



cc pm

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Prime Minister²

My ref:

Your ref:

Dominic Morris Esq
Private Secretary to
The Prime Minister
10 Downing Street
LONDON
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in

3 February 1989

Dear Dominic,

TRADE-OFFS BETWEEN ACIDIC EMISSIONS AND GREENHOUSE GASES

I understand that during the Prime Minister's meeting on 12 January about global climate a comparison was made between the percentage of sulphur in coal ($1\frac{1}{2}\%$) and the impact of removing sulphur on power stations efficiency (up to 3%). My Secretary of State is a little concerned that if such comparison, which is not between like and like, were inadvertently quoted in public there is a risk that we could be accused of misunderstanding the situation.

Average UK coal contains 1.6% of sulphur. FGD removes 90% of this with a loss of power station efficiency, and hence increase of CO2 emission, of up to 3% (it could turn out to be a lot less). In terms of the problems we have to tackle, it is the 90% and 3% which ought to be compared - the fact that the sulphur is only about $1\frac{1}{2}\%$ of the coal is of little relevance. More importantly, on a national scale, power stations are responsible for 70% of our SO2 emissions and about a third of our CO2. If all power stations could be fitted with FGD, therefore, we would eliminate 63% of our national SO2 at the expense of no more than a 1% increase in national CO2.

(Incidentally, this 63% is not simply related to the 60% reduction in the figure in the Large Combustion Plants Directive; that directive refers to SO2 from large combustion plants only and is based on 1980 figures.)

The balance is very different for acidic emissions (NOx) from cars, where we have successfully fought off universal 3-way catalysts to protect the fuel-efficient lean burn engine, which is also inherently a low emitter of NOx. 3-way catalysts on all cars would probably remove a further 60% of the NOx that would be left if lean-burn were universal but at the expense of 10% in fuel economy. On the national scale, while the figures are rather less certain

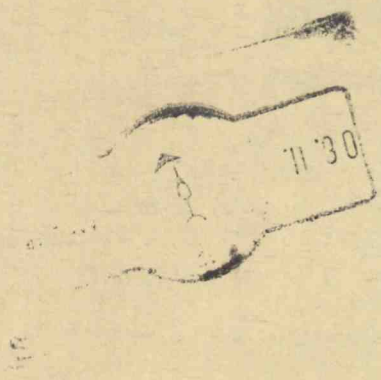
that those for SO₂, we could be talking about only a 7% drop in NO_x at the price of a 1% increase in national CO₂.

I am copying this letter to Private Secretaries to the Foreign Secretary, the Chancellor of the Exchequer, Secretaries of State for Energy, Trade and Industry, Transport and the Minister for Agriculture, Fisheries and Food.

Yours,

Deborah.

DEBORAH LAMB
Private Secretary



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