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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eighty-eighth Meeting
Montreal, 15-19 November 2021¹

REPORT OF THE SUB-GROUP ON THE PRODUCTION SECTOR**Introduction**

1. The Sub-group on the Production Sector held a virtual meeting on 17 November 2021. It consisted of the representatives of Armenia, Australia, China, Paraguay, Suriname, Switzerland, the United Kingdom of Great Britain and Northern Ireland and the United States of America, with Australia acting as facilitator. Representatives of the World Bank were also present as observers.

Agenda item 1: Adoption of the agenda

2. The facilitator of the Sub-group welcomed the participants.

3. During the adoption of the agenda, one member maintained their objection to discussing agenda item 4 at a virtual meeting and suggested deferring that discussion until the next in-person meeting of the Executive Committee.

4. The representative of Switzerland asked that the issue of the HFC production sector guidelines be considered under agenda item 6, Other matters.

5. The Sub-group adopted the provisional agenda as set out in document UNEP/OzL.Pro/ExCom/88/SGP/1, as orally amended.

Agenda item 2: Organization of work

6. The Sub-group agreed to follow the organization of work proposed by the facilitator.

*Re-issued for technical reasons on 22 November 2021.

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

Agenda item 3: China HCFC production sector: 2019 and 2020 verification reports of the HCFC production sector

7. The representative of the Secretariat introduced documents UNEP/OzL.Pro/ExCom/88/SGP/2, and Corr.1, and said that because of the constraints imposed by the COVID-19 pandemic, those verifications had been conducted virtually. The World Bank would submit an addendum to the verification reports, based on in-person visits to the production facilities, as a part of the production verification to be submitted to the last meeting in 2022, together with an update related to the closure and dismantling of Suqian Kaier, and the one-off verifications requested in decision 86/99(e). He also drew the attention to a typographical error in paragraph 36(c) of the document, where the reference to HCFC-22 should be replaced by HCFC-142b, and explained that paragraph 9 was in error: according to information provided by the Ecology and Environment Bureau of Suqian City, the production facilities at Suqian Kaier had closed in November 2020; the World Bank will provide further information on the closure and dismantling of the facility to the last meeting of 2022.

8. In response to a request for further information on the sale and venting of HFC-23 by-product, the Secretariat noted that those HCFC-22 production facilities established after 2010 had not sold or vented any HFC-23 but had either destroyed or stored it. Three of the facilities established in or prior to 2010 had captured HFC-23 for sale; one of them did not have an incinerator but had not vented any HFC-23, while the other two had both captured and destroyed HFC-23. A mass balance approach had been used to establish the amounts vented, calculated as the HFC-23 that had not been captured, destroyed or sold. Based on the quantities involved, it appeared that the amounts vented were the equivalent of fugitive emissions or small process emissions, rather than intentional venting.

9. Regarding the availability of information on the beginning-of-year or end-of-year stocks at the integrated facilities established after 2010, the representative of the World Bank explained that the Bank was unable to provide that information as such facilities were only verified on a case-by-case basis. The representative of the Secretariat also explained that while the Government of China had continued to provide some aggregate information on feedstock production and use, in line with relevant decisions of the Executive Committee, paragraph 3 of Appendix 5-A of the Agreement on the HCFC production phase-out management plan (HPPMP) for China addressed the role of the project management unit in data reporting, which differed from data that was included in the verification reports.

10. Clarifications were also sought on how the illegal production of HCFC-22 had been reported under Article 7 of the Montreal Protocol; whether all facilities producing HCFC-22 and generating HFC-23 had been included in the verification report, and whether there was intentional venting of HFC-23; how the mass balance approach had been used; and why integrated facilities established after 2010 would not have any emissions of HFC-23. The representative of the Secretariat confirmed that a mass balance approach was used to calculate the vented emissions, that the emissions of HFC-23 included in the 2019-2020 verification reports had covered HFC-23 by-product generated at all HCFC-22 production lines in China; similarly, Table 4 of document UNEP/OzL.Pro/ExCom/88/SGP/2 included HFC-23 by-product generated from all production lines from 2013 to 2020 except for 2016 and 2017, which had not included HFC-23 by-product generated at HCFC-22 production lines established after 2010.

11. Regarding the difference between the verified total production of HCFC-22 and that reported under Article 7 for 2020, a representative of the World Bank explained that the amount that had been illegally produced had been included in the country's Article 7 data, and that that quantity had also been destroyed in 2020.

12. It was asked how much HCFC-22 had been produced at Suqian Kaier for feedstock in 2014 and 2015, what would be the defined use for the CFC-113a when reported under Article 7, and whether that would only be reported in 2020 or from 2020 onwards. The representative of the World Bank provided an

estimate of the HCFC-22 production levels in 2014 and 2015, and clarified that production of CFC-113a would be reported as feedstock use from 2020 onwards.

13. The representative of China reported on developments in the management and control of HFC-23 since the previous meeting of the Sub-group. China had ratified the Kigali Amendment and since then been developing policies to regulate and control the emission of HFC-23. On 10 September 2021, the Ministry of Ecology and Environment had issued a notification clarifying the requirements for HFC-23 management and since 15 September 2021, HFC-23 could no longer be vented at HCFC and HFC production facilities. Except when used for feedstock or controlled uses, HFC-23 was to be destroyed, to the extent practicable, using the technologies approved by the Parties to the Montreal Protocol or stored in appropriate storage facilities. Technical guidance was also being developed for the measuring, monitoring and data reporting on HFC-23 by-product in order to provide concrete guidance to industry and enterprises and enhance their data collection, management and monitoring.

14. Members welcomed the additional information provided by the Government of China on steps to strengthen the management and control of HFC-23 by-product since the country's ratification of the Kigali Amendment. However, concern was expressed at the unexpected increase in the global emissions of HFC-23 notwithstanding the reductions in emissions recently achieved by China, and the substantial proportion of China's HCFC-22 production to the total global HCFC-22 production. Some members considered that it would be important for the Secretariat to investigate those emissions for a better insight into them. Accordingly, the representative of the United Kingdom of Great Britain and Northern Ireland proposed an addition to the recommendation to address *inter alia* the discrepancies noted in the global reporting of HFC-23 emissions as well as other possible sources of HFC-23 emissions.

15. The representative of the Secretariat said that the Scientific Assessment Panel was better placed to explain the global discrepancies in HFC-23 emissions. It was his understanding that a recently published scientific article had used data from background stations to estimate global emissions; the article provided no information on the source or sources of increased emissions of HFC-23, including whether those emissions came from the northern or southern hemisphere, which can be inferred from the interhemispheric variability. While high-frequency observations of HFC-23 from a variety of monitoring stations were available that could shed light on where emissions had increased or decreased, an analysis based on such data had not yet been published in the scientific literature.

16. The representative of China said that the Government of China had noted the scientific studies on the emissions of HFC-23, and attached great importance to the issue. However, further discussion on those studies was required given uncertainties in the modelling used to calculate emissions as well as the methodology used for the monitoring of the concentrations of HFC-23. Without a full discussion of those issues, it would be difficult for any Party to address the discrepancies noted, which were global in nature and not explained by activities in a particular region. That made it difficult for China to explain the discrepancies through a 'bottom-up' assessment of its data reporting. The verification of all HFC-23 emissions also went beyond the Agreement for the HPPMP for China and the mandate of both the Secretariat and the Executive Committee.

17. Others said that the purpose of the recommendation was to strengthen the processes already being put in place by China and it should not be read as a request for China to explain the global discrepancies in HFC-23 emissions. The facilitator proposed modifications to the text to keep the recommendation within the mandate of the Sub-group, but the representative of China noted the verification reports submitted by the World Bank contained national information on the management of HFC-23 by-product in line with relevant decisions of the Executive Committee and the HPPMP Agreement.

18. An alternate recommendation was proposed requesting detailed information on the methodology used to estimate HFC-23 emissions from HCFC-22 facilities, as well as other possible sources of HFC-23 emissions from HCFC or HFC production. While the issue of HFC-23 emissions was a global problem, a

fundamental aspect of the HCFC production sector was that China would undertake to use its best efforts to control HFC-23 by-product, in line with paragraph 10 of the Agreement of the HPPMP. The member further noted that while much good information had been supplied and it appeared that the HFC-23 by-product production rate in China was decreasing, as were emissions, some of the data seemed anomalous in regard to zero emissions from some production facilities. The issue was not one of compliance but of performance for the purposes of compensation, and that is what the language of the proposed recommendation reflected.

19. The Chief Officer expressed concern at the requests being made to the Secretariat, especially with regard to giving an opinion on the methodologies being used by Parties for reporting; moreover, assessing global emissions was beyond the Secretariat's mandate. The Secretariat received the verification reports from the World Bank and then, after a review, provided additional information as needed. With regard to the recommendation, the Secretariat had proposed a slight modification to take into account the mandate of the Sub-group.

20. The representative of China reiterated that since ratifying the Kigali Amendment, China was taking action to control HFC-23 and was developing specific technical guidelines to improve the monitoring and measurement of HFC-23, as well as data collection and reporting. According to the implementation schedule of its HPPMP, China would submit a report at the last meeting of 2022 on progress in implementing its HPPMP. Policy matters would be a key component of that report, including any progress made in the policy developments on HFC-23, as well as the progress made by industry in the management of that substance; the representative of China stressed that the progress report would demonstrate the improvements that had been made and not apply revised methodologies to past actions. Accordingly, the representative did not consider a recommendation requesting inclusion of such information in the annual progress report to be submitted in 2022 was required.

21. As no consensus on an additional sub-paragraph related to the reporting of emissions of HFC-23 could be reached, it was noted that the different views expressed by Sub-group members would be reflected in the meeting report, and the recommendation as verbally amended by the Secretariat was agreed. Accordingly, the Sub-group on the Production Sector recommended that the Executive Committee:

- (a) Note:
 - (i) The 2019 and 2020 verification reports of the HCFC production sector in China considered by the Sub-group on the Production Sector;
 - (ii) That the verifications referred to in sub-paragraph (a)(i) above were undertaken virtually in light of the COVID-19 pandemic and the World Bank had not yet been able to undertake the verification required by decision 86/99(e);
 - (iii) The information contained in document UNEP/OzL.Pro/ExCom/88/SGP/2 relevant to the updated 2018 verification report requested in decisions 84/93(b) and 86/98(b);
- (b) Request the World Bank to submit to the last meeting of 2022:
 - (i) An addendum to the 2019 and 2020 verification reports of the HCFC production sector in China;
 - (ii) The one-off verifications required by decision 86/99(e);

- (iii) An update related to Suqian Kaier, including related to the integrated nature, closure, and dismantling of the HCFC-22 production line, as part of the verification of the 2021 HCFC production sector in China;
- (c) Request the World Bank to verify, on a one-off basis, that the newly established HCFC-142b production line at Zhejiang Juhua was vertically integrated with the downstream facility and all HCFC-142b produced in the new line would be for feedstock use, and to submit that report to the last meeting of 2022; and
- (d) Request the Government of China, through the World Bank, to submit to the last meeting of 2022 a report on the outcome of the Government's assessment of an HCFC producer that may have exceeded its assigned 2020 quota for production for domestic ozone-depleting substances, including any measures that may have been implemented under administrative regulations in light of the assessment's findings.

Agenda item 4: Draft guidelines and the standard format used for the verification of ODS production phase-out (decisions 83/70(b), 87/57(d) and 87/58)

22. Agenda item 4 was deferred until the 89th meeting of the Executive Committee.

Agenda item 5: Draft HCFC production sector guidelines (decision 87/59)

23. The facilitator asked if there had been any developments in the positions previously expressed in the Sub-group.

24. After a brief discussion it was noted that there did not appear to be any change in the positions of the members and the Sub-group agreed to maintain the issue on the agenda and defer further consideration of the draft HCFC production sector guidelines to the next meeting of the Executive Committee.

Agenda item 6: Other matters

HFC production sector guidelines

25. The representative of Switzerland said that as a significant number of Parties of the Montreal Protocol had ratified the Kigali Amendment the Secretariat should be asked to prepare a background document on the HFC production sector, possibly for the next meeting of the Executive Committee, as a basis for starting the discussion of the HFC production sector guidelines.

26. The representative of the Secretariat asked for guidance on what to include in such a document. It was agreed that while it would be important for the Sub-group to eventually consider the issue it was not clear what information the Secretariat could provide at the present time; usually there would have been some official reporting by Article 5 countries before the Secretariat undertook that exercise. It was suggested that the issue should be revisited once there had been such reporting by the Parties concerned.

27. The facilitator said that the Sub-group would revisit the issue once such reporting by the countries concerned had been submitted.

Agenda item 7: Adoption of the report

28. The present report was reviewed by the facilitator and submitted to the Chair of the Executive Committee for transmission to the 88th meeting of the Executive Committee.

Agenda item 8: Closure

29. The meeting of the Sub-group on the Production Sector was closed at 14:45 Universal Time Coordinated (9.45 a.m. Montreal time), on 17 November 2021.
