

# EIR Science & Technology

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## New book on ozone 'hole' reveals fraud behind Eco-92

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*A forthcoming book by Ralf Schauerhammer and Rogelio A. Maduro will be a major weapon in the arsenal you need to combat environmentalist efforts to send the world into a New Dark Age.*

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*What follows are excerpts from selected chapters of The Holes in the Ozone Hoax, soon to be published by 21st Century Science & Technology, Washington, D.C.*

### Introduction: The big lie

The ozone hole scare story depends for its power on a few well-selected big lies—misstatements of fact repeated so often that the public takes them for granted as true. This book will counter these lies by presenting the scientific evidence deliberately ignored by the ozone hole propagandists and their media fan club. We will give the reader some idea of how this scare story developed over the past 20 years; the real facts about chlorofluorocarbons (CFCs) and ozone; and what motivates the scare-mongers. We will explain why some environmentalists, scientists, and policymakers want the public to believe that man's work on Earth—industrialization—is destroying nature. And, finally, we will offer an advanced-technology solution that can improve the condition of both man and nature. . . .

The ozone depletion theory is built atop three Big Lies:

**Big Lie #1:** A single chlorine atom from a molecule of chlorofluorocarbon may destroy hundreds of thousands of ozone molecules up in the stratosphere.

In fact, CFCs are inert, nonreactive, nontoxic, non-flammable chemical compounds that do not destroy ozone or anything else. To turn CFCs into destroyers, the ozone hole propagandists have theorized that, high in the stratosphere, ultraviolet radiation breaks up the CFC molecules, releasing a molecule of chlorine, and that this chlorine molecule then becomes the villain that allegedly destroys the ozone layer. Omitted from this story of mass destruction is the fact that the amounts of chlorine contained in all the world's CFCs are *insignificant* compared to the amount of chlorine put into the atmosphere from natural sources. . . .

**Big Lie #2:** CFCs rise in vast amounts to 30 or more kilometers from their earthly birthplace to reside permanently in the stratosphere, the portion of the atmosphere which includes the ozone layer.

In fact, CFCs are heavy, complex molecules and there has yet to be published a single scientific paper that presents any documented *observations* of large numbers of these molecules in the stratosphere. It is especially difficult to see how they can rise to 30 kilometers, where the greatest concentration of ozone is located, and even up to 40 to 60 kilometers, the only altitude at which there is intense enough ultraviolet radiation to break up CFC molecules, releasing chlorine. (At lower altitudes, the ultraviolet rays are filtered out.) Present claims are based solely on the supposition that CFCs *will* rise to the stratosphere *because* they are not water-soluble molecules, which means there are allegedly no sinks—or resting places—for them on the surface of the Earth.

**Big Lie #3:** CFCs break down in the stratosphere.

In fact, the reactions of CFCs in the stratosphere have never been observed, much less measured! The chemical reactions described by the originators of the most popular ozone depletion theory—F. Sherwood Rowland and Mario Molina—have been carried out only in laboratory experiments. Rowland and Molina have based their *theoretical model* on just a few chemical reactions monitored in a carefully controlled laboratory setting. In the real world, at least 192 chemical reactions and 48 photochemical processes have been observed to occur in the stratosphere. Most of these reactions are very fast processes involving highly reactive species, particularly free radicals and atoms in excited states, whose reactions can affect the chemistry of the stratosphere at very small concentrations. Most of these reactions are extremely difficult even to reproduce in the laboratory; measuring their rates would be yet more difficult.

To take a couple of reactions involving just a few molecules, carry them out in an isolated laboratory environment, and then claim this is what happens in the stratosphere (where it cannot be measured), is patently absurd. For this reason, Rowland and Molina carefully prefaced their 1974 ozone scare paper with the following disclaimer: "We have *attempted* to calculate the *probable* sinks and lifetimes of these molecules" (emphasis added). Such disclaimers, however, are never mentioned by the press; instead, a theoretical model is reported as if it were an observed fact.

## Chapter 1: The facts about chlorine

If it were true that chlorine from CFCs would wipe out the ozone layer, then Mother Nature would be suicidal. Chlorine is one of the most naturally abundant trace chemicals in the atmosphere. The natural sources of chlorine in the atmosphere dwarf the puny amounts of chlorine that could possibly be released by all the CFCs on Earth. Based on the evidence, in fact, the government should ban volcanoes from erupting and sea water from evaporating, and forget about CFCs.

The yearly production of CFCs is presently estimated at approximately 1.1 million tons a year, which includes approximately 750,000 tons of chlorine. Compare this to the natural sources of chlorine gases. . . .

- More than 600 million tons of chlorine are released into the atmosphere every year by the evaporation of sea water, which contains salt (sodium chloride, NaCl). Large amounts of this chlorine reach the stratosphere through the pumping action of thunderstorms, hurricanes, typhoons, and other cyclonic activity.

- Passively degassing volcanoes pump more than 36 million tons of chlorine gases into the atmosphere in ordinary years when there are no volcanic eruptions. Great volcanic eruptions pump from a few million to hundreds of millions of tons of chlorine into the atmosphere. Most important, violent volcanic eruptions will inject gases and debris directly into the stratosphere.

- There are 8.4 million tons of chlorine gases produced by forest fires and the burning of biomass, largely as a result of primitive slash-and-burn agriculture methods and the lack of modern energy sources in the developing sector.

- Ocean biota, including algae, kelp, and plankton, have been measured to emit more than 5 million tons of methyl chloride into the atmosphere, and vast amounts of this biotic source of chlorine have been measured high in the stratosphere. Recent studies indicate that land plants may also contribute vast amounts of methyl chloride to the atmosphere.

- In addition, untold millions of tons of chlorine enter the Earth's atmosphere from outer space, a result of meteorite showers and cosmic dust encountering the atmosphere and burning up.

These comparisons are even more startling when the actu-

al amounts of chlorine allegedly released from CFCs are compared to the natural sources. *According to the theory*, approximately 1% of the CFCs are broken up in the stratosphere every year (the reason they have lifetimes of over 100 years in the atmosphere). Therefore, a year's production of CFCs would contribute *at most* 7,500 tons of chlorine to the atmosphere. That is, if CFCs are being broken up in the stratosphere at all, for which there is no evidence. . . .

## Chapter 3: Experimentalists vs. modelers

Although the major media rarely interview any of the scientists who dissent from the ozone depletion theory, there is actually a deep division in the scientific community today on the ozone issue. One grouping is made up of scientists, who can be classified as experimentalists and spend their time in the field, making careful observations of natural phenomena and developing hypotheses based on extensive, long-term observations. A second grouping is the modelers, who have gained prominence recently with the advent of supercomputers. The modelers spend their time in the office, selecting data gathered by other scientists to use in making up theoretical models, either on paper or on computers; they then make their hypotheses based on the predictions of their models. These hypotheses almost always center on one aspect or another of how man is destroying Mother Earth. Seldom will the modelers venture out of the confines of their offices to take measurements themselves, unless it is to obtain specific data that will corroborate their model.

The leading proponents of today's doomsday theories are almost exclusively modelers, and those scientists who oppose them are almost all experimentalists, who base their judgments on observational data, not scenarios and fancy computer printouts.

An anecdote in Sharon Roan's book, *Ozone Crisis*, illustrates this point. In fall 1986, Robert Watson, director of NASA's stratospheric research program, put together a team to go to Antarctica and observe the ozone hole firsthand. He asked Susan Solomon, a student of Europe's leading doomsday scenarist, Paul J. Crutzen, to accompany the team. Solomon, who is now looked upon as one of the top experts on the Antarctic ozone hole, accepted reluctantly. As Roan tells the story: "Solomon created models on computers. She had never done any experimental work, let alone any field work in a place as inhospitable as Antarctica. And, she groaned, she would have to learn how to run Schmeltekopf's instrument [to measure nitrogen dioxide]. But she knew Schmeltekopf had created a solid and well-designed instrument that didn't require a skilled operator" (p. 161).

Solomon went to Antarctica together with 12 other scientists and took measurements at McMurdo Station. These are the famous measurements that show concentrations of chlorine in the stratosphere 100 to 1,000 times greater than the expected concentrations. These concentrations were, of course, immediately blamed on CFCs, as proof that man-

made CFCs were releasing the chlorine that was destroying ozone and creating the hole. None of these intrepid expeditioners, as pointed out before, bothered to mention that the 33 balloons they launched to take measurements of chlorine concentrations in the air above McMurdo Sound went right through the cloud of volcanic gases from Mt. Erebus, 10 km upwind, which just happens to outgas more than 1,000 tons of chlorine every day. Conveniently, the existence of this active volcano is never even mentioned in the accounts of chlorine measured at McMurdo. . . .

## Chapter 8: The cost of the ban

. . . There is now a realization that the cost of banning CFCs and other halogenated chemicals [proposed by the 1987 Montreal Protocol] may be overwhelming to the world economy. Estimates from experts in different industries that will be affected by the ban indicate that the cost may be as high as \$5 trillion by the year 2005. Knowledgeable sources in the refrigeration industry have told the authors that the costs are so staggering that Japan is considering pulling out of the Montreal Protocol.

More significant than the cost in dollars and cents of banning CFCs is the cost in human lives. The increase in human population in the 20th century is largely the result of improved availability of food, which has come about largely because of the extraordinary quality of CFCs as refrigerants. Over 75% of the food consumed by Americans today is refrigerated at one point or another by CFCs. The ban on CFCs will mean that most of the hundreds of millions of refrigeration units installed worldwide will have to be scrapped. The consequences of that will be a collapse of food storage capacity worldwide, and a dramatic increase in the death rate from malnutrition, starvation, and food-borne disease. Experts on the worldwide food chain estimate that between 20 and 40 million individuals will die every year as a result of the ban on CFCs. . . .

Why is such a clause [controlling export of CFCs to non-signatory nations] necessary in a treaty that is supposed to save the Earth and human lives? The reason is simple and straightforward: The banning of CFCs will have a devastating impact on modern industrial society. Those nations that are now becoming industrialized are essentially being told to stay in the pre-industrial dark ages, and those of the lower and middle classes of the industrialized nations will pay a very heavy penalty, sacrificing their standard of living to fatten the pocketbooks of an emerging international cartel that will control the technologies of the future.

The environmental hoaxsters behind the ban on CFCs claim that it will be simple and easy to replace these chemicals. This is a lie. The public has been told repeatedly that there are "ozone-friendly" chemicals which can be "dropped into" presently existing equipment to replace CFCs. This is also a lie. There are no such "drop-in" replacements. That means that all of the existing equipment that uses CFCs will

have to be junked, and replaced by equipment which can use new chemicals. Given the fact that the equipment to be scrapped includes hundreds of millions of home, commercial, and industrial refrigerators, it is not a small matter.

The awesome amount of equipment to be scrapped includes:

- 610 million refrigerators and freezers
- 120 million cold storage units
- 100 million refrigerated transports
- 150 million car air conditioners. . . .

In monetary terms, the cost of banning CFCs will be staggering. Since the cheapest replacement now available for CFCs used in refrigeration is 30 times more expensive, that means the annual cost of refrigerants will rise from \$1 billion per year in 1988, to \$30 billion per year, if all CFCs used in refrigeration are replaced. With a fivefold increase in refrigerants by the year 2000, the tab will be at least \$150 billion per year. This figure is consistent with estimates made by the refrigeration industry, that refrigerants will cost between \$150 and \$200 billion a year by the year 2000. . . .

Moreover, replacements for CFCs are not easy to find. The refrigeration and air conditioning industry had counted on using the family of hydro-chlorofluorocarbons (HCFCs)—a CFC with an extra hydrogen atom—which are not yet included in the ban. But recent meetings of the Intergovernmental Panel on Climate Change (IPCC), the supranational body that is becoming a global ecological dictatorship, have made it very clear that they intend to ban HCFCs by the year 2000. The environmentalist scare story cooked up about HCFCs is that they are "super-greenhouse" gases, that will cause global warming, melting of the polar ice caps, and the submergence of New York City and other sundry places under the runoff. . . .

## Chapter 9: No more chemicals?

Most of the public has heard about the ban on CFCs. Many do not know, however, that the Montreal Protocol also bans the production and use of many other useful chemical compounds that contain either bromine or chlorine atoms in their chemical structure. These include the halons, methyl chloroform, and carbon tetrachloride—each of which plays a critical role in modern industrial society.

Take the case of halons, a class of chemicals which is rarely mentioned in news reports on the ban. Perhaps this is because halons are extremely useful chemicals, which have saved millions of human lives, and the environmentalists are determined to give CFCs and related chemicals only negative press coverage.

Halons, chlorofluorocarbons which contain a bromine atom in their chemical structure, are a special branch of the CFC family. The bromine atom gives halons extraordinary properties in extinguishing fires and suppressing explosions. There is no chemical known to man that can extinguish fires as quickly and effectively as halons. Furthermore, halons are

non-toxic, non-corrosive, and not damaging to electronic equipment. The toxicity of halons is so low that they can put out a raging fire without harming anyone present. Carbon dioxide, by contrast, which is also effective in fighting fires, suffocates people and animals. Other fire-fighting chemicals extinguish fires without harming people, but destroy electronics and computer equipment.

The only drawback of halons is that they are expensive, \$6 per pound for Halon-1301, for example. They are generally used only in places where fire is a great danger, such as aircraft, hospitals, pipelines, ships, submarines, tanks, personnel carriers, the Strategic Air Command, missile silos, and the control rooms of nuclear power plants. . . .

## Chapter 10: The corporate environmentalists

. . . The Bronfman family, which took controlling interest of the Du Pont Company in the early 1980s, made its fortune running bootleg liquor into the United States during Prohibition. This is ironic, as the Montreal Protocol defines CFCs as *controlled substances*, whose use is regulated by law, just like cocaine, or, more to the point, like alcohol during Prohibition. This is a very profitable business indeed, especially if one controls the patented chemicals that will replace the controlled substance.

The June 29, 1990, European edition of the *Wall Street Journal* made the point very clear. Appearing on the day that the revisions of the Montreal Protocol were signed in London, the article reported: "An expected global agreement Friday to phase out many ozone-destroying chemicals will force an industry shake-out that may ultimately benefit the world's chemical giants." According to the *Journal*, "the accord will cause turmoil in the world chemical industry that only the strong will survive, industry officials say. In place of today's \$2 billion-a-year world market for CFCs and halons, a new market for ozone-friendly chemicals will emerge. That new market will favor the chemical giants, which have the big labs and bulging treasuries needed to develop ozone-friendly substitutes. Global development costs are likely to exceed \$4 billion—a sum only the industry powerhouses can easily afford." . . .

The *Journal* article concludes, "The most likely survivors in an ozone-friendly market are the leaders today in CFC production: ICI [Britain's Imperial Chemical Industries]; Du Pont Co. of Wilmington, Delaware; Hoechst AG of West Germany; Atochem SA of France; Allied Signal, Inc. of Buffalo, New York; and Showa Denko KK of Japan. . . ."

The *Journal* was on target. The ban on CFCs has effectively created one of the most closely knit cartels in the history of commerce. These gigantic chemical corporations have total control not only over the patented products but also over the means of production.

On June 21, 1990, Du Pont announced it would build production facilities worldwide to produce replacements for CFCs. Du Pont spokesmen told the press that the company

intends to invest more than \$1 billion over the next years to take the lead in commercializing production of alternative refrigerants. Plants are planned for Corpus Christi, Texas; Louisville, Kentucky; Dordrecht, the Netherlands; and Chiba, Japan. They will become operational between 1992 and 1995. The facilities will be capable of producing more than 140 million pounds of CFC replacements annually, and the company claims it can supply most worldwide refrigeration needs through the end of the century.

What kind of profits will the cartel rake in?

As discussed in Chapter 8, the ban on CFCs will involve scrapping hundreds of millions of refrigerators, refrigerated transports, and cold storage rooms internationally. The profits involved in replacing all this equipment will be fabulous. The heart of all refrigeration systems, however, is the refrigerant chemicals. The profits generated from new chemicals will be truly staggering.

The giant chemical companies have already made more than \$6 billion in profits from the prohibition on CFCs. CFCs have become increasingly scarce since the signing of the Montreal Protocol in September 1987, and prices are now 6 to 20 times—depending on the product—what they were at the beginning of 1988. CFC-12, for example, the CFC most widely used in refrigerators and air conditioners, was sold for 50¢ per pound in 1988; it now costs between \$3 and \$5 per pound. Experts in the refrigeration industry estimate that by 1995, when CFC production is scheduled to be reduced to 50% of what it was in 1986, the price for CFCs will have risen to between \$15 and \$25 per pound. It should be noted that the *cost* of production will be the same—less than 50¢ per pound. The difference between the sale price and the cost of production fills the coffers of the chemical giants.

The U.S. government is part of the scam, through a tax on CFCs that became effective in January 1990. All existing supplies of CFCs in the United States and all future imports and production of CFCs are now taxed. In 1990, the tax was \$1.37 per pound (more than three times the cost of production), and it will rise steeply every year, to almost \$5 per pound by the end of the decade. The CFC tax will bring tens of billions of dollars into the U.S. Treasury. It is part of the Bush administration's strategy to increase taxes under the cover of "saving the Earth."

The profits the chemical giants will continue to make on CFCs, however large, pale in comparison to the profits to be made from the chemicals that will replace CFCs.

Look at the numbers: In 1988, the world market for CFCs used in refrigeration was about \$1 billion. The leading candidate to replace these CFCs is Du Pont's patented HFC-134a. Despite Du Pont's previous claims it would be no more than two to five times as expensive, now that HFC-134a has reached the market, it carries a price tag 30 times larger than CFC-12—\$15 per pound instead of the 50¢ per pound CFC-12 cost in 1988. This means a total price tag of \$30 billion, if HFC-134a were to replace CFC-12 worldwide. . . .