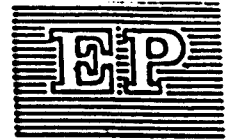


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## DISCUSSION PAPER ON POSSIBLE REGULATIONS OF HCFCs AND HFCs

Submitted by Finland, Norway and Sweden at the Second session of the  
first meeting of the Open-ended Working Group of the Parties to the  
Montreal Protocol (Nairobi, 28 August - 5 September 1989) to  
facilitate debate on this topic in the second meeting  
(Geneva, 13 - 17 November 1989)

The Science Assessment Panel and the Draft Synthesis Report indicate that a concentration of 1.5 - 2.0 ppbv C10 is a maximum in the Stratosphere if the ozone hole in the Antarctic is to be repaired. Several scenarios attached to the Draft Synthesis Report points out that if we shall meet such a long term goal, it can only be achieved if the current regulated substances are being phased out and if additional measures on methylchloroform, carbontetrachloride and HCFCs are introduced.

One of the reasons for regulating CFCs, however not reflected in the Protocol are the global warming potential these substances have. Today they represent more than 20 per cent of the total potential of global warming. Thus substituting CFCs with other substances that substantially affects the global warming will not be a good solution. Increased temperature on global scale will also affect the ozone depletion. Therefore the global warming potential have to be considered simultaneously with the ODP, as far as alternatives to CFCs are concerned.

On the condition that the scientific conclusions will not change significantly in the future, it probably is an inevitable decision on the long term to regulate HCFCs and HFCs with ozone depleting and global warming potentials. However, it is of utmost concern for all Parties under the Protocol that new substances that neither depletes the ozone layer nor contribute to the global warming potential are developed. To ensure this development and at the same time secure intermediate substitutions of the CFCs, the industry should be given a clear signal as early as possible. This will help the industry in their decisions on investments in new production facilities, since such decisions will have to be taken in the near future.

Below we have listed control options, reports and resolutions/decisions as examples on how to give such signals to the industry at an early stage.

Possible control options

The strongest and best signal to the industry will be to put the substances under the Protocol and to decide as soon as possible upon special control measures within certain timeframes.

As a first step doing this the Parties have to define those chemicals that will be of special concern. This can be done as follows:

I. Establish criterias describing the effects we are interested in, like:

- a)  $ODP \geq [0.02]/[0.01]$
- [b) lifetime  $\geq$  [10 years]
- c)  $GWP \geq [0.2]$

II. Listing of substances done by the Parties.

- (i) a selection of HCFCs
- (ii) i) + a selection of HFCs
- (iii) ii) + a selection of other ozone depleting substances

Possible control options, (alone or in combination  
that may be included in the Protocol:

1. Inclusion of an ultimate long term phase out date of the defined substances.
2. Restricting the use of the defined substances to:
  - (a) Special application areas (e.g. refrigeration, insulation foams and medical care);
  - (b) Specified special uses within such application areas (e.g. insulation foams for household refrigerators etc.);
  - (c) Essential uses as specified by the Parties (at a later date).

3. Requirement of recycling and emission control measures in certain areas.
4. Setting a cap on production [and consumption] of the defined substances (e.g. as in scenario 5 in Annex I to the Draft Synthesis Report).
5. Setting a long term target on chlorine in the Stratosphere, and define an upper production or consumption curve, that when exceeded will trigger restrictions of the defined substances. (A trigger mechanism could also be coupled with certain levels and measurements of C10 in the stratosphere).

These control options may be combined to several sets of control measures. As for example one could decide upon a long term phase out date (1) and restrictions to essential uses in the meantime (2b) and recycling and emission control in those essential uses (3).

#### Reporting and resolutions/decisions

A less stringent signal to the industry would be to only report those substances defined by the Parties. It will at least give the industry an indication of which substances that eventually will be an issue for future regulations.

To strengthen the signal, a resolution or decision could be adopted by the Parties but not included in the Protocol itself. Such a resolution/decision may include a target for chlorine loading not to be exceeded and the need to limit the use of HCFCs (and HFCs or others) to essential uses. Further, if the Parties so wish, it may also include any future intention on control measures such as a phase out year (perhaps with a grace period for these substances) or any trigger mechanisms to release control measures (e.g. as described in 1-5 above).

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