

Hazardous Substances (HS) Licensing Control

- Proposed Controls of Hydrofluorocarbons (HFCs) under EPMA

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Overview

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**Background:
Montreal Protocol & Kigali Amendment**

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**Proposed Controls on HFCs:
Licensing Control and Timeline**

Background on Montreal Protocol

Since 5 Jan 1989

Singapore is a Party to the Montreal Protocol on Substances that Deplete the Ozone Layer.

It aims to reduce the use of Ozone Depleting Substances (ODS) such as Chlorofluorocarbons (CFCs), Methyl Bromide and Hydrochlorofluorocarbons (HCFCs).

15 Oct 2016

A new agreement known as **Kigali Amendment** to the Montreal Protocol was adopted at the 28th Meeting of Parties. The Kigali Amendment will enter into force on 1 Jan 2019.

The Kigali Amendment calls for Parties to **phase down the production and consumption of Hydrofluorocarbons (HFCs)** which are non-ODS but Greenhouse Gases (GHG).

List of Controlled HFCs

Under the Kigali Amendment, 18 HFCs were listed in Annex F of the Montreal Protocol.

Group I		
HFC-134	HFC-236cb	HFC-125
HFC-134a	HFC-236ea	HFC-143a
HFC-143	HFC-236fa	HFC-41
HFC-245fa	HFC-245ca	HFC-152
HFC-365mfc	HFC-43-10mee	HFC-152a
HFC-227ea	HFC-32	
Group II		
	HFC-23	

List of Controlled HFCs

Apart from controlling the 18 HFCs in pure form, any **mixtures/ blends** containing one or more of the 18 HFCs will also be controlled. Some examples of common blends include, but not limited to:

Common HFC Blends		
R-401A	R-417A	R-449A
R-404A	R-422A	R-450A
R-407A	R-438A	R-452A
R-407C	R-444B	R-507A
R-407F	R-446A	R-508B
R-410A	R-448A	R-513A

Phase-Down Schedules

Parties to the Kigali Amendment are required to phase down the production and consumption of HFCs, in accordance with the phase-down schedules.

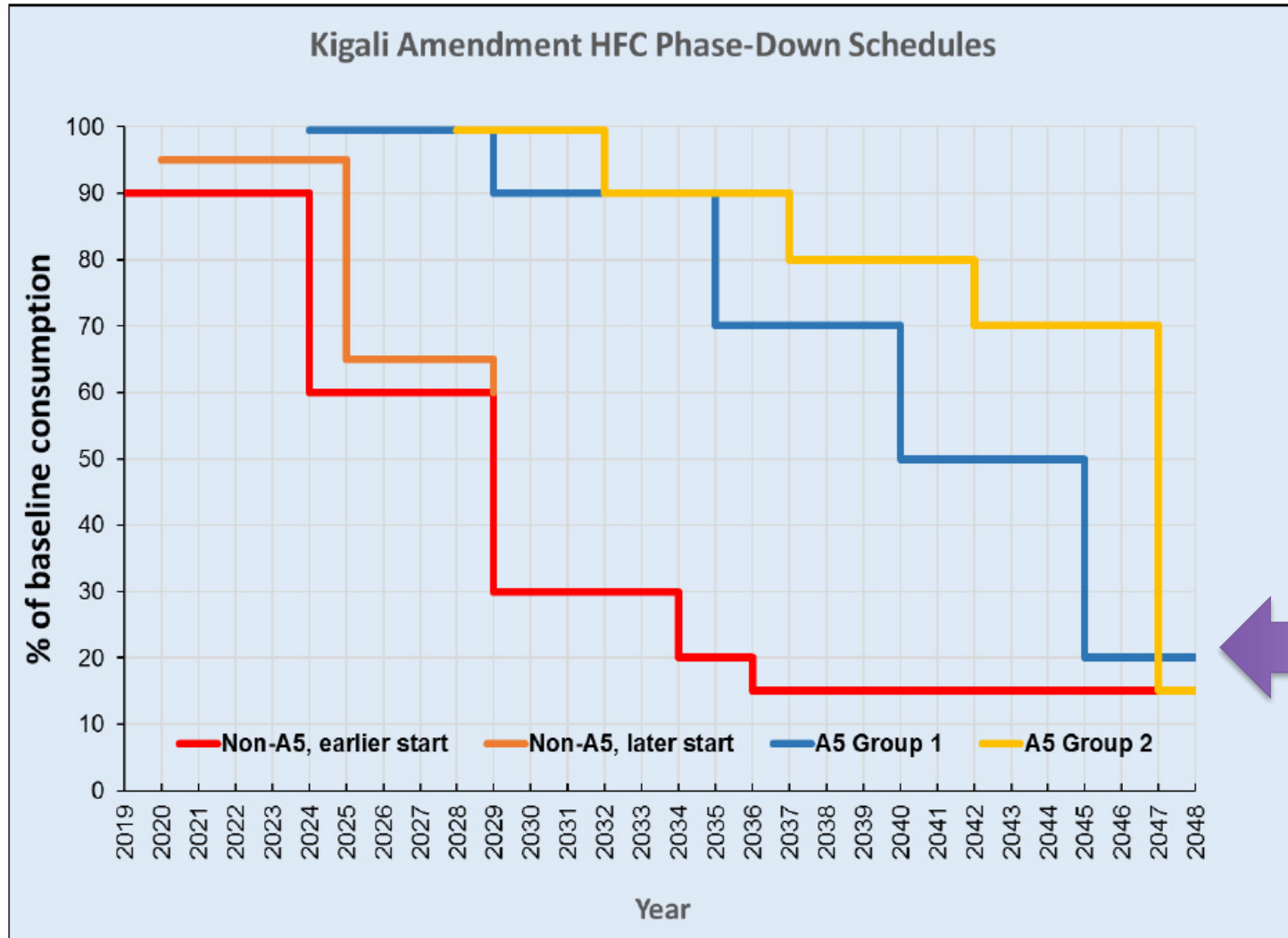
4 phase-down schedules were established for different groups of Parties.
Among which, Singapore falls under Article 5 Group 1.

Non-A5, earlier start	Most non-Article 5 countries
Non-A5, later start	Russia, Belarus, Kazakhstan, Tajikistan, Uzbekistan
A5, Group 1	Most Article 5 countries
A5, Group 2	Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, UAE

Given that Singapore does not produce/manufacture HFCs, only consumption phase-down is applicable to Singapore when Singapore ratifies Kigali Amendment.

Consumption = Total Import Qty – Total Export Qty

Phase-Down Schedules



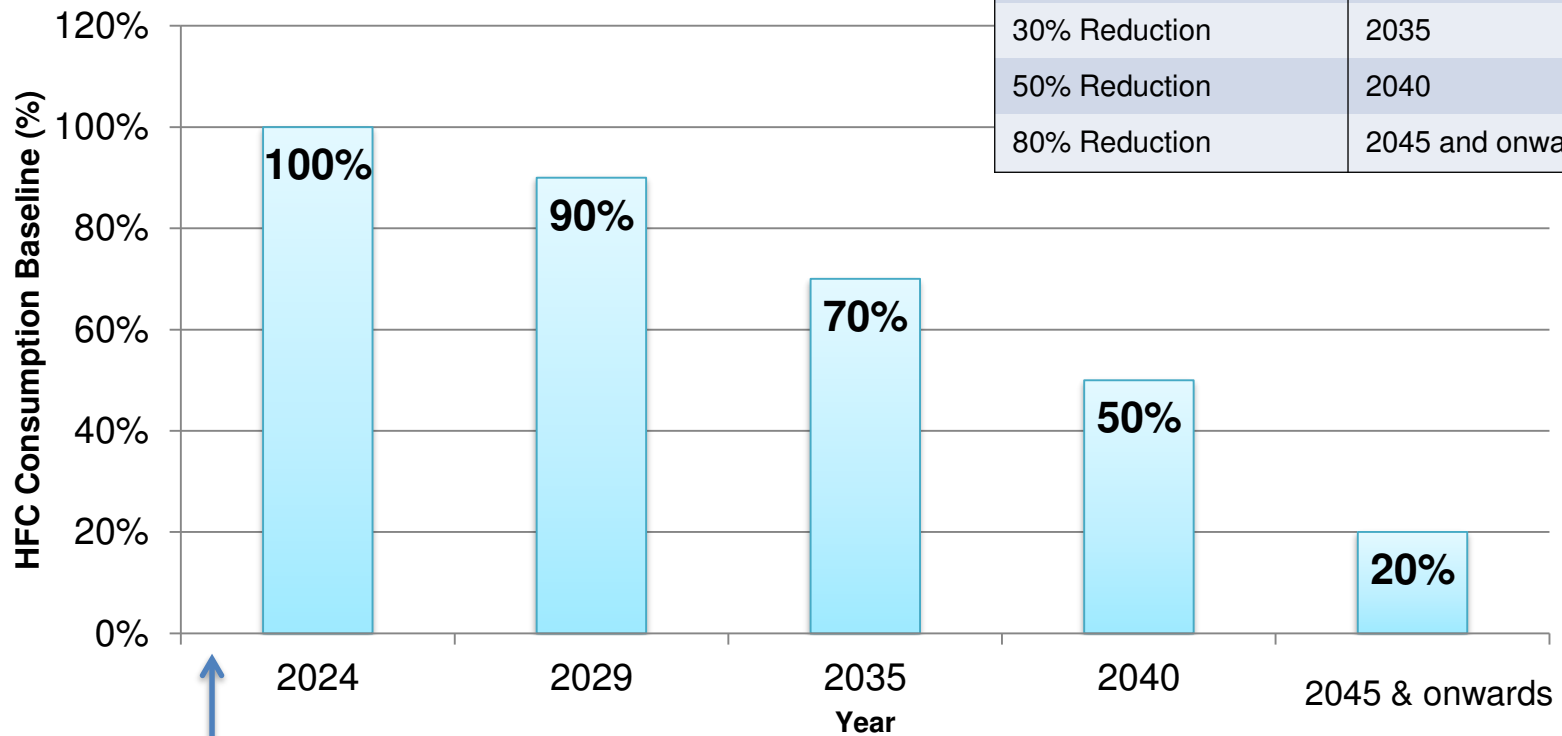
*From OzonAction Kigali Fact Sheet 5

Singapore's HFC Consumption Phase-Down Schedule

Applicable only if both conditions are fulfilled

- (i) Singapore becomes a Party to the Kigali Amendment
- (ii) Kigali Amendment enters into force

Targets	Years
Baseline* Years	2020 – 2022
Freeze at baseline level	2024
10% Reduction	2029
30% Reduction	2035
50% Reduction	2040
80% Reduction	2045 and onwards



*HFC Baseline level (in CO₂-eqv) = (a) Average HFC consumption in **Year 2020-2022** + (b) 65% of HCFC baseline

Trade Control Provision (Trade Ban)

Parties to the Kigali Amendment shall not trade with Non-Parties to the Amendment (i.e. those that have not ratified the Amendment) once the Trade ban enters into force.

Trade ban will enter into force on 1 January 2033, provided that there are at least 70 instruments of ratifications, acceptance or approval to the Kigali Amendment.

In the event that this condition has not been fulfilled by that date, the Trade ban shall enter into force on the 90th day following the date on which it has been fulfilled.

Proposed Controls on HFC in Singapore

To start off the preparation for the Kigali Amendment, NEA proposes to include the 18 specific HFCs as Hazardous Substances (HS) in the EPMA* for licensing controls.

Importers and exporters of these HFCs will be required to obtain a HS Licence from NEA-PCD and comply with stipulated licensing conditions.

The licensing regime of HFC is **expected to commence in 2019**, and this would be in time for Singapore to prepare for the baseline calculations starting in 2020.

A circular will be issued at a later date once the details are firmed up.

*EPMA: Environmental Protection and Management Act

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