



**United Nations  
Environment  
Programme**

Distr.  
GENERAL

UNEP/OzL.Pro/ExCom/94/5

29 April 2024

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Ninety-fourth Meeting  
Montreal, 27-31 May 2024  
Item 5 of the provisional agenda<sup>1</sup>

**COUNTRY PROGRAMME DATA AND PROSPECTS FOR COMPLIANCE**

**Introduction**

1. A total of 147 countries are currently classified as Article 5 (A5) Parties, including the Republic of Korea, Singapore, and the United Arab Emirates. These three countries<sup>2</sup> have been urged not to request funding from the Multilateral Fund for the phase-out of their consumption and production (where applicable) of controlled substances and, therefore, are not required to submit the mandatory progress report on the implementation of their country programme (CP).<sup>3</sup> However, data on the consumption and production of controlled substances from these three countries is included in some parts of the document to ensure a global analysis of Ozone-Depleting Substances (ODS) production and consumption trends.

2. Parties are encouraged to submit annually their Article 7 (A7) data by 30 June, and no later than 30 September (decision XV/15). In addition, A5 Parties are required to submit CP data eight weeks prior to the first meeting of the year of the Executive Committee, if possible, and no later than 1 May (decision 74/9(b)(iv)). Table 1 summarizes data reports submitted by A5 Parties between 2013 and 2023. As of 29 April 2024, the countries that submitted requests for funding to the 94<sup>th</sup> meeting but not 2023 CP data are Afghanistan, Armenia, the Bahamas, Barbados, Bosnia and Herzegovina, Botswana, Brazil, Burundi, Chad, Chile, China, the Comoros, the Congo, the Democratic Republic of the Congo, Egypt, Eritrea, Eswatini, Gabon, the Gambia, Grenada, Guatemala, Honduras, India, Indonesia, the Islamic Republic of Iran, Kyrgyzstan, the Lao People's Democratic Republic, Lesotho, Libya, Madagascar, Mexico, Morocco, Nicaragua, the Niger, Nigeria, North Macedonia, Papua New Guinea, Qatar, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Africa, Sri Lanka, Syrian Arab Republic, Trinidad and Tobago, Tunisia, Türkiye, Uganda, Vanuatu and Zambia.

<sup>1</sup> UNEP/OzL.Pro/ExCom/94/1

<sup>2</sup> The aggregated HCFC baseline for compliance for the three countries amounts to 2,681.2 ODP tonnes. In addition, the Republic of Korea produces HCFC-22 with a baseline of 395.1 ODP tonnes.

<sup>3</sup> CP data reports represent the sole source of information on the sector distribution of controlled substances in A5 countries.

**Table 1. A7 and CP data reports submitted by A5 Parties**

Data	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A7 (as of 12 April 2024)	147	147	147	147	147	147	147	147	147	147	15
CP (as of 16 April 2024)	145	144*	144	144	144	144	144	144	144	142	21

\* Excluding Croatia, which became a non-Article 5 country in 2014.

3. The present document consists of the following sections:

- I. Status of and prospects for compliance of A5 countries: This section presents a summary of the status of licensing and quota systems, and the results of the analysis of the status of compliance with the final phase-out of CFCs, halons, carbon tetrachloride (CTC), methyl bromide (MB) and methyl chloroform (TCA), and the 2013 freeze, the 10 per cent reduction by 2015 and the 35 per cent reduction of HCFCs by 2020, in the consumption and production sectors. It assumes that the latest consumption reported under A7 or CP data reports has taken into account the phase-out from completed projects.<sup>4</sup> This section also provides data on HFCs under A7 or CP data reports.
- II. A5 countries subject to decisions on compliance by the Parties
- III. Analysis on the CP implementation reports for HCFCs<sup>5</sup> and HFCs:<sup>6</sup> Regarding HCFCs, this section presents an analysis on the data contained in CP data reports, including HCFC production versus consumption, sector distribution of HCFCs, and prices of controlled substances and alternative substances. Regarding HFCs, this section presents an analysis on consumption data contained in the 2022 CP data reports. As of 16 April 2024, only 21 CP data reports were submitted for 2023, and 16 of these reports contained HFC data; therefore, the analysis is made only up to 2022.<sup>7</sup>
- IV. Issues related to CP implementation reports
- V. Recommendation

## I. Status of and prospects for compliance of A5 countries

### I.1 Production and consumption

4. The complete phase-out of production and consumption of CFCs, halons, CTC for all A5 countries occurred on 1 January 2010, except for CFC consumption in metered-dose inhalers and CTC consumption in laboratory and analytical use. The complete phase-out of production and consumption of MB and TCA occurred on 1 January 2015, except for those countries where critical uses for MB were approved by the Parties. Therefore, Annex C Group I (HCFCs) substances and Annex F are the only substances under the Montreal Protocol where consumption and production are still allowed.

<sup>4</sup> As of December 2022, completed projects had phased out 291,207 ODP tonnes of consumption and 204,189 ODP tonnes of production. The completed projects were valued at US \$3.19 billion out of an approved total of approximately US \$3.67 billion.

<sup>5</sup> The Executive Committee requested the Secretariat to assess the HCFC compliance requirements for all A5 countries in the document Status reports and compliance, to serve as a guide for preparation of the business plan of the Multilateral Fund (decision 67/6(c)).

<sup>6</sup> At its 84<sup>th</sup> meeting, the Executive Committee *inter alia* approved the revised CP data report format to include Annex F substances noting that the revised format would be used starting in 2020 for 2019 CP data reporting (decision 84/7(c)). The revised format was subsequently updated at the 92<sup>nd</sup> meeting (decision 92/4(d)).

<sup>7</sup> The analysis in document UNEP/OzL.Pro/ExCom/93/8 was also based on data reported for 2022.

## A. Production sector

5. MB is produced in one A5 country (China).<sup>8</sup> An MB production closure phase-out plan was approved providing for the country to produce at levels lower than those allowed under the Montreal Protocol.<sup>9</sup> In 2022, 0.2 ODP tonnes of MB were produced for laboratory uses.

6. There are seven A5 countries that produced HCFCs. The levels of the three main HCFCs produced (i.e., HCFC-22, HCFC-141b, HCFC-142b) are shown in table 2. The aggregated latest production for controlled uses was 49.7 per cent below the aggregated production baseline.

**Table 2. Production for controlled uses of the three main HCFCs (A7, ODP tonnes)**

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022	Baseline
<b>HCFC-22</b>										
Argentina	125.7	134.5	95.8	100.3	65.6	88.3	66.3	56.6	72.1	224.6
China	16,497.0	13,391.0	14,086.3	13,445.7	13,636.4	13,598.2	11,042.2	10,011.8	11,155.9	29,122.0*
Democratic People's Republic of Korea (the)	28.9	27.4	24.8	24.8	24.8	27.0	27.0	24.8	24.8	27.6
India	1,465.7	1,727.6	1,665.5	1,789.5	1,936.4	1,937.0	1,354.8	1,156.2	942.0	2,399.5
Mexico	223.5	160.9	166.8	190.1	183.8	134.8	56.7	138.4	217.4	697.0
Republic of Korea	364.7	348.9	240.3	305.6	289.9	271.5	254.3	221.0	199.6	395.1
Venezuela (Bolivarian Republic of)	86.1	37.2	14.3	15.0	1.9	0.0	0.0	0.0	0.0	123.1
<b>Total HCFC-22</b>	<b>18,791.7</b>	<b>15,827.6</b>	<b>16,293.8</b>	<b>15,871.0</b>	<b>16,138.7</b>	<b>16,056.7</b>	<b>12,801.3</b>	<b>11,608.7</b>	<b>12,611.8</b>	<b>32,988.9</b>
<b>HCFC-141b</b>										
HCFC-141b	9,560.2	7,246.5	7,278.2	7,076.8	6,321.1	6,101.6	4,623.3	3,545.1	3,850.4	*
<b>HCFC-142b</b>										
HCFC-142b	1,076.8	1,224.3	1,110.5	1,115.5	756.3	816.0	418.3	472.3	126.7	*
<b>Total</b>	<b>29,428.7</b>	<b>24,298.4</b>	<b>24,682.6</b>	<b>24,063.3</b>	<b>23,216.1</b>	<b>22,974.3</b>	<b>17,842.9</b>	<b>15,626.2</b>	<b>16,588.9</b>	<b>32,988.9</b>

\* The HCFC production baseline is 29,122 ODP tonnes and includes all HCFCs produced by China, mainly HCFC-22, HCFC-141b and HCFC-142b, and to a lesser extent HCFC-123 and HCFC-124.

7. An HCFC production phase-out management plan (HPPMP) was approved for one country (China).<sup>10</sup>

8. One A5 country, the Democratic People's Republic of Korea, has reported 24.79 ODP tonnes of HCFC production for the year 2022, which is below the production target set in the plan of action in decision XXXII/6. In addition, the Thirty-Fifth Meeting of the Parties urged the country to provide an explanation for the deviations of the 2021 data as a matter of urgency, together with Article 7 data for 2022, no later than 15 March 2024, and, if appropriate, to submit a revised plan of action to ensure its return to compliance with the control measures of the Montreal Protocol for HCFCs in 2023, for consideration by the Implementation Committee at its 72<sup>nd</sup> meeting (decision XXXV/18).

## B. Consumption sector

### CFCs, halons, CTC, MB and TCA

9. All A5 countries have reported zero consumption of CFCs, halons and TCA in 2022 or 2023.

<sup>8</sup> The Democratic People's Republic of Korea reported production of MB only in 1991 and 1995.

<sup>9</sup> The Agreement between the Government of China and the Executive Committee allows for the production of MB for QPS applications, feedstock and critical uses approved by the Parties (decision 47/54). The implementation of the China MB production sector was completed by 31 December 2021.

<sup>10</sup> Stage II of the HPPMP for China was approved at the 86<sup>th</sup> meeting. The Agreement was approved at the 87<sup>th</sup> meeting.

10. Only two A5 countries have reported CTC consumption for laboratory and analytical-use (China (104.7 ODP tonnes in 2022) and Republic of Korea (0.1 ODP tonnes in 2022)). Although the consumption was above the 2010 Montreal Protocol compliance target, the Parties have extended the global laboratory and analytical-use exemption indefinitely beyond 2021, without prejudice to the Parties deciding to review the exemption at a future meeting (decision XXXI/5).

11. Only one A5 country<sup>11</sup> has reported MB consumption in 2022, as shown in table 3. The Parties approved consumption of MB for critical uses for this country.

**Table 3. MB consumption reported by A5 countries (ODP tonnes)**

Country	Source	Year of latest consumption	Baseline	Latest consumption
Argentina*	A7	2022	411.3	5.70

\* Allowable level of consumption of 5.76 ODP tonnes for 2022 per decision XXXIII/6.

12. Thirty-five A5 countries reported MB consumption and two A5 countries reported MB production for quarantine and pre-shipment (QPS) applications under A7 data, as shown in annex I to the present document. The consumption for these applications is not eligible for funding.

#### HCFCs

13. A total of 147 A5 countries have an established HCFC baseline for compliance, with an aggregated latest consumption level of 16,738 ODP tonnes (270,398 metric tonnes), as shown in table 4. The three main HCFCs are: HCFC-22 (75.8 per cent of the total consumption measured in ODP tonnes), HCFC-141b (23.1 per cent) and HCFC-142b (0.8 per cent).

**Table 4. Baseline and latest (2022 or 2023) HCFC consumption data by type of HCFC (A7 data)**

HCFC	Baseline		Consumption*		% of baseline
	Metric tonnes	ODP tonnes	Metric tonnes	ODP tonnes	
HCFC-123	2,337.0	46.7	1,990.5	39.8	85.2
HCFC-124	1,270.7	28.0	479.7	10.6	37.8
HCFC-141b	107,871.6	11,865.9	35,135.3	3,864.9	32.6
HCFC-142b	33,195.5	2,157.7	2,026.4	131.7	6.1
HCFC-22	394,504.8	21,697.8	230,810.3	12,694.6	58.5
HCFC-225	30.4	2.1	-44.3	-3.1	-145.8
HCFC-225ca	70.0	1.8	0.0	0.0	0.0
HCFC-225cb	20.9	0.7	0.0	0.0	0.0
<b>Total</b>	<b>539,300.9</b>	<b>35,800.6</b>	<b>270,398</b>	<b>16,738</b>	<b>46.8</b>

\* Including Republic of Korea (794.9 ODP tonnes), Singapore (60.4 ODP tonnes) and the United Arab Emirates (358.5 ODP tonnes).

14. One A5 country, the Democratic People's Republic of Korea, has reported HCFC consumption above the 2020 Montreal Protocol compliance target. The country has reported 2022 consumption of 57.84 ODP tonnes, which is below the consumption target set in the plan of action in decision XXXII/6. In addition, the Thirty-Fifth Meeting of the Parties urged the country to provide an explanation for the deviations of the 2021 data as a matter of urgency, together with Article 7 data for 2022, no later than 15 March 2024, and, if appropriate, to submit a revised plan of action to ensure its return to compliance with the control measures of the Montreal Protocol for HCFCs in 2023, for consideration by the Implementation Committee at its 72<sup>nd</sup> meeting (decision XXXV/18).

<sup>11</sup> A total of 100 A5 countries received financial assistance from the Multilateral Fund to phase out consumption and production (two countries) of MB.

*HCFC phase-out management plans*

15. All 145 countries have received financial assistance for the preparation of project proposals to phase out HCFCs. As a result, as of the 93<sup>rd</sup> meeting, the Executive Committee has approved stage I of the HPMPs for 145 countries,<sup>12</sup> stage II for 111 countries and stage III for 15 countries, at a total value of US \$1.23 billion (approved in principle) of which US \$1.06 billion has been disbursed to address compliance with the Montreal Protocol control levels as follows:

- (a) Nineteen countries (13 low-volume-consuming (LVC) and six non-LVC countries), to address compliance up to 2020;
- (b) Thirty countries to address compliance up to 2025 or 2027; and
- (c) Ninety-three countries<sup>13</sup> to completely phase out HCFCs between 2020 and 2031.

16. Annex II to the present document includes an analysis of the latest reported HCFC consumption data and control measures addressed by approved HPMPs.

*Remaining HCFCs*

17. Implementation of approved stages I, II and III of the HPMPs will result in the phase-out of approximately 77.8 per cent of the starting point for aggregate reduction of HCFC consumption and 90.7 per cent of the consumption of HCFC-141b contained in imported pre-blended polyols. Table 5 shows the aggregate remaining HCFC consumption<sup>14</sup> by type of HCFCs in A5 countries that are receiving assistance from the Fund.

**Table 5. Total remaining HCFC consumption by substance (ODP tonnes)\***

HCFC	Baseline	Starting point	Approved	Remaining	% of approved
HCFC-123	31.90	30.21	21.17	9.01	70.1
HCFC-124	26.42	26.14	15.26	10.90	58.4
HCFC-141	0.94	0.94	0.94	0.00	100.0
HCFC-141b	10,668.24	10,676.35	10,590.92	85.14	99.2
HCFC-142b	2,000.80	2,016.80	1,518.89	496.16	75.3
HCFC-21	0.74	0.74	0.74	0.00	100.0
HCFC-22	20,424.65	19,851.34	13,202.88	6,647.73	66.5
HCFC-225	2.82	2.82	1.45	1.37	51.4
HCFC-225ca	0.42	0.42	0.00	0.42	0.0

<sup>12</sup> For various reasons, stage I of the HPMPs for three countries (Antigua and Barbuda, the Central African Republic and Yemen) were cancelled at the 82<sup>nd</sup> meetings.

<sup>13</sup> The Bahamas, Barbados, Belize, Benin, Bhutan, Bolivia (Plurinational State of), Bosnia and Herzegovina, Botswana, Brunei Darussalam, Burkina Faso, Cabo Verde, Cambodia, Chad, Chile, Colombia, the Cook Islands, Costa Rica, Cuba, the Democratic Republic of the Congo, the Dominican Republic, Croatia (which became a non-Article 5 country in 2014, and completely phased out HCFCs by 2015), Ecuador, El Salvador, Eritrea, Eswatini (the Kingdom of), Ethiopia, Fiji, the Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Jamaica, Kenya, Kiribati, Kyrgyzstan, the Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Maldives, the Marshall Islands, Mauritius, Micronesia (Federated States of), Mongolia, Montenegro, Mozambique, Namibia, Nauru, Nepal, Nicaragua, the Niger, Niue, North Macedonia, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the Philippines, the Republic of Moldova, Rwanda, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Seychelles, Sierra Leone, Solomon Islands, South Africa, Sri Lanka, the Sudan, Suriname, Togo, Tonga, Trinidad and Tobago, Türkiye, Tuvalu, Uganda, the United Republic of Tanzania, Uruguay, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Zambia and Zimbabwe.

<sup>14</sup> The remaining HCFC consumption eligible for funding depends on the starting point for aggregate reductions in HCFC consumption selected by each A5 country in their HPMP.

HCFC	Baseline	Starting point	Approved	Remaining	% of approved
HCFC-225cb	0.68	0.68	0.00	0.68	0.0
<b>Total</b>	<b>33,157.61</b>	<b>32,606.44</b>	<b>25,352.25</b>	<b>7,251.41</b>	<b>77.8</b>
HCFC-141b polyol**	0.00	657.00	596.11	54.33	90.7

\* As of the 93<sup>rd</sup> meeting.

\*\* HCFC-141b contained in imported pre-blended polyols.

## HFCs

18. Of the 147 A5 countries, 123 countries have reported HFC A7 data in 2020, 2021, 2022 or 2023. One hundred and eleven of the 123 Article 5 countries have ratified the Kigali Amendment. One hundred and fifteen of the 123 countries have provided data for these three years (2020, 2021 and 2022) and have established HFC baselines. Annex III to the present document includes information on 2020, 2021, 2022 and 2023 HFC A7 consumption data for these 123 countries and HFC baselines (measured in CO<sub>2</sub>-equivalent) for 115 A5 countries. As of the 93<sup>rd</sup> meeting, the Executive Committee has approved stage I of the Kigali HFC implementation plans (KIPs) for 24 countries.<sup>15</sup>

19. Eight countries have requested for exemption for high-ambient-temperature as per the Ozone Secretariat namely, Benin, Chad, Egypt, Eritrea, the Gambia, Guinea-Bissau, Nigeria, and Senegal. KIPs have been approved for Ghana, Jordan, the Niger, and Turkmenistan. At the 94<sup>th</sup> meeting, the Executive Committee would consider KIPs for Burkina Faso and Tunisia.

20. At their Thirty-Fifth Meeting, through decision XXXV/16, the Parties acknowledged that eight countries namely, Botswana, Cuba, Mauritius, Mongolia, the Republic of Moldova, Rwanda, Saint Lucia and Turkmenistan have experienced demonstrated reductions in their respective levels of consumption of HFCs during the years 2020–2022, as compared to 2018–2019, and are expected to have calculated levels of consumption of HFCs in 2024 that exceed their respective calculated baselines; these eight countries have expressed concern in writing to the Ozone Secretariat regarding the impact of the COVID-19 pandemic on their baselines.

21. The Parties also agreed that the Implementation Committee under the Non-Compliance Procedure of the Montreal Protocol should defer, until 2026 data becomes available, any consideration of compliance status with regard to control measures for consumption of Annex F substances, for any of the eight countries listed in paragraph 20, on the understanding that the country will continue to make every effort to comply with these control measures, and urged the countries that have not already done so to submit expeditiously their respective KIPs for consideration by the Executive Committee.

22. Of these eight countries, stage I of the KIPs for Cuba and Turkmenistan were approved at the 93<sup>rd</sup> meeting; Saint Lucia has submitted stage I of its KIP to the 94<sup>th</sup> meeting.

## **I.2 Licensing and quota systems**

23. All A5 countries have established licensing systems pursuant to Article 4B of the Montreal Protocol and had confirmed that an enforceable national system capable of ensuring the country's compliance with the Montreal Protocol HCFC phase-out schedule is in place. One hundred and four of the 116 A5 countries<sup>16</sup> that have ratified the Kigali Amendment<sup>17</sup> have established an HFC licensing system.

<sup>15</sup> Albania, the Plurinational State of Bolivia, Cambodia, Cameroon, Chile, the Congo, Cuba, the Dominican Republic, Ecuador, Ghana, Grenada, Jordan, Kyrgyzstan, Malawi, Malaysia, Mexico, Nicaragua, the Niger, North Macedonia, Panama, Peru, Trinidad and Tobago, Turkmenistan, and Viet Nam.

<sup>16</sup> Of the 116 countries that have ratified Kigali Amendment, five countries have not reported HFC data.

<sup>17</sup> As of 19 April 2024

## II. A5 countries subject to decisions on compliance by the Parties

24. At their Thirty-Fifth Meeting, the Parties identified that the Democratic People's Republic of Korea was in non-compliance in 2021 with the provisions of the Montreal Protocol governing consumption and production of HCFCs (decision XXXV/18). As indicated in paragraphs 8 and 14, the Democratic People's Republic of Korea, has reported HCFC consumption of 57.84 ODP tonnes and HCFC production of 24.79 ODP tonnes for the year 2022, which are below the consumption and production targets set in the plan of action in decision XXXII/6. The Implementation Committee will consider the matter at its 72<sup>nd</sup> meeting.

## III. Analysis on the CP implementation reports for HCFCs and HFCs

### Key messages from the CP data analysis

- In 2022, the three sectors with the largest consumption of HCFCs (measured in ODP tonnes) were first the refrigeration servicing, second the foam sector and third, the refrigeration manufacturing sector.
- Significant decrease in consumption and production of HCFCs in 2020, 2021 and 2022; this reduction is due to a combination of the control measure for HCFCs in 2020, HCFC phase-out project implementation and challenges affecting business activities as a result of the COVID-19 pandemic.
- As the phase-out of HCFCs in the foam and refrigeration manufacturing sectors progresses, the refrigeration servicing sector becomes more prevalent, though the consumption is decreasing over time.
- 117 A5 countries reported HFC CP data for 2022.
- HFC-32, HFC-125, HFC-134a, HFC-227ea, R-404A, R-507A and R-410A account for 93.2% of the total consumption in CO<sub>2</sub>-equivalent tonnes; refrigeration servicing accounts for 36.2%, refrigeration manufacturing – others 22.4%, and refrigeration manufacturing – AC 19.5%.
- Most consumed HFCs including blends in 2022 were R-404A, HFC-134a, R-410A, R-507A, R-407C and R-407A for LVC countries, and R-410A, HFC-134a, R-404A, R-507A, HFC-227ea, and HFC-32 for non-LVC countries.<sup>18</sup> There is an increase in consumption of HFC blends like R-417A, R-417B, R-437A that are used as retrofits due to the decrease in availability of HCFC-22 for servicing, higher costs of HCFC-22 and substitution of high-global-warming-potential HFCs in commercial refrigeration.

### III.1 HCFC data

#### A. HCFC production versus consumption

25. Since 2012, the reported levels of the three main HCFCs produced in A5 countries have been above the levels of consumption except for HCFC-142b in 2022, as shown in table 6. The data reported shows a significant decrease in consumption and production in 2020, 2021 and 2022 and this is primarily due to the reduction required to achieve the 2020 controlled targets, implementation of HCFC phase-out activities and the challenges related to the COVID-19 pandemic. The production and consumption in 2022 have experienced growth at an overall level mainly due to post-COVID-19 recovery of business activities.

<sup>18</sup> LVC and non-LVC classification is based on HCFC baseline.

**Table 6. HCFC production versus consumption of the three main HCFCs (ODP tonnes)**

HCFC	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Production</b>											
HCFC-22	23,552.4	18,769.0	19,816.3	16,782.6	16,191.2	15,725.9	16,061.3	15,959.3	12,583.5	11,405.5	12,390.5
HCFC-141b	12,884.4	9,583.6	9,560.2	7,246.5	7,278.2	7,076.8	6,321.1	6,101.6	4,623.3	3,545.1	3,850.4
HCFC-142b	1,440.4	1,102.0	1,076.8	1,224.3	1,110.5	1,115.5	756.3	816.0	418.3	472.3	126.7
<b>Consumption</b>											
HCFC-22	22,581.7	17,817.0	17,399.4	15,289.4	15,497.6	15,182.9	15,197.3	14,968.0	11,977.6	11,320.8	11,820.7
HCFC-141b	11,735.9	8,981.3	8,348.3	6,772.5	6,384.9	6,312.2	5,736.0	5,534.3	3,701.1	3,135.2	3,394.5
HCFC-142b	1,439.4	1,014.5	761.0	890.8	726.2	774.3	430.1	486.7	182.9	319.3	131.9
<b>Production – consumption</b>											
HCFC-22	970.6	952.0	2,416.9	1,493.2	693.6	543.0	864.0	991.3	605.9	84.7	569.8
HCFC-141b	1,148.5	602.3	1,212.0	474.0	893.3	764.6	585.1	567.3	922.2	409.9	455.9
HCFC-142b	1.0	87.5	315.8	333.5	384.4	341.2	326.2	329.3	235.4	153.0	(5.2)

## B. Sector distribution of HCFC consumption

26. Table 7 presents the sector distribution of aggregated HCFC consumption for the period 2012 to 2022, where countries are grouped as follows: China, as the largest consumer (and producer) of HCFCs; the 14 largest consuming countries (excluding China);<sup>19</sup> and all other countries.

27. In 2022, the three sectors with the largest consumption of HCFCs (measured in ODP tonnes) were the refrigeration servicing (43.6 per cent of the total), foam (29.0 per cent) and the refrigeration manufacturing sectors (24.8 per cent). As the phase-out of HCFCs in the foam and refrigeration manufacturing sectors progresses, the refrigeration servicing sector becomes more relevant, though the consumption is decreasing over time.

**Table 7. Sector distribution of HCFC consumption by group of countries (ODP tonnes)**

Sector	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022 (% of total)
<b>China</b>												
Aerosol	95.4	137.8	186.2	180.4	189.4		154.0	163.7				0.0
Foam	9,031.0	7,473.9	7,404.0	5,522.7	5,872.8	6,220.8	5,679.4	5,669.2	4,241.9	3,822.8	4,140.0	26.7
Firefighting												0.0
Refrigeration manufacturing	6,586.7	6,014.3	5,602.0	4,951.7	5,107.1	5,106.2	4,856.9	4,746.9	3,149.4	3,040.0	3,177.5	20.5
Refrigeration servicing	4,857.8	3,103.8	3,161.7	2,412.0	2,638.3	2,881.4	3,316.8	3,258.3	2,984.4	2,990.4	2,984.8	19.2
Solvent	524.1	466.0	484.8	418.5	413.4	397.0	375.1	385.0	308.0	275.0	275.0	1.8
<b>Total for China</b>	<b>21,095.0</b>	<b>17,195.8</b>	<b>16,838.7</b>	<b>13,485.3</b>	<b>14,221.1</b>	<b>14,605.4</b>	<b>14,382.3</b>	<b>14,223.2</b>	<b>10,683.7</b>	<b>10,128.2</b>	<b>10,577.3</b>	<b>68.2</b>
<b>14 largest A5 consuming countries*</b>												
Aerosol	75.0	123.8	19.3	87.3	42.4	5.5	26.9	7.8	1.1	2.6	3.0	0.0
Foam	3,867.4	2,645.6	2,153.0	2,077.0	1,572.7	1,501.9	1,275.5	1,058.7	335.2	271.1	191.5	1.2
Firefighting	6.0	5.4	4.0	4.0	4.2	4.9	2.3	2.9	2.0	2.4	33.0	0.2
Refrigeration manufacturing	3,142.9	2,233.7	1,932.1	1,862.6	1,473.8	1,291.6	1,238.6	1,010.0	784.4	596.4	615.1	4.0
Refrigeration servicing	4,213.6	3,029.3	3,008.3	3,148.6	3,262.9	2,805.0	2,615.0	2,836.1	2,539.3	2,443.6	2,630.8	17.0
Solvent	76.3	43.3	38.5	37.1	29.6	53.9	57.5	63.7	75.1	53.1	90.9	0.6
<b>Total 14 largest consuming countries</b>	<b>11,381.2</b>	<b>8,081.1</b>	<b>7,155.3</b>	<b>7,216.7</b>	<b>6,385.6</b>	<b>5,662.8</b>	<b>5,215.8</b>	<b>4,979.1</b>	<b>3,737.0</b>	<b>3,369.1</b>	<b>3,564.3</b>	<b>23.0</b>
<b>129 remaining A5 countries</b>												
Aerosol	0.2	0.7	0.4	0.3	0.1	0.5						0.0
Foam	1,258.8	963.2	916.0	869.0	826.9	731.2	497.5	476.3	355.2	182.9	160.9	1.0

<sup>19</sup> Argentina, Brazil, Egypt, India, Indonesia, Iran (Islamic Republic of), Kuwait, Malaysia, Mexico, Nigeria, Saudi Arabia, South Africa, Thailand, and Türkiye.



Sector	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022 (% of total)
Firefighting	13.3	8.6	11.2	14.0	11.1	7.7	3.2	4.4	1.4	1.9	0.7	0.0
Refrigeration manufacturing	400.7	314.3	290.2	248.9	236.1	217.3	179.0	180.1	97.7	73.4	52.7	0.3
Refrigeration servicing	2,372.2	1,995.8	2,011.0	1,861.3	1,695.9	1,608.3	1,557.1	1,523.5	1,312.7	1,201.2	1,146.4	7.4
Solvent	34.1	5.2	3.5	4.9	5.1	3.1	3.2	3.3	0.2	0.7	3.1	0.0
<b>Total 129 remaining A5 countries</b>	<b>4,079.3</b>	<b>3,287.7</b>	<b>3,232.3</b>	<b>2,998.3</b>	<b>2,775.3</b>	<b>2,568.1</b>	<b>2,240.0</b>	<b>2,187.6</b>	<b>1,767.2</b>	<b>1,460.0</b>	<b>1,363.9</b>	<b>8.8</b>
<b>All A5 countries</b>												
Aerosol	170.5	262.2	205.9	268.0	232.0	6.0	180.9	171.5	1.1	2.6	3.0	0.0
Foam	14,157.2	11,082.6	10,473.0	8,468.7	8,272.4	8,453.8	7,452.5	7,204.2	4,932.3	4,276.8	4,492.4	29.0
Firefighting	19.4	14.1	15.2	18.0	15.2	12.6	5.6	7.3	3.4	4.3	33.7	0.2
Refrigeration manufacturing	10,130.3	8,562.2	7,824.3	7,063.2	6,817.0	6,615.1	6,274.4	5,937.1	4,031.6	3,709.8	3,845.3	24.8
Refrigeration servicing	11,443.6	8,128.9	8,181.0	7,422.0	7,597.1	7,294.7	7,488.9	7,617.9	6,836.4	6,635.1	6,762.0	43.6
Solvent	634.5	514.5	526.9	460.4	448.2	454.0	435.8	451.9	383.2	328.8	369.1	2.4
<b>Total all A5 countries</b>	<b>36,555.5</b>	<b>28,564.6</b>	<b>27,226.3</b>	<b>23,700.4</b>	<b>23,382.0</b>	<b>22,836.3</b>	<b>21,838.1</b>	<b>21,389.9</b>	<b>16,188.0</b>	<b>14,957.4</b>	<b>15,505.5</b>	<b>100.0</b>
% of total for China	57.7	60.2	61.8	56.9	60.8	64.0	65.9	66.5	66.0	67.7	68.2	
% of total for 14 largest A5 consuming countries	31.1	28.3	26.3	30.4	27.3	24.8	23.9	23.3	23.1	22.5	23.0	
% of total for 129 remaining A5 countries	11.2	11.5	11.9	12.7	11.9	11.2	10.3	10.2	10.9	9.8	8.8	

\*Argentina, Brazil, Egypt, India, Indonesia, Iran (Islamic Republic of), Kuwait, Malaysia, Mexico, Nigeria, Saudi Arabia, South Africa, Thailand and Türkiye.

28. The sector distribution of the three main HCFCs consumed in A5 countries is presented in table 8. The analysis shows a sustained reduction in the overall consumption of these substances.

**Table 8. Sector distribution of the main HCFCs consumed in A5 countries (ODP tonnes)**

Sector	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>HCFC-22</b>											
Aerosol	124.9	116.4	129.5	134.2	132.0	0.3****	102.3	91.1		0.1	0.0
Foam*	2,079.2	1,805.6	1,731.9	1,177.3	1,518.5	1,687.2	1,682.3	1,616.4	1,328.6	1,203.5	1,335.6
Firefighting	0.1										30.5
Refrigeration manufacturing	9,474.9	8,012.7	7,518.0	6,747.4	6,590.5	6,330.0	5,999.3	5,760.2	3,891.5	3,654.7	3,790.9
Refrigeration servicing	10,873.6	7,882.3	8,019.8	7,229.8	7,256.1	7,164.9	7,413.1	7,499.9	6,757.3	6,462.4	6,663.5
Solvent	29.0		0.3	0.7	0.6	0.4	0.4	0.4	0.1	0.1	0.1
<b>Total HCFC-22</b>	<b>22,581.7</b>	<b>17,817.0</b>	<b>17,399.4</b>	<b>15,289.4</b>	<b>15,497.6</b>	<b>15,182.9</b>	<b>15,197.3</b>	<b>14,968.0</b>	<b>11,977.6</b>	<b>11,320.8</b>	<b>11,820.7</b>
<b>HCFC-141b</b>											
Aerosol	45.4	145.8	76.4	132.0	99.9	5.7****	78.7	80.4	1.1	2.5	2.9
Foam	10,355.0	7,712.9	7,394.0	5,828.1	5,522.9	5,547.5	4,943.4	4,816.1	3,168.2	2,740.1	2,960.9
Firefighting	9.3	6.7	7.6	9.3	5.2	6.3	1.8	3.0	0.7		
Refrigeration manufacturing**	629.6	529.6	282.9	294.2	204.8	264.9	255.8	159.7	125.6	40.0	39.2
Refrigeration servicing	96.4	75.7	66.5	54.6	108.8	37.1	26.4	28.0	22.7	23.9	22.5
Solvent	600.2	510.6	521.0	454.4	443.3	450.8	430.0	447.2	382.8	328.7	369.0
<b>Total HCFC-141b</b>	<b>11,735.9</b>	<b>8,981.3</b>	<b>8,348.3</b>	<b>6,772.5</b>	<b>6,384.9</b>	<b>6,312.2</b>	<b>5,736.0</b>	<b>5,534.3</b>	<b>3,701.1</b>	<b>3,135.2</b>	<b>3,394.5</b>

Sector	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>HCFC-142b</b>											
Aerosol	0.2	0.0	0.0	1.8	0.0	0.0					
Foam***	990.2	863.7	686.2	773.8	608.3	701.0	398.5	412.3	134.7	179.0	68.3
Firefighting											
Refrigeration manufacturing	7.8	6.5	8.0	7.2	6.9	6.1	5.9	5.9	4.2	4.2	4.3
Refrigeration servicing	441.3	144.4	66.7	107.9	110.9	67.3	25.7	68.5	44.0	136.1	59.3
Solvent											
<b>Total HCFC-142b</b>	<b>1,439.4</b>	<b>1,014.5</b>	<b>761.0</b>	<b>890.8</b>	<b>726.2</b>	<b>774.3</b>	<b>430.1</b>	<b>486.7</b>	<b>182.9</b>	<b>319.3</b>	<b>131.9</b>
<b>Other HCFCs</b>	<b>798.5</b>	<b>751.7</b>	<b>717.6</b>	<b>747.8</b>	<b>773.3</b>	<b>566.8</b>	<b>474.7</b>	<b>400.9</b>	<b>326.4</b>	<b>182.1</b>	<b>158.4</b>
<b>Total</b>	<b>36,555.5</b>	<b>28,564.6</b>	<b>27,226.3</b>	<b>23,700.4</b>	<b>23,382.0</b>	<b>22,836.3</b>	<b>21,838.1</b>	<b>21,389.9</b>	<b>16,188.0</b>	<b>14,957.4</b>	<b>15,505.5</b>

\* Used as co-blowing agent.

\*\* Used for insulation of refrigeration equipment.

\*\*\* Used for the production of extruded polystyrene foam.

\*\*\*\* The steep reduction between 2016 and 2017 is due to reduction of consumption in one country (China).

## III.2 HFC data

29. At its 84<sup>th</sup> meeting, the Executive Committee *inter alia* approved the revised CP data format to include Annex F (HFC) substances noting that the revised format would be used starting in 2020 for 2019 CP data reporting, with a trial period from 2020 to 2022 (decision 84/7(c)). At its 90<sup>th</sup> meeting, the Executive Committee approved the updated revised format of Section B of CP data reports, on the understanding that the data required in the column that related to the manufacture of blends under Section B of CP data reports would be reported on a voluntary basis (decision 90/3(c)). Subsequently, at its 92<sup>nd</sup> meeting, the Executive Committee approved the updated revised format of Section B of CP data reports, and requested the Secretariat to provide additional information, to the extent possible, on the uses of HFC-23 reported in the column “other” in future documents on country programme data and prospects for compliance (decision 92/4(d) and (e)(ii)).<sup>20</sup>

30. The present document presents an analysis of the HFC consumption reported by the 117 A5 countries under their CP data reports for 2022. Of the 142 countries which submitted 2022 CP data as of 16 April 2024, 112 countries have ratified the Kigali Amendment. Only 106 of the 112 countries have provided HFC data in their 2022 CP reports on time for this analysis. In addition, 11 countries that have not ratified the Kigali Amendment have provided HFC data in their 2022 CP reports.

31. The sector distribution of aggregated HFC consumption for the 117 countries that have submitted 2022 CP data is presented in table 9. Of these 117 countries,<sup>21</sup> 76 are LVC countries and they account for 88.7 per cent of the aggregated HCFC baseline for all LVC countries; 41 are non-LVC countries and they account for 80.1 per cent of the HCFC baselines for all non-LVC countries. The HFC data reported by LVC and non-LVC countries account for 3.1 per cent and 96.9 per cent, respectively, of the total HFC consumption data reported for the year 2022.

**Table 9. Sector distribution of HFCs consumed in 2022 (metric tonnes)**

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
HFC-125	0.4		4,532.5		5,879.0		1,752.4			16,164.8
HFC-134							457.5			457.5
HFC-134a	5,696.1	1,693.7		33,220.0	28,232.5	3,799.8	87,548.4		549.8	179,987.4
HFC-143a	0.4			181.1	1,151.4		1,722.2		1,524.6	4,579.6

<sup>20</sup> At its 93<sup>rd</sup> meeting, the Executive Committee requested the Secretariat to provide options for consideration by the Executive Committee, at its 96<sup>th</sup> meeting, on potential modifications to section D of the CP data reporting format, specifically in relation to HFC-23 generated, destroyed or maintained as stocks, taking into consideration any decision taken by the Meeting of the Parties pursuant to paragraph 3 of decision XXXV/7 (decision 93/7(b)(iii)).

<sup>21</sup> LVC and non-LVC classification is based on HCFC baseline.

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
HFC-152									1.9	1.9
HFC-152a	5,701.6	3,115.1		31.1	6.2		4,162.6	2,500.0	202.6	18,805.7
HFC-227ea	372.1	20.2	30,672.0				1.9		0.01	31,386.4
HFC-236cb			0.01							0.01
HFC-236ea									112.0	112.0
HFC-236fa			494.6			0.5	0.9			568.5
HFC-245fa		8,775.2	0.1****	420.0			37.7		1,011.6	11,309.4
HFC-32				9,502.0	82,950.2	2.4	13,294.8		60.0	121,982.5
HFC-365mfc		741.9						60.0	7.2	847.5
HFC-43-10mee								55.7	1.2	57.5
HFC-23 (use)**			3.9	6.6			62.8	0.2	1,464.1	1,532.0
R-401A							2.1			2.1
R-404A				12,429.9	573.1	1,526.8	24,978.2		78.0	41,252.1
R-406A							0.2			0.2
R-407A					7.4	0.1	556.5			570.8
R-407C				444.8	478.4	124.9	4,174.9			6,216.4
R-407F						14.7	54.6			70.8
R-407H						0.0	13.6			13.7
R-408A				1.2			0.5			1.7
R-410A				43,435.5	54,403.8	1,119.0	71,858.2			175,077.6
R-417A					0.1	1.7	322.0			323.8
R-417B							186.5			186.5
R-419B							0.6			0.6
R-422A							13.4			13.4
R-422B							5.2			5.2
R-422D							109.2			109.2
R-426A										20.0
R-427A							6.4			6.4
R-434A					0.3		0.1			0.4
R-437A							109.7			109.7
R-438A						0.1	295.8			495.9
R-442A				1.0			2.3			3.4
R-444B					2.3					2.3
R-448A				10.0		1.2	126.9			138.1
R-449A				2.5		0.6	216.4			219.4
R-449C							4.5			4.5
R-451A							0.5			0.5
R-452A				40.0		0.02	19.5			59.5
R-453A				2.0	2.0		2.9			7.0
R-454A				0.1						0.1
R-454B				0.4	0.2					0.7
R-454C				2.9			0.2			3.2
R-454C					0.6					0.7
R-455A							1.1	0.3		2.1
R-467A							34.2			34.2
R-507A				19,612.7		360.8	8,070.3	102.0		28,827.2
R-507C							20.4			20.4
R-508B				0.8		0.1	19.4			18.9
R-513A				36.4	0.1		2.4			39.6
R-515B								0.2		0.2
R-516A				0.004			0.01			0.01
HFC-227ea in imported pre-blended polyol		18.6								18.6
HFC-245fa in imported pre-blended polyol		226.5								226.5
HFC-365mfc in imported pre-blended polyol		773.7				0.8				774.5

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
Others	6.5	1,266.7	0.4	1.0	0.0	0.0	139.2	572.2	59.8	2,161.0
<b>Total</b>	<b>11,777.1</b>	<b>16,631.6</b>	<b>35,703.5</b>	<b>119,382.0</b>	<b>173,687.3</b>	<b>6,953.5</b>	<b>220,389.4</b>	<b>3,188.0</b>	<b>5,175.2</b>	<b>644,831.6</b>
<b>LVC*****</b>	<b>61.7</b>	<b>337.5</b>	<b>52.4</b>	<b>36.7</b>	<b>6.2</b>	<b>251.2</b>	<b>18,973.6</b>	<b>13.2</b>	<b>118.6</b>	<b>19,852.3</b>
<b>Non-LVC*****</b>	<b>11,715.3</b>	<b>16,294.1</b>	<b>35,651.1</b>	<b>119,345.3</b>	<b>173,681.1</b>	<b>6,702.3</b>	<b>201,415.7</b>	<b>3,174.8</b>	<b>5,056.6</b>	<b>624,979.4</b>

\* If break-down of consumption in manufacturing is not available, information is provided in column "Total".

\*\* HFC-23 is used as a pure substance and in R-508B blend of which HFC-23 is one component.

\*\*\* Sectoral breakdown columns may not add up to Total because some countries only reported total and no sectoral breakdown.

\*\*\*\* Consumption was incorrectly reported in fire fighting instead of foam.

\*\*\*\*\* LVC and non-LVC classification is based on HCFC baseline.

32. In 2022, the five sectors with the largest consumption of HFCs (measured in metric tonnes) were the refrigeration servicing (34.2 per cent), refrigeration manufacturing – air-conditioning (AC) (26.9 per cent of the total), refrigeration manufacturing – others (18.5 per cent), fire fighting (5.5 per cent) and foam (2.6 per cent).

33. The sector distribution of aggregated HFC consumption in CO<sub>2</sub>-equivalent is presented in table 10. HFC-32, HFC-125, HFC-134a, HFC-227ea, R-404A, R-507A and R-410A account for 93.2 per cent of the total consumption in CO<sub>2</sub>-equivalent; refrigeration servicing, refrigeration manufacturing – others and refrigeration manufacturing – AC, account for 36.2 percent, 22.4 per cent and 19.5 per cent of the total consumption, respectively.

**Table 10. Sector distribution of HFCs consumed in 2022 ('000 tons CO<sub>2</sub>-equivalent)**

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
HFC-125	2		15,864		20,576		6,133			56,577
HFC-134							503			503
HFC-134a	8,145	2,422		47,505	40,373	5,434	125,194		786	257,382
HFC-143a	2			809	5,147		7,698		6,815	20,471
HFC-152									0	0
HFC-152a	707	386		4	1		516	310	25	2,332
HFC-227ea	1,198	65	98,764				6		0	101,064
HFC-236cb			0							0
HFC-236ea									153	153
HFC-236fa			4,853			5	9		0	5,577
HFC-245fa		9,038	0	433			39		1,042	11,649
HFC-32				6,414	55,991	2	8,974		41	82,338
HFC-365mfc		589						48	6	673
HFC-43-10mee								91	2	94
HFC-23 (use)**			57	97			929	3	21,669	22,674
R-401A							2			2
R-404A				48,745	2,247	5,987	97,954		306	161,774
R-406A							0			0
R-407A					16	0	1,172			1,203
R-407C				789	849	222	7,408			11,027
R-407F						27	100			129
R-407H						0	20			20
R-408A				4			1			5
R-410A				90,672	113,568	2,336	150,004			365,474
R-417A					0	4	755			760
R-417B							564			564
R-419B							1			1
R-422A							42			42
R-422B							13			13
R-422D							298			298
R-426A										30
R-427A							14			14
R-434A					1		0			1
R-437A							198			198

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
R-438A						0	670			1,123
R-442A				2			4			6
R-444B					1					1
R-448A				14		2	176			191
R-449A				4		1	302			306
R-449C							6			6
R-451A							0			0
R-452A				86		0	42			127
R-453A				4	4		5			12
R-454A				0						0
R-454B				0	0					0
R-454C				0			0			0
R-454C					0					0
R-455A							0		0	0
R-467A							46			46
R-507A				78,157		1,438	32,160		406	114,876
R-507C						0	81			81
R-508B				6		1	132			128
R-513A				23	0		2			25
R-515B									0	0
R-516A				0			0			0
HFC-227ea in imported pre-blended polyol		60								60
HFC-245fa in imported pre-blended polyol		233								233
HFC-365mfc in imported pre-blended polyol		614				1				615
Others	6	926		0		0	66	552	6	1,683
<b>Total</b>	<b>10,060</b>	<b>14,334</b>	<b>119,537</b>	<b>273,765</b>	<b>238,772</b>	<b>15,458</b>	<b>442,245</b>	<b>1,003</b>	<b>31,257</b>	<b>1,222,568</b>

\* If break-down of consumption in manufacturing is not available, information is provided in column "Total".

\*\* HFC-23 is used as a pure substance and in R-508B blend of which HFC-23 is one component.

\*\*\* Sectoral breakdown columns may not add up to "Total" because some countries only reported total and no sectoral breakdown.

34. In 2022, in tonnes CO<sub>2</sub>-equivalent terms, the most consumed HFCs including blends were R-404A (35.8 per cent of the total), HFC-134a (27.6 per cent), R-410A (18.6 per cent), R-507A (6.6 per cent), R-407C (5.1 per cent) and R-407A (2.9 per cent) for LVC countries, and R-410A (30.3 per cent of the total), HFC-134a (20.9 per cent), R-404A (12.4 per cent), R-507A (9.5 per cent), HFC-227ea (8.5 per cent), and HFC-32 (6.9 per cent) for non-LVC countries.<sup>22</sup>

35. In addition, 25 countries reported a total consumption of 1,532.01 metric tonnes of HFC-23 used in the fire fighting, refrigeration manufacturing – others, refrigeration servicing, solvent, and other sectors. These countries are Argentina, Armenia, Bangladesh, Brazil, Chile, China, Ecuador, El Salvador, Fiji, Indonesia, Malaysia, Maldives, Mauritius, Mexico, Namibia, Pakistan, Panama, Peru, the Philippines, Serbia, Seychelles, South Africa, Sri Lanka, Türkiye, and Viet Nam.

36. Pursuant to decision 92/4(e)(ii), the Secretariat requested information from two countries that had submitted HFC-23 (use) in "others"; as of date, only one country has provided clarification that the data reported in "other" should be for "refrigeration servicing". However, information on details of use of HFC-23 for the remaining country is not available.

37. Five countries (Argentina, China, India, the Democratic People's Republic of Korea and Mexico) have an obligation to report 2022 data on HFC-23 production and generation under the Kigali Amendment.

<sup>22</sup> LVC and non-LVC classification is based on HCFC baseline.

The amount of HFC-23 emissions generated, reported by Argentina, China, India, and Mexico in 2022 is 17.31 mt, 637.38 mt, 0.00 mt, and 31.89 mt respectively. As of date, CP data for the year 2022 for the Democratic People’s Republic of Korea has not yet been submitted.

### III.3 Prices of HCFCs, HFCs and alternatives

38. The average prices of HCFCs, HFCs and alternatives reported by A5 countries since 2012 are summarized in table 11.<sup>23</sup> The average prices provided are mainly from retailers and suppliers, which can include taxes and transportation costs. However, the price data in project proposals is freight on board (FOB)<sup>24</sup> that is usually obtained from importers.

**Table 11. Average price of HCFCs, HFCs and alternatives<sup>25</sup>**

Substance	Average price (US \$/kg)*											Range (US \$/kg)	Countries (2022)**
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
HCFC-22	10.06	9.24	10.08	10.07	9.25	10.18	10.24	9.64	10.54	11.02	10.63	2.09 (China) to 45.00 (Turkmenistan)	115
HCFC-141b	6.73	6.65	7.77	7.08	10.00	9.40	10.99	8.23	12.78	8.66	8.98	2.84 (China) to 32.08 (Belize)	15
R-600a	20.49	20.20	18.02	15.23	15.98	15.80	16.03	16.72	18.30	19.05	18.87	0.78 (Botswana) to 149.32 (the Cook Islands)	89
R-290	15.60	14.38	21.26	19.08	16.13	16.48	15.92	21.80	23.85	21.17	21.66	1.30 (Dominica) to 191.65 (Saint Vincent and the Grenadines)	75
HFC-134a	14.96	13.65	13.30	14.26	12.83	13.94	12.35	12.31	12.71	13.66	13.37	3.17 (China) to 65.00 (Niue)	116
R-404A	18.71	15.41	15.11	15.42	15.32	15.97	14.77	13.76	14.28	16.01	15.45	4.18 (Brazil) to 52.00 (Turkmenistan)	119
R-407C	19.04	16.06	15.19	13.97	12.71	13.94	13.71	13.02	13.78	15.44	14.10	3.93 (Brazil) to 50.00 (Turkmenistan)	91
R-410A	19.91	16.05	15.28	14.61	16.44	15.47	14.78	14.50	14.68	16.33	14.81	3.73 (China) to 60.00 (Cabo Verde)	116
R-507A	15.84	13.59	12.21	11.65	11.76	13.33	13.07	12.99	13.58	16.36	14.76	4.21 (Brazil) to 47.00 (Mozambique)	61

\* All zero entries were excluded.

\*\* Number of A5 countries that reported prices in 2022.

## IV. Issues related to CP implementation reports

### IV.1 Timely submission of CP data reports

39. In reviewing the timely submission of the CP data reports, the Secretariat noted that, as shown in table 12 there is a slight decrease in the overall submission rate for 2022 when compared with that of 2021. The Secretariat noted the efforts made by implementing agencies in following up on the submission of outstanding CP data reports, and keeping the Secretariat informed on progress on a regular basis.

**Table 12. Monthly rates of submission of CP data reports (as at 16 April 2024)**

Month	2015		2016		2017		2018		2019		2020		2021		2022		2023	
	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*
January	1	0.7			3	2.1									2	1.4		
February	5	4.2	9	6.3	1	2.8	7	4.9	1	0.7	2	1.4	1	0.7	6	5.6	4	2.8
March	33	27.1	9	12.5	8	8.3	14	14.6	9	6.9	11	9.0	20	14.6	11	13.2	8	8.3
April	27	45.8	49	46.5	60	50.0	64	59.0	63	50.7	51	44.4	60	56.3	52	49.3	9	14.6
May	22	61.1	26	64.6	39	77.1	30	79.9	29	70.8	42	73.6	27	75.0	44	79.9		
June	14	70.8	10	71.5	15	87.5	4	82.6	4	73.6	7	78.5	6	79.2	5	83.3		

<sup>23</sup> Several of the CP data reports submitted by A5 countries contain price data for both controlled substances and alternative substances. This information is provided on voluntary basis.

<sup>24</sup> Decision 68/4(b)(iv) requested Governments to report, on a voluntary basis, the average import FOB price for each controlled substance and substitute in the revised CP format.

<sup>25</sup> At its 79<sup>th</sup> meeting, the Executive Committee requested the Secretariat to include in the document on the Overview of issues identified during project review (issued at each meeting) a summary of the prices of the controlled substances and the alternatives to be phased in, as communicated by enterprises requesting funding in any new project proposals, including clarification of any differences between those and the prices reported in the CP data reports (decision 79/4(c)).

Month	2015		2016		2017		2018		2019		2020		2021		2022		2023	
	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*
July	8	76.4	7	76.4	3	89.6	2	84.0	8	79.2	4	81.3	2	80.6	3	85.4		
August	5	79.9	2	77.8	7	94.4	3	86.1	5	82.6	4	84.0	5	84.0	3	87.5		
September	8	85.4	19	91.0	4	97.2	6	90.3	10	89.6	6	88.2	5	87.5	4	90.3		
October	8	91.0	7	95.8	1	97.9	10	97.2	2	91.0	8	93.8	6	91.7	8	95.8		
November	1	91.7	2	97.2	1	98.6	1	97.9	3	93.1	0	93.8	4	94.4	0	95.8		
December							1	98.6	8	98.6	0	93.8	7	99.3	0	95.8		
After December	12	100.0	4	100.0	2	100.0	2	100.0	2	100.0	9	100.0	1	100.0	4	98.6		
<b>Total</b>	<b>144</b>		<b>144</b>		<b>144</b>		<b>144</b>		<b>144</b>		<b>144</b>		<b>144</b>		<b>142</b>		<b>21</b>	
<b>Outstanding</b>	<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>2</b>		<b>123</b>	

\* No: Number of A5 countries reporting. (%): Cumulative reporting.

\*\* Submission as of 16 April 2024. Submissions after this date are not included in the analysis (Antigua and Barbuda, Bangladesh, Benin, Brunei Darussalam, Cambodia, Colombia, Cuba, El Salvador, Guinea-Bissau, Guyana, Malaysia, Mauritius, Mongolia, Nepal, Oman, Panama, the Philippines, Saint Kitts and Nevis, Saint Lucia, Saudi Arabia, and Seychelles).

40. The Executive Committee may wish to request the Secretariat to send a letter to the Governments of the Democratic People's Republic of Korea and Equatorial Guinea regarding the outstanding CP data reports for 2022, urging the submission of those reports as soon as possible, as delays affect the ability of the Secretariat to have comprehensive data on consumption and production levels of controlled substances.

#### Data discrepancies between CP data reports and A7 data

41. In line with decision 93/7(b)(i), 2022 data discrepancies between CP and Article 7 data for all countries have been resolved.

### **V. Recommendation**

42. The Executive Committee may wish:

- (a) To note the information on country programme (CP) data and prospects for compliance contained in document UNEP/OzL.Pro/ExCom/94/5, and that, as at 16 April 2024, 21 countries had submitted 2023 CP data, 21 had submitted after 16 April 2024 and 102 countries had not done so; and
- (b) To request the Secretariat to send letters to the Governments of [the Democratic People's Republic of Korea and Equatorial Guinea] regarding the outstanding CP data reports for 2022, urging them to submit those reports as soon as possible.

Annex I

MB CONSUMPTION AND PRODUCTION FOR QPS APPLICATIONS

Country	Year of latest consumption	Latest consumption (ODP tonnes)
<b>Consumption</b>		
Argentina	2022	26.9
Bahrain	2023	1.1
Brazil	2022	33.3
Chile	2022	30.8
China	2022	298.0
Costa Rica	2022	4.7
Egypt	2022	171.6
El Salvador	2022	119.2
Fiji	2022	11.7
Honduras	2022	9.6
India	2022	924.6
Indonesia	2022	108.4
Iran (Islamic Republic of)	2022	13.2
Jamaica	2023	2.9
Malaysia	2022	70.0
Mexico	2022	155.9
Morocco	2022	6.0
Myanmar	2022	27.0
Nicaragua	2022	21.5
Nigeria	2022	7.5
Pakistan	2022	336.3
Papua New Guinea	2022	0.3
Peru	2022	1.8
Philippines (the)	2022	17.6
Saudi Arabia	2022	9.0
Singapore	2022	33.6
South Africa	2022	26.5
Sri Lanka	2022	22.9
Syrian Arab Republic	2022	3.0
Thailand	2022	94.6
Türkiye	2022	40.5
United Arab Emirates (the)	2022	25.8
Uruguay	2022	85.4
Vanuatu	2022	0.4
Viet Nam	2022	258.9
<b>Total consumption</b>		<b>3,000.5</b>
<b>Production</b>		
China	2022	356.2
India	2022	2,209.5
<b>Total production</b>		<b>2,565.7</b>



**Annex II**  
**HCFC ANALYSIS\***

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Afghanistan	A7	2022	23.6	15.3	0	0	0	35% by 2020 and 67.5% by 2025
Albania	A7	2022	6.0	2.9	0	0	0	35% by 2020 and 67.5% by 2025
Algeria	A7	2022	62.1	38.6	0	0	0	20% by 2017
Angola	A7	2022	16.0	5.2	0	0	0	10% by 2015 and 67.5% by 2025
Antigua and Barbuda	A7	2022	0.3	0.0	0	0	0	HPMP cancelled
Argentina	A7	2022	400.7	223.5	0	0	0	17.5% by 2017 and 50% by 2024
Armenia	A7	2022	7.0	1.4	0	0	0	10% by 2015 and 66.6% by 2020
Bahamas (the)	A7	2022	4.8	0.6	0	0	0	35% by 2020 and 100% by 2030
Bahrain	A7	2023	51.9	29.6	0	0	0	35% by 2020 and 73.5% by 2025
Bangladesh	A7	2022	72.6	46.9	0	0	0	30% by 2018 and 67.5% by 2025
Barbados	A7	2022	3.7	1.1	0	0	0	35% by 2020 and 100% by 2030
Belize	A7	2023	2.8	0.7	0	0	0	35% by 2020 and 100% by 2030
Benin	A7	2022	23.8	10.9	0	0	0	35% by 2020 and 100% by 2030
Bhutan	A7	2022	0.3	0.0	0	0	0	100% by 2025
Bolivia (Plurinational State of)	A7	2022	6.1	1.4	0	0	0	35% by 2020 and 100% by 2030
Bosnia and Herzegovina	A7	2022	4.7	0.0	0	0	0	35% by 2020 and 100% by 2026
Botswana	A7	2022	11.0	2.7	0	0	0	35% by 2020 and 100% by 2030
Brazil	A7	2022	1,327.3	584.1	0	0	0	10% by 2015 and 45% by 2021
Brunei Darussalam	A7	2022	6.1	3.5	0	0	0	35% by 2020 and 100% by 2030
Burkina Faso	CP	2023	28.9	4.1	0	0	0	35% by 2020 and 100% by 2030
Burundi	A7	2022	7.2	0.8	0	0	0	35% by 2020
Cabo Verde	A7	2023	1.1	0.0	0	0	0	35% by 2020 and 100% by 2030
Cambodia	A7	2022	15.0	3.2	0	0	0	100% by 2035
Cameroon	A7	2023	88.8	24.8	0	0	0	20% by 2017 and 75% by 2025
Central African Republic (the)	A7	2022	12.0	6.2	0	0	0	HPMP cancelled
Chad	A7	2022	16.1	9.9	0	0	0	35% by 2020 and 100% by 2030

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Chile	A7	2022	87.5	18.4	0	0	0	10% by 2015, 65% by 2021 and 100% by 2030
China	A7	2022	19,269.0	10,577.3	0	0	0	10% by 2015 and 76% by 2026
Colombia	A7	2022	225.6	17.9	0	0	0	10% by 2015, 65% by 2021 and 100% by 2030
Comoros (the)	A7	2022	0.1	0.0	0	0	0	35% by 2020
Congo (the)	A7	2023	10.1	5.2	0	0	0	35% by 2020
Cook Islands (the)	A7	2022	0.1	0.0	0	0	0	35% by 2020 and 100% by 2030
Costa Rica	CP	2023	14.1	3.9	0	0	0	35% by 2020 and 97.5% by 2030
Cote d'Ivoire	CP	2023	63.8	30.3	0	0	0	35% by 2020
Cuba	A7	2022	16.9	1.4	0	0	0	35% by 2020 and 100% by 2030
Democratic People's Republic of Korea (the)**	A7	2022	78.0	57.8	0	0	14	15% by 2018
Democratic Republic of the Congo (the)	A7	2022	66.2	1.0	0	0	0	10% by 2017 and 100% by 2030
Djibouti	A7	2022	0.7	0.3	0	0	0	35% by 2020
Dominica	A7	2022	0.4	0.0	0	0	0	35% by 2020
Dominican Republic (the)	CP	2023	51.2	24.4	0	0	0	10% by 2015, 40% by 2020 and 100% by 2030
Ecuador	A7	2022	23.5	9.2	0	0	0	35% by 2020 and 100% by 2030
Egypt	A7	2022	386.3	179.7	0	0	0	25% by 2018 and 70% by 2025
El Salvador	A7	2022	11.7	3.5	0	0	0	35% by 2020 and 100% by 2030
Equatorial Guinea	A7	2022	6.3	0.6	0	0	0	35% by 2020
Eritrea	A7	2022	1.1	0.6	0	0	0	35% by 2020 and 100% by 2030
Eswatini (the Kingdom of)	A7	2022	1.7	0.6	0	0	0	35% by 2020 and 100% by 2030
Ethiopia	A7	2022	5.5	3.2	0	0	0	35% by 2020 and 100% by 2030
Fiji	A7	2022	5.7	0.8	0	0	0	35% by 2020 and 100% by 2030
Gabon	A7	2022	30.2	7.4	0	0	0	35% by 2020
Gambia (the)	A7	2022	1.5	0.2	0	0	0	35% by 2020 and 100% by 2030
Georgia	A7	2022	5.3	1.0	0	0	0	35% by 2020 and 100% by 2030
Ghana	A7	2022	57.3	16.1	0	0	0	35% by 2020 and 100% by 2030
Grenada	A7	2022	0.8	0.1	0	0	0	35% by 2020 and 100% by 2030
Guatemala	A7	2022	8.3	2.1	0	0	0	35% by 2020 and 100% by 2030
Guinea	CP	2023	22.6	1.4	0	0	0	35% by 2020 and 100% by 2030

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Guinea Bissau	A7	2022	2.8	0.8	0	0	0	35% by 2020
Guyana	A7	2022	1.8	0.6	0	0	0	10% by 2015 and 100% by 2030
Haiti	A7	2022	3.6	2.0	0	0	0	35% by 2020
Honduras	A7	2022	19.9	7.0	0	0	0	35% by 2020 and 100% by 2030
India	A7	2022	1,608.2	342.5	0	0	0	10% by 2015, 60% by 2023 and 100% by 2030
Indonesia	A7	2022	403.9	137.8	0	0	0	20% by 2018, 55% by 2023 and 100% by 2030
Iran (Islamic Republic of)	A7	2022	380.5	156.9	0	0	0	10% by 2015 and 75% by 2023
Iraq	A7	2023	108.4	66.4	0	0	0	13.82% by 2019 and 69% by 2025
Jamaica	A7	2023	16.3	1.4	0	0	0	35% by 2020 and 100% by 2030
Jordan	A7	2022	83.0	14.4	0	0	0	20% by 2017 and 50% by 2022
Kenya	A7	2022	52.2	3.0	0	0	0	21.1% by 2017 and 100% by 2030
Kiribati	A7	2022	0.1	0.0	0	0	0	35% by 2020 and 100% by 2030
Kuwait	A7	2022	418.6	180.6	0	0	0	39.2% by 2020 and 67.5% by 2025
Kyrgyzstan	A7	2022	4.1	0.0	0	0	0	10% by 2015, 97.5% by 2020 and 100% by 2025
Lao People's Democratic Republic (the)	A7	2022	2.3	1.4	0	0	0	35% by 2020 and 100% by 2030
Lebanon	CP	2023	73.5	24.6	0	0	0	18% by 2017, 75% by 2024 and 100% by 2030
Lesotho	A7	2022	3.5	0.4	0	0	0	35% by 2020 and 100% by 2030
Liberia	A7	2023	5.3	2.2	0	0	0	35% by 2020 and 100% by 2030
Libya***	A7	2022	118.4	73.0	0	0	0	10% by 2020 and 80.5% by 2027
Madagascar	A7	2022	16.6	9.4	0	0	0	35% by 2020 and 100% by 2030
Malawi	A7	2023	10.8	1.9	0	0	0	35% by 2020 and 100% by 2030
Malaysia	A7	2022	515.8	187.1	0	0	0	15% by 2016 and 42.9% by 2022
Maldives	A7	2023	4.6	0.0	0	0	0	100% by 2020
Mali	A7	2022	15.0	6.1	0	0	0	35% by 2020
Marshall Islands (the)	A7	2022	0.2	0.0	0	0	0	35% by 2020 and 100% by 2030
Mauritania	A7	2022	20.5	13.0	0	0	0	67.5% by 2025
Mauritius	A7	2022	8.0	1.8	0	0	0	100% by 2030

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Mexico	A7	2022	1,148.8	208.7	0	0	0	30% by 2018 and 67.5% by 2023
Micronesia (Federated States of)	A7	2022	0.2	0.1	0	0	0	35% by 2020 and 100% by 2030
Mongolia	A7	2022	1.4	0.1	0	0	0	35% by 2020 and 100% by 2030
Montenegro	A7	2023	0.8	0.0	0	0	0	35% by 2020 and 100% by 2025
Morocco	A7	2022	51.4	19.8	0	0	0	20% by 2020 and 67.5% by 2025
Mozambique	CP	2023	8.7	2.0	0	0	0	35% by 2020 and 100% by 2030
Myanmar	A7	2022	4.3	2.5	0	0	0	35% by 2020
Namibia	A7	2022	8.4	0.4	0	0	0	100% by 2025
Nauru	A7	2022	0.0	0.0	0	0	0	35% by 2020 and 100% by 2030
Nepal	A7	2022	1.1	0.4	0	0	0	35% by 2020 and 100% by 2030
Nicaragua	A7	2022	6.8	1.6	0	0	0	35% by 2020 and 100% by 2030
Niger (the)	A7	2022	16.0	7.5	0	0	0	35% by 2020 and 100% by 2030
Nigeria	A7	2022	344.9	115.8	0	0	0	10% by 2015, 51.35% by 2023 and 67.5% by 2025
Niue	A7	2022	0.0	0.0	0	0	0	35% by 2020 and 100% by 2030
North Macedonia	A7	2022	1.8	0.1	0	0	0	35% by 2020 and 100% by 2028
Oman	A7	2022	31.5	12.8	0	0	0	10% by 2015, 35% by 2020 and 100% by 2030
Pakistan	A7	2022	248.1	119.1	0	0	0	10% by 2015, 50% by 2020 and 100% by 2030
Palau	A7	2022	0.2	0.0	0	0	0	35% by 2020 and 100% by 2030
Panama	A7	2022	24.8	10.1	0	0	0	10% by 2015, 35% by 2020 and 100% by 2030
Papua New Guinea	A7	2022	3.3	0.9	0	0	0	100% by 2025
Paraguay	A7	2023	18.0	10.6	0	0	0	35% by 2020 and 100% by 2030
Peru	A7	2022	26.9	12.1	0	0	0	10% by 2015 and 67.5% by 2025
Philippines (the)	A7	2022	162.0	69.7	0	0	0	10% by 2015, 50% by 2021 and 100% by 2030
Qatar	A7	2022	86.9	56.4	0	0	0	20% by 2015 and 67.5% by 2026
Republic of Korea (the)	A7	2022	1,908.0	794.9	0	0	0	

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Republic of Moldova (the)	CP	2023	1.0	0.3	0	0	0	10% by 2015, 35% by 2020 and 100% by 2030
Rwanda	A7	2022	4.1	1.3	0	0	0	35% by 2020 and 100% by 2030
Saint Kitts and Nevis	A7	2022	0.5	0.1	0	0	0	35% by 2020
Saint Lucia	A7	2022	1.1	0.3	0	0	0	35% by 2020 and 100% by 2030
Saint Vincent and the Grenadines	A7	2023	0.3	0.0	0	0	0	100% by 2025
Samoa	A7	2022	0.3	0.0	0	0	0	35% by 2020 and 100% by 2030
Sao Tome and Principe	A7	2022	2.2	0.1	0	0	0	35% by 2020
Saudi Arabia	A7	2022	1,468.7	876.0	0	0	0	40% by 2020
Senegal	A7	2022	36.2	10.7	0	0	0	35% by 2020 and 81.1% by 2025
Serbia	A7	2022	8.4	4.5	0	0	0	35% by 2020 and 67.5% by 2025
Seychelles	A7	2023	1.4	0.0	0	0	0	100% by 2025
Sierra Leone	A7	2022	1.7	0.6	0	0	0	35% by 2020 and 100% by 2030
Singapore	A7	2022	216.1	60.4	0	0	0	
Solomon Islands	A7	2022	2.0	0.1	0	0	0	35% by 2020 and 100% by 2030
Somalia	A7	2022	45.1	10.2	0	0	0	35% by 2020
South Africa	A7	2022	369.7	73.8	0	0	0	35% by 2020 and 100% by 2030
South Sudan	CP	2023	4.1	0.8	0	0	0	35% by 2024
Sri Lanka	A7	2022	13.9	7.7	0	0	0	35% by 2020 and 100% by 2030
Sudan (the)	A7	2022	52.7	8.3	0	0	0	30% by 2017, 75% by 2020 and 100% by 2030
Suriname	A7	2022	2.0	0.1	0	0	0	35% by 2020 and 100% by 2030
Syrian Arab Republic	A7	2022	135.0	56.1	0	0	0	67.5% by 2025
Thailand	A7	2022	927.6	293.1	0	0	0	15% by 2018 and 61.8% by 2023
Timor-Leste	CP	2023	0.5	0.1	0	0	0	10% by 2015 and 78% by 2025
Togo	A7	2022	20.0	6.7	0	0	0	35% by 2020 and 100% by 2030
Tonga	A7	2022	0.1	0.0	0	0	0	35% by 2020 and 100% by 2030
Trinidad and Tobago	A7	2022	46.0	12.8	0	0	0	35% by 2020 and 100% by 2030
Tunisia	A7	2022	40.7	20.7	0	0	0	15% by 2020 and 67.5% by 2025
Türkiye	A7	2022	551.5	2.6	0	0	0	100% by 2025
Turkmenistan	A7	2022	6.8	4.0	0	0	0	35% by 2020 and 67.5% by 2025
Tuvalu	A7	2022	0.1	0.0	0	0	0	35% by 2020 and 100% by 2030

Country	Source	Year of latest consumption	Baseline (ODP tonnes)	Latest consumption (ODP tonnes)	% over freeze	% over 10% reduction	% over 35% reduction	Control addressed by HPMPs
Uganda	A7	2022	0.2	0.1	0	0	0	35% by 2020 and 100% by 2030
United Arab Emirates (the)	A7	2022	557.1	358.5	0	0	0	
United Republic of Tanzania (the)	A7	2022	1.7	0.8	0	0	0	35% by 2020 and 100% by 2030
Uruguay	A7	2022	23.4	12.8	0	0	0	10% by 2015, 35% by 2020 and 100% by 2030
Vanuatu	A7	2022	0.3	0.0	0	0	0	35% by 2020 and 100% by 2030
Venezuela (Bolivarian Republic of)	A7	2022	207.0	6.6	0	0	0	10% by 2015 and 100% by 2027
Viet Nam	A7	2022	221.2	139.0	0	0	0	10% by 2015, 35% by 2022 and 100% by 2030
Yemen	A7	2022	158.2	93.1	0	0	0	HPMP cancelled
Zambia	A7	2023	5.0	2.1	0	0	0	35% by 2020 and 100% by 2030
Zimbabwe	CP	2023	17.8	3.6	0	0	0	35% by 2020 and 100% by 2030

(\*) Excluding the Republic of Korea, Singapore, and the United Arab Emirates which do not request assistance from the Multilateral Fund for their phase-out of controlled substances. They are included in the table above.

(\*\*) The Democratic People's Republic of Korea's latest consumption is below the consumption set in the plan of action in decision XXXII/6.

(\*\*\*) Libya's latest consumption is below the consumption set in the plan of action in decision XXVII/11.

Annex III

HFC DATA IN CO<sub>2</sub>-EQUIVALENT TONNES

Country	Ratified Kigali Amendment*	Baseline	2020	2021	2022	2023	2022 or 2023 as percentage of baseline	Control measures addressed by KIPs (approval)
Afghanistan								
Albania	Yes	883,849	748,541	704,715	816,384		92	10% of baseline in 2029
Algeria								
Angola	Yes	3,878,000	3,812,357	757,864	6,040,225		156	
Antigua and Barbuda								
Argentina	Yes	19,219,484	12,190,682	8,933,937	16,648,586		87	
Armenia	Yes	475,254	195,790	317,041	465,778		98	
Bahamas (the)	Yes		110,797	60,888	200,934			
Bahrain								
Bangladesh	Yes	5,473,532	4,048,769	4,292,556	4,490,020		82	
Barbados	Yes	295,419	341,967	180,981	125,780		43	
Belize	Yes	502,263	73,601	1,137,903	121,648	383,298	76	
Benin	Yes	1,763,273	1,253,696	1,279,095	1,230,484		70	
Bhutan	Yes	13,105	2,876	7,941	8,667		66	
Bolivia (Plurinational State of)	Yes	677,884	546,645	410,996	736,368		109	15% of baseline in 2029
Bosnia and Herzegovina	Yes	1,066,653	1,039,114	599,128	1,340,919		126	
Botswana	Yes	389,992	173,589	173,589	116,757		30	
Brazil	Yes	79,503,644	39,896,041	50,519,115	89,756,651		113	
Brunei Darussalam			305,400	280,755				
Burkina Faso	Yes	1,049,523	509,029	384,485	401,625		38	
Burundi	Yes	207,530	51,774	56,843	57,963		28	
Cabo Verde	Yes	38,791	22,797	3,171	25,108	108,860	281	
Cambodia	Yes	1,263,376	901,422	955,147	972,813		77	10% of baseline in 2029
Cameroon	Yes	4,760,203	3,355,712	3,153,776	3,203,591	3,579,009	75	30% of baseline in 2030
Central African Republic (the)								
Chad	Yes	4,154,644	2,838,600	3,217,693	5,374,554		129	
Chile	Yes	6,698,107	4,465,255	4,957,950	7,089,350		106	10% of baseline in 2029
China	Yes	905,144,032	529,799,116	580,648,012	666,491,379		74	
Colombia	Yes	8,652,982	5,064,307	5,086,999	9,242,759		107	
Comoros (the)	Yes	34,958	35,941	40,697	19,482		56	
Congo (the)	Yes	504,649	281,524	289,342	292,240	261,413	52	48.7% of baseline in 2029
Cook Islands (the)	Yes	6,461	1,521	6,647	8,065		125	
Costa Rica	Yes	1,450,799	1,100,536	953,108	1,578,209		109	
Cote d'Ivoire	Yes	21,289,132	25,276,054	25,276,054	9,223,500		43	
Cuba	Yes	1,030,662	739,658	519,644	882,672		86	10% of baseline in 2029
Democratic People's Republic of Korea (the)	Yes		496,210	510,510	531,960			
Democratic Republic of the Congo (the)								
Djibouti	Yes							
Dominica				3,435	24,230			
Dominican Republic (the)	Yes	3,834,089	2,472,708	2,071,592	3,713,933		97	10% of baseline in 2029

UNEP/OzL.Pro/ExCom/94/5  
Annex III

Country	Ratified Kigali Amendment*	Baseline	2020	2021	2022	2023	2022 or 2023 as percentage of baseline	Control measures addressed by KIPs (approval)
Ecuador	Yes	3,179,294	2,212,148	1,931,128	3,937,954		124	14% of baseline in 2029
Egypt	Yes							
El Salvador	Yes	964,120	706,606	785,415	705,339		73	
Equatorial Guinea		271,411	280,362	73,076	57,178		21	
Eritrea	Yes							
Eswatini (the Kingdom of)	Yes	105,500	32,388	104,320	69,106		66	
Ethiopia	Yes	347,035	281,607	306,842	99,705		29	
Fiji	Yes	443,528	226,444	302,961	433,181		98	
Gabon	Yes	2,182,210	1,805,193	2,063,886	740,030		34	
Gambia (the)	Yes	271,515	173,033	282,417	258,735		95	
Georgia	Yes	813,152	522,390	730,774	848,397		104	
Ghana	Yes	1,805,702	471,391	550,143	646,823		36	58% of baseline in 2030
Grenada	Yes	52,815	32,006	43,461	29,700		56	10% of baseline in 2029
Guatemala	Yes	1,215,970	959,866	885,589	1,326,577		109	
Guinea	Yes	1,826,976	878,385	1,477,938	1,673,662		92	
Guinea-Bissau	Yes	722,391	743,866	633,559	609,742		84	
Guyana		146,169	60,724	112,245	156,067		107	
Haiti		149,322	75,275	98,829	40,916		27	
Honduras	Yes	1,460,674	1,061,901	1,082,441	1,057,751		72	
India	Yes			41,787,290	57,219,531			
Indonesia	Yes	23,370,721	11,107,955	9,707,351	30,402,883		130	
Iran (Islamic Republic of)								
Iraq								
Jamaica								
Jordan	Yes	2,808,101	1,348,284	1,521,499	1,707,173		61	54% of baseline in 2030
Kenya	Yes	1,543,824	603,944	365,395	315,618		20	
Kiribati	Yes	8,176	7,063	10,471	3,569		44	
Kuwait								
Kyrgyzstan	Yes	450,382	291,736	348,551	487,231		108	10% of baseline in 2029
Lao People's Democratic Republic (the)	Yes	324,226	253,660	277,709	293,334		90	
Lebanon	Yes	2,556,533	1,743,012	1,604,665	1,532,493		60	
Lesotho	Yes	103,221	51,406	26,230	10,797		10	
Liberia	Yes	180,909	73,313	85,249	47,273	112,645	62	
Libya								
Madagascar		1,719,334	1,090,927	1,437,172	1,560,674		91	
Malawi	Yes	428,435	196,209	196,557	199,697	193,561	45	54% of baseline in 2030
Malaysia	Yes	26,703,717	14,569,917	13,444,271	27,489,898		103	10% of baseline in 2029
Maldives	Yes	434,219	289,705	315,809	440,495	317,887	73	
Mali	Yes	399,935	81,129	50,780	106,988		27	
Marshall Islands (the)	Yes	10,824	7,067	4,380	6,943		64	
Mauritania								
Mauritius	Yes	665,957	503,851	336,000	650,471		98	
Mexico	Yes	76,982,664	48,211,034	47,994,455	95,644,142		124	10% of baseline in 2029
Micronesia (Federated States of)	Yes	13,600	8,341	8,582	15,017		110	
Mongolia	Yes	57,309	24,183	31,701	32,305		56	



Country	Ratified Kigali Amendment*	Baseline	2020	2021	2022	2023	2022 or 2023 as percentage of baseline	Control measures addressed by KIPs (approval)
Montenegro	Yes	155,854	170,362	107,504	140,724	191,587	123	
Morocco	Yes	2,134,190	1,687,148	1,475,421	589,312		28	
Mozambique	Yes	655,255	348,600	438,536	621,850		95	
Myanmar								
Namibia	Yes	774,924	796,190	352,865	652,217		84	
Nauru	Yes	1,204	335	1,186	1,456		121	
Nepal								
Nicaragua	Yes	582,295	461,976	498,903	384,411		66	10% of baseline in 2029
Niger (the)	Yes	1,222,358	985,514	843,475	813,172		67	35.2% of baseline in 2029
Nigeria	Yes	15,187,779	2,620,048	8,381,305	17,374,682		114	
Niue	Yes	201	0	74	0		0	
North Macedonia	Yes	397,843	363,454	347,746	366,617		92	18.7% of baseline in 2029
Oman			1,821,602	2,185,789	2,089,387			
Pakistan			9,456,060					
Palau	Yes	10,368	7,676	6,626	6,318		61	
Panama	Yes	2,543,386	1,474,052	1,978,141	2,708,376		106	10% of baseline in 2029
Papua New Guinea					523,271			
Paraguay	Yes	1,684,582	1,467,204	876,498	1,563,023	1,546,758	92	
Peru	Yes	2,735,721	2,179,188	1,605,215	2,785,607		102	10% of baseline in 2029
Philippines (the)	Yes	11,903,687	7,170,780	6,013,387	14,908,531		125	
Qatar								
Republic of Korea (the)	Yes	100,784,627	63,028,325	61,076,143	67,989,650		67	
Republic of Moldova (the)	Yes	371,068	379,136	340,079	333,986		90	
Rwanda	Yes	336,373	268,616	266,728	221,209		66	
Saint Kitts and Nevis								
Saint Lucia	Yes	83,735	32,643	29,346	120,179		144	
Saint Vincent and the Grenadines	Yes	25,280	16,509	25,807	15,416	-962	-4	
Samoa	Yes	20,557	24,593	9,997	10,845		53	
Sao Tome and Principe	Yes	71,039	17,696	29,038	28,907		41	
Saudi Arabia								
Senegal	Yes	2,664,194	1,829,973	1,912,559	1,930,179		72	
Serbia	Yes	3,261,874	2,616,859	1,818,031	4,812,148		148	
Seychelles	Yes	249,400	140,392	233,760	286,660	223,975	90	
Sierra Leone	Yes	350,905	250,376	308,252	386,912		110	
Singapore	Yes	10,583,163	5,973,403	6,237,038	8,426,504		80	
Solomon Islands	Yes	69,516	24,707	30,525	29,625		43	
Somalia	Yes	1,276,672	894,881	883,056	348,650		27	
South Africa	Yes	13,843,139	8,221,905	9,164,240	8,647,454		62	
South Sudan		221,410	172,588	166,868	60,060		27	
Sri Lanka	Yes	1,170,234	683,132	947,951	1,085,024		93	
Sudan (the)		1,743,144	1,244,369	1,293,587	1,397,900		80	
Suriname		272,996	237,803	118,970	334,985		123	
Syrian Arab Republic	Yes	18,150,706	22,940,500	13,883,500	12,403,200		68	
Thailand	Yes							
Timor-Leste								
Togo	Yes	1,124,896	607,767	635,045	852,133		76	
Tonga	Yes	7,676	3,930	6,663	3,433		45	
Trinidad and Tobago	Yes	5,681,787	4,425,345	5,201,433	4,597,414		81	10% of baseline in 2029

Country	Ratified Kigali Amendment*	Baseline	2020	2021	2022	2023	2022 or 2023 as percentage of baseline	Control measures addressed by KIPs (approval)
Tunisia	Yes	2,367,840	1,719,614	1,219,943	1,637,099		69	
Türkiye	Yes	37,117,410	17,305,994	21,777,055	46,306,331		125	
Turkmenistan	Yes	597,121	586,253	510,256	256,793		43	10% of baseline in 2029
Tuvalu	Yes	2,206	296	343	178		8	
Uganda	Yes	39,432	48,950	46,209	13,710		35	
United Arab Emirates (the)	Yes							
United Republic of Tanzania (the)	Yes	218,611	252,760	151,133	143,307		66	
Uruguay	Yes	1,012,431	613,574	431,118	571,556		56	
Vanuatu	Yes	20,482	11,915	13,781	17,511		85	
Venezuela (Bolivarian Republic of)	Yes	5,157,619	753,900	799,335	2,644,630		51	
Viet Nam	Yes	13,991,360	10,061,296	9,765,603	10,727,091		77	10% of baseline in 2029
Yemen								
Zambia	Yes	699,513	293,732	672,741	814,585	823,415	118	
Zimbabwe	Yes	1,210,624	1,009,387	733,188	795,792		66	

\* As of 19 April 2024.