meeting

India, the world's second largest producer of chlorofluorocarbons (CFCs), is due to phase out its use of them, as well as halons and carbon tetrachloride, in three years time. But will it meet the target?

The country ratified the Montreal Protocol in September 1992 and, thereafter, the amendments adopted at meetings in Copenhagen, Montreal and Beijing. It accepted the basic contention that the thinning of the ozone layer put the entire world at risk. It concurred with the need to phase out ozone-depleting substances (ODS), such as CFCs, and accepted funding provided by the Multilateral Fund, set-up under the Protocol, to finance the switch to cleaner technologies.

In 1993, the Government established a special Ozone Cell as part of its country programme. This was specifically tasked with overseeing the phase-out of ODS, advising industry its choice of technologies, facilitating the flow of funds for the switchover and creating general awareness about the process. By 2003, India had received an estimated US$ 137 million from the Multilateral Fund for over 349 ODS phase-out projects

The Government provided technical assistance and funds, and brought in the ODS (Regulation and Control) Rules 2000 under the 1986 Environment Protection Act, specifying the time frame for the phase out. In 1995, as part of a package of incentives, it granted full exemption from customs and excise duties to capital goods imported for ODS phase-out projects funded by the Multilateral Fund, and, the next year, extended this concession to new projects based on non-ODS technologies.

India produces 20,000 metric tonnes (MT) of CFCs every year; only China makes more. Some 6,700 MT are consumed in the domestic market, the rest exported. It also produces 100 MT of halons and around 18,000 MT of carbon tetrachloride.

After 15 years of the country programme, and two decades after the Montreal Protocol was signed, there are few independent studies to assess whether its effort is working. On paper everything appears to be on track. The phase out programme is being implemented by all major industries that use ODS. The millions of dollars made available through the Multilateral Fund have been disbursed. It would seem that there is no hitch.

On the ground, however, the situation is not quite so simple. In the first place, it is not just the big industries that use ODS: so do hundreds of small

units that are part of India's burg
is little regulated because it is
for example, are not usually
lines, but in small workshops, of
these continue to use CFC-11 a
programme document makes c
consumption is in small and mediu
informal sector.

While bigger enterprises have the ability to d
to apply for funding to switch to substitutes, t
many of them fall below the minimum size e
without financial help, none of them will volu

Second, the technology being offered to Ind
will soon become redundant. Indian industr
CFC-12, but have switched to HCF-134a, will
order to move away from this greenhouse ga
the first place to a technology that will not qu
representatives also complain that the fundi
and too late and that the multinational comp
technologies charge too much for them. Ma
air conditioners, for instance, complain that
on the additional costs to consumers becaus
market, greatly reducing their profit margins

Third, though the Protocol pays for technolo
technology innovation. The Hyderabad-bas
Technology has indigenously produced HC
Indian government and two enterprises that
Scientists argue that India could become a n
rather than being dependent as an importe
alternatives to CFCs were available through t

Finally, there is the challenge of stopping th
sources estimate that several thousand tonn
country each year across India's porous bord
This is then used by small units in the infor

g the target

by Kalpana Sharma

eoning informal sector, which so scattered. Aerosol sprays, produced on big assembly ten located in slums. Most of nd CFC-12. The India country ear that 66 per cent of ODS um scale enterprises and in the

eal with the paperwork required hese smaller units do not. Indeed eligible for funding anyway. And untarily make the changeover.

lian companies is expensive and ries that once used CFC-11 and have to change again by 2030 in s. It would be better to switch in ickly become outdated. Industry ng they receive is often too little panies who control the non-ODS anufactures of refrigerators and they have not been able to pass se of intense competition in the .

ogy transfer, it does not support ed Indian Institute of Chemical F-134a, with funding from the were looking for CFC substitutes. et exporter of new technologies r if funding for basic research in he Multilateral Fund.

e illegal trade in CFCs. Industry es of CFC are smuggled into the lers with Nepal and Bangladesh. mal sector to produce aerosols.

Even if the quantities are not very large, they undercut the effort to phase out ODS completely within the stipulated time frame.

In contrast to the recent spurt of activity and media coverage over global warming, the issue of ozone depletion and its consequences has remained fairly low key. There is little evidence of official efforts to disseminate the facts of the problem to the general public and, in my experience, it is hard even to get responses to routine questions.

India's efforts to phase out ODS need to be critically evaluated. A major advantage of the Montreal Protocol is its recognition of the need to fund technology transfer but it has not realised the potential of countries like India to devise their own alternatives to ODS at a much lower cost. India's experience also suggests that independent monitoring and evaluation are needed to ensure that official programmes are borne out by the reality on the ground.