Drafts
1/6

W.0394

31 May 1984

MR HATFIELD

LONDON ECONOMIC SUMMIT

As we agreed I attach drafts of:

- (a) a speaking note for the Prime Minister to support the UK's Environmental Initiative including an annex of priority research areas on acid deposition as per David Barclay's minute of 30 May to John Ballard

- (b) a defensive brief on acid rain as requested in David Barclay's minute to you of 29 May.

Although both briefs have been prepared with the assistance of the DoE and the FCO, neither has been cleared by them so I am sending copies of this minute and the attachments to Martin Holdgate (DoE) and John Gray (FCO), with a request that they let Elizabeth Ransom have any comments as soon as possible. Copies also go to David Barclay and David Colvin.

RBN

ROBIN B NICHOLSON
Chief Scientific Adviser

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Addendum to Brief 10a.

Draft Speaking note on Environmental Initiative by Cabinet Office

It is timely for us to consider environmental issues in more depth in the context of the Summit, because as responsible Governments, we have to consider the possible impact of industrial policies on the environment. Of course, we do not wish to interfere with the proper concern of other international groupings dealing with environmental matters.

2. But the Summit has a role both in demonstrating the importance we attach to this subject and in encouraging a balanced approach to the problem in which cost effective measures to reduce environmental pollution are introduced in the light of the best scientific evidence available and are paralleled by a more co-ordinated international approach to the research and development necessary to improve our scientific understanding of these complicated phenomena.

3. Let me give some examples from the important 'acid rain' problem. I am concerned that more than 10 years after the problem was recognised, there are continuing uncertainties about the relationship between emissions from power stations and environmental damage, which demand a far better model of the atmospheric chemistry involved in converting sulphur and nitrogen oxides into acids, the role of photochemical oxidants in this process and the geographic and climatic conditions which accelerate or depress the reactions.

4. Furthermore, there has been a rather simple assumption that 'acid rain' is at the root of the two most serious environmental problems, fresh water

fish depopulation and forest damage. Increasingly it looks as if we are dealing with two separate phenomena, and that forest damage is far more closely tied up with local levels of ozone, which in turn may have more to do with vehicle emissions than power station emissions.

5. Simple factual evidence is also remarkably thin and much data is derived from calculations rather than measurement, while some of the measurements are of doubtful accuracy and have been made over a limited period of time.

6. But 'acid rain' is only one of the key areas of environmental concern in the study we are proposing to remit to the Technology, Growth and Employment Working Group, which itself drew attention to the importance of international collaboration. The study is designed to produce an up to date picture of the state of scientific knowledge, to document the collaborative research already under way and to inform us if there are gaps which might call for increased effort. The group would also be asked to consider the scope for industrial collaboration in developing more cost effective abatement technologies.

7. [In response to those who might say that this is a substitute for action, I would argue that scientific and technological research is a vital part of the decision-making process through which we arrive at cost effective and efficient solutions. We cannot afford to waste time in combating these serious problems, but that indeed would be the consequence of precipitate and ill-conceived action directed at curbing the wrong emission, or the right emission but at the wrong place.]

8. I believe that the results of this initiative will underpin the various calls for international action with a better understanding of the problems.

It is likely that political pressure for action will continue, and possibly grow, in our countries, and we must anticipate these demands by equipping ourselves with the knowledge which will allow us to pursue vigorously the most sensible counter-pollution policies.

ANNEX

Current and future research on 'acid deposition'

The CEGB and NCB have funded a research programme on acid deposition and fish depopulation which is being jointly managed by the Royal Society, the Royal Swedish Academy of Sciences and the Norwegian Academy of Science and Letters. The Management Group recently held its first meeting at which Sir John Mason presented his paper on 'The current status of research on acidification of surface waters'. This paper was the basis of his presentation at Chequers on 27 May.

2. Following the Chequers presentation the following areas of research were agreed as priorities in the urgent need to understand better the problem of acid deposition and its effect on fish depopulation and forest die-back:

(a) the causes of forest decline and the key variables in the process including the possible identification of resistant strains

(b) the effects on forest decline of different land and catchment area management policies

(c) the causes of fresh water changes and the key natural and man-induced variables

(d) better measurements of air pollutants in Europe, especially rain acidity, NOx and photochemical oxidants

(e) the role of photochemical oxidants in converting primary pollutants into chemicals which cause ecological damage

(f) technological developments to improve the cost effectiveness of abatement techniques including power station and vehicle emissions.

Addendum to Brief 16a

Draft Defensive brief on acid rain

A. SO_2 emissions

1. The UK has reduced SO_2 emissions by one third since the peak year in 1970 (6.12 million tonnes SO_2 in 1970, 3.99 million tonnes in 1982).

2. Our share of European (excluding USSR) emissions has fallen from 25% in 1950 to 11% in 1982.

3. Our share of total sulphur deposited in countries in Continental Europe is very small except in Norway (19% in Norway, 9% in Sweden, only 7% in Germany). 21% of sulphur deposited in the UK comes from the Continent (mainly France).

B. NOx emissions

4. The UK emits only 7% of the NOx emitted in Europe (1982 figures UK 1.73 million tonnes NOx, Europe 24.7 million tonnes) - the UK figure has been roughly constant for the past 10 years.

5. The UK emits 40% less NOx than Germany (1978 figures UK 1.80 million tonnes, Germany 3.00 million tonnes) - the reason is the higher vehicle population and larger average engine size in Germany.

C. Forest damage in Germany

6. German Government statements now admit that their forest die-back is not simply due to acid rain. (Their paper for the Munich Conference at the end of June includes the sentence "Initially acid precipitation was seen as the main cause of damage: recently, however, opinion has tended

towards the idea that photochemical oxidants developed from nitrogen oxides, under the impact of sunlight and particularly ozone, also play a significant part".)

7. The EC has also recognised this by bringing forward proposals to restrict vehicle emissions as well as power station emissions. The UK's preferred technology for meeting the 1989 vehicle emission standards will be lean-burn engines (low first cost, 10% better fuel economy rather than 3-way catalysts of doubtful service performance (high first cost, 10% worse fuel economy).

8. Because of the prevailing wind, UK exports of pollutants to Germany are negligible. The primary pollutants causing the German forest problem are vehicle emission in Germany and, especially, sulphur dioxide emissions in Eastern Europe.

D. UK policy on environmental protection

9. The UK's policy is to take swift, cost-effective action when a source of pollution is clearly identified, eg:

(a) Emissions of smoke have fallen 85% since 1958 as a result of the Clean Air Acts

(b) Rivers classed as grossly polluted have fallen from 7% to 2½% since 1958 - salmon are in the Thames for the first time since 1835

(c) Sulphur dioxide emissions have fallen by one third since 1970

(d) We are the first country in Europe to decide to go for lead-free petrol.

10. The UK does not believe in enforcing uniform action across Europe when the purpose is simply to apply the same economic burden to all countries irrespective of the size of their contributions to the environmental problem. (The Tenth Report of the Royal Commission on Environmental Protection stated: "We reject the suggestion that natural advantages of geography are a distortion of competition which should somehow be eliminated").

11. The UK believes that the draft EC large plant directive is not a

balanced approach to the solution of ecological problems because it fails to take account of modern trends in our understanding of these problems - the cost to the UK would be prohibitive (CEGB estimate a capital cost of £1400 million and an annual cost of £350 million) and the benefits minimal. The UK will argue for a balanced programme with a more positive relation between cost and likely benefit.

12. The UK continues to have a substantial and vigorous research and development programme on the atmospheric chemistry of acid precipitation, on ecological damage and on abatement technologies for power stations and vehicles:

(a) the CEGB and NCB have funded a major R&D programme in Europe on acid deposition and fish depopulation. It is managed on an independent basis by the National Scientific Academies of the UK, Sweden and Norway.

(b) The private and public sectors of the UK car industry have developed lean-burn engines as a cost effective means of controlling vehicle emissions.

(c) The CEGB has a £50 million R&D programme on new abatement technologies for SO_2 and NOx emissions from power stations.