"Scientific Assessment of Ozone Depletion: 2002" published by WMO
Executive Summary (31 July, 2002)

Comments by S. Fred Singer 10/11/2002

Major WMO Findings

Stratospheric chlorine is "at or near the peak, while bromine abundances are probably still increasing." (Emphasis added, but there is no evidence for this).

Short-lived source gases "can potentially reach the stratosphere." There is no evidence that methyl bromide with a tropospheric lifetime of only 0.7 years can contribute to stratospheric bromine (and therefore to ozone depletion).

"Ozone remains depleted at mid-latitudes." [Note: No depletion is observed in the tropics.] Careful reading of the text and a look at the evidence establish that there has been no significant depletion in the past decade – in spite of increasing stratospheric chlorine concentration (see above). In fact, there has been an increase: "the lowest annually averaged global total column ozone occurred in 1992-1993." No explanation is offered. [The depletion between 1980 and 1992 was about 5%, of the same order as the measured natural variability with the solar cycle.]

"Arctic ozone hole remains unlikely" --- in spite of 1992 NASA /Gore scare of "hole over Kennebunkport" that led Bush and Congress to advance CFC phaseout by 5 years. The same paragraph also admits that stratospheric aerosols (not chlorine concentration) may be the limiting factor in ozone depletion.

"Calculations of UV irradiance … suggest that UV has increased since the early 1980s by 6 – 14 %." There are no measurements to support this; in fact, all actual data suggest no change. [This is a long way from the claim of an increase of up to 35% per year, a claim actually published in *Science*.]

"…radiative forcing due to ozone decreases since 1980 offsets about 20% of the positive forcing due to the increase in … GH gases over the same period." A little-advertised fact.

"Stratospheric cooling (due mainly to projected carbon dioxide increases) is predicted to enhance future ozone amounts in the upper stratosphere." Another little-advertised fact.

Methyl bromide (MeBr): Its lifetime is shrinking, to 0.5 –0.9 yr; its industrial production is 10-40%; the rest is of natural origin.

WMO Implications for Policy Formulation

1. "The Montreal Protocol is working…"
The Montreal Protocol is not needed

2. "The ozone layer will remain particularly vulnerable during the next decade…"
The evidence does not support this conclusion.

3. Accelerating the recovery of the ozone layer: "if production of MeBr were to cease in 2003"
There is no evidence to support this statement.

4. Failure to comply with the Montreal Protocol would delay or could even prevent recovery of the ozone layer: " …continued production of ozone-depleting substances at the 1999 amount would likely extend the recovery of the ozone layer well past the year 2100."
Again, no evidence to support this statement.

5. " recovery of the ozone layer over the coming decades would tend to warm the climate system." We agree.

Note Added 4/4/03
\
Salby and Callahan conclude that only ~20% of the ozone decline is photochemical; the rest is due to stratospheric circulation
J Clim 2002 pp. 3673 –3685; see also BAMS Feb 2003
****