

## Section 5

# The evolution of the Montreal Protocol

## Section 5.1

# Introduction to the Montreal Protocol, its adjustments and amendments

The Montreal Protocol on Substances that Deplete the Ozone Layer was agreed on 16 September 1987 and entered into force on 1 January 1989.

The Second, Fourth, Seventh, Ninth, Eleventh and Nineteenth Meetings of the Parties to the Montreal Protocol adopted, in accordance with the procedure laid down in paragraph 9 of Article 2 of the Montreal Protocol, certain adjustments and reductions of production and consumption of the controlled substances listed in the Annexes of the Protocol. These adjustments entered into force, *for all the parties*, on 7 March 1991, 23 September 1993, 5 August 1996, 4 June 1998, 28 July 2000 and 14 May 2008, respectively.

The Second, Fourth, Ninth, Eleventh and Twenty-Eighth Meetings of the Parties to the Montreal Protocol adopted, in accordance with the procedure laid down in paragraph 4 of Article 9 of the Vienna Convention, five Amendments to the Protocol – the “London Amendment” (1990), the “Copenhagen Amendment” (1992), the “Montreal Amendment” (1997), the “Beijing Amendment” (1999) and the “Kigali Amendment” (2016).

The London, Copenhagen, Montreal and Beijing Amendments entered into force, *only for those parties which ratified the particular amendments*, on 10 August 1992, 14 June 1994, 10 November 1999 and 25 February 2002, respectively. The Kigali Amendment will enter into force, *only for those parties which have ratified the amendment by that time*, on 1 January 2019.

Sections 5.2–5.8 of the Handbook reproduce texts relevant to those interested in the evolution of the Montreal Protocol, and also to those Parties which have ratified the Protocol but not all of the amendments:

- 5.2** The Montreal Protocol as agreed in 1987.
- 5.3** The adjustments to the Montreal Protocol as agreed at the Second, Fourth, Seventh, Ninth, Eleventh and Nineteenth Meetings of the Parties (London, 27–29 June 1990; Copenhagen, 23–25 November 1992; Vienna, 5–7 December 1995; Montreal, 15–17 September 1997; Beijing, 29 November–3 December 1999; Montreal, 17–21 September 2007). The adjustments entered into force on the expiry of six months from the date of circulation of the communication by the Depositary (7 March 1991, 23 September 1993, 5 August 1996, 4 June 1998, 28 July 2000 and 14 May 2008, respectively).
- 5.4** The amendment to the Montreal Protocol agreed at the Second Meeting of the Parties (London, 27–29 June 1990). The London Amendment entered into force on 10 August 1992.

- 5.5** The amendment to the Montreal Protocol agreed at the Fourth Meeting of the Parties (Copenhagen, 23–25 November 1992). The Copenhagen Amendment entered into force on 14 June 1994.
- 5.6** The amendment to the Montreal Protocol agreed at the Ninth Meeting of the Parties (Montreal, 15–17 September 1997). The Montreal Amendment entered into force on 10 November 1999.
- 5.7** The amendment to the Montreal Protocol agreed at the Eleventh Meeting of the Parties (Beijing, 29 November – 3 December 1999). The Beijing Amendment entered into force on 25 February 2002
- 5.8** The amendment to the Montreal Protocol agreed at the Twenty-Eighth Meeting of the Parties (Kigali, 10–15 October 2016). The Kigali Amendment will enter into force on 1 January 2019.

## Section 5.2

# The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer

### ***Preamble***

The Parties to this Protocol,

*Being* Parties to the Vienna Convention for the Protection of the Ozone Layer,

*Mindful* of their obligation under that Convention to take appropriate measures to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer,

*Recognizing* that world-wide emissions of certain substances can significantly deplete and otherwise modify the ozone layer in a manner that is likely to result in adverse effects on human health and the environment,

*Conscious* of the potential climatic effects of emissions of these substances,

*Aware* that measures taken to protect the ozone layer from depletion should be based on relevant scientific knowledge, taking into account technical and economic considerations,

*Determined* to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations,

*Acknowledging* that special provision is required to meet the needs of developing countries for these substances,

*Noting* the precautionary measures for controlling emissions of certain chlorofluorocarbons that have already been taken at national and regional levels,

*Considering* the importance of promoting international co-operation in the research and development of science and technology relating to the control and reduction of emissions of substances that deplete the ozone layer, bearing in mind in particular the needs of developing countries,

HAVE AGREED AS FOLLOWS:

### **Article 1: Definitions**

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For the purposes of this Protocol:

1. “Convention” means the Vienna Convention for the Protection of the Ozone Layer, adopted on 22 March 1985.
2. “Parties” means, unless the text otherwise indicates, Parties to this Protocol.

3. "Secretariat" means the Secretariat of the Convention.
4. "Controlled substance" means a substance listed in Annex A to this Protocol, whether existing alone or in a mixture. It excludes, however, any such substance or mixture which is in a manufactured product other than a container used for the transportation or storage of the substance listed.
5. "Production" means the amount of controlled substances produced, minus the amount destroyed by technologies to be approved by the Parties.
6. "Consumption" means production plus imports minus exports of controlled substances.
7. "Calculated levels" of production, imports, exports and consumption means levels determined in accordance with Article 3.
8. "Industrial rationalization" means the transfer of all or a portion of the calculated level of production of one Party to another, for the purpose of achieving economic efficiencies or responding to anticipated shortfalls in supply as a result of plant closures.

## Article 2: Control Measures

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1. Each Party shall ensure that for the twelve-month period commencing on the first day of the Seventh month following the date of entry into force of this Protocol, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed its calculated level of consumption in 1986. By the end of the same period, each Party producing one or more of these substances shall ensure that its calculated level of production of the substances does not exceed its calculated level of production in 1986, except that such level may have increased by no more than ten per cent based on the 1986 level. Such increase shall be permitted only so as to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties.
2. Each Party shall ensure that for the twelve-month period commencing on the first day of the thirty-seventh month following the date of entry into force of this Protocol, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances listed in Group II of Annex A does not exceed its calculated level of consumption in 1986. Each Party producing one or more of these substances shall ensure that its calculated level of production of the substances does not exceed its calculated level of production in 1986, except that such levels may have increased by no more than ten per cent based on the 1986 level. Such increase shall be permitted only so as to satisfy the basic domestic needs of the Parties operating under Article 5 and for the purposes of industrial rationalization between Parties. The mechanisms for implementing these measures shall be decided by the Parties at their first meeting following the first scientific review.
3. Each Party shall ensure that for the period 1 July 1993 to 30 June 1994, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, eighty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, eighty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5 and for the purposes of industrial rationalization between

Parties, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.

4. Each Party shall ensure that for the period 1 July 1998 to 30 June 1999, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, fifty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5 and for the purposes of industrial rationalization between Parties, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986. This paragraph will apply unless the Parties decide otherwise at a meeting by a two-thirds majority of Parties present and voting, representing at least two-thirds of the total calculated level of consumption of these substances of the Parties. This decision shall be considered and made in the light of the assessments referred to in Article 6.
5. Any Party whose calculated level of production in 1986 of the controlled substances in Group I of Annex A was less than twenty-five kilotonnes may, for the purposes of industrial rationalization, transfer to or receive from any other Party, production in excess of the limits set out in paragraphs 1, 3 and 4 provided that the total combined calculated levels of production of the Parties concerned does not exceed the production limits set out in this Article. Any transfer of such production shall be notified to the secretariat, no later than the time of the transfer.
6. Any Party not operating under Article 5, that has facilities for the production of controlled substances under construction, or contracted for, prior to 16 September 1987, and provided for in national legislation prior to 1 January 1987, may add the production from such facilities to its 1986 production of such substances for the purposes of determining its calculated level of production for 1986, provided that such facilities are completed by 31 December 1990 and that such production does not raise that Party's annual calculated level of consumption of the controlled substances above 0.5 kilograms per capita.
7. Any transfer of production pursuant to paragraph 5 or any addition of production pursuant to paragraph 6 shall be notified to the Secretariat, no later than the time of the transfer or addition.
8. (a) Any Parties which are Member States of a regional economic integration organization as defined in Article 1 (6) of the Convention may agree that they shall jointly fulfil their obligations respecting consumption under this Article provided that their total combined calculated level of consumption does not exceed the levels required by this Article.  
(b) The Parties to any such agreement shall inform the Secretariat of the terms of the agreement before the date of the reduction in consumption with which the agreement is concerned.  
(c) Such agreement will become operative only if all Member States of the regional economic integration organization and the organization concerned are Parties to the Protocol and have notified the Secretariat of their manner of implementation.
9. (a) Based on the assessments made pursuant to Article 6, the Parties may decide whether:

- (i) Adjustments to the ozone depleting potentials specified in Annex A should be made and, if so, what the adjustments should be; and
- (ii) Further adjustments and reductions of production or consumption of the controlled substances from 1986 levels should be undertaken and, if so, what the scope, amount and timing of any such adjustments and reductions should be;

(b) Proposals for such adjustments shall be communicated to the Parties by the Secretariat at least six months before the meeting of the Parties at which they are proposed for adoption;

(c) In taking such decisions, the Parties shall make every effort to reach agreement by consensus. If all efforts at consensus have been exhausted, and no agreement reached, such decisions shall, as a last resort, be adopted by a two-thirds majority vote of the Parties present and voting representing at least fifty per cent of the total consumption of the controlled substances of the Parties;

(d) The decisions, which shall be binding on all Parties, shall forthwith be communicated to the Parties by the Depositary. Unless otherwise provided in the decisions, they shall enter into force on the expiry of six months from the date of the circulation of the communication by the Depositary.

10. (a) Based on the assessments made pursuant to Article 6 of this Protocol and in accordance with the procedure set out in Article 9 of the Convention, the Parties may decide:

- (i) whether any substances, and if so which, should be added to or removed from any annex to this Protocol, and
- (ii) the mechanism, scope and timing of the control measures that should apply to those substances;

(b) Any such decisions shall become effective, provided that it has been accepted by a two-thirds majority vote of the Parties present and voting.

11. Notwithstanding the provisions contained in this Article, Parties may take more stringent measures than those required by this Article.

### Article 3: Calculation of control levels

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For the purposes of Articles 2 and 5, each Party shall, for each group of substances in Annex A, determine its calculated levels of:

- (a) Production by:
  - (i) multiplying its annual production of each controlled substance by the ozone depleting potential specified in respect of it in Annex A; and
  - (ii) adding together, for each such Group, the resulting figures;
- (b) Imports and exports, respectively, by following, *mutatis mutandis*, the procedure set out in subparagraph (a); and
- (c) Consumption by adding together its calculated levels of production and imports and subtracting its calculated level of exports as determined in accordance with subparagraphs (a) and (b). However, beginning on 1 January 1993, any export of controlled substances to non-Parties shall not be subtracted in calculating the consumption level of the exporting Party.



## Article 4: Control of trade with non-Parties

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1. Within one year of the entry into force of this Protocol, each Party shall ban the import of controlled substances from any State not party to this Protocol.
2. Beginning on 1 January 1993, no Party operating under paragraph 1 of Article 5 may export any controlled substance to any State not party to this Protocol.
3. Within three years of the date of entry into force of this Protocol, the Parties shall, following the procedure in Article 10 of the Convention, elaborate in an annex a list of products containing controlled substances. Parties that have not objected to the annex in accordance with those procedures shall ban, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
4. Within five years of the entry into force of this Protocol, the Parties shall determine the feasibility of banning or restricting, from States not party to this Protocol, the import of products produced with, but not containing, controlled substances. If determined feasible, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of such products. Parties that have not objected to it in accordance with those procedures shall ban or restrict, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
5. Each Party shall discourage the export, to any State not party to this Protocol, of technology for producing and for utilizing controlled substances.
6. Each Party shall refrain from providing new subsidies, aid, credits, guarantees or insurance programmes for the export to States not party to this Protocol of products, equipment, plants or technology that would facilitate the production of controlled substances.
7. Paragraphs 5 and 6 shall not apply to products, equipment, plants or technology that improve the containment, recovery, recycling or destruction of controlled substances, promote the development of alternative substances, or otherwise contribute to the reduction of emissions of controlled substances.
8. Notwithstanding the provisions of this Article, imports referred to in paragraphs 1, 3 and 4 may be permitted from any State not party to this Protocol, if that State is determined, by a meeting of the Parties, to be in full compliance with Article 2 and this Article, and has submitted data to that effect as specified in Article 7.

## Article 5: Special situation of developing countries

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1. Any Party that is a developing country and whose annual calculated level of consumption of the controlled substances is less than 0.3 kilograms per capita on the date of the entry into force of the Protocol for it, or any time thereafter within ten years of the date of entry into force of the Protocol shall, in order to meet its basic domestic needs, be entitled to delay its compliance with the control measures set out in paragraphs 1 to 4 of Article 2 by ten years after that specified in those paragraphs. However, such Party shall not exceed an annual calculated level of consumption of 0.3 kilograms per capita. Any such Party shall be entitled to use either the average of its annual calculated level of consumption for the period of 1995 to 1997 inclusive or a calculated level of consumption of 0.3 kilograms per capita, whichever is the lower, as the basis for its compliance with the control measures.

2. The Parties undertake to facilitate access to environmentally safe alternative substances and technology for Parties that are developing countries and assist them to make expeditious use of such alternatives.
3. The Parties undertake to facilitate bilaterally or multilaterally the provision of subsidies, aid, credits, guarantees or insurance programmes to Parties that are developing countries for the use of alternative technology and for substitute products.

## **Article 6: Assessment and review of control measures**

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Beginning in 1990, and at least every four years thereafter, the Parties shall assess the control measures provided for in Article 2 on the basis of available scientific, environmental, technical and economic information. At least one year before each assessment, the Parties shall convene appropriate panels of experts qualified in the fields mentioned and determine the composition and terms of reference of any such panels. Within one year of being convened, the panels will report their conclusions, through the Secretariat, to the Parties.

## **Article 7: Reporting of data**

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1. Each Party shall provide to the Secretariat, within three months of becoming a Party, statistical data on its production, imports and exports of each of the controlled substances for the year 1986, or the best possible estimates of such data where actual data are not available.
2. Each Party shall provide statistical data to the secretariat on its annual production (with separate data on amounts destroyed by technologies to be approved by the Parties), imports, and exports to Parties and non-Parties, respectively, of such substances for the year during which it becomes a Party and for each year thereafter. It shall forward the data no later than nine months after the end of the year to which the data relate.

## **Article 8: Non-compliance**

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The Parties, at their first meeting, shall consider and approve procedures and institutional mechanisms for determining non-compliance with the provisions of this Protocol and for treatment of Parties found to be in non-compliance.

## **Article 9: Research, development, public awareness and exchange of information**

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1. The Parties shall co-operate, consistent with their national laws, regulations and practices and taking into account in particular the needs of developing countries, in promoting, directly or through competent international bodies, research, development and exchange of information on:
  - (a) best technologies for improving the containment, recovery, recycling, or destruction of controlled substances or otherwise reducing their emissions;
  - (b) possible alternatives to controlled substances, to products containing such substances, and to products manufactured with them; and
  - (c) costs and benefits of relevant control strategies.

2. The Parties, individually, jointly or through competent international bodies, shall co-operate in promoting public awareness of the environmental effects of the emissions of controlled substances and other substances that deplete the ozone layer.
3. Within two years of the entry into force of this Protocol and every two years thereafter, each Party shall submit to the Secretariat a summary of the activities it has conducted pursuant to this Article.

## Article 10: Technical assistance

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1. The Parties shall in the context of the provisions of Article 4 of the Convention, and taking into account in particular the needs of developing countries, co-operate in promoting technical assistance to facilitate participation in and implementation of this Protocol.
2. Any Party or Signatory to this Protocol may submit a request to the Secretariat for technical assistance for the purposes of implementing or participating in the Protocol.
3. The Parties, at their first meeting, shall begin deliberations on the means of fulfilling the obligations set out in Article 9, and paragraphs 1 and 2 of this Article, including the preparation of workplans. Such workplans shall pay special attention to the needs and circumstances of the developing countries. States and regional economic integration organizations not party to the Protocol should be encouraged to participate in activities specified in such workplans.

## Article 11: Meetings of the Parties

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1. The Parties shall hold meetings at regular intervals. The Secretariat shall convene the first meeting of the Parties not later than one year after the date of the entry into force of this Protocol and in conjunction with a meeting of the Conference of the Parties to the Convention, if a meeting of the latter is scheduled within that period.
2. Subsequent ordinary meetings of the Parties shall be held, unless the Parties otherwise decide, in conjunction with meetings of the Conference of the Parties to the Convention. Extraordinary meetings of the Parties shall be held at such other times as may be deemed necessary by a meeting of the Parties, or at the written request of any Party, provided that within six months of such a request being communicated to them by the Secretariat, it is supported by at least one third of the Parties.
3. The Parties, at their first meeting, shall:
  - (a) adopt by consensus rules of procedure for their meetings;
  - (b) adopt by consensus the financial rules referred to in paragraph 2 of Article 13;
  - (c) establish the panels and determine the terms of reference referred to in Article 6;
  - (d) consider and approve the procedures and institutional mechanisms specified in Article 8; and
  - (e) begin preparation of workplans pursuant to paragraph 3 of Article 10.
4. The functions of the meetings of the Parties shall be to:
  - (a) review the implementation of this Protocol;

- (b) decide on any adjustments or reductions referred to in paragraph 9 of Article 2;
- (c) decide on any addition to, insertion in or removal from any annex of substances and on related control measures in accordance with paragraph 10 of Article 2;
- (d) establish, where necessary, guidelines or procedures for reporting of information as provided for in Article 7 and paragraph 3 of Article 9;
- (e) review requests for technical assistance submitted pursuant to paragraph 2 of Article 10;
- (f) review reports prepared by the secretariat pursuant to subparagraph (c) of Article 12;
- (g) assess, in accordance with Article 6, the control measures provided for in Article 2;
- (h) consider and adopt, as required, proposals for amendment of this Protocol or any annex and for any new annex;
- (i) consider and adopt the budget for implementing this Protocol; and
- (j) consider and undertake any additional action that may be required for the achievement of the purposes of this Protocol.

5. The United Nations, its specialized agencies and the International Atomic Energy Agency, as well as any State not party to this Protocol, may be represented at meetings of the Parties as observers. Any body or agency, whether national or international, governmental or non-governmental, qualified in fields relating to the protection of the ozone layer which has informed the secretariat of its wish to be represented at a meeting of the Parties as an observer may be admitted unless at least one third of the Parties present object. The admission and participation of observers shall be subject to the rules of procedure adopted by the Parties.

## Article 12: Secretariat

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For the purposes of this Protocol, the Secretariat shall:

- (a) arrange for and service meetings of the Parties as provided for in Article 11;
- (b) receive and make available, upon request by a Party, data provided pursuant to Article 7;
- (c) prepare and distribute regularly to the Parties reports based on information received pursuant to Articles 7 and 9;
- (d) notify the Parties of any request for technical assistance received pursuant to Article 10 so as to facilitate the provision of such assistance;
- (e) encourage non-Parties to attend the meetings of the Parties as observers and to act in accordance with the provisions of this Protocol;
- (f) provide, as appropriate, the information and requests referred to in subparagraphs (c) and (d) to such non-Party observers; and
- (g) perform such other functions for the achievement of the purposes of this Protocol as may be assigned to it by the Parties.



## **Article 13: Financial provisions**

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1. The funds required for the operation of this Protocol, including those for the functioning of the Secretariat related to this Protocol, shall be charged exclusively against contributions from the Parties.
2. The Parties, at their first meeting, shall adopt by consensus financial rules for the operation of this Protocol.

## **Article 14: Relationship of this Protocol to the Convention**

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Except as otherwise provided in this Protocol, the provisions of the Convention relating to its protocols shall apply to this Protocol.

## **Article 15: Signature**

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This Protocol shall be open for signature by States and by regional economic integration organizations in Montreal on 16 September 1987, in Ottawa from 17 September 1987 to 16 January 1988, and at United Nations Headquarters in New York from 17 January 1988 to 15 September 1988.

## **Article 16: Entry into force**

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1. This Protocol shall enter into force on 1 January 1989, provided that at least eleven instruments of ratification, acceptance, approval of the Protocol or accession thereto have been deposited by States or regional economic integration organizations representing at least two-thirds of 1986 estimated global consumption of the controlled substances, and the provisions of paragraph 1 of Article 17 of the Convention have been fulfilled. In the event that these conditions have not been fulfilled by that date, the Protocol shall enter into force on the ninetieth day following the date on which the conditions have been fulfilled.
2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
3. After the entry into force of this Protocol, any State or regional economic integration organization shall become a Party to it on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

## **Article 17: Parties joining after entry into force**

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Subject to Article 5, any State or regional economic integration organization which becomes a Party to this Protocol after the date of its entry into force, shall fulfil forthwith the sum of the obligations under Article 2, as well as under Article 4, that apply at that date to the States and regional economic integration organizations that became Parties on the date the Protocol entered into force.

## Article 18: Reservations

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No reservations may be made to this Protocol.

## Article 19: Withdrawal

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For the purposes of this Protocol, the provisions of Article 19 of the Convention relating to withdrawal shall apply, except with respect to Parties referred to in paragraph 1 of Article 5. Any such Party may withdraw from this Protocol by giving written notification to the Depositary at any time after four years of assuming the obligations specified in paragraphs 1 to 4 of Article 2. Any such withdrawal shall take effect upon expiry of one year after the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.

## Article 20: Authentic texts

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The original of this Protocol, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned, being duly authorized to that effect, have signed this protocol.

DONE at Montreal this sixteenth day of September, one thousand nine hundred and eighty seven.

## Annex A: Controlled substances

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Group	Substance	Ozone-Depleting Potential*
<b>Group I</b>		
<chem>CFCl3</chem>	(CFC-11)	1.0
<chem>CF2Cl2</chem>	(CFC-12)	1.0
<chem>C2F3Cl3</chem>	(CFC-113)	0.8
<chem>C2F4Cl2</chem>	(CFC-114)	1.0
<chem>C2F5Cl</chem>	(CFC-115)	0.6
<b>Group II</b>		
<chem>CF2BrCl</chem>	(halon-1211)	3.0
<chem>CF3Br</chem>	(halon-1301)	10.0
<chem>C2F4Br2</chem>	(halon-2402)	6.0

\* These ozone depleting potentials are estimates based on existing knowledge and will be reviewed and revised periodically.



## Section 5.3

# Adjustments to the Montreal Protocol

agreed by the  
**Second, Fourth, Seventh, Ninth, Eleventh and Nineteenth Meetings of the Parties**

### Adjustments agreed at the Second Meeting of the Parties

[Source: Annex I of the report of the Second Meeting of the Parties.  
These adjustments entered into force on 7 March 1991.]

The Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer decides, on the basis of assessments made pursuant to Article 6 of the Protocol, to adopt adjustments and reductions of production and consumption of the controlled substances in Annex A to the Protocol, as follows, with the understanding that:

- (a) References in Article 2 to "this Article" and throughout the Protocol to "Article 2" shall be interpreted as references to Articles 2, 2A and 2B;
- (b) References throughout the Protocol to "paragraphs 1 to 4 of Article 2" shall be interpreted as references to Articles 2A and 2B; and
- (c) The reference in paragraph 5 of Article 2 to "paragraphs 1, 3 and 4" shall be interpreted as a reference to Article 2A.

#### **A. Article 2A: CFCs**

Paragraph 1 of Article 2 of the Protocol shall become paragraph 1 of Article 2A, which shall be entitled "Article 2A: CFCs". Paragraphs 3 and 4 of Article 2 shall be replaced by the following paragraphs, which shall be numbered paragraphs 2 to 6 of Article 2A:

2. Each Party shall ensure that for the period from 1 July 1991 to 31 December 1992 its calculated levels of consumption and production of the controlled substances in Group I of Annex A do not exceed 150 per cent of its calculated levels of production and consumption of those substances in 1986; with effect from 1 January 1993, the twelve-month control period for these controlled substances shall run from 1 January to 31 December each year.
3. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, fifty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating

under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.

4. Each Party shall ensure that for the twelve-month period commencing on 1 January 1997, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, fifteen per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifteen per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.
5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2000, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986.
6. In 1992, the Parties will review the situation with the objective of accelerating the reduction schedule.

## **B. Article 2B: Halons**

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Paragraph 2 of Article 2 of the Protocol shall be replaced by the following paragraphs, which shall be numbered paragraphs 1 to 4 of Article 2B:

### **Article 2B: Halons**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1992, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group II of Annex A does not exceed, annually, its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group II of Annex A does not exceed, annually, fifty per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifty per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating

under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy essential uses for which no adequate alternatives are available.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2000, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group II of Annex A does not exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy essential uses for which no adequate alternatives are available.
4. By 1 January 1993, the Parties shall adopt a decision identifying essential uses, if any, for the purposes of paragraphs 2 and 3 of this Article. Such decision shall be reviewed by the Parties at their subsequent meetings.

## **Adjustments agreed at the Fourth Meeting of the Parties**

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[Source: Annexes I and II of the report of the Fourth Meeting of the Parties.  
These adjustments entered into force on 23 September 1993.]

The Fourth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer decides, on the basis of the assessments made pursuant to Article 6 of the Protocol, to adopt adjustments and reductions of production and consumption of the controlled substances in Annex A and Annex B to the Protocol as follows:

### **A. Article 2A: CFCs**

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Paragraphs 3 to 6 of Article 2A of the Protocol shall be replaced by the following paragraphs, which shall be numbered paragraphs 3 and 4 of Article 2A:

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 1994, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not exceed, annually, twenty-five per cent of its calculated level of consumption in 1986. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, twenty-five per cent of its calculated level of production in 1986. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1986.
4. Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex A does not

exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **B. Article 2B: Halons**

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Paragraphs 2 to 4 of Article 2B of the Protocol shall be replaced by the following paragraph, which shall be numbered paragraph 2 of Article 2B:

2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1994, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group II of Annex A does not exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1986. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **C. Article 2C: Other Fully Halogenated CFCs**

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Article 2C of the Protocol shall be replaced by the following Article:

### **Article 2C: Other Fully Halogenated CFCs**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1993, its calculated level of consumption of the controlled substances in Group I of Annex B does not exceed, annually, eighty per cent of its calculated level of consumption in 1989. Each Party producing one or more of these substances shall, for the same period, ensure that its calculated level of production of the substances does not exceed, annually, eighty per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1994, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex B does not exceed, annually, twenty-five per cent of its calculated level of consumption in 1989. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, twenty-five per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of

production may exceed that limit by up to ten per cent of its calculated level of production in 1989.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex B does not exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1989. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **D. Article 2D: Carbon Tetrachloride**

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Article 2D of the Protocol shall be replaced by the following Article:

### **Article 2D: Carbon Tetrachloride**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, its calculated level of consumption of the controlled substances in Group II of Annex B does not exceed, annually, fifteen per cent of its calculated level of consumption in 1989. Each Party producing the substance shall, for the same period, ensure that its calculated level of production of the substance does not exceed, annually, fifteen per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group II of Annex B does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1989. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **E. Article 2E: 1,1,1-Trichloroethane (Methyl Chloroform)**

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Article 2E of the Protocol shall be replaced by the following Article:

### **Article 2E: 1,1,1-Trichloroethane (Methyl Chloroform)**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1993, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed, annually, its calculated level of

consumption in 1989. Each Party producing the substance shall, for the same period, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.

2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1994, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed, annually, fifty per cent of its calculated level of consumption in 1989. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifty per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
3. Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production for 1989. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **Adjustments agreed at the Seventh Meeting of the Parties**

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[Source: Annexes I, II and III of the report of the Seventh Meeting of the Parties.  
These adjustments entered into force on 5 August 1996.]

The Seventh Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer decides, on the basis of the assessments made pursuant to Article 6 of the Protocol, to adopt adjustments and reductions of production and consumption of the controlled substances in Annex A, Annex B, Annex C and Annex E to the Protocol as follows:

### **A. Article 5: Special situation of developing countries**

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The following paragraph 8 *bis* shall be inserted after paragraph 8 of Article 5 of the Protocol:

8 *bis*. Based on the conclusions of the review referred to in paragraph 8 above:

- (a) With respect to the controlled substances in Annex A, a Party operating under paragraph 1 of this Article shall, in order to meet its basic domestic needs, be entitled to delay for ten years its compliance with the control measures adopted by the Second Meeting of the Parties in London, 29 June 1990, and reference by the Protocol to Articles 2A and 2B shall be read accordingly;

## **B. Article 5: Special situation of developing countries**

---

The following subparagraph shall be inserted after subparagraph (a) of paragraph 8 bis of Article 5 of the Protocol:

(b) With respect to the controlled substances in Annex B, a Party operating under paragraph 1 of this Article shall, in order to meet its basic domestic needs, be entitled to delay for ten years its compliance with the control measures adopted by the Second Meeting of the Parties in London, 29 June 1990, and reference by this Protocol to Articles 2C to 2E shall be read accordingly.

## **C. Article 2F, paragraph 1 (a): Hydrochlorofluorocarbons**

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In paragraph 1(a) of Article 2F, for the words:

Three point one

there shall be substituted:

Two point eight

## **D. Article 2F, paragraph 5: Hydrochlorofluorocarbons**

---

The following sentence shall be added to the end of paragraph 5 of Article 2F of the Protocol:

Such consumption shall, however, be restricted to the servicing of refrigeration and air conditioning equipment existing at that date.

## **E. Article 2H: Methyl bromide**

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Article 2H of the Protocol shall read as follows:

### **Article 2H: Methyl bromide**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 2001, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, seventy-five per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, seventy-five per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, fifty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.
4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1991. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be critical agricultural uses.
5. The calculated levels of consumption and production under this Article shall not include the amounts used by the Party for quarantine and pre-shipment applications.

## **F. Article 5, paragraph 8 ter: Special situation of developing countries**

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The following paragraph 8 ter shall be inserted after paragraph 8 bis of Article 5 of the Protocol:

*8 ter. Pursuant to paragraph 1 bis above:*

- (a) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2016, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, its calculated level of consumption in 2015;
- (b) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2040, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed zero;
- (c) Each Party operating under paragraph 1 of this Article shall comply with Article 2G;
- (d) With regard to the controlled substance contained in Annex E:
  - (i) As of 1 January 2002 each Party operating under paragraph 1 of this Article shall comply with the control measures set out in paragraph 1 of Article 2H and, as the basis for its compliance with these control measures,

it shall use the average of its annual calculated level of consumption and production, respectively, for the period of 1995 to 1998 inclusive;

(ii) The calculated levels of consumption and production under this subparagraph shall not include the amounts used by the Party for quarantine and pre-shipment applications.

## **G. Annex E: Methyl bromide**

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For "0.7" in the third column of Annex E substitute "0.6".

## **Adjustments agreed at the Ninth Meeting of the Parties**

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[Source: Annexes I, II and III of the report of the Ninth Meeting of the Parties.  
These adjustments entered into force on 4 June 1998.]

The Ninth Meeting of the Parties to the Montreal Protocol decides to adopt, in accordance with the procedure laid down in paragraph 9 of Article 2 of the Montreal Protocol and on the basis of the assessments made pursuant to Article 6 of the Protocol, the adjustments with regard to production of the controlled substances listed in Annex A, Annex B and Annex E to the Protocol as follows:

### **A. Article 5, paragraph 3**

---

The following words shall be added at the end of paragraph 3 (a) of Article 5 of the Protocol:

relating to consumption

The following subparagraph shall be added to paragraph 3 of Article 5 of the Protocol:

(c) For controlled substances under Annex A, either the average of its annual calculated level of production for the period 1995 to 1997 inclusive or a calculated level of production of 0.3 kilograms per capita, whichever is the lower, as the basis for determining its compliance with the control measures relating to production.

### **B. Article 5, paragraph 3**

---

The following words shall be added at the end of paragraph 3 (b) of Article 5 of the Protocol:

relating to consumption

The following subparagraph shall be added to paragraph 3 of Article 5 of the Protocol:

(d) For controlled substances under Annex B, either the average of its annual calculated level of production for the period 1998 to 2000 inclusive or a calculated level of production of 0.2 kilograms per capita, whichever is the lower, as the basis for determining its compliance with the control measures relating to production.

## C. Article 2H: Methyl bromide

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1. Paragraphs 2 to 4 of Article 2H of the Protocol shall be replaced by the following paragraphs:
  2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1999, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, seventy-five per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, seventy-five per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.
  3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2001, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, fifty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.
  4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2003, and in the twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, thirty per cent of its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, thirty per cent of its calculated level of production in 1991. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991.
  5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1991. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be critical uses.
2. Paragraph 5 of Article 2H of the Protocol shall become paragraph 6.

## D. Article 5, paragraph 8 *ter* (d)

1. The following shall be inserted after paragraph 8 *ter* (d) (i) of Article 5 of the Protocol:
  - (ii) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated levels of consumption and production of the controlled substance in Annex E do not exceed, annually, eighty per cent of the average of its annual calculated levels of consumption and production, respectively, for the period of 1995 to 1998 inclusive;
  - (iii) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2015 and in each twelve-month period thereafter, its calculated levels of consumption and production of the controlled substance in Annex E do not exceed zero. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be critical uses;
2. Paragraph 8 *ter* (d) (ii) of Article 5 of the Protocol shall become paragraph 8 *ter* (d) (iv).

## Adjustments agreed at the Eleventh Meeting of the Parties

[Source: Annexes II, III and IV of the report of the Eleventh Meeting of the Parties. These adjustments entered into force on 28 July 2000.]

### A. Article 2A: CFCs

1. The third sentence of paragraph 4 of Article 2A of the Protocol shall be replaced by the following sentence:
 

However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by a quantity equal to the annual average of its production of the controlled substances in Group I of Annex A for basic domestic needs for the period 1995 to 1997 inclusive.
2. The following paragraphs shall be added after paragraph 4 of Article 2A of the Protocol:
  5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2003 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed eighty per cent of the annual average of its production of those substances for basic domestic needs for the period 1995 to 1997 inclusive.
  6. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed fifty per cent of the annual average of its production of those substances for basic domestic needs for the period 1995 to 1997 inclusive.
  7. Each Party shall ensure that for the twelve-month period commencing on 1 January 2007 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does

not exceed fifteen per cent of the annual average of its production of those substances for basic domestic needs for the period 1995 to 1997 inclusive.

8. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.
9. For the purposes of calculating basic domestic needs under paragraphs 4 to 8 of this Article, the calculation of the annual average of production by a Party includes any production entitlements that it has transferred in accordance with paragraph 5 of Article 2, and excludes any production entitlements that it has acquired in accordance with paragraph 5 of Article 2.

## **B. Article 2B: Halons**

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1. The third sentence of paragraph 2 of Article 2B of the Protocol shall be replaced by the following sentence:

However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may, until 1 January 2002 exceed that limit by up to fifteen per cent of its calculated level of production in 1986; thereafter, it may exceed that limit by a quantity equal to the annual average of its production of the controlled substances in Group II of Annex A for basic domestic needs for the period 1995 to 1997 inclusive.

2. The following paragraphs shall be added after paragraph 2 of Article 2B of the Protocol:
  3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group II of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed fifty per cent of the annual average of its production of those substances for basic domestic needs for the period 1995 to 1997 inclusive.
  4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group II of Annex A for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

## **C. Article 2C: Other fully halogenated CFCs**

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1. The third sentence of paragraph 3 of Article 2C of the Protocol shall be replaced by the following sentence:

However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may, until 1 January 2003 exceed that limit by up to fifteen per cent of its calculated level of production in 1989; thereafter, it may exceed that limit by a quantity equal to eighty per cent of the annual average of its production of the controlled substances in Group I of Annex B for basic domestic needs for the period 1998 to 2000 inclusive.

2. The following paragraphs shall be added after paragraph 3 of Article 2C of the Protocol:
  4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2007 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex B for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed fifteen per cent of the annual average of its production of those substances for basic domestic needs for the period 1998 to 2000 inclusive.
  5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex B for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

## **D. Article 2H: Methyl bromide**

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1. The third sentence of paragraph 5 of Article 2H of the Protocol shall be replaced by the following sentence:

However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may, until 1 January 2002 exceed that limit by up to fifteen per cent of its calculated level of production in 1991; thereafter, it may exceed that limit by a quantity equal to the annual average of its production of the controlled substance in Annex E for basic domestic needs for the period 1995 to 1998 inclusive.

2. The following paragraphs shall be added after paragraph 5 of Article 2H of the Protocol:
  - 5 *bis*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005 and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed eighty per cent of the annual average of its production of the substance for basic domestic needs for the period 1995 to 1998 inclusive.
  - 5 *ter*. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015 and in each twelve-month period thereafter, its calculated level of production of the controlled substance in Annex E for the basic domestic needs of the Parties operating under paragraph 1 of Article 5 does not exceed zero.

## **Adjustments agreed by the Nineteenth Meeting of the Parties**

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[Source: Annex III of the report of the Nineteenth Meeting of the Parties.  
These adjustments entered into force on 14 May 2008.]

The Nineteenth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer decides to adopt, in accordance with the procedure laid down in paragraph 9 of Article 2 of the Montreal Protocol, and on the basis of assessments made pursuant to Article 6 of the Protocol, adjustments and reductions of production and consumption of the controlled substances in Group I of Annex C to the Protocol, as follows:

## A. Article 2F: Hydrochlorofluorocarbons

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1. The current paragraph 8 of Article 2F of the Protocol shall become paragraph 2, and the current paragraph 2 shall become paragraph 3.
2. The current paragraphs 3 to 6 shall be replaced by the following paragraphs, which shall be numbered paragraphs 4 to 6:
  4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, twenty-five per cent of the sum referred to in paragraph 1 of this Article. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, twenty-five per cent of the calculated level referred to in paragraph 2 of this Article. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production of the controlled substances in Group I of Annex C as referred to in paragraph 2.
  5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, ten per cent of the sum referred to in paragraph 1 of this Article. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, ten per cent of the calculated level referred to in paragraph 2 of this Article. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production of the controlled substances in Group I of Annex C as referred to in paragraph 2.
  6. Each Party shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed zero. However:
    - (a) Each Party may exceed that limit on consumption by up to zero point five per cent of the sum referred to in paragraph 1 of this Article in any such twelve-month period ending before 1 January 2030, provided that such consumption shall be restricted to the servicing of refrigeration and air-conditioning equipment existing on 1 January 2020;
    - (b) Each Party may exceed that limit on production by up to zero point five per cent of the average referred to in paragraph 2 of this Article in any such twelve-month period ending before 1 January 2030, provided that such production shall be restricted to the servicing of refrigeration and air-conditioning equipment existing on 1 January 2020.

## B. Article 5: Special situation of developing countries

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3. The current sub-paragraphs (a) and (b) of paragraph 8 *ter* of Article 5 shall be replaced by the following sub-paragraphs, which shall become sub-paragraphs (a) to (e):
  - (a) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2013, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, the average of its calculated levels of consumption in 2009 and 2010. Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2013 and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, the average of its calculated levels of production in 2009 and 2010;
  - (b) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2015, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, ninety per cent of the average of its calculated levels of consumption in 2009 and 2010. Each such Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, ninety per cent of the average of its calculated levels of production in 2009 and 2010;
  - (c) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, sixty-five per cent of the average of its calculated levels of consumption in 2009 and 2010. Each such Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, sixty-five per cent of the average of its calculated levels of production in 2009 and 2010;
  - (d) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2025, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, thirty-two point five per cent of the average of its calculated levels of consumption in 2009 and 2010. Each such Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, thirty-two point five per cent of the average of its calculated levels of production in 2009 and 2010;
  - (e) Each Party operating under paragraph 1 of this Article shall ensure that for the twelve-month period commencing on 1 January 2030, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed zero. Each such Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the controlled substances in Group I of Annex C does not exceed zero. However:

- (i) Each such Party may exceed that limit on consumption in any such twelve-month period so long as the sum of its calculated levels of consumption over the ten-year period from 1 January 2030 to 1 January 2040, divided by ten, does not exceed two point five per cent of the average of its calculated levels of consumption in 2009 and 2010, and provided that such consumption shall be restricted to the servicing of refrigeration and air-conditioning equipment existing on 1 January 2030;
- (ii) Each such Party may exceed that limit on production in any such twelve-month period so long as the sum of its calculated levels of production over the ten-year period from 1 January 2030 to 1 January 2040, divided by ten, does not exceed two point five per cent of the average of its calculated levels of production in 2009 and 2010, and provided that such production shall be restricted to the servicing of refrigeration and air-conditioning equipment existing on 1 January 2030.

4. The current sub-paragraphs (c) and (d) of paragraph 8 *ter* of Article 5 shall become sub-paragraphs (f) and (g).

## Section 5.4

# The London Amendment (1990)

### The amendment to the Montreal Protocol agreed by the Second Meeting of the Parties (London, 27–29 June 1990)

[Source: Annex II of the report of the Second Meeting of the Parties.  
The amendment entered into force on 10 August 1992.]

### Article 1: Amendment

#### A. Preambular paragraphs

1. The 6th preambular paragraph of the Protocol shall be replaced by the following:

*Determined to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations and bearing in mind the developmental needs of developing countries,*

2. The 7th preambular paragraph of the Protocol shall be replaced by the following:

*Acknowledging that special provision is required to meet the needs of developing countries, including the provision of additional financial resources and access to relevant technologies, bearing in mind that the magnitude of funds necessary is predictable, and the funds can be expected to make a substantial difference in the world's ability to address the scientifically established problem of ozone depletion and its harmful effects,*

3. The 9th preambular paragraph of the Protocol shall be replaced by the following:

*Considering the importance of promoting international co-operation in the research, development and transfer of alternative technologies relating to the control and reduction of emissions of substances that deplete the ozone layer, bearing in mind in particular the needs of developing countries,*

#### B. Article 1: Definitions

1. Paragraph 4 of Article 1 of the Protocol shall be replaced by the following paragraph:

4. "Controlled substance" means a substance in Annex A or in Annex B to this Protocol, whether existing alone or in a mixture. It includes the isomers of any such substance, except as specified in the relevant Annex, but excludes any controlled substance or mixture which is in a manufactured product other than a container used for the transportation or storage of that substance.

2. Paragraph 5 of Article 1 of the Protocol shall be replaced by the following paragraph:

5. “Production” means the amount of controlled substances produced, minus the amount destroyed by technologies to be approved by the Parties and minus the amount entirely used as feedstock in the manufacture of other chemicals. The amount recycled and reused is not to be considered as “production”.
3. The following paragraph shall be added to Article 1 of the Protocol:
  9. “Transitional substance” means a substance in Annex C to this Protocol, whether existing alone or in a mixture. It includes the isomers of any such substance, except as may be specified in Annex C, but excludes any transitional substance or mixture which is in a manufactured product other than a container used for the transportation or storage of that substance.

## **C. Article 2, paragraph 5**

---

Paragraph 5 of Article 2 of the Protocol shall be replaced by the following paragraph:

5. Any Party may, for any one or more control periods, transfer to another Party any portion of its calculated level of production set out in Articles 2A to 2E, provided that the total combined calculated levels of production of the Parties concerned for any group of controlled substances do not exceed the production limits set out in those Articles for that group. Such transfer of production shall be notified to the Secretariat by each of the Parties concerned, stating the terms of such transfer and the period for which it is to apply.

## **D. Article 2, paragraph 6**

---

The following words shall be inserted in paragraph 6 of Article 2 before the words “controlled substances” the first time they occur:

Annex A or Annex B

## **E. Article 2, paragraph 8 (a)**

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The following words shall be added after the words “this Article” wherever they appear in paragraph 8 (a) of Article 2 of the Protocol:

and Articles 2A to 2E

## **F. Article 2, paragraph 9 (a) (i)**

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The following words shall be added after “Annex A” in paragraph 9 (a) (i) of Article 2 of the Protocol:

and/or Annex B

## **G. Article 2, paragraph 9 (a) (ii)**

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The following words shall be deleted from paragraph 9 (a) (ii) of Article 2 of the Protocol:

from 1986 levels



## **H. Article 2, paragraph 9 (c)**

The following words shall be deleted from paragraph 9 (c) of Article 2 of the Protocol:

representing at least fifty per cent of the total consumption of the controlled substances of the Parties

and replaced by:

representing a majority of the Parties operating under paragraph 1 of Article 5 present and voting and a majority of the Parties not so operating present and voting

## **I. Article 2, paragraph 10 (b)**

Paragraph 10 (b) of Article 2 of the Protocol shall be deleted, and paragraph 10 (a) of Article 2 shall become paragraph 10.

## **J. Article 2, paragraph 11**

The following words shall be added after the words "this Article" wherever they occur in paragraph 11 of Article 2 of the Protocol:

and Articles 2A to 2E

## **K. Article 2C: Other fully halogenated CFCs**

The following paragraphs shall be added to the Protocol as Article 2C:

### **Article 2C: Other fully halogenated CFCs**

1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1993, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex B does not exceed, annually, eighty per cent of its calculated level of consumption in 1989. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, eighty per cent of its calculated level of production in 1989. However, in order to/satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1997, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex B does not exceed, annually, fifteen per cent of its calculated level of consumption in 1989. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed, annually, fifteen per cent of its calculated level of production in 1989. However, in order to/satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2000, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex B does not

exceed zero. Each Party producing one or more of these substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1989.

## **L. Article 2D: Carbon tetrachloride**

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The following paragraphs shall be added to the Protocol as Article 2D:

### **Article 2D: Carbon tetrachloride**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group II of Annex B does not exceed, annually, fifteen per cent of its calculated level of consumption in 1989. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, fifteen per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 2000, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group II of Annex B does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1989.

## **M. Article 2E: 1,1,1-trichloroethane (methyl chloroform)**

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The following paragraphs shall be added to the Protocol as Article 2E:

### **Article 2E: 1,1,1-trichloroethane (methyl chloroform)**

---

1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1993, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed, annually, its calculated level of consumption in 1989. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level

of consumption of the controlled substance in Group III of Annex B does not exceed, annually, seventy per cent of its calculated level of consumption in 1989. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, seventy per cent of its calculated level of consumption in 1989. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.

3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2000, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed, annually, thirty per cent of its calculated level of consumption in 1989. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, thirty per cent of its calculated level of production in 1989. However, in order to satisfy the basic domestic needs of Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1989.
4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2005, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Group III of Annex B does not exceed zero. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed zero. However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production in 1989.
5. The Parties shall review, in 1992, the feasibility of a more rapid schedule of reductions than that set out in this Article.

## **N. Article 3: Calculation of control levels**

---

1. The following shall be added after "Articles 2" in Article 3 of the Protocol:  
, 2A to 2E,
2. The following words shall be added after "Annex A" each time it appears in Article 3 of the Protocol:  
or Annex B

## **O. Article 4: Control of trade with non-Parties**

---

1. Paragraphs 1 to 5 of Article 4 shall be replaced by the following paragraphs:
  1. As of 1 January 1990, each Party shall ban the import of the controlled substances in Annex A from any State not party to this Protocol.
  - 1 bis. Within one year of the date of the entry into force of this paragraph, each Party shall ban the import of the controlled substances in Annex B from any State not party to this Protocol.

2. As of 1 January 1993, each Party shall ban the export of any controlled substances in Annex A to any State not party to this Protocol.
- 2 *bis*. Commencing one year after the date of entry into force of this paragraph, each Party shall ban the export of any controlled substances in Annex B to any State not party to this Protocol.
3. By 1 January 1992, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of products containing controlled substances in Annex A. Parties that have not objected to the annex in accordance with those procedures shall ban, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
- 3 *bis*. Within three years of the date of the entry into force of this paragraph, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of products containing controlled substances in Annex B. Parties that have not objected to the annex in accordance with those procedures shall ban, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
4. By 1 January 1994, the Parties shall determine the feasibility of banning or restricting, from States not party to this Protocol, the import of products produced with, but not containing, controlled substances in Annex A. If determined feasible, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of such products. Parties that have not objected to the annex in accordance with those procedures shall ban or restrict, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
- 4 *bis*. Within five years of the date of the entry into force of this paragraph, the Parties shall determine the feasibility of banning or restricting, from States not party to this Protocol, the import of products produced with, but not containing, controlled substances in Annex B. If determined feasible, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of such products. Parties that have not objected to the annex in accordance with those procedures shall ban or restrict, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.
5. Each Party undertakes to the fullest practicable extent to discourage the export to any State not party to this Protocol of technology for producing and for utilizing controlled substances.

2. Paragraph 8 of Article 4 of the Protocol shall be replaced by the following paragraph:

8. Notwithstanding the provisions of this Article, imports referred to in paragraphs 1, 1 *bis*, 3, 3 *bis*, 4 and 4 *bis*, and exports referred to in paragraphs 2 and 2 *bis*, may be permitted from, or to, any State not party to this Protocol, if that State is determined by a meeting of the Parties to be in full compliance with Article 2, Articles 2A to 2E, and this Article and have submitted data to that effect as specified in Article 7.

3. The following paragraph shall be added to Article 4 of the Protocol as paragraph 9:

9. For the purposes of this Article, the term "State not party to this Protocol" shall include, with respect to a particular controlled substance, a State or regional economic integration organization that has not agreed to be bound by the control measures in effect for that substance.

## **P. Article 5: Special situation of developing countries**

---

Article 5 of the Protocol shall be replaced by the following:

1. Any Party that is a developing country and whose annual calculated level of consumption of the controlled substances in Annex A is less than 0.3 kilograms per capita on the date of the entry into force of the Protocol for it, or any time thereafter until 1 January 1999, shall in order to meet its basic domestic needs, be entitled to delay for ten years its compliance with the control measures set out in Articles 2A to 2E.
2. However, any Party operating under paragraph 1 of this Article shall exceed neither an annual calculated level of consumption of the controlled substances in Annex A of 0.3 kilograms per capita nor an annual calculated level of consumption of the controlled substances of Annex B of 0.2 kilograms per capita.
3. When implementing the control measures set out in Articles 2A to 2E, any Party operating under paragraph 1 of this Article shall be entitled to use:
  - (a) For controlled substances under Annex A, either the average of its annual calculated level of consumption for the period 1995 to 1997 inclusive or a calculated level of consumption of 0.3 kilograms per capita, whichever is the lower, as the basis for determining its compliance with the control measures;
  - (b) For controlled substances under Annex B, the average of its annual calculated level of consumption for the period 1998 to 2000 inclusive or a calculated level of consumption of 0.2 kilograms per capita, whichever is the lower, as the basis for determining its compliance with the control measures.
4. If a Party operating under paragraph 1 of this Article, at any time before the control measures obligations in Articles 2A to 2E become applicable to it, finds itself unable to obtain an adequate supply of controlled substances, it may notify this to the Secretariat. The Secretariat shall forthwith transmit a copy of such notification to the Parties, which shall consider the matter at their next Meeting, and decide upon appropriate action to be taken.
5. Developing the capacity to fulfil the obligations of the Parties operating under paragraph 1 of this Article to comply with the control measures set out in Articles 2A to 2E and their implementation by those same Parties will depend upon the effective implementation of the financial co-operation as provided by Article 10 and transfer of technology as provided by Article 10A.
6. Any Party operating under paragraph 1 of this Article may, at any time, notify the Secretariat in writing that, having taken all practicable steps it is unable to implement any or all of the obligations laid down in Articles 2A to 2E due to the inadequate implementation of Articles 10 and 10A. The Secretariat shall forthwith transmit a copy of the notification to the Parties, which shall consider

the matter at their next Meeting, giving due recognition to paragraph 5 of this Article and shall decide upon appropriate action to be taken.

7. During the period between notification and the Meeting of the Parties at which the appropriate action referred to in paragraph 6 above is to be decided, or for a further period if the Meeting of the Parties so decides, the non-compliance procedures referred to in Article 8 shall not be invoked against the notifying Party.
8. A Meeting of the Parties shall review, not later than 1995, the situation of the Parties operating under paragraph 1 of this Article, including the effective implementation of financial co-operation and transfer of technology to them, and adopt such revisions that may be deemed necessary regarding the schedule of control measures applicable to those Parties.
9. Decisions of the Parties referred to in paragraphs 4, 6 and 7 of this Article shall be taken according to the same procedure applied to decision-making under Article 10.

## **Q. Article 6: Assessment and review of control measures**

---

The following words shall be added after "Article 2" in Article 6 of the Protocol:

Articles 2A to 2E, and the situation regarding production, imports and exports of the transitional substances in Group I of Annex C

## **R. Article 7: Reporting of data**

---

1. Article 7 of the Protocol shall be replaced by the following:
  1. Each Party shall provide to the Secretariat, within three months of becoming a Party, statistical data on its production, imports and exports of each of the controlled substances in Annex A for the year 1986, or the best possible estimates of such data where actual data are not available.
  2. Each Party shall provide to the Secretariat statistical data on its production, imports and exports of each of the controlled substances in Annex B and each of the transitional substances in Group I of Annex C, for the year 1989, or the best possible estimates of such data where actual data are not available, not later than three months after the date when the provisions set out in the Protocol with regard to the substances in Annex B enter into force for that Party.
  3. Each Party shall provide statistical data to the Secretariat on its annual production (as defined in paragraph 5 of Article 1), and, separately,
    - amounts used for feedstocks,
    - amounts destroyed by technologies approved by the Parties,
    - imports and exports to Parties and non-Parties respectively,of each of the controlled substances listed in Annexes A and B as well as of the transitional substances in Group I of Annex C, for the year during which provisions concerning the substances in Annex B entered into force for that Party and for each year thereafter. Data shall be forwarded not later than nine months after the end of the year to which the data relate.



4. For Parties operating under the provisions of paragraph 8 (a) of Article 2, the requirements in paragraphs 1, 2 and 3 of this Article in respect of statistical data on imports and exports shall be satisfied if the regional economic integration organization concerned provides data on imports and exports between the organization and States that are not members of that organization.

## **S. Article 9: Research, development, public awareness and exchange of information**

---

Paragraph 1 (a) of Article 9 of the Protocol shall be replaced by the following:

- (a) Best technologies for improving the containment, recovery, recycling, or destruction of controlled and transitional substances or otherwise reducing their emissions;

## **T. Article 10: Financial mechanism**

---

Article 10 of the Protocol shall be replaced by the following:

### **Article 10: Financial mechanism**

---

1. The Parties shall establish a mechanism for the purposes of providing financial and technical co-operation, including the transfer of technologies, to Parties operating under paragraph 1 of Article 5 of this Protocol to enable their compliance with the control measures set out in Articles 2A to 2E of the Protocol. The mechanism, contributions to which shall be additional to other financial transfers to Parties operating under that paragraph, shall meet all agreed incremental costs of such Parties in order to enable their compliance with the control measures of the Protocol. An indicative list of the categories of incremental costs shall be decided by the meeting of the Parties.
2. The mechanism established under paragraph 1 shall include a Multilateral Fund. It may also include other means of multilateral, regional and bilateral co-operation.
3. The Multilateral Fund shall:
  - (a) Meet, on a grant or concessional basis as appropriate, and according to criteria to be decided upon by the Parties, the agreed incremental costs;
  - (b) Finance clearing-house functions to:
    - (i) Assist Parties operating under paragraph 1 of Article 5, through country specific studies and other technical co-operation, to identify their needs for co-operation;
    - (ii) Facilitate technical co-operation to meet these identified needs;
    - (iii) Distribute, as provided for in Article 9, information and relevant materials, and hold workshops, training sessions, and other related activities, for the benefit of Parties that are developing countries; and
    - (iv) Facilitate and monitor other multilateral, regional and bilateral co-operation available to Parties that are developing countries;
  - (c) Finance the secretarial services of the Multilateral Fund and related support costs.

4. The Multilateral Fund shall operate under the authority of the Parties who shall decide on its overall policies.
5. The Parties shall establish an Executive Committee to develop and monitor the implementation of specific operational policies, guidelines and administrative arrangements, including the disbursement of resources, for the purpose of achieving the objectives of the Multilateral Fund. The Executive Committee shall discharge its tasks and responsibilities, specified in its terms of reference as agreed by the Parties, with the co-operation and assistance of the International Bank for Reconstruction and Development (World Bank), the United Nations Environment Programme, the United Nations Development Programme or other appropriate agencies depending on their respective areas of expertise. The members of the Executive Committee, which shall be selected on the basis of a balanced representation of the Parties operating under paragraph 1 of Article 5 and of the Parties not so operating, shall be endorsed by the Parties.
6. The Multilateral Fund shall be financed by contributions from Parties not operating under paragraph 1 of Article 5 in convertible currency or, in certain circumstances, in kind and/or in national currency, on the basis of the United Nations scale of assessments. Contributions by other Parties shall be encouraged. Bilateral and, in particular cases agreed by a decision of the Parties, regional co-operation may, up to a percentage and consistent with any criteria to be specified by decision of the Parties, be considered as a contribution to the Multilateral Fund, provided that such co-operation, as a minimum:
  - (a) Strictly relates to compliance with the provisions of this Protocol;
  - (b) Provides additional resources; and
  - (c) Meets agreed incremental costs.
7. The Parties shall decide upon the programme budget of the Multilateral Fund for each fiscal period and upon the percentage of contributions of the individual Parties thereto.
8. Resources under the Multilateral Fund shall be disbursed with the concurrence of the beneficiary Party.
9. Decisions by the Parties under this Article shall be taken by consensus whenever possible. If all efforts at consensus have been exhausted and no agreement reached, decisions shall be adopted by a two-thirds majority vote of the Parties present and voting, representing a majority of the Parties operating under paragraph 1 of Article 5 present and voting and a majority of the Parties not so operating present and voting.
10. The financial mechanism set out in this Article is without prejudice to any future arrangements that may be developed with respect to other environmental issues.

## U. Article 10A: Transfer of technology

The following Article shall be added to the Protocol as Article 10A:

### Article 10A: Transfer of technology

Each Party shall take every practicable step, consistent with the programmes supported by the financial mechanism, to ensure:

- (a) That the best available, environmentally safe substitutes and related technologies are expeditiously transferred to Parties operating under paragraph 1 of Article 5; and
- (b) That the transfers referred to in subparagraph (a) occur under fair and most favourable conditions.

## V. Article 11: Meetings of the Parties

Paragraph 4 (g) of Article 11 of the Protocol shall be replaced by the following:

- (g) Assess, in accordance with Article 6, the control measures and the situation regarding transitional substances;

## W. Article 17: Parties joining after entry into force

The following words shall be added after “as well as under” in Article 17:

Articles 2A to 2E, and

## X. Article 19: Withdrawal

Article 19 of the Protocol shall be replaced by the following paragraph:

Any Party may withdraw from this Protocol by giving written notification to the Depositary at any time after four years of assuming the obligations specified in paragraph 1 of Article 2A. Any such withdrawal shall take effect upon expiry of one year after the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.

## Y. Annexes

The following annexes shall be added to the Protocol:

### Annex B: Controlled substances

Group	Substance	Ozone-Depleting Potential
<b>Group I</b>		
CF <sub>3</sub> Cl	(CFC-13)	1.0
C <sub>2</sub> FCl <sub>5</sub>	(CFC-111)	1.0
C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	(CFC-112)	1.0
C <sub>3</sub> FCl <sub>7</sub>	(CFC-211)	1.0
C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>	(CFC-212)	1.0

Group	Substance	Ozone-Depleting Potential
$C_3F_3Cl_5$	(CFC-213)	1.0
$C_3F_4Cl_4$	(CFC-214)	1.0
$C_3F_5Cl_3$	(CFC-215)	1.0
$C_3F_6Cl_2$	(CFC-216)	1.0
$C_3F_7Cl$	(CFC-217)	1.0
<b>Group II</b>		
$CCl_4$	carbon tetrachloride	1.1
<b>Group III</b>		
$C_2H_3Cl_3^*$	1,1,1-trichloroethane* (methyl chloroform)	0.1

\* This formula does not refer to 1,1,2-trichloroethane.

### Annex C: Transitional substances

Group	Substance
<b>Group I</b>	
$CHFCl_2$	(HCFC-21)
$CHF_2Cl$	(HCFC-22)
$CH_2FCl$	(HCFC-31)
$C_2HFCl_4$	(HCFC-121)
$C_2HF_2Cl_3$	(HCFC-122)
$C_2HF_3Cl_2$	(HCFC-123)
$C_2HF_4Cl$	(HCFC-124)
$C_2H_2FCl_3$	(HCFC-131)
$C_2H_2F_2Cl_2$	(HCFC-132)
$C_2H_2F_3Cl$	(HCFC-133)
$C_2H_3FCl_2$	(HCFC-141)
$C_2H_3F_2Cl$	(HCFC-142)
$C_2H_4FCl$	(HCFC-151)
$C_3HFCl_6$	(HCFC-221)
$C_3HF_2Cl_5$	(HCFC-222)
$C_3HF_3Cl_4$	(HCFC-223)
$C_3HF_4Cl_3$	(HCFC-224)
$C_3HF_5Cl_2$	(HCFC-225)
$C_3HF_6Cl$	(HCFC-226)
$C_3H_2FCl_5$	(HCFC-231)
$C_3H_2F_2Cl_4$	(HCFC-232)
$C_3H_2F_3Cl_3$	(HCFC-233)
$C_3H_2F_4Cl_2$	(HCFC-234)



Group	Substance
$C_3H_2F_5Cl$	(HCFC-235)
$C_3H_3FCl_4$	(HCFC-241)
$C_3H_3F_2Cl_3$	(HCFC-242)
$C_3H_3F_3Cl_2$	(HCFC-243)
$C_3H_3F_4Cl$	(HCFC-244)
$C_3H_4FCl_3$	(HCFC-251)
$C_3H_4F_2Cl_2$	(HCFC-252)
$C_3H_4F_3Cl$	(HCFC-253)
$C_3H_5FCl_2$	(HCFC-261)
$C_3H_5F_2Cl$	(HCFC-262)
$C_3H_6FCl$	(HCFC-271)

## Article 2: Entry into force

1. This Amendment shall enter into force on 1 January 1992, provided that at/least twenty instruments of ratification, acceptance or approval of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.
2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
3. After the entry into force of this Amendment as provided under paragraph 1, it shall enter into force for any other Party to the Protocol on/the ninetieth day following the date of deposit of its instrument of ratification, acceptance or approval.

## Section 5.5

# The Copenhagen Amendment (1992)

## The amendment to the Montreal Protocol agreed by the **Fourth Meeting of the Parties** (Copenhagen, 23–25 November 1992)

[Source: Annex III of the report of the Fourth Meeting of the Parties.  
The amendment entered into force on 14 June 1994.]

### Article 1: Amendment

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#### A. Article 1, paragraph 4

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In paragraph 4 of Article 1 of the Protocol, for the words:

or in Annex B

there shall be substituted:

, Annex B, Annex C or Annex E

#### B. Article 1, paragraph 9

---

Paragraph 9 of Article 1 of the Protocol shall be deleted.

#### C. Article 2, paragraph 5

---

In paragraph 5 of Article 2 of the Protocol, after the words:

Articles 2A to 2E

there shall be added:

and Article 2H

#### D. Article 2, paragraph 5 *bis*

---

The following paragraph shall be inserted after paragraph 5 of Article 2 of the Protocol:

*5 bis.* Any Party not operating under paragraph 1 of Article 5 may, for one or more control periods, transfer to another such Party any portion of its calculated level of consumption set out in Article 2F, provided that the calculated level of consumption of controlled substances in Group I of Annex A of the Party transferring the portion of its calculated level of consumption did not exceed 0.25 kilograms per capita in 1989 and that the total combined calculated levels of consumption of the Parties concerned do not exceed the consumption limits



set out in Article 2F. Such transfer of consumption shall be notified to the Secretariat by each of the Parties concerned, stating the terms of such transfer and the period for which it is to apply.

## **E. Article 2, paragraphs 8 (a) and 11**

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In paragraphs 8 (a) and 11 of Article 2 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted each time they occur:

Articles 2A to 2H

## **F. Article 2, paragraph 9 (a) (i)**

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In paragraph 9(a)(i) of Article 2 of the Protocol, for the words:

and/or Annex B

there shall be substituted:

, Annex B, Annex C and/or Annex E

## **G. Article 2F: Hydrochlorofluorocarbons**

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The following Article shall be inserted after Article 2E of the Protocol:

### **Article 2F: Hydrochlorofluorocarbons**

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1. Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, the sum of:
  - (a) Three point one per cent of its calculated level of consumption in 1989 of the controlled substances in Group I of Annex A; and
  - (b) Its calculated level of consumption in 1989 of the controlled substances in Group I of Annex C.
2. Each Party shall ensure that for the twelve-month period commencing on 1 January 2004, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, sixty-five per cent of the sum referred to in paragraph 1 of this Article.
3. Each Party shall ensure that for the twelve-month period commencing on 1 January 2010, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, thirty-five per cent of the sum referred to in paragraph 1 of this Article.
4. Each Party shall ensure that for the twelve-month period commencing on 1 January 2015, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does

not exceed, annually, ten per cent of the sum referred to in paragraph 1 of this Article.

5. Each Party shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed, annually, zero point five per cent of the sum referred to in paragraph 1 of this Article.
6. Each Party shall ensure that for the twelve-month period commencing on 1 January 2030, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group I of Annex C does not exceed zero.
7. As of 1 January 1996, each Party shall endeavour to ensure that:
  - (a) The use of controlled substances in Group I of Annex C is limited to those applications where other more environmentally suitable alternative substances or technologies are not available;
  - (b) The use of controlled substances in Group I of Annex C is not outside the areas of application currently met by controlled substances in Annexes A, B and C, except in rare cases for the protection of human life or human health; and
  - (c) Controlled substances in Group I of Annex C are selected for use in a manner that minimizes ozone depletion, in addition to meeting other environmental, safety and economic considerations.

## **H. Article 2G: Hydrobromofluorocarbons**

The following Article shall be inserted after Article 2F of the Protocol:

### **Article 2G: Hydrobromofluorocarbons**

Each Party shall ensure that for the twelve-month period commencing on 1 January 1996, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Group II of Annex C does not exceed zero. Each Party producing the substances shall, for the same periods, ensure that its calculated level of production of the substances does not exceed zero. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **I. Article 2H: Methyl Bromide**

The following Article shall be inserted after Article 2G of the Protocol:

### **Article 2H: Methyl Bromide**

Each Party shall ensure that for the twelve-month period commencing on 1 January 1995, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substance in Annex E does not exceed, annually, its calculated level of consumption in 1991. Each Party producing the substance shall, for the same periods, ensure that its calculated level of production of the substance does not exceed, annually, its calculated level of production in 1991. However, in order

to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to ten per cent of its calculated level of production in 1991. The calculated levels of consumption and production under this Article shall not include the amounts used by the Party for quarantine and pre-shipment applications.

## **J. Article 3**

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In Article 3 of the Protocol, for the words:

2A to 2E

there shall be substituted:

2A to 2H

and for the words

or Annex B

there shall be substituted each time they occur:

, Annex B, Annex C or Annex E

## **K. Article 4, paragraph 1 ter**

---

The following paragraph shall be inserted after paragraph 1 *bis* of Article 4 of the Protocol:

*1 ter.* Within one year of the date of entry into force of this paragraph, each Party shall ban the import of any controlled substances in Group II of Annex C from any State not party to this Protocol.

## **L. Article 4, paragraph 2 ter**

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The following paragraph shall be inserted after paragraph 2 *bis* of Article 4 of the Protocol:

*2 ter.* Commencing one year after the date of entry into force of this paragraph, each Party shall ban the export of any controlled substances in Group II of Annex C to any State not party to this Protocol.

## **M. Article 4, paragraph 3 ter**

---

The following paragraph shall be inserted after paragraph 3 *bis* of Article 4 of the Protocol:

*3 ter.* Within three years of the date of entry into force of this paragraph, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of products containing controlled substances in Group II of Annex C. Parties that have not objected to the annex in accordance with those procedures shall ban, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.

## **N. Article 4, paragraph 4 ter**

---

The following paragraph shall be inserted after paragraph 4 *bis* of Article 4 of the Protocol:

4 *ter*. Within five years of the date of entry into force of this paragraph, the Parties shall determine the feasibility of banning or restricting, from States not party to this Protocol, the import of products produced with, but not containing, controlled substances in Group II of Annex C. If determined feasible, the Parties shall, following the procedures in Article 10 of the Convention, elaborate in an annex a list of such products. Parties that have not objected to the annex in accordance with those procedures shall ban or restrict, within one year of the annex having become effective, the import of those products from any State not party to this Protocol.

## **O. Article 4, paragraphs 5, 6 and 7**

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In paragraphs 5, 6 and 7 of Article 4 of the Protocol, for the words:

controlled substances

there shall be substituted:

controlled substances in Annexes A and B and Group II of Annex C

## **P. Article 4, paragraph 8**

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In paragraph 8 of Article 4 of the Protocol, for the words:

referred to in paragraphs 1, 1 *bis*, 3, 3 *bis*, 4 and 4 *bis* and exports referred to in paragraphs 2 and 2 *bis*

there shall be substituted:

and exports referred to in paragraphs 1 to 4 *ter* of this Article

and after the words:

Articles 2A to 2E

there shall be added:

, Article 2G

## **Q. Article 4, paragraph 10**

---

The following paragraph shall be inserted after paragraph 9 of Article 4 of the Protocol:

10. By 1 January 1996, the Parties shall consider whether to amend this Protocol in order to extend the measures in this Article to trade in controlled substances in Group I of Annex C and in Annex E with States not party to the Protocol.

## **R. Article 5, paragraph 1**

---

The following words shall be added at the end of paragraph 1 of Article 5 of the Protocol:

, provided that any further amendments to the adjustments or Amendments adopted at the Second Meeting of the Parties in London, 29 June 1990, shall apply to the Parties operating under this paragraph after the review provided for in paragraph 8 of this Article has taken place and shall be based on the conclusions of that review.

## **S. Article 5, paragraph 1 bis**

---

The following paragraph shall be added after paragraph 1 of Article 5 of the Protocol:

*1 bis.* The Parties shall, taking into account the review referred to in paragraph 8 of this Article, the assessments made pursuant to Article 6 and any other relevant information, decide by 1 January 1996, through the procedure set forth in paragraph 9 of Article 2:

- (a) With respect to paragraphs 1 to 6 of Article 2F, what base year, initial levels, control schedules and phase-out date for consumption of the controlled substances in Group I of Annex C will apply to Parties operating under paragraph 1 of this Article;
- (b) With respect to Article 2G, what phase-out date for production and consumption of the controlled substances in Group II of Annex C will apply to Parties operating under paragraph 1 of this Article; and
- (c) With respect to Article 2H, what base year, initial levels and control schedules for consumption and production of the controlled substance in Annex E will apply to Parties operating under paragraph 1 of this Article.

## **T. Article 5, paragraph 4**

---

In paragraph 4 of Article 5 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted:

Articles 2A to 2H

## **U. Article 5, paragraph 5**

---

In paragraph 5 of Article 5 of the Protocol, after the words:

set out in Articles 2A to 2E

there shall be added:

, and any control measures in Articles 2F to 2H that are decided pursuant to paragraph 1 *bis* of this Article,

## **V. Article 5, paragraph 6**

---

In paragraph 6 of Article 5 of the Protocol, after the words:

obligations laid down in Articles 2A to 2E

there shall be added:

, or any or all obligations in Articles 2F to 2H that are decided pursuant to paragraph 1 *bis* of this Article,

## **W. Article 6**

---

The following words shall be deleted from Article 6 of the Protocol:

Articles 2A to 2E, and the situation regarding production, imports and exports of the transitional substances in Group I of Annex C

and replaced by

Articles 2A to 2H

## **X. Article 7, paragraphs 2 and 3**

---

Paragraphs 2 and 3 of Article 7 of the Protocol shall be replaced by the following:

2. Each Party shall provide to the Secretariat statistical data on its production, imports and exports of each of the controlled substances
  - in Annexes B and C, for the year 1989;
  - in Annex E, for the year 1991,

or the best possible estimates of such data where actual data are not available, not later than three months after the date when the provisions set out in the Protocol with regard to the substances in Annexes B, C and E respectively enter into force for that Party.

3. Each Party shall provide to the Secretariat statistical data on its annual production (as defined in paragraph 5 of Article 1) of each of the controlled substances listed in Annexes A, B, C and E and, separately, for each substance,
  - Amounts used for feedstocks,
  - Amounts destroyed by technologies approved by the Parties, and
  - Imports from and exports to Parties and non-Parties respectively, for the year during which provisions concerning the substances in Annexes A, B, C and E respectively entered into force for that Party and for each year thereafter. Data shall be forwarded not later than nine months after the end of the year to which the data relate.

## **Y. Article 7, paragraph 3 bis**

---

The following paragraph shall be inserted after paragraph 3 of Article 7 of the Protocol:

3 bis. Each Party shall provide to the Secretariat separate statistical data of its annual imports and exports of each of the controlled substances listed in Group II of Annex A and Group I of Annex C that have been recycled.

## **Z. Article 7, paragraph 4**

---

In paragraph 4 of Article 7 of the Protocol, for the words:

in paragraphs 1, 2 and 3

there shall be substituted:

in paragraphs 1, 2, 3 and 3 bis



## AA. Article 9, paragraph 1 (a)

The following words shall be deleted from paragraph 1 (a) of Article 9 of the Protocol:  
and transitional

## BB. Article 10, paragraph 1

In paragraph 1 of Article 10 of the Protocol, after the words:

Articles 2A to 2E

there shall be added:

, and any control measures in Articles 2F to 2H that are decided pursuant to paragraph 1 *bis* of Article 5.

## CC. Article 11, paragraph 4 (g)

The following words shall be deleted from paragraph 4 (g) of Article 11 of the Protocol:  
and the situation regarding transitional substances

## DD. Article 17

In Article 17 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted:

Articles 2A to 2H

## EE. Annexes

### 1. Annex C

The following annex shall replace Annex C of the Protocol:

#### Annex C: Controlled substances

Group	Substance	Number of isomers	Ozone-Depleting Potential*
<b>Group I</b>			
CHFCl <sub>2</sub>	(HCFC-21)**	1	0.04
CHF <sub>2</sub> Cl	(HCFC-22)**	1	0.055
CH <sub>2</sub> FCl	(HCFC-31)	1	0.02
C <sub>2</sub> HFCl <sub>4</sub>	(HCFC-121)	2	0.01–0.04
C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	(HCFC-122)	3	0.02–0.08
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	(HCFC-123)	3	0.02–0.06
CHCl <sub>2</sub> CF <sub>3</sub>	(HCFC-123)**	–	0.02
C <sub>2</sub> HF <sub>4</sub> Cl	(HCFC-124)	2	0.02–0.04
CHFCICF <sub>3</sub>	(HCFC-124)**	–	0.022

Group	Substance	Number of isomers	Ozone-Depleting Potential*
$C_2H_2FCl_3$	(HCFC-131)	3	0.007–0.05
$C_2H_2F_2Cl_2$	(HCFC-132)	4	0.008–0.05
$C_2H_2F_3Cl$	(HCFC-133)	3	0.02–0.06
$C_2H_3FCl_2$	(HCFC-141)	3	0.005–0.07
$CH_3CFCl_2$	(HCFC-141b)**	–	0.11
$C_2H_3F_2Cl$	(HCFC-142)	3	0.008–0.07
$CH_3CF_2Cl$	(HCFC-142b)**	–	0.065
$C_2H_4FCl$	(HCFC-151)	2	0.003–0.005
$C_3HFCl_6$	(HCFC-221)	5	0.015–0.07
$C_3HF_2Cl_5$	(HCFC-222)	9	0.01–0.09
$C_3HF_3Cl_4$	(HCFC-223)	12	0.01–0.08
$C_3HF_4Cl_3$	(HCFC-224)	12	0.01–0.09
$C_3HF_5Cl_2$	(HCFC-225)	9	0.02–0.07
$CF_3CF_2CHCl_2$	(HCFC-225ca)**	–	0.025
$CF_2ClCF_2CHClF$	(HCFC-225cb)**	–	0.033
$C_3HF_6Cl$	(HCFC-226)	5	0.02–0.10
$C_3H_2FCl_5$	(HCFC-231)	9	0.05–0.09
$C_3H_2F_2Cl_4$	(HCFC-232)	16	0.008–0.10
$C_3H_2F_3Cl_3$	(HCFC-233)	18	0.007–0.23
$C_3H_2F_4Cl_2$	(HCFC-234)	16	0.01–0.28
$C_3H_2F_5Cl$	(HCFC-235)	9	0.03–0.52
$C_3H_3FCl_4$	(HCFC-241)	12	0.004–0.09
$C_3H_3F_2Cl_3$	(HCFC-242)	18	0.005–0.13
$C_3H_3F_3Cl_2$	(HCFC-243)	18	0.007–0.12
$C_3H_3F_4Cl$	(HCFC-244)	12	0.009–0.14
$C_3H_4FCl_3$	(HCFC-251)	12	0.001–0.01
$C_3H_4F_2Cl_2$	(HCFC-252)	16	0.005–0.04
$C_3H_4F_3Cl$	(HCFC-253)	12	0.003–0.03
$C_3H_5FCl_2$	(HCFC-261)	9	0.002–0.02
$C_3H_5F_2Cl$	(HCFC-262)	9	0.002–0.02
$C_3H_6FCl$	(HCFC-271)	5	0.001–0.03
<b>Group II</b>			
$CHFBr_2$		1	1.00
$CHF_2Br$	(HBFC-22B1)	1	0.74
$CH_2FBr$		1	0.73
$C_2HFBr_4$		2	0.3–0.8
$C_2HF_2Br_3$		3	0.5–1.8



Group	Substance	Number of isomers	Ozone-Depleting Potential*
$\text{C}_2\text{HF}_3\text{Br}_2$		3	0.4–1.6
$\text{C}_2\text{HF}_4\text{Br}$		2	0.7–1.2
$\text{C}_2\text{H}_2\text{FBr}_3$		3	0.1–1.1
$\text{C}_2\text{H}_2\text{F}_2\text{Br}_2$		4	0.2–1.5
$\text{C}_2\text{H}_2\text{F}_3\text{Br}$		3	0.7–1.6
$\text{C}_2\text{H}_3\text{FBr}_2$		3	0.1–1.7
$\text{C}_2\text{H}_3\text{F}_2\text{Br}$		3	0.2–1.1
$\text{C}_2\text{H}_4\text{FBr}$		2	0.07–0.1
$\text{C}_3\text{HFBr}_6$		5	0.3–1.5
$\text{C}_3\text{HF}_2\text{Br}_5$		9	0.2–1.9
$\text{C}_3\text{HF}_3\text{Br}_4$		12	0.3–1.8
$\text{C}_3\text{HF}_4\text{Br}_3$		12	0.5–2.2
$\text{C}_3\text{HF}_5\text{Br}_2$		9	0.9–2.0
$\text{C}_3\text{HF}_6\text{Br}$		5	0.7–3.3
$\text{C}_3\text{H}_2\text{FBr}_5$		9	0.1–1.9
$\text{C}_3\text{H}_2\text{F}_2\text{Br}_4$		16	0.2–2.1
$\text{C}_3\text{H}_2\text{F}_3\text{Br}_3$		18	0.2–5.6
$\text{C}_3\text{H}_2\text{F}_4\text{Br}_2$		16	0.3–7.5
$\text{C}_3\text{H}_2\text{F}_5\text{Br}$		8	0.9–1.4
$\text{C}_3\text{H}_3\text{FBr}_4$		12	0.08–1.9
$\text{C}_3\text{H}_3\text{F}_2\text{Br}_3$		18	0.1–3.1
$\text{C}_3\text{H}_3\text{F}_3\text{Br}_2$		18	0.1–2.5
$\text{C}_3\text{H}_3\text{F}_4\text{Br}$		12	0.3–4.4
$\text{C}_3\text{H}_4\text{FBr}_3$		12	0.03–0.3
$\text{C}_3\text{H}_4\text{F}_2\text{Br}_2$		16	0.1–1.0
$\text{C}_3\text{H}_4\text{F}_3\text{Br}$		12	0.07–0.8
$\text{C}_3\text{H}_5\text{FBr}_2$		9	0.04–0.4
$\text{C}_3\text{H}_5\text{F}_2\text{Br}$		9	0.07–0.8
$\text{C}_3\text{H}_6\text{FBr}$		5	0.02–0.7

\* Where a range of ODPs is indicated, the highest value in that range shall be used for the purposes of the Protocol. The ODPs listed as a single value have been determined from calculations based on laboratory measurements. Those listed as a range are based on estimates and are less certain. The range pertains to an isomeric group. The upper value is the estimate of the ODP of the isomer with the highest ODP, and the lower value is the estimate of the ODP of the isomer with the lowest ODP.

\*\* Identifies the most commercially viable substances with ODP values listed against them to be used for the purposes of the Protocol.

## 2. Annex E

The following annex shall be added to the Protocol:

### Annex E: Controlled substances

Group	Substance	Ozone-Depleting Potential
<b>Group I</b>		
CH <sub>3</sub> Br	methyl bromide	0.7

## Article 2: Relationship to the 1990 Amendment

No State or regional economic integration organization may deposit an instrument of ratification, acceptance, approval or accession to this Amendment unless it has previously, or simultaneously, deposited such an instrument to the Amendment adopted at the Second Meeting of the Parties in London, 29 June 1990.

## Article 3: Entry into force

1. This Amendment shall enter into force on 1 January 1994, provided that at least twenty instruments of ratification, acceptance or approval of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.
2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
3. After the entry into force of this Amendment, as provided under paragraph 1, it shall enter into force for any other Party to the Protocol on the ninetieth day following the date of deposit of its instrument of ratification, acceptance or approval.



## Section 5.6

# The Montreal Amendment (1997)

### The amendment to the Montreal Protocol agreed by the Ninth Meeting of the Parties (Montreal, 15–17 September 1997)

[Source: Annex IV of the report of the Ninth Meeting of the Parties  
The amendment entered into force on 10 November 1999.]

#### Article 1: Amendment

##### **A. Article 4, paragraph 1 *qua*.**

The following paragraph shall be inserted after paragraph 1 *ter* of Article 4 of the Protocol:

1 *qua*. Within one year of the date of entry into force of this paragraph, each Party shall ban the import of the controlled substance in Annex E from any State not party to this Protocol.

##### **B. Article 4, paragraph 2 *qua*.**

The following paragraph shall be inserted after paragraph 2 *ter* of Article 4 of the Protocol:

2 *qua*. Commencing one year after the date of entry into force of this paragraph, each Party shall ban the export of the controlled substance in Annex E to any State not party to this Protocol.

##### **C. Article 4, paragraphs 5, 6 and 7**

In paragraphs 5, 6 and 7 of Article 4 of the Protocol, for the words:

and Group II of Annex C

there shall be substituted:

, Group II of Annex C and Annex E

##### **D. Article 4, paragraph 8**

In paragraph 8 of Article 4 of the Protocol, for the words:

Article 2G

there shall be substituted:

Articles 2G and 2H

##### **E. Article 4A: Control of trade with Parties**

The following Article shall be added to the Protocol as Article 4A:

1. Where, after the phase-out date applicable to it for a controlled substance, a Party is unable, despite having taken all practicable steps to comply with its obligation under the Protocol, to cease production of that substance for domestic consumption, other than for uses agreed by the Parties to be essential, it shall ban the export of used, recycled and reclaimed quantities of that substance, other than for the purpose of destruction.
2. Paragraph 1 of this Article shall apply without prejudice to the operation of Article 11 of the Convention and the non-compliance procedure developed under Article 8 of the Protocol.

## **F. Article 4B: Licensing**

---

The following Article shall be added to the Protocol as Article 4B:

1. Each Party shall, by 1 January 2000 or within three months of the date of entry into force of this Article for it, whichever is the later, establish and implement a system for licensing the import and export of new, used, recycled and reclaimed controlled substances in Annexes A, B, C and E.
2. Notwithstanding paragraph 1 of this Article, any Party operating under paragraph 1 of Article 5 which decides it is not in a position to establish and implement a system for licensing the import and export of controlled substances in Annexes C and E, may delay taking those actions until 1 January 2005 and 1 January 2002, respectively.
3. Each Party shall, within three months of the date of introducing its licensing system, report to the Secretariat on the establishment and operation of that system.
4. The Secretariat shall periodically prepare and circulate to all Parties a list of the Parties that have reported to it on their licensing systems and shall forward this information to the Implementation Committee for consideration and appropriate recommendations to the Parties.

## **Article 2: Relationship to the 1992 Amendment**

---

No State or regional economic integration organization may deposit an instrument of ratification, acceptance, approval or accession to this Amendment unless it has previously, or simultaneously, deposited such an instrument to the Amendment adopted at the Fourth Meeting of the Parties in Copenhagen, 25 November 1992.

## **Article 3: Entry into force**

---

1. This Amendment shall enter into force on 1 January 1999, provided that at least twenty instruments of ratification, acceptance, approval or accession of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.

2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
3. After the entry into force of this Amendment, as provided under paragraph 1, it shall enter into force for any other Party to the Protocol on the ninetieth day following the date of deposit of its instrument of ratification, acceptance, approval or accession.

## Section 5.7

# The Beijing Amendment (1999)

### The amendment to the Montreal Protocol agreed by the Eleventh Meeting of the Parties (Beijing, 29 November – 3 December 1999)

[Source: Annex V of the report of the Eleventh Meeting of the Parties.  
The amendment entered into force on 25 February 2002.]

#### Article 1: Amendment

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##### A. Article 2, paragraph 5

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In paragraph 5 of Article 2 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted:

Articles 2A to 2F

##### B. Article 2, paragraphs 8 (a) and 11

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In paragraphs 8(a) and 11 of Article 2 of the Protocol, for the words:

Articles 2A to 2H

there shall be substituted:

Articles 2A to 2I

##### C. Article 2F, paragraph 8

---

The following paragraph shall be added after paragraph 7 of Article 2F of the Protocol:

Each Party producing one or more of these substances shall ensure that for the twelve-month period commencing on 1 January 2004, and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Group I of Annex C does not exceed, annually, the average of:

- (a) The sum of its calculated level of consumption in 1989 of the controlled substances in Group I of Annex C and two point eight per cent of its calculated level of consumption in 1989 of the controlled substances in Group I of Annex A; and
- (b) The sum of its calculated level of production in 1989 of the controlled substances in Group I of Annex C and two point eight per cent of its calculated level of production in 1989 of the controlled substances in Group I of Annex A.



However, in order to satisfy the basic domestic needs of the Parties operating under paragraph 1 of Article 5, its calculated level of production may exceed that limit by up to fifteen per cent of its calculated level of production of the controlled substances in Group I of Annex C as defined above.

## **D. Article 2I**

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The following Article shall be inserted after Article 2H of the Protocol:

### **Article 2I: Bromochloromethane**

---

Each Party shall ensure that for the twelve-month period commencing on 1 January 2002, and in each twelve-month period thereafter, its calculated level of consumption and production of the controlled substance in Group III of Annex C does not exceed zero. This paragraph will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by them to be essential.

## **E. Article 3**

---

In Article 3 of the Protocol, for the words:

Articles 2, 2A to 2H

there shall be substituted:

Articles 2, 2A to 2I

## **F. Article 4, paragraphs 1 *quin.* and 1 *sex.***

---

The following paragraphs shall be added to Article 4 of the Protocol after paragraph 1 *qua*:

1*quin.* As of 1 January 2004, each Party shall ban the import of the controlled substances in Group I of Annex C from any State not party to this Protocol.

1*sex.* Within one year of the date of entry into force of this paragraph, each Party shall ban the import of the controlled substance in Group III of Annex C from any State not party to this Protocol.

## **G. Article 4, paragraphs 2 *quin.* and 2 *sex.***

---

The following paragraphs shall be added to Article 4 of the Protocol after paragraph 2 *qua*:

2*quin.* As of 1 January 2004, each Party shall ban the export of the controlled substances in Group I of Annex C to any State not party to this Protocol.

2*sex.* Within one year of the date of entry into force of this paragraph, each Party shall ban the export of the controlled substance in Group III of Annex C to any State not party to this Protocol.

## **H. Article 4, paragraphs 5 to 7**

---

In paragraphs 5 to 7 of Article 4 of the Protocol, for the words:

Annexes A and B, Group II of Annex C and Annex E

there shall be substituted:

Annexes A, B, C and E

## **I. Article 4, paragraph 8**

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In paragraph 8 of Article 4 of the Protocol, for the words:

Articles 2A to 2E, Articles 2G and 2H

there shall be substituted:

Articles 2A to 2I

## **J. Article 5, paragraph 4**

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In paragraph 4 of Article 5 of the Protocol, for the words:

Articles 2A to 2H

there shall be substituted:

Articles 2A to 2I

## **K. Article 5, paragraphs 5 and 6**

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In paragraphs 5 and 6 of Article 5 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted:

Articles 2A to 2E and Article 2I

## **L. Article 5, paragraph 8 ter (a)**

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The following sentence shall be added at the end of subparagraph 8 ter (a) of Article 5 of the Protocol:

As of 1 January 2016 each Party operating under paragraph 1 of this Article shall comply with the control measures set out in paragraph 8 of Article 2F and, as the basis for its compliance with these control measures, it shall use the average of its calculated levels of production and consumption in 2015;

## **M. Article 6**

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In Article 6 of the Protocol, for the words:

Articles 2A to 2H

there shall be substituted:

Articles 2A to 2I

## **N. Article 7, paragraph 2**

In paragraph 2 of Article 7 of the Protocol, for the words:

Annexes B and C

there shall be substituted:

Annex B and Groups I and II of Annex C

## **O. Article 7, paragraph 3**

The following sentence shall be added after the first sentence of paragraph 3 of Article 7 of the Protocol:

Each Party shall provide to the Secretariat statistical data on the annual amount of the controlled substance listed in Annex E used for quarantine and pre-shipment applications.

## **P. Article 10**

In paragraph 1 of Article 10 of the Protocol, for the words:

Articles 2A to 2E

there shall be substituted:

Articles 2A to 2E and Article 2I

## **Q. Article 17**

In Article 17 of the Protocol, for the words:

Articles 2A to 2H

there shall be substituted:

Articles 2A to 2I

## **R. Annex C**

The following group shall be added to Annex C to the Protocol:

Group	Substance	Number of isomers	Ozone-Depleting Potential
<b>Group III</b>			
CH <sub>2</sub> BrCl	bromochloromethane	1	0.12

## **Article 2: Relationship to the 1997 Amendment**

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No State or regional economic integration organization may deposit an instrument of ratification, acceptance or approval of or accession to this Amendment unless it has previously, or simultaneously, deposited such an instrument to the Amendment adopted at the Ninth Meeting of the Parties in Montreal, 17 September 1997.

## **Article 3: Entry into force**

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1. This Amendment shall enter into force on 1 January 2001, provided that at least twenty instruments of ratification, acceptance or approval of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.
2. For the purposes of paragraph 1, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
3. After the entry into force of this Amendment, as provided under paragraph 1, it shall enter into force for any other Party to the Protocol on the ninetieth day following the date of deposit of its instrument of ratification, acceptance or approval.



## Section 5.8

# The Kigali Amendment (2016)

The amendment to the Montreal Protocol  
agreed by the **Twenty-Eighth Meeting of the Parties**  
**(Kigali, 10–15 October 2016)**

[Source: Annex I of the report of the Twenty-Eighth Meeting of the Parties.  
The amendment will enter into force on 1 January 2019.]

## **Article I: Amendment**

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### **Article 1, paragraph 4**

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In paragraph 4 of Article 1 of the Protocol, for the words:

“Annex C or Annex E”

there shall be substituted:

“Annex C, Annex E or Annex F”

### **Article 2, paragraph 5**

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In paragraph 5 of Article 2 of the Protocol, for the words:

“and Article 2H”

there shall be substituted:

“Articles 2H and 2J”

### **Article 2, paragraphs 8 (a), 9 (a) and 11**

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In paragraphs 8 (a) and 11 of Article 2 of the Protocol, for the words:

“Articles 2A to 2I”

there shall be substituted:

“Articles 2A to 2J”

The following words shall be added at the end of subparagraph (a) of paragraph 8 of Article 2 of the Protocol:

“Any such agreement may be extended to include obligations respecting consumption or production under Article 2J provided that the total combined calculated level of consumption or production of the Parties concerned does not exceed the levels required by Article 2J.”

In subparagraph (a) (i) of paragraph 9 of Article 2 of the Protocol, after the second use of the words:

“should be;”

there shall be deleted:

“and”

Subparagraph (a) (ii) of paragraph 9 of Article 2 of the Protocol shall be renumbered as subparagraph (a) (iii).

The following shall be added as subparagraph (a) (ii) after subparagraph (a) (i) of paragraph 9 of Article 2 of the Protocol:

“Adjustments to the global warming potentials specified in Group I of Annex A, Annex C and Annex F should be made and, if so, what the adjustments should be; and”

## **Article 2J**

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The following Article shall be inserted after Article 2I of the Protocol:

### **“Article 2J: Hydrofluorocarbons**

1. Each Party shall ensure that for the twelve-month period commencing on 1 January 2019, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Annex F, expressed in CO<sub>2</sub> equivalents, does not exceed the percentage, set out for the respective range of years specified in subparagraphs (a) to (e) below, of the annual average of its calculated levels of consumption of Annex F controlled substances for the years 2011, 2012 and 2013, plus fifteen per cent of its calculated level of consumption of Annex C, Group I, controlled substances as set out in paragraph 1 of Article 2F, expressed in CO<sub>2</sub> equivalents:
  - (a) 2019 to 2023: 90 per cent
  - (b) 2024 to 2028: 60 per cent
  - (c) 2029 to 2033: 30 per cent
  - (d) 2034 to 2035: 20 per cent
  - (e) 2036 and thereafter: 15 per cent
2. Notwithstanding paragraph 1 of this Article, the Parties may decide that a Party shall ensure that, for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its calculated level of consumption of the controlled substances in Annex F, expressed in CO<sub>2</sub> equivalents, does not exceed the percentage, set out for the respective range of years specified in subparagraphs (a) to (e) below, of the annual average of its calculated levels of consumption of Annex F controlled substances for the years 2011, 2012 and 2013, plus twenty-five per cent of its calculated level of consumption of Annex C, Group I, controlled substances as set out in paragraph 1 of Article 2F, expressed in CO<sub>2</sub> equivalents:
  - (a) 2020 to 2024: 95 per cent

- (b) 2025 to 2028: 65 per cent
- (c) 2029 to 2033: 30 per cent
- (d) 2034 to 2035: 20 per cent
- (e) 2036 and thereafter: 15 per cent

3. Each Party producing the controlled substances in Annex F shall ensure that for the twelve-month period commencing on 1 January 2019, and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Annex F, expressed in CO<sub>2</sub> equivalents, does not exceed the percentage, set out for the respective range of years specified in subparagraphs (a) to (e) below, of the annual average of its calculated levels of production of Annex F controlled substances for the years 2011, 2012 and 2013, plus fifteen per cent of its calculated level of production of Annex C, Group I, controlled substances as set out in paragraph 2 of Article 2F, expressed in CO<sub>2</sub> equivalents:

- (a) 2019 to 2023: 90 per cent
- (b) 2024 to 2028: 60 per cent
- (c) 2029 to 2033: 30 per cent
- (d) 2034 to 2035: 20 per cent
- (e) 2036 and thereafter: 15 per cent

4. Notwithstanding paragraph 3 of this Article, the Parties may decide that a Party producing the controlled substances in Annex F shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its calculated level of production of the controlled substances in Annex F, expressed in CO<sub>2</sub> equivalents, does not exceed the percentage, set out for the respective range of years specified in subparagraphs (a) to (e) below, of the annual average of its calculated levels of production of Annex F controlled substances for the years 2011, 2012 and 2013, plus twenty-five per cent of its calculated level of production of Annex C, Group I, controlled substances as set out in paragraph 2 of Article 2F, expressed in CO<sub>2</sub> equivalents:

- (a) 2020 to 2024: 95 per cent
- (b) 2025 to 2028: 65 per cent
- (c) 2029 to 2033: 30 per cent
- (d) 2034 to 2035: 20 per cent
- (e) 2036 and thereafter: 15 per cent

5. Paragraphs 1 to 4 of this Article will apply save to the extent that the Parties decide to permit the level of production or consumption that is necessary to satisfy uses agreed by the Parties to be exempted uses.

6. Each Party manufacturing Annex C, Group I, or Annex F substances shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its emissions of Annex F, Group II, substances

generated in each production facility that manufactures Annex C, Group I, or Annex F substances are destroyed to the extent practicable using technology approved by the Parties in the same twelve-month period.

7. Each Party shall ensure that any destruction of Annex F, Group II, substances generated by facilities that produce Annex C, Group I, or Annex F substances shall occur only by technologies approved by the Parties.

## **Article 3**

---

The preamble to Article 3 of the Protocol should be replaced with the following:

1. For the purposes of Articles 2, 2A to 2J and 5, each Party shall, for each group of substances in Annex A, Annex B, Annex C, Annex E or Annex F, determine its calculated levels of:

For the final semi-colon of subparagraph (a) (i) of Article 3 of the Protocol there shall be substituted:

“, except as otherwise specified in paragraph 2;”

The following text shall be added to the end of Article 3 of the Protocol:

“; and

- (d) Emissions of Annex F, Group II, substances generated in each facility that generates Annex C, Group I, or Annex F substances by including, among other things, amounts emitted from equipment leaks, process vents and destruction devices, but excluding amounts captured for use, destruction or storage.
2. When calculating levels, expressed in CO<sub>2</sub> equivalents, of production, consumption, imports, exports and emissions of Annex F and Annex C, Group I, substances for the purposes of Article 2J, paragraph 5 of Article 2 and paragraph 1 (d) of Article 3, each Party shall use the global warming potentials of those substances specified in Group I of Annex A, Annex C and Annex F.”

## **Article 4, paragraph 1 sept**

---

The following paragraph shall be inserted after paragraph 1 sex of Article 4 of the Protocol:

“<sup>1</sup>sept. Upon entry into force of this paragraph, each Party shall ban the import of the controlled substances in Annex F from any State not Party to this Protocol.”

## **Article 4, paragraph 2 sept**

---

The following paragraph shall be inserted after paragraph 2 sex of Article 4 of the Protocol:

“<sup>2</sup>sept.Upon entry into force of this paragraph, each Party shall ban the export of the controlled substances in Annex F to any State not Party to this Protocol.”



## Article 4, paragraphs 5, 6 and 7

---

In paragraphs 5, 6 and 7 of Article 4 of the Protocol, for the words:

“Annexes A, B, C and E”

there shall be substituted:

“Annexes A, B, C, E and F”

## Article 4, paragraphs 8

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In paragraph 8 of Article 4 of the Protocol, for the words:

“Articles 2A to 2I”

there shall be substituted:

“Articles 2A to 2J”

## Article 4B

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The following paragraph shall be inserted after paragraph 2 of Article 4B of the Protocol:

“2 bis. Each Party shall, by 1 January 2019 or within three months of the date of entry into force of this paragraph for it, whichever is later, establish and implement a system for licensing the import and export of new, used, recycled and reclaimed controlled substances in Annex F. Any Party operating under paragraph 1 of Article 5 that decides it is not in a position to establish and implement such a system by 1 January 2019 may delay taking those actions until 1 January 2021.”

## Article 5

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In paragraph 4 of Article 5 of the Protocol, for the word:

“2I”

there shall be substituted:

“2J”

In paragraphs 5 and 6 of Article 5 of the Protocol, for the words:

“Article 2I”

there shall be substituted:

“Articles 2I and 2J”

In paragraph 5 of Article 5 of the Protocol, before the words:

“any control measures”

there shall be inserted:

“with”

The following paragraph shall be inserted after paragraph 8 *ter* of Article 5 of the Protocol:

“8 qua

(a) Each Party operating under paragraph 1 of this Article, subject to any adjustments made to the control measures in Article 2J in accordance with paragraph 9 of Article 2, shall be entitled to delay its compliance with the control measures set out in subparagraphs (a) to (e) of paragraph 1 of Article 2J and subparagraphs (a) to (e) of paragraph 3 of Article 2J and modify those measures as follows:

- (i) 2024 to 2028: 100 per cent
- (ii) 2029 to 2034: 90 per cent
- (iii) 2035 to 2039: 70 per cent
- (iv) 2040 to 2044: 50 per cent
- (v) 2045 and thereafter: 20 per cent

(b) Notwithstanding subparagraph (a) above, the Parties may decide that a Party operating under paragraph 1 of this Article, subject to any adjustments made to the control measures in Article 2J in accordance with paragraph 9 of Article 2, shall be entitled to delay its compliance with the control measures set out in subparagraphs (a) to (e) of paragraph 1 of Article 2J and subparagraphs (a) to (e) of paragraph 3 of Article 2J and modify those measures as follows:

- (i) 2028 to 2031: 100 per cent
- (ii) 2032 to 2036: 90 per cent
- (iii) 2037 to 2041: 80 per cent
- (iv) 2042 to 2046: 70 per cent
- (v) 2047 and thereafter: 15 per cent

(c) Each Party operating under paragraph 1 of this Article, for the purposes of calculating its consumption baseline under Article 2J, shall be entitled to use the average of its calculated levels of consumption of Annex F controlled substances for the years 2020, 2021 and 2022, plus sixty-five per cent of its baseline consumption of Annex C, Group I, controlled substances as set out in paragraph 8 *ter* of this Article.

(d) Notwithstanding subparagraph (c) above, the Parties may decide that a Party operating under paragraph 1 of this Article, for the purposes of calculating its consumption baseline under Article 2J, shall be entitled to use the average of its calculated levels of consumption of Annex F controlled substances for the years 2024, 2025 and 2026, plus sixty-five per cent of its baseline consumption of Annex C, Group I, controlled substances as set out in paragraph 8 *ter* of this Article.

(e) Each Party operating under paragraph 1 of this Article and producing the controlled substances in Annex F, for the purposes of calculating its production baseline under Article 2J, shall be entitled to use the average of its calculated levels of production of Annex F controlled substances for the years 2020, 2021 and 2022, plus sixty-five per cent of its baseline production of Annex C, Group I, controlled substances as set out in paragraph 8 *ter* of this Article.

(f) Notwithstanding subparagraph (e) above, the Parties may decide that a Party operating under paragraph 1 of this Article and producing the controlled substances in Annex F, for the purposes of calculating its production baseline under Article 2J, shall be entitled to use the average of its calculated levels of production of Annex F controlled substances for the years 2024, 2025 and 2026, plus sixty-five per cent of its baseline production of Annex C, Group I, controlled substances as set out in paragraph 8 *ter* of this Article.

(g) Subparagraphs (a) to (f) of this paragraph will apply to calculated levels of production and consumption save to the extent that a high-ambient-temperature exemption applies based on criteria decided by the Parties."

## Article 6

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In Article 6 of the Protocol, for the words:

"Articles 2A to 2I"

there shall be substituted:

"Articles 2A to 2J"

## Article 7, paragraphs 2, 3 and 3 ter

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The following line shall be inserted after the line that reads "– in Annex E, for the year 1991," in paragraph 2 of Article 7 of the Protocol:

"– in Annex F, for the years 2011 to 2013, except that Parties operating under paragraph 1 of Article 5 shall provide such data for the years 2020 to 2022, but those Parties operating under paragraph 1 of Article 5 to which subparagraphs (d) and (f) of paragraph 8 *qua* of Article 5 applies shall provide such data for the years 2024 to 2026;"

In paragraphs 2 and 3 of Article 7 of the Protocol, for the words:

"C and E"

there shall be substituted:

"C, E and F"

The following paragraph shall be added to Article 7 of the Protocol after paragraph 3 *bis*:

"3 *ter*. Each Party shall provide to the Secretariat statistical data on its annual emissions of Annex F, Group II, controlled substances per facility in accordance with paragraph 1 (d) of Article 3 of the Protocol."

## Article 7, paragraph 4

---

In paragraph 4 of Article 7, after the words:

"statistical data on" and "provides data on"

there shall be added:

"production,"

## Article 10, paragraph 1

---

In paragraph 1 of Article 10 of the Protocol, for the words:

"and Article 2I"

There shall be substituted:

"Article 2I and Article 2J"

The following shall be inserted at the end of paragraph 1 of Article 10 of the Protocol:

“Where a Party operating under paragraph 1 of Article 5 chooses to avail itself of funding from any other financial mechanism that could result in meeting any part of its agreed incremental costs, that part shall not be met by the financial mechanism under Article 10 of this Protocol.”

## Article 17

In Article 17 of the Protocol, for the words:

“Articles 2A to 2I”

there shall be substituted:

“Articles 2A to 2J”

### Annex A

The following table shall replace the table for Group I in Annex A to the Protocol:

Group	Substance	Ozone-Depleting Potential*	100-Year Global Warming Potential
<b>Group I</b>			
CFCl <sub>3</sub>	(CFC-11)	1.0	4 750
CF <sub>2</sub> Cl <sub>2</sub>	(CFC-12)	1.0	10 900
C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	(CFC-113)	0.8	6 130
C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	(CFC-114)	1.0	10 000
C <sub>2</sub> F <sub>5</sub> Cl	(CFC-115)	0.6	7 370

### Annex C and Annex F

The following table shall replace the table for Group I in Annex C to the Protocol:

Group	Substance	Number of isomers	Ozone-Depleting Potential*	100-Year Global Warming Potential***
<b>Group I</b>				
CHFCl <sub>2</sub>	(HCFC-21)**	1	0.04	151
CHF <sub>2</sub> Cl	(HCFC-22)**	1	0.055	1 810
CH <sub>2</sub> FCl	(HCFC-31)	1	0.02	
C <sub>2</sub> HFCl <sub>4</sub>	(HCFC-121)	2	0.01–0.04	
C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	(HCFC-122)	3	0.02–0.08	
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	(HCFC-123)	3	0.02–0.06	77
CHCl <sub>2</sub> CF <sub>3</sub>	(HCFC-123)**	–	0.02	
C <sub>2</sub> HF <sub>4</sub> Cl	(HCFC-124)	2	0.02–0.04	609
CHFCICF <sub>3</sub>	(HCFC-124)**	–	0.022	
C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub>	(HCFC-131)	3	0.007–0.05	
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub>	(HCFC-132)	4	0.008–0.05	



Group	Substance	Number of isomers	Ozone-Depleting Potential*	100-Year Global Warming Potential***
$\text{C}_2\text{H}_2\text{F}_3\text{Cl}$	(HCFC-133)	3	0.02–0.06	
$\text{C}_2\text{H}_3\text{FCl}_2$	(HCFC-141)	3	0.005–0.07	
$\text{CH}_3\text{CFCl}_2$	(HCFC-141b)**	–	0.11	725
$\text{C}_2\text{H}_3\text{F}_2\text{Cl}$	(HCFC-142)	3	0.008–0.07	
$\text{CH}_3\text{CF}_2\text{Cl}$	(HCFC-142b)**	–	0.065	2 310
$\text{C}_2\text{H}_4\text{FCl}$	(HCFC-151)	2	0.003–0.005	
$\text{C}_3\text{HFCl}_6$	(HCFC-221)	5	0.015–0.07	
$\text{C}_3\text{HF}_2\text{Cl}_5$	(HCFC-222)	9	0.01–0.09	
$\text{C}_3\text{HF}_3\text{Cl}_4$	(HCFC-223)	12	0.01–0.08	
$\text{C}_3\text{HF}_4\text{Cl}_3$	(HCFC-224)	12	0.01–0.09	
$\text{C}_3\text{HF}_5\text{Cl}_2$	(HCFC-225)	9	0.02–0.07	
$\text{CF}_3\text{CF}_2\text{CHCl}_2$	(HCFC-225ca)**	–	0.025	122
$\text{CF}_2\text{ClCF}_2\text{CHClF}$	(HCFC-225cb)**	–	0.033	595
$\text{C}_3\text{HF}_6\text{Cl}$	(HCFC-226)	5	0.02–0.10	
$\text{C}_3\text{H}_2\text{FCl}_5$	(HCFC-231)	9	0.05–0.09	
$\text{C}_3\text{H}_2\text{F}_2\text{Cl}_4$	(HCFC-232)	16	0.008–0.10	
$\text{C}_3\text{H}_2\text{F}_3\text{Cl}_3$	(HCFC-233)	18	0.007–0.23	
$\text{C}_3\text{H}_2\text{F}_4\text{Cl}_2$	(HCFC-234)	16	0.01–0.28	
$\text{C}_3\text{H}_2\text{F}_5\text{Cl}$	(HCFC-235)	9	0.03–0.52	
$\text{C}_3\text{H}_3\text{FCl}_4$	(HCFC-241)	12	0.004–0.09	
$\text{C}_3\text{H}_3\text{F}_2\text{Cl}_3$	(HCFC-242)	18	0.005–0.13	
$\text{C}_3\text{H}_3\text{F}_3\text{Cl}_2$	(HCFC-243)	18	0.007–0.12	
$\text{C}_3\text{H}_3\text{F}_4\text{Cl}$	(HCFC-244)	12	0.009–0.14	
$\text{C}_3\text{H}_4\text{FCl}_3$	(HCFC-251)	12	0.001–0.01	
$\text{C}_3\text{H}_4\text{F}_2\text{Cl}_2$	(HCFC-252)	16	0.005–0.04	
$\text{C}_3\text{H}_4\text{F}_3\text{Cl}$	(HCFC-253)	12	0.003–0.03	
$\text{C}_3\text{H}_5\text{FCl}_2$	(HCFC-261)	9	0.002–0.02	
$\text{C}_3\text{H}_5\text{F}_2\text{Cl}$	(HCFC-262)	9	0.002–0.02	
$\text{C}_3\text{H}_6\text{FCl}$	(HCFC-271)	5	0.001–0.03	

\* Where a range of ODPS is indicated, the highest value in that range shall be used for the purposes of the Protocol. The ODPS listed as a single value have been determined from calculations based on laboratory measurements. Those listed as a range are based on estimates and are less certain. The range pertains to an isomeric group. The upper value is the estimate of the ODP of the isomer with the highest ODP, and the lower value is the estimate of the ODP of the isomer with the lowest ODP.

\*\* Identifies the most commercially viable substances with ODP values listed against them to be used for the purposes of the Protocol.

\*\*\* For substances for which no GWP is indicated, the default value 0 applies until a GWP value is included by means of the procedure foreseen in paragraph 9 (a) (ii) of Article 2.

The following annex shall be added to the Protocol after Annex E:

### **“Annex F: Controlled substances**

Group	Substance	100-Year Global Warming Potential
<b>Group I</b>		
CHF <sub>2</sub> CHF <sub>2</sub>	HFC-134	1 100
CH <sub>2</sub> FCF <sub>3</sub>	HFC-134a	1 430
CH <sub>2</sub> FCHF <sub>2</sub>	HFC-143	353
CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	HFC-245fa	1 030
CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	HFC-365mfc	794
CF <sub>3</sub> CHFCF <sub>3</sub>	HFC-227ea	3 220
CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	HFC-236cb	1 340
CHF <sub>2</sub> CHFCF <sub>3</sub>	HFC-236ea	1 370
CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	HFC-236fa	9 810
CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	HFC-245ca	693
CF <sub>3</sub> CHFCHFCF <sub>2</sub> CF <sub>3</sub>	HFC-43-10mee	1 640
CH <sub>2</sub> F <sub>2</sub>	HFC-32	675
CHF <sub>2</sub> CF <sub>3</sub>	HFC-125	3 500
CH <sub>3</sub> CF <sub>3</sub>	HFC-143a	4 470
CH <sub>3</sub> F	HFC-41	92
CH <sub>2</sub> FCH <sub>2</sub> F	HFC-152	53
CH <sub>3</sub> CHF <sub>2</sub>	HFC-152a	124
<b>Group II</b>		
CHF <sub>3</sub>	HFC-23	14 800

### **Article II: Relationship to the 1999 Amendment**

No State or regional economic integration organization may deposit an instrument of ratification, acceptance or approval of or accession to this Amendment unless it has previously, or simultaneously, deposited such an instrument to the Amendment adopted at the Eleventh Meeting of the Parties in Beijing, 3 December 1999.

### **Article III: Relationship to the United Nations Framework Convention on Climate Change and its Kyoto Protocol**

This Amendment is not intended to have the effect of excepting hydrofluorocarbons from the scope of the commitments contained in Articles 4 and 12 of the United Nations Framework Convention on Climate Change or in Articles 2, 5, 7 and 10 of its Kyoto Protocol.

## Article IV: Entry into force

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1. Except as noted in paragraph 2, below, this Amendment shall enter into force on 1 January 2019, provided that at least twenty instruments of ratification, acceptance or approval of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.
2. The changes to Article 4 of the Protocol, Control of trade with non-Parties, set out in Article I of this Amendment shall enter into force on 1 January 2033, provided that at least seventy instruments of ratification, acceptance or approval of the Amendment have been deposited by States or regional economic integration organizations that are Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer. In the event that this condition has not been fulfilled by that date, the Amendment shall enter into force on the ninetieth day following the date on which it has been fulfilled.
3. For purposes of paragraphs 1 and 2, any such instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by member States of such organization.
4. After the entry into force of this Amendment, as provided under paragraphs 1 and 2, it shall enter into force for any other Party to the Protocol on the ninetieth day following the date of deposit of its instrument of ratification, acceptance or approval.

## Article V: Provisional application

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Any Party may, at any time before this Amendment enters into force for it, declare that it will apply provisionally any of the control measures set out in Article 2J, and the corresponding reporting obligations in Article 7, pending such entry into force.

## Acronyms

<b>A5 party</b>	Party operating under paragraph 1 of Article 5 of the Montreal Protocol
<b>BCM</b>	Bromochloromethane
<b>CAS number</b>	A unique numerical identifier assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature
<b>CTC</b>	Carbon tetrachloride
<b>CEIT</b>	Country with economy in transition
<b>CEN</b>	European Committee for Standardization
<b>CFC</b>	Chlorofluorocarbon
<b>COPD</b>	Chronic obstructive pulmonary disease
<b>DRE</b>	Destruction and removal efficiency
<b>EVA</b>	Ethylene vinyl acetate – usually chlorinated ethylene vinyl acetate copolymer (CEVA)
<b>ExCom</b>	Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>GEF</b>	Global Environment Facility
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>GWP</b>	Global warming potential
<b>HAT</b>	High ambient temperature
<b>HBFC</b>	Hydrobromofluorocarbon
<b>HCFC</b>	Hydrochlorofluorocarbon
<b>HF</b>	Hydrogen fluoride
<b>HFC</b>	Hydrofluorocarbon
<b>HTOC</b>	Halons Technical Options Committee (HTOC)
<b>ICAO</b>	International Civil Aviation Organization
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPPC</b>	International Plant Protection Convention
<b>IPR</b>	Intellectual property rights
<b>ISO</b>	International Organization for Standardization
<b>ISPM</b>	International Standards For Phytosanitary Measures
<b>ITEQ</b>	International toxic equivalency or equivalents
<b>LVCs</b>	Low-volume-consuming countries
<b>MBTOC</b>	Methyl Bromide Technical Options Committee

<b>MDI</b>	Metered-dose inhaler
<b>MLF</b>	Multilateral Fund for the Implementation of the Montreal Protocol
<b>MOP</b>	Meeting of the Parties
<b>MP</b>	Montreal Protocol
<b>NMR</b>	Nuclear magnetic resonance
<b>Non-A5 party</b>	Party not operating under paragraph 1 of Article 5 of the Montreal Protocol
<b>nPB</b>	n-propyl bromide
<b>NPMA</b>	National Pest Management Association
<b>ODP</b>	Ozone-depleting potential
<b>ODS</b>	Ozone-depleting substance
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PCDD</b>	Polychlorinated dibenzodioxin
<b>PCDF</b>	Polychlorinated dibenzofuran
<b>PFCs</b>	Perfluorocarbons
<b>QPS</b>	Quarantine and pre-shipment
<b>SAP</b>	Scientific Assessment Panel
<b>TEAP</b>	Technical and Economic Assessment Panel
<b>TOC</b>	Technical Options Committee
<b>TSB</b>	Temporary Subsidiary Body
<b>TSP</b>	Total suspended particles
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UV</b>	Ultraviolet
<b>WCO</b>	World Customs Organization