

# CONSIDERATIONS FOR ESTABLISHING NATIONAL HFC QUOTA SYSTEM



## Technical Note

July 2023

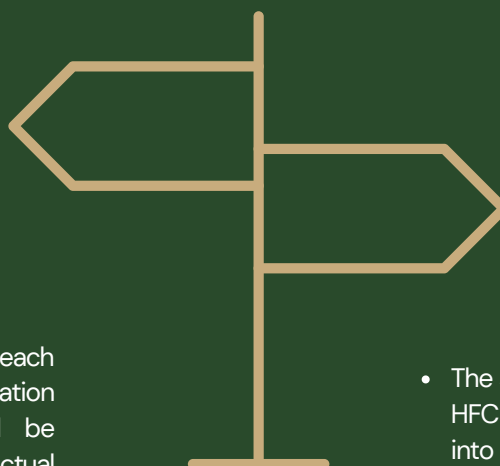
### Overview

The Parties to the Kigali Amendment need to establish a mechanism to effectively control the production and consumption of hydrofluorocarbons (HFCs), a group of greenhouse gases that are controlled under the Montreal Protocol. Similar to the hydrochlorofluorocarbon (HCFC) phase-out, an effective quota system can play a vital role in assisting Parties to be in compliance with their HFC consumption targets.

However, the management of HFC quotas could be more complicated than HCFC quota since (i) many more HFC substances are currently being used in the market in various sectors compared to HCFCs, and new HFC blends with lower Global Warming Potential (GWP[1]) might be introduced into market from time to time; (ii) The GWP values of the controlled HFCs/HFC blends vary significantly, which might mislead the sectoral needs of HFCs and the compliance target; Such dynamic characteristics coupled with the phasedown instead of phaseout can have an impact on the quota allocation, trading, and monitoring etc. As HFC consumption in most countries is determined by their import, this document aims to highlight guiding principles and key aspects that countries need to consider when developing their import quota system. The underlying principles and approaches are equally applicable for production and export quota allocation.

### Guiding principles for HFC quota system

- HFC quota allocation criteria/mechanism should be determined in consultation with all national stakeholders and built on the successful HCFC quota system framework with adjustments to suit the HFC context.
- HFC quota allocation process should be fair and transparent to all stakeholders.
- Quotas should be valid within the calendar year and should not be banked or carried over to the next year.
- A tracking system for each importer's quota utilization throughout the year should be established to ensure the actual import by each importer does not exceed the allowable amount.
- Allocated quota should be adjustable within a calendar year to accommodate changing national priorities and ensure that domestic HFC demand is met.
- HFC quota allocation should be aligned to the national phase-down overarching strategy including sector prioritization[2] for earlier phase-out/down or special consideration for specific applications.
- The system should favor lower-GWP HFC substances that are entering into the market during HFC phasedown process.



[1] GWP of greenhouse gases are calculated as the ratio of the radiative forcing that would result from the emissions of one tonne gas to that from the emission of one tonne of carbon dioxide (CO<sub>2</sub>) over a period of time and expressed in CO<sub>2</sub> equivalent.

[2] Sector prioritization during HFC phase-down control measures means the country can prioritize certain HFC intensive or alternative ready sectors first and the other sectors would be not or marginally controlled during this time allowing the country to meet the Kigali Amendment obligations with least burden to the overall market.

# Main differences between HCFC and HFC control measures that affect the HFCs quota system



HCFC compliance targets are measured in ODP-tonnes.	<b>UNITS OF MEASUREMENT</b>	HFC compliance targets are measured in CO <sub>2</sub> e-tonnes.
Most countries use only one or two types of HCFCs which makes quota allocation and monitoring more straightforward using either metric tonnes or ODP-tonnes.	<b>NUMBER OF DIFFERENT SUBSTANCES</b>	Companies may use several different HFCs/HFC blends with different GWPs, which makes the HFC quota more complicated to monitor in CO <sub>2</sub> e-tonnes and metric tonnes at the same time.
HCFC quota system handles existing few HCFCs, and no new HCFC and/or new blends containing HCFCs were introduced into the market.	<b>NEW SUBSTANCES/ BLENDS</b>	HFC quota system should be flexible to allow new HFCs/blends with lower GWP to enter the market and/or to increase the import of specific low GWP HFCs to meet the market and compliance needs.
<b>Phase-out:</b> The national HCFC quota will be zero by 2030 with servicing tail until 2040 only, i.e. all HCFC substances must be eventually phased-out.	<b>PHASE OUT / PHASE DOWN</b>	<b>Phase-down:</b> The consumption of HFCs will be retained at 20 or 15 percent of baseline levels for Group 1 or Group 2 respectively, i.e., some HFCs may be used even after 2045 and 2047 respectively.

## Factors and considerations in developing an HFC quota system

1.

Assigning an HFC quota in Carbon Dioxide equivalent (CO<sub>2</sub>e) or metric tonnes (MT):

1) **Quota in CO<sub>2</sub>e:** Importers will be given an annual HFC quota for all types of HFCs and blends in one total amount in CO<sub>2</sub>e. In this situation, each importer can decide on how much to import of each HFC substance throughout the year. For example:

Annual quota of the importer = 100,000 CO <sub>2</sub> e-t				or	Annual quota of the importer = 100,000 CO <sub>2</sub> e-t	
50,000 CO <sub>2</sub> e-t HFC-134a (35 MT)	25,000 CO <sub>2</sub> e-t R-410A (12 MT)	15,000 CO <sub>2</sub> e-t HFC-32 (22.2 MT)	10,000 CO <sub>2</sub> e-t R-407C (5.6 MT)		50,000 CO <sub>2</sub> e-t R-410A (24 MT)	50,000 CO <sub>2</sub> e-t HFC-32 (74.1 MT)
= 74.8 MT substance					= 98.1 MT substance	

2) **Quota in MT:** Importers will be given an annual HFC quota for each type of HFCs and blends in MT. In this situation, at the beginning of the year, each importer needs to decide a set portfolio of substances for import and exact quantities. For example:

Annual quota of the importer – amounts of each substance fixed in MT			
35 MT HFC-134a (50,000 CO <sub>2</sub> e-t)	12 MT R-410A (25,000 CO <sub>2</sub> e-t)	22.2 MT HFC-32 (15,000 CO <sub>2</sub> e-t)	5.6 MT R-407C (10,000 CO <sub>2</sub> e-t)
= 74.8 MT of substances with 100,000 CO <sub>2</sub> e-t in total. The importer cannot exceed the limit of each substance even though the total amount is not exceeding both the 74.8 MT or 100,000 CO <sub>2</sub> e-t			

The following table summarizes the differences and pros and cons of the two scenarios.

	<b>Quota in CO2e:</b> fixed quantity of CO2e but not indicating HFC substance types or amounts	<b>Quota in metric tonnes:</b> fixed quantities of each HFC substance specified in Kg or MT
Pros	<ul style="list-style-type: none"> <li>• <b>More flexible:</b> Importers can decide the composition of their HFC imports as long as their annual total import in CO2e does not exceed the total assigned quota to meet the market demand. In this way importers can maximize their quota utilization and no need to request for reallocation.</li> <li>• <b>Incentivize lower-GWP imports:</b> Importers are incentivized to import lower-GWP substances as they would be able to resell higher volumes of refrigerants for the same amount of assigned quota.</li> <li>• When paired with a per-shipment license system importers are free to request license for any HFC substance throughout the year as long as their total quota in CO2e is respected.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Similar to HCFC control and familiar to stakeholders:</b> This approach is similar to the HCFC quota and licensing system. NOUs and importers are well familiar with this approach.</li> <li>• <b>Easier for importers to manage its business and customs to monitor:</b> Quota allocated per substance MT is easily understandable by importers and Customs and will not require further conversions when it comes to trade and the control process.</li> <li>• <b>Effective to limit the import of certain substances at quota allocation level:</b> Quota authority/NOU can decide on how much quota to allocate for specific substance. This option enables countries to limit/control any specific type of HFCs to be imported based on their national strategy.</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• <b>Need extensive monitoring:</b> The NOU/licensing authority needs to have a very good tracking system to track the quota that has been utilized by each importer against actual imports.</li> <li>• For countries with annual import license system, when assigning quota in CO2e without indicating specific substance quantity, NOU needs to put a very strong tracking and reconciliation system in place.</li> <li>• Not effective in terms of controlling the import of prioritized HFCs/blends that the country may want to phase-down early.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Less flexibility for the importer:</b> As the type of substance and amount is fixed, importer cannot use quota allocated for one substance to import a different substance.</li> <li>• <b>Need more work to manage unutilized quota:</b> Throughout the year importers might request for the reallocation of unutilized quota for one substance to a different substance to meet the market demand. Further, if unutilized quotas are to be reallocated for other substances, the corresponding annual import licenses need to be amended to reflect the changes.</li> </ul>

2. **Determining the national quota:** The national quota shall be determined in accordance with its obligations under the Kigali Amendment and the calculated baseline, which could include the HCFC component. Furthermore, it is important for Article 5 Parties that have the Kigali HFC Implementation Plan (KIP) to take into account the “maximum allowable consumption” as per the specific KIP agreement between the country and the Executive Committee of the Multilateral Fund (ExCom) similar to HPMPs.
3. **Prioritizing specific HFCs/sectors for phase-out:** Countries may identify certain high GWP substances or sectors with economically viable substitutes to be banned and/or limited through the quota mechanism for the overall market benefit and efficient implementation of the Kigali Amendment.
4. **Reserving quota for specific sector/application or for buffer:** Countries may consider to reserve/set-aside certain amounts from the total national quota, for any sector/application they may find necessary (e.g. strategically important sectors, military uses, or where no economically viable alternatives are currently available) or keep some quota to be used as a buffer to safeguard from non-compliance.
5. **Eligible applicants for HFC quota:** Each country needs to decide whether only importers with historic HFC import records (= Importers with reference value) can apply for the HFC annual quota, or newcomers, importers without reference value (no historic import records), will also be allowed to apply for import quota.

6.

**Approaches for HFC quota allocation:** When a country allocates its HCFC quota among importers, there are two popular approaches:

- Proportionally to historical import data (i.e. last three-year average, or last one year, or baseline years)
- Quota application submitted to NOU within a clearly established deadline and through an application evaluation process.

Each country is advised to review whether the existing mechanisms for HCFC quota allocation is appropriate for HFCs and decide whether to continue their practices. First come, first served method without a clear application period and process should be avoided as it appears neither equitable nor transparent.

7.

**Historical data based on CO<sub>2</sub>e or MT:** Due to the different GWP values of HFCs, each NOU needs to consider whether the historical data for determining the HFC quota proportional shares between importers should be based on past imports expressed in CO<sub>2</sub>e or MT.

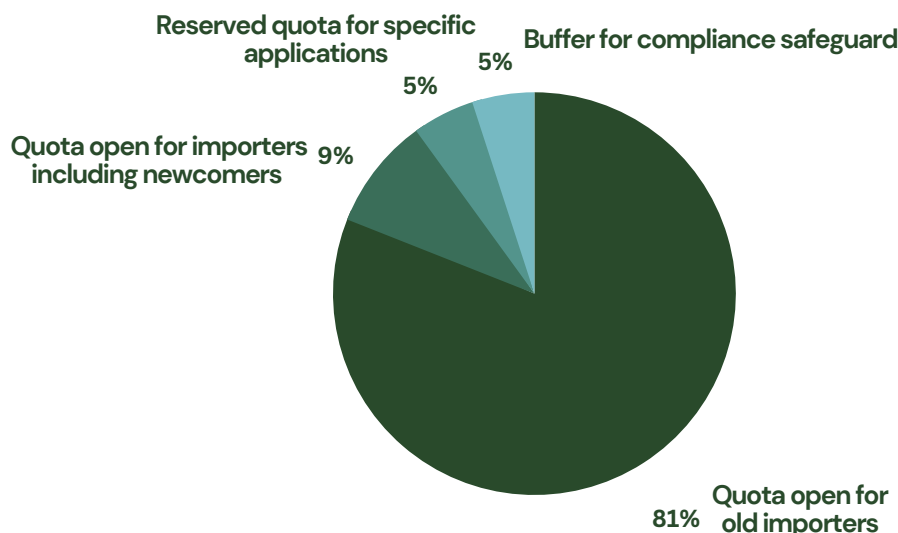
8.

**Process to establish HFC quota allocation methodology:** Each NOU should consult relevant stakeholders e.g. importers, industry, licensing authority, etc. in the development of the quota system to agree on the points mentioned above to set the quota allocation methodology. Once agreed by stakeholders, it is important for the NOU to document the mechanisms (procedures, criteria, timelines, etc.) and make those documents accessible to the public.

9.

**Annual quota allocation process:** Each NOU should close the quota application submission window as per the set deadline and conduct an evaluation/analysis. After the allocation result is available, the NOU should inform the applicants (i.e. through a public announcement, individual letters/email, etc.) how much total quota is allocated per applicant according to country procedures.

### An example of the general quota components as discussed above [3]



**Note:**

- 5% reserved for buffer for compliance safeguard – to prevent the country becoming non-compliance with the Protocol due to unforeseen circumstances
- 81% of general quota for only registered importers with reference value, i.e., importers who have historic HFC import records for certain periods defined in quota allocation methodology
- 9% of general quota for all importers including newcomers and registered importers with reference value can apply
- Reserved quota for special applications: Certain amount of quota for strategic/ important sectors, for example:
  - ✓ manufacturing of products for a sector with economic importance for the country, production of goods crucial for public safety and wellbeing,
  - ✓ food and medicine processing, storage, cooling of industrial process, etc.
- Only eligible importers can apply

[3] Please note the values in the pie chart are just an example provided for clarity. Percentages may differ based on each country's decision.

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