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THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Eighty-second Meeting  
Montreal, 3-7 December 2018

**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. The three countries<sup>1</sup> have been urged not to request funding from the Multilateral Fund for the phase-out of their ODS consumption and production (where applicable), and therefore are not required to submit the mandatory progress report on the implementation of country programmes (CP)<sup>2</sup>. However, data from these countries is included in some parts of the report to ensure a global analysis of ODS production and consumption trends.

2. Parties are encouraged to submit 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 2017. All countries that submitted requests for funding to the 82<sup>nd</sup> meeting also submitted 2017 CP data.

**Table 1. A7 and CP reports submitted by A5 Parties (as of 10 October 2018)**

| Data | 2013 | 2014  | 2015   | 2016   | 2017    |
|------|------|-------|--------|--------|---------|
| A7   | 147  | 147   | 147    | 147    | 145     |
| CP   | 144* | 143** | 143*** | 143*** | 141**** |

\* Except for the Central African Republic as there are 145 A5 countries.

\*\* Except for Yemen as there are 144 A5 countries (excluding Croatia).

\*\*\* Except for Yemen.

\*\*\*\* Except for the Central African Republic, South Sudan and Yemen.

<sup>1</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>2</sup> CP data reports represent the sole source of information on the sector distribution of controlled substances in A5 countries.

### Scope of the document

3. This document consists of the following three 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 2013 freeze for HCFCs, the final phase-out of methyl bromide (MB) and TCA and the 10 per cent reduction of HCFCs by 2015, in the consumption and production sectors. It assumes that the latest consumption reported under A7 or CP reports has taken into account the phase-out from completed projects<sup>3</sup>

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

Part III: Data on the implementation of CPs for HCFCs<sup>4</sup>: This section presents an analysis on the data contained in CP data reports, including HCFC production versus consumption, sector distribution of HCFCs, other information extracted from CP reports and issues related to CP data reports

#### Recommendation

4. This document also includes the following two annexes:

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

Annex II: HCFC analysis

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

### **Licensing and quota systems**

5. All countries have established licensing systems pursuant to Article 4B of the Montreal Protocol. With respect to HCFC licensing and quota systems, all Article 5 countries confirmed that an enforceable national system was in place and capable of ensuring the country's compliance with the Montreal Protocol HCFC phase-out schedule.

### **Production and consumption**

6. The complete phase-out of production and consumption of MB and TCA for all A5 countries 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 are the only substances under the Montreal Protocol where consumption and production is still allowed.

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<sup>3</sup> Completed projects had up to December 2017 phased out 281,138 ODP tonnes of consumption and 201,277 ODP tonnes of production. The completed projects were valued at US \$2.50 billion out of an approved total of approximately US \$3.23 billion.

<sup>4</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)).

Production sector

7. MB is produced in China.<sup>5</sup> An MB production closure phase-out plan was approved for China, providing for the country to produce at levels lower than those allowed under the Montreal Protocol.<sup>6</sup> In 2017, 55.7 ODP tonnes of MB were produced in China, in line with decision XXVIII/7.

8. There are seven A5 countries that produced HCFCs, as shown in Table 2. The aggregated production in 2017 was 27 per cent below the aggregated production baseline.

**Table 2. HCFC production reported by A5 countries under A7 data (ODP tonnes)**

| Party                                   | 2017 consumption | Baseline        | % reduction |
|---|------------------|-----------------|-------------|
| Argentina                               | 100.3            | 224.6           | 55.4        |
| China                                   | 21,670.5         | 29,122.0        | 25.6        |
| Korea (Democratic People's Republic of) | 24.8             | 27.6            | 10.1        |
| India                                   | 1,789.5          | 2,399.5         | 25.4        |
| Mexico                                  | 190.1            | 697.0           | 72.7        |
| Republic of Korea                       | 305.6            | 395.1           | 22.6        |
| Venezuela (Bolivarian Republic of)      | 15.0             | 123.1           | 87.8        |
| <b>Total</b>                            | <b>24,095.8</b>  | <b>32,988.9</b> | <b>27.0</b> |

9. The levels of the three main HCFCs produced in A5 countries are shown in Table 3. An HCFC production phase-out management plan was approved for China.<sup>7</sup>

**Table 3. Production levels of the three main HCFCs (A7, ODP tonnes)**

| Party                                 | 2010            | 2011            | 2012            | 2013            | 2014            | 2015            | 2016            | 2017            | Baseline        |
|---------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>HCFC-22</b>                        |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Argentina                             | 233.8           | 221.0           | 230.5           | 107.3           | 125.7           | 134.5           | 95.8            | 100.3           | 224.6           |
| China                                 | 17,124.6        | 17,968.1        | 20,050.1        | 15,866.9        | 16,497.0        | 13,391.0        | 14,086.3        | 13,445.7        | 29,122.0*       |
| Democratic People's Republic of Korea | 27.4            | 26.4            | 28.7            | 31.8            | 28.9            | 27.4            | 24.8            | 24.8            | 27.6            |
| India                                 | 2,236.8         | 1,504.0         | 1,565.4         | 1,352.1         | 1,465.7         | 1,727.6         | 1,665.5         | 1,789.5         | 2,399.5         |
| Mexico                                | 694.0           | 649.7           | 298.3           | 317.1           | 223.5           | 160.9           | 166.8           | 190.1           | 697.0           |
| Republic of Korea                     | 414.9           | 392.4           | 306.7           | 357.6           | 364.7           | 348.9           | 240.3           | 305.6           | 395.1           |
| Venezuela (Bolivarian Republic of)    | 119.2           | 134.3           | 160.3           | 121.2           | 86.1            | 37.2            | 14.3            | 15.0            | 123.1           |
| Total HCFC-22                         | 20,850.8        | 20,895.9        | 22,639.9        | 18,153.9        | 18,791.7        | 15,827.6        | 16,293.8        | 15,871.0        | 32,988.9        |
| <b>HCFC-141b</b>                      |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| China                                 | 10,874.3        | 12,311.5        | 12,884.4        | 9,583.6         | 9,560.2         | 7,246.5         | 7,278.2         | 7,076.8         | *               |
| <b>HCFC-142b</b>                      |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| China                                 | 1,979.2         | 1,759.8         | 1,440.4         | 1,102.0         | 1,076.8         | 1,224.3         | 1,110.5         | 1,115.5         | *               |
| <b>Total</b>                          | <b>33,704.2</b> | <b>34,967.1</b> | <b>36,964.7</b> | <b>28,839.6</b> | <b>29,428.7</b> | <b>24,298.3</b> | <b>24,682.6</b> | <b>24,063.3</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.

<sup>5</sup> The Republic of Korea also produced MB.

<sup>6</sup> Decision 47/54. The Agreement between the Government and the Executive Committee allows China to produce MB for QPS applications, feedstock and critical uses approved by the Parties. A progress report on the implementation of the China MB production sector was submitted to the 82<sup>nd</sup> meeting (UNEP/OzL.Pro/ExCom/82/20).

<sup>7</sup> UNEP/OzL.Pro/ExCom/68/SGP-InS/2 and Add.1. Stage II for the HPPMP for China will continue to be discussed at the 82<sup>nd</sup> meeting by the Sub-group on the Production Sector.

Consumption sector

*MB and TCA*

10. Only three A5 countries<sup>8</sup> have reported MB consumption above the 2015 Montreal Protocol compliance target in 2017, as shown in Table 4. The Parties approved consumption of MB for critical uses for these countries.

**Table 4. MB consumption reported by A5 countries under A7 data (ODP tonnes)**

|                 | Baseline | 2017 consumption |
|-----------------|----------|------------------|
| Argentina*      | 411.3    | 57.0             |
| China**         | 1,102.1  | 55.7             |
| South Africa*** | 602.7    | 33.0             |

\* Allowable level of consumption of 61.76 ODP tonnes for 2017 per decision XXVIII/7 and 46.02 ODP tonnes for 2018 per decision XXIX/6.

\*\* Allowable level of consumption of 55.79 ODP tonnes for 2017 per decision XXVIII/7 and 52.34 ODP tonnes for 2018 per decision XXIX/6.

\*\*\* Allowable level of consumption of 35.46 ODP tonnes for 2017 per decision XXVIII/7 and 27.39 ODP tonnes for 2018 per decision XXIX/6.

11. Thirty-eight 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.

12. All A5 countries have reported zero consumption of TCA in 2016 or 2017.

*HCFC consumption*

13. A total of 147 A5 countries have an established HCFC baseline for compliance, with an aggregated latest consumption level of 24,429.0 ODP tonnes (379,665.4 mt) of HCFCs, as shown in Table 5. The main HCFCs are: HCFC-22 (66.7 per cent of the total consumption measured in ODP tonnes), HCFC-141b (28.6 per cent) and HCFC-142b (4.4 per cent).

**Table 5. Baseline and latest HCFC consumption data by type of HCFC**

| HCFC              | Baseline         |                 | Consumption      |                 | % of total (ODP tonnes) |
|-------------------|------------------|-----------------|------------------|-----------------|-------------------------|
|                   | Metric tonnes    | ODP tonnes      | Metric tonnes    | ODP tonnes      |                         |
| HCFC-123          | 2,337.0          | 46.7            | 2,646.2          | 52.9            | 0.2                     |
| HCFC-124          | 1,270.7          | 28.0            | 478.7            | 10.5            | 0.0                     |
| HCFC-141b         | 107,871.6        | 11,865.9        | 63,458.2         | 6,980.4         | 28.6                    |
| HCFC-142b         | 33,195.5         | 2,157.7         | 16,658.5         | 1,082.8         | 4.4                     |
| HCFC-22           | 394,654.7        | 21,706.0        | 296,358.6        | 16,299.7        | 66.7                    |
| HCFC-225          | 30.4             | 2.1             | 22.3             | 1.6             | 0.0                     |
| HCFC-225ca        | 70.0             | 1.8             | 42.7             | 1.1             | 0.0                     |
| HCFC-225cb        | 20.9             | 0.7             | 0.3              | 0.0             | 0.0                     |
| <b>Total</b>      | <b>539,450.8</b> | <b>35,808.9</b> | <b>379,665.4</b> | <b>24,429.0</b> | <b>100.0</b>            |
| HCFC-141b polyol* | 5,283.6          | 581.2           | 4,844.3          | 532.9           |                         |

\* HCFC-141b contained in imported pre-blended polyols, only available in CP data.

<sup>8</sup> A total of 100 A5 countries received financial assistance from the Multilateral Fund to phase out consumption and production (two countries) of MB.

*HPMPs*

14. All 145 countries<sup>9</sup> 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 HPMPs for 144 countries and stage II for 32 countries,<sup>10</sup> at a total value of US \$1.36 billion (approved in principle) of which US \$805.33 million has been disbursed to address compliance with the Montreal Protocol control levels as follows:

- (a) Three countries (one low-volume-consuming (LVC) (Antigua and Barbuda) and two non-LVC countries (Qatar and Yemen)) to address compliance up to 2015. Although these countries have not submitted a request for stage II, they are in compliance with the Montreal Protocol;
- (b) One hundred and nine countries (62 LVC and 35 non-LVC countries, and the 12 Pacific Island Countries (PICs)) to address compliance up to 2020;
- (c) Twenty countries to address compliance up to 2025; and
- (d) Twelve LVC countries (Bhutan, Cambodia, Croatia<sup>11</sup>, Guyana, Kenya, Kyrgyzstan, Maldives, Mauritius, Namibia, Papua New Guinea, Saint Vincent and the Grenadines, and Seychelles), to completely phase out HCFCs between 2020 and 2035.

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

16. One A5 country (Syrian Arab Republic<sup>12</sup>) does not have an approved HPMP. However, funding was approved for the phase-out of 12.9 ODP tonnes of HCFC in the refrigeration and air-conditioning sector<sup>13</sup> as a stand-alone project outside its HPMP, representing 9.6 per cent of the baseline of 135.0 ODP tonnes.

*Remaining HCFC consumption*

17. Implementation of approved stages I and II of the HPMPs will result in the phase-out of approximately 60 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 6 shows the aggregate remaining HCFC consumption<sup>14</sup> by type of HCFC in all A5 countries.

**Table 6. Total remaining HCFC consumption by substance (ODP tonnes)\***

| HCFC      | Baseline  | Starting point | Approved  | Remaining | % of approved |
|-----------|-----------|----------------|-----------|-----------|---------------|
| HCFC-123  | 32.22     | 30.25          | 3.12      | 27.13     | 10.31         |
| HCFC-124  | 26.57     | 26.20          | 0.49      | 25.71     | 1.87          |
| HCFC-141  | 1.90      | 0.94           | 0.94      | 0.00      | 100.00        |
| HCFC-141b | 10,689.14 | 10,685.24      | 10,540.86 | 144.38    | 98.65         |
| HCFC-142b | 1,996.91  | 2,016.79       | 1,297.41  | 719.38    | 64.33         |
| HCFC-21   | 1.50      | 0.74           | 0.74      | 0.00      | 100.00        |
| HCFC-22   | 20,349.42 | 19,878.08      | 7,899.01  | 11,979.07 | 39.74         |

<sup>9</sup> Including Croatia.

<sup>10</sup> In addition, stage II of the HPMPs for Cameroon and Thailand have been submitted to the 82<sup>nd</sup> meeting.

<sup>11</sup> Croatia became a non-Article 5 country in 2014, and completely phased out HCFCs by 2015.

<sup>12</sup> Submission of stage I of the HPMP for Syrian Arab Republic has been included in the 2019 business plan.

<sup>13</sup> Decision 62/39.

<sup>14</sup> The remaining HCFC consumption eligible for funding depends on the starting point for aggregate reductions in HCFC consumption selected by each Article 5 country in their HPMP.

| HCFC               | Baseline         | Starting point   | Approved         | Remaining        | % of approved |
|--------------------|------------------|------------------|------------------|------------------|---------------|
| HCFC-225           | 4.12             | 2.82             | 1.13             | 1.69             | 40.07         |
| HCFC-225ca         | 0.50             | 0.42             | 0.00             | 0.42             | 0.00          |
| HCFC-225cb         | 0.70             | 0.68             | 0.00             | 0.68             | 0.00          |
| <b>Total</b>       | <b>33,102.98</b> | <b>32,642.16</b> | <b>19,743.70</b> | <b>12,898.46</b> | <b>60.49</b>  |
| HCFC-141b polyol** |                  | 653.71           | 558.90           | 94.81            | 85.50         |

\* As of the 81<sup>st</sup> meeting.

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

## PART II: A5 COUNTRIES SUBJECT TO DECISIONS ON COMPLIANCE

18. At their Twenty-ninth Meeting, the Parties did not find any Article 5 countries in non-compliance with their obligations under the Montreal Protocol. The Parties, agreed to revise the HCFC baseline for compliance submitted by the Governments of Fiji, Pakistan and the Philippines.<sup>15</sup> The agreements for the phase-out of HCFCs between the Government concerned and the Executive Committee will be updated accordingly.

## PART III: DATA ON THE IMPLEMENTATION OF CPs FOR HCFCs

### HCFC production versus consumption

19. Since 2010, the reported levels of the three main HCFCs produced in A5 countries have been above the levels of consumption except for HCFC-141b in 2010, and HCFC-142b in 2011, as shown in Table 7.

**Table 7. HCFC production versus consumption of the three main HCFCs (ODP tonnes)**

| HCFC                            | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016     | 2017     |
|---------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>Production</b>               |          |          |          |          |          |          |          |          |
| HCFC-22                         | 20,817.8 | 21,665.7 | 23,552.4 | 18,769.0 | 20,266.4 | 16,782.6 | 16,191.2 | 15,725.9 |
| HCFC-141b                       | 10,762.0 | 12,311.5 | 12,884.4 | 9,583.6  | 9,560.2  | 7,246.5  | 7,278.2  | 7,076.8  |
| HCFC-142b                       | 1,979.2  | 1,759.8  | 1,440.4  | 1,102.0  | 1,076.8  | 1,224.3  | 1,110.5  | 1,115.5  |
| <b>Consumption</b>              |          |          |          |          |          |          |          |          |
| HCFC-22                         | 20,783.8 | 19,847.6 | 22,572.0 | 17,805.6 | 17,486.6 | 15,186.8 | 15,395.4 | 15,062.7 |
| HCFC-141b                       | 10,846.7 | 11,978.2 | 11,735.9 | 9,027.8  | 8,752.9  | 6,771.4  | 6,347.0  | 6,302.8  |
| HCFC-142b                       | 1,977.3  | 1,827.9  | 1,439.3  | 1,014.5  | 770.0    | 889.8    | 743.9    | 773.5    |
| <b>Production – consumption</b> |          |          |          |          |          |          |          |          |
| HCFC-22                         | 34.0     | 1,818.1  | 980.4    | 963.4    | 2,779.8  | 1,595.8  | 795.8    | 663.2    |
| HCFC-141b                       | -84.7    | 333.2    | 1,148.5  | 555.8    | 807.4    | 475.0    | 931.2    | 774.0    |
| HCFC-142b                       | 1.9      | -68.1    | 1.0      | 87.5     | 306.8    | 334.6    | 366.6    | 342.0    |

### Sector distribution of HCFC consumption

20. Table 8 presents the sector distribution of aggregated HCFC consumption for the period 2009 to 2017, where countries are grouped as follows: China, as the largest consumer (and producer) of HCFCs; the 14 largest consuming countries (excluding China); and all other countries. In 2017, the three sectors with the largest consumption of HCFCs (measured in ODP tonnes) were the foam (37.3 per cent of the total), refrigeration servicing sectors (31 per cent) and the refrigeration manufacturing (29.7 per cent). As the phase-out of HCFCs in the foam and refrigeration manufacturing sectors progresses, the refrigeration servicing sector becomes more relevant.

<sup>15</sup> Decisions XXIX/15, XXIX/16 and XXIX/17, respectively.

**Table 8. Sector distribution of HCFC consumption by group of countries (ODP tonnes)**

| Sector                                      | 2009            | 2010            | 2011            | 2012            | 2013            | 2014            | 2015            | 2016            | 2017            |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>China</b>                                |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                                     |                 | 59.6            | 70.5            | 95.4            | 137.8           | 186.2           | 180.4           | 189.4           |                 |
| Foam  | 7,475.8         | 8,388.5         | 9,576.0         | 9,031.0         | 7,473.9         | 7,404.0         | 5,522.7         | 5,872.8         | 6,220.8         |
| Fire-fighting                               |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Refrigeration manufacturing                 | 6,227.6         | 6,795.0         | 6,740.3         | 6,586.7         | 6,014.3         | 5,602.0         | 4,951.7         | 5,107.1         | 5,106.2         |
| Refrigeration servicing                     | 3,814.0         | 3,982.0         | 3,827.0         | 4,857.8         | 3,103.8         | 3,161.7         | 2,412.0         | 2,638.3         | 2,881.4         |
| Solvent                                     | 467.0           | 497.1           | 514.1           | 524.1           | 466.0           | 484.8           | 418.5           | 413.4           | 397.0           |
| Tobacco                                     | 12.8            | 11.7            |                 |                 |                 |                 |                 |                 |                 |
| <b>Total for China</b>                      | <b>17,997.1</b> | <b>19,733.8</b> | <b>20,727.8</b> | <b>21,094.9</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 largest A5 consuming countries*</b>   |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                                     | 76.3            | 76.8            | 82.8            | 75.0            | 123.8           | 119.5           | 87.3            | 42.4            | 5.5             |
| Foam  | 3,115.2         | 3,759.0         | 3,517.3         | 3,867.4         | 2,645.6         | 2,342.3         | 2,077.0         | 1,612.5         | 1,530.6         |
| Fire-fighting                               | 4.6             | 14.8            | 9.8             | 6.0             | 5.4             | 4.0             | 4.0             | 3.9             | 4.6             |
| Refrigeration manufacturing                 | 2,556.7         | 3,024.6         | 2,674.2         | 3,142.9         | 2,233.7         | 2,111.7         | 1,862.6         | 1,584.1         | 1,416.7         |
| Refrigeration servicing                     | 2,120.5         | 3,382.8         | 3,246.7         | 4,213.6         | 3,029.3         | 3,142.8         | 3,148.6         | 3,152.9         | 2,661.9         |
| Solvent                                     | 0.0             | 43.3            | 80.0            | 76.3            | 43.3            | 38.5            | 37.1            | 29.6            | 19.3            |
| Tobacco                                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| <b>Total 14 largest consuming countries</b> | <b>7,873.3</b>  | <b>10,301.3</b> | <b>9,610.8</b>  | <b>11,381.3</b> | <b>8,081.1</b>  | <b>7,758.9</b>  | <b>7,216.7</b>  | <b>6,425.4</b>  | <b>5,638.6</b>  |
| <b>129 remaining A5 countries</b>           |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                                     | 0.1             | 1.4             | 0.1             | 0.2             | 0.7             | 0.4             | 0.3             | 0.1             | 0.5             |
| Foam  | 1,361.7         | 1,079.0         | 1,061.5         | 1,107.5         | 910.7           | 841.8           | 796.2           | 737.9           | 720.8           |
| Fire-fighting                               | 2.9             | 8.2             | 9.4             | 13.3            | 8.8             | 11.3            | 14.1            | 11.1            | 7.7             |
| Refrigeration manufacturing                 | 600.8           | 636.9           | 703.8           | 557.9           | 272.9           | 238.3           | 311.1           | 298.1           | 220.9           |
| Refrigeration servicing                     | 2,144.3         | 2,477.2         | 2,178.1         | 2,363.6         | 2,124.6         | 2,023.0         | 1,757.1         | 1,593.3         | 1,502.0         |
| Solvent                                     | 33.5            | 9.2             | 38.0            | 34.1            | 5.2             | 3.5             | 4.9             | 5.1             | 3.1             |
| Tobacco                                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| <b>Total 129 remaining A5 countries</b>     | <b>4,143.3</b>  | <b>4,211.9</b>  | <b>3,990.8</b>  | <b>4,076.7</b>  | <b>3,322.8</b>  | <b>3,118.2</b>  | <b>2,883.7</b>  | <b>2,645.5</b>  | <b>2,455.2</b>  |
| <b>All A5 countries</b>                     |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                                     | 76.4            | 137.8           | 153.4           | 170.5           | 262.2           | 306.1           | 268.0           | 232.0           | 6.0             |
| Foam  | 11,952.7        | 13,226.4        | 14,154.8        | 14,005.9        | 11,030.1        | 10,588.2        | 8,396.0         | 8,223.2         | 8,472.2         |
| Fire-fighting                               | 7.5             | 23.1            | 19.1            | 19.4            | 14.2            | 15.3            | 18.1            | 15.0            | 12.4            |
| Refrigeration manufacturing                 | 9,385.1         | 10,456.5        | 10,118.3        | 10,287.5        | 8,520.8         | 7,951.9         | 7,125.5         | 6,989.3         | 6,743.9         |
| Refrigeration servicing                     | 8,078.8         | 9,842.0         | 9,251.8         | 11,435.0        | 8,257.8         | 8,327.5         | 7,317.7         | 7,384.5         | 7,045.3         |
| Solvent                                     | 500.5           | 549.5           | 632.0           | 634.5           | 514.5           | 526.9           | 460.4           | 448.2           | 419.4           |
| Tobacco                                     | 12.8            | 11.7            |                 |                 |                 |                 |                 |                 |                 |
| <b>Total all A5 countries</b>               | <b>30,013.7</b> | <b>34,247.0</b> | <b>34,329.4</b> | <b>36,552.9</b> | <b>28,599.6</b> | <b>27,715.9</b> | <b>23,585.8</b> | <b>23,292.1</b> | <b>22,699.2</b> |
| Percent of total for China (%)              | 60.0            | 57.6            | 60.4            | 57.7            | 60.1            | 60.8            | 57.2            | 61.1            | 64.3            |

| Sector   | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|------|------|------|------|
| Percent of total for 14 largest A5 consuming countries (%) | 26.2 | 30.1 | 28.0 | 31.1 | 28.3 | 28.0 | 30.6 | 27.6 | 24.8 |
| Percent of total for 129 remaining A5 countries (%)        | 13.8 | 12.3 | 11.6 | 11.2 | 11.6 | 11.3 | 12.2 | 11.4 | 10.8 |

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

21. The sector distribution of the three main HCFCs consumed in A5 countries is presented in Table 9. The analysis shows a sustained reduction in the overall consumption of these substances.

**Table 9. Sector distribution of the main HCFCs consumed in A5 countries (ODP tonnes)**

| Sector                        | 2009            | 2010            | 2011            | 2012            | 2013            | 2014            | 2015            | 2016            | 2017            |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>HCFC-22</b>                |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                       | 42.4            | 95.7            | 103.9           | 124.9           | 116.4           | 150.0           | 134.2           | 132.0           | 0.3****         |
| Foam*                         | 1,590.2         | 1,772.9         | 1,725.7         | 2,077.3         | 1,803.4         | 1,748.9         | 1,176.7         | 1,517.9         | 1,685.5         |
| Fire-fighting                 | 0.0             | 11.1            | 6.2             | 0.1             | 0.1             | 0.1             | 0.1             |                 |                 |
| Refrigeration manufacturing   | 8,610.2         | 9,641.4         | 9,270.7         | 9,475.6         | 7,971.3         | 7,480.5         | 6,747.5         | 6,700.6         | 6,458.5         |
| Refrigeration servicing       | 7,518.1         | 9,262.5         | 8,711.8         | 10,865.1        | 7,914.4         | 8,106.7         | 7,127.7         | 7,044.4         | 6,918.0         |
| Solvent                       | 32.2            | 0.3             | 29.3            | 29.0            |                 | 0.3             | 0.7             | 0.6             | 0.4             |
| Tobacco                       |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| <b>Total HCFC-22</b>          | <b>17,793.0</b> | <b>20,783.8</b> | <b>19,847.6</b> | <b>22,572.0</b> | <b>17,805.6</b> | <b>17,486.6</b> | <b>15,186.8</b> | <b>15,395.4</b> | <b>15,062.7</b> |
| <b>HCFC-141b</b>              |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                       | 34.1            | 41.3            | 49.4            | 45.4            | 145.8           | 156.0           | 132.0           | 99.9            | 5.7****         |
| Foam                          | 7,947.9         | 9,376.2         | 10,412.3        | 10,201.9        | 7,666.4         | 7,494.7         | 5,766.9         | 5,425.4         | 5,573.6         |
| Fire-fighting                 |                 | 4.2             | 6.0             | 9.3             | 6.7             | 7.6             | 9.3             | 5.2             | 6.3             |
| Refrigeration manufacturing** | 749.0           | 789.6           | 814.7           | 782.7           | 529.6           | 447.9           | 355.3           | 265.6           | 264.9           |
| Refrigeration servicing       | 125.9           | 77.7            | 98.7            | 96.4            | 168.7           | 125.6           | 53.6            | 107.6           | 35.9            |
| Solvent                       | 466.5           | 546.0           | 597.1           | 600.2           | 510.6           | 521.0           | 454.4           | 443.3           | 416.5           |
| Tobacco                       | 12.8            | 11.7            |                 |                 |                 |                 |                 |                 |                 |
| <b>Total HCFC-141b</b>        | <b>9,336.1</b>  | <b>10,846.7</b> | <b>11,978.2</b> | <b>11,735.9</b> | <b>9,027.8</b>  | <b>8,752.9</b>  | <b>6,771.4</b>  | <b>6,347.0</b>  | <b>6,302.8</b>  |
| <b>HCFC-142b</b>              |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Aerosol                       | 0.0             | 0.2             | 0.1             | 0.2             | 0.0             | 0.0             | 1.8             | 0.0             | 0.0             |
| Foam***                       | 1,605.5         | 1,503.9         | 1,401.7         | 986.8           | 859.8           | 695.8           | 772.7           | 625.8           | 701.0           |
| Fire-fighting                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| Refrigeration manufacturing   | 3.8             | 6.5             | 11.1            | 11.2            | 6.5             | 8.0             | 8.3             | 8.0             | 6.1             |
| Refrigeration servicing       | 396.9           | 466.0           | 414.7           | 441.2           | 148.2           | 66.1            | 106.9           | 110.1           | 66.5            |
| Solvent                       | 0.7             | 0.6             | 0.3             |                 |                 |                 |                 |                 |                 |
| Tobacco                       |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| <b>Total HCFC-142b</b>        | <b>2,006.9</b>  | <b>1,977.3</b>  | <b>1,827.9</b>  | <b>1,439.3</b>  | <b>1,014.5</b>  | <b>770.0</b>    | <b>889.8</b>    | <b>743.9</b>    | <b>773.5</b>    |
| <b>Other HCFCs</b>            | <b>877.7</b>    | <b>639.3</b>    | <b>675.7</b>    | <b>805.6</b>    | <b>751.7</b>    | <b>706.4</b>    | <b>737.8</b>    | <b>805.8</b>    | <b>560.1</b>    |
| <b>Total</b>                  | <b>30,013.7</b> | <b>34,247.0</b> | <b>34,329.4</b> | <b>36,552.9</b> | <b>28,599.6</b> | <b>27,715.9</b> | <b>23,585.8</b> | <b>23,292.1</b> | <b>22,699.2</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).



## Prices of HCFCs, HFCs and alternatives

22. The average prices of HCFCs, HFCs and alternatives reported by A5 countries since 2009 are summarized in Table 10<sup>16</sup>. The average prices provided by A5 countries 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>17</sup> that is usually obtained from importers.

23. At the 79<sup>th</sup> meeting, the Executive Committee requested the Secretariat to include in the “Overview of issues identified during project review” document 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)).

**Table 10. Average price of HCFCs, HFCs and alternatives**

| Substance           | Average price (US \$/kg) |       |       |       |       |       |       |       |       |   | Range (US \$/kg) | Countries reporting price (2017) |
|---------------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|---|------------------|----------------------------------|
|                     | 2009                     | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  |   |                  |                                  |
| HCFC-22             | 7.35                     | 8.61  | 9.28  | 10.06 | 9.24  | 10.08 | 10.07 | 9.25  | 10.18 | 1.45 (Thailand) to 42.00 (Oman)   | 108              |                                  |
| HCFC-141b           | 5.00                     | 6.02  | 6.73  | 6.73  | 6.65  | 7.77  | 7.08  | 10.00 | 9.40  | 2.82 (China) to 32.08 (Belize)  | 28               |                                  |
| Isobutane (HC-600a) | 24.36                    | 21.08 | 20.97 | 20.49 | 20.20 | 18.02 | 15.23 | 15.98 | 15.80 | 1.04 (China) to 60.00 (Cote d'Ivoire)                                   | 66               |                                  |
| Propane (HC-290)    | 20.53                    | 21.79 | 22.23 | 15.60 | 14.38 | 21.26 | 19.08 | 16.13 | 16.48 | 2.00 (Mexico) to 56.00 (Paraguay)                                       | 36               |                                  |
| HFC-134a            | 12.52                    | 15.14 | 16.64 | 14.96 | 13.65 | 13.30 | 14.26 | 12.83 | 13.94 | 2.80 (Thailand) to 109.00 (Oman)  | 108              |                                  |
| R-404A              | 16.13                    | 18.67 | 20.68 | 18.71 | 15.41 | 15.11 | 15.42 | 15.32 | 15.97 | 3.22 (Dominican Republic) to 60.00 (Eritrea)                            | 104              |                                  |
| R-407C              | 16.95                    | 20.80 | 21.36 | 19.04 | 16.06 | 15.19 | 13.97 | 12.71 | 13.94 | 3.20 (Iran (Islamic Republic of) and Thailand) to 60.00 (Cote D'Ivoire) | 86               |                                  |
| R-410A              | 16.44                    | 20.26 | 21.70 | 19.91 | 16.05 | 15.28 | 14.61 | 16.44 | 15.47 | 3.00 (Cameroon) to 65.00 (Eritrea)                                      | 104              |                                  |
| R-507A              | 17.48                    | 17.55 | 20.78 | 15.84 | 13.59 | 12.21 | 11.65 | 11.76 | 13.33 | 3.22 (Dominican Republic) to 39.00 (Cabo Verde)                         | 52               |                                  |

\* All zero entries were excluded.

## Issues related to CP data reports

### Timely submission of CP data reports

24. In reviewing the timely submission of the CP data reports, the Secretariat noted progress for the year 2017 compared to 2016 as shown in Table 11. 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.

**Table 11. Monthly rates of submission of CP data reports (as at 10 October 2018)**

| Month    | 2011 |       | 2012 |       | 2013 |       | 2014 |       | 2015 |       | 2016 |       | 2017 |       |
|----------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|
|          | No*  | (%)*  | No*  | (%)*  | No*  | (%)*  | No*  | (%)*  | No*  | (%)*  | No*  | (%)*  | No*  | (%)*  |
| January  | 1    | 0.70  | 1    | 0.69  |      |       |      |       | 1    | 0.69  |      |       | 3    | 2.08  |
| February | 1    | 1.40  |      |       | 1    | 0.69  | 2    | 1.39  | 5    | 4.17  | 9    | 6.25  | 1    | 2.78  |
| March    | 3    | 3.50  | 4    | 3.47  | 3    | 2.76  | 15   | 11.81 | 33   | 27.08 | 9    | 12.50 | 8    | 8.33  |
| April    | 20   | 17.48 | 20   | 16.67 | 38   | 28.97 | 48   | 45.14 | 27   | 45.83 | 49   | 46.53 | 60   | 50.00 |
| May      | 35   | 41.96 | 36   | 42.36 | 35   | 53.10 | 24   | 61.81 | 22   | 61.11 | 26   | 64.58 | 39   | 77.08 |
| June     | 18   | 54.55 | 17   | 54.17 | 11   | 60.69 | 18   | 74.31 | 14   | 70.83 | 10   | 71.53 | 15   | 87.50 |
| July     | 9    | 60.84 | 8    | 59.72 | 6    | 64.83 | 9    | 80.56 | 8    | 76.39 | 7    | 76.39 | 3    | 89.58 |
| August   | 7    | 65.73 | 7    | 64.58 | 6    | 68.97 | 3    | 82.64 | 5    | 79.86 | 2    | 77.78 | 7    | 94.44 |

<sup>16</sup> Several of the CP data reports submitted by Article 5 countries contain price data for both ODS and alternative substances. This information is provided on voluntary basis.

<sup>17</sup> Decision 68/4(b)(iv) requested Governments to report, on a voluntary basis, the average import FOB price for each ODS and ODS substitute in the revised CP format.

| Month              | 2011       |        | 2012       |       | 2013       |       | 2014       |       | 2015       |       | 2016       |       | 2017       |       |
|--------------------|------------|--------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|
|                    | No*        | (%)*   | No*        | (%)*  | No*        | (%)*  | No*        | (%)*  | No*        | (%)*  | No*        | (%)*  | No*        | (%)*  |
| September          | 21         | 80.42  | 13         | 73.61 | 22         | 84.14 | 7          | 87.50 | 8          | 85.42 | 19         | 90.97 | 4          | 97.22 |
| October            | 8          | 86.01  | 17         | 85.42 | 12         | 92.41 | 9          | 93.75 | 8          | 90.97 | 7          | 95.83 | 1          | 97.92 |
| November           | 4          | 88.81  | 1          | 86.11 | 2          | 93.79 |            |       | 1          | 91.67 | 2          | 97.22 |            |       |
| December           |            |        | 1          | 86.81 |            |       | 2          | 95.14 |            |       |            |       |            |       |
| After Dec.         | 16         | 100.00 | 18         | 99.31 | 8          | 99.31 | 6          | 99.31 | 11         | 99.31 | 3          | 99.31 |            |       |
| <b>Total</b>       | <b>143</b> |        | <b>143</b> |       | <b>144</b> |       | <b>143</b> |       | <b>143</b> |       | <b>143</b> |       | <b>141</b> |       |
| <b>Outstanding</b> | <b>0</b>   |        | <b>1</b>   |       | <b>1</b>   |       | <b>1</b>   |       | <b>1</b>   |       | <b>1</b>   |       | <b>3</b>   |       |

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

25. The Executive Committee may wish to request the Secretariat to send letters to the governments of countries with outstanding 2014 (Yemen), 2015 (Yemen), 2016 (Yemen) and 2017 (Central African Republic, South Sudan and Yemen) CP data reports, and urge them to submit their CP data 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

26. In line with decision 81/4(b)(ii), the Secretariat had a discussion with the implementing agencies on data discrepancies between CP and Article 7 reports as shown in Table 12, which addressed outstanding issues. In this regard, UNIDO informed that it had met with representatives of the Syrian Arab Republic and hoped to restart activities in the country; and UNEP advised that it had carried out a mission to Morocco to hold discussions with the two ministries involved with Montreal Protocol activities in the country. UNEP was considering the return of funds as activities in the country were not advancing.

**Table 12. Differences between 2015/2016 A7 and CP HCFC consumption data (ODP tonnes)**

| Country              | Agency for institutional strengthening project | Year of discrepancy | A7 data | CP data | Difference | HCFC-141b polyol* |
|----------------------|--|---------------------|---------|---------|------------|-------------------|
| Morocco              | UNEP   | 2015                | 16.9    | 18.1    | -1.2       | 11.5              |
| Syrian Arab Republic | UNIDO  | 2016                | 56.9    | 39.7    | 17.2       | 0.0               |

27. The Executive Committee may wish to request relevant implementing agencies to continue assisting the respective governments in clarifying the discrepancies between the CP data and A7 data as shown in Table 12 and to report back to the 83<sup>rd</sup> meeting.

28. The review of the 2017 HCFC import data reported under A7 and CP reports revealed a number of discrepancies. The Secretariat had discussions with the implementing agencies and these issues have been resolved, as shown in Table 13.

**Table 13. Differences between 2017 A7 and CP HCFC consumption data (ODP tonnes)**

| Country           | Agency for institutional strengthening project | A7 data  | CP data  | Difference | HCFC-141b polyol | Remarks  |
|-------------------|--|----------|----------|------------|------------------|--|
| Brunei Darussalam | UNEP   | 3.5      | 3.4      | 0.1        | 0.0              | CP data will be adjusted.  |
| Burundi           | UNEP   | 2.1      | 4.5      | -2.4       | 0.0              | CP data will be adjusted.  |
| China             | UNDP   | 14,631.5 | 14,605.4 | 26.1       | 0.0              | CP data is correct. Clarification will be sought from the Ozone Secretariat. |
| Jordan            | World Bank                                     | 25.2     | 33.6     | -8.3       | 26.1             | CP data will be adjusted.  |

| Country                            | Agency for institutional strengthening project | A7 data | CP data | Difference | HCFC-141b polyol | Remarks   |
|------------------------------------|--|---------|---------|------------|------------------|---|
| South Africa                       |  | 122.2   | 123.5   | -1.3       | 0.0              | NOU has requested the Ozone Secretariat to correct their 2017 data. |
| Trinidad and Tobago                | UNDP   | 12.2    | 11.8    | 0.4        | 0.4              | Due to HCFC-141b in pre-blended polyols. A7 data will be adjusted.  |
| Venezuela (Bolivarian Republic of) | UNDP   | 17.1    | 16.2    | 0.9        | 5.4              | CP data will be adjusted.   |

## RECOMMENDATION

29. The Executive Committee may wish:

(a) To note:

- (i) The information on country programme (CP) data and prospects for compliance contained in document UNEP/OzL.Pro/ExCom/82/9;
- (ii) That 141 countries had submitted 2017 CP data, 121 of them using the web-based system;
- (iii) That, as at 10 October 2018, Yemen had not submitted 2016 and 2017 CP data;

(b) To request:

- (i) The Secretariat to send letters to the Governments of countries with outstanding 2014 (Yemen), 2015 (Yemen), 2016 (Yemen) and 2017 (Central African Republic, South Sudan and Yemen) CP data reports, urging them to submit their reports immediately; and
- (ii) Relevant implementing agencies to continue assisting the respective Governments in clarifying the discrepancies and to report back to the 83<sup>rd</sup> meeting:
  - a. Between the 2015 CP data and Article 7 data for Morocco; and
  - b. Between the 2016 CP data and Article 7 data for Syrian Arab Republic.



Annex I

MB CONSUMPTION AND PRODUCTION FOR QPS APPLICATIONS

| Country                    | Year of Latest Consumption | QPS (ODP tonnes) |
|----------------------------|----------------------------|------------------|
| <b>Consumption</b>         |                            |                  |
| Argentina                  | 2017                       | 24.12            |
| Brazil                     | 2017                       | 17.03            |
| Chile                      | 2017                       | 60.05            |
| China                      | 2017                       | 814.68           |
| Costa Rica                 | 2017                       | 24.00            |
| Dominican Republic (the)   | 2017                       | 11.82            |
| Egypt                      | 2017                       | 282.00           |
| El Salvador                | 2017                       | 136.60           |
| Fiji                       | 2017                       | 6.48             |
| Guatemala                  | 2017                       | 14.58            |
| Honduras                   | 2017                       | 19.20            |
| India                      | 2017                       | 830.64           |
| Indonesia                  | 2017                       | 57.60            |
| Iran (Islamic Republic of) | 2017                       | 6.00             |
| Jamaica                    | 2017                       | 1.80             |
| Jordan                     | 2017                       | 6.00             |
| Kenya                      | 2017                       | 5.28             |
| Kiribati                   | 2017                       | 0.03             |
| Malaysia                   | 2017                       | 105.60           |
| Mexico                     | 2017                       | 300.89           |
| Nicaragua                  | 2017                       | 11.52            |
| Pakistan                   | 2017                       | 106.80           |
| Papua New Guinea           | 2017                       | 5.10             |
| Peru                       | 2017                       | 1.20             |
| Philippines (the)          | 2017                       | 14.30            |
| Republic of Korea          | 2017                       | 269.52           |
| Saudi Arabia               | 2017                       | 7.20             |
| Singapore                  | 2017                       | 39.84            |
| Solomon Islands            | 2017                       | 0.30             |
| South Africa               | 2017                       | 9.83             |
| Sri Lanka                  | 2017                       | 17.00            |
| Suriname                   | 2017                       | 0.60             |
| Thailand                   | 2017                       | 112.86           |
| Turkey                     | 2017                       | 41.58            |
| United Arab Emirates       | 2017                       | 25.80            |
| Uruguay                    | 2017                       | 17.48            |
| Vanuatu                    | 2017                       | 0.24             |
| Viet Nam                   | 2017                       | 562.38           |
| <b>Production</b>          |                            |                  |
| China                      | 2017                       | 972.76           |
| India                      | 2017                       | 1,906.81         |



## Annex II

## HCFC ANALYSIS\*

| Country                          | Source<br>***** | Year of<br>latest<br>consumption | Baseline<br>(ODP t) | Latest<br>consumption | % over<br>freeze | % over<br>10%<br>reduction | Control addressed by HPMPs               |
|----------------------------------|-----------------|----------------------------------|---------------------|-----------------------|------------------|----------------------------|--|
| Afghanistan                      | A7              | 2017                             | 23.6                | 18.5                  | 0.0              | 0.0                        | 35% by 2020                              |
| Albania                          | A7              | 2017                             | 6.0                 | 3.0                   | 0.0              | 0.0                        | 35% by 2020                              |
| Algeria                          | A7              | 2017                             | 62.1                | 28.5                  | 0.0              | 0.0                        | 20% by 2017                              |
| Angola                           | A7              | 2017                             | 16.0                | 10.5                  | 0.0              | 0.0                        | 10% by 2015 and 67.5% by 2025            |
| Antigua and Barbuda              | A7              | 2017                             | 0.3                 | 0.0                   | 0.0              | 0.0                        | 10% by 2015                              |
| Argentina                        | A7              | 2017                             | 400.7               | 248.3                 | 0.0              | 0.0                        | 17.5% by 2017 and 50% by 2022            |
| Armenia                          | A7              | 2017                             | 7.0                 | 0.9                   | 0.0              | 0.0                        | 10% by 2015 and 66.6% by 2020            |
| Bahamas (the)                    | A7              | 2017                             | 4.8                 | 2.8                   | 0.0              | 0.0                        | 35% by 2020                              |
| Bahrain                          | A7              | 2017                             | 51.9                | 44.2                  | 0.0              | 0.0                        | 39% by 2023                              |
| Bangladesh                       | A7              | 2017                             | 72.6                | 63.3                  | 0.0              | 0.0                        | 30% by 2018 and 67.5% by 2025            |
| Barbados                         | A7              | 2017                             | 3.7                 | 1.9                   | 0.0              | 0.0                        | 35% by 2020                              |
| Belize                           | A7              | 2017                             | 2.8                 | 2.0                   | 0.0              | 0.0                        | 35% by 2020                              |
| Benin                            | A7              | 2017                             | 23.8                | 16.0                  | 0.0              | 0.0                        | 35% by 2020                              |
| Bhutan                           | A7              | 2017                             | 0.3                 | 0.1                   | 0.0              | 0.0                        | 100% by 2025                             |
| Bolivia (Plurinational State of) | A7              | 2017                             | 6.1                 | 2.1                   | 0.0              | 0.0                        | 35% by 2020                              |
| Bosnia and Herzegovina           | A7              | 2017                             | 4.7                 | 2.4                   | 0.0              | 0.0                        | 35% by 2020                              |
| Botswana                         | A7              | 2017                             | 11.0                | 8.6                   | 0.0              | 0.0                        | 35% by 2020                              |
| Brazil                           | A7              | 2017                             | 1,327.3             | 837.3                 | 0.0              | 0.0                        | 10% by 2015, 35% by 2020 and 45% by 2021 |
| Brunei Darussalam                | A7              | 2017                             | 6.1                 | 3.5                   | 0.0              | 0.0                        | 35% by 2020                              |
| Burkina Faso                     | A7              | 2017                             | 28.9                | 13.0                  | 0.0              | 0.0                        | 35% by 2020                              |
| Burundi                          | A7              | 2017                             | 7.2                 | 2.1                   | 0.0              | 0.0                        | 35% by 2020                              |
| Cabo Verde                       | A7              | 2017                             | 1.1                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                              |
| Cambodia                         | A7              | 2017                             | 15.0                | 4.6                   | 0.0              | 0.0                        | 100% by 2035                             |
| Cameroon                         | A7              | 2017                             | 88.8                | 38.1                  | 0.0              | 0.0                        | 20% by 2017                              |
| Central African Republic (the)   | A7              | 2016                             | 12.0                | 9.9                   | 0.0              | 0.0                        | 35% by 2020                              |
| Chad                             | A7              | 2017                             | 16.1                | 11.9                  | 0.0              | 0.0                        | 35% by 2020                              |
| Chile                            | A7              | 2017                             | 87.5                | 66.2                  | 0.0              | 0.0                        | 10% by 2015, 45% by 2020 and 65% by 2021 |
| China                            | A7              | 2017                             | 19,269.0            | 14,631.5              | 0.0              | 0.0                        | 10% by 2015 and 37.6% by 2020            |

| Country                                       | Source<br>***** | Year of<br>latest<br>consumption | Baseline<br>(ODP t) | Latest<br>consumption | % over<br>freeze | % over<br>10%<br>reduction | Control addressed by HPMPs                  |
|---|-----------------|----------------------------------|---------------------|-----------------------|------------------|----------------------------|---|
| Colombia                                      | A7              | 2017                             | 225.6               | 148.5                 | 0.0              | 0.0                        | 10% by 2015, 60% by 2020 and 65% by 2021    |
| Comoros (the)                                 | A7              | 2017                             | 0.1                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Congo (the)                                   | A7              | 2017                             | 10.1                | 7.7                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Cook Islands (the)                            | A7              | 2017                             | 0.1                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Costa Rica                                    | A7              | 2017                             | 14.1                | 10.1                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Cote d'Ivoire                                 | A7              | 2017                             | 63.8                | 47.1                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Cuba  | A7              | 2017                             | 16.9                | 9.6                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Democratic People's Republic of Korea (the)** | A7              | 2017                             | 78.0                | 69.2                  | 0.0              | 0.0                        | 15% by 2018                                 |
| Democratic Republic of the Congo (the)        | A7              | 2017                             | 66.2                | 6.1                   | 0.0              | 0.0                        | 10% by 2017                                 |
| Djibouti                                      | A7              | 2017                             | 0.7                 | 0.5                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Dominica                                      | A7              | 2017                             | 0.4                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Dominican Republic (the)                      | A7              | 2017                             | 51.2                | 44.4                  | 0.0              | 0.0                        | 10% by 2015 and 40% by 2020                 |
| Ecuador                                       | A7              | 2017                             | 23.5                | 18.1                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Egypt   | A7              | 2017                             | 386.3               | 346.5                 | 0.0              | 0.0                        | 25% by 2018 and 67.5% by 2025               |
| El Salvador                                   | A7              | 2017                             | 11.7                | 6.4                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Equatorial Guinea                             | A7              | 2017                             | 6.3                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Eritrea                                       | A7              | 2017                             | 1.1                 | 0.9                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Eswatini (the Kingdom of)                     | A7              | 2017                             | 1.7                 | 0.8                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Ethiopia                                      | A7              | 2017                             | 5.5                 | 4.2                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Fiji  | A7              | 2017                             | 5.7                 | 3.7                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Gabon   | A7              | 2017                             | 30.2                | 19.8                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Gambia (the)                                  | A7              | 2017                             | 1.5                 | 0.4                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Georgia                                       | A7              | 2017                             | 5.3                 | 2.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Ghana   | A7              | 2017                             | 57.3                | 19.5                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Grenada                                       | A7              | 2017                             | 0.8                 | 0.2                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Guatemala                                     | A7              | 2017                             | 8.3                 | 3.4                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Guinea  | A7              | 2017                             | 22.6                | 2.5                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Guinea Bissau                                 | A7              | 2017                             | 2.8                 | 2.0                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Guyana  | A7              | 2017                             | 1.8                 | 1.3                   | 0.0              | 0.0                        | 10% by 2015, 97.5% by 2025 and 100% by 2030 |
| Haiti   | A7              | 2017                             | 3.6                 | 2.2                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Honduras                                      | A7              | 2017                             | 19.9                | 10.8                  | 0.0              | 0.0                        | 35% by 2020                                 |



| Country                                | Source<br>***** | Year of<br>latest<br>consumption | Baseline<br>(ODP t) | Latest<br>consumption | % over<br>freeze | % over<br>10%<br>reduction | Control addressed by HPMPs   |
|--|-----------------|----------------------------------|---------------------|-----------------------|------------------|----------------------------|--|
| India                                  | A7              | 2017                             | 1,608.2             | 806.5                 | 0.0              | 0.0                        | 10% by 2015, 48% by 2020, 50% by 2021, 56% by 2022 and 60% by 2023     |
| Indonesia                              | A7              | 2017                             | 403.9               | 239.8                 | 0.0              | 0.0                        | 20% by 2018, 37.5% by 2020 and 55% by 2023                             |
| Iran (Islamic Republic of)             | A7              | 2017                             | 380.5               | 229.3                 | 0.0              | 0.0                        | 10% by 2015 and 75% by 2023  |
| Iraq                                   | A7              | 2017                             | 108.4               | 91.5                  | 0.0              | 0.0                        | 13.82% by 2017   |
| Jamaica                                | A7              | 2017                             | 16.3                | 4.0                   | 0.0              | 0.0                        | 35% by 2020  |
| Jordan                                 | A7              | 2017                             | 83.0                | 25.2                  | 0.0              | 0.0                        | 20% by 2017 and 50% by 2022  |
| Kenya                                  | A7              | 2017                             | 52.2                | 5.3                   | 0.0              | 0.0                        | 21.1% by 2017 and 100% by 2030   |
| Kiribati                               | A7              | 2017                             | 0.1                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020  |
| Kuwait                                 | A7              | 2017                             | 418.6               | 295.9                 | 0.0              | 0.0                        | 39.2% by 2018  |
| Kyrgyzstan                             | A7              | 2017                             | 4.1                 | 1.4                   | 0.0              | 0.0                        | 10% by 2015, 97.5% by 2020 and 100% by 2025                            |
| Lao People's Democratic Republic (the) | A7              | 2017                             | 2.3                 | 0.6                   | 0.0              | 0.0                        | 35% by 2020  |
| Lebanon                                | A7              | 2017                             | 73.5                | 55.2                  | 0.0              | 0.0                        | 18% by 2017, 50% by 2020 and 75% by 2025                               |
| Lesotho                                | A7              | 2017                             | 3.5                 | 0.7                   | 0.0              | 0.0                        | 35% by 2020  |
| Liberia                                | A7              | 2017                             | 5.3                 | 2.3                   | 0.0              | 0.0                        | 35% by 2020  |
| Libya***                               | A7              | 2017                             | 118.4               | 117.7                 | 0.0              | 10.5                       | 10% by 2018  |
| Madagascar                             | A7              | 2017                             | 24.9                | 10.7                  | 0.0              | 0.0                        | 35% by 2020  |
| Malawi                                 | A7              | 2017                             | 10.8                | 7.1                   | 0.0              | 0.0                        | 35% by 2020  |
| Malaysia                               | A7              | 2017                             | 515.8               | 235.8                 | 0.0              | 0.0                        | 15% by 2016, 22.4% by 2019, 35% by 2020, 40% by 2021 and 42.9% by 2022 |
| Maldives                               | A7              | 2017                             | 4.6                 | 2.4                   | 0.0              | 0.0                        | 100% by 2020   |
| Mali                                   | A7              | 2017                             | 15.0                | 9.1                   | 0.0              | 0.0                        | 35% by 2020  |
| Marshall Islands (the)                 | A7              | 2017                             | 0.2                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020  |
| Mauritania                             | A7              | 2017                             | 20.5                | 16.0                  | 0.0              | 0.0                        | 67.5% by 2025  |
| Mauritius                              | A7              | 2017                             | 8.0                 | 5.8                   | 0.0              | 0.0                        | 100% by 2030   |
| Mexico                                 | A7              | 2017                             | 1,148.8             | 414.2                 | 0.0              | 0.0                        | 30% by 2018 and 67.5% by 2022  |
| Micronesia (Federated States of)       | A7              | 2017                             | 0.2                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020  |
| Mongolia                               | A7              | 2017                             | 1.4                 | 0.6                   | 0.0              | 0.0                        | 35% by 2020  |
| Montenegro                             | A7              | 2017                             | 0.8                 | 0.2                   | 0.0              | 0.0                        | 35% by 2020  |
| Morocco                                | A7              | 2017                             | 51.4                | 32.6                  | 0.0              | 0.0                        | 20% by 2017  |
| Mozambique                             | A7              | 2017                             | 8.7                 | 5.0                   | 0.0              | 0.0                        | 35% by 2020  |

| Country                          | Source<br>***** | Year of<br>latest<br>consumption | Baseline<br>(ODP t) | Latest<br>consumption | % over<br>freeze | % over<br>10%<br>reduction | Control addressed by HPMPs                  |
|----------------------------------|-----------------|----------------------------------|---------------------|-----------------------|------------------|----------------------------|---|
| Myanmar                          | A7              | 2017                             | 4.3                 | 3.6                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Namibia                          | A7              | 2017                             | 8.4                 | 2.7                   | 0.0              | 0.0                        | 100% by 2025                                |
| Nauru                            | A7              | 2017                             | 0.0                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Nepal                            | A7              | 2017                             | 1.1                 | 0.6                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Nicaragua                        | A7              | 2017                             | 6.8                 | 4.2                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Niger (the)                      | A7              | 2017                             | 16.0                | 11.9                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Nigeria                          | A7              | 2017                             | 344.9               | 265.8                 | 0.0              | 0.0                        | 10% by 2015, 35% by 2020 and 51.35% by 2023 |
| Niue                             | A7              | 2017                             | 0.0                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Oman                             | A7              | 2017                             | 31.5                | 17.4                  | 0.0              | 0.0                        | 10% by 2015 and 35% by 2020                 |
| Pakistan                         | A7              | 2017                             | 248.1               | 206.8                 | 0.0              | 0.0                        | 10% by 2015 and 50% by 2020                 |
| Palau                            | A7              | 2017                             | 0.2                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Panama                           | A7              | 2017                             | 24.8                | 16.5                  | 0.0              | 0.0                        | 10% by 2015 and 35% by 2020                 |
| Papua New Guinea                 | A7              | 2017                             | 3.3                 | 2.1                   | 0.0              | 0.0                        | 100% by 2025                                |
| Paraguay                         | A7              | 2017                             | 18.0                | 12.7                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Peru                             | A7              | 2017                             | 26.9                | 22.3                  | 0.0              | 0.0                        | 10% by 2015 and 67.5% by 2025               |
| Philippines (the)                | A7              | 2017                             | 162.0               | 112.3                 | 0.0              | 0.0                        | 10% by 2015, 35% by 2020 and 50% by 2021    |
| Qatar                            | A7              | 2017                             | 86.9                | 68.5                  | 0.0              | 0.0                        | 20% by 2015                                 |
| Republic of Korea (the)          | A7              | 2017                             | 1,908.0             | 1,499.2               | 0.0              | 0.0                        |   |
| Republic of Moldova (the)        | A7              | 2017                             | 1.0                 | 0.0                   | 0.0              | 0.0                        | 10% by 2015 and 35% by 2020                 |
| Rwanda                           | A7              | 2017                             | 4.1                 | 2.5                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Saint Kitts and Nevis            | A7              | 2017                             | 0.5                 | 0.2                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Saint Lucia                      | A7              | 2017                             | 1.1                 | 0.6                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Saint Vincent and the Grenadines | A7              | 2017                             | 0.3                 | 0.0                   | 0.0              | 0.0                        | 100% by 2025                                |
| Samoa                            | A7              | 2017                             | 0.3                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Sao Tome and Principe            | A7              | 2017                             | 2.2                 | 0.1                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Saudi Arabia                     | A7              | 2017                             | 1,468.7             | 1,060.2               | 0.0              | 0.0                        | 40% by 2020                                 |
| Senegal                          | A7              | 2017                             | 36.2                | 17.9                  | 0.0              | 0.0                        | 35% by 2020                                 |
| Serbia                           | A7              | 2017                             | 8.4                 | 6.7                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Seychelles                       | A7              | 2017                             | 1.4                 | 0.3                   | 0.0              | 0.0                        | 100% by 2025                                |
| Sierra Leone                     | A7              | 2017                             | 1.7                 | 0.6                   | 0.0              | 0.0                        | 35% by 2020                                 |
| Singapore                        | A7              | 2017                             | 216.1               | 60.9                  | 0.0              | 0.0                        |   |
| Solomon Islands                  | A7              | 2017                             | 2.0                 | 0.2                   | 0.0              | 0.0                        | 35% by 2020                                 |

| Country                                   | Source<br>***** | Year of<br>latest<br>consumption | Baseline<br>(ODP t) | Latest<br>consumption | % over<br>freeze | % over<br>10%<br>reduction | Control addressed by HPMPs  |
|---|-----------------|----------------------------------|---------------------|-----------------------|------------------|----------------------------|-----------------------------|
| Somalia                                   | A7              | 2017                             | 45.1                | 15.4                  | 0.0              | 0.0                        | 35% by 2020                 |
| South Africa                              | A7              | 2017                             | 369.7               | 122.2                 | 0.0              | 0.0                        | 35% by 2020                 |
| South Sudan                               | A7              | 2017                             | 4.1                 | 2.9                   | 0.0              | 0.0                        | 35% by 2020                 |
| Sri Lanka                                 | A7              | 2017                             | 13.9                | 9.1                   | 0.0              | 0.0                        | 35% by 2020                 |
| Sudan (the)                               | A7              | 2017                             | 52.7                | 36.6                  | 0.0              | 0.0                        | 30% by 2017 and 75% by 2020 |
| Suriname                                  | A7              | 2017                             | 2.0                 | 1.2                   | 0.0              | 0.0                        | 35% by 2020                 |
| Syrian Arab Republic****                  | A7              | 2017                             | 135.0               | 98.4                  | 0.0              | 0.0                        |                             |
| Thailand                                  | A7              | 2017                             | 927.6               | 376.2                 | 0.0              | 0.0                        | 15% by 2018                 |
| The Former Yugoslav Republic of Macedonia | A7              | 2017                             | 1.8                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                 |
| Timor-Leste                               | A7              | 2017                             | 0.5                 | 0.3                   | 0.0              | 0.0                        | 10% by 2015 and 78% by 2025 |
| Togo                                      | A7              | 2017                             | 20.0                | 15.0                  | 0.0              | 0.0                        | 35% by 2020                 |
| Tonga                                     | A7              | 2017                             | 0.1                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                 |
| Trinidad and Tobago                       | A7              | 2017                             | 46.0                | 12.2                  | 0.0              | 0.0                        | 35% by 2020                 |
| Tunisia                                   | A7              | 2017                             | 40.7                | 28.5                  | 0.0              | 0.0                        | 15% by 2018                 |
| Turkey                                    | A7              | 2017                             | 551.5               | 18.3                  | 0.0              | 0.0                        | 86.4% by 2017               |
| Turkmenistan                              | A7              | 2017                             | 6.8                 | 2.6                   | 0.0              | 0.0                        | 35% by 2020                 |
| Tuvalu                                    | A7              | 2017                             | 0.1                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                 |
| Uganda                                    | A7              | 2017                             | 0.2                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                 |
| United Arab Emirates (the)                | A7              | 2017                             | 557.1               | 473.9                 | 0.0              | 0.0                        |                             |
| United Republic of Tanzania (the)         | A7              | 2017                             | 1.7                 | 1.2                   | 0.0              | 0.0                        | 35% by 2020                 |
| Uruguay                                   | A7              | 2017                             | 23.4                | 16.7                  | 0.0              | 0.0                        | 10% by 2015 and 35% by 2020 |
| Vanuatu                                   | A7              | 2017                             | 0.3                 | 0.0                   | 0.0              | 0.0                        | 35% by 2020                 |
| Venezuela (Bolivarian Republic of)        | A7              | 2017                             | 207.0               | 17.1                  | 0.0              | 0.0                        | 10% by 2015 and 42% by 2020 |
| Viet Nam                                  | A7              | 2017                             | 221.2               | 197.6                 | 0.0              | 0.0                        | 10% by 2015 and 35% by 2020 |
| Yemen                                     | A7              | 2016                             | 158.2               | 92.3                  | 0.0              | 0.0                        | 15% by 2015                 |
| Zambia                                    | A7              | 2017                             | 5.0                 | 2.5                   | 0.0              | 0.0                        | 35% by 2020                 |
| Zimbabwe                                  | A7              | 2017                             | 17.8                | 10.7                  | 0.0              | 0.0                        | 35% by 2020                 |

(\*) 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 ODSs.

(\*\*) Democratic People's Republic of Korea (the)'s latest consumption is below 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.

(\*\*\*\*) HPMP not yet approved and submitted to the 81<sup>st</sup> meeting.

(\*\*\*\*\*) CP data excluding HCFC-141b contained in imported pre-blended polyol.