

Preface

All of us are involved in generating waste; its treatment and disposal are essential to the maintenance of our society. In the previous issue of this series we reviewed waste incineration in considerable detail in relation to its environmental impact. We now turn to other options for waste management.

The first article, by the Director and Chief Inspector of HM Inspectorate of Pollution in the UK, David Slater, outlines the principles and practice of Integrated Pollution Control as established by the UK Environmental Protection Act 1990. This provides a discussion of BATNEEC and BPEO and includes sections on cleaner technology and waste minimization. Following this Peter Try and Graham Price of the Wessex Water Company examine the environmental impact of sewage and industrial effluent treatment, giving attention to discharges to inland and coastal waters, atmospheric emissions, and land disposal.

Landfill is an important waste management option which is reviewed by Ken Westlake of the University of Loughborough. His article examines current best practice in the design, engineering, operation, and control of landfill sites and identifies the effects of changing regulatory policy. Following this is an article on emissions to the atmosphere by Gev Eduljee of Environmental Resources Management. This puts the products of incineration into a broader context by considering the wide range of other waste management processes which result in releases to atmosphere, such as dusts, odours, fumes from industrial processes, pathogens, and microbial emissions from municipal wastes, *etc.* The regulatory framework is described and localized impacts and their mitigation are examined.

In the final three articles, recycling, nuclear fuel wastes, and the economics of waste management are reviewed. Steven Ogilvie and Jan Gascoigne of the National Environmental Technology Centre provide an insight into the general and technical issues facing the materials recycling industry. K.W. Dormuth, P. A. Gillespie, and S.H. Whittaker of Atomic Energy Canada Ltd. describe the qualitative and quantitative considerations which determine the suitability of deep underground storage for radioactive fuel waste produced by nuclear power reactors. David Pearce and Inger Brisson of University College London outline the principles of cost-benefit analysis which lead to a consistent economic theory of waste management, illustrating this with data from a number of case studies which demonstrate the utility of economic instruments in this area.

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In conjunction with Issue No. 2 of this series, this present volume provides a thorough and detailed review of waste management options, incorporating considerations of environmental impacts and the main technical, regulatory, and economic factors which influence decision making. We are confident that this will be of value to scientists, technologists, legislators, consultants, and industrialists with waste disposal problems.

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