Commitment to the protection of ozone layer

Canada was among the 20 nations that signed a convention to protect the world's ozone shield from chemical destruction. The Convention for the Protection of the Ozone Layer was signed by half the participating countries at the week-long diplomatic convention held in Vienna in March.

Allan Sullivan, the Canadian permanent representative to the United Nations Office at Vienna, signed the convention on behalf of Canada.

Announcing Canada's commitment to the protection of the ozone layer, Secretary of State for External Affairs Joe Clark said that "it is significant that Canada has taken a leading role in the development of this convention". He added that "this clearly demonstrates Canada's desire to co-operate in protecting the global environment for all mankind".

The convention commits participating nations, including the US and USSR, to protect human health and the environment against adverse effects resulting from modifications to the ozone layer. It also provides for international co-operation in research, monitoring, scientific assessment and exchange of information on matters pertaining to the status of the ozone layer.

The pollutants to the ozone layer are chlorofluorocarbons (CFCs), which are non-toxic gases with unique physical properties. They are widely used to propel aerosol sprays, manufacture foam plastics, and operate refrigerators and air conditioners.

Increased radiation

While these gases are not harmful at the earth's surface, they diffuse into the stratosphere where they are broken down into their constituent elements by intense ultraviolet radiation. The chlorine which is thus released depletes the ozone layer and permits increased amounts of ultraviolet radiation to reach the earth's surface.

Current chemical models of the stratosphere indicate that even modest growth in CFC use could result in substantial depletion of the ozone layer within 50 to 75 years. The resulting exposure to ultraviolet radiation would cause increased incidence of skin cancer, affect the human body's immunological response and decrease production of some of the world's most important food crops, including wheat, rice, corn and soybeans.

The diplomatic conference also requested the United Nations Environment Program to continue work on a protocol to the convention which would provide for internationally agreed upon measures to control equitably global production, emissions and use of CFCs. As agreement on a protocol is not expected for some time, the diplomatic conference urged all states "to control their emissions of CFCs by any means at their disposal" during the interim.

Active role

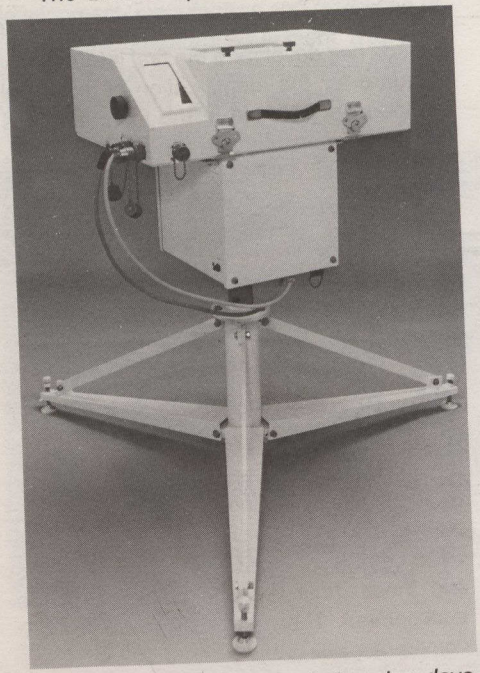
Canada has been an active participant in the research, monitoring and regulatory measures to protect the ozone layer for many years.

Ground-based ozone monitoring stations are in operation in Toronto, Edmonton, Churchill, Goose Bay and Resolute Bay. Weekly ozonesonde soundings are taken at the latter four locations for the World Meteorological Organization (WMO). Canada also operates the World Ozone Data Centre for WMO, archiving and publishing ozone data from around the world for the past 25 years.

Brewer spectrophotometer

The newest instrument developed to measure atmospheric ozone and sulphur dioxide in unattended remote operation, the Brewer spectrophotometer, was developed in conjunction with the Atmospheric Environment Service of Canada. Manufactured and marketed internationally by SCI-TEC Instruments Inc. of Saskatoon, Saskatchewan, it has already been sold in Sweden, Germany, Belgium and Greece.

The Brewer spectrophotometer is fully automated and its direct sun total ozone measurement has a ± 1 per cent accuracy. It has a much greater accuracy than the Dobson spectrophotometer which has been used for the past 40 years.



Tim Lee

The Brewer ozone spectrophotometer, developed and manufactured in Canada, is a sophisticated modern instrument used in atmospheric ozone and sulpher dioxide measurement by scientists and researchers.

Canadian scientists regularly participate in US stratospheric experiments conducted by the National Aeronautics and Space Administration (NASA). Many of these involve measurements of stratospheric trace constituents on board large stratospheric balloons which get to altitudes of 30-35 kilometers and rockets which reach altitudes of 50 kilometres.

Marc Garneau, Canada's first astronaut, carried equipment aboard the space shuttle *Challenger* in October 1984 to take measurements of the ozone layer using a solar sunphotometer. These data are currently being analyzed to deduce profiles of ozone, water vapour and aerosol concentration for comparison with satellite instruments, which cannot be calibrated directly.

Lumber sales soar in Japan

The export program of Westar Timber Limited has resulted in more sales to Japan in the first two months of 1985 than its entire 1984 total sales of 16 million board feet of lumber.

The sales jump was achieved by cutting the lumber to the sizes and standards that are the norm in the Japanese house-building industry, said Bruce Howe, president of Westar's Vancouver-based parent, British Columbia Resoures Investment Corp.

A similar strategy in 1984 brought Westar Timber increased lumber sales to Britain and a gold medal of excellence in marketing. This was particularly impressive because lumber is such a mature product, said Mr. Howe.

Until four years ago, all of Westar Timber's export lumber sales were to the United States. Sales to Japan began two years ago, and more than a quarter of the company's production went to non-US markets last year. The long-term target is to have about half of its production going to the US market and half to non-US buyers, said Mr. Howe.

Mining contract

Another export gain for a Westar firm was the $30-million contract of Westar Mining Limited to sell coking coal to Japan.

In 1984 Westar Engineering Limited signed its first contract to sell mining technology. This sale was to the mining industry in Australia, which is Westar's main competitor in coal markets.

Westar Engineering currently has a protocol with China.