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First moves toward CFC free Britain

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By the end of this year, 90 per cent of aerosols on sale in the UK will be CFC-free. Since aerosols have, until now, accounted for more than 60 per cent of CFC use in this country, eliminating them from this particular industrial sector was obviously the single most important thing Britain could do to help protect the ozone layer.

CFCs - chlorofluorocarbons - are contained in the propellant that carries liquid drops from the nozzle of an aerosol can (and also used in refrigerators and air-conditioning units). Once seen as the perfect chemical - odourless, non-flammable and chemically inert - CFCs are so stable that they can hang around the atmosphere for more than 100 years.

However, they also destroy the ozone layer that protects the earth from about 99 per cent of ultra-violet radiation by releasing chlorine as their molecules break down.

Friends of the Earth's campaign to persuade the aerosol manufacturers to phase out CFCs was launched in 1986, and was over by 1988.

First we published our pamphlet, *The Aerosol Connection*, a detailed list of aerosols, which were not using CFCs.

This was coupled with as much publicity as we could generate at the time to encourage consumers to find out which aerosols they should be buying.

When this "softly-softly" approach failed to elicit anything other than vaguely hostile rebuffs from the aerosol manufacturers, we felt it necessary to prepare an outright boycott of the best-selling CFC-based products in the UK.

The aerosol industry's decision to get out of CFCs by the end of 1989 was taken just three days before the boycott campaign was launched.

In the light of subsequent events, this was obviously a sound decision. But it was actually based on the fear of consumers turning against all aerosols, not just CFC-based aerosols, rather than on any rational assessment of the scientific position.

Consumer awareness is often a somewhat rudimentary weapon, but the industry accurately read the signs of what was happening. Once the Prince of Wales declared that he had banned all aerosols from his household, they knew they were fighting a losing battle.

As a result, the Government found itself in the enviable position of being able to claim

international credit for meeting the Montreal Protocol's original target of a 50 per cent reduction in CFC consumption a full 10 years ahead of the target date.

It was this breakthrough, which has allowed them to campaign so actively for an 85 per cent reduction.

But it is important to realize that the Government had nothing to do with this achievement. Until 1987, the Government was lobbying, primarily at ICI's behest, for a freeze on CFC production or, at best, a mere 20 per cent reduction within the Montreal Protocol. Its much-vaunted "voluntary approach" was all but worthless, in that it meant little more than leaving it to voluntary organizations such as Friends of the Earth and the Consumers' Association.

And there are other cautionary postscripts. In the first place, the Government's skilful handling of its propaganda, portraying itself as "the saviour of the ozone layer" has persuaded many people that the problem has been comprehensively dealt with, and that Friends of the Earth should now direct its attention elsewhere.

As it happens, this is

far from true. The US Environmental Protection Agency presented some stark predictions to the recent conference in Helsinki on the Montreal Protocol, indicating that ozone levels are unlikely to stabilize at their 1985 levels until around the year 2070, even if we could completely eliminate all CFCs and other ozone-depleting chemicals by the end of 2000.

Second, there is no evidence to indicate that the overall sales of aerosols were affected in any lasting way. Production of aerosols in 1990 is still expected to be more than 800 million units.

Friends of the Earth therefore takes the position that its success is relative. If we have encouraged individuals to set out on the long green road to genuine sustainability, through more environmentally-sensitive lifestyles, we are well pleased.

But if this surge of consumer power amounts to no more than a panic response to the threat of increased skin cancer, then it would be wrong to wax too lyrical about its long-term environmental benefits.

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Answers

Mario Molina puts the atmosphere and ozone on the political agenda – version 1

A. Understanding ozone

1. Sunbathing

	True	False
A sun tan is healthy		Yes
A tan will protect you from the sun		Yes
You can get burnt on a cloudy day	Yes	
You can get burnt if you are in water	Yes	
With sunscreen to protect me, I can sunbathe for much longer.		Yes

B. The CFC-ozone story

2. Carbon, fluorine, chlorine, covalent bonding.

Timeline questions 1,2,3

Level of response marking could be used here.

Evidence questions

- From this data only approx. 1970.
- Yes, the graph shows that the October level of ozone is still going down.
- The amount of ozone depleting chemicals in the atmosphere should peak around 2000, this means that the hole in the ozone layer should stop getting bigger. It will be about 2045 before the amount of ozone depleting chemicals reach the level they were at before the hole was first identified.
- If the Montreal Protocol and later amendments had not taken place then the amount of ozone depleting chemicals in the stratosphere would have increased from 2 ppb in 1980 to 20 ppb in 2055. This would have destroyed even more ozone, leading to devastating effects on plant and marine life as well as increased cases of skin cancer and cataracts. Instead it is predicted that by 2055 the amount of ozone depleting chemicals will be back to the levels in 1980 and the hole in the ozone well on the way to recovery.
- December
- October
- Up to 100 Dobson units.
- Figure 2 shows ozone levels at about 300 Dobson units in Octobers before 1997, whereas present October levels are at about 100 Dobson units. A drop of 200 Dobson units!
- End of December and the beginning of January.
- August / September