# Transboundary Air Pollution Acidification, Eutrophication and Ground Level Ozone in the UK

## Draft Report of the National Expert Group on Transboundary Air Pollution - March 2001

## Response of the Institute of Petroleum

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**Introduction**

The Institute of Petroleum welcomes the opportunity to respond to the National Expert Group on Transboundary Air Pollution's draft report on Acidification, Eutrophication and Ground-level ozone in the UK. The Institute is an independent centre for advancement and dissemination of technical, economic and professional knowledge in the oil and gas sector, with a broad and varied membership. In addition to the major UK based oil companies, the Institute has some 8,500 individual members and around 400 corporate members.

This response has been prepared for the Institute by Dr Ron Barnes, under the guidance of the IP's Air Issues Group and in cooperation with UKPIA.

The attached response is divided into three sections; a broad overview of the work prepared by NEGTAP, followed by specific comment and suggestions for amendments to individual chapters, and then detailed comments on each individual chapter.

**OVERVIEW**

Production of the NEGTAP draft is both welcome and timely. Much has been achieved, at not inconsiderable cost, in an attempt to control transboundary air pollution; more is still demanded. It is time to take stock and with some purposeful editing the present draft contains the essential ingredients on which to produce a report that should inform and guide policy well into the future.

The Executive Summary is a broadly representative distillation of the main report and should be commended for achieving that distinction. However, some of the points made are removed from the context in which they appear in parent chapters, and by its very nature it reflects some of the inherent shortcomings of the report being summarised. The reader is not informed on the limitations of the science behind the forecasts nor the potential impact of ameliorating factors such as species adaptation, land management changes, restocking or liming.

The main body of the report suffers from a significant lack of editorial consistency and focus. Some chapters are excellent, well written and fully address the Group's Terms of Reference. Others lack balance with overly long sections on esoteric science of no great policy relevance. More particularly they do not either fully or in part address the Group's Terms of Reference. In consequence the present draft is too long and unwieldy for all but the most committed reader, and it is unlikely that policy makers and their advisers, the principal target audience, will have the time or patience to unravel such a lengthy volume.

Fundamentally the science reported in this draft needs to be put into context. The individual chapter contributions appear without any obvious reference point. Has it all been worthwhile? Is the environment getting better or worse? Do we need to do more? If so, should we pause before acting? Ministers will expect the report to give clear guidance on these questions but that will only come about by committed strategic editing of the present draft.

Careful reading of the draft suggests that it is the perspective of time which is the missing, but potentially unifying, theme. By common consent the process of acidification began around 150 years ago with emissions peaking in the third quarter of the last century. Environmental damage apparent today is a consequence not of current emissions but of the aggregate impact of over a century of uncontrolled industrialisation.

Natural systems are characterised by inertia and lag. Objective monitoring of receptor impact in the UK really only became established quite recently, in the 1980s; some receptors still lack a national monitoring programme. It is therefore gratifying, if not surprising, that positive ecosystem responses to post 1970s emission reductions are

detectable so soon: we are still in January on Nature's calendar. The combined events of over a century cannot be reversed at the press of a button, and we should all take heed of the timescales involved in the natural world.

Against this backdrop, the material provided by the NEGTAP draft gives justification for cautious optimism and faith in Nature's resilience. Above all it requires a commitment to patience. Damage measures, at worst, have levelled off and there are many clear signs of improvement. Problems associated with sulphur emissions are under control with prospects for recovery looking good under already agreed control programmes.

It is stated that in order to bring sulphur deposition in sensitive areas on the West of the UK close to critical loads, effort will be required to address marine sources in the North Atlantic. It is surprising that greater discussion is not given to the role of North American continental emissions, particularly given the considerable disparity in their magnitude compared to those from shipping.

The prospects with regard to nitrogen are less obvious. Only patience and the assiduous implementation of agreed emission reductions will introduce some clarity. However, it is generally recognised that eutrophication, rather than acidification, is likely to be the impact of concern.

The NEGTAP draft should be applauded for highlighting the shortcomings of the AOT measure of assessing ozone damage[ר]. However, without a reliable metric, objective comment on current and forecast ozone levels becomes problematic. In broad terms it seems that, with falling peak concentrations, the present and future probability of acute damage to vegetation is now less likely. By way of contrast, rising background levels may increase the risk of chronic damage. Clearly the imperative should be the development and application of a representative metric for assessing the potential for ozone damage.

In conclusion the draft as a whole presents a broadly optimistic picture of contemporary, tangible, environmental improvements and the promise of more to come. Some adjustment to policy may be required in the future, probably with regard to eutrophication, but for the present it is a case of 'steady as we go'.

[ר] The limitations of AOT were first highlighted by EMEP in 1998