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The Rt Hon John MacGregor OBE MP  
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CCB 9.  
NBR at this stage ✓

Prime Minister<sup>2</sup>  
Departments, including  
the Treasury have now  
agreed to this proposal.

9 April 1987

DW  
24/4.

*AG*

**CEGB LOW NOx PROGRAMME**

As you know, the Government generally and the CEGB in particular continue to suffer criticism over the level of the UK's contribution to "acid rain" emissions. This centres on the very large quantities of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NOx) emitted from our coal-fired power stations.

The announcement last September of our decision to embark on a major programme to install flue gas desulphurisation equipment at three existing and all future coal-fired stations did much to allay criticism in respect of sulphur emissions and to strengthen their international position. That decision, however, did not tackle the problem of NOx emissions. Pressure thus continues for action by the UK and the CEGB to control these emissions as well.

As part of its programme for developing cost-effective methods of controlling power station emissions, the CEGB has conducted trials of low NOx burners at Fiddler's Ferry and Eggborough stations. These have reached the point where the Board is confident that an orderly programme can be mounted to reduce NOx emissions from the largest existing stations.

Lord Marshall has accordingly proposed to me that the Board should carry out such a programme over the period 1988-1996. This would involve the installation, during routine maintenance, of low NOx burners at the Board's fourteen largest stations, amounting to 23GW of baseload capacity. The Board estimates that the total capital cost, at 1987 prices, will be £170 million over the period. It expects the effect on operating costs to be broadly neutral, with no reductions in thermal efficiency. (Indeed, it is possible that there may be marginal gains in efficiency). As to electricity prices, the Board expects a notional increase of 0.2% on completion of the programme.



The Board also plans to incorporate low NOx burner technology in future coal-fired stations, to the requirements of the Industrial Air Pollution Inspectorate. There will be no identifiable effect on the capital or operating costs of new stations.

The proposed programme will have a number of benefits. The Board estimates that, taking account also of the effect of planned new coal stations incorporating low NOx burners, the programme will lead to a reduction in CEGB emissions of nearly 30% on 1980 levels by the end of the century. Of this reduction, two-thirds will come from the retrofitted stations. The overall result should be equivalent to a reduction of 12% in total national emissions in 1980.

Politically, it will further demonstrate, during the European Year of the Environment, our positive approach to resolution of the "acid rain" problem, enabling us to seize the initiative in international discussions in Brussels and Geneva on cost-effective ways of reducing NOx emissions. In employment terms, it will provide a modest but steady flow of work to UK boiler manufacturers. For its part, the Board will be seen to be acting responsibly, while safeguarding the interests of its customers.

By contrast, if no action is taken, CEGB emissions of NOx will continue to increase, in line with expanding electricity demand, thus jeopardising the Government's aim of reducing national NOx emissions by 30% of 1980 levels by the end of the century. Moreover, unlike SO<sub>2</sub> emissions, national NOx levels have not declined significantly since 1980 and are unlikely to do so without active control measures.

Lord Marshall's proposal is a cost-effective way of tackling a difficult problem, particularly when compared to the cost of the programme for installation of flue gas desulphurisation we have already authorised. While the total capital cost is not insubstantial, you will see from the attached table that the annual expenditure proposed is modest, particularly in the IFR years. Naturally these sums will have to be found from within the capital approvals and external financing limits agreed, or to be agreed, for the periods in question.

I realise that you may consider it preferable for the proposed retrofit programme to be considered as part of this year's examination of the Board's total capital investment plans and the industry's financing forecasts. However, the sums involved in the IFR years are small enough for endorsement of Lord Marshall's proposal now to avoid prejudicing our consideration of this year's CIM. We must be prepared to make a sufficient input into the development of European policy on control of emissions to avoid the risk of being forced into acceptance of more stringent standards, and higher costs, than we would wish. I believe that Nicholas Ridley and William Waldegrave will see distinct advantage in an announcement being made before the meeting of the European Environmental Council on 21 May.



I shall therefore be grateful for your agreement to endorsement of Lord Marshall's proposal, on the understanding about capital approvals and external financing limits mentioned above.

I am sending copies of this letter to the Prime Minister, Willie Whitelaw, Geoffrey Howe, Nicholas Ridley, Paul Channon and Sir Robert Armstrong.

A large, stylized handwritten signature in black ink, consisting of a long vertical stroke and a large loop at the top.

PETER WALKER

Figure 2

1987 CAPITAL INVESTMENT MEMORANDUM

PROVISION FOR NO<sub>x</sub> REDUCTIONS

	EM
1988/89	2
1989/90	9
1990/91	10
1991/92	23
1992/93	36
1993/94	50
1994/95	29
1995/96	11
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	170