## **Book Review**

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Environmental Law, Policy, and Economics: Reclaiming the Environmental Agenda by: Nicholas A. Ashford and Charles C. Caldart Published 2008 by MIT Press 55 Hayward Street, Cambridge MA 02142-1493, 1088pp ISBN 9780262012386

While the authors created this volume to support a university course on environmental law, policy, and economics with multiple perspectives and abundant references, it is equally valuable as a general reference book on a wide variety of environmental topics. The analysis builds on the federal environmental record that began in the 1970s with legislation that addressed air, water, and waste pollution. Additional subjects covered include the Endangered Species Act, and the National Environmental Policy Act that mandated environmental impact statements accompany all federal projects affecting the environment in a major way. It contains the text of relevant legislation, court decisions, and scholarly as well as journalistic sources arranged within a framework that begins with a discussion of environmental pollution as a philosophical problem. In a roughly chronological order, it then traces the efforts of policy makers and the courts to deal with industrial effluent. It highlights the analysis of key areas of policy controversy by providing questions and commentary on topics including the difficulties of quantifying environmental degradation; the contrast between pollution prevention and the 'end-of-pipe' reduction and processing of toxic waste; the potential of regulations to 'force technology' in a more efficient and less polluting direction; and command and control approaches to pollution reduction contrasted with such market mechanisms as cap and trade. What it does, is done well. Equity and fairness in environmental regulations are discussed as well as the goal of industrial efficiency. The complicated economics of subsidies versus penalties in generating price signals to polluters is explained as are output caps compared with technology mandates. Because the exposition is clear and technical terms (aquifer, endocrine disruptors, risk assessment, marginal costs, and proximate causation) are defined, general readers and university students alike should be able to follow the chemistry, the epidemiology, as well as the legislative compromises associated with the evolving role of regulatory agencies in pollution identification and abatement. If there is one theme to this presentation it is that markets alone will not eliminate the environmental injustice of pollution costs externalised to the less powerful and most vulnerable.

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One of the more valuable portions of the book deals with the role of federal agencies which, as they are prodded or shackled by the executive branch, alter the pace and intensity of environmental enforcement actions. For example, President Reagan's Office of Management and Budget, following Executive Order 12291 that required regulatory agencies to follow a cost/benefit analysis, blunted the efforts of the EPA and OSHA to phase out the use of asbestos from 1981 to 1987, a period well after the substance was proven to be a health hazard.

The section on the Clean Air Act of 1970 and its subsequent amendments, running well over 200 pages, is particularly comprehensive. This act set emission limits related to acid rain and ozone. In 1977 emission standards for lead were added to the act over the vociferous objections of industry, leading to a transition to lead-free gasoline.

Although running to nearly a thousand pages, the book's conceptualisation of the pollution hazard is limited to the impact of modern manufacturing technology extraction, energy production, and transportation - through the discharge of toxins into an under-regulated commons of air, water, and soil. The resulting chemical effluents then degrade the web of life and human health. Framing the issue in this way, the narrative begins with the Clean Air Act and proceeds like a three-act play through the Clean Water Act and the Solid Waste Disposal Act and associated legislation. One might argue, however, that there is a deeper history associated with social efforts to control pollution. These include efforts by conservationists at the end of the 19th century and the beginning of the 20th century to deal with soil erosion, deforestation, and stream sedimentation through the management of federal land. These efforts were consolidated under the Bureau of Land Management in 1946, whose mandate for promoting multiple-use includes overseeing sustainable forestry operations and mineral extraction on more than 100 million acres. The BLM is now expediting and permitting sustainable energy production: solar, wind, biomass, and geothermal. The record of stewardship of federally controlled natural resources, from the 1872 Mining Law down to the mishandling of Native American mineral royalty trust accounts by the Department of the Interior, has been mixed, but might well be included in the story of the search for responsible resource use.

Federal efforts to regulate toxic threats to human health begin with the Pure Food and Drug Act of 1906, mandating federal meat inspection and prohibiting the manufacturing and sale of poisonous patent medicines. The law was the first to mandate labelling on patent medicines, at this point largely opiates. Agency consolidation in 1930 created the FDA which, in 1938, extended its oversight to cosmetics and the pre-marketing safety of all medical drugs. More recently, a subdivision of the FDA was created to monitor radiation-emitting devices, from cell phones to airport baggage scanners. The larger environmental/public health agenda includes these hazards, though this book does not. The authors should have caste a wider net. Such a net would have also allowed them to address environmental radiation from atomic wastes produced during mining, weapons manufacturing, atmospheric and underground testing, and the disposal of low- and high-level radioactive waste from nuclear reactors. Associated hazards include bio-medical waste, material used in the irradiation of food, and airport passenger scanners. The concept of pollution regulation should include nuclear power plants, medical devices, public security, and the food system.

While one of the authors' key concerns is the ability of federal regulations to force desirable technological innovation so to enhance production efficiency while reducing the production of pollutants so that end-of-pipe contamination is not created, they might well

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have taken this line of inquiry farther. Had the dimensions of radioactive toxicity and initiatives in the area of renewable energy been considered, the authors could have compared US and European policy approaches mandating new technology in power generation – wind, tidal, solar, and geothermal – with market approaches to reducing pollution associated with energy production.

The second lacuna in the book concerns the 'package' referred to as industrial agriculture: monocropping using chemical pesticides, herbicides, and fertilisers within a global supply chain paradigm requiring intensified energy use in processing and shipping. Associated with this 'package' is genetic engineering of livestock and their systemic exposure to chemicals that affect the human diet: antibiotic-laced feed and growth-inducing hormone supplements, and cloning. Results include the decline in the biodiversity of both domesticated food species and surrounding nature. Industrial agriculture has contaminated water supplies with manure spillage from confined animal feeding operations (CAFOs) for hogs, cattle, and poultry while lacing surface and well water with nitrates and nitrites. While the book makes a reference to agricultural contamination in Chapter 1, this theme is not explored. Discussion of the federal role in sanctioning GMOs in the food supply would have provided the authors with a fine example of what they champion in the book: the 'precautionary principle' for addressing technological innovations with unknown impacts and the citizen role in initiating and monitoring policy.

Finally, a stronger emphasis on citizen activism in identifying pollution and demanding regulation is another area that could be strengthened in this book. It was residents at Love Canal that initiated governmental action that led to Superfund legislation. Such an emphasis would fit well with the book's existing discussion of tort suits by injured parties against polluters, including discussion of the limitations of such a piecemeal approach to pollution abatement.