9. OZONE DEPLETION

I. Introduction

1. The Earth's atmosphere is composed of three regions: the troposphere, which extends up to about ten kilometres from the Earth's surface; the stratosphere, which is found between approximately ten and fifty kilometres from the Earth's surface; and the ionosphere, which extends up to 350 kilometres from Earth.
2. Ozone, which has the chemical formula of "O3," is a molecule composed of oxygen and is found mainly in two regions of the Earth's atmosphere. Most ozone (approximately 90%) is found in the stratosphere. This stratospheric ozone is commonly known as the "ozone layer." The remaining ozone is contained in the troposphere, also known as surface-level ozone.
3. The amount of ozone present in the Earth's atmosphere has critical implications for the environment, human health and national economies. Since not one country can control ozone depletion, it is an important issue in international environmental law.
4. The ozone molecules in the two regions above are chemically identical; however, they have different sources and their effects are very different on humans and other living organisms.
5. Surface-level ozone is a result of chemical reactions involving emissions from vehicles, industrial pollution and sunlight. Because ozone reacts strongly with other molecules, high levels of ozone are toxic to living systems. Several studies have documented the harmful effects of ozone on crop cultivation, forest growth and human health. Low-lying ozone is a key component of photochemical smog, a common problem in many cities around the world. Higher amounts of surface level ozone are increasingly being observed in rural areas as well.
6. Stratospheric ozone, in contrast, plays a highly beneficial role. It absorbs most of the sun's biologically damaging ultraviolet radiation and only allows a small amount to reach the Earth's surface. The ozone layer screens out almost all the harmful ultraviolet rays of the sun and thus can be described as our planet's sunscreen.
7. During the 1970s, scientists observed a significant destruction of ozone in the stratosphere. The emergence of evidence peaked in 1985, when a large "ozone hole" was discovered above Antarctica. This has reappeared annually during the springtime, generally growing larger and deeper each year. In 1992, ozone over Antarctica had depleted by 60% from previous observations; and the size of the hole had increased, covering twenty-three million square miles. The overall decline in stratospheric ozone levels was estimated at 3% per decade. By the mid-1990s, ozone depletion extended over latitudes including North America, Europe, Asia, and much of Africa, Australia and South America. Thus, ozone depletion had become an issue of global concern.
8. Scientific evidence has shown that human produced chemicals are responsible for the observed depletions of the ozone layer. These chemicals are used in solvents, foam, aerosol, mobile air conditioning, refrigeration and fire protection and contain various combinations of chemical elements, of which chlorofluorocarbons ("CFCs") are most prominent.
9. CFCs are so stable that only exposure to strong ultraviolet ("UV") radiation breaks them down. When this happens, the CFC molecule releases atomic chlorine. One chlorine atom can destroy over 100,000 ozone molecules, depleting ozone faster than it is naturally created. Chlorine that reaches the stratosphere is also produced by natural occurrences such as volcanic eruptions or large fires, with high concentrations of chlorine fluctuate. It has been shown, however, that natural sources only create approximately 15% of chlorine in the stratosphere and thus have minimal impact on the depletion of the ozone layer.
10. Protecting the ozone layer, the Earth's protective screen against ultraviolet radiation, is essential. Any damage to the ozone layer leads to increased UV radiation reaching the Earth's surface. This can cause a variety of human health problems such as skin cancers, eye cataracts and a reduction in the body's immunity to disease. A 1% decrease in ozone would lead to about a 4% increase of skin cancer and 100,000 to 150,000 additional cases of

cataract blindness. Ultraviolet radiation can also affect plant life, damage forests and certain varieties of crops including rice and soya. Ultraviolet radiation can be damaging to microscopic life in the surface oceans (such as plankton, fish larvae, shrimp, crab, and aquatic plants) that form the basis of the world's marine food chain.

11. Several methods have been investigated regarding the replacement of ozone lost in the stratosphere, starting with options such as shipping low-level ozone out of smog burdened cities or producing new ozone and introducing it into the stratosphere. Since ozone reacts strongly with other molecules, however, it is too unstable, expensive and impractical to transport into the stratosphere. Therefore, the only cure to the problem of ozone depletion is to regulate and eliminate the production of CFCs and other ozone-depleting substances.

II. International Framework

1. The 1985 Vienna Convention for the Protection of the Ozone Layer

12. In 1975, the World Meteorological Organization ("WMO") conducted the first international assessment of the global ozone situation. The alarming results demonstrated a need for swift response and led to the creation of a Plan of Action on the Ozone Layer, a result of the collaboration between UNEP and WMO. In 1981, UNEP initiated negotiations of a Global Framework Convention for the Protection of the Ozone Layer.
13. Since the impact of ozone depleting substances affects all states, a regime would likely only work if it was global in scope. In order to achieve global adherence to the treaty, the interests of different States had to be reconciled during the negotiation process. Developing countries feared that constraints on producing certain ozone-depleting substances might inhibit their industrial development. Countries with industries heavily relying on ozone-depleting substances, like those of the European Union, were reluctant to accept the high costs associated with measures that regulate production and consumption of these substances. Some states resisted costly measures and controls, arguing that harmful effects had not been proven. However, countries which had already reduced production and consumption of CFCs did not want to see others using them in refrigerators and sprays.
14. The Vienna Convention for the Protection of the Ozone Layer, 1985 ("Vienna Convention") was adopted after consensus was reached on 22 March 1985. The overall objective of the Vienna Convention is to protect human health and the environment against the effects of ozone depletion. As a framework convention, it does not establish any specific controls on ozone depleting substances. Instead, it establishes a general obligation upon the parties to protect the ozone layer (article 2) and emphasizes the need for international cooperation.
15. The Vienna Convention requires parties to take "appropriate measures" against the adverse effects of human made ozone depletion. These measures include the adoption of legislative and administrative measures, cooperation on research and scientific assessment, information exchange and development and transfer of technology.
16. The Convention provides for the creation of a Conference of the Parties ("COP"), meeting at regular intervals, and a Secretariat. The COP reviews implementation of the Convention and establishes the necessary programmes and policies. It is the body that amends the Convention and adopts new protocols and annexes. The Secretariat organizes and services meetings, prepares and transmits reports on countries and their implementation measures and ensures coordination with other relevant international bodies.
17. The Convention does not impose many concrete obligations nor does it enumerate any substances that these measures might relate to. Rather, it establishes a framework that needs to be filled in through further action. However, it was the first convention to acknowledge the need for preventive action before firm proof of the actual harmfulness of ozone depleting substances was established. Thus, it remains an important indicator of the emergence of the precautionary principle or approach.

2. The 1987 Montreal Protocol on Substances that deplete the Ozone Layer

18. In light of the necessity for more concrete action under the Vienna Convention, countries reconvened in Montreal in 1987 to adopt a protocol regarding the phase out of ozone depleting substances ("Montreal Protocol"). During the negotiations of the Montreal Protocol, three issues were of major importance. First, broad adherence to the Montreal

Protocol was essential and there was considerable concern about the financial abilities of developing countries to implement the Montreal Protocol. Second, the Montreal Protocol needed to be drafted in a flexible way in order to timely adjust to new scientific evidence and to the changing needs of its parties. The third issue was to determine an economically feasible and detailed time schedule for the phase out of ozone depleting substances.

19. The Montreal Protocol on Substances that deplete the Ozone Layer is a significant milestone in international environmental law. It establishes firm targets for reducing and eventually eliminating consumption and production of a range of ozone depleting substances. These substances are enumerated in Annexes A-E to the Protocol and are to be phased out within the schedules given in articles 2A-2I. The Montreal Protocol controls both consumption and production of ozone depleting substances in order to protect the interests of producers and importers, who otherwise would have had to sustain high price inflation or overproduction during the phase out period of the targeted gases.
20. The Montreal Protocol includes special provisions for the needs of developing countries. It takes into account that developing countries have hardly contributed to ozone depletion and thus provides for a ten-year delay for developing countries in phasing out the production and consumption of ozone-depleting substances. This exemption is granted under article 5 of the Protocol, which applies to developing countries whose annual calculated level of consumption of the controlled substances in Annex A is less than 0.3 kilograms per capita for chlorofluorocarbons (CFCs) and 0.2 kilogrammes per capita for halons on the date of the entry into force of the Montreal Protocol or any time thereafter until 1 January 1999. Furthermore, new financial and technical incentives were adopted to encourage developing countries to switch as quickly as possible to alternative substances and technologies.
21. The Montreal Protocol further attempts to address the problem of trade with countries that are not yet parties to the agreement ("non-parties"). It bans trade in controlled substances with non-parties unless they are found by the Meeting of the Parties ("MOP") to be in compliance with the Protocol. Furthermore, the parties must discourage the export of CFC production technology to non-parties. Despite the fact that the Montreal Protocol bans export and import of ozone depleting substances, it remained compatible with the former General Agreement on Tariffs and Trade ("GATT") rules, now WTO. Article XX (b and g) of GATT allows trade restriction in support of environmental goals and health measures as long as they are not disguised restrictions to trade or applied in a discriminative manner.
22. In the light of new scientific evidence it soon became apparent that there were more ozone-depleting substances than previously acknowledged and which had to be listed and controlled under the Montreal Protocol to reduce ozone depletion. Therefore, amendments were adopted that incorporated additional substances into the Annexes and provided for a more stringent schedule for phasing out of ozone-depleting substances. At the Second MOP in London in 1990, restrictions on CFCs and halons were made more stringent, and three new controlled substances - methyl chloroform, carbon tetrachloride and other fully halogenated CFCs were included. 197 countries have ratified (as of November 2013) the 1990 London Amendment to the Montreal Protocol in addition to the Protocol itself.
23. At the Fourth MOP in Copenhagen in 1992, restrictions on CFCs, halons, methyl chloroform, carbon tetrachloride and other fully halogenated CFCs were made considerably more stringent. In addition HCFCs, HBFCs and methyl bromide were included in the list of controlled substances with prescribed phase out dates. 197 parties (as of November 2013) have ratified the 1992 Copenhagen Amendment to the Montreal Protocol.
24. In 1997, the parties adopted the Montreal Amendment, deciding to advance the phase out date of methylbromide for the industrial countries from 2010 to 2005. Also, in order to assist the parties in preventing illegal trade of controlled substances, the parties were now required to establish and implement a mandatory system for licensing the import and export of ozone-depleting substances. 195 parties (as of November 2013) have ratified the 1997 Montreal Amendment to the Montreal Protocol.
25. After intensive negotiations at the twelfth meeting of the parties in Beijing in 1999, the parties agreed to include production control of hydrochloroflurocarbons (HCFCs) for industrial as well as developing countries, ("Beijing Amendment"). A new ozone depleting substance, bromochloromethane was added to the Protocol and was to be phased out by

2002. The Beijing Amendment also establishes a ban on trade in HCFCs with countries that have not yet ratified the 1992 Copenhagen Amendment to the 1987 Montreal Protocol. 193 parties (as of November 2013) have ratified the 1999 Beijing Amendment to the Montreal Protocol.

26. In 2007, Parties adopted an adjustment to accelerate phase-out of hydrochlorofluorocarbons (HCFC). Article 5 Parties agreed to freeze the production and consumption of HCFCs in 2013, followed by a gradual reduction from 2015 to 2030. Developed countries committed to complete the accelerated phase-out of production and consumption of HCFCs by reducing to a 90 per cent by 2015, while allowing a 0.5 per cent for servicing the period 2020–2030.
27. Since 2009, Parties have considered proposals to amend the Protocol to include HFCs, which are ozone-friendly and commonly used as substitutes to CFC and HCFCs but potent greenhouse gases, but have reached no agreement. During the 25th MOP held in Bangkok in 2013, Parties discussed legal, technical and financial aspects of a phase-down approach to manage HFCs under the Montreal Protocol and further discussion on these issues will be carried out in 2014

a) Institutions

28. To ensure its effective implementation, several bodies have been established under the 1987 Montreal Protocol. The MOP must keep the Protocol's implementation under continuous review. It is the organ that adopts amendments to the Protocol, makes adjustments in time schedules and additions to or removal from any Annex of substances. The MOP must consider and undertake any additional action that may be required for the achievement of the purposes of the Protocol.

Montreal Protocol's "Phase-Out" Schedule of Ozone-Depleting Substances

	Industrial Countries		**Developing Countries**	
	Reduction (%)	**Status**	**Reduction (%)**	**Status**
CFCs	75% in 1994 100% in 1996	Phase out completed except for exempted essential uses	0% in 1999 50% in 2005 85% in 2007 100% in 2010	Phase out completed except for exempted essential uses
Halons	100% in 1994	Phase-out complete	0% in 2002 50% in 2005 100 in 2010	Phase-out complete
Carbon tetrachloride	100% in 1996	Phase-out complete	85% in 2005 100% in 2010	Phase-out complete
Methyl Chloroform	100% in 1996	Phase-out complete	0% in 2003 30% in 2005 70% in 2010 100% in 2015	96% reduction achieved in 2010
HBFCs	100% in 1996	Phase-out complete	100% 1996	Phase-out complete
HCFCs	75% in 2010 90% in 2015 99.5% in 2020 100% in 2030	89% reduction achieved in 2010	10% in 2015 35% in 2020 67.5% in 2025 97.5% in 2030 100% in 2040	36,926 tonnes consumed in 2010
Methyl bromide	0% in 1995 25% in 1999 50% in 2001 70% in 2003 100% in 2005	Phase out completed except for exempted essential uses	0% in 2002 20% 2005 100% in 2015	75% reduction achieved in 2010
Bromochloromethane	100% in 2002	Phase-out complete	100% in 2002	Phase-out complete

In order to further tighten the control measures under the Montreal Protocol in relation to ongoing scientific research, the MOP may make further adjustments and amendments to the Protocol in the existing phase out schedule of the remaining ozone-depleting substances or list new controlled ozone- depleting substances. Such decisions should be taken by consensus. However, if after exhaustion of all efforts consensus cannot be reached, a two-thirds majority of the parties can take such decision which is binding even on those parties that vote against it. To maintain an equitable balance between developed and developing states, these decisions must be supported by separate majorities of both groups. The same rule applies to decisions concerning financial mechanisms.

29. The Vienna Convention and the Montreal Protocol share the same Secretariat, called the Ozone Secretariat, based in Nairobi, Kenya.

b) The Multilateral Fund, its Executive Committee and Secretariat

A Multilateral Fund was established by a decision of the Second MOP to the Montreal Protocol in June 1990, and began its operations in 1991. Its aim is to promote technology transfer and financial assistance to developing countries to meet their obligations under the Montreal Protocol technical cooperation. The Multilateral Fund is financed by non-article 5 parties, which are mainly industrialized countries. Thus the Montreal Protocol can be seen as to effectively implement the concept of common but differentiated responsibilities.

30. The Fund is administered by the Executive Committee, which consists of seven parties operating under article 5and consists seven non-Article 5 parties and a similar number of parties operating under article 5. Executive Committee members are selected annually during the MOP. The Committee develops the plan and budget of the Multilateral Fund and monitors expenditures incurred under the Fund. It must determine criteria and conditions for funding and review the performance reports on the implementation of the projects to phase out methyl bromide which are supported by the Fund. The Committee meets at least twice a year.
31. The Fund Secretariat was established in 1991 in Montreal and assists the Executive Committee in carrying out its functions. Its activities include the development of the three-year plan and budget, the management of the business planning cycle, and monitoring the expenditures and activities of the implementing agencies.
32. Four international agencies have contractual agreements with the Executive Committee to assist article 5 countries by preparing country programmes, feasibility studies and project proposals. They provide technical assistance for project development and implementation and for information dissemination. These agencies are the United Nations Development Programme ("UNDP"), the United Nations Environment Programme ("UNEP"), the United Nations Industrial Development Organization ("UNIDO") and the World Bank. Parties can also use up to 20 percent of their annual contribution to the Multilateral fund to finance activities with developing countries on a bilateral basis.
33. The funds are disbursed on the basis of a Country Programme that details the activities and strategy planned by developing countries to eliminate the ozone depleting substances consumption and production according to the Montreal Protocol schedules. Article 5 countries reports annually on implementation of the Country Programme.
34. The Fund has been replenished eight times. The Fund replenishment for 2009-2011 amounted 400 million of US dollars and for 2012-2014 another 400 million US dollars was agreed.

c) Assessment Panels

35. In accordance with article 6, three assessment panels provide independent scientific information to the Parties regarding ozone depletion, its environmental effects and the status of alternative substances and technologies and their economic implications. They provide a

periodic assessment at least every 4 years. One the Assesmsment Panels also present recommendations on the nominations for essential and critical uses of ozone-depleting substances.

36. The three panels are:
    - Technology and Economic Assessment Panel (TEAP)
    - Scientific Assessment Panel (SAP)
    - Environmental Effects Assessment Panel (EEAP)

d) Non-Compliance Procedure

37. The Montreal Protocol's l non-compliance procedure was adopted by the Parties under Article 8 of the Protocol to bring non-complying states into compliance by engaging them in a cooperative manner.
38. The non-compliance procedure can be invoked by any party to the Protocol, by the Secretariat or by the party itself. The matter is then referred to the Implementation Committee which consists of ten parties elected on the basis of equitable geographical representation. The Implementation Committee considers information and observations submitted to it with a view to securing an amicable solution to issues that are subject to non-compliance by any party or groups of parties. Reports by the Implementation Committee are submitted to the MOP which decides which decides on what measures should be taken to bring about full compliance. Such measures can include financial, technical or training assistance. If these measures are insufficient, cautions can be issued. As a last resort, rights and privileges under the Montreal Protocol can be suspended.
39. The MOP also decides on appropriate action in case a developing country informs the Secretariat that it is not able to implement the protocol due to the failure to receive adequate financial or technological support. As seen at the description of the Multilateral Fund, financial support provided by developed countries is an essential tool to induce compliance in developing countries and reflects the concept of common but differentiated responsibilities.

3. Achievements and challenges ahead

40. The international ozone regime has been successful in several ways. The Vienna Convention and Montreal Protocol achieved universal participation, for the second time on 12 January 2012 when the new state of South Sudan became a Party thus bringing the total number of Parties to 197 (including the European Union). As of February 2014, the London and Copenhagen Amendments to the Montreal Protocol have been ratified by all 197 Parties to the Montreal Protocol, the Montreal Amendment by 195 Parties and the Beijing Amendment by 193 Parties.
41. The availability of technical and financial assistance from the Multilateral Fund has helped to ensure the participation of all developing countries in the implementation of the Montreal Protocol. Second, the Montreal Protocol regime has operated in a dynamic and flexible way. Controls on ozone depleting substances were strengthened in 1990, 1992, 1997, 1999 and 2007 and new substances were added. Third, the non-compliance procedure has been successful by making it possible for both developed and developing to comply with their treaty obligations. Most importantly, the flexible compliance mechanism of the Montreal Protocol is often considered to be a role model in environmental agreements.
42. More than 98 per cent of the historic levels of production and consumption of CFCs, halons, carbon tetrachloride, methyl chloroform, n-propyl bromide and chlorobromomethane has been phased-out.
43. Parties shall now facilitate and commit the necessary funding to achieve the total elimination of ozone-depleting substances, address illegal trade in ozone-depleting substances under the Protocol and continue monitoring the status of the ozone layer. The Montreal Protocol has also avoided the emissions of greenhouse gas equivalent to more than 135 billion tonnes of carbon dioxide. For more discussion of global climate change issues see chapter 10 herein.

44. There seems to be an evident need to coordinate the oOzone rRegime with the Climate Change rRegime, since some of the substitute substances to ozone-depleting gases are classified as greenhouse gases under the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change ("UNFCCC"). Currently, Parties are discussing on the possibility of including HFCs under the Montreal Protocol and the transition to climate-friendly alternatives to ozone depleting substances. At the same time, according to the Ozone Secretariat, tThe Montreal Protocol has avoided the emissions of greenhouse gas equivalent to more than 135 billion tonnes of carbon dioxide by phasing out ozone-depleting substances according to scientific assessments on ozone protection measures. For more discussion of global climate change issues see chapter 10 herein.
45. It should be noted, however, that the Vienna Convention and the Montreal Protocol have provided one of the most sophisticated and effective models of international environmental regulation. If the Montreal Protocol is fully adhered to, global ozone losses will be eradicated and the Antarctic ozone hole will have recovered by approximately 2065.

Common Ozone-Depleting Substances and Some Alternatives

Substance	Uses	Ozone Depleting Potential*	Global Warming Potential**
Chlorofluorocarbons (CFCs)	Refrigerants, cleaning solvents, aerosol propellants, and blowing agents for plastic foam manufacture	0.6 - 1.0	4,680 - 10,720
Halons	Fire extinguishers/fire suppression systems, explosion protection	3.0 - 10.0	1,620 -7,030
Carbon tetrachoride (CCl_4)	Production of CFCs (feedstock), solvent/diluents, fire extinguishers	1.1	1,380
Methyl chloroform ($CHCl_3$)	Industrial solvent for cleaning, inks, correction fluid	0.1	144
Methyl bromide (CH_3Br)	Fumigant used to control soil-borne pest and diseases in crops prior to planting and in commodities such as stored grains. Fumigants are substances that gives off fumes, often used as disinfectants or to kill pests	0.6	5
Hydrochloroflurocarbons (HCFCs)	Transitional CFC replacements used as refrigerants, solvents, blowing agents for plastic foam manufacture, and fire extinguishers. HCFCs deplete the stratospheric ozone, but to a mush lesser extent than CFCs; however, they are greenhouse gases	0.01 - 0.5	76 - 2,270
Hydroflourocarbons (HFCs)	CFC replacements used as refrigerants, aerosol propellants, solvents, and fire extinguishers. HFCs do not deplete the stratospheric ozone but are greenhouse gases	0	122 - 14,130

* Ozone-depleting potential (ODP) is the ratio of the impact on ozone caused by a chemical compared to the impact of a similar mass of CFC-11. The ODP of CFC is 1.0

** Global warming potential (GWP) is the ratio of warming caused by a substance compared to the warming caused by a similar mass of carbon dioxide. The GWP of carbon dioxide is 1.0

Source: Achievement in Stratospheric Ozone Protection, Progress Report 1987 - 2012
Ozone Secretariat, UNEP

III. National Implementation

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María José Ortiz Noguera 13/2/14 12:32
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Resources

OZONE SECRETARIAT http://ozone.unep.org/new_site/en/index.php

OZONE SECRETARIAT CONFERENCE PORTAL http://conf.montreal-protocol.org/default.aspx

Legal Documents

THE VIENNA CONVENTION FOR THE PROTECTION OF THE OZONE LAYER
http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=155

THE MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER
http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=5

AMENDMENTS TO THE MONTREAL PROTOCOL
http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=155

ADJUSTMENTS TO THE MONTREAL PROTOCOL
http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=343&show_all

Handbook for the Vienna Convention for the Protection of the Ozone Layer (1985)
Ninth edition (2012) published by the Ozone Secretariat, UNEP
http://ozone.unep.org/Publications/VC_Handbook/VC-Handbook-2012.pdf

Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer
Ninth edition (2012) published by the Ozone Secretariat, UNEP
http://ozone.unep.org/Publications/MP_Handbook/MP-Handbook-2012.pdf

Reference Materials

Durwood Zaelke, Donald Kaniaru & Eva Kruzikova, MAKING LAW WORK ENVIRONMENTAL COMPLIANCE AND SUSTAINABLE DEVELOPMENT, (Cameroon May, 2005). In particular Chapter 3 Multilateral Environmental Agreements in action sub 3.2 Case Studies K. Madhava Sarma, Compliance with the Montreal Protocol

WHAT CAUSES OZONE DEPLETION?
http://www.uow.edu.au/arts/sts/sbeder/HoleStory/intro/intro3.html

THE MULTILATERAL FUND http://www.multilateralfund.org/default.aspx

ACHIEVEMENTS IN STRATOSPHERIC OZONE PROTECTION, PROGRESS REPORT 1987 – 2012, Ozone Secretariat, UNEP
http://ozone.unep.org/new_site/en/Information/Information_Kit/UNEP-MP_Achievements_in_Stratospheric_Oz.pdf

Case Studies

ENVIRONMENT CANADA - OZONE
http://www.ec.gc.ca/ozone/default.asp?lang=En&n=9090CC46-1

INTEGRATING ENVIRONMENTAL CONSIDERATIONS INTO ECONOMIC POLICY MAKING PROCESSES ESCAP VIRTUAL CONFERENCE, MALAYSIA IMPLEMENTING MONTREAL PROTOCOL available at http://www.unescap.org/drpad/vc/conference/ex_my_235_imp.htm (very old information)

OZONE LAYER PROTECTION IN SOUTH AFRICA available at http://www.environment.gov.za/