

Handbook of Pollution Control Processes, by R. Noyes, Noyes Data Corporation, Park Ridge, NJ, 1992, 758 pp., \$127.00.

According to the preface, “this handbook presents a thorough overview of state-of-the-art technology for pollution control processes”. It indeed does that, covering virtually all treatment control technologies for air, water and solid, and hazardous waste, as well as the cleanup procedure for hazardous waste sites.

Because the topic areas are so broad, the treatment of each subject was terribly brief, so brief, I might have titled the book “Encyclopedia of Pollution Control Processes”, to indicate the limited amount of material on each topic. Another limitation was the very short bibliography found at the end of each chapter. This area could have been usefully expanded by an order of magnitude.

In common with most of this publisher’s books, there is a comprehensive table of contents. In addition, the author has added (much to my liking) an index.

In reviewing the book, I checked several sections of possible interest to me and in two found material that contained useful and new (for me) information. In total, my assessment of the book was very high.

Let me end with a list of the chapter titles:

1. Regulatory overview
2. Inorganic air emissions
3. Volatile organic compound emissions
4. Municipal solid waste incineration
5. Hazardous waste incineration
6. Indoor air quality control
7. Dust collection
8. Industrial liquid waste streams
9. Metal and cyanide bearing waste streams
10. Radioactive waste management
11. Medical waste handling and disposal
12. Hazardous chemical spill cleanup
13. Remediation of hazardous waste sites
14. Hazardous waste landfills
15. *In situ* treatment of hazardous waste sites
16. Groundwater remediation
17. Drinking water treatment
18. Publicly owned treatment works
19. Municipal solid waste landfills
20. Barriers to new technologies
21. Costs

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Energy Policy in the Greenhouse, by F. Krause, W. Bach and J. Koomey, A Report of the International Project for sustainable Energy Paths (IPSEP), Wiley, Interscience, New York, NY, 1992, ISBN-0-471-55663-7 (pbk), 328 pp. \$29.95.

Recent events, including the collapse of world oil prices, the acid rain damage, Chernobyl and other disasters, have increased interest in the global

warming and greenhouse effects first largely ignored, but now becoming serious questions demanding constructive energy policies on an international basis. It begins with a definition and explanation for “greenhouse effect”; this is the trapping of infrared radiation by several gases and vapors, including naturally occurring water vapor, CO₂, clouds, ozone, methane and other gases which contribute 90% to the effect, and several trace gases, including nitrous oxide and the chlorofluorocarbons, CO, NO_x and SO₂, along with aerosol emissions, plus several gases whose effect is less well known, that contribute the remaining 10%. At a global average surface temperature of 288 K or 15 °C, the longwave outgoing radiation from the surface of the earth is 390 W/m² compared to 236 W/m² from the top layer of the atmosphere. This reduction in the longwave emission is a measure of the greenhouse effect.

The degree of climatic change the world is likely to experience depends on future atmospheric greenhouse gas concentrations, and the climate sensitivity assumed in mathematical models used for calculating warming. Even a 1–1.5 °C global average warming would represent a climate not experienced since the Holocene period at the beginning of which water would evaporate more giving an atmosphere of higher humidity and that is wetter overall.

Global warming would have serious effects on agricultural production, due to the delicate balance of temperatures, soil conditions and rainfall patterns. Weeds and plant pests also are encouraged by warmer temperatures, especially in developing countries. Global warming would also have an effect on the ability of forests and species to thrive and reproduce. Coastal settlements of several degrees could within the next 50 to 100 years be threatened by a sea level rise of 0.5 to 1.5 meters. Coastal settlements, in which half of humanity lives, would be threatened. In the USA alone, an estimated 12 million people would become homeless, and salinity would move upstream. Freshwater supplies would be threatened due to decreased stream flows and increased pressure on groundwater supplies. Electricity consumption would increase.

It is recognized that past greenhouse emissions make their full impact felt only with significant delay, and that continually growing emissions cannot be eliminated instantaneously, due to the inertia of social and economic systems. Serious attempts to estimate the effect both past and present emissions will have on the climate in, say, 50 to 100 years, are presented. Once concentration ceilings are suggested, the issue becomes what policy fields should be explored in order to implement the suggestions on a global basis, by way of emission reduction targets and enforcement. Obviously a global compact on climate stabilization and sustainable development would be essential.

This volume contains a most complete group of references, tables and graphs which permit the reader to understand the seriousness and timeliness of the subject. It should certainly be required reading for anyone who is concerned about the fate of our world, and is highly recommended.