

25 May 1984

PRIME MINISTER

Presentation on Acid Deposition - Chequers 27 May 12.00Background

You have had two meetings with colleagues on policy for environmental protection which have covered a number of problems but especially acid deposition, radioactive waste, secrecy of environmental protection data and compensation for conservation areas.

2. Policy decisions will need to be made (as was the case for lead in petrol) by forming a judgement on the balance of scientific evidence, the size of the environmental problem, the availability of abatement measures and their cost-effectiveness. This presentation will provide the scientific and technological background to emissions from power stations and vehicles which are believed to be associated with acid deposition. The consequential ecological problems include the death of fish, especially in Scandinavian lakes, and die-back of trees especially in German forests.

3. The UK is a signatory of the 1979 Geneva Convention on Long-Range Transboundary Air Pollution which requires countries to draw up policies and strategies to combat emission of atmospheric pollutants. At the Stuttgart Summit in 1983, EC countries agreed to 'take action' to combat acid rain problems. The EC has since produced a draft directive, the large plant directive, which would require reductions in emissions from large plants by 60 per cent for SO₂ and 40 per cent for NOX by 1995 from 1980 levels. The draft is based on

an EC cost/benefit analysis of a variety of problems allegedly caused by acid rain but the analysis has been widely criticised. As a possible alternative to the EC draft directive, twelve countries have formed a '30% club' which pledges reductions of 30% in acid emissions in the same time period.

Handling

4. Attendance at the meeting is shown in Annex 1 and the programme I have arranged is in Annex 2. I suggest you call on me to introduce the programme and I will then also do the links between each of the presentations. I have asked each of the presenters to speak for 10 minutes - my 10 minutes is split between the first and last items.

5. I will suggest that questions during the presentations are confined to points of clarification and that general discussion takes place at the end - I suggest this because the presentations are so inter-related that premature discussion would suffer from the lack of information due to be given in subsequent presentations.

6. I will state that the presentations have been designed to meet two objectives:

(a) To present the scientific evidence on acid deposition to enable you and your colleagues to form a judgement on the present balance of the evidence

(b) To present the state of the art and possible future developments on abatement technologies so that the cost-effectiveness of these may be judged against the nature and urgency of the threat.

7. With allowance for some questions, the presentations should be complete by around 1 o'clock allowing about half an hour for general discussion before lunch. During this discussion, which will be generated primarily by questions from you and your colleagues, it is probable that the members of the presenting

team whose knowledge ranges very widely over this subject will wish to make comments which are not confined to the areas covered by their presentations. Not surprisingly there will be some disagreement amongst the presenters on the weight to be attached to various pieces of evidence.

8. The discussion may tend to veer towards policy-making, in particular Sir Walter Marshall may wish to take advantage of the occasion to present the CEGB view. I advise that, at least initially, you keep the discussion on science and technology because this will be the only opportunity for you to question the experts and you have, of course, a policy discussion scheduled for 19 June.

9. I imagine that the discussion may continue in small groups over lunch and you may want to have a further general discussion over coffee before concluding the occasion.

Conclusions

10. There will be no need for decisions, of course, and you will just want to end by thanking the presenters for their work and your colleagues for joining you.

11. My guess is that the impression left will be as follows:

(a) Acidification of lakes and streams: problem fairly well understood, local treatment by lime neutralisation of the acidity fairly effective, long-term solution is reduction of SO₂ and NOX from power stations and vehicles.

(b) Abatement of acid emissions at power stations: flue gas desulphurisation is effective but expensive, other technologies are being well researched in the current CEGB/NCB research programmes and will be more cost-effective.

(c) Forest die-back: problem complex and poorly understood, no clear sign of effective local measures, real danger of very expensive, ineffective panic measures being sought. Vehicle emissions are the most likely major cause.

(d) Control of vehicle emissions: "3-way catalysts"* are theoretically attractive but service performance is dubious and large expense certain. Lean-burn engines will probably have some effect, are neutral in cost terms and are sound vehicle technology. If further research identifies ozone (and hence hydrocarbon emissions) as a real source of forest die-back, lean-burn engines plus an oxidation catalyst* (much less expensive than a 3-way catalyst) is the probable answer.

* 3-way catalysts control CO, NOX and hydrocarbons, oxidation catalysts control hydrocarbons only.

RBW.

ROBIN B NICHOLSON
Chief Scientific Adviser

Cabinet Office
25 May 1984

Attendance

The Prime Minister

Mr Patrick Jenkin

Secretary of State, Department of the
Environment

Mr William Waldegrave

Parliamentary Under Secretary of State,
Department of the Environment

Mr Kenneth Baker

Minister of State, Department of Trade
and Industry

Lord Avon

Parliamentary Under Secretary of State,
Department of Energy

~~Mr John Moore~~

~~Financial Secretary, Treasury]~~

Sir John Mason

Formerly Director General, Meteorological
Office

Sir Hermann Bondi

Chairman Natural Environment Research
Council

Dr Peter Chester

Director, CEGB Central Electricity Research
Laboratories

Dr Martin Holdgate

Chief Scientist, Department of the Environment

Dr Robin Nicholson

Chief Scientific Adviser, Cabinet Office

Sir Walter Marshall

Chairman Central Electricity Generating Board

Mr David Pascall

Prime Minister's Policy Unit

Mr David Barclay

Prime Minister's Private Office

PROGRAMME FOR SUNDAY, 27 MAY 12.00 MIDDAY, CHEQUERS

Emissions from combustion plants and vehicles and their relation to acidified lakes and die-back of trees

Presenters: Sir John Mason, FRS formerly Director General, Meteorological Office
Sir Hermann Bondi, FRS Chairman, Natural Environment Research Council
Dr P F Chester Director, Central Electricity Research Laboratories, CEBG
Dr M W Holdgate, CB Chief Scientist, Department of the Environment
Dr R B Nicholson, FEng, FRS Chief Scientific Adviser, Cabinet Office

Presentation: 12.00 - 12.50

1. Sources of emissions	Nicholson
2. Chemical changes in the atmosphere	Mason
3. Effect of acid deposition on lakes and streams	Bondi
4. Effect of atmospheric chemicals on forests	Holdgate
5. Abatement technologies for power stations	Chester
6. Abatement technologies for vehicles	Nicholson

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24/5

PRIME MINISTER

Presentation on Acid Rain

I have been exploring dates for a technical presentation on acid rain. Assuming that you would like to fit this in before the Economic Summit, the only days that you could also offer lunch to the participants are over the Whitsun weekend at Chequers.

The following could come on Sunday 27 May:

- ✓ The Secretary of State for the Environment
- ✓ Mr. Waldegrave
- ✓ ~~The Chief Secretary~~
- ✓ Dr. Nicholson
Mr Kenneth Baker
~~had Avon~~
- ✓ Sir John Mason
- ✓ Dr. Peter Chester (CEGB)
- ✓ Dr. Martin Holdgate (Chief Scientist, DOE)
- ✓ Sir Herman Bondi (or another NERC scientist)
- ✓ Sir Walter Marshall

Although he would be willing to change his arrangements if necessary, the date would cause some personal inconvenience for Mr. Walker. He could, if you agree, be invited to send a junior Minister from his Department.

Agree to proceed with a presentation at 1200 on 27 May at Chequers?

Agree the above guest list, plus Mr. Walker or a junior Energy Minister? ✓

DUB

What about Sir Walter Marshall.

Can he not come?
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18 May 1984