



Regulatory Alerts

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Alert 17.3

Phase Down of Hydrofluorocarbons (HFCs) – Update 2

Kigali Amendment to the Montreal Protocol

Regulatory Alert

Global Environmental and Chemical Regulations, Policies, and Standards

Alert 17.3: Phase Down of Hydrofluorocarbons (HFCs) – Update 2¹ Kigali Amendment to the Montreal Protocol

INTENDED AUDIENCE

This Regulatory Alert is intended for IAEG members who are involved in the manufacture, import, export, and/or use of hydrofluorocarbons (HFCs).

EXECUTIVE SUMMARY

HFCs have been viewed and used as replacements for many ozone-depleting substances (ODSs) – including hydrochlorofluorocarbons (HCFCs), chlorofluorocarbons (CFCs), and halons – that have been or are being phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer. However, although HFCs do not destroy the ozone layer, they are potent greenhouse gases. The global warming potentials (GWPs) of HFCs are thousands of times more damaging to the climate than carbon dioxide (GWP = 1). Therefore, with rapidly growing use of HFCs globally, especially in refrigeration and air-conditioning, the commitment and compliance to the Kigali Amendment to the Montreal Protocol, which aims to phase down the production and consumption of HFCs, has become increasingly important.

This Regulatory Alert provides an overview of the Kigali Amendment to the Montreal Protocol and its implications globally. Attachment A, which supplements this Regulatory Alert, compares, and takes a deeper look into the HFC legislation in various countries/regions. The following countries/regions are discussed Attachment A:

- » Africa
- » Middle East
- » China
- » Japan
- » Singapore
- » Turkey
- » Philippines
- » Other Asian countries
- » European Union (EU)
- » United Kingdom
- » Russian Federation
- » United States
- » Canada
- » Australia
- » New Zealand
- » South America

BACKGROUND ON REGULATION

The Kigali Amendment to the Montreal Protocol is an international agreement that was achieved following the acceptance of Parties of the Montreal Protocol to phase down HFCs. The agreement was reached at the 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda. With a global adherence to the Kigali Amendment, a global warming of up to 0.5°C resulting from HFCs is estimated to be avoided by 2100. The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time relative to the emissions of 1 ton of carbon dioxide (CO₂). The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. The time period usually used

¹ Updates are in bold letters.

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for GWPs is 100 years. The GWP for HFCs is up to 14,800.

The Parties of the Montreal Protocol are divided according to Article 5 ('Article 5 Parties') and Article 2J ('Non-Article 5 Parties') of the Kigali Amendment to the Montreal Protocol. Article 5 Parties are developing countries whereas Non-Article 5 Parties are developed countries (see [List of Developing Countries](#)). Each of these set of parties is split into 2 further groups:

- » Article 5 Parties: Group 1 (majority of parties)
- » Article 5 Parties: Group 2 (Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, and the United Arab Emirates)
- » Non-Article 5 Parties ('Main Group')
- » Non-Article 5 Parties ('Other Group' – Belarus, Russia, Kazakhstan, Tajikistan, and Uzbekistan)

Specific requirements for the groups mentioned above, including HFC phase-down schedules, are outlined within the [Kigali Amendment to the Montreal Protocol](#) and Attachment A to this Regulatory Alert.

APPLICABILITY

The 28th Meeting of the Parties to the Montreal Protocol and enforcement of the Kigali Amendment to the Montreal Protocol on 1 January 2019 initiated a great focus and drive to phase down HFCs globally, especially the elimination of refrigerants (containing HFCs) that have a high GWP. Although only some countries have adopted the Kigali Amendment and set a phase-down schedule in accordance with the Kigali Amendment, most countries have agreed to the spirit of the Kigali Amendment. There are now **138 countries and the EU (as of 5 August 2022)** that have committed to the Kigali Amendment through its ratification (see the [Status of Ratification by Country](#) or Attachment A for countries that have ratified the Kigali Amendment).

RELEVANT DATES

- » 28th Meeting of Parties (Kigali Amendment to the Montreal Protocol): 15 October 2016
- » Kigali Amendment to the Montreal Protocol in force: 1 January 2019

Other relevant dates, including HFC phase-down schedules, are specified in Attachment A (see Regulatory Timeline and Phase-Down Plan sections/rows).

REGULATORY OBLIGATIONS

The Kigali Amendment to the Montreal Protocol and supporting legislation have various regulatory obligations that may apply to manufacturers, importers, and exporters of HFCs (see Attachment A for specific regulatory obligations for a particular country/region).

RISKS TO AEROSPACE AND DEFENSE

Violation of the Kigali Amendment or supporting legislation may result in penalties such as fines and imprisonment, as well as, damage to the company's reputation (see Attachment A for specific risks for a particular country/region).

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USEFUL LINKS

Kigali Amendment to the Montreal Protocol (includes HFC Phase-Down Schedules):

<https://ozone.unep.org/treaties/montreal-protocol/amendments/kigali-amendment-2016-amendment-montreal-protocol-agreed>

Montreal Protocol on Substances that Deplete the Ozone Layer:

<https://ozone.unep.org/treaties/montreal-protocol>

List of Developing Countries (Montreal Protocol):

<https://ozone.unep.org/treaties/montreal-protocol/meetings/first-meeting-parties/decisions/decision-i12e-clarification-terms-and-definitions-developing-countries>

Status of Ratification by Country:

<https://ozone.unep.org/all-ratifications>

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ATTACHMENT A
Phase Down of Hydrofluorocarbons (HFCs)
Kigali Amendment to the Montreal Protocol

Region	ASIA				
Country	China	Japan	Singapore	Turkey	Philippines
Legislation Name	Regulation on Administration of ODSs and HFCs (draft for public comments)	'Ozone Layer Protection Law' - Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures 'F-Gas Act' - Act on Rational Use and Appropriate Management of Fluorocarbons	Environmental Protection and Management Act (EPMA)	'F-Gas Regulation' - Regulation on Fluorinated Greenhouse Gases	Department of Environment and Natural Resources (DENR) Administrative Order No. 2021-31: Chemical Control Order (CCO) for HFCs
Scope	The Ministry of Ecology and Environment's (MEE) Draft Regulation implements China's obligations under the Montreal Protocol in phasing out the consumption and production of ODSs, including the phasing down of HFCs. It implements the Regulations on Administration of ODSs, which came into effect on 1 June 2010. Any company that produces, sells or uses ODSs and HFCs in China will need to apply annually to the authorities for a quota specific license. This will enable the authorities to planto reduce the permitted amount of the substances being produced.	The Ministry of Environment's and Ministry of Economy, Trade and Industry's (METI) Ozone Layer Protection Law included HFCs on 4 July 2018. The aim of the Law is to limit production/consumption of HFCs in accordance with the Kigali Amendment to the Montreal Protocol (in force: 1 January 2019). According to the Law, manufacturers and importers of HFCs are required to obtain permission from the METI. The F-Gas Act, which was also issued by the Ministry of Environment and METI, considers the complete life cycle of fluorocarbons. It aims to reduce the use of fluorocarbons through the manufacture of alternative substances and reduction of fluorocarbons in products.	The National Environment Agency's (NEA) Second Schedule under the EPMA added HFCs to its list of hazardous substances on 1 June 2018. The aim of the Act is to limit consumption of HFCs (Singapore has no production of HFCs) in accordance with the Kigali Amendment to the Montreal Protocol (in force: 1 January 2019). According to the Act, any company that imports or exports the listed HFCs must obtain a hazardous substances license from the NEA (Pollution Control Department).	The Ministry of Environment, Urbanization and Climate Change's F-Gas Regulation (Regulation (EU) No 517/2014), which came into effect on 1 January 2015. The Regulation also repeals the Turkish Regulation on Fluorinated Greenhouse Gases, which was published in the Official Gazette on 4 January 2018. The Turkish F-Gas Regulation covers various principles including labelling, data collection, leakage controls, reporting, placing on the market, import, export, use, quota distribution, and recovery and disposal of HFCs.	The DENR's CCO for HFCs commits the Philippines to phasing down the use and importation of 18 HFCs (from Annex F of the Kigali Amendment to the Montreal Protocol). The main aims of the CCO are to: - reduce the risk of HFC exposures to human health and the environment - increase awareness on the toxicity of HFCs, as well as the availability of technically superior and safer alternatives - ensure the proper implementation of the existing framework and introduce appropriate prevention-based programs to mitigate, reduce and eliminate the risks of HFCs Any person that imports HFCs will need to register with the Environmental Management Bureau (EMB). The EMB will establish an import quota allocation system in 2024. Companies that imported HFCs during 2020-2022 will be granted quota allocations and permitted to apply for a certificate of registration and pre-shipment importation clearance (PSIC).
Regulatory Timeline	<ul style="list-style-type: none"> Published: 19 May 2020 Deadline for public comments: 22 June 2020 	<p>Ozone Layer Protection Law:</p> <ul style="list-style-type: none"> Published: 20 May 1988 Effective: 20 May 1988 Amended: 4 July 2018 <p>F-Gas Act:</p> <ul style="list-style-type: none"> Published: 22 June 2001 Effective: 22 June 2001 Amended: 12 June 2013 	<ul style="list-style-type: none"> Enacted: 1 April 1999 Published: 1 June 2018* Effective: 1 January 2019* Amendment: 12 July 2019 <p>*Amendment that first included HFCs.</p>	<ul style="list-style-type: none"> Published: 29 June 2022 In force: 29 June 2022 Prohibition on placing extruded polystyrene (XPS) foams and aerosols on the market: 1 January 2025* Prohibition on placing foams other than XPS on the market: 1 January 2027* Prohibition on the use of HFCs to service or maintain refrigeration equipment: 1 January 2029** Proposed prohibition on placing freezers and refrigerators on the market: 1 January 2029* Prohibition on trade with countries who are not a party of the Kigali Amendment: 1 January 2033 Prohibition on the use of reclaimed or recycled HFCs to service or maintain existing refrigeration equipment: 1 January 2033*** Prohibition on the use of HFCs to service or maintain existing refrigeration equipment: 1 January 2033*** <p>*For products/equipment containing HFCs with a Global Warming Potential (GWP) of 150 or more. **Applies for HFCs with a GWP of 2,500 or more, and equipment with a charge size of 40 tonnes of CO2 or more (exception applies to equipment designed to cool to -50°C). ***Applies for HFCs with a GWP of 2,500 or above.</p>	<ul style="list-style-type: none"> Published: 13 October 2021 Effective: 15 days after promulgation in a newspaper of general circulation* <p>*Acknowledgement from the Office of the National Administrative Register (ONAR) is also required in order for the Philippines' CCO for HFCs to come into effective.</p>
Phase-Down Plan	China has accepted the Kigali Amendment to the Montreal Protocol. According to the Draft Regulation, the MEE and other authorities shall submit a draft National Plan for the Phase-Out of ODSs and the Phase-Down of HFCs to the State Council for approval and implementation. The National Plan will be based on the Kigali Amendment. During the HFC phase-down transition period (2024 to 2045), the following targets are expected to be achieved (according to the Group 1, Article 5 of the Kigali Amendment): <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2029 30% reduction of HFC production/consumption by 2035 50% reduction of HFC production/consumption by 2040 80% reduction of HFC production/consumption by 2045 	Japan has accepted the Kigali Amendment to the Montreal Protocol. Although the Ozone Layer Protection Law and F-Gas Act does not specify a HFC phase-down schedule, Japan is obliged to comply with the schedule set out in the Kigali Amendment. During the HFC phase-down transition period (2019 to 2036), the following targets are expected to be achieved (according to the Main Group, Non-Article 5 of the Kigali Amendment): <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2019 40% reduction of HFC production/consumption by 2024 70% reduction of HFC production/consumption by 2029 80% reduction of HFC production/consumption by 2034 85% reduction of HFC production/consumption by 2036 	Singapore ratified the Kigali Amendment to the Montreal Protocol on 1 June 2022 (in force: 1 August 2022). This commits Singapore to an 80% reduction to its HFC consumption by 2045 in line with the Kigali Amendment (Singapore has no production of HFCs). During the HFC phase-down transition period (2024 to 2045), the following targets are expected to be achieved (according to the Group 1, Article 5 of the Kigali Amendment): <ul style="list-style-type: none"> 10% reduction of HFC consumption by 2029 30% reduction of HFC consumption by 2035 50% reduction of HFC consumption by 2040 80% reduction of HFC consumption by 2045 	Turkey ratified the Kigali Amendment to the Montreal Protocol. According to the Regulation, the Ministry of Environment, Urbanization and Climate Change will set annual HFC quotas for the 2024 to 2045 period, and after 2045. This will be based on the Kigali Amendment to the Montreal Protocol. During the HFC phase-down transition period (2024 to 2045), the following targets are expected to be achieved (according to the Group 1, Article 5 of the Kigali Amendment): <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2029 30% reduction of HFC production/consumption by 2035 50% reduction of HFC production/consumption by 2040 80% reduction of HFC production/consumption by 2045 	The Philippines has not yet ratified the Kigali Amendment to the Montreal Protocol in which they are an Article 5: Group 1 Party. However, the Philippines' CCO for HFCs commits to an 80% reduction to its HFC consumption by 2045 in line with the Kigali Amendment (the Philippines has no production or export of HFCs). During the HFC phase-down transition period (2024 to 2045), the following targets are expected to be achieved: <ul style="list-style-type: none"> 10% reduction of HFC consumption by 2029 30% reduction of HFC consumption by 2035 50% reduction of HFC consumption by 2040 80% reduction of HFC consumption by 2045* <p>*Importation of the remaining 20% shall be permitted for the servicing sector.</p>
Exemption	<ul style="list-style-type: none"> For laboratory or analytical use Essential use where a suitable alternative is not available For use in feedstock 	There are no exemptions provided.	<ul style="list-style-type: none"> Manufactured product containing HFCs, excluding a container containing HFCs 	<ul style="list-style-type: none"> Military equipment Human health uses (e.g., medical aerosols) 	<ul style="list-style-type: none"> Essential use where a suitable alternative is not available
Concerned Actors	Manufacturers, importers and exporters	Manufacturers, importers and exporters	Importers and exporters	Manufacturers, importers and exporters	Importers
Risk	Penalties for non-compliance include fines of up to 10 million yuan (about \$1,555,600).	Penalties for non-compliance include fines of up to 1 million yen (about \$9,170) and/or imprisonment up to 3 years.	Penalties for non-compliance include fines of up to \$50,000 and/or imprisonment up to 2 years. A further fine of up to \$2,000 (for every day) maybe given if the offence continues after conviction.	Penalties for non-compliance include fines of up to 2 million Turkish lira (about \$111,514) according to Article 20 of the Law No. 2872.	Penalties for non-compliance for this CCO include fines of between ten thousand pesos (Php 10,000) but not more than fifty thousand pesos (Php 50,000) per instance of violation.
Official Source	http://www.mee.gov.cn/xxgk2018/xxgk/xxgk06/202005/W020200521556565109307.pdf	http://www.japaneselawtranslation.go.jp/law/detail/?ft=1&re=02&dn=1&x=34&y=15&co=01&ia=03&ja=04&ky=ozone&page=7	https://sso.agc.gov.sg/Act/EPMA1999#S2-	https://www.resmigazete.gov.tr/eskiler/2022/06/20220629-1.htm	https://www.iaeg.com/binaries/content/assets/iaeg-legacy/elements/pdf/newsletters-12-21/phl_cco_for_hfcs.pdf
Additional Source 1	https://www.igsd.org/wp-content/uploads/2020/06/Bilingual-version-of-China-ODSs-and-HFCs-Regulation-Amendment-for-Public%20Comments.pdf	https://www.meti.go.jp/policy/chemical_management/ozone/law_ozone_schedule.html	N/A	N/A	N/A
Additional Source 2	N/A	http://www.japaneselawtranslation.go.jp/law/detail/?ft=1&re=02&dn=1&x=34&y=15&co=01&ia=03&ja=04&ky=ozone&page=8	N/A	N/A	N/A
Substance List	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Japan_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Singapore_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Turkey_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx

ATTACHMENT A
Phase Down of Hydrofluorocarbons (HFCs)
Kigali Amendment to the Montreal Protocol

Region	ASIA	AFRICA/MIDDLE EAST		EUROPE/EURASIA	
Country	Other Asian Countries	African Countries	Middle East Countries	European Union (and UK)	Russian Federation
Legislation Name	N/A	No relevant legislation	No relevant legislation	EU 'F-Gas Regulation' - Regulation (EU) No 517/2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006 The UK Regulation 'The ODSs and Fluorinated Greenhouse Gases (Amendment etc.) (EU Exit) Regulations 2019' (mirrors the EU F-Gas Regulation)	Resolution of the Government of the Russian Federation of March 24, 2014 N 228 "On measures of state regulation of the consumption and circulation of substances that deplete the ozone layer"
Scope	N/A	N/A	N/A	The Regulations establish rules for the containment, use, recovery and destruction of fluorinated greenhouse gases (including HFCs) and equipment containing these substances. This is aligned with the obligations of the EU and UK under the Montreal Protocol. The Regulations also set limits for the placing on the market of HFCs.	This Resolution provides provisions to implement Russia's obligation under the Montreal Protocol to reduce the consumption of ODSs (including HFCs). Russia has no HFC production of its own.
Regulatory Timeline	N/A	N/A	N/A	EU Legislation: <ul style="list-style-type: none"> Published: 16 April 2014 In force: 6 May 2014 Effective: 1 January 2015 UK Legislation: <ul style="list-style-type: none"> Published: 14 March 2019 In force: 31 January 2020 Amended: 17 December 2020 	<ul style="list-style-type: none"> Published: 24 March 2014 In force: 24 May 2014
Phase-Down Plan	<p>Most of the other Asian countries have not yet ratified the Kigali Amendment to the Montreal Protocol. However, the following (other) Asian countries have either ratified, accepted or approved the Kigali Amendment: Armenia, Bangladesh, Bhutan, Cambodia, Kyrgyzstan, Laos, Malaysia, Maldives, North Korea, Sri Lanka, Turkmenistan and Viet Nam. These countries do not have formal legislation for phasing down HFCs.</p> <p>Upon ratification of the Kigali Amendment, the other countries in Asia (Article 5 Parties: Group 1) commit to an 80% reduction of HFC production/consumption by 2045. However, India and Pakistan (Article 5 Parties: Group 2) have been given an extension - 85% reduction of HFC production/consumption by 2047.</p>	<p>All but the following African countries have either accepted or ratified the Kigali Amendment to the Montreal Protocol: Algeria, Cameroon, Central African Republic, Congo, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Kenya, Libya, Madagascar, Mauritania, Morocco, South Sudan, Sudan, Tunisia, United Republic of Tanzania and Zimbabwe.</p> <p>The African countries do not have formal legislation for phasing down HFCs.</p> <p>Upon ratification of the Kigali Amendment, the countries in Africa (Article 5 Parties: Group 1) commit to an 80% reduction of HFC production/consumption by 2045.</p>	<p>The following Middle Eastern countries have ratified the Kigali Amendment to the Montreal Protocol: Cyprus, Jordan, Lebanon, Syria.</p> <p>However, these countries do not have formal legislation for phasing down HFCs.</p> <p>Bahrain, Iran, Iraq, Israel, Kuwait, Oman, Palestine, Qatar, Saudi Arabia, the United Arab Emirates and Yemen have not yet ratified the Kigali Amendment.</p> <p>Upon ratification of the Kigali Amendment, the countries in the Middle East (Article 5 Parties: Group 1) commit to an 80% reduction of HFC production/consumption by 2045. However, some countries (Article 5 Parties: Group 2) have been given an extension - 85% reduction of HFC production/consumption by 2047. These countries include: Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.</p>	<p>The EU and UK have accepted and ratified the Kigali Amendment to the Montreal Protocol respectively.</p> <p>According to the EU and UK Regulations, a 79% reduction in the production/consumption of HFCs by 2030 is expected (HFC phase-down schedule provided until 2030 in Annex V - see <i>Official Source</i>). This is in agreement with the obligations of the EU and UK under the Kigali Amendment.</p> <p>During the HFC phase-down transition period (2019 to 2036), the following targets are expected to be achieved by the EU and UK (according to the Main Group, Non-Article 5 of the Kigali Amendment, and in line with the Regulations):</p> <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2019 40% reduction of HFC production/consumption by 2024 70% reduction of HFC production/consumption by 2029 80% reduction of HFC production/consumption by 2034 85% reduction of HFC production/consumption by 2036 	<p>Russia has accepted the Kigali Amendment to the Montreal Protocol.</p> <p>Although the Resolution does not specify a HFC phase-down schedule, Russia is obliged to comply with the schedule set out in the Kigali Amendment.</p> <p>During the HFC phase-down transition period (2020 to 2036), the following targets are expected to be achieved (according to the Other Group, Non-Article 5 of the Kigali Amendment):</p> <ul style="list-style-type: none"> 5% reduction of HFC consumption by 2020 35% reduction of HFC consumption by 2025 70% reduction of HFC consumption by 2029 80% reduction of HFC consumption by 2034 85% reduction of HFC consumption by 2036
Exemption	N/A	N/A	N/A	<ul style="list-style-type: none"> Military equipment Refrigeration equipment 	<ul style="list-style-type: none"> Circulation of ODSs intended for laboratory and analytical use
Concerned Actors	N/A	N/A	N/A	Manufacturers, importers and exporters	Importers and exporters
Risk	N/A	N/A	N/A	Penalties for non-compliance are determined by individual Member States.	There are no penalty provisions provided for non-compliance.
Official Source	N/A	N/A	N/A	https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32014R0517	http://base.garant.ru/70620580/#friends
Additional Source 1	N/A	N/A	N/A	https://www.legislation.gov.uk/ukxi/2019/583/contents/made	N/A
Additional Source 2	N/A	N/A	N/A	N/A	N/A
Substance List	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/EUandUK_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Russia_SubstanceList.xlsx

ATTACHMENT A
Phase Down of Hydrofluorocarbons (HFCs)
Kigali Amendment to the Montreal Protocol

Region	NORTH AMERICA	
Country	United States of America	Canada
Legislation Name	American Innovation and Manufacturing (AIM) Act 2020 Final Rule - Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the AIM Act* *Please refer to the US Phasedown of HFCs Final Rule Regulatory Alert for further information.	ODSs and Halocarbon Alternatives Regulations
Scope	The AIM Act 2020, which authorizes the US Environmental Protection Agency (EPA) to regulate HFCs, aims to phase down the production and consumption of the listed HFCs (see <i>Substance List</i>), manage the listed HFCs and alternatives, and facilitate transition to next-generation technologies. It is included in the Consolidated Appropriations Act, 2021 (H.R. 133), which was amended on 21 December 2020. On 19 May 2021, the EPA published a Notice of Proposed Rulemaking (NPRM) in the Federal Register, which provides a Proposed Rule - the first regulation under the Act. The NPRM outlines baseline levels for HFC production and consumption, methodology for allocating and trading HFC allowances (2022 and 2023), and a compliance and enforcement system. The Final Rule was published on 5 October 2021 and became effective on 4 November 2021. Please refer to the US Phasedown of HFCs Final Rule Regulatory Alert for further information. The Act implements the Clean Air Act, Title VI - Stratospheric Ozone Protection, which outlines the phase out of ODSs aligning with the schedule laid out in the Montreal Protocol.	The Regulations implement Canada's obligations under the Montreal Protocol to phase out the production and consumption of ODSs (including the phase down of the consumption of HFC). Canada has no HFC production of its own. The Regulations were preceded by the ODSs Regulations, 1998.
Regulatory Timeline	<ul style="list-style-type: none"> Enacted: 27 December 2020 NPRM published: 19 May 2021 Deadline for comments on information collection provisions for NPRM: 3 June 2021 Deadline for comments on NPRM: 6 July 2021 Issue final HFC phase-down regulations (by EPA): 23 September 2021 Final Rule published: 5 October 2021* Final Rule effective: 4 November 2021** Prohibition on production of regulated HFCs above allowance issued by authority: 1 January 2022** Prohibition on import of bulk regulated HFCs: 1 January 2022 Prohibition on production/import of regulated HFCs above application-specific allowance issued by authority: 1 January 2022 Restriction on international transfer of HFC production allowance: 1 January 2022 Prohibition on sale/offer to sale/distribution of containers without adequate labelling/markings: 1 January 2022 Proposed prohibition for import and placement of HFCs in disposable cylinders: 1 July 2023 Proposed compliance for transition to refillable cylinders: 1 July 2023 Proposed registration for selling HFC containers produced, imported or reclaimed before 1 January 2024: 15 November 2023 EPA Review on HFC allowance allocations and trading: 2024 Proposed prohibition of sale/offer of sale of regulated substances in disposable cylinders: 1 January 2025 <p>*Please refer to the US Phasedown of HFCs Final Rule Regulatory Alert for other key dates. **The regulated substances that are produced must be consumed or destroyed under 40 CFR 84.29 within 30 days (if destruction technology is located at the production facility) or 90 days (if destruction technology is not located at the production facility).</p>	<ul style="list-style-type: none"> Published (SOR/2016-137): 13 June 2016 In force (SOR/2016-137): 30 June 2016 Amended (SOR/2020-177): 2 September 2020
Phase-Down Plan	The US has not yet ratified the Kigali Amendment to the Montreal Protocol. However, upon ratification, the US (Non-Article 5 Party - Main Group) will be obliged to reduce its HFC production/consumption by 85% by 2036. The US's obligations under the Kigali Amendment are reflected in the AIM Act 2020, corresponding NPRM (published: 19 May 2021) and Final Rule (published: 5 October 2021),* which set an HFC phase-down schedule (Section (e)(2)(C) of AIM Act 2020 - see <i>Official Source</i> ; Table 3 or 40 CFR 84.7 of NPRM - see <i>Additional Source 2</i> ; see also below for schedule). According to the Act, NPRM and Final Rule,* annual allocations will also be set by the EPA for each HFC producer and importer in the US by 1st of October of each calendar year. Allowances will be allocated by the EPA for the following 6 applications for 5 years following enactment of the Act: <ul style="list-style-type: none"> propellants in metered dose inhalers defense sprays structural composite foams for marine and trailer uses etching of semiconductor material or wafers and cleaning mission-critical military needs on board aerospace fire suppression During the HFC phase-down transition period (2020 to 2036), the following targets are expected to be achieved (according to the AIM Act 2020, and in line with the Main Group, Non-Article 5 of the Kigali Amendment): <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2023 40% reduction of HFC production/consumption by 2028 70% reduction of HFC production/consumption by 2033 80% reduction of HFC production/consumption by 2035 85% reduction of HFC production/consumption by 2036 *Please refer to the US Phasedown of HFCs Final Rule Regulatory Alert for further information.	Canada has ratified the Kigali Amendment to the Montreal Protocol. The Amendment to the Regulations (SOR/2020-177) outlines a HFC phase-down schedule, which involves an 85% reduction of HFC consumption by 2036 (Table 1 - see <i>Additional Source 1</i> ; see also below for phase-down schedule). This is in agreement with the obligations of Canada (Non-Article 5 Party - Main Group) under the Kigali Amendment. During the HFC phase-down transition period (2019 to 2036), the following targets are expected to be achieved (according to the Main Group, Non-Article 5 of the Kigali Amendment, and Regulations): <ul style="list-style-type: none"> 10% reduction of HFC consumption by 2019 40% reduction of HFC consumption by 2024 70% reduction of HFC consumption by 2029 80% reduction of HFC consumption by 2034 85% reduction of HFC consumption by 2036
Exemption	<ul style="list-style-type: none"> Essential use where a suitable alternative is not available Export-bound domestic manufacturing Feedstocks and process agents 	<ul style="list-style-type: none"> Essential use where a suitable alternative is not available For use in feedstock For laboratory or analytical use
Concerned Actors	Manufacturers, importers and exporters	Importers and exporters
Risk	Penalties for non-compliance include banning a company and its owner(s) receiving future allowances from the EPA.	Penalties for non-compliance include fines of up to \$500,000.
Official Source	https://www.epa.gov/sites/production/files/2021-03/documents/aim_act_section_103_of_h.r._133_consolidated_appropriations_act_2021.pdf	https://laws-lois.justice.gc.ca/eng/regulations/SOR-2016-137/FullText.html
Additional Source 1	https://rules.house.gov/sites/democrats.rules.house.gov/files/BILLS-116HR133SA-RCP-116-68.pdf	https://gazette.gc.ca/rp-pr/p2/2020/2020-09-02/html/sor-dors177-eng.html
Additional Source 2	https://www.federalregister.gov/documents/2021/05/19/2021-09545/phasedown-of-hydrofluorocarbons-establishing-the-allowance-allocation-and-trading-program-under-the	N/A
Substance List	http://www.iaeg.com/elements/pdf/USA_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Canada_SubstanceList.xlsx

ATTACHMENT A
Phase Down of Hydrofluorocarbons (HFCs)
Kigali Amendment to the Montreal Protocol

Region	South America	OCEANIA	
Country	South American Countries	Australia	New Zealand
Legislation Name	No relevant legislation	Ozone Protection and Synthetic Greenhouse Gas Management Act 1989	Ozone Layer Protection Act 1996
Scope	N/A	This Act aims to control the manufacture, import and export of ODSs (including the phase down of HFCs) to protect the ozone layer and climate, and to implement Australia's obligations under the Montreal Protocol.	The Act aims to phase out ODSs (including the phase down of HFCs) as soon as possible except for essential uses, and to implement New Zealand's obligation under the Montreal Protocol.
Regulatory Timeline	N/A	<ul style="list-style-type: none"> Published: 16 March 1989 In force: 16 March 1989 Amended: 5 December 2003 	<ul style="list-style-type: none"> Published: 24 June 1996 In force: 16 September 1996 Amended: 1 July 2011
Phase-Down Plan	<p>The following South American countries have either ratified or accepted the Kigali Amendment to the Montreal Protocol: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guiana, Paraguay, Peru, and Uruguay. However, these countries do not have formal legislation for phasing down HFCs.</p> <p>Guyana, Suriname, and Venezuela have not yet ratified the Kigali Amendment.</p> <p>Upon ratification of the Kigali Amendment, the countries in South America (Article 5 Parties: Group 1) commit to an 80% reduction of HFC production/consumption by 2045.</p>	<p>Australia has accepted the Kigali Amendment to the Montreal Protocol.</p> <p>Although the Act does not specify a HFC phase-down schedule, Australia is obliged to comply with the schedule set out in the Kigali Amendment.</p> <p>During the HFC phase-down transition period (2019 to 2036), the following targets are expected to be achieved (according to the Main Group, Non-Article 5 of the Kigali Amendment):</p> <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2019 40% reduction of HFC production/consumption by 2024 70% reduction of HFC production/consumption by 2029 80% reduction of HFC production/consumption by 2034 85% reduction of HFC production/consumption by 2036 	<p>New Zealand has ratified the Kigali Amendment to the Montreal Protocol.</p> <p>Although the Act does not specify a HFC phase-down schedule, New Zealand is obliged to comply with the schedule set out in the Kigali Amendment.</p> <p>During the HFC phase-down transition period (2019 to 2036), the following targets are expected to be achieved (according to the Main Group, Non-Article 5 of the Kigali Amendment):</p> <ul style="list-style-type: none"> 10% reduction of HFC production/consumption by 2019 40% reduction of HFC production/consumption by 2024 70% reduction of HFC production/consumption by 2029 80% reduction of HFC production/consumption by 2034 85% reduction of HFC production/consumption by 2036
Exemption	N/A	<ul style="list-style-type: none"> Scheduled substance used as a propellant in aerosol or fire extinguisher where a suitable alternative is not available 	<ul style="list-style-type: none"> Scheduled substance used as a propellant in aerosol or fire extinguisher where a suitable alternative is not available
Concerned Actors	N/A	Manufacturers, importers and exporters	Manufacturers and importers
Risk	N/A	Penalties for non-compliance include fines and imprisonment up to 2 years.	Penalties for non-compliance include fines up to \$200,000.
Official Source	N/A	https://www.legislation.gov.au/Details/C2020C00041	https://www.legislation.govt.nz/act/public/1996/0040/latest/DLM391469.html
Additional Source 1	N/A	N/A	N/A
Additional Source 2	N/A	N/A	N/A
Substance List	http://www.iaeg.com/elements/pdf/MontrealProtocol_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/Australia_SubstanceList.xlsx	http://www.iaeg.com/elements/pdf/NewZealand_SubstanceList.xlsx