



**United Nations  
Environment  
Programme**

Distr.  
GENERAL

UNEP/OzL.Pro/ExCom/82/68/Corr.1  
23 November 2018

ORIGINAL: ENGLISH



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

**Corrigendum**

**COST-EFFECTIVE OPTIONS FOR CONTROLLING HFC-23 BY-PRODUCT EMISSIONS  
(DECISION 81/68(e))**

This document is being issued to:

- **Replace** “895,459” **with** “947,132” in paragraph 9
- **Replace** “593,047\*\*” **with** “644,721”; “673,656” **with** “725,329” and “895,459” **with** “947,132” under the “2017” column in Table 1
- **Remove** the second footnote to Table 1
- **Replace** three rows in Table 2 and footnote “d”, and **add** footnote “e”, as follows:

China	32	2.44 <sup>e</sup> , 2.41 <sup>d</sup>	17,089 <sup>e</sup>	17,351 <sup>e</sup>	13,604 <sup>e</sup>	13,949	15,517
Sub-total for Article 5 countries	43		18,803	19,506	15,585	16,022	17,849
Total			22,673	23,707	20,089	20,199	22,285

<sup>d</sup> The average 2017 HFC-23 by-product generation rate at the HCFC-22 production facilities that were included in the 2017 verification is 2.36 per cent. Three HCFC-22 production lines that generated HFC-23 in 2017 and that were established after 2010 were not included in the verification report; a *w* rate of 3 per cent was used for those lines

<sup>e</sup> The HFC-23 by-product generation rate for 2013, 2014, and 2015 as reported in the 2017 verification report.

- **Replace** paragraph 11(b) as follows:
  - (b) For China, the *w* rates reported in the verification reports submitted for the 15 HCFC-22 production lines established before 2010, in line with the Agreement on the HCFC production phase-out management plan (HPPMP). The amounts of HFC-23 are measured in some plants through meters; where no meters are installed, the amounts of HFC-23 are estimated using *w* rate of 3 per cent. A *w* rate of 3 per cent was also used to estimate the HFC-23 by-product generated at three additional HCFC-22 production lines that were

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established after 2010, that only produce for feedstock, and that are not included in the verification reports;

- **Replace** footnote 7 of paragraph 12 as follows:

7. The Parties approved the following technologies for the destruction of HFC-23: gaseous/fume oxidation; liquid injection incineration; reactor cracking; rotary kiln incineration; argon plasma arc; nitrogen plasma arc; chemical reaction with H<sub>2</sub> and CO<sub>2</sub>; superheated steam reactor (decision XXX/6). The Secretariat is aware of one feedstock use of HFC-23: for the production of halon-1301, which is in turn used as a feedstock during the manufacture of fipronil, an agricultural pesticide. Capture and use for controlled uses is expected to result in the eventual release of emissions of HFC-23, thus delaying rather than avoiding such emissions.

- **Replace** the last two sentences of paragraph 23 as follows:

The verifications conducted for 2013 through 2017 have included the relevant information on HFC-23 emissions in the HCFC-22 producers established before 2010. The three most recent verification reports, for 2015, 2016 and 2017, show the progress made by the Government of China in reducing HFC-23 emissions from the HCFC-22 producers established before 2010, in line with policies issued by the Government: the per cent HFC-23 by-product that was incinerated at those producers increased from 45 per cent in 2015, to 93 per cent in 2016, and to 98 per cent in 2017. Information on the three HCFC-22 producers that were established after 2010 was not included in the verification reports. The three producers have each installed an HFC-23 destruction facility; however, data on the quantity of HFC-23 by-product destroyed at those facilities was not available at the time of finalization of the present document.