THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

HOUSE OF REPRESENTATIVES

OZONE PROTECTION AND SYNTHETIC GREENHOUSE GAS MANAGEMENT
LEGISLATION AMENDMENT BILL 2017

EXPLANATORY MEMORANDUM

(Circulated by authority of the Minister for the Environment and Energy, the Hon Josh Frydenberg MP)
OZONE PROTECTION AND SYNTHETIC GREENHOUSE GAS MANAGEMENT
LEGISLATION AMENDMENT BILL 2017

GENERAL OUTLINE

The OPSSGM Act implements Australia’s international obligations under the Vienna Convention, the Montreal Protocol, the UNFCCC and the Kyoto Protocol. The import, export and manufacture of substances that are controlled under the OPSGGM Act, and the import and manufacture of certain products containing or designed to contain some of these controlled substances, is prohibited in Australia unless the correct licence or exemption is held.

A review of the Ozone and Synthetic Greenhouse Gas Program, completed in 2016, identified a range of measures to improve the effectiveness and efficiency of the program and to further reduce emissions of ODS and SGGs from 1 January 2018. In October 2016, the parties to the Montreal Protocol reached a global agreement on reducing HFC emissions. The Meeting of the Parties held in Kigali, Rwanda, agreed to an international phase-down of global HFC production and imports from 2019, which will result in an 85 per cent phase-down in the use of HFCs by 2036 in developed countries. Developing countries will also take on phase-down obligations that are delayed by a few years.

The Ozone Protection and Synthetic Greenhouse Gas Management Legislation Amendment Bill 2017 amends the OPSGGM Act, and related legislation, to:

(a) Implement the Australian Government’s commitment to phase-down import, export and production of HFCs from 2018, in advance of the global phase-down and will enable Australia to comply with all requirements of the global phase-down implemented under the Montreal Protocol, as amended by the Kigali Amendment.

(b) Improve the operation of the existing provisions relating to the HCFC phase-out, and prohibit the use of new HCFCs from 1 January 2020 other than for permitted uses.

(c) Implement Australia’s international obligations under the Kyoto Protocol to regulate two newly listed SGGs: nitrogen trifluoride and PFC-9-1-18 (C\text{10}F_{18}).

(d) Streamline the provisions of the OPSGGM Act that relate to equipment bans, and expand the scope of the Act to ensure that the provisions relating to equipment bans apply consistently to all entities regulated under the Act.

(e) Reduce the regulatory burden on businesses by introducing measures which enable licence renewals, reduce the frequency by which licence holders are required to report their activities and introduce a threshold below which the cost recovery levy is not payable.
FINANCIAL IMPACT STATEMENT

The total financial impact of the measures contained in the Bill is estimated to be $3.04 million annually. The HFC phase-down will impose an estimated annual regulatory burden of $4.2 million, and the efficiency measures are estimated to result in an annual regulatory burden saving of $548 000.

REGULATION IMPACT STATEMENT

A Regulation Impact Statement was prepared for options to reduce emissions of HFCs by 85 per cent from 2011-13 levels by 2036, contributing to Australia’s 2030 carbon emissions reduction target. The Office of Best Practice Regulation has assessed the RIS as compliant and best practice with the Government’s best practice regulation requirements. The RIS is set out in full in the Attachment to this Explanatory Memorandum.

LIST OF ABBREVIATIONS

The following abbreviations and terms are used in this Explanatory Memorandum:

AAT  Administrative Appeals Tribunal
APS  Australian Public Service
Department  means the department responsible for the administration of the OPSGGM Act, currently the Department of the Environment and Energy
CFC  Chlorofluorocarbon
CO\textsubscript{2}e  Carbon Dioxide Equivalent
GWP  Global Warming Potential
HCFC  Hydrochlorofluorocarbon
HFC  Hydrofluorocarbon
ICCPR  *International Covenant on Civil and Political Rights*
ICESCR  *International Covenant on Economic, Social and Cultural Rights*
Import Levy Act  *Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Act 1995*
Kyoto Protocol  *Kyoto Protocol to the United Nations Framework Convention on Climate Change*
Manufacture Levy Act  *Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Act 1995*
<table>
<thead>
<tr>
<th>Term</th>
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<tr>
<td>Minister</td>
<td>means the Minister responsible for the administration of the OPSGGM Act, currently the Minister for the Environment and Energy</td>
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<tr>
<td>Montreal Protocol</td>
<td><em>Montreal Protocol on Substances that Deplete the Ozone Layer</em></td>
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<td>ODP</td>
<td>Ozone Depleting Potential</td>
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<td>ODS</td>
<td>Ozone Depleting Substance</td>
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<td>OPSGGM Act</td>
<td><em>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</em></td>
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<td>OPSGGM Regulations</td>
<td><em>Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995</em></td>
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<tr>
<td>PFC</td>
<td>Perfluorocarbon</td>
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<td>SES</td>
<td>Senior Executive Service</td>
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<td>SGG</td>
<td>Synthetic Greenhouse Gas</td>
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<td>Special Account</td>
<td>means the Ozone Protection and SGG Account</td>
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<tr>
<td>UNFCCC</td>
<td><em>United Nations Framework Convention on Climate Change</em></td>
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<td>Vienna Convention</td>
<td><em>Vienna Convention for the Protection of the Ozone Layer</em></td>
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STATEMENT OF COMPATIBILITY WITH HUMAN RIGHTS – PART 3 HUMAN RIGHTS (PARLIAMENTARY SCRUTINY) ACT 2011

Statement of Compatibility with Human Rights

Prepared in accordance with Part 3 of the Human Rights (Parliamentary Scrutiny) Act 2011

Ozone Protection and Synthetic Greenhouse Gas Management Legislation Amendment Bill 2017

This Bill is compatible with the human rights and freedoms recognised or declared in the international instruments listed in section 3 of the Human Rights (Parliamentary Scrutiny) Act 2011.

Overview of the Bill

The OPSSGM Act implements Australia’s international obligations under the Vienna Convention, the Montreal Protocol, the UNFCCC and the Kyoto Protocol. The import, export and manufacture of substances that are controlled under the OPSSGM Act, and the import and manufacture of certain products containing or designed to contain some of these controlled substances, is prohibited in Australia unless the correct licence or exemption is held.

A review of the Ozone and Synthetic Greenhouse Gas Program, completed in 2016, identified a range of measures to improve the effectiveness and efficiency of the program and to further reduce emissions of ODS and SGGs from 1 January 2018. In October 2016, the parties to the Montreal Protocol reached a global agreement on reducing HFC emissions. The Meeting of the Parties held in Kigali, Rwanda, agreed to an international phase-down of global HFC production and imports from 2019, which will result in an 85 per cent phase-down in the use of HFCs by 2036 in developed countries. Developing countries will also take on phase-down obligations that are delayed by a few years.

The Ozone Protection and Synthetic Greenhouse Gas Management Legislation Amendment Bill 2017 amends the OPSSGM Act, and related legislation, to:

(a) Implement the Australian Government’s commitment to phase-down import, export and production of HFCs from 2018, in advance of the global phase-down and will enable Australia to comply with all requirements of the global phase-down implemented under the Montreal Protocol, as amended by the Kigali Amendment.

(b) Improve the operation of the existing provisions relating to the HCFC phase-out, and prohibit the use of new HCFCs from 1 January 2020 other than for permitted uses.

(c) Implement Australia’s international obligations under the Kyoto Protocol to regulate two newly listed SGGs: nitrogen trifluoride and PFC-9-1-18 (C_{10}F_{18}).

(d) Streamline the provisions of the OPSSGM Act that relate to equipment bans, and expand the scope of the Act to ensure that the provisions relating to equipment bans apply consistently to all entities regulated under the Act.
(e) Reduce the regulatory burden on businesses by introducing measures which enable licence renewals, reduce the frequency by which licence holders are required to report their activities and introduce a threshold below which the cost recovery levy is not payable.

**Human rights implications**

The Bill engages the following human rights:

(a) The right to an effective remedy in Article 2(3) of ICCPR;

(b) The right to a fair trial in Article 14(1) of the ICCPR;

(c) The right to the presumption of innocence in Article 14(2) of the ICCPR.

(a) Right to an effective remedy

Article 2(3) of ICCPR ensures that any person whose rights or freedoms are violated shall have an effective remedy, and that a person in claiming such a remedy shall have his rights determined by a competent judicial, administrative or legislative authority.

The Bill inserts section 19AC (Decision on application), section 19AD (Deemed refusal of renewal), section 35A (Direction to export HCFCs if quota exceeded) and section 36H (Direction to export HFCs if quota exceeded) into the OPSGGM Act. These sections introduce new Ministerial decision-making powers into the OPSGGM Act.

Section 19AC requires the Minister to renew, or refuse to renew, a licence, and section 19AD operates to deem that the Minister has refused to renew a licence if the Minister has not made the decision within a specified time. Sections 35A and 36H both allow the Minister to direct a licensee to export a quantity of HCFCs or HFCs (as the cases may be) in circumstances where the licensee has imported in excess of their HCFC or HFC quota.

The Bill also amends section 66 (Review of decisions) of the OPSGGM Act to enable applications to be made to the AAT for review of decisions made under sections 19AC, 19AD, 35A and 36H.

Therefore the Bill promotes and protects the right to an effective remedy in Article 2(3) by providing affected persons the right to apply to the AAT for review of these new decisions.

(b) Right to a fair trial

Article 14(1) of the ICCPR guarantees the right to a fair trial and fair hearing in relation to both criminal and civil proceedings.

Level of criminal penalties and civil penalties

The Bill inserts new section 45C into the OPSGGM Act, which prohibits the use of HCFCs that are manufactured or imported on or after 1 January 2020 except for specified uses.
A contravention of subsection 45C(1) would be an offence of strict liability (see new subsection 45C(3)) and attract a maximum penalty of 300 penalty units for an individual and 1,500 penalty units for a body corporate. This is just below the highest penalty under the OPSGGM Act (500 penalty units for an individual and 2,500 for a body corporate - section 38). The penalty is set at an upper limit and is commensurate with the deliberate use of a HCFC in contravention of the prohibition and contrary to Australia’s international obligations. The penalty would also align with existing penalties for comparable offences under the OPSGGM Act, such as those set out in section 44 (Import of products containing scheduled substances from non-Montreal Protocol countries), section 45 (Import of products manufactured using scheduled substances from non-Montreal Protocol countries) and section 45B (Discharge of scheduled substances).

Subsection 45C(4) would provide for a civil penalty as an alternative to the offence provision in proposed subsection 45(3). The notes at proposed subsection 45C(4) would provide that the maximum penalty for a contravention of the civil penalty provision would be to be determined in line with subsection 65AC(4) (which sets limits on the pecuniary penalties payable in respect of civil penalty provisions of the Act). The effect of paragraph 65AC(4)(a) is that the maximum pecuniary penalty that can be imposed for a contravention of the civil penalty provision in new section 45C is 300 penalty units for an individual or 1,500 penalty units for a body corporate (being the maximum penalty that could have been imposed on the person if the person had been convicted of the offence).

Relevantly, section 65AC also incorporates appropriate safeguards including the requirement that in determining pecuniary penalties a court must take all relevant matters into account, including the nature and extent of the contravention, the nature and extent of any loss or damage suffered as a result of the contravention and whether the person has previously been found to have engaged in similar conduct.

**Application of both criminal and civil penalties**

As stated above, new section 45C contains both criminal and civil penalties for the same conduct. The intention of the provision is that, where criminal penalties are not imposed on a person who contravenes the provision, the Minister may decide to apply to the Federal Court or Federal Circuit Court to impose a civil penalty.

Existing protections under the OPSGGM Act will apply to ensure that a person will not be subject to both criminal and civil penalties for the same conduct. For example, under existing section 65AH a person cannot be subject to a civil penalty if they have been convicted of an offence relating to conduct that is the same, or substantially the same, as the conduct that contravened the civil penalty provision. In addition, existing section 65AI provides that any proceedings for a civil penalty provision are automatically stayed if criminal proceedings are commenced or have already commenced against that person for an offence involving conduct that is the same, or substantially the same, as the conduct that contravened the civil penalty provision.
These provisions ensure that the imposition of both criminal and civil penalties for the same conduct will not result in a person being punished twice for the same conduct.

The criminal and civil penalties which apply under new section 45C are a reasonable, necessary and proportionate response to the deliberate use of a HCFC in contravention of the prohibition and Australia’s international obligations and align with comparable offences under the OPSGGM Act. Accordingly, the Bill is consistent with the right to a fair trial in Article 14(1).

(c) Right to the presumption of innocence

Article 14(2) ICCPR protects the right to be presumed innocent until proven guilty according to law.

Strict liability

Strict liability offences engage and limit the presumption of innocence as they allow for the imposition of criminal liability without the need to prove fault. However, the defence of mistake of fact is still available to the defendant. This ensures that a person cannot be held liable if he or she had an honest and reasonable belief that they were complying with relevant obligations.

The Bill applies strict liability to the new offence provision in section 45C, for bulk HCFC use. A contravention of subsection 45C(1) would be an offence of strict liability (see new subsection 45C(3)). Application of strict liability to this offence has been set with consideration given to the guidelines regarding the circumstances in which strict liability is appropriate set out in A Guide to Framing Commonwealth Offences, Civil Penalties and Enforcement Powers.

The strict liability offences are used throughout the OPSGGM Act and are necessary to ensure the integrity of the established regulatory regime to prevent environmental harm. Moreover there are legitimate grounds for penalising a person lacking fault, as the offence will not come into force until 1 January 2020. In the years preceding this, it is intended that substantial efforts will be made to inform members of industries where HCFCs are used and the public in general about the offence coming into effect.

Reverse burden of proof

Generally, consistency with the presumption of innocence requires the prosecution to prove each element of a criminal offence beyond reasonable doubt. An offence provision which requires the defendant to carry an evidential or legal burden of proof, commonly referred to as 'a reverse burden', with regard to the existence of some fact engages the presumption of innocence.

The note at subsection 45C(2) clarifies that in criminal proceedings, a defendant would bear the evidential burden of proving that their use of a HCFC was for a purpose prescribed by the OPSGGM Regulations for the purposes of 45C(2) (e.g. critical or necessary for medical,
veterinary, defence, industrial safety or public safety reasons). This is the reverse of the principle in criminal law that the prosecution must prove every element of the offence.

The reversal is justified in this instance, as the matters to be proved (namely that the use of the HCFC was for an exempted purpose prescribed by the OPSGGM Regulations) are matters that would be in the particular knowledge of the defendant. It is expected that it would not be unreasonably difficult for the defendant to discharge the evidentiary burden.

The application of strict liability and a reversed burden of proof to new section 45C is a reasonable, necessary and proportionate response and reflects the seriousness of the conduct and Australia’s international commitment under the Montreal Protocol to complete the phase-out of HCFCs by 2030. Accordingly, the Bill is consistent with the right to the presumption of innocence in Article 14(2).

Conclusion

The Bill is compatible with human rights because it promotes the right to an effective remedy under Article 2(3) of the ICCPR. To the extent that it engages and limits other human rights (including Article 14(1) and 14(2)), those limitations are reasonable, necessary and proportionate to achieve the legitimate aims of the Bill and the ongoing efficient and effective operation of the OPSGGM Act.

Minister for the Environment and Energy, the Hon Josh Frydenberg MP
PRELIMINARY PROVISIONS

Clause 1 – Short title

1. This clause provides that the short title by which the Act may be cited is the *Ozone Protection and Synthetic Greenhouse Gas Management Legislation Amendment Act 2017*.

Clause 2 – Commencement

2. The table in this clause sets out when the Act’s provisions will commence. Sections 1 to 3 (and anything else not covered in the table) will commence on the day on which the Act receives the Royal Assent.

3. Schedule 1 will commence on a single day to be fixed by Proclamation. However, if the provisions of Schedule 1 do not commence within the period of 6 months beginning on the day the Act receives the Royal Assent, those provisions will commence by default on the day after the end of that period.

4. Schedule 2 will commence on the start of 1 January 2018. If the provisions contained in Schedule 1 do not commence before 1 January 2018 then Schedule 2 will commence immediately after the commencement of the provisions in Schedule 1.

5. Schedule 3 will commence on 1 January 2020. Schedule 3 contains provisions which will prohibit the use of HCFC imported or manufactured after 1 January 2020 (unless for a use specified in the OPSGGM Regulations). Schedule 3 also contains provisions which will prohibit the import or manufacture of equipment containing or using HCFCs from 1 January 2020. The delayed commencement of these provisions is necessary to align the prohibitions with the obligations under the Montreal Protocol relating to the use of HCFCs, which also commence on 1 January 2020.

Clause 3 – Schedule(s)

6. This clause provides that the amendments set out in the schedules to the Act have effect according to the terms of the schedules.

**SCHEDULE 1 – AMENDMENTS COMMENCING DAY TO BE PROCLAIMED**

GENERAL OUTLINE

7. HCFCs are ODSs which are being phased out under the Montreal Protocol. Australia’s phase-out schedule is implemented by allocating HCFC importers and manufacturers a limited quota under Part IV (HCFC quotas) of the OPSGGM Act.

8. In May 2016 the Australian Government committed to reducing Australia’s use of HFCs through a cap and phase-down from 1 January 2018, in advance of a global approach. HFCs are a type of SGG, mostly used in refrigeration and air conditioning.
equipment. HFCs generally have a high global warming potential which means they have a greater ability to trap heat in the atmosphere compared to a similar mass of carbon dioxide (CO$_2$). For example, the release of 1 megatonne of HFC 23 is equivalent to releasing 14,800 megatonnes of CO$_2$ into the atmosphere.

9. Parties to the Montreal Protocol have now agreed to reduce HFC production and imports by 85 per cent at the meeting held in Kigali, Rwanda, from 10 to 14 October 2016.

10. Australia will deliver on its commitment to start phasing down imports of HFCs from 2018 through this Bill, which will also allow ratification of the Kigali Amendment to participate in the global phase-down from 2019.

11. The HFC phase-down will be undertaken through the gradual reduction over 18 years of the maximum amount of new HFCs permitted to be imported into Australia (there are no HFCs manufactured in Australia). Reduced imports will result in reduced HFC emissions, by reducing the total amount of HFCs in the economy that can be emitted to the atmosphere.

12. The HFC phase-down will only apply to “bulk” imports of gas, such as in cylinders (bulk is a term commonly used within the industry to refer to scheduled substances that are in containers for transport or storage, not in pre-charged equipment). It would not apply to HFCs imported in equipment (such as air-conditioners or refrigerators) or to used or recycled HFCs. This is because HFCs contained in imported equipment and used or recycled HFCs will not count towards Australia’s Montreal Protocol limits. HFCs contained in equipment and used HFCs are accounted for in the country of manufacture. Imports of used or recycled HFCs are also intended to be regulated from 1 January 2018, and will be managed separately through the use of used substances licences.

13. Bulk imports make up two thirds of HFCs imported into Australia. The HFC phase-down would reduce the availability of bulk gas to re-charge HFC equipment in Australia. It is anticipated that this would lead to a reduction in imports of HFCs in equipment as the HFC phase-down would provide investment certainty to equipment manufacturers and encourage transition to alternative technology. This has been the case in relation to the phase-out of HCFCs under Part IV of the Act, which has led to reductions in imports of HCFC equipment and a transition to alternative technology. The latest independent modelling shows that the design of the domestic phase-down will provide for sufficient HFCs to service HFC equipment throughout the 18 years of the phase-down, and also noting the built-in residual of 15 per cent from 2036 (differentiating the phase-down from the HCFC phase-out).

14. Provision would also be made for the allocation of reserve HFC quota on an ad hoc basis. The amount of reserve HFC quota available at any time is intended to be the difference between Australia’s industry limit and the Montreal Protocol limit for the relevant year, if a difference exists. If no difference exists, no reserve quota will be
available in the relevant year. It is envisaged reserve HFC quota would only be granted in exceptional circumstances and where criteria to be specified in the OPSGGM Regulations have been met. Use of reserve HFC quota would not put Australia above its Montreal Protocol limits.

15. Schedule 1 of the Bill would amend the OPSGGM Act to:

(a) Clarify the objectives of the OPSGGM Act (see Part 1 of Schedule 1);

(b) Streamline and improve the existing HCFC phase-out scheme (see Part 1 of Schedule 1);

(c) Facilitate and support the new HFC phase-down scheme (see Part 1 of Schedule 1);

(d) Ensure terminology used to refer to equipment is consistent throughout the OPSGGM Act (see Part 2 of Schedule 1);

(e) Revise the definitions to international conventions to clarify that the conventions, as they apply in the context of the OPSGGM Act, are the convention as ratified and in force for Australia from time to time (see Part 3 of Schedule 1); and

(f) Enable the Minister to delegate his or her functions and powers under the OPSGGM Act and OPSGGM Regulations to Executive Level 2 employees, or acting Executive Level 2 employees, in the Department (see Part 4 of Schedule 1).

NOTES ON INDIVIDUAL CLAUSES

Part 1 – HFCs

Item 5 – Section 7, Item 17 – After section 9, Item 55 – Part V of Schedule 1 and Item 56 – Part IX of Schedule 1

16. Item 17 would insert new section 9A into the OPSGGM Act, which would clarify what is meant by CO$_{2e}$ megatonnes in relation to quantities of HCFCs or HFCs, and mixtures of two or more HFCs or HCFCs. This provides for correct calculation of HFC import quota and import volumes according to the limit prescribed in the OPSGGM Regulations for the purposes of new section 36A (inserted by Item 47). CO$_{2e}$ megatonnes are calculated by multiplying the quantity of a HFC or HCFC by the global warming potential of the gas species as listed in Schedule 1 of the OPSGGM Act.

17. Item 5 would amend section 7 of the OPSGGM Act to insert definitions of *100-year global warming potential* and *CO$_{2e}$ megatonnes*. The 100-year global warming potential of a scheduled substance is the 100-year global warming potential specified (if any) for that substance in a table in Schedule 1 to the OPSGGM Act. The OPSGGM Act will use the 100-year global warming potential adopted by the UNFCCC from the Independent Panel on Climate Change’s Assessment Report 4.

18. Items 55 and 56 would repeal and replace Parts V and IX of Schedule 1 to the OPSGGM Act, respectively. New Part V of Schedule 1 would provide 100-year global
warming potential values for HCFCs. It is envisaged that these values will be used in calculating Australia’s HFC quota industry limits.

19. New Part IX of Schedule 1 would provide 100-year global warming potential values for HFCs to enable calculation of Australia’s HFC phase-down quota limits.

**Item 5 – Section 7, Item 27 – Subsection 14(1), Item 28 – Paragraph 14(1)(a), Item 29 – Subsection 14(2), Item 34 – Paragraph 19B(2)(a), Item 35 – Subsection 19B(3), Item 40 – Paragraph 27(1)(a), Item 41 – Subsection 27(2), Item 49 – Subsection 50(1A), Item 53 – After section 66 and Item 54 – Transitional provision – approved forms**

20. Item 53 would insert new section 66A into the OPSGGM Act to allow the Minister to approve a form for the purposes of the OPSGGM Act. It would also clarify that an approved form of an application may provide for the verification by statutory declaration of statements made in that application. This Item is required to reflect modern drafting practices, but does not change the effect of the OPSGGM Act or its substantive requirements. Approved forms will be defined in section 7 (Definitions) of the OPSGGM Act by reference to new section 66A (see Item 5). Item 54 are required as a consequence of Item 53.

21. Item 54 would clarify that if the Minister had approved a form under the OPSGGM Act and that approval was in force immediately before the commencement of Item 54, then that approval has effect from that date as though it had been made under new section 66A.

**Item 7 – Section 7**

22. Item 7 would insert a definition of *ozone depleting potential* into section 7 (Definitions) of the OPSGGM Act. The definition of ozone depleting potential reflects the relative ability of various ozone depleting substances to destroy stratospheric ozone compared with the same mass of CFC-11 (chlorofluorocarbon 11). Ozone depleting potential values can be varied by the Montreal Protocol by consensus adjustment to the Montreal Protocol based on advice from its independent assessment bodies.

**Item 9 – Section 7 and Item 10 – Section 7 (definition of recycled stage-1 or stage-2 scheduled substances)**

23. Item 10 would repeal the definition of recycled stage-1 or stage-2 scheduled substances, and Item 9 would insert new definitions for *recycled or used SGGs*, and *recycled or used stage-1 or stage-2 scheduled substances* into section 7 of the OPSGGM Act. This provides for consistent application of the term recycled or used substances throughout the OPSGGM Act.

24. The definitions of recycled or used SGGs and recycled or used stage-1 or stage-2 scheduled substances reflects the different treatment the Montreal Protocol gives to new HFCs and used or recycled HFCs, and ensures Australia’s accounting treatment aligns with the Montreal Protocol.
Item 11 – Section 7 (definition of reduce)

25. Item 11 would repeal the definition of reduce as the term is no longer used in the OPSGGM Act and is therefore redundant.

Item 15 – Section 7

26. Item 15 would insert a definition of SGG licensee into section 7 of the OPSGGM Act, clarifying that this would mean the holder of an SGG licence.

Item 1 – Subsection 3A(2), Item 2 – Subsections 4A(3) and 4B(2), Item 20 – Section 13, Item 21 – Saving – regulations, Item 50 – Subsection 65AC(4), Item 51 – Subsection 65AC(4A) and Item 57 – Subsection 3A(2)

27. The OPSGGM Act prohibits the manufacture, import and export of ODSs and SGGs, and equipment containing ODSs and SGGs, unless a person has a licence which allows these activities (see section 13 (Unlicensed manufacture, import or export)). Carrying out these activities without a licence is an offence of strict liability and a contravention of a civil penalty provision.

28. Item 20 would repeal section 13 and replace it with a new section. New section 13 would retain existing prohibitions and exemptions, but would be structured more clearly, with prohibited activities listed under new subsection 13(1), and exemptions to the prohibitions set out in new subsections 13(2), (3), (5) and (6).

29. New subsection 13(7) reflects the existing section 13 and would provide that a person commits an offence of strict liability if the person contravenes new subsection 13(1), punishable by a maximum penalty of 500 penalty units for an individual and 2,500 penalty units for a body corporate. This Item does not introduce a new offence or penalty; it reproduces the existing offences and penalties set out in section 13.

30. In a prosecution for an offence against new subsection 13(7), the defendant would bear the evidential burden in relation to establishing a matter set out in subsections 13(2), (3), (5) or (6). This is justified, as the matters to be proved under these subsections (namely, that the defendant held a licence or that the circumstances of the activity meant the defendant was subject to an exemption) are particularly within the defendant’s knowledge.

31. New subsection 13(8) would also provide that new subsection 13(1) is a civil penalty provision. This reproduces existing subsection 13(9) of the OPSGGM Act. The notes at new subsection 13(8) would provide that the maximum penalty for a contravention of the civil penalty provision would be determined in line with subsection 65AC(4) of the OPSGGM Act (which sets limits on the pecuniary penalties payable in respect of civil penalty provisions of the OPSGGM Act). The effect of paragraph 65AC(4)(a) is that the maximum pecuniary penalty that can be imposed for a contravention of the civil penalty provision in section 13 is 500 penalty units for an individual and 2,500 penalty units for a body corporate (being the maximum penalty that could have been imposed
on the person or body corporate if the person or body corporate had been convicted of
the offence).

32. Items 1, 2, 50, 51 and 57 are required as a consequence of Item 20. Items 1 and 2 would
amend subsections 3A(2), 4A(3) and 4B(2) of the Import Levy Act to update the cross
references to section 13 of the OPSGGM Act, Items 50, 51 and 57 would delete
references to subsections 13(1A) and (6A) in the OPSGGM Act and the Manufacture
Levy Act and replace them with references to new subparagraph 13(1)(a)(iii) and
paragraph 13(1)(b).

33. Item 21 would operate so that regulations made for the purposes of the paragraph
13(1A)(b), subparagraph 13(6A)(b)(ii) and subparagraph 13(6A)(b)(iii) in force
immediately before the commencement date of Item 21 would have effect from that
date as though they had been made for the purposes of subsection 13(3), paragraph
13(5)(b) and paragraph 13(5)(c), respectively.

**Item 22 – Subsection 13A(2), Item 23 - After subsection 13A(2), Item 24 – Subsection
13A(3), Item 25 – After subsection 13A(3) and Item 26 – At the end of subsection 13A(4)**

34. Section 13A (Licences and what they allow) specifies the different types of licences
that a person can apply for under the OPSGGM Act and the activities allowed by the
licences. Item 23 would clarify that a controlled substances licence would not apply to
recycled or used HCFCs, methyl bromide or SGGs. Instead, a used substances licence
would be required to import or export these substances. This differentiates new and
used gas and is required to prevent used substances being counted against Australia’s
Montreal Protocol consumption and yearly industry limits under the HFC phase-down.
Used gases are accounted for in the country of manufacture. Item 22 is required as a
consequence of Item 23, and would insert a reference to subsection 13A(2A) into
subsection 13A(2).

35. Item 25 would clarify that an essential uses licence does not apply to recycled or used
stage-1 or stage-2 scheduled substances. Instead, a used substances licence would be
required to import or export these substances. Item 24 is required as a consequence of
Item 25 and would amend subsection 13A(3) to insert a reference to subsection
13A(3A).

36. Item 26 would amend subsection 13A(4) to allow the import or export of SGGs that are
recycled or used HFCs under a used substances licence. This amendment is required for
consistency with the Montreal Protocol which differentiates between new and used gas.

**Item 18 – Section 12B (heading), Item 32 – Before subsection 18(7) and Item 33 – Before
subsection 18(8)**

37. These Items are required to reflect current drafting practices, and would insert and
update various headings into the OPGGSM Act.
HCFC phase-out

Item 6 – Section 7 (definition of HCFC quota), Item 8 – Subsection 7(1) (definition of quota period), Item 12 – Section 7 (definition of regulated HCFC activity), Item 13 – Section 7, Item 14 – Section 7 (definition of reserve HCFC quota), Item 16 – Sections 8 and 8B, Item 30 – Subsections 18(1) to (3), Item 31 – Application of amendments, Item 36 – Before section 23, Item 37 – After section 23, Item 38 – After section 25, Item 39 – Paragraph 26(2)(b), Item 42– Paragraph 35(1)(a), Item 43 – Subsection 35(2), Item 44 – Subsection 35(6) and (7) Item 45 – At the end of Part IV, Item 46 – Application of amendments and Item 52 – After paragraph 66(e)

38. HCFCs are ODSs that are being phased out globally under the Montreal Protocol. Part IV (HCFC quotas) of the OPSGGM Act, sets out the provisions which regulate Australia’s HCFC phase-out scheme. Under the OPSGGM Act, a person importing or manufacturing bulk HCFCs must hold quota allowing that person to import or manufacture up to the quota amount. In addition, a controlled substances licence is required to import, export or manufacture any amount of new HCFCs that are not contained in products or equipment. A used substances licence is required to import or export used HCFCs, and an ODS/SGG equipment licence is required to import refrigeration and air conditioning equipment containing a HCFC. Quota is not required for the import or export of used HCFCs or refrigeration and air conditioning equipment containing a HCFC.

39. The amendments described below would streamline and improve the HCFC phase-down provisions of the OPSGGM Act.

40. HCFC quotas and reserve HCFC quotas are currently defined in section 8B (HCFC quotas and reserve HCFC quotas) of the OPSGGM Act. Item 16 would repeal section 8B and instead, Item 6 and Item 14 would insert new definitions of HCFC quota and reserve HCFC quota, respectively. Both definitions would define those terms by reference to HCFC quota and reserve HCFC quota allowed under section 28 (Allocation of quota) of the OPSGGM Act. Item 42 is required as a consequence of Item 6 and would repeal and replace a reference to ‘a quota’ with a reference to ‘an HCFC quota’ in paragraph 35(1)(a) of the OPSGGM Act.

41. Item 36 would insert a simplified outline of Part IV (HCFC quotas) into the OPSGGM Act to clarify the operation of the provisions giving effect to the HCFC phase-out.

42. Section 8 (Quota periods) of the OPSGGM Act provides that a quota period is 2 years, or such longer or shorter period (if any) as the Minister determines in writing. Item 16 would repeal section 8 and Item 37 would insert new section 23A into the OPSGGM Act, which would clarify HCFC quota periods. New section 23A would substantively reproduce section 8, but has been updated to reflect current drafting practices and moved to a more appropriate location within the OPSGGM Act. Item 8, which would repeal and replace the definition of quota period in section 7 of the OPSGGM Act, is required as a consequence of Items 16 and 37. The note to the definition would clarify
that quota periods relate to HCFC quotas only, and that there are also HFC quotas that are allocated for calendar years.

43. A regulated HCFC activity is currently defined in section 7 (Definitions) of the OPSGGM Act as either the manufacture or import of HCFCs. Item 12 would repeal the definition of regulated HCFC activity and Item 13 would insert a new definition of that term that refers to section 25A (inserted by Item 38).

44. New subsection 25A(1) would reflect the definition of regulated HCFC activity currently set out in section 7 (Definitions) of the OPSGGM Act.

45. New subsection 25A(2) would clarify that the heel allowance percentage for HCFCs is not taken into account when calculating the quantity of HCFCs that are involved in a regulated HCFC activity engaged in by the licensee during a period.

46. Heel is a residual amount of gas remaining in an imported transport cylinder after all usable gas has been decanted or offloaded. Removal of the heel risks damaging the cylinder through changes in pressure or introducing contaminants into the gas. Removing the heel also increases safety risks for the handler. As the heel is not removed from the imported cylinder, the OPSGGM Act excludes a heel allowance percentage (currently set at 5%) from the calculation of levies applied to ODS and SGG imports and manufacture, and the HCFC import quota (see the definition of the term heel allowance percentage in section 7 of the OPSGGM Act and regulation 2A of the OPSGGM Regulations).

47. Currently, section 35 (Transfer of quotas) of the OPSGGM Act enables a licensee to transfer the unused part of their HCFC quota to another person. Item 43 would amend section 35 by repealing subsection 35(2) and substituting in its place new subsections 35(2) and 35(2A).

48. New subsections 35(2) and (2A) would provide for the transfer of HCFC quota allocations without the transfer of the licence of the licensee to whom the quota was originally allocated. New subsection 35(2) would allow a licensee to transfer all unused HCFC quota that had been allocated to them to another licence holder. Alternatively, new subsection 35(2A) would allow a licensee to transfer a particular percentage of their unused HCFC quota or quotas to another licensee, whilst retaining the remaining percentage.

49. Under both proposed subsections 35(2) and (2A), it would only be possible for a licensee to transfer HCFC quota that remained unused. That is, a licensee could not transfer an amount of HCFC quota that was greater than the amount remaining when their regulated HCFC activity (as calculated under new section 25A (inserted by Item 38)) was subtracted from their HCFC quota for the calendar year or years in question.

50. Item 44 would delete subsection 35(6) as a consequence of Item 43. Subsection 35(7) is also deleted because it is no longer necessary. Section 35 of the OPSGGM Act only
provides for the transfer of HCFC quota, not reserve HCFC quota. The note to the
definition of HCFC quota in section 7 of the OPSGGM Act (as amended by Item 6)
also clarifies that a reserve HCFC quota is not an HCFC quota.

51. Item 45 would insert a new section 35A into the OPSGGM Act.

52. New paragraph 35A(1)(a) would allow the Minister to direct a licensee who had HCFC
quota to export a specified quantity of HCFCs by a specified time if the total quantity
of HCFCs involved in regulated HCFC activities engaged in by the licensee in the year
exceeds the combined total of the HCFC quota and any reserve HCFC quota held by
the licensee in the year for which the HCFC quota was in force.

53. New paragraph 35A(1)(b) would allow the Minister to direct a licensee who held
reserve HCFC quota that was in force for a period during a calendar year (the reserve
period), but did not hold any HCFC quota for that year to export a specified quantity of
HCFCs by a specified time if the total quantity of HCFCs involved in regulated HCFC
activities engaged in by the licensee during the reserve period exceeded the licensee’s
reserve HCFC quota.

54. New subsection 35A(2) would provide that the specified amount that the
Minister directs the licensee to export must not be greater than the amount by which they have
exceeded their HCFC quota, HCFC quota and reserve HCFC quota, or reserve HCFC
quota.

55. Item 52 amends section 66 (Review of decisions) to allow applications to be made to
the AAT for the review of a decision to direct a licensee to export a quantity of HCFCs
under section 35A.

56. The note to new subsection 35A(1) would clarify that it is a condition of a licence
under subsection 18(1) that the licensee complies with the directions of the Minister to
export HCFCs where quota has been exceeded (see Item 30 which amends section 18).
Pursuant to Item 46, any directions given by the Minister can only apply in relation to
quota periods or reserve quota periods that start on or after the commencement of
Item 46.

57. Section 18 (Conditions of licences) of the OPSGGM Act sets out conditions that apply
to various licences, including controlled substances licences (subsection 18(1)). Item 30
would repeal subsections 18(1) to (3) which set out conditions currently applicable to
controlled substances licences. Instead Item 30 would insert a new subsection 18(1)
which contains a table setting out the conditions that apply to particular licence types.

58. The conditions that are applicable to controlled substances licences that allow the
manufacture, import or export of HCFCs are set out in items 1, 2 and 3 of the table in
new subsection 18(1).

59. The effect of paragraph (a) at item 1 of the table is the same as the existing
paragraph 18(1)(a). Paragraph (b) at item 1 of the table substantively reproduces current
paragraph 18(1)(b), but clarifies that it is possible for a licensee to hold both HCFC quota and reserve HCFC quota simultaneously. Paragraph (c) at item 1 of the table clarifies that if a licensee only holds reserve HCFC quota, then the total quantity of HCFCs involved in regulated activities engaged in by the licensee in the reserve period must not exceed their reserve HCFC quota allocation. Paragraph (d) at item 1 of the table reflects new section 35A (inserted by Item 45), and would require a licensee to comply with any directions issued by the Minister to export specified amounts of HCFC if the licensee has exceeded their quota.

60. Items 2 and 3 of the table to subsection 18(1) reflect the existing conditions relating to the import and export of scheduled substances from countries that are a party to the Montreal Protocol for the purposes of Part VI (Control of imports and exports) (see subsections 18(2) and (3) of the OPSGGM Act).

61. Subitem 31(1) would clarify that the amendments to subsection 18(1) (see Item 30), to the extent that the amendments relate to controlled substances licences, would apply to a controlled substances licence that is in force at the time of or after the commencement of subitem 31(1), regardless of whether the licence was granted before, at the time of, or after commencement of these provisions.

62. Item 39 is required as a consequence of the amendments to subsection 18(1) (see Item 30).

**HFC phase-down**

Item 3 – Paragraph 3(a), Item 4 – Subparagraphs 3(e)(i) and (ii), Item 7 – Section 7, Item 13 – Section 7, Item 15 – Section 7, Item 19 – Section 12B, Item 30 – Subsections 18(1) to (3), Item 31 – Application of amendments, Item 47 – After Part IV, Item 48 – Application of amendments – HFC quotas and reserve HFC quotas and Item 52 – After paragraph 66(e)

63. Section 3 sets out the objectives for the OPSGGM Act. These objectives currently refer to, amongst other things, the Montreal Protocol and substances that deplete the ozone layer. The Montreal Protocol, as amended by the Kigali Amendment, will impose additional obligations to phase-down the import and production of HFCs. HFCs are a type of SGG, mostly used in refrigeration and air-conditioning equipment.

64. To clarify the objectives of the OPSGGM Act, Items 3 and 4 would amend section 3 to reflect the fact that the Montreal Protocol, as amended by the Kigali Amendment, would regulate HFCs, which are not ODSs.

65. Item 47 would insert a new Part IVA (HFC quotas) into the OPSGGM Act, facilitating a HFC phase-down by establishing an HFC import quota scheme. Item 19 would be required as a consequence of Item 47 and would insert a reference to new Part IVA into section 12B of the OPSGGM Act.
Division 1 of new Part IVA would insert a simplified outline of the Part. It would make clear that the Minister may allocate HFC quota or reserve HFC quota to an SGG licensee for a calendar year or specified period respectively. It would also state that section 18 (as amended by Item 30) would prohibit a licensee from engaging in a regulated HFC activity without a quota allocation, and that the total quantity of HFCs involved in regulated HFC activities engaged in by the licensee must not be more than the licensee’s total quotas. The term regulated HFC activity would be defined under new section 36B.

The simplified outline would also note that proposed sections 36A and 36G (which respectively relate to HFC industry limits and reserve HFC quotas) would limit how much HFC quota and reserve HFC quota the Minister could allocate.

Division 2 of new Part IVA would set out provisions relating to HFC quotas.

New subsection 36A(1) would define the term HFC industry limit (Item 7 would also insert a definition of this term in section 7 of the OPSGGM Act which directs readers to new section 36A). For a given calendar year, the HFC industry limit would be the quantity of HFCs either prescribed in the OPSGGM Regulations or worked out in accordance with a method prescribed in the OPSGGM Regulations. It is envisaged that the limit would be set in accordance with, or below, relevant international obligations relating to HFC production and import levels. It is necessary to prescribe the industry limits in the OPSGGM Regulations as the HFC phase-down schedule requires Australia to achieve an 85% phase-down of HFC imports by 31 December 2036. Given the period during which the phase-down will be in place, having the ability to prescribe the industry limits in the OPSGGM Regulations will provide flexibility in the administration of the phase-down, should Australia need to vary the schedule within the limits set under the Montreal Protocol. This also takes account of the possibility of quota holders retiring unused quota.

New subsection 36A(2) would state that the total of all HFC quotas for a calendar year must not exceed the HFC industry limit for that year. The HFC industry limit would effectively be the annual HFC import limit for industry. As such, the HFC industry limit would cap the total amount of HFC quota that the Minister could allocate in a given year. However, the HFC industry limit would only apply to HFC quotas; it would not apply to HFC reserve quotas. Reserve HFC quotas would instead be limited under new section 36G. It would be possible for the same SGG licensee to hold both HFC quota and reserve HFC quota during the same period of time (HFC quota would be allocated for calendar years, whereas HFC reserve quota would be allocated for a specified period). However, it is envisaged that limits set under section 36G would also be set having regard to relevant international obligations relating to HFC consumption levels and would not exceed any Montreal Protocol limits that may apply.

New section 36B would deal with regulated HFC activities. New subsection 36B(1) would define a regulated HFC activity as the manufacture or import of HFCs (Item 13 would also insert a definition of this term in section 7 of the OPSGGM Act which
directs readers to new section 36B). Regulated HFC activities will not include the import of recycled or used SGGs, the import of HFCs in SGG equipment, or the manufacture or import of HFCs in circumstances prescribed for the purposes of proposed subsection 13(3). Subparagraph 13(1)(a)(iii) would provide that a person must not manufacture, import or export an SGG. Subsection 13(3) would provide that this prohibition would not apply to the manufacture, import or export of an SGG (other than a recycled or used SGG) in circumstances prescribed by the OPSGGM Regulations.

72. New subsection 36B(2) would set out how the quantity of HFCs that is taken to be involved in regulated HFC activities engaged in by an SGG licensee in a period is to be worked out. The formula would require the quantity of HFCs exported by the licensee in the period to be subtracted from the quantity of HFCs actually involved in regulated HFC activities engaged in by the licensee in the same period (with all quantities expressed in CO$_2$e megatonnes). The result would then be multiplied by the result of subtracting the heel allowance percentage for HFCs from 100%. The result would be taken to be the greater of the formula included in proposed subsection 36B(2) and nil. That is, it would not be possible to produce a result of less than zero when applying the formula. This is to account for the possibility of a licensee exporting more than they import, which without this provision would artificially increase their quota share in future periods. This is because it is based on the principle that you must use your entire allocated percentage of the total quota available to keep that percentage in the next quota allocation period.

73. New subsection 36B(3) would provide that, for the purposes of undertaking a calculation under subsection 36B(2), the quantity of HFCs exported by the licensee in the period does not include any quantity of HFCs exported under a direction given to the licensee under new section 36H. New section 36H would allow the Minister to direct a licensee to export a specified quantity of HFCs if the total quantity of HFCs involved in regulated activities by the licensee in a calendar year or period specified (for the purposes of allocating reserve quota) exceeded their quota allocations.

74. Item 7 would define HFC quota as an HFC quota allocated for a calendar year under regulations made for the purposes of section 36C. New section 36C would deal with applications for HFC quota, allocation of HFC quota and the size of HFC quotas. New subsection 36C(1) would allow the OPSGGM Regulations to provide in relation to processes for applying for HFC quotas (including who may apply); processes for the Minister to allocate quotas for calendar years to SGG licensees, vary the size of HFC quotas, or stop allocated HFC quotas being in force; the effect on HFC industry limits of the allocation, variation of the size of, or stopping of HFC quota; and the size of HFC quotas or the method for working out the size of HFC quotas. New paragraph 36C(1)(e) would provide that the OPSGGM Regulations may provide for the review of decisions made for any of these purposes. New subsection 36C(2) would provide that OPSGGM Regulations made for any of these purposes may provide for these matters to be determined by the Minister, including by legislative instrument.
75. The quota management arrangements prescribed in the OPSGGM Regulations could specifically allow for adjustment to quota allocations and industry limits where a quota holder decides to retire quota (see subparagraphs 36C(1)(b)(ii) and (iii)).

76. It is necessary for the OPSGGM Regulations to prescribe matters in relation to the HFC quota allocation process as the HFC phase-down schedule requires Australia to achieve an 85% phase-down of HFC imports by 31 December 2036. Given the period during which the phase-down will be in place, having the ability to prescribe the industry limits in the OPSGGM Regulations will provide flexibility in the administration of the phase-down, should Australia’s international obligations change during this period or should Australia need to vary the schedule within the limits set under the Montreal Protocol. This also takes account of the possibility of licensees retiring unused quota.

77. New section 36D would provide that HFC quota stays in force until the end of the calendar year for which it is allocated, unless it ceases to be in force for another reason before then.

78. New section 36E would provide that an HFC quota stops being in force if the licensee’s SGG licence is cancelled, or stops being in force for another reason.

79. New section 36F would provide for the transfer of HFC quotas. HFC quota may be transferred either as a result of the transfer of an SGG licence, or as a result of a transfer of HFC quota without the transfer of a SGG licence. New subsection 36F(1) would provide for the latter scenario, stating that if the Minister transfers an SGG licensee’s licence under section 19B, then the unused part of each HFC quota (if any) allocated to the first licensee for calendar years ending after the date of the transfer are taken to have been allocated to the new licence holder (transferee) on the date of the transfer of the licence.

80. New subsections 36F(2) and (3) would provide for the transfer of quota allocations without transferring the relevant SGG licence. New subsection 36F(2) would allow an SGG licensee to transfer all unused HFC quota allocations that have been allocated to them to another SGG licence holder. Alternatively, new subsection 36F(3) would allow an SGG licensee to transfer a particular percentage of their unused HFC quotas to another SGG licensee.

81. Under new subsections 36F(1), (2) and (3), it would only be possible for an SGG licensee to transfer HFC quota that remains unused. An SGG licensee would not be able to transfer HFC quota that had already been used. That is, an SGG licensee could not transfer an amount of HFC quota that was greater than the amount remaining when their regulated HFC activity (as calculated under section 36B) was subtracted from their HFC quota or HFC quotas allocation for the calendar year or years in question.

82. New subsection 36F(4) would provide that a transfer under subsections 36F(2) or (3) would have no effect until the transferor notifies the Minister of the transfer. The date of notification would be the date of transfer for the purposes of proposed section 36F.
83. New subsection 36F(5) would prescribe matters that a notice under proposed subsection 36F must include.

84. New subsection 36F(6) would provide that after a transfer under proposed subsections 36F(2) or (3) takes effect, transferred parts of an HFC quota or quotas would be taken to have been allocated to the transferee. Any transferred part of a HFC quota or quotas (in the case of a transfer of a percentage of an HFC quota or quotas under proposed subsection 36F(3)), including the use of that percentage of quote in any relevant calendar years being used to calculate future quota, would be taken to have been allocated to the transferor.

85. Item 48 would clarify that Division 2 of new Part IVA would apply in relation to 2018 and later calendar years. It would also clarify that a reserve HFC quota must not come into force before 1 January 2018.

86. Division 3 of new Part IVA would deal with reserve HFC quotas. Item 15 would insert a definition of reserve HFC quota into section 7 of the OPSSGM Act. Reserve quota could be allocated in exceptional circumstances, such as for medical, veterinary, defence, public safety or energy efficiency purposes where HFCs are not available from another source. The total of HFC quota and HFC reserve quota could not exceed Australia’s Montreal Protocol limit.

87. New section 36G would provide for the allocation of reserve HFC quotas. Proposed subsection 36G(1) would provide that the Minister must not allocate a reserve HFC quota unless satisfied that circumstances prescribed by the OPSGGM Regulations exist.

88. New paragraph 36G(2)(a) would provide that the OPSGGM Regulations may provide in relation to processes for applying for reserve HFC quota (including who may apply). New paragraph 36G(2)(b) would provide that the OPSGGM Regulations may provide in relation to processes for the Minister to allocate reserve HFC quota, vary the size of reserve HFC quotas, or stop allocated reserve HFC quota being in force. New paragraph 36G(2)(c) would provide that the OPSGGM Regulations may make provisions in relation to processes for transferring reserve HFC quota between SGG licensees. New paragraph 36G(2)(d) would provide that the OPSGGM Regulations may provide in relation to the size of reserve HFC quota or the method for working out the size of reserve HFC quota. New paragraph 36G(2)(e) would provide that the OPSGGM Regulations may provide in relation to the period (not longer than 12 months) during which the each reserve HFC quota is in force.

89. New paragraph 36G(2)(f) would provide that the OPSGGM Regulations may provide for the review of decisions made for the purposes of any of the preceding paragraphs.

90. New subsection 36G(3) would define the term reserve HFC quota limit (Item 15 would also insert a definition of this term in section 7 of the OPSSGM Act which directs readers to new subsection 36G(3)). For a given calendar year, the HFC quota limit is the quantity of HFCs either prescribed in the OPSGGM Regulations or worked out in accordance with a method prescribed in the OPSGGM Regulations.
91. It is necessary for the OPSGGM Regulations to prescribe matters in relation to the reserve HFC quota in the OPSGGM Regulations as the HFC phase-down schedule requires Australia to achieve an 85% phase-down of HFC imports by 31 December 2036. Given the period during which the phase-down will be in place, having the ability to prescribe these matters in the OPSGGM Regulations will provide flexibility in the administration of the phase-down should Australia need to vary the schedule within the limits set under the Montreal Protocol. This also takes account of the possibility of licensees retiring unused quota Australia’s international obligations change during this period.

92. New subsection 36G(4) would state that the total of all reserve HFC quotas for a calendar year must not exceed the reserve HFC quota limit for that year. The reserve HFC quota limit caps the total amount of reserve HFC quota that the Minister can allocate in a calendar year. However, the reserve HFC quota limit would only apply to reserve HFC quotas; it would not apply to HFC quotas.

93. Division 4 of new Part IVA would set out other provisions relating to the HFC phase-down.

94. New paragraph 36H(1)(a) would allow the Minister to direct a SGG licensee who had HFC quota to export a specified quantity of HFCs by a specified time if the total quantity of HFCs involved in regulated HFC activities engaged in by the licensee in the year exceed the combined total of the HFC quota and any reserve HFC quota held by the licensee in the year for which the HFC quota was in force.

95. New paragraph 36H(1)(b) would allow the Minister to direct a SGG licensee who held reserve HFC quota that was in force for a period during a calendar year (the reserve period), but did not hold any HFC quota for that year to export a specified quantity of HFCs by a specified time if the total quantity of HFCs involved in regulated HFC activities engaged in by the licensee during the reserve period exceeded the licensee’s reserve HFC quota.

96. New subsection 36H(2) would provide that the specified amount that the Minister directs the licensee to export must not be greater than the amount by which they have exceeded their HFC quota, HFC quota and reserve HFC quota, or reserve HFC quota.

97. Item 52 amends section 66 (Review of decisions) to allow applications to be made to the AAT for the review of a decision to direct a licensee to export a quantity of HFCs under section 36H.

98. The note to new subsection 36H(1) would clarify that it is a condition of a licence under subsection 18(1) that the licensee complies with the directions of the Minister to export HFCs where quota has been exceeded (see Item 30 which amends section 18).

99. Section 18 (Conditions of licences) of the OPSGGM Act sets out conditions that apply to various licences (subsection 18(1)). Item 30 would repeal subsections 18(1) to (3) and instead it would insert a new subsection 18(1) containing a table setting out the
conditions that apply to particular licence types. Item 4 of the table to subsection (1) would specify the conditions that will apply to an SGG licence.

100. Paragraph (a) of item 4 to the table would provide that the licensee must not engage in a regulated HFC activity in a calendar year unless they have HFC quota or reserve HFC quota in force at the time that they engage in the activity. Paragraph (b) of item 4 to the table would provide that licensees must ensure that the total quantity of HFCs involved in regulated activities that they engage in during a calendar year does not exceed the total of their HFC quota and any reserve HFC quota they were allocated that was in force at any time during that calendar year. This provision reflects the intention that it would be possible for a licensee to hold both HFC quota and reserve HFC quota simultaneously. Paragraph (c) of item 4 to the table would apply where a licensee has only been allocated reserve HFC quota and would provide that the licensee must ensure that the total quantity of HFCs involved in regulated HFC activities that they have engaged in during the reserve period does not exceed their reserve HFC quota. Paragraph (d) of item 4 to the table reflects new section 36H (inserted by Item 47), and would require a licensee to comply with any direction issued by the Minister to export specified amounts of HFCs if the licensee has exceeded their quota.

101. The Montreal Protocol, as amended by the Kigali Amendment, introduces obligations relating to the export and import of HFCs to and from States that are not Party to the Montreal Protocol. Items 5 and 6 of the table to subsection 18(1) reflect these obligations. Pursuant to items 5 and 6 of the table, SGG licences that allow the import or export of HFCs will be subject to the condition that the HFC must only be imported or exported to or from a country that is a Montreal Protocol country for the purposes of Part VI (Controls of imports and exports) of the OPSGGM Act.

102. As these new obligations do not commence until the changes to the Montreal Protocol, as amended by the Kigali Amendment, commence, new subsection 18(2) clarifies this. Item 7 would insert a definition of Kigali Amendment into section 7 of the OPSGGM Act. To assist regulated entities, new subsection 18(3) will require the Minister to announce, by notifiable instrument, the day the Kigali Amendments come into force for Australia.

103. Subitem 31(2) would clarify that item 4 of the table to subsection 18(1) (inserted by Item 30) would apply to a SGG licence that is in force on or after the commencement of subitem 31(2), regardless of whether the licence was granted before, at the time of, or after commencement of this subitem.

104. New section 36J would clarify the basis on which an HFC quota is allocated.
Part 2 - References to equipment and products

Item 66 – Section 9

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

105. Item 66 would repeal section 9 (Scheduled substances (other than SGGs) in manufactured products) and substitute it with a new section which would clarify the circumstances in which a scheduled substance is considered to be a bulk scheduled substance and when a scheduled substance is considered to be contained in equipment for the purposes of the OPSGGM Act.

106. The distinction between bulk scheduled substances as opposed to those imported in equipment is an important one, as it informs whether or not quota may be required and the kind of licence that may be required.

107. Only HCFCs imported as bulk scheduled substances currently require quota. Under the proposed amendments contained in Part 1 of this Schedule, both HFCs and HCFCs imported as bulk scheduled substances would require quota under the respective HCFC and HFC quota schemes. HFCs and HCFCs contained in equipment would be exempt from quota requirements (although are still subject to the other licensing requirements of the OPSGGM Act).

108. If bulk scheduled substances are imported, a controlled substances licence would be required, whereas those contained in equipment require an ODS or SGG equipment licence. This is how the OPSGGM Act currently operates, even though the term bulk scheduled substances is not currently used. The clarificatory nature of the amendment is reflected in new subsection 9(1), which states that a reference in the OPSGGM Act to a scheduled substance or type of scheduled substance (other than a reference relating to equipment) is to be taken to be a reference to a bulk scheduled substance or a type of bulk scheduled substance (e.g. bulk HCFCs).

109. New subsection 9(2) would clarify that a scheduled substance will be considered to be a bulk scheduled substance for the purposes of the OPSGGM Act, unless it falls under one of two exemptions. If a scheduled substance falls under either exemption, it would be considered to be contained in equipment for the purposes of the OPSGGM Act, and relevant requirements relating to equipment may apply.

110. The first exemption is that the substance is contained in equipment for a purpose other than, or in addition to, the purpose of storing or transporting the substance (see new paragraph 9(2)(a)). New subsection 9(4) clarifies when equipment contains a scheduled substance for the sole purpose of storing or transporting that substance (in which case, it would not fall under the exemption in new paragraph 9(2)(a) and so would be a bulk scheduled substance). Equipment will be considered to contain a scheduled substance for the sole purpose of storing or transporting the substance if either: the substance must be transferred to other equipment to realise its intended use; or the equipment must be attached to other equipment to realise its intended use.
111. The second exemption is that the substance is used in the operation of equipment (see new paragraph 9(2)(b)). New paragraph 9(3)(b) provides further clarification, stating that using a scheduled substance in the operation of equipment does not include using the equipment for the storage or transport of the substance.

112. New section 9 would interact with sections 8C (ODS equipment) and 8D (SGG equipment) of the OPSGGM Act (which define ODS equipment and SGG equipment respectively). In order to meet the definitions of ODS equipment or SGG equipment set out in those subsections, it would first be necessary for a scheduled substance to be characterised as contained in equipment under new section 9. If the scheduled substance in question was not considered to be contained in equipment under new section 9, then it could not be ODS equipment under section 8C or SGG equipment under section 8D.

113. New subsection 9(5) would operate to clarify that where a scheduled substance is contained in equipment only because the substance was used in the process of manufacturing the equipment, the scheduled substance is neither a bulk scheduled substance nor contained in equipment for the purposes of the OPSGGM Act.

114. New subsection 9(6) would enable the OPSGGM Regulations to provide that a scheduled substance is or is not a bulk scheduled substance. This provision would also allow the OPSGGM Regulations to provide that a scheduled substance is or is not taken to be contained in equipment, or is or is not taken to be used in the operation of equipment. The effect of providing in the OPSGGM Regulations that a scheduled substance is contained in equipment or is used in the operation of equipment under this subsection would be that the scheduled substance would be taken to be contained in equipment for the purposes of the OPSGGM Act. Regulations made under this subsection would have effect regardless of whether a scheduled substance would otherwise be taken to be a bulk scheduled substance or contained in equipment under the preceding subsections of new section 9. This provision is required to ensure Australia’s accounting treatment is consistent with the Montreal Protocol.

References to equipment and products generally


115. Under the OPSGGM Act, the import and manufacture of equipment that contains ODSs and SGGs, or is designed to contain those substances, is prohibited in Australia unless the person holds a licence allowing the activity or an exemption to the prohibition is granted.

116. As the OPSGGM Act as been amended over time, the terms ‘equipment’ and ‘product’ have been used interchangeably to refer to the same matter. For example, it is an offence for a person to import ODS equipment or SGG equipment under subsection 13(6A) unless the person holds an ODS/SGG equipment licence or the
conditions specified in that subsection are satisfied. However, subsection 44(1) of the OPSGGM Act prohibits a person from importing a product containing a stage-1 scheduled substance from a non-Montreal Protocol country. Whilst it has been the intention that the two terms be synonyms for one another, the interpretation of the OPSGGM Act has not always had this effect.

117. In order to remove any confusion arising from the interchangeable use of these two terms, the amendments contained in Part 2 of Schedule 1 to the Bill would amend the OPSGGM Act to standardise the use of the term ‘equipment’ throughout. Item 63 would amend section 7 (Definitions) to insert a definition of *equipment* into the OPSGGM Act. For the avoidance of doubt, the new definition of equipment would provide that equipment includes products.

118. To ensure the term ‘equipment’ is used consistently throughout the OPSGGM Act, Part 2 of Schedule 1 to the Bill also makes a number of consequential amendments to the OPSGGM Act to replace references to ‘products’ (wherever appearing) with references to ‘equipment’.

119. Section 3 of the Import Levy Act and section 3 of the Manufacture Levy Act both provide that expressions used in the Import Levy Act and the Manufacture Levy Act have the same meaning as in the OPSGGM Act. As such, the new definition of equipment to be inserted into section 7 of the OPSGGM Act will also apply to the Import Levy Act and the Manufacture Act. Therefore, Part 2 of Schedule 1 to the Bill also makes consequential amendments to the Import Levy Act and the Manufacture Levy Act to replace references to ‘products’ (however appearing) with references to ‘equipment’.

120. Item 82 would clarify that any declarations made by the Minister under subsection 44(3) of the OPSGGM Act in relation to products that are in force immediately before the commencement of Item 82, have effect, from that commencement as if they were a declaration made under subsection 44(3) in relation to equipment to which subsections 44(1) and (2A) apply.

**Part 3 – References to conventions**

*Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*

121. Schedules 2 to 3E to the OPSGGM Act set out the English text of the Vienna Convention, the Montreal Protocol, adjustments and amendments to the Montreal Protocol and the UNFCCC. Duplicating the text of the Vienna Convention, the Montreal Protocol and the UNFCCC in the OPSGGM Act requires amendments to the OPSGGM Act each time the Vienna Convention, the Montreal Protocol or the UNFCCC are amended to ensure the Schedules remain contemporaneous.

122. Item 117 would repeal Schedules 2 to 3E of the OPSGGM Act so that copies of the full English text of the Vienna Convention, the Montreal Protocol and the UNFCCC are no longer set out in the OPSGGM Act. Instead, Items 112, 115 and 116 would repeal the
definitions of UNFCCC, Montreal Protocol and Vienna Convention, respectively, in section 7 (Definitions) of the OPSGGM Act and replace them with new definitions. The new definitions will clarify that those conventions apply as they are in force for Australia from time to time. In addition, the notes to the definitions will direct readers to the website where the text of the conventions can be obtained.

123. To ensure all definitions of this type are consistent Items 113 and 114 would amend the definition of Kyoto Protocol in section 7 of the OPSGGM Act to clarify that the Kyoto Protocol is defined as it is in force for Australia from time to time. The revised note to the definition will direct readers to the website where the text of the Kyoto Protocol can be obtained.

124. The effect of these amendments would be to ensure that any references to the Vienna Convention, the Montreal Protocol, the UNFCCC and the Kyoto Protocol in the OPSGGM Act are references to the those conventions as ratified and in force for Australia. This would include any amendments that are made to the conventions that apply to Australia at the relevant time.

Part 4 – Delegations

*Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*

125. Currently, subsection 67A(1) enables the Minister to delegate any or all of the Minister’s functions and powers under the OPSGGM Act or OPSGGM Regulations to an SES employee or an acting SES employee. The ability to delegate the Minister’s functions and powers does not extend to the power to terminate a licence under section 19A, cancel a licence under section 20 or give directions about how a pressurised container is to be dealt with under section 53K (subsection 67A(2)).

126. Item 118 would repeal section 67A(1) and substitute a new section 67A(1). The effect of the new section 67A(1) would be to extend the Minister’s ability to delegate any or all of the Minister’s functions and powers under the OPSGGM Act or the OPSGGM Regulations to an APS employee who holds or is acting in, an Executive Level 2, or equivalent, position, as well as SES, or acting SES employees.

127. The limitations that currently apply to the Minister’s ability to delegate his or her functions and powers as set out in subsection 67A(2) will continue to apply, as will the requirement for delegates to comply with any directions of the Minister when exercising the functions or powers (section 67A(3)).

128. While Item 118 is drafted to refer to an APS employee who holds or performs the duties of an Executive Level 2, or equivalent, position, it is intended that these functions and powers would only be delegated to Executive Level 2 employees in the Department who have day-to-day responsibility for the administration of the OPSGGM Act and the OPSGGM Regulations.
129. The capacity to delegate to Executive Level 2 officers who have day-to-day responsibilities in relation to the OPSGGM Act and the OPSGGM Regulations is essential to streamline the administration of the OPSSGM legislation. The ability to delegate functions and powers to Executive Level 2 officers is consistent with other legislation, including the Environment Protection and Biodiversity Conservation Act 1999 and the Hazardous Waste (Regulation of Exports and Imports) Act 1989.

130. The giving of delegations and the exercise of delegated powers are the subject of fraud control procedures, risk management processes and other protocols. These are designed to ensure delegated decision-making is made at the appropriate level and in a transparent and accountable manner.

131. Item 119 would operate to ensure that a delegation made under subsection 67A(1) of the OPSGGM Act that was in force before the commencement of Item 119 would continue to have effect on and after commencement of Item 119, as if the delegation had been made under subsection 67A(1) of the OPSGGM Act, as amended.

SCHEDULE 2 – AMENDMENTS COMMENCING 1 JANUARY 2018

GENERAL OUTLINE

132. The OPSGGM Act controls the manufacture, import and export of controlled ODSs and SGGs in Australia. The import, export and manufacture of these controlled substances, and the import and manufacture of certain products containing or designed to contain those substances is prohibited in Australia unless the person conducting the activity holds a licence and/or an exemption that allows the import, export or manufacture of the controlled substances or equipment.

133. Schedule 2 of the Bill would amend the OPSGGM Act to:

(a) Streamline the provisions of the OPSGGM Act that relate to equipment bans, and expand the scope of the Act to ensure that the provisions relating to equipment bans apply consistently to all entities regulated under the Act (see Division 2 of Part 1 of Schedule 2).

(b) Implement Australia’s international obligations under the Kyoto Protocol to regulate two SGGs listed in the Kyoto Protocol second commitment period: nitrogen trifluoride and PFC-9-1-18 (C\textsubscript{10}F\textsubscript{18}) (see Part 4 of Schedule 2).

(c) Clarify how exports of HCFCs are taken into account for the purposes of calculating quota under new Part IVA (inserted by Schedule 1 of the Bill) (see Part 5 of Schedule 2).

(d) Reduce the regulatory burden on businesses by:

(i) Enabling holders of licences to renew their licences at the end of the two year licence period, rather than requiring licence holders to apply for a new
licence. This will reduce the time taken to apply for a licence and streamline reporting (see Division 1 of Part 1 of Schedule 2).

(ii) Reduce the frequency licence holders are required to report their activities to the Department from quarterly to twice yearly, with flexibility to allow those who wish to continue to report quarterly to do so (see Part 2 of Schedule 2).

(iii) Introduce a threshold below which the cost recovery levy is not payable. Licence holders with levy liabilities below the threshold will no longer be required to pay the levy (see Part 2 of Schedule 2).

(iv) Remove a mandatory requirement for licences to specify maximum quantities of substances covered by the licence (see Part 3 of Schedule 2).

NOTES ON INDIVIDUAL CLAUSES

Part 1 – Licences

Division 1 – Renewing licences

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

Item 1 – Before section 12B, Item 2 – Before section 13, Item 4 – Before section 14, Item 8 – Before section 18, Item 10 – After section 19 and Item 12 – Before section 22

134. These items are required to reflect current drafting practices and insert various headings into the OPSGGM Act.

Item 3 – Subsection 13A(1), Item 5 – Section 14 (after the heading) and Item 6 – Section 14

135. Subsection 13A(1) specifies the types of licences that a person can apply for under the OPSGGM Act to facilitate the import, export or manufacture of controlled substances, SGG equipment and ODS equipment. Item 3 would repeal subsection 13A(1) and Item 5 would re-insert the subsection as subsection 14(1). Section 14 (Application for licence) is considered a more appropriate place to specify the different licence types that a person can apply for as section 14 also details how to apply for a licence. Item 6 is required as a consequence of Item 5.

Item 7 – Subsections 17(1) and (2)

136. Subsections 17(1) and (2) operate to deem an application for a licence to be refused, for the purposes of section 66 (Review of decisions), if a decision is not made to either grant or refuse to grant the licence within the specified period of time. This enables the licence applicant to apply to the AAT for a review of the deemed refusal pursuant to paragraph 66(a) of the OPSGGM Act.
137. Item 7 would repeal subsections 17(1) and (2) of the OPSGGM Act and replace them with new subsections which have been updated to reflect current drafting practices. New subsection 17(2) will now clarify that the Minister is deemed to have refused an application for a licence in circumstances where a request for further information has been made, and at the end of 60 days after the information is given, the Minister has not made a decision to grant, or refuse to grant, the licence. Currently, subsection 17(2) operates so that the deemed refusal arises where a decision has not be made within 60 days of a request for further information.

**Item 9 – Section 19**

138. Section 19 (Duration of licences) clarifies the period during which licences are in effect. Item 9 would repeal section 19 and substitute it with a new section 19 to better clarify the duration of controlled substances licences, essential use licences, used substances licences and equipment licences.

139. As with the existing subsection 19(1), licences will continue to come into force on the day specified in the licence instrument.

140. New subsections 19(2) and (3) provide greater clarity regarding the duration of controlled substances licences, essential use licences, used substances licences and equipment licences, taking account of the new process for renewing licences (inserted by Item 10). All licences except equipment licences will end at the end of the relevant two-year licence period (end of the relevant calendar year). Equipment licences will end within two years of the date they come into effect.

**Item 10 – After section 19 and Item 13 – After paragraph 66(b)**

141. Under section 8A (Licence periods) of the OPSGGM Act, each licence period is two years, with the first licence period starting on 1 January 1996 and each subsequent licence period starting at the end of the last preceding period. Currently, licence holders are required to apply for a new licence at the end of each licence period. Requiring a full new licence application every two years imposes unnecessary administrative burden as it requires a further fit and proper person assessment, the provision again of certified identification and other duplicative processes. Also, there is no continuity of licence number as the licensing system for the OPSGGM Act generates a new licence number for each application – this is administratively inefficient and complicates compliance and enforcement measures.

142. Item 10, which would insert a new Division 5 (Renewing licences) into the OPSGGM Act, will give licence holders the option to renew their licences before their licence expires. Where licences have been renewed, the licence will be rolled over into a new licence period and the licence number will remain the same.

143. New section 19AA enables the holder of a licence to apply for a renewal of the licence (subsection 19AA(1)). To enable sufficient time for the Department to process renewal applications and make a decision under new section 19AC on whether to renew the
licence before the relevant licence expires, valid renewal applications must be made no later than 60 days before the licence ceases to be in force (subsection 19AA(2)).

144. Renewal applications will be valid if they comply with the requirements in subsection 19AA(3), including the requirement that applications be accompanied by the fee prescribed by the regulations (unless the fee has been waived in accordance with the regulations). Prescribing the fee in the OPSGGM Regulations enables flexibility for the fee to be changed over time, with such changes being informed by the Australian Government’s Cost Recovery Guidelines (these guidelines require cost recovery arrangements to remain under review). Prescribing fees in the OPSGGM Regulations is also consistent with the current operation of the OPSGGM Act. For example, pursuant to paragraph 14(2)(aa) of the OPSGGM Act, applications for licences must be accompanied by the prescribed fee, unless the fee has been waived in accordance with the OPSGGM Regulations. Regulation 3C of the OPSGGM Regulations sets out, for the purposes of section 14 of the OPSGGM Act, the application fees for licences and the matters that the Minister must be satisfied of in order to waive an application fee.

145. New section 19AB will enable the Minister to request further information from the holder of the licence regarding the renewal application by the time specified in the notice. Any requests for further information must be made within 60 days after a renewal application is received. This provision is consistent with section 15 of the OPSGGM Act, which relates to requests for further information in relation to applications for licences.

146. New section 19AC requires the Minister to decide to renew or refuse to renew a licence. If the Minister decides to renew the licence, he or she may do so by giving the licence holder written notice of the renewal (subparagraph 19AC(1)(a)(i)). If the licence being renewed is an equipment licence, and that equipment licence specifies a period or method for ascertaining the period for which the licence stays in force, the Minister may renew the licence by removing the specification, or specify a period or a method for ascertaining a period that ends within two years after the time the licence would have ended apart from the renewal (subparagraph 19AC(1)(a)(ii) and subsection 19AC(5)).

147. New subsection 19AC(4) prevents the Minister from renewing an essential use licence, or a used substances licence, that specifies a period for the purposes of paragraph 19(2)(b) (section 19 (Duration of licences) is repealed and substituted by Item 9). Paragraph 19(2)(b) clarifies that an essential uses licence, or a used substances licence that specifies a period that ends before the end of the licence period in which the licence comes into force, or if the essential uses licence or the used substances licence is renewed, the end of the licence period starting immediately after the time the licence would have ended if the licence was not renewed.

148. The limitation on the Minister’s ability to renew an essential use licence in subsection 19AC(4) is necessary because an essential uses licence can only be granted if the parties to the Montreal Protocol approve an essential use exemption and essential
use exemptions are only approved on a yearly basis. The limitation on the Minister’s ability to renew a used substances licence in subsection 19AC(4) is necessary as import of used substances for re-use would be considered only where Australia’s import limit for new ODS or SGGs is insufficient to meet demand and it is in the national interest to supplement supply.

149. If the Minister decides to refuse to renew the licence, the Minister must give the applicant written notice of the refusal and reasons for the refusal (paragraph 19AC(1)(b)). Item 13 amends section 66 (Review of decisions) to allow applications to be made to the AAT for the review of a decision refusing to renew a licence under section 19AC.

150. When deciding whether to grant a licence under the OPSGGM Act, the Minister must have regard to the matters set out in subsection 16(3A), and must not grant a licence to a person unless satisfied that the person is a fit and proper person to be granted a licence (subsections 16(4), (5) and (6)). If the licence is an equipment licence, the Minister must also be satisfied of the matters set out in new subsections 16(6A) and (6B) (inserted by Item 33). New subsection 19AC(2) clarifies that these considerations will also apply in relation to licence renewals in the same way as they apply to the grant of a licence. However, new subsection 19AC(3) will enable the Minister to take into account any previous consideration of those matters in relation to the initial grant or earlier renewals of the licence. Enabling the Minister to take account of his or her previous considerations will reduce the administrative burden on licence holders.

151. New subsection 19AD(1) would operate to deem that the Minister is taken to have refused an application for a renewal if the Minister has not renewed or refused to renew the licence under section 19AC within the specified time frame of 60 days. New subsection 19AD(2) has a similar application and applies where the Minister has requested further information about the renewal application, and has not made the decision to renew or refuse to renew the licence within 60 days of receipt of the information. Item 13 amends section 66 (Review of decisions) to allow applications to be made to the AAT for the review of a deemed decision to refuse to renew a licence under section 19AC.

152. In circumstances where a licence holder has applied for a renewal of their licence under section 19AA, and their licence ceases to be in force before the Minister has made a decision to renew or refuse to renew the licence under section 19AC, new section 19AE will operate to deem a renewal application to be taken to be an application for a new licence in accordance with section 14 (Application for licences) of the OPSGGM Act. If a renewal application is deemed to be an application for a new licence, the effect of section 19AE will be that the application for the renewal will be taken to satisfy the requirements of section 14, including the requirement in paragraph 14(2)(aa) that applications for licences be accompanied by the prescribed fee. This will be the case even if the fees prescribed for renewal applications for the purposes of paragraph 19AA(3)(b) are different to the fees prescribed for licence applications. New section 19AE will not operate where a licence which is the subject of a renewal
application ceases to be in force because it has been terminated or cancelled by the Minister under sections 19A or 20, respectively, before a decision is made in relation to the renewal application.

**Item 11 – Subsection 19A(2)**

153. Section 19A (Termination of licences) of the OPSGGM Act enables the Minister to terminate a licence where it is necessary to do so for the purposes of giving effect to an adjustment or amendment of the Montreal Protocol (see subsection 19A(2)).

154. The OPSGGM Act implements Australia’s obligations not only under the Montreal Protocol, but also Australia’s obligations under the UNFCCC and the Kyoto Protocol. Item 11 would repeal subsection 19A(2) and substitute it with a new subsection which extends the Minister’s ability to terminate a licence if the Minister was satisfied that it is necessary to do so for the purpose of also giving effect to an adjustment of the UNFCCC or the Kyoto Protocol, as well as the Montreal Protocol.

155. The circumstances in which the Minister may terminate a licence under section 19A are different to circumstances under which a Minister may cancel a licence under section 20 (Cancellation of licences) of the OPSGGM Act. The Minister may only exercise the power to cancel a licence where the Minister is satisfied that the licensee is no longer a fit and proper person to hold a licence or the licensee has contravened a condition of the licence.

**Division 2 – Equipment licences**


156. Section 7 (Definitions) of the OPSGGM Act currently defines *ODS/SGG equipment licence* as meaning an ODS/SGG equipment licence under section 13A (Licences and what they allow). However, Item 5 (see Part 1 of Schedule 2) would specify the types of licences that a person can apply for in new subsection 14(1) and changes the terminology from an ‘ODS/SGG equipment licence’ to an ‘equipment licence’. This change in terminology is required as the scope of the equipment licence will be broadened to include a greater range of ODS gases and a greater range of equipment types (that is, equipment that is currently prohibited under Part V and Schedule 4 of the OPSGGM Act, unless imported under a section 40 exemption).

157. Item 18 would repeal the definition of ODS/SGG equipment licence from section 7 (Definitions) of the OPSGGM Act, and Item 16 would insert a new definition of equipment licence into section 7 to reflect this change in terminology.
158. Items 17 and 30 are required as a consequence of Items 16 and 18 and would remove references to “ODS/SGG” when used in the context of referring to licence types.

159. As section 3 of the Import Levy Act provides that expressions used in the Import Levy Act have the same meanings as in the OPSGGM Act, Items 14 and 15 make similar consequential amendments to the Import Levy Act to ensure that terminology used across the two Acts is consistent.

**Item 19 – Section 7, Item 20 – At the end of paragraph 13(1)(b), Item 21 – At the end of subsection 13(1), Item 22 – Subsection 13(5), Item 26 – Subsection 13A(5), Item 28 – Subsection 16(1), Item 31 – After subsection 16(3AA), Item 32 – Subsection 16(3B), Item 33 – After subsection 16(6), Item 34 – Part V and Item 44 – After section 69F**

160. Currently, under section 38 (Manufacture and import of products in contravention of Schedule 4) of the OPSGGM Act, the import and manufacture of some types of equipment containing ODSs that have been phased out, are banned. The equipment is listed in Schedule 4 and includes dry cleaning equipment, automotive air conditioning maintenance kits, extruded polystyrene packaging and insulation, aerosol products, products containing halon, rigid polyurethane foam products, moulded polyurethane foam, disposal containers of refrigerants and refrigeration and air conditioning equipment charged with, or may only operate by using only, a CFC or HCFC refrigerant or both, or refrigeration and air conditioning equipment that is insulated with foam manufactured with a CFC or a HCFC.

161. Section 39 (Regulations concerning manufacture etc. of scheduled substances) of the OPSGGM Act enables the OPSGGM Regulations to include provisions prohibiting or regulating the manufacture, import, export, distribution or use of products that contain scheduled substances or depend on such substances for their operation.

162. Under section 40 (Exemptions) of the OPSGGM Act, the Minister may grant an exemption from the prohibitions in section 38 and any regulations made for the purposes of section 39, where the Minister is satisfied:

(a) The product is essential for medical, veterinary, defence, industrial safety or public purpose safety and no practical alternative exists for the use of scheduled substances in the operation or manufacture of the equipment if it is to continue to be effective for such purposes (paragraph 40(3)(a));

(b) Because of a legal requirement concerning the manufacture or use of the equipment, there is no practical alternative to the use of the scheduled substances in the operation or manufacture of the equipment (paragraph 40(3)(b)); or

(c) The equipment is for use in conjunction with the calibration of scientific, measuring or safety equipment (paragraph 40(3)(c)).

163. Sections 38, 39 and 40 are all located in Part V (Control of manufacture etc. of products containing or using scheduled substances) of the OPSGGM Act. Equipment bans are an
integral component of the phase-out of HCFCs under the Montreal Protocol. By banning equipment that relies on these scheduled substances for their operation, the demand for these substances to service this equipment is also reduced. However, due to the operation of section 37 of the OPSGGM Act, the equipment ban does not extend to individuals, even though the licensing requirements of the Act do.

164. Due to the way the OPSGGM Act has been structured, it is difficult for regulated entities to ensure they are complying with all its requirements – for example, section 38 prohibits the import or manufacture of equipment that is specified in Schedule 4, unless the person has an exemption under section 40.

165. The amendments to the OPSGGM Act contained in Division 2 of Schedule 2 to the Bill seek to streamline the licensing and exemption provisions described above. The amendments would also extend the operation of the equipment ban to all entities regulated under the OPSGGM Act, ensuring a consistent approach is applied in its operation.

166. Item 34 would repeal Part V (Control of manufacture etc. of products containing or using scheduled substances), which includes sections 37, 38, 39 and 40. Instead, Item 19 would introduce two new concepts into the OPSGGM Act by inserting definitions of a Schedule 4 activity and a section 69G activity into section 7. A Schedule 4 activity would replace the existing section 40 exemption, and would be defined as the manufacturing or importing of equipment if the equipment contains scheduled substances, or uses scheduled substances in its operation and the manufacturing or importing contravenes the equipment bans set out in Schedule 4. A section 69G activity would be defined as the manufacturing or importing of equipment in contravention of regulations made for the purposes of section 69G. Both definitions disregard subsections 13(2) and (4), which set out what is allowed by a controlled substances licence and a used substances licence, respectively. Neither of these licences relate to the import or manufacture of equipment.

167. Item 44 would insert new section 69G into the OPSGGM Act. Subsections 69G(1) and (2) replicate the existing regulation-making power in subsections 39(1) and (2). For the avoidance of doubt, subsection 69G(3) would clarify that provisions that may be made for the regulations include, but are not limited to, provisions prohibiting or regulating the manufacture, import, export, distribution or use of particular kinds of equipment. As Item 26 would amend subsection 13A(5) to clarify that an equipment licence may allow a section 69G activity as specified in the licence, new subsection 69G(4) would clarify that a person does not contravene a regulation made for the purposes of section 69G if the person holds an equipment licence that allows the activity.

168. In addition, new subsection 69G(5) clarifies that subsection 13(5) applies in relation to a regulation made for the purposes of section 69G in the same way as subsection 13(5) applies in relation to paragraph 13(1)(b) or (c). Subsection 13(5) exempts certain activities from the requirement to hold an equipment licence, being the import of
personal household effects where the equipment is prescribed by the OPSGGM Regulations and the conditions prescribed by the OPSGGM Regulations are satisfied.

169. The two new concepts of Schedule 4 activity and section 69G activity are then used to clarify the purposes for which an equipment licence may be granted under the OPSGGM Act. Subsection 13A(5) currently sets out the types of activities allowed under an equipment licence. Item 26 would amend subsection 13A(5) to clarify that an equipment licence, which allows the import of equipment, may also allow the licensee to carry out any Schedule 4 activity or section 69G activities specified in the licence. Item 26 would also insert a new subsection 13A(6) into the OPSGGM Act to clarify that Schedule 4 activities or section 69G activities referred to in paragraph 13A(5)(b) include importing specified ODS equipment or SGG equipment if importing that equipment is a Schedule 4 activity or section 69G activity.

170. Section 16 (Grant of licence) of the OPSGGM Act, which gives the Minister the power to grant a licence to a person, sets out the matters that a licence must specify and lists the matters that the Minister must take into account when deciding whether or not to grant a licence. Item 31 would amend section 16 to insert new subsection 16(3AB) which would specify the matters that must be contained in an equipment licence. These matters include that the equipment licence allows the licensee to import ODS equipment or SGG equipment (other than by carrying out Schedule 4 activities or section 69G activities (new paragraph 16(3AB)(a)) and specify the Schedule 4 activities and the section 69G activities allowed under equipment licence (new paragraph 16(3AB)(b)).

171. Subsection 16(3B) currently clarifies that two or more licences granted to the same person may be in the same document. Item 32 would repeal this subsection, and Item 31 would re-insert the subsection into the OPSGGM Act at subsection 16(3AC).

172. Item 33 would also amend section 16 to impose restrictions on the Minister’s ability to grant an equipment licence that allows a Schedule 4 activity or a section 69G activity (see new subsection 16(6A)). New subsection 16(6A) enables types of Schedule 4 activities and section 69G activities to be prescribed in the OPSGGM Regulations. The ability to prescribe these activities in the OPSGGM Regulations will provide the necessary flexibility to respond to changing technologies and information over time. New subsection 16(6B) specifies the matters that the Minister must be satisfied of for the purposes of new paragraph 16(6A)(a)(i) and replicates the matters currently set out in subsection 40(3) of the OPSGGM Act.

173. New subsections 16(6A) and (6B) preserve the effect of sections 38, 39 and 40 of the OPSGGM Act, and make the structure of the OPSGGM Act more streamlined by making the section 39 and 40 considerations part of the decision-making process for granting licences. This provides greater clarity regarding the application of the equipment bans under the OPSGGM Act.
174. Item 28 is required as a consequence of Item 33 and would amend subsection 16(1) of the OPSGGM Act to clarify that the Minister’s power to grant a licence is subject to subsections 16(3A) to 16(6B).

175. Items 20, 21 and 22 are required as a consequence of the amendments described above.

**Item 23 – Before subsection 13A(2), Item 24 – Before subsection 13A(3), Item 25 – Before subsection 13A(4), Item 27 – Before subsection 16(1) and Item 29 – Before subsection 16(3)**

176. These items are required to reflect current drafting practices and insert various headings into the OPSGGM Act.

**Item 35 – Subparagraphs 57(1)(d)(i), (ii) and (iii)**

177. Item 35 would replace the references to section 38 in subparagraphs 57(1)(d)(i), (ii) and (iii) with references to section 13 (Unlicensed manufacture, import or export) of the OPSGGM Act. This item is required as a consequence of Item 34, which would repeal Part V, including section 38. Under section 13, it is an offence for a person to carry out certain activities without a licence.

**Item 36 – Subparagraphs 57(1)(e)(i) and (ii)**

178. Item 36 would replace the references to section 39 in subparagraphs 57(1)(e)(i) and (ii) with references to section 69G. This item is required as a consequence of Item 34, which would repeal Part V, including section 39, and Item 44 which would insert new section 69G into the OPSGGM Act. New section 69G would replicate the regulation-making power currently contained in section 39.

**Item 37 – Subparagraph 65AA(1)(a)(iii)**

179. Item 37 would repeal subparagraph 65AA(1)(a)(iii) which allows infringement notices to be issued for an offence against section 38 of the OPSGGM Act. This item is required as a consequence of Item 34 which would repeal Part V, including section 38.

**Item 38 – Paragraph 65C(1)(c)**

180. Item 38 would repeal paragraph 65C(1)(c) of the OPSGGM Act which currently requires amounts received by the Commonwealth as fees for exemption applications under section 40 to be credited to the Special Account (see Part VIII A of the OPSGGM Act). This item is required as a consequence of Item 34 which would repeal Part V, including section 40.

**Item 39 – Paragraph 66(eb) and Item 40 – Paragraphs 66(g), (h) and (i)**

181. Item 40 would repeal paragraph 66(g), (h) and (i) of the OPSGGM Act which currently enable applications to be made to the AAT for a review of a decision refusing to grant an exemption under section 40 (paragraph 66(g)), a decision to specify an exemption
condition under section 40 (paragraph 66(h)), and a decision to cancel an exemption under section 40 (paragraph 66(i)).

182. Item 40 is required as a consequence of Item 34 which would repeal Part V, including section 40. Item 39 is required as a consequence of Item 40.

Item 41 – Subsection 69B(1)

183. This item is required as a consequence of Item 34 which would repeal Part V.

Item 42 – Paragraphs 68B(2)(d) and (e) and Item 43 – At the end of section 69B

184. Section 69B (Severability) of the OPSGGM Act sets out rules regarding the interpretation of the OPSGGM Act should one or more of its provisions or the OPSGGM Regulations go beyond giving effect to Australia’s international obligations under the Vienna Convention, the Montreal Protocol, the UNFCCC and the Kyoto Protocol. In such circumstances, subsection 69B(2) sets out how the provisions of the OPSGGM Act or OPSGGM Regulations are to be read down.

185. Item 42, which is required as a result of the repeal of section 37 (see Item 34) would repeal paragraphs 69B(2)(d) and (e) and substitute them with new paragraphs. New paragraphs 69B(2)(d) and (e) replicate the existing section 37, but have the effect of explaining the application of all aspects of the OPSGGM Act to all entities.

186. Item 43 would insert a new subsection 69B(3) into the OPSGGM Act to aid in the interpretation of terms used in subsection 69B(2).

Item 45 – Schedule 4 (note to Schedule heading)

187. This item is required as a consequence of Item 34 which would repeal Part V, including section 38, and Item 19 which would insert a definition of Schedule 4 activity into section 7 of the OPSGGM Act.

Item 46 – Subclause 5(1) of Schedule 4

188. This item is required as a consequence of Item 34, which would repeal Part V, including section 40 of the OPSGGM Act.

Item 47 – Clause 8 of Schedule 4

189. This item would amend Clause 8 of Schedule 4 to clarify that the prohibition on the manufacture of moulded flexible polyurethane foam containing a CFC would also apply to the import of that type of equipment. This will ensure that the import and manufacture of this type of equipment is treated consistently under the OPSGGM Act.
Division 3 – Application, saving and transitional provisions

Item 48 – Application of amendments

190. Subitem 48(1) would clarify that the amendments to section 17 (Deemed refusal of licence) of the OPSGGM Act apply in relation to a notice given under section 15 (Request for further information) given on or after the commencement of Item 48 in relation to an application for a licence, regardless of whether the application for the licence was made before, on or after that commencement.

191. Subitem 48(2) would clarify that new Division 5 (Renewing licences) of Part III of the OPSGGM Act (inserted by Item 10) apply in relation to an application for renewal made on or after the commencement of Item 48 in relation a licence that was granted before, on or after that date.

Item 49 – Transitional – applications, licences and exemptions

Applications

192. In circumstances where a person has applied for a licence under subsection 13A(1) and immediately before the commencement of Item 49 the Minister has not made a decision to grant or refuse to grant the application, subitem 49(1) would clarify that the application has effect, from the commencement of Item 49 to be taken to be an application under subsection 14(1). This item is required as a consequence of Items 3 and 5 which would repeal subsection 13A(1) and reinsert it at subsection 14(1) of the OPSGGM Act.

193. Subitem 49(2) clarifies the effect of an application for an exemption under subsection 40(1) where the Minister has not made a decision to grant or refuse to grant the exemption the commencement of Item 49. In this scenario, subitem 49(2) would operate so the application for an exemption would be treated as an application for an equipment licence under subsection 14(1) from the commencement of Item 49. This would operate so that any fees required for a licence application would also be deemed to have been paid.

ODS/SG equipment licences

194. Due to the change in terminology from ‘ODS/SGG equipment licence’ to ‘equipment licence’ subitem 49(3) would clarify that any ODS/SGG equipment licences granted before the commencement of Item 49 that are still in force, or had not yet come into force and had not been terminated or cancelled, will be taken to be equipment licences from the commencement of Item 49.

Exemptions

195. Subitem 49(4) would clarify the operation of section 40 exemptions on and after the commencement of Item 49. From that date, section 40 exemptions will operate as if the exemption is an equipment licence which specifies the Schedule 4 activities or the
section 69G activities allowed under the licence. The equipment licence would be in effect for the period that was specified in the section 40 exemption. The equipment licence would also be subject to any conditions that applied to the section 40 exemption.

**Part 2 – Levy periods, thresholds and penalty interest**

*Evidence Act 1995*

**Item 50 – Part 1 of the Dictionary (subparagraph (b)(vi) of the definition of Commonwealth document)**

196. Part 1 of the Dictionary to the Evidence Act 1995 defines Commonwealth document as including a report referred to in section 46 or 46A of the OPSGGM Act that has been given under that section to the Minister administering that Act (see paragraph (b)(vi) of that definition). Item 50 would amend that definition by removing the reference to section 46A of the OPSGGM Act. This amendment is required as a consequence of Item 65 which repeals section 46A.

**Levy Periods**


**Item 51 – Paragraph 3A(1)(b), Item 52 – Subsections 3A(6) and (7), Item 53 – Paragraph 4(1)(b), Item 54 – Subsection 4(4), Item 55 – Paragraph 4A(1)(b), Item 56 – Subsections 4A(4) and (5), Item 57 – Paragraph 4B(1)(b), Item 58 – Subsection 4B(3), Item 59 – Section 7 (Definition of quarter), Item 60 – Section 7, Item 61 – Section 46 (heading), Item 62 – Subsections 46(1) to (2), Item 65 – Section 46A, Item 69 – Paragraph 69(1)(a), Item 71 – Paragraph 3A(1)(b), Item 72 – Subsections 3A(4) and (5), Item 73 – Paragraph 4(1)(b) and Item 74 – Subsection 4(3)**

197. Currently, under the OPSGGM Act, a person who manufactured, imported or exported a scheduled substance, ODS equipment or SGG equipment during a quarter is required to provide a report to the Minister in accordance with the OPSGGM Regulations (see sections 46 and 46A of the OPSGGM Act). The requirement to report includes a requirement to report a nil amount if the person did not undertake any of those activities during the quarter (subsections 46(3), 46A(4A) and 46A(4B)). The report must be provided to the Minister before the end of the 15th day after the end of the quarter to which it relates. A person who fails to comply with these requirements commits a strict liability offence.

198. The provision of activity reports is important as it enables Australia to meet its data reporting obligations under Article 7 of the Montreal Protocol and emissions to be calculated for Kyoto Protocol reporting. The information provided in the reports also enables the Department to calculate a licence holder’s levy liability.
The requirement for licence holders to report on activity, even if the licence holder has not undertaken any activity during the quarter, imposes a regulatory burden on businesses as considerable time and resources can be spent to lodge the quarterly reports.

To address this issue, Item 62 would repeal subsection 46(1) and (2) and replace them with new subsections which clarify the activities that will trigger the need for a licence holder to provide a report and when the report must be given.

Under the new subsection 46(1), any person who undertakes the activity contemplated in column 1 of the table would be required to report to the Minister in relation to the activity. Consistent with the current reporting requirements in section 46 and 46A of the OPSGGM Act, the report must be provided in accordance with any requirements specified in the OPSGGM Regulations. Currently, the OPSGGM Regulations set out the information that must be included in the report (see regulation 900 and 901 of the OPSGGM Regulations). It is anticipated that regulations made for the purposes of new subsection 46(1) would require similar information to be included in the reports.

As the activities referred to in the table in new subsection 46(1) include the import, export and manufacture of ODSs, SGGs, ODS equipment and SGG equipment, Item 65 would repeal section 46A (section 46A currently sets out separate reporting requirements for the import, export and manufacture of ODSs, SGGs, ODS equipment and SGG equipment (see item 4 of the table to new subsection 46(1)).

New subsection 46(1A) would clarify the timeframe by which reports must be provided to the Minister, which will be before the 15th day after the end of the reporting period. Item 60 would insert a definition of *reporting period* into section 7 of the OPSGGM Act. Reporting period would be defined as the period of 6 months starting on 1 January or 1 July. This represents a shift from the legal requirement that reports be provided for every quarter, and as a consequence, Item 59 would repeal the definition of quarter from section 7 of the OPSGGM Act.

Despite the legal requirement for reports to be provided before the 15th day after the end of the reporting period, new subsection 46(1B) would provide flexibility to enable persons who still wished to provide quarterly reports to do so. This is in response to comments from some licence holders that they would prefer to retain quarterly reporting as it aligns with other business processes.

New subsection 46(2) replicates the existing 46(2) and 46A(5) and would provide that a failure to comply with the requirement to report in subsection 46(1) is an offence which is punishable by the maximum penalty of 60 penalty units. This penalty reflects the current provisions of the OPSGGM Act relating to reporting.

Items 61 and 69 are required as a consequence of the amendments described above and replace references (however occurring) to ‘quarter’ with references to ‘reporting period’ in the OPSGGM Act. Section 3 of the Import Levy Act and section 3 of the Manufacture Levy Act both provide that expressions used in the Import Levy Act and
the Manufacture Levy Act have the same meaning as in the OPSGGM Act. As such Items 51, 52, 53, 54, 55, 56, 57 and 58 would make similar consequential amendments to the Import Levy Act and Items 71, 72, 73 and 74 would make similar consequential amendments to the Manufacture Levy Act. These consequential amendments are necessary to ensure that the terminology used across the three Acts remains consistent.

**Item 63 – Subsection 46(2C)**

207. Item 63 is required as a consequence of Item 62, which would repeal subsection 46(1AA), and would omit the reference to subsection 46(1AA) from subsection 46(2C).

**Item 64 – Subsection 46(3)**

208. Subsection 46(3) requires licence holders to provide a report to the Minister even if the licence holder did not undertake any activities under their licence during the quarter. The requirement to provide nil reports to the Minister imposes an unnecessary administrative burden on licence holders and is no longer required. As a result, Item 64 would repeal subsection 46(3) of the OPSGGM Act.

**Item 66 – At the end of subparagraph 65AA(1)(a)(vii) and Item 67 – Subparagraph 65AA(1)(a)(viii)**

209. Subparagraph 65AA(1)(a)(viii) of the OPSGGM Act enables an infringement notice to be issued for a failure to provide a report as required under section 46A. Item 67 would repeal this subparagraph and is required as a consequence of Item 65 which repeals section 46A. Item 66 would be required as a consequence of Item 67.

**Levy Thresholds and Penalty Interest**

**Item 68 – Paragraph 65C(1)(d), Item 70 – Subsections 69(2) and (3) and Item 76 – Transitional provision**

210. Under the Import Levy Act, levy is imposed on the holders of licences who import scheduled substances (defined in the section 7 of the OPSGGM Act to mean a substance referred to in Schedule 1 of that Act, whether existing alone or in a mixture), ODS equipment or SGG equipment. Additionally, under the Manufacture Levy Act, levy is imposed on the holders of licences who manufacture scheduled substances.

211. Unless the Minister has allowed a longer period for the payment of the licence levy, the levy is currently due and payable at the end of 60 days after the end of the quarter to which the levy relates (see subsection 69(1) of the OPSGGM Act (note Item 69 would amend subsection 69(1) to replace the reference to “quarter” with a reference to “reporting period”).

212. If the liability to pay the levy has not been discharged on or before the date when the levy is payable, subsection 69(2) of the OPSGGM Act imposes a late payment penalty on the licence holder. The late payment penalty is calculated at the rate of 30% per
annum upon so much of the levy that remains unpaid, calculated from the day when the
levy becomes due and payable.

213. While the imposition of the late payment penalty was initially intended to be a
deterrent, it has not had this effect. The majority of licence holders that have been
subjected to the requirement to pay a late payment penalty are repeat offenders,
suggesting the late payment penalty has a limited deterrent value. In addition, late
payment penalty amounts have been of a small value, resulting in an excess of non-cost
effective transactions to the Department per year (approximately 2200 transactions in
2014).

214. Item 70 would repeal subsection 69(2) of the OPSGGM Act, thereby removing the
requirement to pay a late payment penalty on licence holders who have not discharged
their liability to pay a levy. It is considered that the OPSGGM Act has other provisions
that can be used as a stronger deterrent against the late payment of levy, including
taking such matters into account in considering whether the licence holder is a fit and
proper person (subsection 16(4)). Item 68 is required as a consequence of Item 70 and
would amend subsection 65C(1) to remove the requirement that amounts received by
the Commonwealth as penalties under subsection 69(2) be credited into the Special
Account.

215. A licence levy is a debt due to the Commonwealth, and may be recovered by the
Minister as such (subsection 69(3) of the OPSGGM Act). Item 70 would also repeal
subsection 69(3) and substitute it with a new subsection which better reflects current
drafting practices.

216. While the liability to pay levy arises at the point of time controlled substances are
imported or manufactured, or at the time ODS equipment or SGG equipment is
imported, often levy liabilities are for very small amounts. For example, the levy
liability for importing 100 refrigerators containing 200 grams of refrigerants would be
$3.30.

217. Having a large number of small value levy transactions can impose a significant
regulatory burden on licence holders. As such, Item 70 would insert a new subsection
69(3) into the OPSGGM Act which will enable the OPSGGM Regulations to specify a
threshold for levies. If the amount of the levy liability is under this threshold, they will
no longer be payable by the licence holder. Eliminating small value levy transactions
will result in efficiencies for both business and the Government. It is appropriate for the
levy threshold to be specified in the OPSGGM Regulations in order to provide
sufficient flexibility to vary the threshold over time due to changing circumstances.
Such changing circumstances could include changes due to inflation or to the rate of the
levy that is imposed for the purposes of the Import Levy Act and the Manufacture Levy
Act. The rate of levy imposed under both of those Acts is prescribed in regulations
made for the purposes of those Acts.
218. Item 76 would clarify the status of levy debts due and payable by a person under section 69 (Collection of licence levies) of the OPSGGM Act immediately before the commencement of Item 76. If the total of the debts due and payable by a person under section 69 is equal to or less than $330, then under Item 76, those debts would cease to be payable on that commencement.

**Item 75 – Application of amendments**

219. Subitem 75(1) and (2) would clarify that unless subitems (3) to (6) apply, the amendments contained in Part 2 of Schedule 2 of the Bill apply only in relation to the first reporting period starting on or after the commencement date of Item 75, and later reporting periods. The amendments in Part 2 of Schedule of the Bill will not apply in relation to quarters ending before the start of the first reporting period.

220. Subitem 75(3) would clarify that subsection 69(2) of the OPSGGM Act (as amended by Part 2 of Schedule 2 of the Bill) will apply in relation to a levy that becomes due and payable on or after the commencement of Item 75, or became due and payable before that date due to the fact that the levy is not paid before that date.

221. Subitem 75(4) would clarify that subsection 69(3) of the OPSGGM Act (as amended by Part 2 of Schedule 2 of the Bill) will apply in relation to a levy that becomes due and payable on or after the commencement date of Item 75, whether the quarter or reporting period to which the levy relates ended before, on or after that date.

222. Subitem 75(5) would clarify that for the purposes of subsection 69(3) of the OPSGGM Act, a levy that relates to a quarter ending before the first reporting period is taken to relate to the reporting period in which the quarter occurs.

223. Subitem 75(6) would clarify that penalty interest is not incurred on or after the commencement date of Item 75 under the existing subsection 69(2) of the OPSGGM Act, regardless of whether the quarter or reporting period to which the levy relates ended before, on or after that date.

**Part 3 – Licence quantity limits**

*Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*

**Item 77 – Subsection 16(3)**

224. Subsection 16(3) of the OPSGGM Act currently requires a licence (other than an HCFC licence, an SGG licence or an ODS/SGG equipment licence) to specify the substance to which it relates (paragraph 16(3)(a)) and the activities it allows, and the maximum quantities of that substance, or each of those substances, allowed for each of those activities (paragraph 16(3)(b)).

225. Despite the mandatory requirement in paragraph 16(3)(b) for licences to specify the maximum quantities of substances for each activity permitted by the licence, it is not always appropriate or possible to do so. For example, a controlled substances licence
allows, amongst other things, the import of methyl bromide into Australia. While the use of methyl bromide is generally prohibited under the OPSGGM Act, there are some circumstances in which it can be used. Methyl bromide is a highly effective fumigant used to protect the biosecurity interests of Australia and other nations across the world. Under the Montreal Protocol, one of the permitted uses of methyl bromide is for certified Quarantine and Pre-Shipment uses and the Montreal Protocol does not place limits on the use of methyl bromide for certified Quarantine and Pre-Shipment uses. Therefore, the requirement under paragraph 16(3)(b) of the OPSGGM Act to specify the maximum quantity for the import of methyl bromide for certified Quarantine and Pre-Shipment uses is arbitrary and results in an unnecessary administrative burden as licence holders are required to request variations to their licences if these arbitrary import limits are exceeded.

226. Item 77 would address this concern by repealing and replacing subsection 16(3) with a new subsection. Whilst the requirement for a licence (other than an HCFC licence, a SGG licence or an equipment licence) to specify the substance or substances to which the licence relates and the activities it allows will remain, the requirement for a licence to also specify maximum quantities of those substances allowed for any or all of those activities will no longer be a mandatory requirement.

Part 4 – Synthetic greenhouse gases

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

227. The OPSGGM Act implements Australia’s international obligations to control the import, export and manufacture of SGGs under the UNFCCC and the Kyoto Protocol. Under the first commitment period for the Kyoto Protocol (2008-2012), Australia was obliged to limit its emissions of certain greenhouse gases to 108% of its emissions of those gases for 1990. The Doha Amendment to the Kyoto Protocol established a second commitment period 2013-2020, which Australia ratified on 10 November 2016. The Doha Amendment inserted a new Article 3 (1 bis) into the Kyoto Protocol under which Australia is obliged to limit its emissions of greenhouse gases (including nitrogen trifluoride and PFC-9-1-18) to 99.5% of its 1990 emissions. Nitrogen trifluoride and an additional PFC (PFC-9-1-18 (C10F18)) were included in the Kyoto Protocol for the second commitment period.

228. To implement Australia’s obligations under the Kyoto Protocol’s second commitment period, Part 4 of Schedule 2 of the Bill would amend the OPSGGM Act to include references to these new gases. In particular, Item 78 would insert a definition of nitrogen trifluoride into section 7 (Definitions) of the OPSGGM Act. Schedule 1 of the OPSGGM Act lists those substances to which the Act applies (referred to as scheduled substances) and Parts IX and X list HFCs and PFCs, respectively, which are substances covered under the UNFCCC and the Kyoto Protocol. Item 84 would insert a new Part XII into Schedule 1 of the OPSGGM Act, which has the effect of treating nitrogen trifluoride as a scheduled substance under the OPSGGM Act.
Section 7 of the OPSGGM Act currently defines SGGs as meaning a HFC, a PFC or sulfur hexafluoride. Item 79 would amend the definition of SGG to insert a reference to nitrogen trifluoride. PFCs are further defined for the purposes of the OPSGGM Act as a perfluorocarbon referred to in Part X of Schedule 1, whether existing alone or in a mixture (see section 7). To ensure that Australia implements its obligations under the Kyoto Protocol in relation to the newly listed PFC-9-1-18 (C10F18), Item 83 would repeal Part X (PFC) of Schedule 1 to the OPSGGM Act and insert a new Part X which lists, for the purposes of the definition of PFCs in section 7 of the Act, all the PFCs that are treated as scheduled substances for the purposes of the OPSGGM Act, including PFC-9-1-18.

Item 85 would amend the definition of SGG to insert a reference to nitrogen trifluoride. The inclusion of these new substances under the OPSGGM Act means that a person will require a controlled substances licence for the import, export or manufacture of these gases or an equipment licence for the import of equipment containing these gases from the date these amendments commence (see subitem 85(1)). This is necessary to ensure that Australia can meet its reporting requirements under the Kyoto Protocol and implement measures to manage emissions. However, for the avoidance of doubt, subitem 85(2) clarifies that a controlled substances licence granted before the commencement date of Item 85 that related to SGGs will be taken to relate to those substances from that date. That is, existing licence holders will not need to reapply for another controlled substances licence to undertake activities in relation to those substances.

Item 86 would repeal subsection 25A(2) and substitute it with a subsection that sets out a formula for calculating the quantity of HCFCs that are taken to be involved in regulated HCFC activities engaged in by a licensee in a period. The formula provides for the quantity of HCFCs exported by the licensee in the period to be subtracted from the quantity of HCFCs actually involved in regulated HCFC activities engaged in by the licensee.
licensee in the same period (with all quantities expressed in ODP tonnes). It would be the greater of the formula included in subsection 25A(2) and nil (that is, it would not be possible to produce a result of less than zero when applying the formula. This is to account for situations where a quota holder exports more than they import). This treatment is consistent with the Montreal Protocol. The result would then be multiplied by the result of subtracting the heel allowance percentage for HCFCs from 100%.

234. The formula set out in subsection 25A(2) aligns with the definition of consumption under the Montreal Protocol, which is production and imports minus exports. The provision for exports to be subtracted from imports also provides licence holders a further option to manage very small import quota amounts.

235. New subsection 25A(3) would provide that, for the purposes of subsection 25A(2), the quantity of HCFCs exported by a licensee in a period is taken not to include any quantity exported under a direction given to the licensee under section 35A (section 35A, which is inserted by Item 45 of Part 1 to Schedule 1 of the Bill, would allow the Minister to direct licensees to export specified amounts of HCFCs if the licensee had exceeded their quota). This is to ensure Australia avoids non-compliance with Montreal Protocol obligations.

**Item 87 – Application of amendments**

236. Item 87 would clarify that the amendments to the OPSGGM Act, made by Part 5 of Schedule 2 to the Bill, would apply in relation to periods starting on or after the commencement of Item 87.

**SCHEDULE 3 - AMENDMENTS COMMENCING 1 JANUARY 2020**

**GENERAL OUTLINE**

237. From 1 January 2020, the Montreal Protocol restricts the use of new HCFCs (other than HCFCs contained in pre-charged equipment). Article 2F paragraph 6(a) of the Montreal Protocol states that use of HCFCs imported or manufactured from 1 January 2020 must be restricted to the servicing of existing refrigeration and air conditioning equipment. However, the allowable uses for HCFCs under the Montreal Protocol may be changed or updated before the obligation comes into effect in 2020.

238. The amendments to the OPGGSM Act contained in Part 1 (Bulk HCFC use) of Schedule 3 are intended to give effect to this obligation under the Montreal Protocol, whilst retaining sufficient flexibility to incorporate any changes to allowable uses that may occur under the Montreal Protocol before 2020.

239. As a part of Australia’s phase-out of HCFCs under the Montreal Protocol, equipment bans for the manufacture and import of refrigeration and air conditioning equipment using HCFCs have already been instituted to assist in reducing the demand for gas (the ban is currently set out in section 38 and Schedule 4, with exemptions to the ban
specified in regulation 73 of the OPSGGM Regulations). The use of HCFCs in most other equipment has already reduced to minimal levels.

240. Schedule 3 would amend the OPSGGM Act to, implement Australia’s obligations under the Montreal Protocol regarding the use of HFCFs.

NOTES ON INDIVIDUAL CLAUSES

Part 1 – Bulk HCFC use

Ozone Protection and Synthetic Greenhouse Gas Management Act 1989

241. Item 2 would insert a new section 45C into the OPSGGM Act, the effect of which would be to prohibit the use of HCFCs that are manufactured or imported on or after 1 January 2020 (see new subsection 45C(1)). New subsection 45C(2) would provide an exemption to subsection 45C(1) if the use of the HCFC manufactured or imported after 1 January 2020 was for a purpose prescribed in the OPSGGM Regulations. The ability to prescribe particular uses in the OPSGGM Regulations is necessary to ensure that the OPSGGM Act reflects any allowable uses that may be agreed under the Montreal Protocol before 2020. It is envisaged that the prescribed uses would align with those prescribed under the Montreal Protocol.

242. The note at subsection 45C(2) would clarify that in criminal proceedings, a defendant would bear the evidential burden of proving that their use of a HCFC was for a purpose prescribed by the OPSGGM Regulations for the purposes of 45C(2) (the legal burden would remain with the prosecution). This would be the reverse of the principle in criminal law that the prosecution must prove every element of the offence. The reversal is justified in this instance, as the matters to be proved (namely that the use of the HCFC was for an exempted purpose prescribed by the OPSGGM Regulations) are matters that would be in the particular knowledge of the defendant. It is expected that it would not be unreasonably difficult for the defendant to discharge the evidentiary burden.

243. A contravention of new subsection 45C(1) would be an offence of strict liability (see new subsection 45C(3)). Application of strict liability to this offence has been set with consideration given to the guidelines regarding the circumstances in which strict liability is appropriate set out in A Guide to Framing Commonwealth Offences, Civil Penalties and Enforcement Powers. The strict liability offences are used throughout the OPSGGM Act and are necessary to ensure the integrity of the established regulatory regime to prevent environmental harm. Moreover there are legitimate grounds for penalising a person lacking fault, as the offence will not come into force until 1 January 2020. In the years preceding this, it is intended that substantial efforts will be made to inform members of industries where HCFCs are used and the public in general about the offence coming into effect.

244. Contravention of the strict liability offence would attract a maximum penalty of 300 penalty units for an individual and 1,500 penalty units for a body corporate. The
The penalty is set at an upper limit and is commensurate with the deliberate use of a HCFC in contravention of the prohibition and contrary to Australia’s international obligations. The penalty would also align with existing penalties for comparable offences under the OPSGGM Act, such as those set out in section 44 (Import of products containing scheduled substances from non-Montreal Protocol countries), section 45 (Import of products manufactured using scheduled substances from non-Montreal Protocol countries) and section 45B (Discharge of scheduled substances).

245. New subsection 45C(4) would provide for a civil penalty as an alternative to the offence provision in proposed subsection 45(3). The notes at proposed subsection 45C(4) would provide that the maximum penalty for a contravention of the civil penalty provision would be to be determined in line with subsection 65AC(4) (which sets limits on the pecuniary penalties payable in respect of civil penalty provisions of the OPSGGM Act). The effect of paragraph 65AC(4)(a) is that the maximum pecuniary penalty that can be imposed for a contravention of the civil penalty provision in new section 45C is 300 penalty units for an individual or 1,500 penalty units for a body corporate (being the maximum penalty that could have been imposed on the person if the person had been convicted of the offence).

246. Item 1 is required as a consequence of Item 2 and would amend paragraph 45A(1)(b) to take account of the effect of the new section 45C.

**Part 2 – HCFC equipment**


247. The amendments contained in Part 2 of Schedule 3 would amend the OPSGGM Act to prohibit the manufacture or import of all HCFC equipment from 1 January 2020. Prohibitions on the manufacture and import of any remaining HCFC equipment complement the ban on the use of HCFCs, as this equipment relies on HCFCs for its operation.

248. Item 18 would give effect to this ban and would amend Schedule 4 of the OPSGGM Act to insert the prohibition on persons manufacturing or importing or manufacturing equipment that contains HCFCs or uses HCFCs in its operation.

249. The remaining items in Part 2 of Schedule 3 would amend the OPSGGM Act and the Import Levy Act and are required to reflect the prohibition to be inserted by Item 18.

250. Subitem 19(1) would clarify that amendments made by Part 2 of Schedule 3 apply in relation to manufacturing or importing that occurs on or after 1 January 2020 (being the commencement date of Item 19).

251. Subitem 19(2) would clarify the ongoing effect of equipment licences granted before 1 January 2020 after that date. Equipment licences that were granted before 1 January 2020 and immediately before that date, the licence as either in force, or had
not yet come into force but had not been terminated or cancelled, will not allow the import of ODS equipment unless the activity is specified in the licence as mentioned in paragraph 13A(5)(b).
Emissions reduction options for synthetic greenhouse gases
Contributing to Australia’s 2030 emissions reduction target
Regulation Impact Statement
April 2016
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Abbreviations and acronyms

B/C  benefit to cost ratio
CBA  cost-benefit analysis
CFC  chlorofluorocarbon
CH₄  methane
CO₂  carbon dioxide
CO₂-e carbon dioxide equivalent
ERF  Emissions Reduction Fund
EU   European Union
GWP  global warming potential
HCFC hydrochlorofluorocarbon
HFC  hydrofluorocarbon
HFO  hydrofluoro olefin
ISO  International Organization for Standardization
IWG  Interdepartmental Working Group
MAC  Mobile Air Conditioning
Montreal Protocol  Montreal Protocol on Substances that Deplete the Ozone
Layer

Mt  metric tonne

N₂O  nitrous oxide

NPV  net present value

OBPR  Office of Best Practice Regulation

ODS  Ozone depleting substance

OPSGGM  Ozone Protection and Synthetic Greenhouse Gas Management

PFC  perfluorocarbon

RAC  refrigeration and air conditioning

Rb  regulatory burden estimate

RBM  regulatory burden measurement

Rb/t  regulatory burden estimate per tonne

RIS  Regulation Impact Statement

SF₆  sulfur hexafluoride

SGG  synthetic greenhouse gas

the Act  Ozone Protection and Synthetic Greenhouse Gas Management Act 1986
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<td>Department of the Environment and Energy</td>
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Executive Summary

This Regulation Impact Statement (RIS) examines options to reduce emissions of hydrofluorocarbons (HFCs) by 85 per cent from 2016 levels by 2036. HFCs are a sub group of synthetic greenhouse gases (SGGs) contributing between 1–2 per cent of Australia’s carbon equivalent emissions. The reduction of HFCs will contribute to the Australian Government’s broader target to reduce to reduce greenhouse gas emissions by 26–28 per cent below 2005 levels by 2030. Current Australian consumption is 7.82 Mt CO₂-e (based on the average consumption between 2011 and 2013), and the objective is to reduce this by 85% to 1.17 Mt CO₂-e by 2036.

This RIS has been prepared by the Australian Government Department of the Environment and Energy (the Department) on behalf of the Commonwealth, in consultation with other Commonwealth Agencies and primary stakeholders. It follows the Office of Best Practice Regulation’s Australian Government Guide to Regulation and builds on the Options Paper published by the Department in October 2015.

What is the Policy Problem?

In the lead up to the Paris United Nations Climate Conference in December 2015, the Government committed to reducing Australia’s carbon emissions to 26–28 per cent below 2005 levels by 2030. As part of this announcement the Government committed to looking to fast track work to reduce domestic hydrofluorocarbon (a sub-group of SGGs) emissions specifically by 85 per cent from 2016 levels by 2036, in-line with the most ambitious phase-down proposals under the Montreal Protocol on Substances that Deplete the Ozone Layer (the Montreal Protocol).

Hydrofluorocarbons (HFCs) are a sub-group of SGGs which are greenhouse gases. HFCs have been specifically identified for possible policy action at the Montreal Protocol, to which Australia is a party, as they are powerful greenhouse gases. The Australian Government has identified them for possible earlier domestic action as they are widely used in the Australian economy by virtue of being the main gases used in the refrigeration, air conditioning and fire protection industries. HFCs constitute between 1–2 per cent of Australia’s carbon-equivalent emissions. Current Australian consumption is 7.82 Mt CO₂-e in 2016, and the objective is to reduce this to 1.17 Mt CO₂-e by 2036.

Policy intervention in these sectors is expected to have a positive environmental impact due to their scope, covering residential to commercial buildings to the cold-food sector. In 2012 it was estimated there were more than 45 million individual pieces of equipment operating in Australia, with some 20,000 business involved in their sale, installation or maintenance. The refrigeration and air conditioning, and fire protection industries, the primary users of HFCs,
have a history of successfully working with Government to reduce the use of environmentally damaging substances.

**Nature and extent of the problem—Hydrofluorocarbons**

Hydrofluorocarbons (HFCs) are SGGs, the manmade subset of greenhouse gases. Greenhouse gases insulate the Earth and prevent the sun’s heat from escaping, meaning the Earth stays warm and enables life to exist and thrive. Many greenhouse gases occur naturally in the atmosphere, such as methane and carbon dioxide. However the concentration of these gases has increased throughout the industrial era due to the burning of fossil fuels and changes in land use practices. The vast majority of the world’s atmospheric scientists agree that the build up of anthropogenic greenhouse gases in the atmosphere is changing the planet’s heat balance, which in turn is affecting global temperature and rainfall patterns.

HFCs are generally present in the atmosphere at low concentrations however they have a measurable impact on climate change because they typically have very high Global Warming Potential (GWP). GWP is a relative measure of how much heat a greenhouse gas traps in the atmosphere compared to a similar mass of carbon dioxide. Most commonly used SGGs have very high GWPs. The most common SGG used in Australia is HFC-134a, which has a GWP of 14301, meaning that it is 1430 times as potent in the atmosphere as carbon dioxide.

HFCs are used in a range of applications including refrigeration and air conditioning, fire protection, aerosols, electricity distribution, foams, medical and veterinary applications, smelting, solvents, niche processing applications (such as plasma etching and semi-conductor manufacture), and for laboratory and analytical purposes.

**Health and Environmental Impacts**

HFCs are either emissive in their designed use (e.g. fire extinguishers and aerosols) or inherently emissive in the equipment they are contained in (e.g. refrigeration and air conditioning systems will leak due to sudden equipment failure and or more slowly as pipe joints are weakened through mechanical vibrations). HFCs can be recovered from equipment when it reaches end of life. However, given the dispersed nature of applications using SGGs (i.e. it is used in small quantities in high numbers of equipment); the volume of SGGs recovered is generally low. Approximate recovery rates from different applications are included in the modelling supporting this RIS.

This means that it is assumed their full GWP will be released into the atmosphere over the course of their lifetime, contributing to global warming.

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1 All GWPs in this report are based on the IPCC’s 4th Assessment report unless otherwise stated.
The prediction of future health impacts (from climate change) is a challenge because of the highly complex relationships that exist between humans and their environment. The links between a climate variable and a health impact can be very direct, such as physical injuries suffered during an extreme event or increases in respiratory symptoms during high temperature events. Other links are indirect and complex and require careful consideration of the chain of events that lead from climate variable to health impact.

**HFC use in Australia**

The prevalence in Australia of HFCs is a direct consequence of the global effort to reduce emissions of ozone depleting substances, which commenced in the 1990s. HFC are now the dominant gases used in the refrigeration and air conditioning sector, and constitute between 1–2 per cent of Australia’s carbon-equivalent emissions. Direct spending in the refrigeration and air conditioning sector is equivalent to 0.7 per cent of Australia’s gross domestic product. An overall expenditure figure of some $26.2 billion was spent on equipment and services in 2012. Air conditioning is estimated to be installed in the majority of Australia’s 8 million homes and in the majority of the 16 million registered road vehicles. Around 173,000 people are employed in more than 20,000 businesses operating in the sector.

A reduction of SGGs in this industry, due to its overall size and proportion of Australia’s economy, means it is considered an opportunity for successful implementation of cost effective emissions reductions policies.

**Regulation of HFC use in Australia**

Australia regulates the manufacture, import, export, and domestic ‘end-use’ (handling, storage, transport) of HFCs and equipment containing these gases through import, export and end-use licensing systems under the Ozone Protection and Synthetic Greenhouse Gas Management (OPSGGM) Programme, established in 1989. HFCs were included in the OPSGGM Programme in 2003 following Australia’s ratification of the United Nations Framework Convention on Climate Change.

**The future of HFC use in Australia**

While feedback from some stakeholders consulted disputes this view, the majority of stakeholders consider that Australia is a ‘technology taker’, notwithstanding that different technologies have been adapted from markets in Asia, Europe and North America to suit local conditions.

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2 The Department of Health, WA, 2008 Report: Health impacts of climate change
In the recent past, HFC use has been increasing as domestic air conditioning becomes more prevalent and the phase-out of HCFCs (hydrochlorofluorocarbons, a group of gases being phased out under the Montreal Protocol) nears completion. In the future, HFC use is expected to decline as alternative technologies become more cost-effective.

**Why is Government action needed?**

Carbon emissions are associated with a wide range of economic activities, such that private decisions of business and individuals are likely to increase emissions roughly in line with economic growth. If unpriced, the costs of those emissions are borne by the global community, rather than the person who makes the emission decision. The Government can use a range of policy instruments to ensure that Australia meets its emission reduction targets. The choice of instrument varies depending on the application or industry concerned. This RIS explores the most efficient and cost-effective policy instruments relevant to the applications and industries that use SGGs.

**Objectives of Government action**

The objectives of Government action are to implement cost effective policy options to reduce HFC emissions by 85 per cent by 2036.

**Options for Government action**

Emissions occur as a result of designed use, leakage and sub-standard decommissioning. There is a causal relationship between imports of bulk gas, imports of charged equipment and eventual emissions (as emissions are assumed at the point of production).

Therefore, options that (a) reduce imports of gas, whether bulk or in charged equipment, (b) prevent leakage in service, and (c) capture and destroy gas from charged equipment at end of life, could address the problem.

The following Options have been developed in discussions between the Department and industry stakeholders following these principles.

**Option 1—No Additional Regulation**

Option 1 (no additional regulation) represents the scenario in which government maintains current policy and there is an emphasis, through communication and education, on maximising the emissions reduction potential of current policies and practices.

**Option 2—Legislated HFC phase-down (reduction of imports of bulk gases)**

A legislated phase-down of bulk imports of HFCs would work to reduce emissions of HFCs through a decreasing total allowable amount that may be imported into Australia over a
prescribed time period. The restriction on imports is administered through a quota system. Figure 1 shows the different reduction pathways.

**Option 2a—North American HFC phase-down proposal**

Under this proposal, the phase-down leads to a gradual reduction from current levels to 15 per cent of current levels post 2036. The initial quota is at 90 per cent of the baseline in 2019, 65 per cent in 2024 and 30 per cent by 2030.

**Option 2b—Accelerated alternative**

The accelerated proposal considers stronger early reductions from current levels, smaller more frequent reductions in total quota and finally tapering to the same 15 per cent residual by 2036.

**Figure 1: Greenhouse gas reduction pathways under HFC phase-down scenario**

![Graph showing reduction pathways]

**Option 3—Bans on HFC pre-charged equipment**

Certain types of equipment are banned from import into Australia based on the GWP value of the gases they are pre-charged with and the availability of alternatives. Banning certain types of equipment is a direct way to move the market towards alternative and new technologies, as opposed to a phase-down which aims to do so through influencing the behaviour of manufacturers into decisions to move to new (and hopefully low GWP) alternatives.

**Option 3a—Supermarket equipment bans**

Ban supermarket equipment containing gas with GWP >2500 from 2020. This scenario has been developed around HFC-404a which, even though it represented only 3 per cent of bulk imports in 2013, by volume, its high GWP of 3800 means that it has a significant climate impact.
**Option 3b—Mobile air conditioning bans**

Bans on imports of mobile air conditioning equipment containing gas with GWP >150 and with a date of manufacture from 2017. This ban would see the Australian motor vehicle market maintain pace with international markets which have adopted similar policies, noting that motor vehicle air conditioning is seen as a single global platform by motor vehicle manufacturers.

**Option 4—Domestic equipment controls**

Mandatory equipment maintenance requirements could reduce emissions, both directly (through avoided leakage of SGGs) and indirectly via reductions in electricity use. This would reduce demand for bulk HFC, rather than limiting its availability (as in option 2).

**Option 4a—Mandatory leak testing**

Regular leak testing on all large equipment (remote and supermarket, medium to large air conditioning and large automotive systems).

The schedule of leak testing required follows Regulation (EU) No. 517/2014, and varies depending on the size of the gas charge in the equipment.

**Option 4b—Mandatory maintenance**

Regular maintenance on all large equipment (remote and supermarket, medium to large air conditioners and large automotive systems), in accordance with ISO 5149-4.

Maintenance would be required to be completed as per the schedule for leak testing and would cover energy performance aspects beyond refrigerants such as fans and filters.

**Impact Analysis of Options**

**Summary of impact analysis**

Each option was analysed to determine potential emissions reductions compared the base case of no additional policy intervention to the mechanisms in place under the OPSGGM Programme.

This was done through independent consultancies undertaken by Expert Group as part of the Environmental Impact Analysis of the Ozone Protection and Synthetic Greenhouse Gas Management Programme and Jacobs Consultancies as part of their cost-benefit analysis (CBA) by first establishing a business as usual scenario and using an industry model to make forward projections of consumption. Emissions from use and the bank of equipment and gas in Australia were then estimated based on this.

Costs and benefits of the options have been quantified in a formal CBA and these are used to compare options with each other and determine their net benefit.
**Option 1—No additional regulation**

Even if no additional regulation is introduced, the quantities of Australia’s HFC emissions are expected to decrease over the analysis period. Figure 2 shows the expected trajectory under the 'business as usual' scenario.

**Figure 2: (also referred to in Section 5 as figure 8) Projected base case emissions, excluding HCFCs, Mt CO₂-e**

![Graph showing projected HFC emissions](image)

Source: Expert Group source database

Figure 2 is based on the Expert Group reference scenario for 2016, it therefore uses a baseline of 7.31 Mt CO₂-e as opposed to the 7.82 Mt CO₂-e baseline accepted for this RIS. It has been used by Jacobs in the CBA to visually represent the reference scenario of expected trajectory of HFC emissions without policy intervention.³

This is because emissions of HFCs, in carbon dioxide equivalent (CO₂-e) terms, are expected to fall over time due in large part to improved containment, a more skilled workforce and changing technology driving an existing trend to adopt non-HFC refrigerants, with a predicted transition from high-GWP gases to lower or no-GWP alternatives.

Option 1 is based on the business as usual reference scenario analysed in the cost-benefit analysis for comparison to Options 2, 3 and 4.

**Option 2—Legislated HFC phase-down (reduction of imports of bulk gases)**

Option 2 has an overall net benefit, ranging from $10 million to $40 million, depending on how rapidly HFC is phased out.

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³ Cost Benefit Analysis, Jacobs, 2015, pp 28
**Option 2a—North American HFC phase-down proposal**

Option 2a is expected to result in emissions reduction of approximately 3.99 Mt CO$_2$-e over the period 2017–2036. Its benefits over the period 2016–2030 exceed its costs, with a net present value of $40 million.

Regulatory burden estimated to be **$4.19 million** per annum.

**Option 2b—Accelerated alternative**

Option 2b is expected to result in emissions reduction of approximately 9.15 Mt CO$_2$-e over the period 2017–2036. Its benefits over the period 2016–2030 exceed its costs, with a net present value of $10 million.

Implementation of option 2a and 2b would be done so as to ensure that there are no anti-competitive impacts, such that all potential participants in Australia’s HFC market have equal opportunity to access the limited amount of import quota.

Regulatory burden estimated to be **$11.72 million** per annum.

**Option 3—Bans on HFC pre-charged equipment**

In terms of net benefit, Option 3 has mixed results.

**Option 3a—Supermarket equipment bans**

Option 3a is expected to result in emissions reduction of approximately 0.28 Mt CO$_2$-e over the period 2017–2036. While that achievement is very small, the benefits of this option clearly outweigh its costs, with a net benefit of $4 million.

Regulatory burden estimated to be **$0.05 million** per annum.

**Option 3b—Mobile air conditioning bans**

Option 3b is expected to result in emissions reduction of approximately 6.14 Mt CO$_2$-e over the period 2017–2036. However, its costs exceed its benefits, with a net present value of -$182 million.

Regulatory burden estimated to be **$31.57 million** per annum.

**Option 4—Domestic equipment controls**

These options achieve the largest emissions reductions, but they do so at very high cost and/or with higher risk.

**Option 4a—Mandatory leak testing**

Option 4b delivers large expected emissions reduction of approximately 21.63 Mt CO$_2$-e over the period 2017–2036. While, based on reasonable assumptions, the benefits of this option
could exceed its costs, with a net present value of $106 million; the ratio of benefits to cost is so marginal that the option presents a high risk of negative results.

Regulatory burden estimated to be $111.98 million per annum

Option 4b—Mandatory maintenance

Option 4a is the option with the largest expected emissions reduction of approximately 70.19 Mt CO₂-e over the period 2017–2036. However, Option 4a imposes unacceptably high costs on the owners of charged equipment, such that costs exceed benefits with a net present value of -$342 million.

Regulatory burden estimated to be $430.0 million per annum

Summary of Emissions Reduction Pathways of Options 1, 2, 3 & 4

Figure 3 and Figure 4 depict the emissions reduction pathways of each option compared to Option 1. Figure 4 depicts the final years of projections to clearly show the difference between options. Option 3a is not shown as it overlaps with BAU such that they are not discernable for the purpose of this graph.

Figure 3: Direct (leakage) emissions against BAU 2017–2030
Consultation

Comprehensive consultation has been undertaken as part of wider consultation on the Review of the Ozone Protection and Synthetic Greenhouse Gas Management Programme. Consultation has included two public consultation periods, first on the Terms of Reference to the review, then the Options Paper; convening of a Technical Working Group as well as an Interdepartmental Working Group; and targeted consultation with stakeholders specifically relating to emissions reduction options.

38 submissions were received on the emission reduction options, covering the majority of sectors that use HFCS—importers, manufacturers, wholesalers, the refrigerated food industry, through to technicians installing and maintaining equipment. The majority supported the implementation of all options as a way to ensure maximum emission reduction and provide certainty for the industry. This is shown in the fact that 35 submissions supported Option 1, education and better enforcement of current policies, however 28 of these also supported additional policies, whether Option 2, 3 or 4. A minority of submissions preferred no additional policies be undertaken.

Best Option

The option with the highest net present value and that is robust under a range of assumptions is recommended for implementation to contribute to the Government’s carbon emissions commitment.

This showed that option 2a (the HFC phase-down of bulk gas imports based on the North American amendment proposal) with a net present value of $39.67 million, delivers a positive net benefit across a wide range of conditions and thus has a low level of risk.

Regulatory burden is estimated to be **$4.19 million** per annum.
**Implementation**

Option 2a implementation will involve detailed design of both elements of the phase-down:

1) the HFC phase-down, including the baseline for total imports allowed, the step-down intervals and values, and

2) quota allocation, including to ensure that all potential importers, including new entrants, have a fair opportunity to obtain quota, for example by an open market auction.

It is further proposed that the policy be implemented outlining other review triggers such as reported detrimental impacts of the policy on Australian industry.

Other options found to have a positive net benefit will be assessed for potential implementation as part of the review of Option 2a implementation.

**Review and evaluation**

The recommended policy will be reviewed at five year intervals to determine the effectiveness of the policy. This will include consideration of:

- The pace of the phase-down.
- Other policy options to support the phase-down.
Overview of the Regulation Impact Statement

Report structure

The RIS is structured as follows:

Section 1 provides the purpose and policy context for this RIS.

Section 2 describes the problem that governments are seeking to address, and identifies current regulatory arrangements and core stakeholders.

Section 3 establishes the principles and objectives of government action.

Section 4 describes the policy options for consideration in this RIS.

Section 5 outlines the impact analysis that has been undertaken, as well as the Regulatory Burden Measurement for each of the proposed options.

Section 6 summarises consultation during the development of this RIS.

Section 7 summarises the proposed implementation and review processes for the preferred policy option.
SECTION 1

Purpose

This Regulation Impact Statement (RIS) examines options to reduce emissions of hydrofluorocarbons (HFCs) by 85 per cent from 2016 levels by 2036. HFCs are a sub group of synthetic greenhouse gases (SGGs). Reducing emissions of HFCs will contribute to the Australian Government’s broader target to reduce greenhouse gas emissions by 26–28 per cent below 2005 levels by 2030. In order to verify its recommendation, a cost-benefit analysis (CBA) has also been prepared to understand the performance of the options against a broader set of benefits. It is not the objective of this RIS to establish the net benefits of Australia’s particular economy-wide emissions target.

The commitment to reducing HFC emissions as part of the broader 2030 target was informed by an Options Paper, outlining a CBA of HFC emission reduction options as part of the Review of the Ozone Protection and Synthetic Greenhouse Gas Management (OPSGGM) Programme. The Options Paper was published for public comment in October 2015.

The objectives of the Review, in train since May 2014, were to find opportunities for emissions reduction as well as efficiency and effectiveness gains within the OPSGGM Programme. The Options Paper summarised 18 months of in-depth analysis and two independent consultancies, including a CBA, exploring potential policies to reduce HFC emissions.

Recommendations on efficiency and effectiveness opportunities are outside the scope of this RIS. The preferred option outlined in this RIS has however been considered with the view of implementation alongside the efficiency and effectiveness recommendations stemming from the review to ensure the most robust implementation of the preferred option.

This RIS has been prepared by the Australian Government Department of the Environment and Energy (the Department) on behalf of the Commonwealth, in consultation with other Commonwealth Agencies and primary stakeholders. It follows the Office of Best Practice Regulation’s (OBPR) Australian Government Guide to Regulation and builds on the Options Paper published by the Department in October 2015.
SECTION 2

What is the policy problem

In the lead up to the Paris United Nations Climate Conference in December 2015, the Government committed to reducing Australia’s carbon emissions to 26–28 per cent below 2005 levels by 2030. Australia’s target poses a challenge because total emissions are projected to increase without further policy action. Without taking account of abatement from the Government’s emissions reduction policies, domestic emissions are projected to be 724 Mt CO₂-e in 2029–2030, a 30 per cent increase on 1999–2000 levels.

The Government has indicated it will meet this target through a suite of targeted policies, including action to reduce the domestic use of HFCs. The Government has announced that “Australia will look to fast track work to reduce domestic HFC emissions by 85 per cent by 2036, in-line with the most ambitious phase-down proposals under the Montreal Protocol”.

This inclusion was informed by an options paper on the expected costs and benefits of HFC emission reduction policy options being explored for inclusion in the OPSGGM Programme, developed over the course of 18 months of in-depth analysis.

HFCs are SGGs used principally in refrigeration, air conditioning and fire protection applications and were introduced as substitutes ozone depleting substances (ODS), which have been phased out under the OPSGGM Programme. The refrigeration and air conditioning industry is the major industry, using over 80 per cent of all HFCs. HFCs are powerful greenhouse gases and are sometimes thousands of times more potent than carbon dioxide.

HFCs are being targeted for policy action as they comprise the vast majority of SGG emissions in Australia. Other synthetic greenhouse gases—perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆)—constitute only a very small portion of emissions and are not considered in the RIS.

Modelling undertaken by Expert Group in the 2015 report: Assessment of environmental impacts from the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989⁵, indicates there are currently a range of alternatives to SGGS gases in most applications, or that alternatives are in development and could soon be introduced to the Australian market.

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The implication is that, over time, the stock of equipment with high GWP will reduce and therefore emissions will reduce.

The transition to alternative chemicals has already started in major global markets and is now expanding the range of technology available to the Australian market. This includes legislation to reduce HFC emissions in the European Union (EU) through a phase-down and gas and equipment bans, and gas and equipment bans in the United States of America. These actions are encouraging global equipment manufacturers to transition to alternative gases.

The Expert Group model considers technology already present in the Australian market or available elsewhere in the world, and policy options to accelerate, or complement, the uptake of alternative technology at a pace that the Australian market can manage.

These industry sectors have been very responsive and successful in managing the environmental impacts of other similar chemicals. They have, in close relationship with the Government, successfully transitioned from the first generation of harmful gases, ODS gases, including the successful phase-out of chlorofluorocarbons (CFCs), and are currently in the tail-end of a phase-out of hydrochlorofluorocarbons (HCFCs). The emerging potential for low-GWP gases to cost-effectively replace SGGs represents an opportunity to make a contribution to the emission reduction target.

In consultation, major participants in these industry sectors have agreed that the proposed options are achievable.

**Background**

**Nature and extent of the problem—Hydrofluorocarbons**

Gases in the atmosphere, known as greenhouse gases, insulate the Earth. They prevent the sun’s heat from escaping meaning the Earth stays warm and enables life to exist and thrive. Many greenhouse gases occur naturally in the atmosphere. Common greenhouse gases include methane (CH\textsubscript{4}), nitrous oxide (N\textsubscript{2}O) and carbon dioxide (CO\textsubscript{2}). Other greenhouse gases include water vapour, fluorocarbon gases such as CFCs and HCFCs.

HFCs are type of SGG, which refers to man-made greenhouse gases. HFCs are generally present in the atmosphere at low concentrations however they have a measurable impact on climate change because they typically have very high Global Warming Potential (GWP). GWP is a relative measure of how much heat a greenhouse gas traps in the atmosphere. It compares the amount of heat trapped by a certain mass of the gas in question to the amount of heat trapped by a similar mass of CO\textsubscript{2}.

HFCs are used in a range of applications including refrigeration and air conditioning, fire protection, aerosols, electricity distribution, foams, medical and veterinary applications, smelting, solvents, niche processing applications (such as plasma etching and semi-conductor
manufacture), and for laboratory and analytical purposes. HFCs are the common replacement for ODS. The prominence of HFCs represents an unintended consequence of the phase-out of ODS commencing in the late 1980s. While they have no ozone depleting potential, most commonly used SGGs have very high GWPs.

The most common HFCs used in Australia is HFC-134a, which has a GWP of 14306, meaning that it is 1430 times as potent in the atmosphere as CO\(_2\). Other SGGs are even more powerful global warmers, with PFCs having GWPs between 7390–12,200 and SF\(_6\) having a GWP of 22,800. Total SGG emissions accounted for around 1.9 per cent of Australia’s annual net CO\(_2\)-e emissions (excluding emissions from land use, land use change and forestry) in 2013. By gas types, HFC emissions account for 1.8 per cent, PFCs for 0.04 per cent and SF\(_6\) for 0.02 per cent of Australia’s total annual emissions in 2013.

**Health and Environmental Impacts**

HFCs are either emissive in their designed use (e.g. fire extinguishers and aerosols) or inherently emissive in the equipment they are contained in (e.g. refrigeration and air conditioning systems will leak due to sudden equipment failure and or more slowly as pipe joins are weakened through mechanical vibrations). A proportion of HFCs will be recovered and disposed of when equipment is serviced (replacing contaminated HFCs with pure HFCs) or when equipment is decommissioned at end of life.

Recovery rates are built into the emissions model supporting the OPSGGM Programme review. Australia’s National Greenhouse Gas Inventory assumes annual emission rates from different classes of equipment based on standard Intergovernmental Panel on Climate Change emission rates, modified to Australia’s circumstances where better data is available, and accounts for HFCs destroyed through product stewardship arrangements.

In summary, this means that it is assumed their full GWP will be released into the atmosphere over the course of their lifetime, contributing to global warming.

The prediction of future health impacts (from climate change) is a challenge because of the highly complex relationships that exist between humans and their environment. The links between a climate variable and a health impact can be very direct, such as physical injuries suffered during an extreme event or increases in respiratory symptoms during high temperature events. Other links are indirect and complex and require careful consideration of the chain of events that lead from climate variable to health impact.

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6 All GWPs in this report are based on the IPCC’s 4th Assessment report unless otherwise stated.

7 The Department of Health, WA, 2008 Report: Health impacts of climate change

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Australia’s main HFC use—Refrigeration and air conditioning

As outlined in the Background, HFCs are used in a wide range of applications in the Australian economy. The main sector is refrigeration and air conditioning. *Cold Hard Facts 2: A study of the refrigeration and air conditioning industry in Australia* provides a detailed examination of the refrigeration and air conditioning industry in Australia. It provides information on the role of the industry and related industries and how they provide essential services within the Australian economy and how a reduction of HFC use in this industry, due to its overall size, can produce positive environmental impacts.

The report provides a snapshot of the vast scope and impact of the refrigeration and air conditioning sector on the Australian economy. The refrigerated cold food chain transports nearly $30 billion worth of perishable food annually. There are more than 140 million square metres of air conditioned, commercial and other non-residential buildings in Australia. Air conditioning is installed in the majority of Australia’s eight million homes and 16 million registered road vehicles. Nearly $5.9 billion was spent purchasing and installing new equipment in 2012 with a further $533 million spent on bulk refrigerant gas. An overall expenditure figure of some $26.2 billion was spent on equipment and services in 2012 with the sector equating to direct spending of 0.7 per cent of Australia’s gross domestic product.

The sector employs some 173,000 people in more than 20,000 businesses operating in the industry. These employees are earning approximately $13.3 billion in wages and salaries per annum.

In terms of energy usage, refrigeration and air conditioning technology in all its forms is the single largest electricity consuming class of technology in Australia. There are more than 45 million individual pieces of equipment operating in Australia consuming more than an estimated 59,000 gigawatt hours of electricity in 2012, equivalent to more than 22 per cent of all electricity used in Australia that year. Equipment owners spent an estimated $14 billion to pay for that electricity.

As a result of the huge quantity of electricity used and the significant stock of high-GWP refrigerant gases used, equipment is one of the largest single sources of greenhouse emissions in Australia. Total indirect greenhouse gas emissions resulting from the energy required to power systems is equivalent to more than 10 per cent of Australian greenhouse emissions.

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8 *Cold Hard Facts 2: A study of the refrigeration and air conditioning industry in Australia*—July 2013
Figure 5: Bank of refrigerants by major segment 2012 (total of 43,500 tonnes)

Source: CHF2 stock model

Regulation of HFC use in Australia

Australia regulates the manufacture, import, export, and domestic ‘end-use’ (handling, storage, transport) of SGGs and equipment containing these gases through import, export and end-use licensing systems under the OPSGGM Programme.

The OPSGGM Programme came into effect in 1989 and includes a suite of legislation (three Acts and three sets of Regulations) and associated administrative policy. There are around 1200 import licences issued and around 80,000 businesses and technicians licensed to trade in and handle ODS and HFCs in the refrigeration and air conditioning and fire protection industries.

As a result of a review of the OPSGGM Programme in 2001 amendments were made to the legislation in 2003 to include controls on HFCs and PFCs and an enabling power to introduce nationally consistent regulation of the sale, purchase, acquisition, disposal, storage, use handling and labelling of ODS, HFCs and PFCs. Critically, 2003 also saw the states and territories hand their power to regulate the end use of ODS and SGGs to the Commonwealth, resulting in a national scheme that is consistent across all jurisdictions. Prior to this there was little consistency between the schemes that had been administered separately by each jurisdiction, with Western Australia the only state with end use controls of HFCs.

9 Ozone Protection and Synthetic Greenhouse Gas Management Act 1989
Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995
Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Regulations 2004
Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Regulations 2004
The future of HFC use in Australia

Australia is generally considered a ‘technology taker’, and different technologies have been adopted from markets in Asia, Europe and North America to suit local conditions.

Generally, HFC use is increasing as domestic air conditioning becomes more prevalent and the phase-out of HCFCs nears completion, while total emissions of these gases, in CO\textsubscript{2}-e terms, are expected to fall over time. This is due in large part to improved containment, a more skilled workforce and changing technology, with a predicted transition from high-GWP HFCs to lower or no GWP alternatives. Figure 6 shows the potential refrigerant bank transition by gas species in Mt CO\textsubscript{2}-e (IPCC Assessment Report 4—AR4).

The amount of lower GWP equipment currently entering the Australian market is relatively low, however it is increasing. For the immediate future equipment containing high GWP gases will continue to enter the Australian market, adding to the large bank of equipment already installed containing ODS and SGGs. This equipment bank requires management to reduce the emissions during life and at the end of life.

The largest sector of the existing charged-equipment bank is stationary air conditioning, while the largest annual service demand is in the mobile air conditioning sector.

Figure 6: Predicted refrigerant bank transition from 2013 to 2030 by gas species in Mt CO\textsubscript{2}-e

Source: The data used to produce this graph was sourced by Expert Group from Departmental imports data, industry data and verified through consultation with fire protection industry representatives.
SECTION 3

Why is Government action needed?

Carbon emissions are associated with a wide range of economic activities, such that private decisions of business and individuals are likely to increase emissions roughly in line with economic growth.

If unpriced, the costs of those emissions are borne by the global community, rather than the person who makes the emission decision.

Without the expected abatement from the Government’s emissions reduction policies, Australia’s overall emissions are projected to be 724 Mt CO$_2$-e in 2029–2030, a 30 per cent increase on 1999–2000 levels.

The Government has a range of policy instruments available to ensure that Australia meets these commitments. For example, the Government could implement regulation for the import, manufacture or use of greenhouse gases or could provide incentives for households or businesses to purchase equipment that stops or minimises emissions. The choice of instrument varies depending on the application or industry concerned.

This RIS explores the most efficient policy instruments relevant to those applications and industries that use SGGs.

Objectives of Government action

The objectives of Government action are to:

- Implement cost effective policy options to reduce HFC emissions by 85 per cent by 2036.

- Ensure that any approach provides a net benefit to the community, while meeting the objectives of the Government’s better regulation agenda by minimising the impact and costs to business/industry and individuals while meeting the first objective.

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10 Pg 6 Department of the Environment, Australia’s emissions projections 2014–15 Report, March 2015
SECTION 4

Options for Government action

As outlined in the ‘Health and Environmental Impact’ section, emissions are a result of intended purpose, leakage and sub-standard decommissioning, meaning there is a causal relationship between imports of bulk gas, imports of charged equipment and eventual emissions (as emissions are assumed at the point of production).

Therefore, options that (a) reduce imports of gas, whether bulk or in charged equipment, (b) prevent leakage in service, and (c) capture & destroy gas from charged equipment at end of life, could address the problem.

The following Options have been developed in line with this methodology and are explored in depth in this section:

- Option 1—No additional regulation
- Option 2—Legislated HFC phase-down (reduction of imports of bulk gases)
  - Option 2a—North American HFC phase-down proposal
  - Option 2b—Accelerated alternative
- Option 3—Bans on HFC pre-charged equipment
  - Option 3a—Bans on commercial size supermarket equipment
  - Option 3b—Bans on mobile air conditioning equipment
- Option 4—Domestic equipment controls
  - Option 4a—Mandatory leak testing
  - Option 4b—Mandatory maintenance

Option 1 Overview—No additional regulation

Under this option no additional policies would be adopted to reduce HFCs. Rather a focus on strategic communication and education of the existing emissions reduction policies under the OPSGGM Programme would be undertaken to maximise their emission reduction potential.

Option 1 has been analysed by overlaying this emphasis on current policies onto the base case scenario developed for the cost benefit analysis for comparison with Options 2, 3 and 4. The underlying equipment stock and gas bank projections in the reference scenario were obtained from the source database developed by Expert Group. This database models significant technological change over the time period of analysis.
Option 2 Overview—Legislated HFC Phase-down (reduction of imports of bulk gases)

As outlined in Section 2, HFCs are the predominant SGGs used in Australia’s economy by virtue of them being the most-used alternative to the phased-out ODS. A reduction in HFC emissions, through controls on bulk gas imports (meaning gas imported in a cylinder from which it must be transferred to be used) into the economy, is therefore considered a viable and likely cost effective method of achieving meaningful emissions reductions to contribute to Australia’s broader 2030 targets.

A legislated phase-down of bulk imports of HFCs would work to reduce emissions of HFCs through a decreasing total allowable amount that may be imported into Australia over a prescribed time period. The restriction on imports is administered through a quota system. The phase-down targets all HFCs listed under the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, meaning 100 per cent of the potential 1.8 per cent emissions that SGGs represent.

A restriction in the total quantity of gas in the economy is expected to induce the flow on effects of industry transition to alternative, and lower GWP gases. This method of reducing emissions through a restriction of total allowable imports has a successful track record globally, but specifically in Australia where this type of mechanism was effectively implemented to phase-out methyl bromide, CFCs, and currently HCFCs.

A phase-down of HFCs has been considered globally through the Montreal Protocol since 2009. While HFCs are traditionally monitored and managed through the UNFCCC and its Kyoto Protocol, it is generally accepted that the phase-out and phase-down mechanisms employed under the Montreal Protocol are the most effective way of reducing emissions of gases used in the types of industries and applications that HFCs are. Several phase-down designs have been developed and discussed at the Montreal Protocol level. This RIS looks at two versions of a phase-down design.

The first is the North American Amendment proposal submitted to the Montreal Protocol, considered the most ambitious of all phase-down proposals. The second is an accelerated alternative to the North American Amendment proposal. The greenhouse gas reduction pathways under each HFC phase-down scenario are defined according to different baseline definitions and total quantity step-down rates.

Option 2a—North American HFC phase-down proposal

Under the North American Amendment proposal, the baseline is 9.05 Mt CO\textsubscript{2}-e, based on 100 per cent HFC consumption as well as 75 per cent of HCFC consumption between 2011 and 2013 (on the basis that HFCs largely replace HCFCs, the ODS currently being phased-out).
Under this proposal, the phase-down leads to a gradual reduction from current levels to 15 per cent of current levels post 2036. The initial quota is at 90 per cent of the baseline in 2019, 65 per cent in 2024 and 30 per cent by 2030.

Option 2b—Accelerated HFC phase-down

Under the Accelerated alternative, the baseline is lower at 7.82 Mt CO₂-e, based on the average consumption of HFCs between 2011 and 2013, and not accounting for HCFC imports. The accelerated proposal considers stronger early reductions from current levels, smaller more frequent reductions in total quota and finally tapering to the same 15 per cent residual. Specifically, imports are frozen at 100 per cent in 2017, reducing to 90 per cent in 2018, 86 per cent in 2020, 78 per cent in 2022, 68 per cent in 2024, 58 per cent in 2026, 49 per cent in 2028 and 35 per cent in 2030. This option allows less total imports over the phase-down period.

Figure 7 shows each HFC phase-down in terms of imports, expressed in millions of tonnes of CO₂-e gases.

Figure 7: Greenhouse gas reduction pathways under HFC phase-down scenario

Common characteristics

For purposes of a meaningful CBA comparison, Options 2a and 2b have been analysed with the following common scenario characteristics:

- Base case is that import quotas for HFCs are not in place.
- Phase-down would include only bulk imports of HFCs (in transport cylinders or containers).
- Phase-down would include all HFCs listed under the Kyoto Protocol.
- It is assumed phase-down will be based on least cost low GWP gas alternatives being adopted. Safety and ease of handling are also important considerations in selecting gas alternatives. However, these decision criteria cannot be easily modelled.
• Implementation of a phase-down and quota allocation system would be through the existing licensing system under the OPSGGM legislation.

• Quota would be allocated through current licensing processes, similar to methods currently in use for the HCFC phase-out.

• Assume no changes to monitoring, compliance and enforcement.

**Method for quota allocation**

Quota is auctioned to the highest bidder

An alternative method for quota was considered, but is not recommended, due to the distributional impacts and the risk of possibly reducing competition, as discussed in Section 7: Implementation. Under the alternative method, quota is allocated through a hybrid grandfathered/non-grandfathered allocation system (split 90/10). This would be designed as follows:

• The grandfathered portion would be allocated free of charge to existing players in the market based on their share of historical imports, similar to the current approach for allocating HCFC quota.

• There are currently around 30 bulk importers who would be eligible for grandfathered quota.

• The non-grandfathered quota would be available to any applicant, and also allocated free of charge. An application and assessment process would need to be established in the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (the Act). For the purposes of modelling, it is estimated that five new entities would lodge an application for non-grandfathered quota for each quota period, although the European experience indicates a higher number of applications may be received.

• Quota would be allocated every two years, valid for a two year period.

**Option 3 Overview—Bans on imports of HFC pre-charged equipment**

Bans on imports of specified equipment are considered to be another potentially effective mechanism to cost effectively reduce SGG emissions. Under this policy option, certain types of equipment are banned from import into Australia based on the GWP value of the gases they are pre-charged with and where alternatives are commercially available. Banning certain types of equipment is a direct way to move the market towards alternative and new technologies, as opposed to a phase-down which aims to do so through influencing the behaviour of manufacturers into decisions to move to new (and hopefully low GWP) alternatives.

**Overview of Option 3a—supermarket equipment bans**

Bans of supermarket equipment containing gas with GWP >2500 from 2020. This scenario has been developed around HFC-404a which, even though it represented only 3 per cent of
bulk imports in 2013, its high GWP of 3800 means that it has a significant climate impact. This option was developed for the purpose of this RIS based on an early assessment of its potential to achieve direct emissions reductions of up to 0.28 Mt CO$_2$-e between 2017 and 2036.

- There are presently 215 importers of equipment containing HFC-404A.

**Overview of Option 3b—mobile air conditioning bans**

Bans on imports of mobile air conditioning (MAC) equipment containing gas with GWP >150 and with a date of manufacture from 2017. This ban would see the Australian motor vehicle market maintain pace with international markets which have adopted similar policies, noting that motor vehicle air conditioning is seen as a single global platform by motor vehicle manufacturers.

- There are presently 265 importers of automotive air conditioning equipment.

**Option 4 Overview—Domestic equipment controls**

The third option that has been developed and assessed for cost-effectiveness is controls on equipment installed in the Australian economy through mandatory maintenance. Mandatory equipment maintenance requirements could reduce emissions, both directly (through avoided leakage of HFCs) and indirectly via reductions in electricity use.

Two alternative forms of equipment control are discussed, each with varying levels of stringency with respect to management of leaks: (i) simple leak testing (including repair) and (ii) maintenance (which includes leak testing as well as a range of preventative measures to prevent leaks from occurring and enhance system performance).

**Overview of Option 4a—Mandatory leak testing**

Regular leak testing on all large equipment (remote and supermarket, medium to large air conditioning and large automotive systems).

The schedule of leak testing required follows Regulation (EU) No. 517/2014, and varies depending on the size of the gas charge in the equipment.

**Overview of Option 4b—Mandatory maintenance**

Regular maintenance on all large equipment (remote and supermarkets, medium to large air conditioners and large automotive systems), in accordance with ISO 5149-4.

Maintenance would be required to be completed as per the schedule for leak testing and would cover energy performance aspects beyond refrigerants such as fans and filters.
SECTION 5

Impact analysis of each option

This section describes the methodology and key assumptions underpinning the impact analysis; and the application of a sensitivity analysis to measures, as applicable.

The results of the CBA are summarised using two main metrics:

- Net present value (NPV), which is the present value of benefits delivered by the policy less the present value of costs incurred. It measures the expected benefit (or cost) to society of implementing each scenario; and
- Benefit Cost Ratio (B/C), which is the ratio of the present value of benefits to present value of costs.

The Department commissioned Jacobs Environmental Consultancies and Services to undertake the modelling. The modelling is substantially informed by Cold Hard Facts 2: A study of the refrigeration and air conditioning industry in Australia, a report commissioned by the Department in 2013. The modelling report draws attention to the high level of uncertainty around the estimated costs and benefits it presents in relation to the maintenance and leak testing options, noting that, “In many cases, the available data from which to estimate costs and benefits was scarce and assumptions had to be made.”

Cost-Benefit Analysis—General Framework

The CBA involves a comparison of costs and benefits against a reference scenario which represents a business as usual outcome. The timeframe of the CBA is from 2016 to 2030 (the ‘study period’). This timeframe was selected to align with the emissions estimates that have already been modelled by Expert Group for the Department. Because many of the costs may be incurred up-front and benefits such as avoided greenhouse gas emissions and energy savings would be realised after this evaluation period, it is likely that the CBA will understate benefits.

The discount rate used is 7 per cent. The CBA is conducted in line with the recent guidelines published by the OBPR and is consistent with the Regulatory Burden Measure to estimate compliance costs. Unless specified otherwise, all modeling is undertaken in real terms, in 2015 dollars. Sensitivity analysis of key variables appears as the end of this Impacts section.


Cost-Benefit Analysis—Reference Scenario

A reference scenario was developed for comparison with each of the proposed policy scenarios. The underlying equipment stock and gas bank projections in the reference scenario were obtained from the source database developed by Expert Group. The source database models significant technological change over the time period of analysis.

Given the range of options being examined, the reference scenario needed to provide annual estimates of various items from the source database. In addition, projections were required for gas prices, maintenance and leak testing activity, and end use licences issued for refrigeration and air conditioning and fire protection equipment. Each of these variables is projected between 2015 and 2030, based on available evidence and reasonable assumptions.

Cost-Benefit Analysis—Assumptions and methodology

This section describes the assumptions and methodology underlying calculation of the cost and benefit in each scenario. In all cases costs and benefits are compared to the reference scenario to deduce net benefit of each scenario.

Costs and benefits data

Costs and benefits were classified in the following categories:

- Costs of abatement. These are likely to reduce under most scenarios which either reduce the amount of leakage of HFCs or reduce the GWP of HFCs. The CBA model applies a $14/tonne abatement price in 2014 which rises by 3 per cent every year to $22/tonne in 2030. This reflects the increasing cost of achieving emission reductions over time, using a starting cost consistent with the cost of emission reductions achieved under round 1 of the Emission Reductions Fund ($13.95/tonne)14.

- Energy costs. These are likely to reduce for most scenarios. Energy reduction occurs when HFC leakage is reduced (i.e. improving the efficiency of the equipment) and can also occur when standard gas options are replaced with certain alternatives in new equipment. Energy costs are likely to increase if regulation is removed. These costs will be incurred by equipment owners. The CBA model calculates electricity cost savings by applying baseline energy costs across nine different equipment types (ranging from $100–$65,550 per year), nominating changes to energy costs for two equipment types (refrigerated remote and supermarket) based on the improved efficiency associated with low GWP alternatives. Jacobs used their own energy market model for retail electricity prices, which has been developed using a range of price drivers including carbon prices, fuel costs, unit inefficiencies and capital costs of new


14 Note that the CBA model uses the current average cost of abatement of 1 tonne of carbon, not the conventional social cost of carbon emissions (i.e. the marginal damage cost of a tonne of carbon).
plant. Specifically, the electricity cost in the CBA model moves from $22.24/MWh in 2016 to $25.43 in 2030 for residential, and from $12.83/MWh to $14.70 for large commercial.

- Capital costs. Where equipment is replaced at the end of life with low GWP alternatives, capital costs could increase if equipment is more expensive when designed for certain types of low GWP gases. For example, equipment that uses CO₂ is typically more expensive because the properties of the gas create additional pressurisation requirements. These costs will be incurred by the refrigeration and air conditioning and/or fire protection industries, and be passed on to equipment owners. The CBA model applies base year capital costs for nine different equipment types that range from $1000 for domestic refrigeration to $488,000 for supermarket RCFC. Small and large MAC was expected to become more expensive in the move to low GWP alternatives, with a respective 5 per cent and 10 per cent capital cost increase reflected in the CBA model.

- Maintenance costs. In the case of scenarios in which equipment is replaced at the end of life with low GWP alternatives, maintenance costs could increase as a result of changes to flammability and thermodynamic properties. In the case of scenarios which increase leak detection and maintenance from business as usual, these costs will include additional time costs of equipment handlers. Maintenance costs will be incurred by the refrigeration and air conditioning and/or fire protection industries and will be passed on to equipment owners. The CBA model applies base year maintenance costs for nine different equipment types that range from $10 for domestic refrigeration to $14,640 for supermarket RCFC. The maintenance regimes for small and large MAC equipment is expected to become more expensive, with a respective 9 per cent and 14 per cent maintenance cost increase reflected in the CBA model.

- Gas costs. Reducing the quota of HFCs that are imported into the country will increase prices and see a corresponding increase in demand for an alternative. These costs will be incurred by the refrigeration and air conditioning and/or fire protection industries, and will be passed on to equipment owners. If leakage increases under reduced regulation, these costs could also rise. However, the CBA assumes that HFC gas prices will not change because the nature of the phase-down is such that it allows the market to choose where the phase down can most efficiently be undertaken. This approach was undertaken because it simplifies the modelling and makes the results more transparent and explainable. Two species of HFC alternatives for which a price change is modelled in the CBA are ‘HFO1234yf’ (which changes from $150/kg in 2016 to $26.9/kg in 2030) and ‘HFO New Blends’ which changes from $50/kg in 2016 to $30/kg in 2030.

- Administration costs. For the purpose of this analysis, these costs describe regular ongoing costs which underpin management, monitoring, reporting, and control under each scenario. Administration costs are presently incurred by the Australian Government and refrigeration and air conditioning and fire protection industry licensees. Depending on the scenario under consideration, the distribution of administration costs could change between the Australian Government, the State and Territory governments, and refrigeration and air conditioning and fire protection licensees. The CBA assumes that the value of a bulk importer’s and equipment owner’s time is $50/hr.
Transitional costs. Transitional costs are incurred prior to, or in the first few years of any scenario, and cover the cost of stakeholder adjustment to each scenario’s conditions relative to current conditions. Increased transaction costs for equipment owners are expected as they will likely have to undertake research to determine the most appropriate low GWP alternative. The CBA model assumes that the 21 existing bulk importers and 5 new entrants would each require eight hours to understand the change in regulations, plan for which gases to import and liaise with key customers. The 17,241 refrigerant traders were assumed to require an additional four hours each to understand the phase down and begin identifying alternative gases to promote to customers.

Impact analysis Option 1—No additional regulation

Option 1 represents the scenario where no new policy intervention is undertaken and there is an emphasis on uptake of existing policies through education. This scenario was modelled as the reference scenario for Options 2, 3 and 4. Figure 8 displays the reference scenario. It has the following features:

- A steady decline in ODS imports consistent with the legislated phase-out of these substances under the Montreal Protocol and the accelerated phase-out in Australia, continuing impacting on the transition to alternatives, including HFCs.
- A gradual decline in the volumes of high GWP HFC imports, despite growth in the stock of equipment such as small and medium air conditioning charged with HFC-410A.
- Growth of low GWP import substances (CO$_2$, hydrofluoro-olefins (HFO) and HFO blends, hydrocarbons) in equipment post 2018.
- A high degree of diversification in the use of refrigerant gases, especially in the supermarket industry, with projected sales mixes including a range of hydrocarbons, CO$_2$, HFCs, HFOs and blends.

The international situation for HFCs is likely to change. The United States of America, Canada and Mexico have put forward the North American Amendment proposal to the Montreal Protocol which, if adopted, would introduce a global HFC phase-down. The amendment proposal is supported by recent agreements between USA and China, and between the G-20 group of countries. In addition the European Union has introduced a HFC phase-down from 2015. The Parties to the Montreal Protocol agreed in November 2015 to work to agreeing a HFC phase-down in 2016.

The reference scenario concludes that emissions are likely to decline over the projections period without further policy intervention, however potential future changes such as these introduce a high degree of uncertainty around the estimates.
Figure 8: Projected emissions, base case, excluding HCFCs, Mt CO$_2$-e

Source: Expert Group source database

**Impact on stakeholders**

Option 1 represents an uncertain future for Australian industry that use HFCs in any capacity, this ranges from importers, manufacturers, wholesalers to the building industry and the cold food industry, through to technicians installing and maintaining the equipment.

As Australia is a technology taker, a scenario in which the import of HFCs is not formally regulated opens the Australian industry up to outcomes of policy decisions made by other countries without any known ‘stop point’. Stakeholders have voiced concern that in this scenario, Australia could become the global ‘dumping ground’ of old technology. As other countries regulate to move their industries to newer technologies, Australia could in this scenario become a likely target for manufacturers sending their old technology equipment which they cannot sell in regulated markets.

The rate of change in this scenario is unpredictable, with a likely initial influx of old technology, delay in transition to new technologies, and a build up of this old technology in the Australian economy—further delaying a transition and extending the requirement for higher emitting gases to service old equipment.

Likely expected impacts on the main groups of stakeholders include:

**Importers, manufacturers, wholesalers**

- In the context of global regulation, the expectation that future Australian governments are likely to regulate HFCs may reduce investment certainty.
- Cost impacts from inability to plan their business model and required stock levels with any certainty.
- Induces flow on effects from importers through to wholesalers.
Building and cold food industries

- Likely cost impacts from not being able to choose equipment for installation with certainty relating to their quality and likely longevity.

- Likely cost impacts from increased price of maintenance due both to old technology (increasing frequency of maintenance required) and cost of labour (increasing due to flow on impacts to technicians in wider range of required training and occupational risks).

Technicians

- Inability to plan their business model adequately with uncertainty around training and regulatory requirements for gases they may work with.

- Increased health and safety risks due to highly diversified range of gases in the market. If not adequately trained in the handling of all possibilities, risks rise.

- Cost impacts of minimising these risks through additional training and research.

Consumers

- Similar impacts are expected to those to the building and cold food industries, as consumer goods are likely to track in the same direction as commercial goods.

Option 2—Legislated HFC phase-down (reduction of imports of bulk gases)

Option 2a—North American HFC phase-down proposal

Option 2b—Accelerated HFC phase-down

The key impact from implementation of Option 2 as a whole, whether through the specific mechanisms of Options 2a or 2b, is to reduce the amount of bulk HFC available to potential users in a predictable way. This scarcity effect may be felt in the form of higher prices, or the expectation of higher future prices for HFC.

Either option is expected to lead to market adaptation through reducing supply of existing gases and exploration of alternative options. This includes importing equipment that uses lower GWP gases so that equipment could be serviced into the future. At end of life, existing systems would be replaced with equipment that uses lower GWP gases.

Anticipated benefits (Options 2a and 2b)

- Option 2a is expected to result in emissions reduction of approximately 3.99 Mt CO$_2$-e over the period 2017–2036.

- Option 2b is expected to result in emissions reduction of approximately 9.15 Mt CO$_2$-e over the period 2017–2036.
Improved energy efficiency an indirect consequence of the use of alternative gas in new equipment and/or as a direct consequence of reducing leakage. Option 2a and 2b are estimated to save owners $31.8 million in energy costs over the study period.

Encourage replacement of equipment with low GWP alternatives, particularly after 2020. May encourage retrofit of certain systems with lower GWP alternatives that can be used as direct drop-in alternatives. This is considered especially likely in the supermarket sector.

**Anticipated costs (Options 2a and 2b)**

- Industry will need to adapt their business model to a quota or rationing system where none exists now—although as noted in the HFC consumption study\(^ {15} \), this is unlikely to be a cost until at least 2020 based on current import/consumption projections. Option 2a and 2b are estimated to cost $0.8 million in transitional costs over the study period.

- Owners of equipment charged with HFCs may experience higher costs to replace gas lost due to leakage. This may occur if demand for HFCs exceeds available supply, pushing prices up. Option 2a and 2b are estimated to cost owners $3.8 million and $27.9 million respectively, in additional gas costs over the study period.

- Equipment owners are not expected to replace their HFC equipment earlier than usual as the phase-down is gradual; it is unlikely to force early equipment retirement.

- Some equipment purchasers would purchase more expensive non-HFC equipment as a result of the scarcity of HFC. The major substitute gas is HFO-1234yf, and this gas is more expensive than HFC, but the price differential is projected to decline over the period to 2030. Option 2a and 2b are estimated to cost residential purchasers $4.7 million and $7.3 million, respectively, in capital costs over the study period. Option 2a and 2b are estimated to cost business purchasers $2.9 million in capital costs over the study period.

- Higher maintenance costs in some instances\(^ {16} \) where replacement gases have higher flammability, toxicity or require higher operating pressure. Option 2a and 2b are estimated to cost residential purchasers $18.0 million and $46.2 million, respectively, in maintenance costs over the study period.

- Australian Government to design and implement a phase-down process including baseline, schedule and quotas acceptable to industry.


\(^ {16} \) Expert views around change in maintenance costs under use of different refrigerants are varied. To maintain consistency in the use of data around change in capital, maintenance, and energy costs, we have opted to take data from a single source that (generally) describes increased maintenance costs. There may be some instances however where maintenance costs do not change or may even reduce because the equipment design has incorporated improved engineering and safety measures to counter any increased hazard.
Impacts on affected stakeholders

While many modelled costs are incurred by the RAC industry, gas importers and traders bear the ultimate incidence of costs associated with an HFC phase-down are most likely to fall primarily on users and consumers of refrigeration and air conditioning services. While the purchase price of HFC charged equipment will not be directly impacted, due to the exemption of charged equipment from the quota system, we assume that generally equipment suppliers will gradually move away from HFC charged equipment as the servicing of that equipment is projected to become increasingly difficult or expensive.

For example, if a car manufacturer currently chooses to install HFO air conditioning units in lieu of HFC units (the current standard), the retail price of the car is likely to reflect the additional cost of HFO which is $60 for a full gas charge, compared with $11 for HFC charge. In addition, the capital cost of the HFO car air conditioning unit itself is approximately $50 more expensive than the HFC version it replaces.17 The HFO cost premiums are expected to get progressively smaller in the future as technological innovation and economies of scale drive down the price.

Consumers of RAC services are estimated to incur most of the costs over the analysis period, and these costs are much higher in the case of the Accelerated Proposal due to its earlier, faster adoption of expensive alternative gases and equipment that requires more costly maintenance than HFC equipment. See Table 1 for a summary of distributional impacts.

Under the Regulatory Burden Measurement Framework, regulatory burden is estimated at $4.19 million (option 2a) for the North American Proposal and $11.72 million (option 2b) for the Accelerated Proposal.

Table 1: Stakeholder impacts (2016–30)

<table>
<thead>
<tr>
<th>Stakeholder group</th>
<th>Substitution Costs ($ million, NPV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 2a North American Proposal</td>
</tr>
<tr>
<td>End users (business) and consumers of RAC services</td>
<td>30.2</td>
</tr>
<tr>
<td>Australian Government</td>
<td>2.6</td>
</tr>
<tr>
<td><strong>Total substitution costs</strong></td>
<td><strong>32.8</strong></td>
</tr>
</tbody>
</table>

In addition to the costs faced by those users and consumers who will substitute out of HFC, many in this group will continue to use HFC including those who own older equipment and those who elected to keep buying HFC equipment. For this group, there is likely to be higher costs associated with recharging their equipment with HFC if it leaks, for example (70% of bulk HFC imports are used for leak replacement). Higher costs are a direct result of the scarcity created by the phase-down. These costs are extremely difficult to predict, but indicative values are provided below. These are not costs in the traditional sense, rather they are likely to be transfers to the Australian Government via the bulk HFC quota auction mechanism. These estimates are based on a simple model in which:

- The current level of demand for refrigerants sets the reference quantity, in terms of megatonnes CO$_2$-e per year, and this demand is assumed to decline at a rate which averages 5% every year, reflecting the projections of future HFC use by the Expert Group.

- The difference between the amount of permitted bulk HFC import under the phase down schedules and the reference quantity for that period gives the quantity change as a percentage

- The price elasticity of demand gives the impact of this quantity change on price. Direct evidence of the elasticity for substitutable gases could not be obtained so proxy information was obtained from a study of substitutable fuel sources, which indicates that demand for HFC is likely to be ‘reasonably elastic’, with a value of approximately -1.2. Given the high degree of uncertainty around this estimate, a wide range of sensitivity has been tested, at slightly inelastic (-0.8) and very elastic (-1.6), to provide a sense of scale. See Table 2 below.

**Table 2: Estimated transfer costs for stakeholder group—users and consumers of RAC services**

<table>
<thead>
<tr>
<th>Own price elasticity</th>
<th>Transfers 2016–2030 ($ million, NPV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 2a North American Proposal</td>
</tr>
<tr>
<td>0.8</td>
<td>$100</td>
</tr>
<tr>
<td>1.2</td>
<td>$66</td>
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<td>1.6</td>
<td>$50</td>
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</tbody>
</table>

Under the recommended scenario, this transfer would be revenue to the Australian Government. Under the alternative implementation scenario, in which quota is allocated under a ‘grandfathering’ method, this transfer would be income to the holders of quota rights.

In any case, these transfer estimates should be considered to be indicative only, as they are based on a range of assumptions that cannot be easily validated, such as the future demand schedule.

**Competition impacts and distributional impacts**

The recommended method for allocation of HFC import quota is via a periodic open-market auction, or equivalent process that ensures that all firms (incumbent, new entrant) have an equal opportunity to obtain the HFC quantities they desire. Should demand exceed supply at the time of any auction, this system should ensure that the quota goes to the party who values it most.

**Alternative allocation method**

Another method is to allocate most of the quota, free of charge, to existing importers. This alternative allocation method is not recommended but, if it is adopted, the RIS recommends that it be subject to special review arrangements at appropriate intervals.

There are currently around 30 importers of HFCs in the Australian market, with this figure holding more or less steady over the comparable time period of the HCFC phase-out beginning in the mid 1990s. Of these, two importers represent 50 per cent of the total market with this break down of the market also relatively steady over the same time period. The allocation of quota to these incumbent firms presents a barrier to new entrants, which is not faced by the incumbent importers, thus limiting the number or types of businesses that may import HFC in the future.

The alternative allocation method has the potential to exclude new entrants from any markets in which HFC is a possible input in the short term, so provision would be made for new entrants to apply for a portion of the 5–10 per cent of quota set aside for this group. Future demand for HFC cannot be predicted and may be more or less than this amount in any given quota period. Any uncertainty for new entrants about their ability to access HFC quota when they need it necessarily raises the costs of entry, such as by making capital more difficult to secure.

Competition would be protected by ensuring that quota holders are not restricted from re-selling their quota or gas on the domestic market. Markets are complex and the HFC phase-down option operates at the simplest level, by limiting the quantity of gas imported. Once imported, gas might be used by the importer (downstream production) or resold to other parties to incorporate in products or consume in other processes. If there is inadequate gas to
meet the requirements of all potential domestic users, at the pre-quota price, then the domestic price for HFC will have to rise until demand and supply are again equal. Holders of grandfathered quota will also face a choice: use the gas, or resell it at the (possibly higher) domestic price. This freedom to resell means that, if the relevant markets are perfectly efficient, then any firm that wants to use HFC will be assured that they can secure supply, and that prices are likely to be higher than the import price. In this way, the downstream markets remain competitive even if imports are tied up by incumbents. In fact, the opportunity cost for a quota holder to continue to participate in downstream markets will increase as the opportunity for arbitrage profits increases. While this involves a transfer of wealth from consumers to quota holders, innovation in the market is protected.

Thus, grandfathering quota under the alternative allocation method increases the cost of exit from the import market, but may encourage exit from downstream markets (for those importers who were vertically integrated) since firms that hold quota rights face an incentive to continue to import, to retain the option value of being able to exploit potential rents generated by regulatory scarcity, which may be valuable in perpetuity.

The distributional impacts of grandfathering may be small as substitute technologies become cost-effective, or they could be large. For example, with HFC imports at 8Mt of CO$_2$-e (equivalent to 5.6 million kg of HFC-134a) which presently trades for the world price of AUD$26 per kg, the value of a year’s imports is in the order of $145 million. Given a supply elasticity of zero (under the quota), a (for example) 10 per cent increase in price is conceivable and would transfer wealth of around $15 million from consumers to quota holders annually.

Transfers are conventionally excluded from a cost-benefit analysis but indicative modelling has been described above in Table 2.

The recommended allocation method, involving the open auction of all quota, would put incumbents and new entrants on an equal competitive footing at all stages of the import-distribution-consumption chain. This option, however, is untested whereas the grandfathering approach was used in the phase-out of ODS in Australia, and is being used for the phase-down of HFCs currently underway in Europe. The auction method also involves a financial transfer (depending on demand) from industry to government which is likely to be similar in size to the arbitrage profits described above and in Table 2.

While elements of the proposal do not promote competition, any adverse impact is limited to the import stage of the market, with downstream markets able to remain competitive, and the extent of competition impact is reduced by provisions to set aside up to 10 per cent of quota for new entrants. Based on these factors, it is possible that the allocation mechanisms of the proposed regulation would not impose significant costs on consumers additional to the costs imposed by limiting HFC supply per se (these default costs are fully captured in the form of
higher prices by the regulatory burden measurement framework and by the cost-benefit analysis discussed in Section 6).

If the alternative allocation method was used, then strategies to protect against the risks to competition and distributional impacts must be considered within the review mechanism. Specifically, a review should be conducted at five year intervals and will include consideration of the quota allocation, including whether scarcity rents are being observed and appropriately managed.

Cost-Benefit Analysis

The cost-benefit analysis is provided in Table 3. The table shows that the HFC phase-down would provide a positive net benefit under each proposal between 2016 and 2030.

The differences arise from a greater modelled level of end of life equipment replacement under the Accelerated alternative, particularly small mobile air conditioning requiring higher expenditure on refrigerant gases. However, if other parts of the industry choose to increase maintenance, the pressure to reduce imports in the automotive industry may reduce, and it could be cost effective to undertake the Accelerated alternative in this circumstance.

See summary Table 3 and additional detail in Jacobs report page 34–39.

Table 3: Cost-benefit analysis of HFC phase-down scenario, $000s

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Accelerated alternative phase-down</th>
<th>North American amendment phase-down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Benefits</td>
<td>$000s</td>
<td>-3652</td>
<td>10,491</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon saving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct (leakage)</td>
<td>$000s</td>
<td>6528</td>
<td>44,155</td>
</tr>
<tr>
<td>Direct (reclaim and re-use)</td>
<td>$000s</td>
<td>8351</td>
<td>19,358</td>
</tr>
<tr>
<td>Indirect</td>
<td>$000s</td>
<td>725</td>
<td>2930</td>
</tr>
<tr>
<td>Energy saving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>$000s</td>
<td>5974</td>
<td>19,243</td>
</tr>
<tr>
<td>Business</td>
<td>$000s</td>
<td>2855</td>
<td>12,541</td>
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<tr>
<td>Total Benefits</td>
<td>$000s</td>
<td>24,473</td>
<td>98,228</td>
</tr>
<tr>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Impact analysis Option 3—Bans on pre-charged HFC Equipment

**Option 3a—Supermarket equipment bans**

**Option 3b—Mobile air conditioning bans**

The key impact from implementation of Option 3 as a whole, whether through the specific mechanisms of Options 3a or 3b, is to reduce the amount of HFC in pre-charged equipment available to potential users in a predictable way. This scarcity effect may be felt in the form of higher prices, or the expectation of higher future prices for HFC.

Either option is expected to lead to market adaptation through reducing supply of existing technology and exploration of alternative options. This includes importing equipment that uses lower GWP gases so that equipment could be serviced into the future.

### Impact of Option 3a—Supermarket equipment bans

**Bans of supermarket equipment containing gas with GWP >2500 from 2020.**

The sales mix of new supermarket equipment in 2020 is diverse, with only ten per cent of all new equipment sold containing HFC-404A. By 2024, no new supermarket equipment is

---

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Accelerated alternative phase-down</th>
<th>North American amendment phase-down</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Refrigerant gas costs</strong></td>
<td>RAC industry—leakage replacement</td>
<td>$000s</td>
<td>7682</td>
</tr>
<tr>
<td><strong>Incremental capital cost</strong></td>
<td>Residential households</td>
<td>$000s</td>
<td>7291</td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>$000s</td>
<td>2889</td>
</tr>
<tr>
<td><strong>Maintenance cost</strong></td>
<td>Equipment owners</td>
<td>$000s</td>
<td>7458</td>
</tr>
<tr>
<td><strong>Transitional cost</strong></td>
<td>Industry</td>
<td>$000s</td>
<td>831</td>
</tr>
<tr>
<td></td>
<td>Australian Government</td>
<td>$000s</td>
<td>1662</td>
</tr>
<tr>
<td><strong>Administrative cost</strong></td>
<td>Industry</td>
<td>$000s</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Australian Government</td>
<td>$000s</td>
<td>282</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td>$000s</td>
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<td>87,738</td>
</tr>
<tr>
<td><strong>Benefit to cost ratio</strong></td>
<td>Ratio</td>
<td>0.9</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Source: Jacobs’ analysis. Note that the net benefit may be much higher if the scenario was based on increased maintenance and leak reduction strategies.
expected to be sold using HFC-404A, with a total of 92 pieces of equipment expected to be sold between 2020 and 2024 (6 per cent of total sales over the period).

This suggests there are a range of cost-effective alternatives on the market. Systems based on alternative gases are likely to have similar capital and maintenance costs, and can reduce energy costs by up to 5.8 per cent, hence a strong incentive for supermarkets to consider other options already exists.

The CBA indicates a positive net benefit for the ban on supermarket equipment.

**Impacts of Option 3b—Mobile air conditioning bans**

* Bans on imports of mobile air conditioning equipment containing gas with GWP >150 and with a date of manufacture from 2017.

Preliminary modelling of potential future use trends indicates the most likely alternative gas for mobile air conditioning equipment is HFO-1234yf as a replacement for HFC-134a.

Under this assumption, the most significant costs include capital and maintenance costs, which outweigh benefits in avoided emissions. The increased capital and maintenance costs occur because mobile air conditioning systems using HFO-1234yf are more expensive to produce (thus potentially increasing the purchase price of a vehicle) and more expensive to maintain.

**Anticipated benefits (Options 3a and 3b)**

- Option 3a is expected to result in emissions reduction of approximately 0.28 Mt CO$_2$-e over the period 2017–2036.
- Option 3b is expected to result in emissions reduction of approximately 6.14 Mt CO$_2$-e over the period 2017–2036.
- Introduction of more energy efficient technology, which will reduce energy costs by up to 5.8 per cent.

**Anticipated costs (Options 3a and 3b)**

- Incremental capital costs for new equipment of $39.1 million for option 3b only. Under option 3a there are already a range of cost-effective alternatives for supermarket equipment on the market. In addition, only 10 per cent of supermarket equipment sold currently contains HFC404A. In contrast, small and large MAC have a 5–10 per cent higher price for low GWP alternatives.
- Refrigerant gas costs of $98.3M for 3b only.
- Maintenance costs of $0.4M for 3a and $82.8M for 3b.
Impacts on affected stakeholders

The ultimate incidence of costs associated with an HFC equipment ban are most likely to fall on importers (currently 265 importers of MAC equipment) and equipment owners, and likely to be passed onto consumers. The bans will be applied at point of import, and therefore do not cause regulatory burden for end users of equipment. However, there is expected to be additional capital and maintenance cost to equipment purchasers, as a direct result of no longer being able to purchase equipment containing certain gases.

Under the Regulatory Burden Measurement framework, annual regulatory burden is estimated at $0.05 million (option 3a) for supermarket equipment and $31.57 million (option 3b) for mobile air conditioners.

For example, as the most appropriate alternative for HFC134a in MAC is HFO1234y vehicle owners will likely move to equipment that uses this species. For Large MAC that contains HFO1234y, the projected 10 per cent increase in capital cost will move the price from $7000 to $7700.

Table 4 for a summary of distributional impacts.

Table 4: Stakeholder impacts (2016–30)

<table>
<thead>
<tr>
<th>Stakeholder group</th>
<th>Substitution Costs ($ million, NPV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option 3a Supermarket Equipment Bans</td>
</tr>
<tr>
<td>Equipment/vehicle owners</td>
<td>0.41</td>
</tr>
<tr>
<td>Federal Government</td>
<td>1.81</td>
</tr>
<tr>
<td>Total substitution costs</td>
<td>2.21</td>
</tr>
</tbody>
</table>

Cost-Benefit Analysis results

On balance, the costs of banning equipment containing HFC far outweigh the benefits, except in the case of supermarket equipment where the long term benefit is significant.

See summary Table 5 and additional detail in Jacobs report.
<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Supermarket equipment from 2020</th>
<th>MAC equipment from 2017</th>
<th>Both categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Benefits—Equipment bans</td>
<td>$000 s</td>
<td>-296</td>
<td>3834</td>
<td>-103,353</td>
</tr>
<tr>
<td>Benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct—leakage</td>
<td>$000 s</td>
<td>547</td>
<td>1645</td>
<td>8745</td>
</tr>
<tr>
<td>Indirect</td>
<td>$000 s</td>
<td>10</td>
<td>490</td>
<td>10</td>
</tr>
<tr>
<td>Energy Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All end users</td>
<td>$000 s</td>
<td>84</td>
<td>3788</td>
<td>84</td>
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<tr>
<td>Refrigerant gas cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAC industry</td>
<td>$000 s</td>
<td>51</td>
<td>129</td>
<td>51</td>
</tr>
<tr>
<td>Total Benefits</td>
<td>$000 s</td>
<td>692</td>
<td>6051</td>
<td>8745</td>
</tr>
<tr>
<td>Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incremental capital cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment owners</td>
<td>$000 s</td>
<td>0</td>
<td>0</td>
<td>39,089</td>
</tr>
<tr>
<td>Refrigerant gas cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment owners</td>
<td>$000 s</td>
<td>39,951</td>
<td>98,316</td>
<td>39,951</td>
</tr>
<tr>
<td>Maintenance cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAC industry</td>
<td>$000 s</td>
<td>10</td>
<td>412</td>
<td>31,472</td>
</tr>
<tr>
<td>Transitional cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Governmen t</td>
<td>$000 s</td>
<td>978</td>
<td>978</td>
<td>1207</td>
</tr>
<tr>
<td>Administrative cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian Governmen t</td>
<td>$000 s</td>
<td>0</td>
<td>826</td>
<td>378</td>
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<tr>
<td>Total costs</td>
<td>$000 s</td>
<td>988</td>
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<td>112,098</td>
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<td>Benefit to cost ratio</td>
<td>ratio</td>
<td>0.7</td>
<td>2.7</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Impact analysis—Option 4—Equipment controls

Option 4a—Mandatory leak testing

Option 4b—Mandatory maintenance

The key impact from implementation of Option 4 as a whole, whether through the specific mechanisms of Options 4a or 4b, is to reduce HFC emissions over the life of equipment through extending the life of equipment, and reducing leaks over that lifetime.

Impacts of Option 4a—Mandatory leak testing

The leak testing reference scenario was developed based on an assumption of 50 per cent of required maintenance being undertaken in business as usual conditions. Evidence from the European Union suggests that most sectors in 2011 were compliant with the leak testing requirements of the previous F-Gas regulations. However compliance was less likely for smaller supermarkets and private commercial applications. For smaller companies leak testing tends to be done in response to identified equipment problems or as specified in the maintenance contract.19 The analysis assumes that all equipment types are currently tested manually, not using automatic systems.

This approach may over estimate the cost to business if automatic leak testing is already being adopted by businesses. Similarly, the benefits may be overstated if the source database used for analysis assumes a lower level of reference leak testing than that specified in the CBA. Jacobs has recommended further work to verify leak testing levels and subsequent emissions impacts to strengthen the assumptions in the analysis.

Impacts of Option 4b—Mandatory maintenance

The maintenance option is an extension to the leakage reduction option. Maintenance would be scheduled according to the same timetable as leak testing, occurring in the same technician call-out to maximise efficiency. Maintenance however, also includes activities such as regular inspection, cleaning and possible replacement of air filters, regular inspection and clearing of the surfaces of condensers, evaporators, fans, blades and fan guards, and improved containment practices on equipment connections, hoses, pipes and accessories, and such activities will improve energy efficiency and provide energy savings benefits to participants.

It is assumed that maintenance requirements would be implemented from 2017, and would apply to large pieces of equipment, specifically supermarket, medium and large air conditioners and large automotive systems.

**Anticipated benefits (Options 4a and 4b)**

- Option 4a is expected to result in emissions reduction of approximately 70.19 Mt CO$_2$-e over the period 2017–2036.

- Option 4b is expected to result in emissions reduction of approximately 21.63 Mt CO$_2$-e over the period 2017–2036.

- Reduced energy consumption and therefore energy costs for equipment owner of up to 1 per cent reduction for 4a (representing a $384.7M saving) and 8.5 per cent on 4b for a $3128.0M saving between 2016–2030.

- Reduced cost for equipment owners for bulk SGG as a result of lower leak rates resulting in $80.20M savings in gas costs between 2016–2030 for 4a and $80.29M savings in gas costs between 2016–2030 for 4b.

**Anticipated costs (Options 4a and 4b)**

- Increased maintenance costs, of $2636.9M for option 4b only, for implementation of extensive maintenance regime. Leak detection costs of $679.7M for both options, including for the purchase of automatic leak detection equipment. Administrative costs of $209.7M for both options,

- Transitional costs to equipment owners (including on education around compliance requirements for equipment owners) of $41.0M for both options.

**Impacts on affected stakeholders**

The major cost burden associated with the maintenance and leak testing option fall with equipment owners, with a particular focus on maintenance costs. For example, under Option 4a, larger pieces of MAC equipment will be required to install an automatic leak detection system and conduct a check of the system every six months. This is anticipated to cost $1500 to purchase and install automatic leak detection, and the yearly system text is expected to be included within one of the six-monthly manual leak tests that are currently undertaken. This option also includes obligations for education in order for technicians to familiarise themselves with the new equipment, and for additional record-keeping requirements.

Option 4(b) places significant obligations for equipment/vehicle owners. Specifically, this will involve all of the leak testing obligations with the addition of the activities described above in (i.e. more regular inspections, cleaning and replacement of air filters, etc). The level of maintenance expected across the 10 different equipment types ranges from between 2.5 to 10 hours per item of equipment, per year.
Under the Regulatory Burden Measurement Framework, regulatory burden is estimated at $111.98 million (option 4a) for mandatory leak testing and $430.05 million (option 4b) for mandatory maintenance.

See Table 6 for a summary of distributional impacts.

**Table 6: Stakeholder impacts (2016–30)**

<table>
<thead>
<tr>
<th>Stakeholder group</th>
<th>Substitution Costs ($ million, NPV)</th>
<th>Option 4a Mandatory Leak Testing</th>
<th>Option 4b Mandatory Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment/vehicle owners</td>
<td>930.49</td>
<td>3567.46</td>
<td></td>
</tr>
<tr>
<td>Federal Government</td>
<td>6.57</td>
<td>6.57</td>
<td></td>
</tr>
<tr>
<td><strong>Total substitution costs</strong></td>
<td>937.07</td>
<td>3574.03</td>
<td></td>
</tr>
</tbody>
</table>

**Cost-Benefit Analysis Results—Mandatory leak testing**

Table 7 summarises the CBA results.

More information can be found in the Jacobs report on pages 40 to 43.

**Table 7: Cost-benefit analysis for leak detection scenario**

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>NPV, 2016–2020</th>
<th>NPV, 2016–2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net Benefits—Leak testing</strong></td>
<td>$000s</td>
<td>-188,183</td>
<td>-341,937</td>
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<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Carbon Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct</td>
<td>$000s</td>
<td>14,928</td>
<td>82,414</td>
</tr>
<tr>
<td>Indirect</td>
<td>$000s</td>
<td>16,306</td>
<td>47,804</td>
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<tr>
<td><strong>Energy Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All end users</td>
<td>$000s</td>
<td>139,987</td>
<td>384,712</td>
</tr>
<tr>
<td><strong>Refrigerant Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All end users</td>
<td>$000s</td>
<td>13,536</td>
<td>80,202</td>
</tr>
<tr>
<td><strong>Total Benefits</strong></td>
<td>$000s</td>
<td>184,756</td>
<td>595,132</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leak testing cost</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Equipment owners</td>
<td>$000s</td>
<td>251,978</td>
<td>679,727</td>
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<tr>
<td><strong>Transitional cost</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Equipment owners</td>
<td>$000s</td>
<td>41,039</td>
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<td>Australian Government</td>
<td>$000s</td>
<td>2830</td>
<td>2830</td>
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<tr>
<td>Administrative cost</td>
<td>Unit</td>
<td>NPV, 2016–2020</td>
<td>NPV, 2016–2030</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Equipment owners</td>
<td>$000s</td>
<td>76,234</td>
<td>209,731</td>
</tr>
<tr>
<td>Australian Government</td>
<td>$000s</td>
<td>858</td>
<td>3742</td>
</tr>
</tbody>
</table>

| Total costs         | $000s | 372,939        | 937,070        |

| Benefit to cost ratio | ratio | 0.5           | 0.6           |

Source: Jacobs’ analysis

Cost-Benefit Analysis Results—Mandatory maintenance

Table 8 summarises the CBA results.

More information can be found in the Jacobs report on pages 43 to 45.

Table 8: Cost-benefit analysis for maintenance scenario

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$000s</td>
<td>-36,528</td>
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</tbody>
</table>

Benefits

<table>
<thead>
<tr>
<th>Carbon Costs</th>
<th>Direct $000s</th>
<th>14,977</th>
<th>82,505</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect</td>
<td></td>
<td>132,237</td>
<td>388,737</td>
</tr>
</tbody>
</table>

| Energy Costs | All end users $000s | 1,135,262 | 3,128,005 |

| Refrigerant Costs | All end users $000s | 13,577 | 80,291 |

| Total Benefits    | $000s | 1,296,053 | 3,679,537 |

| Maintenance cost | Equipment owners $000s | 959,642 | 2,636,961 |

| Leak detection cost | Equipment owners $000s | 251,978 | 679,727 |

| Transitional cost | Equipment owners $000s | 41,039 | 41,039 |
|                  | Australian Government $000s | 2830 | 2830 |

| Administrative cost | Equipment owners $000s | 76,234 | 209,731 |
|                    | Australian Government $000s | 858 | 3742 |

| Total costs        | $000s | 1,332,582 | 3,574,031 |
### Table 1: Benefit to cost ratio

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>NPV, 2016–2020</th>
<th>NPV, 2016–2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefit to cost ratio</td>
<td>ratio</td>
<td>0.97</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Source: Jacobs’ analysis

---

### Regulatory burden of each option

The Regulatory Burden Measurement (RBM) framework provides an estimate of the regulatory impacts (costs or savings) for business, community organisations and individuals (BCI) using an activity-based costing methodology. RBM values are calculated as a simple average of costs to BCI over the first 10-year period (2017 to 2026 inclusive) of the regulations being proposed in the options set out in Section 4.

Of relevance to the options in this RIS, the RBM framework identifies 2 major categories of costs that should be included in calculating regulatory burden:

- **Administrative compliance costs**—costs that are primarily driven by the need to demonstrate compliance with the regulation, such as learning about the regulation, seeking permission from government, filling in forms or providing certain information to government.

- **Substantive compliance costs**—costs incurred to deliver the regulated outcomes being sought. These costs may include the capital costs of equipment/technology upgrades as well as operational costs from process changes or additional staff training.

The RBM focuses on the costs to industry that would not otherwise be incurred. Business as usual costs—being those arising from existing legislation or actions that industry would undertake regardless of government intervention—are excluded from the calculation.

### General characteristics of the options in this RIS

All options costed have modest amounts of **administrative** costs including the need for stakeholders to learn about their new obligations and manage their transition (all options) to register for HFC import quota auctions and pay auction amounts (option 2), and to keep records about their use of technicians for maintenance and leak testing (option 4).

The major source of regulatory burden for all options is the **substantive** cost of reducing HFC use. Substantive costs includes:

- paying higher prices for non-HFC refrigerant gases ("Refrigerant gas cost" in the CBA results tables in Section 5).
  - Relevant to Option 2.

---

20 Additional information about the framework can be found on www.cuttingredtape.gov.au
- paying higher prices for the purchase of equipment that does not use HFC ("Incremental capital cost" in the CBA results tables in Section 5). Relevant to Option 2 and 3.
- any difference in the cost of maintaining non-HFC equipment which people choose to use compared with HFC equipment ("Maintenance cost" in the CBA results tables in Section 5).
  o Relevant to Option 2, 3 and 4.
- the cost of purchasing additional equipment, such as automatic leak detection modules ("Leak testing cost" in the CBA results tables in Section 5).
  o Relevant to Option 4.
- The cost of engaging technicians to perform maintenance and tests required by the policy ("Maintenance cost" and part of "Leak testing cost" in the CBA results tables in Section 5).
  o Relevant to Option 4.

Costs that are excluded, under the RBM framework, include:

- Financial transfers to the Australian Government, such as any amounts paid in an auction for HFC import quota.
RBM framework—Results

Option 2—HFC phase-down (bulk gases)

2a—North American Montreal Protocol Amendment Proposal
Regulatory burden estimated to be $4.19 million per annum.

2b—Accelerated Alternative
Regulatory burden estimated to be $11.72 million per annum.

Option 3—HFC pre-charged equipment ban

3a—Supermarket equipment bans
Regulatory burden estimated to be $0.05 million per annum.

3b—Mobile air conditioning bans
Regulatory burden estimated to be $31.57 million per annum.

Option 4—Equipment controls

4a—Mandatory leak testing
Regulatory burden estimated to be $111.98 million per annum

4b—Mandatory maintenance
Regulatory burden estimated to be $430.0 million per annum
### Summary of impact analysis

**Table 9: Summary of impact analysis of emission reduction options over period 2016-2030**

<table>
<thead>
<tr>
<th>Summary of Impact Analysis*</th>
<th>Summary of regulatory burden 2017–26</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016–2030</td>
<td>Summary of regulatory burden 2017–26</td>
</tr>
<tr>
<td></td>
<td>Costs NPV</td>
</tr>
<tr>
<td></td>
<td>$m</td>
</tr>
<tr>
<td>Option 2a—HFC Phase-down of bulk gas import (North American proposal)</td>
<td>32.80</td>
</tr>
<tr>
<td>Option 2b—HFC Phase-down of bulk gas import (Accelerated)</td>
<td>87.74</td>
</tr>
<tr>
<td>Option 3a—HFC-charged equipment ban (Supermarket equipment)</td>
<td>2.23</td>
</tr>
<tr>
<td>Option 3b—HFC-charged equipment ban (Mobile air conditioning)</td>
<td>222.59</td>
</tr>
<tr>
<td>Option 4a—Mandatory leak testing</td>
<td>937.07</td>
</tr>
<tr>
<td>Option 4b—Mandatory maintenance</td>
<td>3574.03</td>
</tr>
</tbody>
</table>

*Benefits were determined using recently observed carbon abatement prices, rather than a measure of the social cost of carbon emissions. In the model, this gives a conservative (low) value of avoided emissions.

---

**Summary of Emissions Reduction Pathways of Options 1, 2, 3 & 4**

Figure 3 and Figure 4 depict the emissions reduction pathways of each option compared to Option 1. Figure 4 depicts the final years of projections to clearly show the difference between
options. Option 3a is not shown as it overlaps with BAU such that they are not discernable for the purpose of this graph.

Figure 3: Direct (leakage) emissions against BAU 2017–2030

Figure 4: Direct (leakage) emissions against BAU 2026–2030

Cost-Benefit Analysis—Sensitivity analysis

A number of parameters were found to be material to the outcome of the various cost benefit analyses. This section outlines each parameter considered and forming the sensitivity analysis. The NPV has only been calculated for scenarios in which the parameter is material.
Discount Rate

Table 10 and Figure 9: Benefit cost ratio under a selection of discount rates display the net benefit and benefit cost ratios under discount rates of 3 per cent, 7 per cent and 10 per cent respectively. In all cases the sign of the net benefit is not affected by the discount rate, leaving overall conclusions around the analysis unaffected.

Table 10: Net present value under a selection of discount rates, $M

<table>
<thead>
<tr>
<th>Scenario</th>
<th>3%</th>
<th>7%</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFC Phase-down North American amendment</td>
<td>57</td>
<td>40</td>
<td>31</td>
</tr>
<tr>
<td>HFC Phase-down Accelerated Alternative</td>
<td>19</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>High GWP Equipment Bans—supermarket equipment</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>High GWP Equipment Bans—mobile air conditioning</td>
<td>-220</td>
<td>-182</td>
<td>-159</td>
</tr>
<tr>
<td>Maintenance</td>
<td>186</td>
<td>106</td>
<td>67</td>
</tr>
<tr>
<td>Leak testing</td>
<td>-433</td>
<td>-342</td>
<td>-292</td>
</tr>
</tbody>
</table>

Source: Jacobs' analysis

Figure 9: Benefit cost ratio under a selection of discount rates

Source: Jacobs' analysis
Carbon price

As noted above, the central analysis assumes that the carbon price starts at $13.95, and gradually rises annually to a maximum of $22 in 2030, Table 11 and Figure 10 display the net benefit and benefit cost ratios under starting carbon prices of $9.50, $13.95 and $30 respectively. In most cases the sign of the net benefit is not affected by the carbon price, leaving overall conclusions around the analysis unaffected. Though there is some potential for a negative net benefit with very low carbon price values under the accelerated alternative HFC phase-down and the maintenance option.

**Table 11: Net present value under a selection of starting carbon prices, $M**

<table>
<thead>
<tr>
<th>Carbon price</th>
<th>$9.50</th>
<th>$13.95</th>
<th>$30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HFC Phase-down North American amendment</td>
<td>27</td>
<td>40</td>
<td>86</td>
</tr>
<tr>
<td>HFC Phase-down Accelerated Alternative</td>
<td>-11</td>
<td>10</td>
<td>87</td>
</tr>
<tr>
<td>High GWP Equipment Bans---supermarket equipment</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>High GWP Equipment Bans---mobile air conditioning</td>
<td>-195</td>
<td>-182</td>
<td>-135</td>
</tr>
<tr>
<td>Maintenance</td>
<td>-45</td>
<td>106</td>
<td>648</td>
</tr>
<tr>
<td>Leak testing</td>
<td>-383</td>
<td>-342</td>
<td>-192</td>
</tr>
</tbody>
</table>

Source: Jacobs' analysis
Figure 10: Benefit cost ratio under a selection of carbon prices

Source: Jacobs’ analysis

Maintenance costs

Table 12 displays the net benefit and benefit cost ratios with and without adjustments for increased maintenance cost when end of life equipment is replaced with a low GWP alternative, for those scenarios where this is relevant. The results show that, while maintenance costs are material to the analysis, their level does not significantly affect the outcome.

Table 12: Net present value under a selection of maintenance cost assumptions, $M

<table>
<thead>
<tr>
<th>Maintenance assumption</th>
<th>No increase to equipment maintenance cost under alternative gas</th>
<th>Current assumptions</th>
<th>Double current maintenance assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accelerated phase-down</td>
<td>57</td>
<td>10</td>
<td>-36</td>
</tr>
<tr>
<td>North American amendment phase-down</td>
<td>58</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>High GWP Equipment Bans—mobile air conditioning</td>
<td>-99</td>
<td>-182</td>
<td>-264</td>
</tr>
</tbody>
</table>

Source: Jacobs’ analysis

Capital costs

Table 13 displays the net benefit and benefit cost ratios with and without adjustments for increased capital cost when end of life equipment is replaced with a low GWP alternative, for
those scenarios where this is relevant. The results show that capital costs are material to the analysis, but the outcome is not materially affected.

Table 13: Net present value under a selection of capital cost assumptions

<table>
<thead>
<tr>
<th>Scenario</th>
<th>No increase to capital costs assumed for Equipment using alternative gases</th>
<th>Current assumptions</th>
<th>Double the increase to capital costs assumed for alternative gases</th>
</tr>
</thead>
<tbody>
<tr>
<td>North American amendment phase-down</td>
<td>47</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>Accelerated phase-down</td>
<td>21</td>
<td>10</td>
<td>0.3</td>
</tr>
<tr>
<td>High GWP Equipment Bans—mobile air conditioning</td>
<td>-143</td>
<td>-182</td>
<td>-221</td>
</tr>
</tbody>
</table>

Source: Jacobs' analysis

Gas costs

Table 14 displays the net benefit and benefit cost ratios with different gas cost assumptions for HFO-1234yf. The results show that even though capital costs are material to the analysis the conclusions do not generally change with different gas prices. Gas prices at the higher end of the range may yield a negative cost benefit under the accelerated phase-down scenario.

Table 14: Net present value under a selection of gas cost assumptions, $M

<table>
<thead>
<tr>
<th>Cost of HFO-1234yf</th>
<th>Assume HFO-1234yf drops to $80/kg by 2020</th>
<th>Current assumptions</th>
<th>Current assumption: HFO-1234yf remains at $150/kg to 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North American amendment phase-down</td>
<td>41</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td>Accelerated phase-down</td>
<td>25</td>
<td>10</td>
<td>-0.5</td>
</tr>
<tr>
<td>High GWP Equipment Bans—mobile air conditioning</td>
<td>-146</td>
<td>-181</td>
<td>-209</td>
</tr>
<tr>
<td>Maintenance</td>
<td>104</td>
<td>106</td>
<td>106</td>
</tr>
<tr>
<td>Leak testing</td>
<td>-343</td>
<td>-342</td>
<td>-341</td>
</tr>
</tbody>
</table>

Source: Jacobs' analysis
Maintenance frequency under the maintenance and leak detection scenarios

Given the uncertainty around the true amount of maintenance currently being conducted on refrigeration and air conditioning equipment, sensitivity analysis was conducted on this variable to examine how changes in the amount of maintenance might impact on the costs and benefits of the maintenance scenario examined.

As the benefits of the maintenance scenario (reduced emissions, electricity and gas costs) were defined by the outputs of the source model, these do not change in response to a change in maintenance frequency. Expert Group do not include a baseline level of maintenance in the source model to determine their estimate of emissions and electricity reductions; this means that it is not possible to compare costs and benefits on an equal basis. This is a significant limitation of the analysis.

To assist in decision-making, Jacobs varied the baseline maintenance frequency (percentage of equipment currently being maintained in accordance with the proposed maintenance schedule, defined by EU Regulation 517/2014). As Table 15 below demonstrates, the higher the percentage of equipment currently being maintained, the lower the additional cost to implement maintenance requirements. Consequently, the net benefit is higher under an assumption of high existing levels of maintenance. The table also demonstrates that the results are highly sensitive to this assumption.

Table 15: Effect of varying maintenance assumptions

<table>
<thead>
<tr>
<th>Assumed percentage of equipment currently maintained in accordance with schedule defined in EU Regulation 517/2014</th>
<th>30%</th>
<th>50% (baseline scenario)</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td>$M</td>
<td>3.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Costs</td>
<td>$M</td>
<td>4.5</td>
<td>3.6</td>
</tr>
<tr>
<td>NPV, 2016–2030</td>
<td>$M</td>
<td>-0.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Benefit cost ratio</td>
<td>0.8</td>
<td>1.0</td>
<td>1.7</td>
</tr>
</tbody>
</table>
Table 16: Effect of varying leak detection assumptions

<table>
<thead>
<tr>
<th></th>
<th>Assumed percentage of equipment currently leak tested in accordance with schedule defined in EU Regulation 517/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30%</td>
</tr>
<tr>
<td>Benefits</td>
<td>$M</td>
</tr>
<tr>
<td>Costs</td>
<td>$M</td>
</tr>
<tr>
<td>NPV, 2016–2030</td>
<td>$M</td>
</tr>
<tr>
<td>Benefit cost ratio</td>
<td></td>
</tr>
</tbody>
</table>

- Benefits: 30% = 0.6, 50% = 0.6, 80% = 0.6
- Costs: 30% = 1.2, 50% = 0.9, 80% = 0.5
- NPV, 2016–2030: 30% = -0.6, 50% = -0.3, 80% = 0.1
- Benefit cost ratio: 30% = 0.5, 50% = 0.6, 80% = 1.1
SECTION 6

Consultation

Extensive consultation has been conducted in relation to the emissions reduction options outlined in this RIS as part of consultation undertaken for the review of the OPSGGM Programme, in train since May 2014. This has been undertaken throughout the various stages of the review; on the Terms of Reference outlining the objectives of the review and throughout the policy review and measure development, including the development of the cost-benefit analysis.

This has ensured that all likely impacts to business, the community and government arising from the implementation of the recommended emissions reduction and efficiency and effectiveness measures were identified and mitigated as much as possible in the development of final policy options.

Consultation has been undertaken in several ways:

Terms of Reference Public Consultation Period

The review of the OPSGGM Programme, including the emissions reduction options considered in this RIS, was announced by then Minister for the Environment, the Hon Greg Hunt MP on 24 May 2014. With the announcement the Minister released the Terms of Reference to the review for public consultation. The purpose of the public consultation was to seek input on opportunities to improve the OPSGGM Programme and achieve the emissions reduction and efficiency and effectiveness objectives of the review.

The public consultation period ended on 18 July 2014.

Twenty eight submissions were received and 24 of those published on the Department’s website (four submissions were treated as confidential at the request of submitters). A summary of this consultation period can be found at the Department’s website at: http://www.environment.gov.au/protection/ozone/legislation/ozone-acts-review

Technical Working Group

A Technical Working Group (TWG) was established to advise the Department during the review of the OPSGGM Programme. The TWG is made up of 12 representative bodies reflecting the major industries regulated by the OPSGGM legislation. Membership consists of the:

- Air conditioning and Mechanical Contractors’ Association (AMCA)
- Air conditioning and Refrigeration Equipment Manufacturers Association (AREMA)
- Australian Industry Group (AIG)
- Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH)
- Australian Refrigeration Association (ARA)
- Fire Protection Association Australia (FPAA)
- Plastics and Chemicals Industries Association (PACIA)
- Refrigerants Australia (RA)
- Refrigerant Reclaim Australia (RRA)
- Automotive Air Conditioning, Electrical and Cooling Technicians of Australia (VASA)
- Victorian Automotive Chamber of Commerce (VACC)
- Refrigerants Australia also represented methyl bromide uses.

The TWG met eight times between May 2014 and September 2015. TWG meetings focused on analysis of issues and measures for reform raised in public submissions, and input into the environmental impact and cost-benefit analysis supporting this RIS. The Department used the TWG to confirm that the intent behind public submissions had been interpreted correctly, and issues were being analysed in line with those intentions.

*Non-Technical Working Group engagement*

The Department also consulted individually with smaller sub-sections of the TWG specifically in relation to the emissions reduction options outlined in this RIS, including the design of the phase-down of HFCs and quota allocation.

*Interdepartmental Working Group*

An Interdepartmental Working Group (IWG) was established to ensure the review fulfilled Australian Government requirements and to provide input on possible areas of reform in line with the objectives of the review. The IWG consisted of:

- Australian Customs and Border Protection Service (now Department of Immigration and Border Protection)
- Department of Defence
- Department of Agriculture and Water Resources
- Department of Employment
- Safe Work Australia
- Department of Finance
- Attorney-General's Department
- Department of Health
- The Treasury
- Department of Industry, Innovation and Science
- Department of the Prime Minister and Cabinet
- Department of Foreign Affairs and Trade, and
- Civil Aviation Safety Authority.

The Department also engaged with these agencies separately on specific issues throughout the Review.

**Options Paper Public Consultation Period**

Following the receipt of public submissions on the Terms of Reference, an extensive policy review was undertaken of all aspects of the OPSGGM Programme. This culminated in the release of the OPSGGM Programme Review Options Paper on 6 October 2015. The paper outlined the measures identified within each area of the OPSGGM Programme with opportunities to either include new mechanisms, or improve existing mechanisms to achieve the objectives of the review.

The paper was supported by a Technical Analysis Report containing a detailed analysis of each measure, as well as two independent research consultancies undertaken as part of the review. The first was the *Assessment of Environmental Impacts from the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* by Expert Group. The second was a Cost-benefit analysis by Jacobs Environmental Consultancies and Services which specifically considered the options outlined in this RIS.

The public consultation period ended on 16 November 2015. Fifty seven submissions were received and 45 of those published on the Department’s website (12 submissions were treated as confidential at the request of submitters). A summary of this consultation period can be found at the Department’s website at:

**Outcomes of Consultation**

The main theme that emerged through the consultation process was an overall level of support for the OPSGGM Programme and the options and measures developed to achieve the objectives of Government action as outlined in this RIS, as well as the broader objectives of the Review.

39 submissions received as part of consultation on the Option Paper discussed one or more of the emissions reduction options analysed in this RIS. Table 17 provides a summary of all
submissions received on the Options Paper and shows which commented on the emissions reduction options.

A shaded box indicates that the submission canvassed the option, a tick indicates that clear support was given, a ‘cross’ indicates that the option was clearly not supported. This table is an extract out of the full table covering all submissions received on the Options Paper, available at the Department’s website at the link outlined above.

**Feedback on Option 1: No additional regulation**

35 submissions addressed the option of no further regulation, of these 7 were specifically supportive. These stakeholders voiced the option of increasing compliance and enforcement action and raising existing levies to act as incentives for better handling of equipment, thereby leading to emissions reduction.

It is worth noting that of these 35, 29 also supported the adoption of at least one other measure, with 28 supporting Option 2, 12 supporting Option 3, and 18 supporting Option 4.

**Feedback on Option 2: HFC Phase-down**

39 submissions specifically addressed the phase-down. In general, industry stakeholders support a HFC phase-down. Refrigerants Australia (RA), representing the main HFC importers and distributors, and the Air Conditioning and Refrigeration Equipment Manufacturers Association (AREMA), representing major HFC equipment manufacturers, support a faster phase-down.

The quota approach is supported by most current importers, with slight differences in opinion on how quota should be allocated.

**Feedback on Option 3: Equipment bans**

36 submission specifically addressed equipment bans, 12 clearly supported bans, 3 were against.

Stakeholder’s views are mixed, with representative bodies of larger importers resisting early bans. There was some support for bans on HFC equipment as a complementary policy to a phase-down of HFCs however an equal amount of support was voiced for limiting the total of gas allowed (through a phase-down) and allowing manufacturers to make technology decisions based on this.

**Feedback on Option 4: Maintenance**

35 submissions specifically addressed the maintenance options, 18 clearly supported, 1 was against.
Those who support Option 4 commented that it was likely to achieve greater emissions reductions and also spread the regulatory burden and responsibilities to equipment owners.

In addition to comments on the emission reduction options specifically, 23 submissions, covering almost the full spectrum of stakeholders who provided comments including representative groups of the natural refrigerant sector recommended the legislation be broadened to include all refrigerants. This was suggested to include those not listed under the Montreal Protocol and Kyoto Protocol, meaning the majority have low to no global warming potential. This is on the basis of addressing safety concerns and to some extent reduced energy related emissions.

Stakeholder feedback throughout the RIS process has influenced the policy design of each option, particularly in respect of the design of implementation of the preferred option to minimise negative impacts on the regulated community while achieving the highest possible environmental benefit, as described in the Implementation section.

Table 17: Summary of stakeholder feedback

<table>
<thead>
<tr>
<th>Legend:</th>
<th>6.1 Further reduce emissions of SGGS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaded means measure is canvassed—a tick means generally supported—X means generally not supported</td>
<td>Option 1 No additional regulation</td>
<td>Option 2 Phase-down of HFCs</td>
</tr>
<tr>
<td>SUBMISSION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 CONFIDENTIAL</td>
<td>✓</td>
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<tr>
<td>2 CONFIDENTIAL</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3 CONFIDENTIAL</td>
<td></td>
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<td>4 CONFIDENTIAL</td>
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<td>X</td>
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<td>9 CONFIDENTIAL</td>
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<td></td>
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</table>

61
<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional regulation</td>
<td>Phase-down of HFCs</td>
<td>HFC equipment ban</td>
<td>Maintenance and leak testing</td>
</tr>
<tr>
<td>6.1 Further reduce emissions of SGGS</td>
<td></td>
<td></td>
<td>Broaden coverage of the scheme to regulate indirect emissions, consider energy efficiency, account for diversity in the industry, the movement towards alternatives and associated issues such as gas quality, Workplace Health and Safety and product stewardship—Through various measures (for eg. regulating more gases/activities, training, links to other legislation/schemes, standards, codes of practice, labelling)</td>
</tr>
<tr>
<td>10 CONFIDENTIAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 CONFIDENTIAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 CONFIDENTIAL</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 AIRAH—Australian Institute of Refrigeration and Air Conditioning and Heating</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>14 AMCA—Air Conditioning and Mechanical Contractors Association of Australia</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>15 AMROBA—Aviation Maintenance Repair Overhaul Business Association Inc</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>16 ARC—Australian Refrigeration Council</td>
<td></td>
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<tr>
<td>17 AREMA—Air-conditioning and Refrigeration Equipment Manufacturers Association of Australia</td>
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<td>✓</td>
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<tr>
<td>18 ARKEMA—Chemicals company</td>
<td></td>
<td>✓</td>
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<tr>
<td>19 ARMA—Australian Refrigeration Mechanics Association</td>
<td>✓</td>
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<tr>
<td>20 AUSGRID—electricity infrastructure company</td>
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<tr>
<td>21 Australian Refrigeration Association</td>
<td>✓</td>
<td>✓</td>
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<td>Legend:</td>
<td>6.1 Further reduce emissions of SGGS</td>
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<td>Shaded means measure is canvassed—a tick means generally supported—X means generally not supported</td>
<td>Broaden coverage of the scheme to regulate indirect emissions, consider energy efficiency, account for diversity in the industry, the movement towards alternatives and associated issues such as gas quality, Workplace Health and Safety and product stewardship—Through various measures (for eg. regulating more gases/activities, training, links to other legislation/schemes, standards, codes of practice, labelling)</td>
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<tr>
<td></td>
<td>Option 1 No additional regulation</td>
<td>Option 2 Phase-down of HFCs</td>
<td>Option 3 HFC equipment ban</td>
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<tr>
<td>22 BOC—Bulk Importer</td>
<td>✓</td>
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<td>23 Canon—Manufacturer</td>
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<td>24 Climate Institute</td>
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<td>25 Department of Agriculture</td>
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<tr>
<td>26 Environmental Investigation Agency</td>
<td>✓</td>
<td>✓</td>
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<td>27 E-Oz Energy Skills Australia</td>
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<td>28 FCAI—Federal Chamber of Automotive Industries</td>
<td></td>
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<td>X</td>
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<tr>
<td>29 Fire Protection—Industry Association Joint Statement</td>
<td>✓</td>
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<td>30 Fire Protection Association of Australia</td>
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<td>31 Fire Protection Industry Board</td>
<td>✓</td>
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<tr>
<td>32 Griffith Hack IP Amplified—SUPPORT ARA’s submission</td>
<td>✓</td>
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<td>33 Honeywell—Bulk importer</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>34 Kidde Aerospace—fire protection and safety systems for commercial and military aviation and for commercial and military ground vehicle applications.</td>
<td>✓</td>
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<td>✓</td>
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<tr>
<td>35 Lateral Fire Design</td>
<td>✓</td>
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| 6.1 Further reduce emissions of SGGS |
|-----------------------------------|----------------------------------|
| Option 1 | Option 2 | Option 3 | Option 4 |
| No additional regulation | Phase-down of HFCs | HFC equipment ban | Maintenance and leak testing |
| Broaden coverage of the scheme to regulate indirect emissions, consider energy efficiency, account for diversity in the industry, the movement towards alternatives and associated issues such as gas quality, Workplace Health and Safety and product stewardship—Through various measures (for eg. regulating more gases/activities, training, links to other legislation/schemes, standards, codes of practice, labelling) |

<p>| 36 | LPG Fire Australia Pty Ltd | ✓ | ✓ | ✓ |
| 37 | Mitsubishi—Manufacturer |
| 38 | Mr Tony Bittman—Private citizen |
| 39 | National Fire Solutions | ✓ | ✓ | ✓ |
| 40 | NFIA—National Fire Industry Association |
| 41 | NSW Environment Protection Agency |
| 42 | Plantic Technologies Ltd |
| 43 | Powerlink Queensland |
| 44 | RACCA—Refrigeration and Air Conditioning Contractors of Australia |
| 45 | Refrigerant Reclaim Australia | ✓ | ✓ | ✓ |
| 46 | Refrigerants Australia | ✓ | ✓ |
| 47 | Scantec—Manufacturer |
| 48 | Shecco | ✓ | ✓ | ✓ |
| 49 | The Chemours Company | ✓ |
| 50 | Truck Industry Council |
| 51 | True Food International | ✓ | ✓ |
| 52 | TYCO | ✓ | ✓ |
| 53 | UTC Building &amp; Industrial Systems | ✓ | ✓ | ✓ |</p>
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<td>Shaded means measure is canvassed—a tick means generally supported—X means generally not supported</td>
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<tr>
<td><strong>Option 1</strong></td>
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<tr>
<td>54 VACC—Victorian Automobile Chamber of Commerce</td>
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<td>55 VASA—Automotive Air conditioning, Electrical and Cooling Technicians of Australasia</td>
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<tr>
<td>56 Wilhelmsen Ships—Global maritime industry group</td>
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<td>57 Xatech International</td>
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SECTION 7

What is the best option from those you have considered?

The option with the highest net present value and that is robust under a range of assumptions is recommended for implementation to contribute to the Government’s carbon emissions commitment.

Based on the analysis outlined in this RIS, the recommendation is to adopt:

- Option 2a—HFC phase-down (bulk gases) – North American Montreal Protocol Amendment Proposal

This option has a net present value of $39.67 million and is designed to achieve SGG emissions by accelerating an existing trend away from HFC in favour of alternative refrigerants.

Regulatory burden is estimated to be $4.19 million per annum.

Implementation of preferred option

Option 2a—HFC phase-down (bulk gases) – North American Montreal Protocol Amendment Proposal

Design of phase-down

The phase-down will be implemented with the following characteristics:

Phase-down design

- The years 2011 to 2013 will be used to calculate the baseline from which the phase-down quantities will be determined. This will include total HFC consumption and 75 per cent of HCFC consumption for the same period.

- The phase-down will relate to new HFC only.

- The HFC phase-down will apply to bulk gas only and not pre-charged equipment.

- Provisions will be made for specific exemptions such as for feedstock use, destruction and essential uses. These exemptions will be in line with Montreal Protocol requirements and there will be provisions for these exemptions to be periodically reassessed.

- Provisions will be made to review the phase-down after five years of implementation.

Establishing an Auction

The recommended method for allocation of HFC import quota is via a periodic open-market auction, or equivalent process that ensures that all firms (incumbent, new entrant) have an equal opportunity to obtain the HFC quantities they desire. Should demand exceed supply at
the time of any auction, this system should ensure that the quota goes to the party who values it most.

Other options with a positive net benefit based on the RIS analysis will be assessed for potential implementation at a later date, as part of the periodic review of the best option.

**Implementation processes**

The implementation would have two stages, the first to implement new policies through requisite legislative amendment as soon as practicable, taking effect no later than 1 January 2018.

The second stage is to assess the appropriateness of implementing additional policies that are included in this RIS. The second stage is intended to be conducted following the review of the Preferred Option, further described in the Review Section, and is not discussed in detail in this RIS.

The first stage has five main aspects.

- Development of requisite legislative amendments, including amendments to applicable Regulations, to enact the preferred option to implement a phase-down of HFCs per the North American Amendment proposal.
- It is intended that these be undertaken as soon as practicable with the aim of the phase-down of HFCs commencing on 1 January 2018.
- Development of administrative policy to support the implementation of the phase-down.
- Development of complementary administrative and IT systems to ensure the effective implementation of the phase-down.
- Development of a targeted communications and education strategy to support the effective implementation of the phase-down and encourage an overall higher uptake of policies that will result in emissions reductions.

The implementation of the preferred Option is intended to be undertaken in conjunction with efficiency and effectiveness measures recommended as part of the broader review of the OPSGGM Programme, outlined in a separate recommendations paper. These efficiency and effectiveness measures are intended to be implemented as soon as possible, and by mid-2017 where changes to the Act are not required to allow adequate time for both Government and affected stakeholders to prepare for the changes.

Staging this aspect of the implementation of the recommendations from the review of the OPSGGM Programme prior to the major policy change, the phase-down of HFCs, taking effect from 1 January 2018 would allow for this new policy to be implemented into a newly robust OPSGGM Programme.
Implementation Risks

Implementation is to be achieved within the existing regulatory framework, which is well-known to industry, so the risks of non-compliance with the recommended Option are low.

Market Impacts

It is planned that the phase-down trajectory will be at a pace where the emergence of substitutes suppresses any excess demand for HFC. Nevertheless, key risks include the risk that the value of HFC, once imported to Australia by quota holders, rises as a result of the scarcity created by the policy (arbitrage risk). This arbitrage risk, if realised, could generate substantial levels of auction revenue to the Australian Government.

If the alternative allocation method described on page [39–40] above is adopted then the arbitrage risk could generate substantial unearned income to quota holders. This risk would require careful management, such as by instituting compulsory reporting to the Department of all transactions (including between related parties) of quota or of HFC gases. The information, including date, counterparty identities, volume and value would be published on the Department’s website.

Under the alternative allocation method, the arbitrage risk also leads to HFC ballots being over-subscribed by speculators and to administrative risks, which are mitigated by existing Australian Government anti-corruption arrangements. It will also be supported by periodic review in which the acceptability of observed levels of arbitrage earnings will be specifically addressed.

Environmental Risks

The preferred option will restrict a class of HFCs listed under the Kyoto Protocol. If innovation leads to adoption of a chemical outside this class, the chemical will be permitted, even if its global warming potential is as high, or higher than, HFC. This is highly unlikely as chemical manufacturers and equipment manufacturers are unlikely to invest in a new technology where future controls are possible. The evolution of ODS is an example where no new substances have emerged since the Montreal Protocol was agreed in 1987. Nevertheless, efforts to predict technological developments over a 20 year timeframe are difficult, so future reviews will need to monitor developments in this regard.

Furthermore, the exemption of pre-charged equipment could lead to growth in the amount of HFC being imported in products, rather than in bulk form. Related to this possibility, Australian businesses may experience a decline in their competitiveness relative to pre-charged equipment.

This potential flow on effect will be assessed as part of the periodic review of the policy.
Health and Safety Risks

The preferred option limits the availability of a gas which has characteristics well known by technicians. Some substitute gases may pose a danger to technicians and/or to occupants of buildings containing refrigeration or air conditioning equipment if they are handled and installed in an unsafe manner and in equipment not designed to house them.

The Department will develop a plan to use the End User Licensing system to deploy education and enforcement strategies to mitigate those risks, also noting that existing International Safety Standards already apply to this equipment. This potential flow on effect will also be assessed as part of the periodic review of the policy.

Funding

This RIS does not explore funding options for implementation of the preferred Option. However, a range of funding options for resourcing could be considered, including utilising the cost recovery arrangements of the OPSGGM Programme.

Review

It is proposed that the efficacy of the preferred Option be reviewed in 2023, five years after the intended commencement date of the policy, 1 January 2018.

This would allow the phase-down to be operational for two full consecutive two-year quota allocation periods, with the review undertaken mid-way through the third quota period. This would allow assessment of the effectiveness of the policy and its design in meeting Government objectives.

It is further proposed that the policy be implemented outlining other review triggers such as reported detrimental impacts of the policy on Australian industry, including competition aspects.

A timeline of key milestones and government action items for implementation and review will be developed pending a final decision on the preferred Option.
WORKS CITED


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