T. Schneider (Editor)/*Acidification and its Policy Implications*
Elsevier Science Publishers B.V., Amsterdam – Printed in The Netherlands

# Acidification and its policy implications: Statement by Ireland

- Ireland's situation as regards acidification differs from the mainstream European experience in a number of ways. Our peripheral location and prevailing westerly winds spare us from any significant transboundary air pollution. Our total emissions of $SO_2$ are low, constituting only 1% of overall EEC emissions, so that EEC guide values are almost invariably observed and minimal contribution is made to sulphur deposition in other countries. Much of the research interest in Ireland's situation relates indeed to the "zero effect" baseline conditions that exist over much of our country.

- But Ireland's position is also distinguished by a relatively high population growth, a need to industrialise further and an energy system lacking connection with the European grid and enjoying only limited resources of indigenous natural gas. These factors make it difficult for Ireland to undertake further reduction of its already low national emissions of $SO_2$, although in recent years we have in fact achieved reductions on the 1980 level well in excess of the 30% envisaged by the Helsinki Protocol.

- Despite Ireland's lack of direct experience of acidification, public and political interest in the issue has developed greatly in recent years. A number of studies and proposals on acid rain have been made by interested environmental groups and a parliamentary committee has recently reported on the subject.

- Irish $SO_2$ emissions are low both in absolute terms and in relation to 1980. In that year, estimated $SO_2$ emissions were 217,000 tonnes. By 1984, emissions had decreased by 43% to 123,000 tonnes and this included a 55% reduction in emissions from power plants. This environmentally favourable trend resulted from a conscious energy policy of replacing imported oil with coal and indigenous natural gas. In 1979, nearly 60% of electricity was produced from oil and only 7.4% from gas. In 1984, natural gas accounted for over 47% of fuel inputs to electricity generation, with oil contributing just 19%.

- At present, electricity generation is consuming about two thirds of Irish natural gas production. Government policy for the further use of this limited natural resource is to channel it primarily towards the premium market of direct consumption in the domestic, industrial and service sectors. Important

environmental as well as economic reasons support this policy. Ireland's most serious air pollution problem is with smoke levels in Dublin, which have had to be notified to the EEC as likely to exceed the limit values of Directive 80/779. Increased use of natural gas in Dublin, particularly in the domestic sector, is desirable to abate this problem.

- It follows that the supply of natural gas for power generation cannot be guaranteed as the exceptional level which has obtained in recent years. Nuclear power is not at present a viable option for Ireland, so that reliance on imported fossil fuels is set gradually to increase again. The Government have, however, directed a study to be carried out of the possible costs involved in reducing future emissions from power plants to the extent necessary to achieve a stabilisation of overall national sulphur emissions at the 1980 level. The study is under way.

- A number of recurring provisions in the international conventions and resolutions relevant to this Conference well reflect Ireland's position. Both the Munich Conference Resolution and Annex II to the Helsinki Protocol note the situation of countries whose emissions are small and whose

contribution to transboundary fluxes is insignificant. The Geneva Convention itself envisages control measures compatible with balanced development.

- Up to now, statutory control of atmospheric emissions in Ireland has relied principally on control of individual plants through the physical planning system and on a very limited system of inspecting so-called alkali works. A new Bill has, however, been published this year which will provide a comprehensive framework for control of air pollution in the years ahead, and in particular support the implementation of relevant EEC Directives.

- Although much of the Bill will be implemented through our local government system, it also contains important powers which will allow the Minister for the Environment to establish a national regime of control. The Minister will be able to prescribe air quality standards and emission limit values and to direct local authorities and other implementing agencies on a wide range of matters. For their part, local authorities will be enabled to adopt air quality management plans.

- An important purpose of the new Bill is to establish a licensing system for new industrial plants as required by the relevant EC Directive. In fact,

our system will exceed EEC requirements in certain respects and generally provide full powers for local authorities to protect air quality from new industrial emissions.

Sampling and analysis of rainfall has been carried out regularly by our Meteorological Service for many years. While the network and procedures were not specifically optimised for assessing acid rain, the considerable volume of pH data accumulated has indicated a tendency towards increased acidity, despite considerable variations in rainfall acidity levels. The causes are not entirely clear.

Since 1980, Ireland has participated in the EMEP Programme, with a monitoring station in Valentia, Co. Kerry in south west Ireland operating the minimum measurement plan for sampling and analysis. We hope to extend the range of data from the present year and also to add a monitoring station in the Irish midlands to the EMEP Programme.

Research on acidification in Ireland is mainly being conducted in collaboration with EEC and other international programmes. Work is at present in progress on rain chemistry in the Dublin region, on lakes, on damage to buildings and on forests.

All of these studies have still to be fully completed.

- The research project on rain chemistry involves extensive and specific rainfall analyses which are being carried out at a range of stations in the Dublin region. This region was chosen because it could be expected to pick up any deposition from large Irish emitters to the west or south-west, such as power stations, as well as depositions from transboundary sources.

- The preliminary findings of the study, covering 1983 and 1984, suggest some presence of transboundary air pollution. The highest deposition rates for sulphate and nitrate, derived from $SO_2$ and $NO_X$ respectively, can be correlated clearly with a NE - SE wind direction. Low pH levels in rainfall are also associated much more frequently with this wind direction. It must be emphasised, however, that these findings are not definitive and require corroboration by more widely based research.

- There has not so far been any evidence in Ireland of damage to lakes or forests from acid rain. However, the results of the two relevant research projects are awaited with interest.

In summary, Ireland's direct experience of acidification has been slight; in conformity with the Geneva Convention we will maintain our low levels of air emissions within the constraints of development; and we will continue to offer full co-operation on research into thismost important problem.