

## Acid rain

## Swedes persist

Brussels

Sweden is yet again to hold a major ministerial conference in an attempt to persuade its European neighbours to take the country's acid rain problem seriously. In June a two-week conference is to be held in Stockholm attended by 15 environment ministers from East and West — the sole country not being represented at a ministerial level being the United Kingdom. The first week of the conference will be devoted to examining the scientific evidence, and a political debate will follow.

It will be hard to separate science from politics. Many of the political arguments rely on demonstrating convincingly the direct link between sulphur dioxide emissions from the coal and oil burning industrial centres in Europe and the increase in the acidity and the presence of heavy metals in surface water in Scandinavia.

At a recent meeting in Brussels, organized by the European Environmental Bureau, many experts admitted that nobody was entirely clear about the precise

year, well above that from West European states. The poor economic situation and energy problems of Comecon countries make it unlikely that they would consider investing money in costly anti-pollution equipment.

The 1979 Geneva Convention on long-range transboundary air pollution merely binds signatory states to "using the best available technology which is economically feasible". The Geneva Convention is still not in force, although 34 countries have initialled it. In the European Community, Greece, Belgium and Italy have so far failed to ratify.

Sweden's attempts to create the political momentum needed for change include the UN conference in Stockholm in 1972, the Helsinki meeting in 1975 and last year's acid rain conference in Gothenburg, but these initiatives have so far produced few concrete actions. Despite the ammunition provided by a study by the Organization for Economic Cooperation and Development, the European Commission has also remained far from convinced that there is a need to do anything more than monitor the situation. Many member states, like the United Kingdom, remain openly sceptical about the cause and effect of acid rain.

Jasper Becker

## Dutch elm disease

## Northern drift

The British battle against Dutch elm disease has been virtually lost in the south of England and Wales, while the chances of success in northern Britain are slim, according to last week's annual review of the state of the disease by the Forestry Commission. In the south, perhaps 20 million of an estimated 29 million elm trees have been killed. And in the north, where beetles of the Scolytidae family have already crossed the north-south divide, the fight against the fungus carried by the beetle seems likely to be hampered by straitened local authority budgets.

The battle strategy recommended for the north of England is one which has failed in the south: sanitation felling. The objective is to cut down trees infected with the fungus *Ceratocystis ulmi* at an early stage and to burn the bark. The Forestry Commission holds out little hope for alternative control strategies now being tested — the "tree trap" technique that uses cacodylic acid (a tree-killing herbicide) to attract the beetles, artificial pheromones in conjunction with sticky traps and the fungicide Ceratotec, which can cure lightly infected elms. These techniques, the commission says, are only supplementary to sanitation felling, and are expensive.

So the labour-intensive technique of sanitation felling is recommended to continue in lightly affected areas. But local authorities must decide on what scale to battle. While control over the movement of elm wood is maintained by the Forestry

Commission, the decision to divert funds to a felling campaign rests entirely with local authorities.

Where the elm population is isolated, active sanitation has proved highly effective. East Sussex County Council began its campaign in 1973, when signs of the disease first showed. Losses there have declined since 1979 and the worst may well be over. In Brighton, the casualty rate is down to 10 per cent. An important factor in the success of the campaign here was luck. The region is isolated and a good distance from the sources of infection — the docks of London, Bristol and the south. The council sees no reason to give up its campaign, and its budget for 1982 — £97,000 — will also cover planting costs.

East Sussex, however, is only a small pocket on a map of devastation. Authorities in the western counties have long since given up the fight and the area, with its dead elms and broken stumps, is described as looking like the Somme 65 years ago. The area to the north of Merseyside and the Wash, where conditions and species of elm are different, is described as "lightly affected", with as few as one per cent of elms lost each year. But the 5 million elms in the north of England, mostly wych elm (*Ulmus glabra*) have an important amenity value and constitute 10 per cent of total northern tree population. A majority of local authorities in the border regions of Scotland and northern England have ceased to exercise their powers of direct felling, some as long ago as 1977.

The problem is twofold. Once the disease takes hold, it is impossible to eradicate. Moreover, the elm bark beetle is no respecter of regional boundaries and so far local authority programmes have been piecemeal. But the cost of sanitation felling falls entirely on local authority funds. Until 1979, the Countryside Commission for England and Wales supported local programmes, but has now been told that there is no prospect of diverting any substantial part of its funds to assist felling campaigns.

Support from central government has been equally unforthcoming. The Department of the Environment has its eyes set firmly over the horizon and describes the present problem as being on a "back burner", pointing to the Tree Council as the body maintaining a watching brief. The Tree Council, however, has been wholly independent, financially as well as administratively, since 1978. Hope for the future, as far as the Department of the Environment is concerned, lies in the development of elms resistant to the disease. Japanese elms are being planted in the royal parks.

The irony is that in seeking to avoid present costs, local authorities may well incur higher future costs. Merseyside County Council is having to spend nearly £250,000 to fell dead and dying elms that pose a danger to public safety. **Jane Wynne**



mechanism between the cause and effect of acid rain. The evidence was there, though, to show that dramatic changes have taken place in the forests and lakes of Scandinavia even in the past two years. Research is now revealing evidence that sulphur dioxide emissions may also be linked to acidity in fresh water in Belgium and damage to forests in Germany.

While much of continental Europe is far richer in limestone than Scandinavia and is, therefore, less vulnerable to increases in the acidity of fresh water, the effect of the acid precipitation is nonetheless becoming apparent. The problem, the environmentalists argue is not just a Scandinavian one, and is already too serious to allow scientists the luxury of building up irrefutable evidence about the mechanisms involved before action is taken.

The political and economic opposition facing the Swedes seem unsurmountable. Eastern Europe is the source of much of the pollution — notably East Germany and Czechoslovakia. Each provides per capita sulphur emissions of more than 100 kg per