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Ozone Debate: Environmentalists and Business Collide—Again[1]

By Claire Andre and Manuel Velasquez

In 1985, scientists startled the world with an ominous discovery. While monitoring the stratosphere over Antarctica, they discovered a hole in the earth's ozone layer. By 1987, the hole had increased to the size of the continental U.S. Last winter, scientists found evidence of the same destructive process at work in the Arctic's stratosphere. Worldwide deterioration of the ozone shield had begun and was progressing at an alarming rate.

Ozone is a form of oxygen that is present in small but crucial amounts in the stratosphere, between six and thirty miles above the surface of the earth. The ozone layer absorbs solar ultraviolet radiation, protecting humans from skin cancer, cataracts, and immune system deficiencies. Studies indicate that many other forms of life, from bacteria to agricultural crops, may be harmed by increased doses of ultraviolet light.

The destruction of the ozone shield is linked to chlorofluorocarbons, or CFCs, one million tons of which are released annually around the world. These chemicals serve as the coolants in our air conditioners and refrigerators, the foaming agents in our styrofoam packaging and insulation, the sterilants used to sanitize our surgical instruments, and the solvents used to clean scores of electrical components. Each of these products releases CFCs into the atmosphere. Once free, the CFCs float up to the ozone layer and remain there for 75 to 100 years, destroying the ozone molecules.

Every 1% drop in ozone results in a 2% increase in the intensity of the most harmful type of ultraviolet radiation, UV-B. Scientists predict that, beyond the health risks to humans, a prolonged increase of UV-B rays could set in motion far-reaching and unpredictable ecological changes. There is evidence, for example, that UV-B reduces the nutrient content and yield of crops such as soybeans and peas. It also kills off microorganisms at the bottom of the marine food chain, the base on which much of the world's population depends for protein.

In 1987, international concern over the effect of CFCs on the ozone layer led to the signing of a treaty calling for a 50% cut in the production and consumption of CFCs by 1999. This past May, representatives from 86 countries voiced their support for a total ban on their use.

But in the wake of mounting evidence of the destructive capacities of CFCs, environmentalists have called for an immediate and total ban on the use of ozone-depleting chemicals for the sake of future generations.

Industry, on the other hand, opposes such a drastic step, arguing that time is needed to develop substitutes for the chemicals.

Do we have a moral obligation to halt the use and production of CFCs?

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The Case for Continued Use of CFCs

Those who oppose an immediate ban on CFCs argue that an immediate ban on CFCs would inflict great harm on society, but would produce few benefits.

First, an immediate ban on CFCs would impose enormous costs on industry and consumers alike. In the United States alone, CFCs are currently contained in 100 million refrigerators, 90 million cars and trucks, 40,000 supermarket display cases, and 100,000 commercial building air conditioners. Dupont has estimated that banning CFCs would render useless or require alterations of equipment valued at $135 billion in the U.S. Moreover, CFCs are central to the manufacture of semiconductors, the building block of the electronics industry.

To date, industry has found no adequate substitute for the chemicals. If CFCs were banned today, businesses such as dry-cleaning, auto refinishing, printing, and baking would be forced to shut down or be forced to install costly controls, and prices for a wide range of consumer products and services would increase.

Second, the substitutes developed for CFCs are toxic or extremely dangerous to use. Without nontoxic substitutes in place, society would only be trading one harm for another by insisting on an immediate ban.

Third, halting the production and use of CFCs would harm our quality of life and that of future generations. We would be forced to do without countless products that have come to be virtually indispensable. And the electronics industry could be crippled, threatening the benefits it promises for both present and future generations.

While the harms that would be ushered in by an immediate ban on CFCs are considerable, the benefits are not. Recent reports of research being done in Antarctica indicate that ocean and plant life are adjusting to the ozone hole. A gradual phaseout of CFCs is admittedly in order, but an immediate ban is not.

Appeals to justice also underlie opposition to an immediate ban on CFCs. Justice requires that benefits and burdens be distributed equally. Banning the use of CFCs today would impose a great burden on the present generation, while the primary beneficiaries would be future generations.

Finally, those opposed to an immediate ban on CFCs point out that today there is no consensus on how we should factor in the rights of future generations. So the claim that the present generation should ban CFCs out of respect for future generations remains a point of contention among philosophers. Many argue, in fact, that a person must exist before he or she can claim a right to something, and since future generations do not, by definition, exist, they can have no rights.

Furthermore, rights are designed to protect and promote the interests of human beings. But we have no idea what interests or needs future generations will have.

Presently existing persons, on the other hand, clearly have a right to the resources necessary to meet their basic needs. An immediate ban on CFCs would divert scarce resources from

meeting these basic needs for the sake of benefiting future generations, which have no legitimate claims on us. Rather than worrying about the needs of people who do not yet exist, we ought to be directing our resources to meeting the present needs of presently existing people.

Should CFCs Be Banned Now?

Calling for an immediate ban on CFCs are those who argue that the continued use and production of CFCs will cause untold harm to future generations. The Environmental Protection Agency projects more than 60 million additional cases of skin cancer, 17 million additional cases of cataracts, and about 1 million additional deaths among Americans born by the year 2075 if CFC usage continues at its present rate. The impact on the climate and chemistry of the atmosphere will also be devastating and irreversible.

On the other hand, the costs that society would incur upon banning CFCs immediately are relatively insignificant. The sacrifices we might have to pay in discomfort or higher prices are trivial compared to the increased risk of cancer, cataracts, and irreversible ecological damage if CFCs are not contained.

Furthermore, while the harms that would result from the continued use of CFCs—death, disease, and ecological damage—are permanent, the costs of banning CFCs would only be temporary. Already substitutes are being rushed to market.

In response to those who claim that future generations have no rights, it is argued that people need not exist in the present to possess rights. We speak of a camper as having an obligation to leave a clean campsite for the next person who camps there. The camper may assume that the next person to camp there exists somewhere, but in fact, he or she may not yet exist. We recognize the rights of future generations every time we create trusts on behalf of possible descendants, withholding money from those who are living for the sake of those who are not yet born.

Nor do we need to know exactly who these people will be or their specific desires or needs before we place their rights on par with our own. It takes little stretch of the imagination to know that the basic needs of future people will be similar to ours, including a healthy ecosystem, sufficient food, and protection from ultraviolet radiation.

The deliberate use of chemicals we know will inflict substantial harm on future generations is morally reprehensible. The continued use of CFCs can be likened to the case of a terrorist who plants a bomb in the heart of New York City, setting it to explode in the year 2075. Whenever we act with the knowledge that someday some innocent person will be harmed by our action, we are morally responsible for that harm.

Finally, it is argued, justice demands that the interests of future generations and the interests of present generations be treated equally. If I were ignorant of the generation into which I would be born, I would hardly support the continued use of chemicals that would inflict massive and irreversible harm on a future generation in order that another earlier generation could live in comfort and ease. Rather, I would support an immediate ban which would ensure that each generation would have at least the minimum resources necessary to satisfy its basic needs.

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As the ozone layer continues to dissipate, we must decide how to balance our obligations to ourselves against those to future generations. Should we immediately eliminate the ozone-eating chemicals from production, thereby imposing some hardships on ourselves and our economy? Or, should we wait for more alternatives to emerge, thereby inflicting possibly serious health problems and environmental harm on future generations?

For further reading:

Begley, Sharon, Mary Hager & Dorothy Wang, "A Gaping Hole in the Sky," *Newsweek* (July 11, 1988) pp. 21-23.

"Can We Repair the Sky?" *Consumer Reports* (May 1989), pp. 322-26.

Partridge, Ernest, ed., *Responsibilities to Future Generations: Environmental Ethics* (Buffalo, NY: Prometheus Books, 1980).