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- LOCAL LAWS BAN CFCs

PHASING OUT OZONE DEPLETERS

BACK TO BASICS: SOAP REPLACES CFCs AT IBM'S SAN JOSE PLANT

The last time you took a shower, you were in direct contact with one of the world's most welcome environmental products: warm soapy water. While soap is hardly a glamorous technological invention, officials at International Business Machines (IBM) will tell you it's an effective stand-in for chloroflourocarbons (CFCs). This is not something you would have heard from IBM three years ago. It was relentless citizen pressure that convinced the giant company to consider the merits of soap.

In 1989 IBM's sprawling disk drive factory in San Jose, California, was a formidable emitter of ozone-depleting chemicals: number one in the state, number three in the nation. Each year, the factory released more than 1.5 million pounds of CFCs into the atmosphere. The chemicals were used to clean circuit boards and other electronic components.

Environmental groups in the area learned of these emissions through the first Toxics Release Inventory. The Silicon Valley Toxics Coalition led a broad-based assault on this monstrous threat to the ozone layer. Ted Smith, Executive Director of the Coalition, describes how a number of environmental groups in the area organized an intensive protest on Earth Day, 1989. "Over 2,000 activists marched to the IBM facility chanting 'Hey hey, ho ho, CFCs have got to go!' The protesters were turned away at the front gate by a security officer who was visibly shaken. With seven television crews looking on, leaders asked IBM to sign a "Good Neighbor Agreement" promising a CFC phaseout. All to no avail."

Silicon Valley CFC Elimination Campaign

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Impact: Global

Start up: 1989

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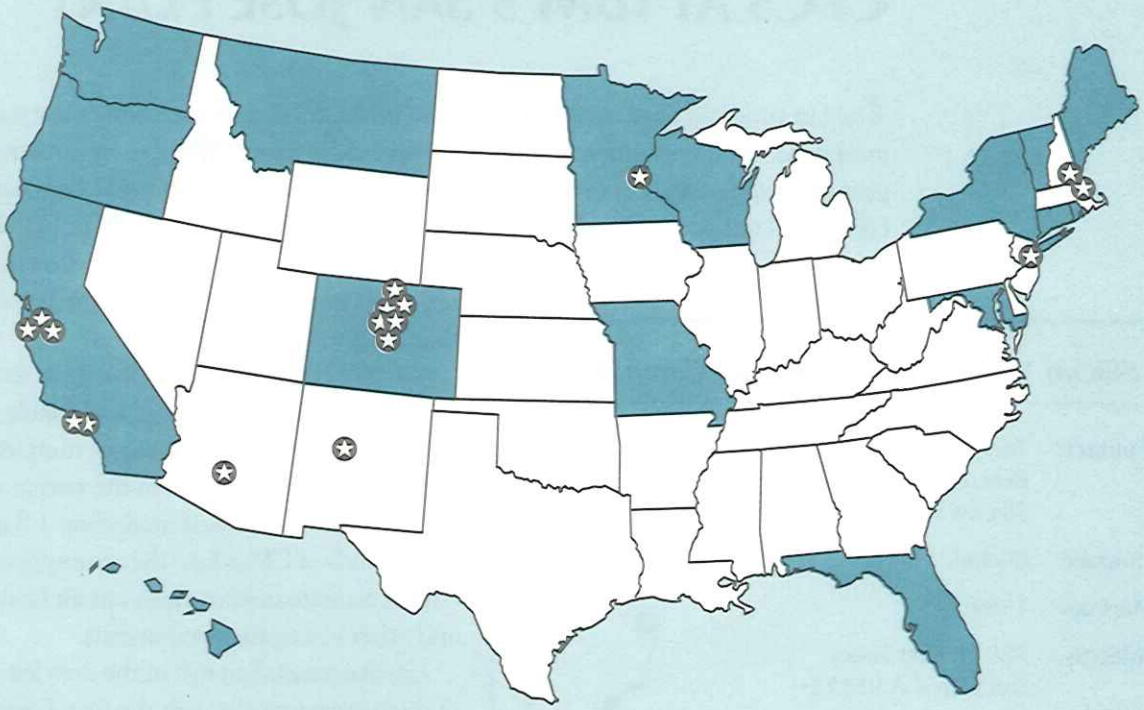
"Over 2,000 activists marched to the IBM facility chanting 'Hey hey, ho ho, CFCs have got to go!'"

acted legislation to restrict the use and/or require the recycling of various ozone-depleting compounds. While state and local laws form a crazy quilt of provisions, innovations already in place can serve as models for other communities. For instance, Newark, New Jersey bans foam insulation made with CFCs, recommending substitutes that don't sacrifice the ozone layer. Denver and other Front Range communities have banned halon fire extinguishers for home use, another provision left out of the federal amendments. In Vermont, ozone-depleting compounds will not be allowed in automobile air conditioners by the model year 1995.

There is no more important threat to the long-term survival of life on the planet than the loss of the atmosphere's protective ozone shield. If we can save it, we will have borrowed some time to reverse our unsustainable ways.

Where Are All Those Ozone Protection Laws?



Local Laws: Irvine, Pasadena, San Jose, San Ramon, Santa Cruz, Santa Monica, Phoenix, Boulder, Denver, Fort Collins, Greenwood Village, Littleton, Wheat Ridge, Cambridge, Minneapolis, Nashua, Newark, Albuquerque.

State Laws : CA, CO, CT, FL, HI, ME, MD, MN, MO, MT, NY, OR, RI, VT, WA, WI.

CFC use, electronics industries which relied on the chemicals for solvents and cleaners found themselves in trouble. Many began to experiment with alternatives involving all sorts of different spray mechanisms and drying systems. But as they looked around, they realized that many large corporations — often their competitors — were conducting parallel research.

So they decided to share their findings. With encouragement from EPA, nine companies (including such giants as General Electric and Ford Motor Company) came together in late 1989 to form ICOLP. Many businesses have joined since.

ICOLP's goal is to help industries replace CFC-based technologies with standardized alternative processes. Participating companies work with each other via conferences and memoranda to share information and develop new products. The cooperative effort has even smoothed over some traditional adversarial relationships. Two of the founding members are AT&T and Northern Telecom, fierce competitors who have found common ground in the ICOLP program.

The sweetest part of the deal is OzoNet, a computer database of CFC alternatives.

But the sweetest part of the deal is OzoNet, a computer database of CFC alternatives. Accessible by personal computers from more than 70 cities in 35 countries worldwide, OzoNet provides technical information about CFC alternatives, updates companies on ozone protection legislation, and supplies contacts of key people in government. Technologies from the database are available at no charge to anyone who finds them useful.

The system relies heavily on the goodwill of member companies, but all involved realize the benefits of solving the CFC problem quickly. By cooperating, they can save themselves both time and resources.

For instance, Digital Equipment Corporation donated its "microdroplet aqueous module" cleaning process to ICOLP, which in turn provided information on the process to other companies. Digital received EPA's 1990 Stratospheric Ozone Protection Award for its gift of ozone-safe technology. And Northern Telecom recently donated a patented board duster which tests the the cleanliness of circuit boards without using CFCs. "The donation of technology to the global industrial community is just one way companies can contribute to the greater good of the global environment," says Fred Oldfield, Digital's CFC Program Manager.

ICOLP is now networking with governments and corporations throughout the world, including Japan, Canada, Sweden, France, the United Kingdom, Mexico, Thailand, Korea, and the former Soviet Union. ICOLP officials believe the database is particularly useful in less developed countries, where information on CFC alternatives may not be readily available.

It's worth remembering that many of ICOLP's members fought hard against a CFC phaseout. But now those companies have a chance to prove that businesses can cooperate to speed up the conception, design, and implementation of sustainable manufacturing processes.

But the winds of change were blowing. A few months later, *USA Today* ran a front-page story describing the plant's CFC emissions. Environmental groups moved quickly to capitalize on the media attention, holding a series of press conferences to protest IBM's inaction. The pressure worked. By September, IBM presented a new position on its CFC policy: CFCs would be eliminated completely by 1993. Already, IBM has reduced its CFC emissions by more than 95%.

The new process is delightfully elegant. Instead of being cleaned with CFCs, electronic components are dipped in warm soapy water and carried by a moving track through what resembles a miniature car wash, where they are rinsed and dried with hot air. To IBM's surprise, the new process will pay for itself in three years and save money thereafter. "I've never seen a project with this level of grassroots motivation by the engineering team," exclaims Dr. June Anderson, the plant's manager of environmental programs. "They became convinced that this was the right thing to do."

Silicon Valley Toxics Coalition is pleased with the campaign's results and is working to build on its success. "We want other companies to follow IBM's example," says Smith. Working with other environmental groups, the Coalition is using IBM's conversion to counter the conventional wisdom that environmentally sound practices are too complicated and expensive, or not technically feasible. For IBM all it took was soap, water, and a little arm-twisting.

Relentless citizen pressure convinced IBM to consider the merits of soap.

PHASING OUT OZONE DEPLETERS

INDUSTRIES COOPERATE IN DEVELOPING CFC SOLUTIONS, AND SHARE THEM WORLDWIDE

Businesses often claim to loathe environmental regulation. But when push comes to shove, they usually manage to adapt, and often benefit from the increased efficiency and cost savings. The Industry Cooperative for Ozone Layer Protection (ICOLP) shows that businesses can work together to develop and share environmentally safe technologies — with important benefits for all.

When the federal government began cracking down on

Industry Cooperative for Ozone Layer Protection

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Impact: Global

Start up: 1989

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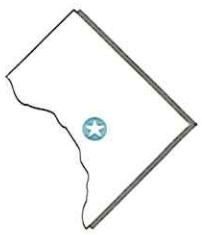

ICOLP gives industry the chance to prove that businesses can cooperate to speed up the conversion to sustainable manufacturing processes.