

## THE GREENING OF INDUSTRY

In the early 1980's, the Swedish paper industry faced a crisis that threatened its existence. Waste water, which for decades had been spilling from factory outlets, had devastated rivers, and coastal waters throughout Sweden. Chlorine, used to separate paper fibres from the lignin, which is darker, was regularly combined with the lignin to form chlorinated organic compounds, the most infamous of which is dioxin. These compounds were poisoning fish, the fish were poisoning humans, and the streams were dying from lack of oxygen. Because of the Swedish public's heightened environmental consciousness, the paper industry faced economically ruinous legislation if it did not act.

Under the pressure of such a threat, the paper industry changed. It invented new processes, such as oxygen delignification, in which oxygen is used as a bleach, instead of chlorine. In other manufacturing stages, it found ways to substitute hydrogen peroxide or methanol for more harmful chemicals. The public meanwhile, learned to accept paper that was only near-white.

This minor technocultural revolution culminated in the world's first chlorine-free paper plant, opened by a company named Korsnas AB. Korsnas did more than simply eliminate chlorine, however. The plant burns wood scraps to produce electricity and heat for itself and a nearby town of 15,000; cleans the traditional "rotten-egg smell from its air emissions; and recovers and recycles most of its waste water. Though it still creates some pollution, the plant is a step nearer to the ideal: a "sustainable industry" that uses renewable resources and creates very little waste.

The Swedish paper industry is a good example of what appears to be a growing trend: industry committing itself to ecological principals as a result of the threat of regulation and a "greened" consumer sector. In recent years, many governments have begun to take a hard line against industry pollution and waste. European countries have set carbon-dioxide reduction targets; the European Community will impose a universal carbon-dioxide tax this summer, while Germany has legislated a hazardous-waste tax that will effectively double disposal costs and force industry to rethink its waste production processes.

Threats of more such regulations are motivating companies all around the world to reform themselves. In 1991, representatives from more than 500 of the world's largest companies met in Rotterdam to define industry's input to a United Nations world summit meeting on the environment and development. Conference representatives, agreeing that sustainable industry must be a cooperative effort, produced the Sustainable Business Charter, which, though modest in its demands, does provide an initial frame work for a new industrial ethic.