



## Backgrounder: DuPont and the CFC/Ozone Depletion Issue

As the largest supplier of fluorocarbons, DuPont played a critical role in resolving global environmental concerns posed by chlorofluorocarbons (CFCs). DuPont provided industry leadership, sought scientific understanding of the potential impact of the existing technology, responded to the rapid advances in the science, and developed alternative products.

In the 1930s, DuPont commercialized CFCs to provide less hazardous alternatives to the sulfur dioxide and ammonia then used as refrigerants. Because of their superior safety, health and performance characteristics, CFCs became widely used in a number of applications, including refrigeration, air conditioning and medical inhalers for asthma patients.

With recognition in the early 1970s that CFCs were accumulating in the atmosphere, DuPont led the organization of an industry-sponsored research effort to gain a better scientific understanding of the environmental fate and potential impact of CFCs. When the possible role of CFCs in ozone depletion was recognized, DuPont established its own atmospheric modeling research program and helped focus the industrial effort in this area.

Recognizing that ozone depletion was a highly complex global issue with scientific, environmental, technological, economic and societal aspects, DuPont continued its leadership over the next two decades by facilitating unprecedented cooperation among scientists, environmental organizations, governments and industry globally. As new scientific evidence accumulated, DuPont responded by:

- Calling for an international agreement to limit CFC global consumption, laying the groundwork for the Montreal Protocol, the world's first international agreement to address an environmental issue;
- Making a unilateral corporate commitment to an orderly phaseout of CFCs, which established a benchmark for global action;
- Initiating a large-scale technical effort to identify suitable alternatives, and to develop and scale up manufacturing technologies. The magnitude of this challenge is exemplified by the fact that, in 1986, over \$135 billion worth of installed equipment in the U.S. was dependent on existing CFC products;
- Forming consortia to accelerate toxicity and environmental testing of CFC replacements.

This massive effort led to the successful development of a series of alternatives for CFCs. DuPont's leadership substantially reduced the time from research to commercial production. DuPont invested more than \$500 million in the development of alternatives, and was the first company to commercial a family of refrigerants with lower or no ozone depletion potential in Jan. 1991.

The environmentally superior fluorocarbon substitutes enabled major industries such as refrigeration and air conditioning to continue meeting societal needs, but with safer products that reduced or eliminated the potential for ozone depletion. The widespread orderly, economical phaseout of CFCs, and their replacement with safer, effective and environmentally acceptable alternatives, was critical to meet societal needs and minimizing the impact of the transition.

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