UNITED
NATIONS

EP

UNEP/OzL.Pro.28/INF/3

Distr.: General
1 September 2016

English only

United Nations
Environment
Programme

Twenty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer
Kigali, 10–14 November 2016
Item 6 of the provisional agenda*

Dubai pathway on hydrofluorocarbons (decision XXVII/1)

Submissions by parties on their implementation of decision XIX/6

Note by the Secretariat

1. In paragraph 3 of its decision XXVI/9, the Twenty-Sixth Meeting of the Parties encouraged parties to continue to provide to the Secretariat, on a voluntary basis, information on their implementation of paragraph 9 of decision XIX/6, including information on available data, policies and initiatives pertaining to the promotion of a transition from ozone-depleting substances that minimized environmental impact wherever the required technologies were available, and requested the Secretariat to compile any such information received.

2. Since the Twenty-Seventh Meeting of the Parties the Secretariat has received relevant additional information from Australia and the United States of America. The submitted information, which is supplementary to the two parties' earlier submissions, is set out in the annex to the present note and is presented as received by the Secretariat, without formal editing.

3. Compilations of all information previously submitted by parties on their implementation of decision XIX/6 can be found in documents UNEP/OzL.Pro.WG.1/34/INF/4, Add.1 and Add.2, UNEP/OzL.Pro.26/INF/4, UNEP/OzL.Pro.WG.1/35/INF/2 and UNEP/OzL.Pro.WG.1/36/INF/2.

* UNEP/OzL.Pro.28/1.

Annex

Compilation of submissions by Australia and the United States on their implementation of decision XIX/6

Australia

Outcomes of the Review of the Ozone Protection and Synthetic Greenhouse Gas Management Programme

Department of the Environment, 2016

FACT SHEET

Download

- Outcomes of the Review of the Ozone Protection and Synthetic Greenhouse Gas Management Programme (PDF - 460.57 KB)

Greenhouse gas emissions to reduce by up to 80 Mt CO_2-e by 2030

On 5 May 2016 the Australian Government decided on a range of measures to reduce emissions and business costs.

Why was the review done?

The Australian Government has committed to reducing greenhouse gas emissions by 26–28 per cent below 2005 levels by 2030. A cost effective reduction in emissions of hydrofluorocarbons (HFCs) is a key part of this commitment.

HFCs are regulated under the Ozone Protection and Synthetic Greenhouse Gas Programme, a highly successful environmental scheme that has been running since 1989 and last reviewed in 2001.

The Minister for the Environment, the Hon. Greg Hunt MP announced a review of the programme on 24 May 2014. The review had two objectives:

- Identify opportunities to reduce emissions of ozone depleting substances and synthetic greenhouse gases in line with international efforts.
- Identify opportunities to improve and streamline its operation, including reducing regulatory compliance costs.

Key outcomes of the review

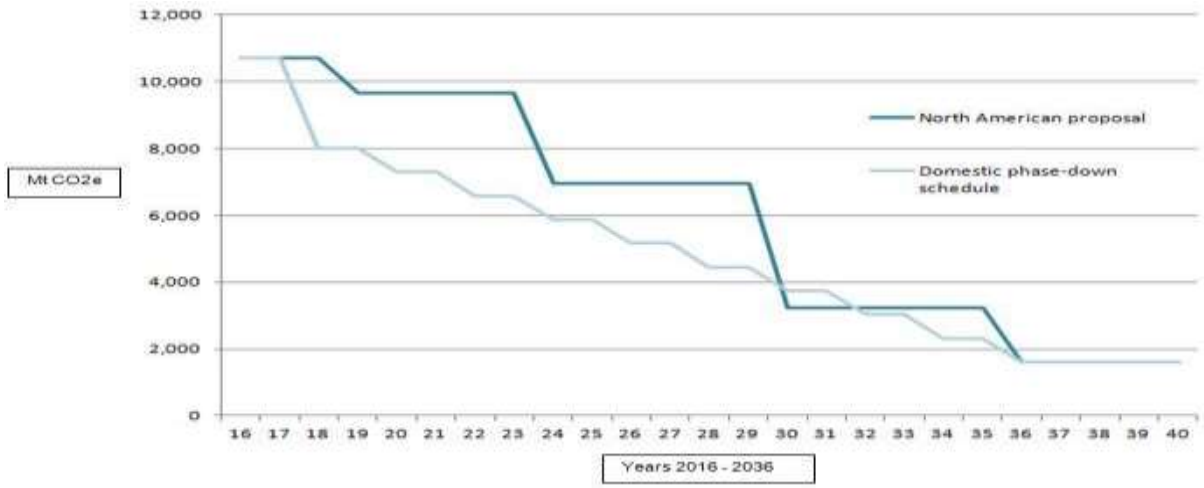
The programme was found to be highly successful overall, having phased out 99 per cent of ozone depleting substances and contributed to a reduction in Australian greenhouse gas emissions of about 40 million tonnes of CO_2-e since its inception. The review found this provided a solid foundation for further emissions reduction policies. Streamlining opportunities were also identified.

Emissions reduction

The Australian Government will implement cost effective measures to reduce HFC emissions by up to 80 Mt CO_2-e in the period to 2030.

A statutory phase-down of HFC imports will be implemented, commencing January 2018 and will reduce HFC emissions by 85 per cent by 2036. The phase-down is more ambitious than the proposals for a global phase-down being negotiated under the Montreal Protocol. It has a lower baseline, reflecting Australia's current demand, and has more frequent reduction steps.

Australia's Domestic HFC Phase Down



The phase-down has been developed with industry which supports the phase-down, its environmental benefits and the long term investment certainty it provides.

Australia will be a world leader in reducing HFC emissions, joining the United States, the European Union and Japan in taking early action to reduce HFC emissions.

Enabling provisions for future bans on the import of new equipment containing high global warming potential HFCs will also be included. Domestic and automotive air conditioners containing high global warming potential HFCs are equipment that will be considered in the future. This will be based on an assessment of the Australian market, particularly whether alternative equipment is available.

Further, compliance provisions of the legislation will be strengthened to support emission reduction including new offence provisions, increased penalty amounts, provision for suspension of licences and publishing of compliance actions.

Reducing regulatory burden on business

Streamlining measures will reduce regulatory burden on business by $1.2 million annually. These include providing for:

- Increasing the low volume import exemption threshold for equipment imports from 10kg to 25kg, reducing total licence numbers by one third.
- Licence holders to renew their licence rather than applying for a new licence, saving businesses $580 000 annually.
- A waiver of small levy debts below $330, reducing uneconomic transactions by 94 per cent from 2750 to 150 annually.

Non-regulatory measures

The Department of the Environment will work with business to develop information to better inform equipment owners of the benefits of ensuring proper installation of new equipment and regular equipment maintenance. This will achieve substantial emissions savings through reduced gas leakage and lower electricity use. Businesses will benefit through reduced electricity costs, reduced replacement costs for gas leakage and longer equipment life.

The Department of the Environment will engage with state regulators and the business community to examine how respective refrigeration and air conditioning regulatory arrangements can work in better synergy.

When will the measures come into force?

The Australian Government will introduce legislative amendments to implement new measures as soon as possible, with all measures to commence by January 2018.

Some measures can be implemented more quickly through regulation amendments, such as changes to the low volume import exemptions and business and technician licenses.

How will I be informed?

The Department of the Environment will consult further with affected stakeholders as the design of measures is finalised and again prior to their implementation.

Further Information

The Department of the Environment's website has further information about the review: www.environment.gov.au/protection/ozone/legislation/opsggm-review

You may also direct enquiries to: ozone@environment.gov.au

United States of America

FOR IMMEDIATE RELEASE:
March 29, 2016

www.epa.gov/snap

FACT SHEET

Proposed Rule - Protection of Stratospheric Ozone: New Listings of Substitutes; Changes of Listing Status; Reinterpretation of Unacceptability for Closed Cell Foam Products under the Significant New Alternatives Policy Program; and Revision of Clean Air Act Section 608's Venting Prohibition for Propane

EPA's Significant New Alternatives Policy Program

Under section 612 of the Clean Air Act (CAA), EPA reviews substitutes within a comparative risk framework. More specifically, section 612 provides that EPA must prohibit the use of a substitute where EPA has determined that there are other available substitutes or potentially available substitutes that pose less overall risk to human health and the environment. Thus, EPA's Significant New Alternatives Policy (SNAP) program, which implements section 612, does not provide a static list of alternatives but instead evolves the list as the EPA makes decisions informed by our overall understanding of the environmental and human health impacts as well as our current knowledge about available substitutes. In the more than twenty-two years since the initial SNAP rule was promulgated, EPA has modified the SNAP lists many times, most often by expanding the list of acceptable substitutes, but in some cases by prohibiting the use of substitutes previously listed as acceptable.

Global warming potential (GWP) is one of several criteria EPA considers in the overall evaluation of alternatives under the SNAP program. During the past two decades, the general science on climate change and the potential contributions of greenhouse gases (GHGs) such as HFCs to climate change have become better understood. Most HFCs are potent GHGs and although they represent a small fraction of the current total volume of GHG emissions, their warming impact is very strong. HFC emissions are projected to increase substantially and at an increasing rate over the next several decades if left unregulated. In the United States, emissions of HFCs are increasing more quickly than those of any other GHGs, and globally they are increasing 10-15% annually.

Proposed Rule

What is EPA proposing?

- List as acceptable subject to use conditions, list as unacceptable, and change the status of several substances
- Exempt propane from the CAA's section 608 venting prohibition
- Clarify status of acceptable fire suppression alternative

Which industrial sectors are included?

- Refrigeration & Air Conditioning
- Fire Suppression & Explosion Protection
- Foam Blowing

Who is affected?

- Chemical producers, some manufacturers, and some end-users of equipment and products using refrigerants, fire suppressants, and foam blowing agents

When?

- Starting 30 days after publication of a final rule; see table for dates

The President's Climate Action Plan

The President's June 2013 Climate Action Plan (CAP) states that, "to reduce emissions of HFCs, the United States can and will lead both through international diplomacy as well as domestic actions." Furthermore, the CAP states that EPA will "use its authority through the Significant New Alternatives Policy Program to encourage private sector investment in low-emissions technology by identifying and approving climate-friendly chemicals while prohibiting certain uses of the most harmful chemical alternatives." Since the CAP was announced, EPA has taken a number of actions to both expand the list of acceptable alternatives under SNAP as well as to change the status of certain listed substitutes. On July 20, 2015 (80 FR 42870), EPA issued a final regulation that was our first effort to take a broader look at the SNAP lists, where we focused on those listed substitutes that have a high GWP relative to other alternatives in specific end-uses, while otherwise posing comparable levels of risk.

Today's Action

In this action, EPA is proposing to list a number of substances as acceptable, subject to use conditions; to list several substances as unacceptable; and to modify the listing status for certain substances from acceptable to unacceptable or acceptable, subject to narrowed use limits. Consistent with CAA section 612 as we have historically interpreted it under the SNAP program, EPA is proposing both initial listings and certain modifications to the current lists based on our evaluation of the substitutes addressed in this action using the SNAP criteria for evaluation and considering the current suite of other alternatives for the specific end-use at issue. For particular substances, EPA found significant potential differences in risk with respect to one or more specific criteria, such as flammability, toxicity, or local air quality concerns, while otherwise posing comparable levels of risk to those of other alternatives in specific end-uses. EPA is also proposing that the existing listing decisions for foam blowing agents apply to closed cell foam products and products containing closed cell foam. In addition to proposing to list propane as acceptable, subject to use conditions, as a refrigerant in new self-contained commercial ice machines, in new water coolers, and in new very low temperature refrigeration equipment, EPA is also proposing to exempt propane in these end-uses from the venting prohibition under CAA section 608. EPA is also proposing to list as acceptable, subject to use conditions, HFO-1234yf in newly manufactured medium-duty passenger vehicles (MDPVs), heavy-duty (HD) pickup trucks, and complete HD vans, and 2-bromo-3,3,3-trifluoropropene (2-BTP) in the fire suppression and explosion protection sector. Finally, this proposed rule would clarify the listing for Powdered Aerosol D (Stat-X®), which is currently listed as both "acceptable subject to use conditions" and "acceptable," by removing the earlier listing of "acceptable subject to use conditions."

Summary of Proposed Regulatory Provisions

PROPOSED ACCEPTABLE ALTERNATIVES, WITH USE CONDITIONS

End-Uses	Substitutes	Proposed Effective Date
Refrigeration		
Commercial ice machines (new)	Propane	30 days after publication of a final rule
Water coolers (new)	Propane	30 days after publication of a final rule
Very low temperature refrigeration equipment (new)	Propane	30 days after publication of a final rule
Motor Vehicle Air Conditioning (MVAC)		
Medium-duty passenger vehicles (MDPVs), heavy-duty (HD) pickup trucks, and complete HD vans (newly manufactured)	HFO-1234yf	30 days after publication of a final rule
Fire Suppression and Explosion Protection		
Total flooding agent for use in engine nacelles and auxiliary power units (APUs) on aircraft	2-BTP	30 days after publication of a final rule
Streaming agent for use in aircraft	2-BTP	30 days after publication of a final rule

PROPOSED UNACCEPTABLE ALTERNATIVES

End-Uses	Substitutes	Proposed Effective Date
Air Conditioning (AC)		
Residential and light commercial AC and heat pumps – unitary split AC systems and heat pumps (retrofit)	All ASHRAE Flammability Class 3 Refrigerants[a]	30 days after publication of a final rule
Residential and light commercial AC and heat pumps (new)	Propylene, R-443A	30 days after publication of a final rule
Centrifugal chillers and positive displacement chillers (new)	Propylene, R-443A	30 days after publication of a final rule
Refrigeration		
Cold storage warehouses (new)	Propylene, R-443A	30 days after publication of a final rule

[a] All refrigerants identified as and meeting the criteria for flammability Class 3 in American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 34–2013. All refrigerants meeting the criteria for flammability Class 3 include, but are not limited to, refrigerant products sold under the names R-22a, 22a, Blue Sky 22a refrigerant, Coolant Express 22a, DURACOOL-22a, EC-22, Ecofreeeze EF-22a, EF-22a, Enwirosafe 22a, ES-22a, Frost 22a, HC-22a, Maxi-Fridge, MX-22a, Oz-Chill 22a, Priority Cool, and RED TEK 22a.

PROPOSED CHANGE OF LISTING STATUS

End-Uses	Substitutes	Proposed Effective Date
Air Conditioning		
Centrifugal chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition), and THR-03	Unacceptable, except as otherwise allowed under a narrowed use limit, as of January 1, 2024
Centrifugal chillers (new)	HFC-134a for military marine vessels and for human-rated spacecraft and related support equipment	Acceptable, subject to narrowed use limits, as of January 1, 2024
Centrifugal chillers (new)	R-404A for human-rated spacecraft and related support equipment	Acceptable, subject to narrowed use limits, as of January 1, 2024
Positive displacement chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E, and THR-03	Unacceptable, except as otherwise allowed under a narrowed use limit, as of January 1, 2024
Positive displacement chillers (new)	HFC-134a for military marine vessels and for human-rated spacecraft and related support equipment	Acceptable, subject to narrowed use limits, as of January 1, 2024
Positive displacement chillers (new)	R-404A for human-rated spacecraft and related support equipment	Acceptable, subject to narrowed use limits, as of January 1, 2024
Refrigeration		
Cold storage warehouses (new)	HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R-428A, R-434A, R-438A, R-507A, and RS-44 (2003 composition)	Unacceptable, as of January 1, 2023

End-Uses	Substitutes	Proposed Effective Date
Retail food refrigeration – refrigerated food processing and dispensing equipment (new)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation	Unacceptable, as of January 1, 2021
Household refrigerators and freezers (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, and THR-03	Unacceptable, as of January 1, 2021
Foam Blowing		
Rigid polyurethane (PU) high-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI[a]	• Unacceptable for all uses, except military or space-and aeronautics–related applications, as of January 1, 2020 • Acceptable, subject to narrowed use limits, for military or space-and aeronautics–related applications, as of January 1, 2020 • Unacceptable for military or space-and aeronautics–related applications as of January 1, 2025
Rigid PU low-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI[b]	• Unacceptable for all uses, except military or space-and aeronautics–related applications, as of January 1, 2021 • Acceptable, subject to narrowed use limits, for military or space-and aeronautics–related applications, as of January 1, 2021 • Unacceptable for military or space-and aeronautics–related applications as of January 1, 2025
Rigid PU one-component foam sealants	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI[c]	Unacceptable, as of January 1, 2020
All foam blowing end-uses except for rigid PU spray foam	All HFCs and HFC blends previously listed as unacceptable for space-and aeronautics–related applications as of January 1, 2022	Unacceptable for space-and aeronautics–related applications as of January 1, 2025
Flexible PU foam	Methylene chloride	Unacceptable, as of 30 days after publication of a final rule
Integral skin PU foam	Methylene chloride[d]	Unacceptable, as of January 1, 2017
Polyolefin foam	Methylene chloride[e]	Unacceptable, as of January 1, 2020

End-Uses	Substitutes	Proposed Effective Date
Fire Suppression and Explosion Protection		
Total flooding	Perfluorocarbons (PFCs) (C_3F_8 and C_4F_{10})	Unacceptable, as of one year after publication of a final rule

[a] Closed cell foam products and products containing closed cell foams manufactured on or before January 1, 2020, may be used after that date.
[b] Closed cell foam products and products containing closed cell foams manufactured on or before January 1, 2021, may be used after that date.
[c] Closed cell foam products and products containing closed cell foams manufactured on or before January 1, 2020, may be used after that date.
[d] Closed cell foam products and products containing closed cell foams manufactured on or before January 1, 2017, may be used after that date.
[e] Closed cell foam products and products containing closed cell foams manufactured on or before January 1, 2020, may be used after that date.

OTHER PROPOSED CHANGES

End-Uses	Proposed Changes
All Foam Blowing End-Uses	Prohibit use of closed cell foam products and products that contain closed cell foam manufactured with an unacceptable foam blowing agent on or after the later of: 1) one year after publication of a final rule, or 2) the date when the foam blowing agent is unacceptable.
Fire Suppression and Explosion Protection – Total Flooding	Clarify the listing for Powdered Aerosol D (Stat-X®), which is currently listed as both "acceptable" and "acceptable subject to use conditions," by removing the listing as "acceptable subject to use conditions" 30 days after publication of a final rule