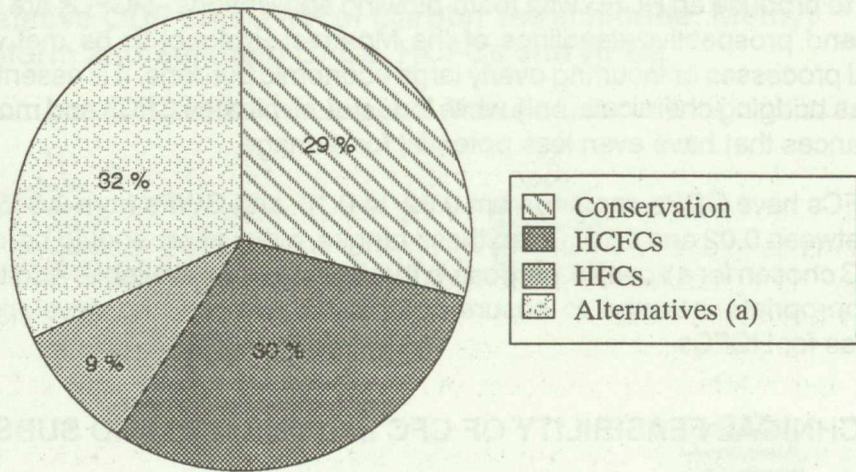

Figure 5: Projected Displacement of Current CFC Demand by 2000



Note (a) : "Alternatives" are substitutes for CFCs other than HCFCs and HFCs.

Source : United Nations Environment Program, Technology Review Panel, Technical Progress on Protecting the Ozone Layer, 30 June 1989, p. viii, Figure 5.

The Office of Air and Radiation of the U.S. EPA has examined four scenarios for HCFC/HFC substitution, assuming a phasing out of CFCs by the year 2000. One scenario, called "Minimize Greenhouse/Energy Impact," projected that a mix of HCFCs and HFCs would result in an increase in chlorine concentration in the stratosphere of only 0.1 parts per billion (EPA, 1989, p. 3-69). Although there would be a minor increase in chlorine concentration, the CFC replacements in this scenario would decrease global warming by 1% in 2075. Avoiding extensive use of HCFCs with higher ODP, for example HCFC-141b, would preclude significant increases in stratospheric chlorine.

It is important to compare the effectiveness of such policies for CFC replacement. For example, in the EPA's limiting or "worst case" scenario, where "Maximum Use of HCFCs with Maximum Chlorine Content" is considered, the estimated rate of warming would actually increase by 4.3%, indicating the inherent GWP of these substitutes (EPA, 1989, p. 3-59). Comparing this increase to the 1% reduction in GWP that is possible indicates how proper management could make a difference of over 5% in the rate of global warming. In comparison, doubling fuel efficiency of the global automobile fleet would only reduce the global warming effect 7% in 2075 (EPA, 1989, p. 3-59).