	*< 1*
Road transport	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.04	0.05	0.05	*1*
All consumers	5.64[R]	5.80[R]	5.35[R]	5.13[R]	4.98[R]	4.98[R]	5.02[R]	5.34[R]	4.67	4.23[R]	4.04	*100*

2.7 Nitrogen oxides estimated emissions[1] by source

Nitrogen oxides[2]

Thousand tonnes

	1972[R]	1973[R]	1974[R]	1975[R]	1976[R]	1977[R]	1978[R]	1979[R]	1980[R]	1981[R]	1982	*Percentage of total in 1982*
Domestic	51	53	53	51	50	52	52	56	52	52	51	*3*
Commercial and Industrial	470	486	449	408	419	415	405	417	338	318	309	*19*
Power stations	731	808	722	760	770	793	806	876	851	818	769	*46*
Incineration and agricultural burning	8	8	8	10	12	12	12	12	12	12	12	*1*
Road vehicles												
petrol engined	262	279	272	266	279	286	303	308	316	309	318	*19*
diesel engined	158	170	166	162	168	171	176	182	176	167	172	*10*
Railways	48	50	47	44	41	42	42	41	40	39	35	*2*
All emissions	1,728	1,854	1,716	1,700	1,739	1,771	1,796	1,893	1,785	1,714	1,666	*100*

CENO

01 211 6402

Dmb
20/11

Andrew Allberry Esq
Private Secretary to the
Secretary of State for the
Environment
2 Marsham Street
LONDON
SW1P 3EB

19 November 1984

Dear Andrew

My Secretary of State has seen a copy of David Barclay's letter with DB? of 9 November. He is generally content with the revised text of the response to recommendation 7.95, subject to two small changes.

At the end of line 15 and beginning of line 16, Mr Walker suggests replacing "as high as 34 per cent" with "in excess of 30 per cent". Only one of the eight scenarios in the energy projections (involving amongst other things a tripling of the real oil price by 2010) produced a share as high as 34 per cent, whereas three others had the nuclear and renewable share at over 30 per cent.

Secondly, in the last sentence, the reference to "... requirements and sources ..." should be replaced by "needs". A commitment to publish assessments of future energy sources would conflict with stated policy that the Government does not produce projections for future supplies of the primary fuels.

I am copying this to David Barclay and the recipients of his letter.

Yours
John

J S NEILSON
Private Secretary

Acid Rain: Env. Affairs P43.