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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-seventh Meeting
Montreal, 28 June-2 July 2021¹

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 countries² 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).³ 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 ODS production and consumption trends.

2. Parties are encouraged to submit annually their Article (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 2020. All countries that submitted requests for funding to the 87th meeting also submitted 2020 CP data, except the Democratic Republic of the Congo, Egypt, Eswatini (the Kingdom of), Ethiopia, Gabon, Guinea-Bissau, India, Kuwait, Liberia, Nicaragua, Rwanda, Somalia, Sri Lanka and Viet Nam.

Table 1. A7 and CP data reports submitted by A5 Parties (as of 11 May 2021)

Data	2013	2014	2015	2016	2017	2018	2019	2020
A7	147	147	147	147	147	147	146	49
CP	145	143*	143**	143**	143**	143**	143**	91

* Except for Yemen as there are 144 A5 countries (excluding Croatia, which became a non-Article 5 country in 2014).

** Except for Yemen.

¹ Online meetings and an intersessional approval process will be held in June and July 2021 due to coronavirus disease (COVID-19)

² 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.

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

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

Scope of the document

3. This document consists of the following four parts:

Part 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 CFC, halon, 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.⁴ This section also provides data on HFC under A7 or CP data reports

Part II: A5 countries subject to decisions on compliance by the Parties

Part III: Data on the implementation of CPs for HCFCs⁵ and HFCs:⁶ Regarding HCFCs, this section presents an analysis on the data contained in CP data reports, including HCFC production versus consumption, sector distribution of HCFCs, prices of controlled substances and alternative substances, and issues related to CP reports. Regarding HFCs, this section presents an analysis on consumption data contained in the 2019 CP data reports. As of 11 May 2021, only 91 CP data reports were submitted for 2020, and 63 of these reports contained HFC data; therefore, the analysis is made only up to 2019.⁷

Part IV: Section B1 of the revised format for CP data reports (decision 84/7(d))

4. This document also includes the following three annexes:

Annex I: MB consumption and production for quarantine and pre-shipment (QPS) applications

Annex II: HCFC analysis

Annex III: HFC data (measured in CO₂-equivalent)

PART I: STATUS OF AND PROSPECTS FOR COMPLIANCE OF A5 COUNTRIES

Licensing and quota systems

5. All A5 countries have established licensing systems pursuant to Article 4B of the Montreal

⁴ As at December 2019, completed projects had phased out 285,052 ODP tonnes of consumption and 204,189 ODP tonnes of production. The completed projects were valued at US \$2.86 billion out of an approved total of approximately US \$3.37 billion.

⁵ 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)).

⁶ At its 84th 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)).

⁷ The analysis in document UNEP/OzL.Pro/ExCom/86/8 was also based on data reported for 2019.

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. Forty-three (27 low-volume-consuming (LVC) and 16 non-LVC countries) of the 82 countries that have ratified the Kigali Amendment have established a HFC licensing system.

Production and consumption

6. The complete phase-out of production and consumption of CFC, halon, 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 (for those A5 countries that had ratified the Kigali Amendment) are the only substances under the Montreal Protocol where consumption and production is still allowed.

Production sector

7. MB is produced in one A5 country (China).⁸ 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.⁹ In 2019, zero ODP tonnes of MB were produced.

8. 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 30.4 per cent below the aggregated production baseline.

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

Party	2012	2013	2014	2015	2016	2017	2018	2019	2020	Baseline
HCFC-22										
Argentina	230.5	107.3	125.7	134.5	95.8	100.3	65.6	88.3		224.6
China	20,050.1	15,866.9	16,497.0	13,391.0	14,086.3	13,445.7	13,636.4	13,598.2		29,122.0*
Democratic People's Republic of Korea (the)	28.7	31.8	28.9	27.4	24.8	24.8	24.8	27.0		27.6
India	1,565.4	1,352.1	1,465.7	1,727.6	1,665.5	1,789.5	1,908.0	1,933.1		2,399.5
Mexico	298.3	317.1	223.5	160.9	166.8	190.1	183.8	134.8	20.2	697.0
Republic of Korea	306.7	357.6	364.7	348.9	240.3	305.6	289.9	271.5		395.1
Venezuela (Bolivarian Republic of)	160.3	121.2	86.1	37.2	14.3	15.0	1.9	0.0		123.1
Total HCFC-22	22,639.9	18,153.9	18,791.7	15,827.6	16,293.8	15,871.0	16,110.3	16,052.9	20.2	32,988.9
HCFC-141b										
China	12,884.4	9,583.6	9,560.2	7,246.5	7,278.2	7,076.8	6,321.1	6,101.6		*
HCFC-142b										
China	1,440.4	1,102.0	1,076.8	1,224.3	1,110.5	1,115.5	756.3	816.0		*
Total	36,964.7	28,839.6	29,428.6	24,298.3	24,682.5	24,063.3	23,187.8	22,970.4	20.2	32,988.9

* 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.

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

⁹ 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). A progress report on the implementation of the China MB production sector was submitted to the 86th meeting (UNEP/OzL.Pro/ExCom/86/21/Add.1)

9. An HCFC production phase-out management plan (HPPMP) was approved for one country (China).¹⁰ One A5 country has reported HCFC production above the 2015 Montreal Protocol compliance target in 2019 (the Democratic People’s Republic of Korea); therefore, the country is in non-compliance with the 10 per cent reduction target.¹¹ Funding has not been approved for the HCFC production sector for this country.

Consumption sector

CFC, halon, CTC, MB and TCA

10. All A5 countries have reported zero consumption of CFC, halon and TCA in 2019 or 2020.

11. Only two A5 countries have reported CTC consumption in 2019 or 2020 for laboratory and analytical-use (China (156.70 ODP tonnes) and Mexico (0.1 ODP tonnes)). Although the consumption was above the 2010 Montreal Protocol compliance target, the Parties have extended the global laboratory and analytical-use exemption until 31 December 2021 (decision XXVI/5).

12. Only two A5 countries¹² have reported MB consumption in 2019, as shown in Table 3. Although their consumption was above the 2015 Montreal Protocol compliance target, the Parties approved consumption of MB for critical uses for these countries.

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

Country	Source	Year of latest consumption	Baseline	Latest consumption
Argentina*	A7	2019	411.3	24.7
South Africa**	A7	2019	602.7	24.6

* Allowable level of consumption of 24.79 ODP tonnes for 2019 per decision XXX/9.

** Allowable level of consumption of 24.60 ODP tonnes for 2019 per decision XXX/9.

13. Thirty-nine A5 countries reported MB consumption and two A5 countries reported MB production for QPS applications under A7 data, as shown in Annex I to the present document. The consumption for these countries is not eligible for funding.

HCFC consumption

14. A total of 147 A5 countries have an established HCFC baseline for compliance, with an aggregated latest consumption level of 22,255.7 ODP tonnes (352,039.7 mt), as shown in Table 4. The three main HCFCs are: HCFC-22 (70.6 per cent of the total consumption measured in ODP tonnes), HCFC-141b (25.7 per cent) and HCFC-142b (3.5 per cent).

Table 4. Baseline and latest HCFC consumption data by type of HCFC (A7 data)

HCFC	Baseline		Consumption*		% of total ODP tonnes
	Metric tonnes	ODP tonnes	Metric tonnes	ODP tonnes	
HCFC-123	2,337.0	46.7	1,921.5	38.4	0.2
HCFC-124	1,270.7	28.0	437.5	9.6	0.0
HCFC-141b	107,871.6	11,865.9	51,925.3	5,711.8	25.7
HCFC-142b	33,195.5	2,157.7	11,944.7	776.4	3.5
HCFC-22	394,654.7	21,706.0	285,745.0	15,716.0	70.6
HCFC-225	30.4	2.1	38.8	2.7	0.0

¹⁰ Stage II of the HPPMP for China was approved at the 86th meeting. The draft Agreement has been submitted to the 87th meeting.

¹¹ Decision XXXII/6.

¹² A total of 100 A5 countries received financial assistance from the Multilateral Fund to phase out consumption and production (two countries) of MB.

HCFC	Baseline		Consumption*		% of total
	Metric tonnes	ODP tonnes	Metric tonnes	ODP tonnes	ODP tonnes
HCFC-225ca	70.0	1.8	12.2	0.3	0.0
HCFC-225cb	20.9	0.7	14.6	0.5	0.0
Total	539,450.8	35,808.9	352,039.7	22,255.7	100.0

* Including Republic of Korea (1,310.5 ODP tonnes), Singapore (58.0 ODP tonnes) and the United Arab Emirates (475.3 ODP tonnes).

15. Only one A5 country has reported HCFC consumption above the 2015 Montreal Protocol compliance target in 2019 (the Democratic People's Republic of Korea).¹³ This country is in non-compliance with the 10 per cent reduction target. UNIDO submitted a progress report on the implementation of stage I of the HCFC phase-out management plan (HPMP) for the Democratic People's Republic of Korea at the 85th meeting.¹⁴

HCFC phase-out management plans

16. All 145 countries have received financial assistance for the preparation of project proposals to phase out HCFCs. As a result, the Executive Committee has approved stage I of the HPMPs for 145 countries,¹⁵ stage II for 73 countries and stage III for three countries, at a total value of US \$1.12 billion (approved in principle) of which US \$899.96 million has been disbursed to address compliance with the Montreal Protocol control levels as follows:

- (a) One non-LVC country (Qatar) to address compliance up to 2015. This country has submitted a request for stage II at the 87th meeting;¹⁶ it is in compliance with the Montreal Protocol;
- (b) Sixty-three countries (37 LVC and 26 non-LVC countries), to address compliance up to 2020;
- (c) Twenty-seven countries to address compliance up to 2025; and
- (d) Fifty countries (Bhutan, Botswana, Brunei Darussalam, Cambodia, the Cook Islands, Costa Rica, Cuba, the Dominican Republic, Croatia,¹⁷ Ecuador, Eswatini (the Kingdom of), the Gambia, Guatemala, Guyana, Honduras, Jamaica, Kenya, Kiribati, Kyrgyzstan, the Lao People's Democratic Republic, Malawi, Maldives, the Marshall Islands, Mauritius, Micronesia (Federated States of), Mongolia, Montenegro, Namibia, Nauru, Nepal, Nicaragua, Niue, Palau, Panama, Papua New Guinea, Rwanda, Saint Vincent and the Grenadines, Samoa, Seychelles, Solomon Islands, Sri Lanka, Tonga, Trinidad and Tobago, Turkey, Tuvalu, Uganda, Uruguay, Vanuatu, Zambia and Zimbabwe), to completely phase out HCFCs between 2020 and 2035.

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

¹³ Decision XXXII/6.

¹⁴ Consideration of the progress report included in the Reports on projects with specific reporting requirements (UNEP/OzL.Pro/ExCom/86/21) was deferred to the 87th meeting in line with the procedures for holding the 85th and 86th meetings agreed by the Executive Committee.

¹⁵ For various reasons, stage I of the HPMPs for three countries (Antigua and Barbuda, the Central African Republic, and Yemen) were cancelled at the 82nd meeting and Saudi Arabia was cancelled at the 86th meeting.

¹⁶ UNEP/OzL.Pro/ExCom/87/34

¹⁷ Croatia became a non-Article 5 country in 2014, and completely phased out HCFCs by 2015.

Remaining HCFC consumption

18. Implementation of approved stages I, II and III of the HPMPs will result in the phase-out of approximately 71 per cent of the starting point for aggregate reduction of HCFC consumption and 86 per cent of the consumption of HCFC-141b contained in imported pre-blended polyols. Table 5 shows the aggregate remaining HCFC consumption¹⁸ by type of HCFC 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	30.25	8.91	21.04	29.5
HCFC-124	26.42	26.10	2.22	23.88	8.5
HCFC-141	0.94	0.94	0.94	0.00	100.0
HCFC-141b	10,668.24	10,676.36	10,473.88	202.48	98.1
HCFC-142b	2,000.80	2,016.90	1,376.68	640.22	68.3
HCFC-21	0.74	0.74	0.74	0.00	100.0
HCFC-22	20,424.65	19,851.51	11,385.78	8,282.73	57.4
HCFC-225	2.82	2.82	1.13	1.69	40.1
HCFC-225ca	0.42	0.42	0.00	0.42	0.0
HCFC-225cb	0.68	0.68	0.00	0.68	0.0
Total	33,157.61	32,606.72	23,250.28	9,173.14	71.3
HCFC-141b polyol**	0.00	657.20	561.97	91.99	85.5

* As of the intersessional approval process for the 86th meeting.

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

HFC consumption

19. Of the 147 A5 countries, 99 countries have reported HFC data in 2018, 2019 or 2020. Seventy-three of the 99 countries have ratified the Kigali Amendment. Annex III to the present document includes information on the latest reported HFC consumption data (measured in CO₂-equivalent) for these 99 countries.

PART II: A5 COUNTRIES SUBJECT TO DECISIONS ON COMPLIANCE

20. At their Thirty-Second Meeting, the Parties to the Montreal Protocol found one A5 country (the Democratic People's Republic of Korea)¹⁹ in non-compliance with its obligations under the Montreal Protocol.

PART III: DATA ON THE IMPLEMENTATION OF CPs FOR HCFCs AND HFCs**HCFC data****HCFC production versus consumption**

21. Since 2011, the reported levels of the three main HCFCs produced in A5 countries have been above

¹⁸ 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.

¹⁹ In decision XXXII/6, the Parties *inter alia* noted with appreciation the submission by the Democratic People's Republic of Korea of an explanation for its non-compliance and a plan of action to ensure its return to compliance with the Protocol's HCFC consumption control measures and production control measures in 2023; and urged the country to work with the relevant implementing agencies to explore options for the implementation of its plan of action to phase out the consumption and production of HCFCs subject to the application of the relevant United Nations Security Council resolutions.

the levels of consumption except for HCFC-142b in 2011, as shown in Table 6.

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

HCFC	2011	2012	2013	2014	2015	2016	2017	2018	2019
Production									
HCFC-22	21,665.7	23,552.4	18,769.0	20,266.4	16,782.6	16,191.2	15,725.9	16,061.3	15,959.3
HCFC-141b	12,311.5	12,884.4	9,583.6	9,560.2	7,246.5	7,278.2	7,076.8	6,321.1	6,101.6
HCFC-142b	1,759.8	1,440.4	1,102.0	1,076.8	1,224.3	1,110.5	1,115.5	756.3	816.0
Consumption									
HCFC-22	19,847.6	22,581.7	17,817.0	17,486.6	15,191.4	15,406.6	15,092.3	15,103.0	14,850.3
HCFC-141b	11,978.2	11,735.9	8,981.3	8,752.9	6,771.4	6,383.7	6,311.0	5,724.8	5,531.1
HCFC-142b	1,827.9	1,439.4	1,014.5	770.0	889.8	725.4	773.5	429.2	486.1
Production – consumption									
HCFC-22	1,818.1	970.7	952.0	2,779.8	1,591.2	784.6	633.6	958.3	1,109.0
HCFC-141b	333.3	1,148.5	602.3	807.3	475.1	894.5	765.8	596.3	570.5
HCFC-142b	(68.1)	1.0	87.5	306.8	334.5	385.1	342.0	327.1	329.9

Sector distribution of HCFC consumption

22. Table 7 presents the sector distribution of aggregated HCFC consumption for the period 2011 to 2019, where countries are grouped as follows: China, as the largest consumer (and producer) of HCFCs; the 14 largest consuming countries (excluding China);²⁰ and all other countries. In 2019, the three sectors with the largest consumption of HCFCs (measured in ODP tonnes) were the refrigeration servicing (35.3 per cent of the total), foam (33.8 per cent of the total) and the refrigeration manufacturing sectors (27.9 per cent). As the phase-out of HCFCs in the foam and refrigeration manufacturing sectors progresses, the refrigeration servicing sector becomes more relevant.

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

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019
China									
Aerosol	70.5	95.4	137.8	186.2	180.4	189.4		154.0	163.7
Foam	9,576.0	9,031.0	7,473.9	7,404.0	5,522.7	5,872.8	6,220.8	5,679.4	5,669.2
Fire-fighting									
Refrigeration manufacturing	6,740.3	6,586.7	6,014.3	5,602.0	4,951.7	5,107.1	5,106.2	4,856.9	4,746.9
Refrigeration servicing	3,827.0	4,857.8	3,103.8	3,161.7	2,412.0	2,638.3	2,881.4	3,316.8	3,258.3
Solvent	514.1	524.1	466.0	484.8	418.5	413.4	397.0	375.1	385.0
Total for China	20,727.8	21,094.9	17,195.8	16,838.7	13,485.3	14,221.1	14,605.4	14,382.3	14,223.2
14 largest A5 consuming countries*									
Aerosol	82.8	75.0	123.8	119.5	87.3	42.4	5.5	26.9	7.8
Foam	3,517.3	3,867.4	2,645.6	2,342.3	2,077.0	1,572.7	1,501.9	1,275.5	1,058.7
Fire-fighting	9.8	6.0	5.4	4.0	4.0	4.2	4.9	2.3	2.9
Refrigeration manufacturing	2,674.2	3,142.9	2,233.7	2,111.7	1,862.6	1,473.8	1,291.6	1,238.6	1,010.0
Refrigeration servicing	3,246.7	4,213.6	3,029.3	3,142.8	3,148.6	3,262.9	2,805.0	2,615.4	2,835.3
Solvent	80.0	76.3	43.3	38.5	37.1	29.6	53.9	47.5	62.7
Total 14 largest consuming countries	9,610.8	11,381.3	8,081.1	7,758.9	7,216.7	6,385.6	5,662.8	5,206.3	4,977.3

²⁰ Argentina, Brazil, Egypt, India, Indonesia, Iran (Islamic Republic of), Kuwait, Malaysia, Mexico, Nigeria, Saudi Arabia, South Africa, Thailand and Turkey.

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019
129 remaining A5 countries									
Aerosol	0.1	0.2	0.7	0.4	0.3	0.1	0.5		
Foam	1,061.5	1,258.8	963.2	903.8	859.0	818.6	722.4	488.4	463.1
Fire-fighting	9.4	13.3	8.6	11.2	14.0	11.1	7.7	3.2	4.4
Refrigeration manufacturing	703.8	400.7	314.3	289.4	248.3	235.6	216.7	174.7	179.6
Refrigeration servicing	2,178.1	2,372.2	1,995.8	1,910.0	1,761.8	1,603.5	1,516.3	1,464.4	1,405.5
Solvent	38.0	34.1	5.2	3.5	4.9	5.1	3.1	3.2	3.3
Total 129 remaining A5 countries	3,990.8	4,079.3	3,287.7	3,118.2	2,888.4	2,674.0	2,466.7	2,133.9	2,055.8
All A5 countries									
Aerosol	153.4	170.5	262.2	306.1	268.0	232.0	6.0	180.9	171.5
Foam	14,154.8	14,157.2	11,082.6	10,650.1	8,458.8	8,264.1	8,445.0	7,443.3	7,191.0
Fire-fighting	19.1	19.4	14.1	15.2	18.0	15.2	12.6	5.6	7.3
Refrigeration manufacturing	10,118.3	10,130.3	8,562.2	8,003.0	7,062.7	6,816.5	6,614.6	6,270.2	5,936.5
Refrigeration servicing	9,251.8	11,443.6	8,128.9	8,214.6	7,322.5	7,504.7	7,202.7	7,396.7	7,499.1
Solvent	632.0	634.5	514.5	526.9	460.4	448.2	454.0	425.8	450.9
Total all A5 countries	34,329.4	36,555.5	28,564.6	27,715.9	23,590.4	23,280.8	22,734.9	21,722.5	21,256.3
% of total for China	60.4	57.7	60.2	60.8	57.2	61.1	64.2	66.2	66.9
% of total for 14 largest A5 consuming countries	28.0	31.1	28.3	28.0	30.6	27.4	24.9	24.0	23.4
% of total for 129 remaining A5 countries	11.6	11.2	11.5	11.3	12.2	11.5	10.9	9.8	9.7

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

23. 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	2011	2012	2013	2014	2015	2016	2017	2018	2019
HCFC-22									
Aerosol	103.9	124.9	116.4	150.0	134.2	132.0	0.3****	102.3	91.1
Foam*	1,725.7	2,079.2	1,805.6	1,749.5	1,177.3	1,518.5	1,687.2	1,682.3	1,616.4
Fire-fighting	6.2	0.1							
Refrigeration manufacturing	9,270.7	9,474.9	8,012.7	7,531.6	6,746.9	6,590.0	6,329.5	5,995.1	5,759.7
Refrigeration servicing	8,711.8	10,873.6	7,882.3	8,055.1	7,132.4	7,165.6	7,074.9	7,323.0	7,382.7
Solvent	29.3	29.0		0.3	0.7	0.6	0.4	0.4	0.4
Total HCFC-22	19,847.6	22,581.7	17,817.0	17,486.6	15,191.4	15,406.6	15,092.3	15,103.0	14,850.3
HCFC-141b									
Aerosol	49.4	45.4	145.8	156.0	132.0	99.9	5.7****	78.7	80.4
Foam	10,412.3	10,355.0	7,712.9	7,554.8	5,828.1	5,522.9	5,547.5	4,943.4	4,814.0
Fire-fighting	6.0	9.3	6.7	7.6	9.3	5.2	6.3	1.8	3.0

Sector	2011	2012	2013	2014	2015	2016	2017	2018	2019
Refrigeration manufacturing**	814.7	629.6	529.6	447.9	294.2	204.8	264.9	255.8	159.7
Refrigeration servicing	98.7	96.4	75.7	65.5	53.6	107.6	35.9	25.2	26.9
Solvent	597.1	600.2	510.6	521.0	454.4	443.3	450.8	420.0	447.1
Total HCFC-141b	11,978.2	11,735.9	8,981.3	8,752.9	6,771.4	6,383.7	6,311.0	5,724.8	5,531.1
HCFC-142b									
Aerosol	0.1	0.2	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Foam***	1,401.7	990.2	863.7	697.0	773.8	608.3	701.0	398.5	412.3
Fire-fighting									
Refrigeration manufacturing	11.1	7.8	6.5	8.0	7.2	6.9	6.1	5.9	5.9
Refrigeration servicing	414.7	441.3	144.4	64.9	106.9	110.1	66.5	24.9	67.9
Solvent	0.3								
Total HCFC-142b	1,827.9	1,439.4	1,014.5	770.0	889.8	725.4	773.5	429.2	486.1
Other HCFCs	675.7	798.5	751.7	706.4	737.8	765.0	558.0	465.5	388.9
Total	34,329.4	36,555.5	28,564.6	27,715.9	23,590.4	23,280.8	22,734.9	21,722.5	21,256.3

* 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).

HFC data

24. At its 84th 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 2022.²¹

25. In line with the revised CP data report format, the document on Country programme data and prospects for compliance submitted to the 86th meeting,²² presented the first analysis of HFC data reported by A5 Parties under their CP data or A7 data reports. It included an analysis of the sectoral distribution of all reported HFCs measured in metric tonnes (mt) and CO₂ equivalent. It also included an analysis of the trend in the consumption of HFCs reported by A5 Parties under the surveys of ODS alternatives carried out in line with decision 79/43.²³

26. Noting that only 63 A5 Parties have reported 2020 HFC consumption under their CP report data, the present document presents an updated analysis of the reported HFC consumption for 2019. Of the 143 countries which submitted 2019 CP data as of 11 May 2021, 82 countries have ratified the Kigali Amendment. Only 68 of the 82 countries²⁴ have provided HFC data in their 2019 CP reports on time for

²¹ Decision 84/7(c).

²² UNEP/OzL.Pro/ExCom/86/8

²³ During the intersessional approval process established for the 86th meeting, it was suggested to include the results from the surveys of ODS alternatives carried out, in the document to be submitted to the 86th meeting (paragraph 28 of document UNEP/OzL.Pro/ExCom/86/IAP/3). The analysis was contained in paragraph 30 and Table 11 of document UNEP/OzL.Pro/ExCom/86/8. No further analysis is required, noting that the surveys collected data for only three years (i.e., 2012 to 2015), no further data was collected between 2016 and 2019, and not all A5 Parties with an approved survey on ODSs had reported HFC data.

²⁴ Of the 14 remaining, only two countries (the Democratic People's Republic of Korea and Niue) have ratified the Kigali Amendment prior to October 2019 and therefore, have a reporting obligation for 2019.

this analysis. In addition, 18 countries that have not ratified the Kigali Amendment have provided HFC data in their 2019 CP reports.

27. The sector distribution of aggregated HFC consumption for the 86 countries that have submitted 2019 CP data (mt) is presented in Table 9. Of these 86 countries, 55 are LVC countries, accounting for 14.7 per cent of total 2019 HFC consumption and 69.3 per cent of aggregated HCFC baselines for all LVC countries, and 31 are non-LVC countries, accounting for 85.3 per cent of total 2019 HFC consumption and 14.3 per cent of aggregated HCFC baselines for all non-LVC countries.

28. In 2019, the five sectors with the largest consumption of HFCs (measured in mt) were the refrigeration servicing (58.7 per cent of the total), refrigeration manufacturing – air-conditioning (AC) (17.7 per cent), refrigeration manufacturing – others (5.9 per cent), fire fighting (4.9 per cent) and aerosol (3.3 per cent).

Table 9. Sector distribution of HFCs consumed in 2019 (mt)

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total*
				Other	AC	Total*				
HFC-125	0.3		46.2		1,243.8	1.0	3,104.9		3.2	4,826.0
HFC-134							1,031.3			1,031.3
HFC-134a	1,576.5	5.7		3,056.9	7,362.2	843.4	33,240.0	137.0	610.4	50,263.2
HFC-143a							469.2			474.4
HFC-152							3.9		0.1	3.9
HFC-152a	2,714.5	37.9					173.6		16.9	2,943.3
HFC-227ea		14.8	6,219.3				12.3		44.1	6,298.5
HFC-23 (use)						0.2	3.0		0.3	7.9
HFC-236fa							4.7		0.1	4.8
HFC-245fa		197.4		2,864.6					2.7	3,064.8
HFC-32					1,104.7		2,639.9		0.6	5,095.2
HFC-365mfc		203.1	115.2							318.3
HFC-41							1.8			1.8
HFC-43-10mee								3.8	2.1	5.8
R-404A				1,658.7	2.9	155.4	9,086.1		208.1	11,429.2
R-407A							4,551.5		3.6	4,555.1
R-407C					162.5	23.8	6,009.3		52.7	6,398.9
R-407F							16.2			16.2
R-410A				5.0	13,172.4	289.7	14,840.2	65.0	231.2	30,737.2
R-413A							0.8			19.9
R-417A							12.4		2.3	72.2
R-422A							0.2			3.1
R-422D							10.7			35.6
R-425A							0.1			0.1
R-427A							3.9			3.9
R-437A							53.3			53.3
R-438A							66.8		1.4	68.2
R-442A							0.8			0.8
R-448A				35.8			1.1		0.1	37.1
R-449A				27.7			3.9		0.6	32.2
R-452A							0.2		0.6	0.8
R-453A							1.8			1.8
R-507A				21.6		185.9	1,015.9		585.3	1,828.5
R-508B							18.1		0.0	18.2
R-513A							10.4			10.4
HFC-245fa in imported pre-blended polyol		102.4								102.4
HFC-365mfc in imported pre-blended polyol		70.9				2.1				73.0

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total*
				Other	AC	Total*				
HFC-365mfc/ HFC-227ea		559.7							19.2	578.9
HFC-365/227 in imported pre-blended polyol		2.5								2.5
Other HFCs							92.1	0.4		92.5
Total	4,291.3	1,194.5	6,380.7	7,670.3	23,048.4	1,525.8	76,558.7	206.1	1,785.6	130,511.3
LVC	96.5	99.9	3.1	136.8	9.1	17.8	18,803.2		17.5	19,183.9
Non-LVC	4,194.8	1,094.5	6,377.6	7,533.5	23,039.4	1,507.9	57,755.4	206.1	1,768.0	111,327.4

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

29. The sector distribution of aggregated HFC consumption in CO₂-equivalent is presented in Table 10. R-404A, HFC-125, HFC-134a, HFC-227ea and R-410A account for 84.2 per cent of the total consumption in CO₂-equivalent; refrigeration and air-conditioning (RAC) servicing, refrigeration manufacturing – air-conditioning and fire fighting account for 60.1 percent, 16.8 per cent and 7.8 per cent of the total consumption, respectively.

Table 10. Sector distribution of HFCs consumed in 2019 ('000 tons CO₂-equivalent)

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
HFC-125	1.0		161.5		4,353.4	3.6	10,867.1		11.3	16,891.1
HFC-134							1,134.4			1,134.4
HFC-134a	2,254.4	8.2		4,371.3	10,528.0	1,206.1	47,533.2	195.9	872.8	71,876.4
HFC-143a							2,097.5			2,120.8
HFC-152							0.2			0.2
HFC-152a	336.6	4.7					21.5		2.1	365.0
HFC-227ea		47.7	20,026.3				39.7		141.9	20,281.3
HFC-23 (use)**						3.4	44.3		4.7	117.5
HFC-236fa							45.7		1.3	47.0
HFC-245fa		203.4		2,950.6					2.8	3,156.7
HFC-32					745.6		1,782.0		0.4	3,439.3
HFC-365mfc		161.2	91.5							252.7
HFC-41							0.2			0.2
HFC-43-10mee								6.2	3.4	9.6
R-404A				6,505.3	11.2	609.6	35,635.8		816.3	44,825.5
R-407A							9,589.9		7.7	9,597.6
R-407C					288.2	42.2	10,660.5		93.5	11,351.6
R-407F							29.5			29.5
R-410A				10.4	27,503.9	604.9	30,986.3	135.7	482.8	64,179.4
R-413A						1.7	39.2		0.0	40.9
R-417A						29.2	129.7		5.4	169.4
R-422A						0.7	9.0			9.6
R-422D						29.1	68.0			97.1
R-425A							0.2			0.2
R-427A							8.4			8.4
R-437A							96.2			96.2
R-438A							151.4		3.1	154.5
R-442A							1.5			1.5
R-448A				49.7			1.6		0.2	51.4
R-449A				39.0			5.6		0.8	45.4
R-452A							0.5		1.2	1.7
R-453A							3.1			3.1
R-507A				86.2		740.8	4,048.5		2,332.2	7,286.6
R-508B							242.0		0.3	243.4
R-513A							6.5			6.5
HFC-245fa in imported pre-blended polyol		105.5								105.5

HFC	Aerosol	Foam	Fire fighting	Refrigeration manufacturing			Ref. servicing	Solvent	Other	Total***
				Other	AC	Total*				
HFC-365mfc in imported pre-blended polyol		56.3				1.7				58.0
HFC-365mfc/HFC-227ea		518.1								518.1
HFC-365/227 in imported pre-blended polyol		2.4								2.4
Other HFCs							293.4			293.4
Total	2,592.0	1,107.5	20,279.3	14,012.5	43,430.4	3,272.9	155,572.7	337.8	4,784.3	258,869.2

*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.

30. In 2019, the most consumed HFCs including blends were HFC-134a (31.5 per cent), R-410A (20.6 per cent), R-404A (16.6 per cent), R-407C (14.2 per cent) and R-407A (11.7 per cent) for LVC countries, and HFC-134a (39.7 per cent of the total), R-410A (24.1 per cent), R-404A (7.4 per cent), and HFC-227ea (5.7 per cent) for non-LVC countries.

31. In addition, 10 countries (four LVC and six non-LVC countries) reported a total consumption of 7.94 mt of HFC-23 used in the RAC servicing sector including Chile, Costa Rica, Ecuador, Mauritius, Mexico, Nicaragua, Pakistan, Peru, Seychelles and Viet Nam. Only two countries have an obligation to report 2019 data on HFC-23 production and generation under the Kigali Amendment (the Democratic People's Republic of Korea and Mexico) and they have not reported these data in the 2019 country programme report. However, Mexico has reported HFC-23 emissions for one facility amounting to 111.89 metric tonnes in 2019.

Prices of HCFCs, HFCs and alternatives

32. The average prices of HCFCs, HFCs and alternatives reported by A5 countries since 2011 are summarized in Table 11.²⁵ 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)²⁶ that is usually obtained from importers.

Table 11. Average price of HCFCs, HFCs and alternatives²⁷

Substance	Average price (US \$/kg)*									Range (US \$/kg)	Countries (2019)**
	2011	2012	2013	2014	2015	2016	2017	2018	2019		
HCFC-22	9.28	10.06	9.24	10.08	10.07	9.25	10.18	10.24	9.64	1.80 (Dominican Republic (the)) to 38.50 (Chad)	121
HCFC-141b	6.73	6.73	6.65	7.77	7.08	10.00	9.40	10.99	8.23	2.31 (Brazil) to 32.08 (Belize)	26
R-600a	20.97	20.49	20.20	18.02	15.23	15.98	15.80	16.03	16.72	1.43 (China) to 91.58 (Guyana)	84

²⁵ 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.

²⁶ 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.

²⁷ At its 79th 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)).

Substance	Average price (US \$/kg)*									Range (US \$/kg)	Countries (2019)**
	2011	2012	2013	2014	2015	2016	2017	2018	2019		
R-290	22.23	15.60	14.38	21.26	19.08	16.13	16.48	15.92	21.80	0.71 (Cuba) to 119.62 (Antigua and Barbuda)	54
HFC-134a	16.64	14.96	13.65	13.30	14.26	12.83	13.94	12.35	12.31	2.40 (Oman) to 46.00 (Cabo Verde and Chad)	109
R-404A	20.68	18.71	15.41	15.11	15.42	15.32	15.97	14.77	13.76	2.79 (Oman) to 47.50 (Chad)	113
R-407C	21.36	19.04	16.06	15.19	13.97	12.71	13.94	13.71	13.02	2.65 (Oman) to 46.50 (Chad)	80
R-410A	21.70	19.91	16.05	15.28	14.61	16.44	15.47	14.78	14.50	2.07 (China) to 115.59 (Sao Tome and Principe)	112
R-507A	20.78	15.84	13.59	12.21	11.65	11.76	13.33	13.07	12.99	3.70 (Paraguay) to 45.00 (Turkmenistan)	54

* All zero entries were excluded.

** Number of A5 countries that reported prices in 2019.

Issues related to CP data reports

Timely submission of CP data reports

33. In reviewing the timely submission of the CP data reports, the Secretariat noted progress for the year 2020 compared to 2019 as shown in Table 12. Although there is a slight decrease in the monthly submission rates when compared with that of 2019, it can be attributed to the new format and the evolving situation of the COVID-19 pandemic. The Secretariat noted the efforts made by UNEP in following up on the submission of outstanding CP data reports, and keeping the Secretariat informed on progress on a regular basis, including Yemen which still has outstanding CP data report.

Table 12. Monthly rates of submission of CP data reports (as at 11 May 2021)

Month	2013		2014		2015		2016		2017		2018		2019		2020	
	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*	No*	(%)*
January					1	0.69			3	2.08						
February	1	0.69	2	1.39	5	4.17	9	6.25	1	2.78	7	4.86	1	0.69	2	1.39
March	3	2.76	15	11.81	33	27.08	9	12.50	8	8.33	14	14.58	9	6.94	11	9.03
April	38	28.97	48	45.14	27	45.83	49	46.53	60	50.00	64	59.03	63	50.69	50	43.75
May	35	53.10	24	61.81	22	61.11	26	64.58	39	77.08	30	79.86	29	70.83	28	63.19
June	11	60.69	18	74.31	14	70.83	10	71.53	15	87.50	4	82.64	4	73.61		
July	6	64.83	9	80.56	8	76.39	7	76.39	3	89.58	2	84.03	8	79.17		
August	6	68.97	3	82.64	5	79.86	2	77.78	7	94.44	3	86.11	5	82.64		
September	22	84.14	7	87.50	8	85.42	19	90.97	4	97.22	6	90.28	10	89.58		
October	12	92.41	9	93.75	8	90.97	7	95.83	1	97.92	10	97.22	2	90.97		
November	2	93.79			1	91.67	2	97.22	1	98.61	1	97.92	3	93.06		
December			2	95.14							1	98.61	8	98.61		
After Dec.	9	100.00	6	99.31	11	99.31	3	99.31	1	99.31	1	99.31	1	99.31		
Total	145		143		143		143		143		143		143		91	
Outstanding	0		1		1		1		1		1		1		53	

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

34. The Executive Committee may wish to request the Secretariat to send a letter to the Government of Yemen regarding the outstanding CP data reports for the years 2014 to 2019, urging the submission of those reports as soon as possible, as delays affect the ability of the Secretariat to have comprehensive data on ODS consumption and production levels.

Data discrepancies between CP data reports and A7 data

35. The review of the 2020 import data reported under A7 and CP reports revealed a number of potential data discrepancies, as shown in Table 13. The Secretariat discussed with the relevant implementing agency about the potential discrepancies; in all cases, the discrepancies were clarified or resolved.

Table 13. Differences between 2020 A7 and CP consumption data (ODP tonnes)

Country	ODS	Agency for IS	A7 data	CP data	Difference	HCFC-141b polyol*	Remarks
Dominican Republic (the)	HCFC	UNEP	29.0	29.3	0.4	0.0	CP data included 0.4 ODP tonnes of HCFC destroyed, while A7 data did not include it.
Dominican Republic (the)	CFC	UNEP	-6.0	0.0	6.0		Data reported for destruction under A7 was not included in CP data reporting.
Paraguay	HCFC	UNEP	11.4	10.9	-0.5	0.3	CP data is correct. A7 data will be revised.
Tunisia	HCFC	UNIDO	23.3	23.2	-0.02	0.0	CP data is correct. A7 data will be revised.

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

PART IV: SECTION B1 OF THE REVISED FORMAT FOR CP DATA REPORTS (DECISION 84/7(d))

36. At its 84th meeting, in approving the updated revised format of CP data reports, the Executive Committee requested the Secretariat to revise Section B1 for data reporting on manufacturing of blends containing Annex F substances contained in Annex III to document UNEP/OzL.Pro/ExCom/84/9/Rev.1, for consideration at the 85th meeting (decision 84/7(d)).

37. In response to decision 84/7(d), the Secretariat modified Section B1 to facilitate reporting of information on HFC blends, after discussions and consultations with bilateral and implementing agencies, and it was submitted for consideration of the Executive Committee at the 86th meeting. During the extended intersessional approval process, views were expressed with regard to the difficulty in tracking the flow and diverse sources of HFCs and HFC blends, and the involvement of complicated calculation which would result in erroneous data reporting and inconsistency, and to discussing the format at a physical meeting. Subsequently, the Executive Committee deferred consideration of the draft updated revised format of Section B1 of the CP data reports as contained in Annex IV to document UNEP/OzL.Pro/ExCom/86/8 at an in-person Executive Committee meeting.

RECOMMENDATION

38. 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/87/6, including:
 - (i) That 91 countries had submitted 2020 CP data;
 - (ii) That, as at 11 May 2021, Yemen had not submitted CP data for the years 2014 to 2019; and
- (b) To request the Secretariat to send a letter to the Government of Yemen regarding the outstanding CP data reports for the years 2014, 2015, 2016, 2017, 2018 and 2019, urging Yemen 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)
Consumption		
Argentina	2019	23.60
Bahrain	2019	4.50
Barbados	2019	0.10
Brazil	2020	60.50
Chile	2019	69.90
China	2019	522.70
Costa Rica	2019	20.80
Egypt	2020	91.20
El Salvador	2019	115.70
Ethiopia	2019	7.10
Fiji	2019	10.70
Guatemala	2019	6.00
Honduras	2020	15.90
India	2019	1,067.10
Indonesia	2019	81.50
Iran (Islamic Republic of)	2019	13.20
Jamaica	2020	2.50
Jordan	2019	4.80
Malaysia	2019	102.30
Mexico	2020	143.60
Morocco	2020	6.10
Myanmar	2019	15.00
Nicaragua	2019	17.80
Nigeria	2019	2.70
Pakistan	2020	134.40
Peru	2020	3.40
Philippines (the)	2019	20.60
Republic of Korea (the)	2019	269.00
Saudi Arabia	2019	6.00
Singapore	2019	25.30
South Africa	2019	47.50
Sri Lanka	2019	16.30
Suriname	2019	3.20
Thailand	2019	93.70
Turkey	2019	21.00
United Arab Emirates (the)	2019	25.80
Uruguay	2019	12.90
Vanuatu	2019	0.40
Viet Nam	2019	549.30
Total consumption		3,634.10
Production		
China	2019	663.80
India	2019	2,119.50
Total production		2,783.30

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	CP	2020	23.6	6.1	0.0	0.0	0	35% by 2020 and 67.5% by 2025
Albania	CP	2020	6.0	3.1	0.0	0.0	0	35% by 2020 and 67.5% by 2025
Algeria	A7	2020	62.1	39.3	0.0	0.0	0	20% by 2017
Angola	CP	2020	16.0	9.2	0.0	0.0	0	10% by 2015 and 67.5% by 2025
Antigua and Barbuda	CP	2020	0.3	0.0	0.0	0.0	0	HPMP cancelled
Argentina	A7	2019	400.7	150.7	0.0	0.0	0	17.5% by 2017 and 50% by 2022
Armenia	A7	2019	7.0	2.2	0.0	0.0	0	10% by 2015 and 66.6% by 2020
Bahamas (the)	A7	2020	4.8	2.6	0.0	0.0	0	35% by 2020
Bahrain	A7	2019	51.9	37.0	0.0	0.0	10	35% by 2020
Bangladesh	A7	2019	72.6	48.8	0.0	0.0	3	30% by 2018 and 67.5% by 2025
Barbados	A7	2019	3.7	1.7	0.0	0.0	0	35% by 2020
Belize	A7	2020	2.8	1.4	0.0	0.0	0	35% by 2020
Benin	A7	2020	23.8	13.5	0.0	0.0	0	35% by 2020
Bhutan	A7	2019	0.3	0.1	0.0	0.0	0	100% by 2025
Bolivia (Plurinational State of)	CP	2020	6.1	2.0	0.0	0.0	0	35% by 2020
Bosnia and Herzegovina	CP	2020	4.7	1.4	0.0	0.0	0	35% by 2020
Botswana	A7	2019	11.0	6.9	0.0	0.0	0	35% by 2020 and 100% by 2030
Brazil	A7	2020	1,327.3	452.8	0.0	0.0	0	10% by 2015, 35% by 2020 and 45% by 2021
Brunei Darussalam	CP	2020	6.1	3.7	0.0	0.0	0	35% by 2020 and 100% by 2030
Burkina Faso	CP	2020	28.9	6.3	0.0	0.0	0	35% by 2020
Burundi	CP	2020	7.2	1.3	0.0	0.0	0	35% by 2020
Cabo Verde	A7	2020	1.1	0.0	0.0	0.0	0	35% by 2020
Cambodia	CP	2020	15.0	6.7	0.0	0.0	0	100% by 2035
Cameroon	A7	2020	88.8	32.5	0.0	0.0	0	20% by 2017 and 75% by 2025
Central African Republic (the)	A7	2019	12.0	8.3	0.0	0.0	6	HPMP cancelled
Chad	CP	2020	16.1	10.1	0.0	0.0	0	35% by 2020
Chile	CP	2020	87.5	27.0	0.0	0.0	0	10% by 2015, 45% by 2020 and 65% by 2021
China	A7	2019	19,269.0	14,222.9	0.0	0.0	14	10% by 2015 and 37.6% by 2020

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
Colombia	CP	2020	225.6	63.2	0.0	0.0	0	10% by 2015, 60% by 2020 and 65% by 2021
Comoros (the)	A7	2020	0.1	0.1	0.0	0.0	0	35% by 2020
Congo (the)	A7	2020	10.1	6.4	0.0	0.0	0	35% by 2020
Cook Islands (the)	CP	2020	0.1	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Costa Rica	CP	2020	14.1	4.1	0.0	0.0	0	35% by 2020 and 97.5% by 2030
Cote d'Ivoire	A7	2019	63.8	41.4	0.0	0.0	0	35% by 2020
Cuba	A7	2019	16.9	6.3	0.0	0.0	0	35% by 2020 and 100% by 2030
Democratic People's Republic of Korea (the)**	A7	2019	78.0	72.3	0.0	2.9	43	15% by 2018
Democratic Republic of the Congo (the)	A7	2019	66.2	4.7	0.0	0.0	0	10% by 2017
Djibouti	A7	2019	0.7	0.5	0.0	0.0	0	35% by 2020
Dominica	CP	2020	0.4	0.0	0.0	0.0	0	35% by 2020
Dominican Republic (the)	A7	2020	51.2	29.0	0.0	0.0	0	10% by 2015, 40% by 2020 and 100% by 2030
Ecuador	A7	2020	23.5	13.5	0.0	0.0	0	35% by 2020 and 100% by 2030
Egypt	A7	2020	386.3	250.0	0.0	0.0	0	25% by 2018 and 70% by 2025
El Salvador	CP	2020	11.7	2.7	0.0	0.0	0	35% by 2020
Equatorial Guinea	A7	2020	6.3	1.0	0.0	0.0	0	35% by 2020
Eritrea	A7	2020	1.1	0.6	0.0	0.0	0	35% by 2020
Eswatini (the Kingdom of)	A7	2019	1.7	0.3	0.0	0.0	0	35% by 2020 and 100% by 2030
Ethiopia	A7	2019	5.5	3.5	0.0	0.0	0	35% by 2020
Fiji	A7	2019	5.7	4.6	0.0	0.0	24	35% by 2020
Gabon	A7	2020	30.2	15.4	0.0	0.0	0	35% by 2020
Gambia (the)	A7	2020	1.5	0.2	0.0	0.0	0	35% by 2020 and 100% by 2030
Georgia	CP	2020	5.3	0.9	0.0	0.0	0	35% by 2020
Ghana	A7	2020	57.3	16.0	0.0	0.0	0	35% by 2020
Grenada	CP	2020	0.8	0.2	0.0	0.0	0	35% by 2020
Guatemala	CP	2020	8.3	4.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Guinea	A7	2020	22.6	1.7	0.0	0.0	0	35% by 2020
Guinea-Bissau	A7	2019	2.8	1.3	0.0	0.0	0	35% by 2020
Guyana	A7	2020	1.8	0.9	0.0	0.0	0	10% by 2015, 97.5% by 2025 and 100% by 2030
Haiti	CP	2020	3.6	1.6	0.0	0.0	0	35% by 2020
Honduras	A7	2020	19.9	7.2	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
India	A7	2019	1,608.2	935.3	0.0	0.0	0	10% by 2015, 48% by 2020, 50% by 2021, 56% by 2022 and 60% by 2023
Indonesia	CP	2020	403.9	188.4	0.0	0.0	0	20% by 2018, 37.5% by 2020 and 55% by 2023
Iran (Islamic Republic of)	CP	2020	380.5	163.7	0.0	0.0	0	10% by 2015 and 75% by 2023
Iraq	A7	2020	108.4	66.4	0.0	0.0	0	13.82% by 2019
Jamaica	A7	2020	16.3	5.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Jordan	A7	2019	83.0	16.8	0.0	0.0	0	20% by 2017 and 50% by 2022
Kenya	CP	2020	52.2	6.4	0.0	0.0	0	21.1% by 2017 and 100% by 2030
Kiribati	CP	2020	0.1	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Kuwait	A7	2019	418.6	253.6	0.0	0.0	0	39.2% by 2020
Kyrgyzstan	A7	2020	4.1	0.0	0.0	0.0	0	10% by 2015, 97.5% by 2020 and 100% by 2025
Lao People's Democratic Republic (the)	A7	2019	2.3	1.3	0.0	0.0	0	35% by 2020 and 100% by 2030
Lebanon	A7	2019	73.5	43.8	0.0	0.0	0	18% by 2017, 62.5% by 2022 and 75% by 2024
Lesotho	A7	2020	3.5	0.5	0.0	0.0	0	35% by 2020
Liberia	A7	2020	5.3	1.6	0.0	0.0	0	35% by 2020
Libya***	A7	2020	118.4	75.0	0.0	0.0	0	10% by 2020
Madagascar	A7	2020	24.9	5.5	0.0	0.0	0	35% by 2020
Malawi	A7	2020	10.8	3.3	0.0	0.0	0	35% by 2020 and 100% by 2030
Malaysia	CP	2020	515.8	228.4	0.0	0.0	0	15% by 2016, 22.4% by 2019, 35% by 2020, 40% by 2021 and 42.9% by 2022
Maldives	A7	2020	4.6	0.1	0.0	0.0	0	100% by 2020
Mali	A7	2019	15.0	7.5	0.0	0.0	0	35% by 2020
Marshall Islands (the)	CP	2020	0.2	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Mauritania	A7	2019	20.5	13.9	0.0	0.0	4	67.5% by 2025
Mauritius	A7	2020	8.0	2.0	0.0	0.0	0	100% by 2030
Mexico	A7	2020	1,148.8	119.8	0.0	0.0	0	30% by 2018 and 67.5% by 2022
Micronesia (Federated States of)	CP	2020	0.2	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Mongolia	CP	2020	1.4	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Montenegro	A7	2020	0.8	0.1	0.0	0.0	0	35% by 2020 and 100% by 2025

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
Morocco	A7	2020	51.4	25.2	0.0	0.0	0	20% by 2020
Mozambique	A7	2019	8.7	3.6	0.0	0.0	0	35% by 2020
Myanmar	A7	2019	4.3	3.5	0.0	0.0	25	35% by 2020
Namibia	CP	2020	8.4	0.7	0.0	0.0	0	100% by 2025
Nauru	CP	2020	0.0	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Nepal	A7	2019	1.1	0.6	0.0	0.0	0	35% by 2020 and 100% by 2030
Nicaragua	A7	2019	6.8	3.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Niger (the)	A7	2019	16.0	10.6	0.0	0.0	2	35% by 2020
Nigeria	CP	2020	344.9	166.7	0.0	0.0	0	10% by 2015, 35% by 2020 and 51.35% by 2023
Niue	CP	2020	0.0	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
North Macedonia	CP	2020	1.8	0.4	0.0	0.0	0	35% by 2020
Oman	A7	2020	31.5	16.0	0.0	0.0	0	10% by 2015 and 35% by 2020
Pakistan	A7	2020	248.1	122.2	0.0	0.0	0	10% by 2015 and 50% by 2020
Palau	CP	2020	0.2	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Panama	A7	2020	24.8	11.3	0.0	0.0	0	10% by 2015, 35% by 2020 and 100% by 2030
Papua New Guinea	A7	2020	3.3	1.1	0.0	0.0	0	100% by 2025
Paraguay	A7	2020	18.0	11.4	0.0	0.0	0	35% by 2020
Peru	A7	2020	26.9	12.3	0.0	0.0	0	10% by 2015 and 67.5% by 2025
Philippines (the)	CP	2020	162.0	50.6	0.0	0.0	0	10% by 2015, 35% by 2020 and 50% by 2021
Qatar	A7	2019	86.9	69.5	0.0	0.0	23	20% by 2015
Republic of Korea (the)	A7	2019	1,908.0	1,310.5	0.0	0.0	6	
Republic of Moldova (the)	CP	2020	1.0	0.6	0.0	0.0	0	10% by 2015 and 35% by 2020
Rwanda	A7	2019	4.1	1.9	0.0	0.0	0	35% by 2020 and 100% by 2030
Saint Kitts and Nevis	A7	2019	0.5	0.0	0.0	0.0	0	35% by 2020
Saint Lucia	A7	2020	1.1	0.0	0.0	0.0	0	35% by 2020
Saint Vincent and the Grenadines	A7	2020	0.3	0.0	0.0	0.0	0	100% by 2025
Samoa	CP	2020	0.3	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Sao Tome and Principe	A7	2020	2.2	0.1	0.0	0.0	0	35% by 2020
Saudi Arabia	CP	2020	1,468.7	880.5	0.0	0.0	0	HPMP cancelled
Senegal	CP	2020	36.2	13.2	0.0	0.0	0	35% by 2020

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
Serbia	CP	2020	8.4	5.3	0.0	0.0	0	35% by 2020 and 67.5% by 2025
Seychelles	A7	2020	1.4	0.0	0.0	0.0	0	100% by 2025
Sierra Leone	A7	2020	1.7	0.6	0.0	0.0	0	35% by 2020
Singapore	A7	2019	216.1	58.0	0.0	0.0	0	
Solomon Islands	CP	2020	2.0	0.1	0.0	0.0	0	35% by 2020 and 100% by 2030
Somalia	A7	2019	45.1	13.0	0.0	0.0	0	35% by 2020
South Africa	A7	2019	369.7	110.7	0.0	0.0	0	35% by 2020
South Sudan	A7	2019	4.1	1.4	0.0	0.0	0	35% by 2020
Sri Lanka	A7	2019	13.9	9.9	0.0	0.0	10	35% by 2020 and 100% by 2030
Sudan (the)	A7	2019	52.7	30.3	0.0	0.0	0	30% by 2017 and 75% by 2020
Suriname	A7	2019	2.0	0.6	0.0	0.0	0	35% by 2020
Syrian Arab Republic	CP	2020	135.0	82.0	0.0	0.0	0	67.5% by 2025
Thailand	CP	2020	927.6	350.4	0.0	0.0	0	15% by 2018, 55.8% by 2019, 57.9% by 2022 and 61.8% by 2023
Timor-Leste	CP	2020	0.5	0.2	0.0	0.0	0	10% by 2015 and 78% by 2025
Togo	A7	2020	20.0	10.9	0.0	0.0	0	35% by 2020
Tonga	CP	2020	0.1	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Trinidad and Tobago	A7	2020	46.0	14.5	0.0	0.0	0	35% by 2020 and 100% by 2030
Tunisia	A7	2020	40.7	23.3	0.0	0.0	0	15% by 2020 and 67.5% by 2025
Turkey	A7	2019	551.5	8.5	0.0	0.0	0	100% by 2025
Turkmenistan	CP	2020	6.8	3.8	0.0	0.0	0	35% by 2020 and 67.5% by 2025
Tuvalu	CP	2020	0.1	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Uganda	A7	2019	0.2	0.1	0.0	0.0	0	35% by 2020 and 100% by 2030
United Arab Emirates (the)	A7	2019	557.1	475.3	0.0	0.0	31	
United Republic of Tanzania (the)	A7	2020	1.7	1.0	0.0	0.0	0	35% by 2020
Uruguay	A7	2019	23.4	14.1	0.0	0.0	0	10% by 2015, 35% by 2020 and 100% by 2030
Vanuatu	CP	2020	0.3	0.0	0.0	0.0	0	35% by 2020 and 100% by 2030
Venezuela (Bolivarian Republic of)	A7	2019	207.0	0.0	0.0	0.0	0	10% by 2015 and 42% by 2020
Viet Nam	A7	2019	221.2	197.6	0.0	0.0	37	10% by 2015 and 35% by 2020
Yemen	A7	2018	158.2	95.6	0.0	0.0	0	HPMP cancelled

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
Zambia	A7	2020	5.0	2.2	0.0	0.0	0	35% by 2020 and 100% by 2030
Zimbabwe	CP	2020	17.8	6.3	0.0	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 above the consumption set in the plan of action in decision XXVI/15.

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

Annex III

HFC DATA IN METRIC TONNES - CO₂-EQUIVALENT

Country	Source	Year of latest consumption	Latest consumption	Ratified Kigali Amendment*
Afghanistan	A7	2019	275,000	
Albania	CP	2020	747,023	Yes
Antigua and Barbuda	CP	2020	35,309	
Armenia	A7	2019	137,680	Yes
Barbados	A7	2019	158,343	Yes
Benin	A7	2020	1,253,696	Yes
Bhutan	A7	2019	11,659	Yes
Bolivia (Plurinational State of)	CP	2020	425,820	Yes
Botswana	A7	2019	574,066,127	Yes
Brazil	A7	2020	39,896,041	
Brunei Darussalam	CP	2020	543,002	
Burkina Faso	CP	2020	509,048	Yes
Burundi	CP	2020	51,780	Yes
Cabo Verde	A7	2020	22,797	Yes
Cambodia	CP	2020	885,373	Yes
Cameroon	CP	2020	3,365,288	
Chad	CP	2020	28,388,734	Yes
Chile	CP	2020	4,460,031	Yes
Colombia	CP	2020	5,045,266	Yes
Comoros (the)	A7	2020	35,941	Yes
Cook Islands (the)	CP	2020	1,147	Yes
Costa Rica	CP	2020	1,104,561	Yes
Cote d'Ivoire	A7	2019	24,855,307	Yes
Cuba	A7	2019	1,255,133	Yes
Dominican Republic (the)	A7	2020	2,472,708	Yes
Ecuador	A7	2020	2,211,928	Yes
Equatorial Guinea	A7	2020	280,362	
Eswatini (the Kingdom of)	A7	2019	33,980	Yes
Ethiopia	A7	2019	369,744	Yes
Fiji	A7	2019	280,203	Yes
Gabon	A7	2020	1,805,193	Yes
Ghana	A7	2020	471,391	Yes
Grenada	CP	2020	32,011	Yes
Guatemala	CP	2020	972,385	
Guinea	CP	2019	1,391,166	Yes
Guinea Bissau	A7	2019	1,391,073	Yes
Guyana	A7	2020	60,724	
Haiti	CP	2020	45,488	
Honduras	A7	2020	-287,009	Yes
Kenya	CP	2020	603,973	
Kiribati	CP	2020	7,064	Yes
Kyrgyzstan	A7	2020	291,736	Yes
Lao People's Democratic Republic (the)	A7	2019	159,041	Yes
Lebanon	CP	2019	30,069	Yes

Country	Source	Year of latest consumption	Latest consumption	Ratified Kigali Amendment*
Lesotho	A7	2020	46,820	Yes
Liberia	A7	2020	73,313	Yes
Madagascar	A7	2020	1,090,927	
Malawi	A7	2020	196,209	Yes
Malaysia	CP	2020	14,576,381	Yes
Maldives	A7	2020	289,202	Yes
Mali	A7	2019	108,522	Yes
Marshall Islands (the)	CP	2020	7,068	Yes
Mauritius	A7	2020	503,851	Yes
Mexico	A7	2020	48,211,034	Yes
Micronesia (Federated States of)	CP	2020	8,290	Yes
Montenegro	A7	2020	170,362	Yes
Namibia	CP	2020	903,918	Yes
Nicaragua	A7	2019	558,528	Yes
Niger (the)	A7	2019	1,730,118	Yes
Nigeria	CP	2019	807,493	Yes
North Macedonia	CP	2020	360,661	Yes
Oman	A7	2020	1,821,602	
Pakistan	A7	2020	9,456,060	
Palau	CP	2020	7,677	Yes
Panama	A7	2020	1,263,720	Yes
Paraguay	A7	2020	1,472,199	Yes
Peru	A7	2020	2,179,188	Yes
Philippines (the)	CP	2020	7,170,014	
Qatar	CP	2019	21,878,613	
Rwanda	A7	2019	700,970	Yes
Saint Lucia	A7	2019	54,429	
Saint Vincent and the Grenadines	A7	2020	16,509	
Samoa	CP	2020	24,596	Yes
Sao Tome and Principe	A7	2020	17,696	Yes
Senegal	CP	2020	1,830,122	Yes
Serbia	CP	2020	2,644,920	
Seychelles	A7	2020	140,392	Yes
Sierra Leone	A7	2020	250,376	Yes
South Africa	A7	2019	10,074,432	Yes
Sri Lanka	A7	2019	331,622	Yes
Sudan (the)	A7	2019	735,220	
Suriname	A7	2019	132,696	
Syrian Arab Republic	A7	2018	7,587,048	Yes
Timor-Leste	A7	2019	13,645	
Togo	A7	2020	607,767	Yes
Tonga	CP	2020	3,930	Yes
Trinidad and Tobago	A7	2020	4,427,402	Yes
Tunisia	A7	2020	1,719,614	
Turkey	A7	2019	28,156,692	
Turkmenistan	CP	2020	586,301	Yes
Tuvalu	CP	2020	301	Yes
Uganda	A7	2019	21,480	Yes
United Republic of Tanzania (the)	A7	2020	252,760	

Country	Source	Year of latest consumption	Latest consumption	Ratified Kigali Amendment*
Uruguay	A7	2019	448,663	Yes
Vanuatu	CP	2020	11,934	Yes
Venezuela (Bolivarian Republic of)	A7	2019	240,541	
Viet Nam	A7	2019	6,019,450	Yes
Zambia	CP	2020	293,753	Yes
Zimbabwe	CP	2020	498,121	

*As of 5 May 2021.