

For Consultation

Options Paper

Review of the Ozone Protection and Synthetic Greenhouse Gas Management Programme

(covering the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989, associated Acts, Regulations and administrative policy)

Minister's foreword

The Australian Government is committed to practical actions that achieve real and measurable results for the environment. Our objective is to conserve our natural environment while ensuring strong economic growth.

The Ozone and Synthetic Greenhouse Gas Programme which was established in 1989 is an example of government and business collaborating to solve a problem in the most effective and efficient manner. It has been very successful in reducing emissions of ozone depleting substances and, as the programme evolved, reducing emissions of synthetic greenhouse gases, making Australia a leader in this field. The businesses working with these gases can take much credit for Australia's achievements.



The Government and business recognise that gas and equipment technology has evolved swiftly over the last decade and our emission reduction approaches need to keep pace. In May 2014 I announced a review of the ozone protection and synthetic greenhouse gas programme to improve emission reduction and to reduce the regulatory burden on business. The review will provide investment and regulatory certainty for Australian industry over the next 20 years. The review has been highly collaborative and I would like to extend my thanks to the organisations, businesses and individuals, especially the Technical Working Group to the review, who have contributed their time, expertise and ideas.

A number of options have been put forward by business that support the Government's commitment to reduce greenhouse gas emissions by 26-28 per cent below 2005 levels by 2030. They would also contribute to Australia's current target to reduce emissions to five per cent below 2000 levels by 2020.

A reduction in hydrofluorocarbon (HFC) emissions is an important part of Australia's commitment. On 11 August 2015 I announced that Australia will show international leadership and encourage all countries to agree to a global HFC phase-down under the Montreal Protocol on Substances that Deplete the Ozone Layer. Australia will 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.

I look forward to receiving comments on this options paper from business and the community. Your comments will help improve the programme as we move into a new era of technology.

A handwritten signature in blue ink, which appears to read 'Greg Hunt'.

The Hon Greg Hunt MP
Minister for the Environment

EXECUTIVE SUMMARY

On 24 May 2014 the Minister for the Environment, the Hon Greg Hunt MP, announced a review of the Ozone Protection and Synthetic Greenhouse Gas Management Programme, covering the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*, associated Acts, Regulations and administrative policy.

It is considered good practice to regularly review legislation to determine if it is still efficient and effective, and to respond to changes in the sector/s being regulated. The last major amendment to the Ozone Protection and Synthetic Greenhouse Gas Programme was in 2003. This amendment followed a review in 2001. Since then technology has evolved rapidly and the nature of the gas and equipment market in Australia has changed accordingly.

The objectives of the Review are to:

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

The review encompasses analysis of whether regulation is required.

This Options Paper has been prepared by the Department of the Environment to seek input from interested businesses, groups and individuals on the review of the Ozone Protection and Synthetic Greenhouse Gas programme. The options paper is consistent with the Commonwealth government's regulation impact statement requirements for independent reviews set out in *The Australian Government's Guide to Regulation*.

The Options Paper is supported by an environmental impact analysis and cost benefit analysis.

What is the problem we are trying to solve?

To mitigate the environmental impacts of ozone depleting substances and synthetic greenhouse gases to ensure they are being managed and continue to be managed in the most appropriate way in the face of changing technology and international and domestic policy.

Is government action required? Why do governments regulate ozone depleting substances and synthetic greenhouse gases?

Ozone depleting substances damage the Earth's protective ozone layer, leading to higher levels of ultraviolet radiation reaching the earth's surface, damaging human, plant and aquatic health. The level of ozone depletion discovered in the 1980s sparked unprecedented worldwide concern. This led to governments across the globe developing and becoming parties to the *Montreal Protocol on Substances that Deplete the Ozone Layer* (the Montreal Protocol) to reduce emissions of ozone depleting substances and restore the ozone layer. The Montreal Protocol aims to restore the ozone layer to pre-1980 levels by phasing out production and consumption (imports and production, minus exports) of substances with substantial ozone depleting potentials¹.

¹ The ozone depletion potential (ODP) of a chemical compound is the relative amount of degradation to the ozone layer it can cause, with trichlorofluoromethane (R-11 or CFC-11) being fixed at an ODP of 1.0.

Synthetic greenhouse gases are replacements for many ozone depleting substances and most have very high global warming potentials². Synthetic greenhouse gases account for around two per cent of all greenhouse gas emissions in Australia, with the proportion predicted to rise. *The United Nations Framework Convention on Climate Change* and its Kyoto Protocol were developed to reduce the emissions of all greenhouse gases, including synthetic greenhouse gases. The Kyoto Protocol commits parties to binding obligations to reduce greenhouse gas emissions.

Australia is a party to the *Vienna Convention for the Protection of the Ozone Layer* and its *Montreal Protocol on Substances that Deplete the Ozone Layer* and *The United Nations Framework Convention on Climate Change* and its Kyoto Protocol.

How is regulation of ozone depleting substances and synthetic greenhouse gases implemented in Australia?

Australia implements its binding international obligations under the Montreal Protocol and Kyoto Protocol through the *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989*, associated Acts, Regulations and administrative policy (the Ozone Protection and Synthetic Greenhouse Gas Management Programme).

The import, export and manufacture of ozone depleting substances and synthetic greenhouse gases in bulk form or contained in equipment is managed through a licensing system under the legislation. The import, export and manufacture licensing system has enabled Australia to phase-out most ozone depleting substances through a reducing quota system and enables Australia to meet its reporting obligations under the Montreal Protocol and the Kyoto Protocol. The phase-out of ozone depleting substances was designed in close co-operation with industry.

Emissions of ozone depleting substances and synthetic greenhouse gases are reduced through end use controls. These were introduced at a national level in 2003, after the states and territories handed their power to regulate end use to the Commonwealth, with the aim of nationally consistent controls. The storage, use and disposal of ozone depleting substances and synthetic greenhouse gases in major industries is restricted to businesses and individuals who can demonstrate that they have the skills and infrastructure to use and manage these gases in a manner that minimises emissions. This approach was promoted by industry as a means of reducing emissions and improving business efficiency through consistent national regulation.

The Ozone Protection and Synthetic Greenhouse Gas Programme is intended to operate on a cost recovery basis, funded by licence fees, import and manufacture levies and service fees.

Are the controls on ozone depleting substances and synthetic greenhouse gases fit for purpose?

Ineffective management of ozone depleting substances and synthetic greenhouse gases would lead to detrimental environmental outcomes and Australia being in breach of its international obligations under the Montreal Protocol and Kyoto Protocol.

² Global-warming potential (GWP) is a relative measure of how much heat a greenhouse gas traps in the atmosphere, calculated over a specific time interval, commonly 100 years. GWP is expressed as a factor of carbon dioxide (whose GWP is standardized to 1).

The current controls under the Ozone Protection and Synthetic Greenhouse Gas Management Programme were established and have been subsequently amended to ensure Australia meets its international obligations to manage ozone depleting substances and synthetic greenhouse gases.

To date, existing controls have ensured that Australia has met or exceeded all of its obligations:

- Australia has phased out the most potent ozone depleting substances including chlorofluorocarbons and halon, and is well on its way to phasing out hydrochlorofluorocarbons and controlled uses of methyl bromide.
- Australia has an accelerated phase-out of hydrochlorofluorocarbons which will result in 61 per cent less imports in the period to 2020 than permitted under the Montreal Protocol.
- 24.67 mega tonnes (Mt) carbon dioxide equivalent (CO₂-e) direct greenhouse gas emissions have been avoided as a result of the regulatory controls in the period 2003 to 2013.

The review has considered an alternative approach to regulation, involving abolishing the current controls and introducing an incentive based market mechanism to control ozone depleting substances and synthetic greenhouse gases. This approach is not considered feasible at this time as: it would be impractical to change the approach to ozone depleting substances given that a 99.5 per cent phase out of hydrochlorofluorocarbons (the main targeted ozone depleting substance) will be achieved by the end of 2015 under current controls; there is uncertainty around achieving required environmental outcomes for either group of gases; there is uncertainty about complying with Australia's international obligations; the potential perverse environment impacts; and uncertainty on the level of financial impact on business and consumers.

The review has found that the existing controls are an effective and efficient way to ensure that Australia continues to meet these obligations and protect the environment and are considered fit for purpose.

What are the areas for reform?

Thorough analysis of the issues and options received through public submissions, as well as consultation with an industry representative technical working group, individual stakeholders, and Commonwealth agencies, Review has found that while the existing controls are fit for purpose, there are two key areas for reform:

- **Emission Reduction:** Opportunities to further reduce emissions which will contribute to meeting Australia's greenhouse gas emissions target.
- **Efficiency and Effectiveness:** Coverage of additional gases would be required if Australia is to accept further international obligations. Components of the legislation are complex for businesses and individuals to comply with. Components of the legislation do not support effective compliance and enforcement. The Ozone Protection and Synthetic Greenhouse Gas Management Programme also does not achieve full cost recovery.

What does the options paper propose?

Four options for meeting the objectives of the review are considered in this paper, with each option comprising a combination of measures to reform specific aspects of the programme. The options range from proposing a minimum level of reform to fully achieve current objectives to a high level of reform to achieve maximum emission reduction, efficiency and effectiveness gains. Options packages are outlined in Table 1 (Page 20).

Key measures within the overarching areas for reform are:

1. Emission Reduction

- a. Further reduce emissions of synthetic greenhouse gases
 - i. Phase down of HFC's, complementary equipment bans and maintenance and leak testing of equipment.

2. Efficiency and Effectiveness

- a. Regulation of additional substances
- b. Improvements to hydrochlorofluorocarbon phase-out provisions
- c. Licensing - Import, export & manufacture
- d. Licensing – Approvals of Destruction Facilities
- e. Licensing – End use
- f. Compliance and Enforcement
- g. Cost recovery – Licence fees and levies
- h. Cost recovery – National Halon Bank

While the Review has assessed all ideas put forward through public consultation, only those considered feasible are included in the option packages. Measures that were suggested but are not likely to be feasible, and the reasoning for this, are outlined in a separate section within the Options Paper.

How can you provide input into the review?

The Department of the Environment is inviting your feedback on the proposed options and measures contained in this paper. Feedback from this consultation will inform a Final Report on the Review to be provided to Government for consideration in early 2016.

Information on how to make a submission is in Section 10 of this paper.

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1. PURPOSE OF THE OPTIONS PAPER

This Options Paper provides analysis of issues and options identified through stakeholder consultation and internal analysis to test the efficiency and effectiveness of the ozone depleting substances and synthetic greenhouse gas management controls in Australia and areas for possible reform. The options paper also sets out the processes undertaken to identify these issues and options and the steps still required to complete the review.

The preliminary net effect of each option or grouping of options is outlined in the relevant sections. The net effect is the Department's assessment of the overall practical impact of a measure, or grouping of measures, to the population, whether currently regulated or not.

All options have also been measured using the Australian Government's Regulatory Burden Measurement Framework. Preliminary regulatory burden costings have been included against all options.

The Regulatory Burden Measurement Framework provides an estimate of regulatory costs or savings for business, community organisations and individuals using an activity-based costing methodology.

For further information on the Regulatory Burden Measurement Framework, see <http://www.dpmc.gov.au/office-best-practice-regulation/publication/regulatory-burden-measurement-framework-guidance-note>

Supporting Documents

Feedback on this Options Paper and attachments will assist the Department to refine options for reform and inform the Final Report to the Australian Government at the end of the review.

Attachment A - Reference document – Technical Analysis Report

The Technical Analysis Report, prepared by the Department, contains a detailed analysis of each measure. It is **Attachment A** to this Options Paper.

Independent research consultancies undertaken as part of the review

The Department commissioned work from the Expert Group on the impact of the Ozone Protection and Synthetic Greenhouse Gas Management (OPSGGM) Programme on Australia's ozone depleting substance (ODS) and synthetic greenhouse gas (SGG) emissions and from Jacobs Environmental Consultancies and Services (Jacobs) on the costs and benefits of changes to end use controls and proposed emission reduction measures.

Attachment B - Assessment of environmental impacts from the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (the Expert Group Report)

This report considered how the controls introduced under the OPSGGM Programme have contributed to ODS and SGG emissions reduction and reduced energy use between 2003 and 2013. It also projected direct and indirect emissions reduction between 2014 and 2030 under the existing legislation.

The report also analyses opportunities for further emissions reduction through measures identified in the review. Findings from the Expert Group Report are referenced throughout the Problem Identification and Measures Section of this document.

The full Expert Group Report is **Attachment B** to this options paper.

Attachment C - Cost Benefit Analysis (*Jacobs Environmental Consultancies and Services*)

The Department commissioned Jacobs to undertake modelling to provide some initial estimates of the costs and benefits associated with implementing some of the measures considered in this paper in isolation. Jacobs' report is at Attachment C and the estimates are discussed in the problem identification and options sections of this paper.

The modelling report draws attention to the high level of uncertainty around the estimated costs and benefits it presents, noting that, "In many cases, the available data from which to estimate costs and benefits was scarce and assumptions had to be made."³ Jacobs recommends that further work be undertaken to verify these results.

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 Department is seeking feedback from stakeholders on the modelling, with a particular interest in receiving comments on the assumptions made in the absence of data and any information that will assist the Department to fill data gaps, or better inform these assumptions.

The full Cost Benefit Analysis report is **Attachment C** to this options paper.

1.1 Consultation Informing this Options Paper

Public Submissions on the OPSGGM Programme Review

The submission period was from 23 May 2014 to 18 July 2014. A total of 29 submissions were received. Non-confidential submissions were published on the Department's website on 22 July 2014.

Twenty-one submissions identified streamlining or emission reduction opportunities. These included:

- Areas of focus for potential emissions reduction opportunities
 - a hydrofluorocarbon (HFC) phase-down consistent with the proposals being considered by the Parties to the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol)
 - banning import of high global warming potential (GWP) gases in sector specific equipment or in bulk form
 - increased product stewardship and support for re-use, reclamation and destruction of SGGs
 - extending the scope of the Ozone Act to include maintenance requirements to reduce leaks and improve energy performance for installed refrigeration and air conditioning (RAC) equipment
 - increased compliance and enforcement provisions
- Areas of focus for potential streamlining
 - licensing and reporting requirements
 - end use controls for RAC, fire protection and methyl bromide
 - overlap or interplay with other legislation

³ Jacobs Australia Pty Limited, (2015). *Cost benefit analysis of ozone depleting and synthetic greenhouse gas reduction policies*. Canberra: Jacobs Australia Pty Ltd, p.9.

Several submissions proposed expansion of the scope of the legislation towards 'industry regulation' rather than 'gas regulation', focused on providing industry wide certainty and addressing workplace health and safety issues.

A summary of submissions, containing a reference to where each is addressed within the Review, is contained in **Attachment D**.

Technical Working Group

A Technical Working Group (TWG) was established to advise the Department during the Review. 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)
- Airconditioning 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), and
- Victorian Automotive Chamber of Commerce (VACC).
- RA also represented methyl bromide uses.

The TWG met eight times between May 2014 and September 2015. TWG meetings focussed on analysis of issues and measures for reform raised in public submissions, and input into the environmental impact and cost benefit analysis supporting the Review. 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-TWG engagement

The Department also consulted individually with other interested parties including methyl bromide users, licensing bodies, and the aviation sector.

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:

- The Australian Customs and Border Protection Service (now Department of Immigration and Border Protection)
- The Department of Defence
- The Department of Agriculture
- The Department of Employment, SafeWork Australia
- The Department of Finance, Attorney-General's Department
- The Department of Health, The Treasury, The Department of Industry
- The Department of the Prime Minister and Cabinet

- The Department of Foreign Affairs and Trade, and
- The Civil Aviation Safety Authority.

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

2. WHAT IS THE POLICY PROBLEM WE ARE TRYING TO SOLVE AND WHY

2.1 Objectives of the 2014/15 review

It is considered good practice to regularly review legislation to determine if it is still efficient and effective, and to respond to changes in the sector/s being regulated. The last major amendment to the OPSGGM Programme was in 2003. This amendment followed a review in 2001. Since then technology has evolved rapidly and the nature of the gas and equipment market in Australia has changed accordingly.

There are known effectiveness and efficiency issues with the OPSGGM Programme, including legislative gaps resulting in some gases being excluded from the Act, and that some components of the current Programme are complex, resulting in unnecessary administrative burden for business and individuals. The OPSGGM Programme is also not currently achieving cost recovery.

The objectives of the review are to:

- Identify opportunities to reduce emissions of ODS and SGGs in line with international efforts.
- Identify opportunities to improve and streamline the operation of the legislation including reducing regulatory compliance costs for business and the community.

3. BACKGROUND

3.1 What is the problem? Why do Governments regulate Ozone Depleting Substances and Synthetic Greenhouse Gases?

The stratospheric ozone layer protects life on Earth by absorbing ultra violet (UV) radiation from the sun. UV radiation is linked to skin cancer, genetic damage and immune system suppression in living organisms, and reduced productivity in agricultural crops and the food chain.

Scientific evidence has proven that the natural balance of stratospheric ozone has been upset by the production and release into the atmosphere of ozone depleting substances, including chlorofluorocarbons (CFCs), halons, methyl chloroform, carbon tetrachloride, hydrochlorofluorocarbons (HCFCs) and methyl bromide. These substances have applications in refrigerators, air conditioners, fire extinguishers, aerosols, agricultural fumigants, in foam and as solvents for cleaning electronic equipment.

Data collected in the upper atmosphere have shown that there has been a general thinning of the ozone layer over most of the globe. This includes five to nine per cent depletion over Australia since the 1960s, which has increased the risk that Australians already face from over-exposure to UV radiation resulting from our outdoor lifestyle.

In addition, more dramatic damage occurs over Antarctica each spring when the ozone 'hole' forms. The Antarctic ozone holes in 2000 and 2006 were the largest on record, each measuring around 30 million square kilometres - more than three and a half times the size of Australia - and, at times, extended over populated areas. The 2002 and 2004 ozone holes were much smaller, due in large part to weather conditions in the troposphere and stratosphere disrupting the hole.

Synthetic greenhouse gases often replace ODS. Most SGGs have very high GWPs. The most common SGG used in Australia is HFC-134a, which has a GWP of 1300, meaning that it is 1300 times as potent in the atmosphere as carbon dioxide. Other SGGs are even more powerful global warmers, with perfluorocarbons (PFCs) having GWPs between 6500-9200 and sulphur hexafluoride (SF6) having a GWP of 23 900. Synthetic greenhouse gases account for one to two per cent of all greenhouse gas emissions in Australia.

Prospects for the long-term recovery of the ozone layer are good due to the global response in the agreement to Montreal Protocol.

3.1.1 The Montreal Protocol

The Montreal Protocol sets out binding progressive phase-out obligations for developed and developing countries for all major ODS, including CFCs, halons, methyl bromide and less damaging transitional chemicals such as HCFCs. Emissions are stopped over time by prohibiting the new production of these chemicals. The Montreal Protocol provides long-term certainty for business through a mandatory timetable for the phase out of ODS. All 197 United Nations member states have committed to ODS phase out obligations under the Montreal Protocol.

The Montreal Protocol targets 96 chemicals in thousands of applications across more than 240 industrial sectors. The Montreal Protocol has been further strengthened through five amendments—London 1990, Copenhagen 1992, Vienna 1995, Montreal 1997 and Beijing 1999—which have brought forward phase-out schedules and added additional ODS to the list of controlled substances.

Ozone scientists predict that as the result of action taken under the Montreal Protocol, the ozone layer will be restored by the middle of this century.

Mr Achim Steiner, the Executive Director of the United Nations Environmental Programme (UNEP), stated in a speech at the Joint 10th Meeting of the Conference of the Parties to the Vienna Convention and the 26th Meeting of the Parties to the Montreal Protocol, 17 November 2014, that:

‘Without the Protocol, we would probably have seen large ozone layer depletions around the globe and the Antarctic ozone hole would be larger and deeper today. And with it, we are starting now to see encouraging signs that the ozone layer is on track to recovery by the middle of this century.’

The importance of this achievement is underlined when it is remembered that ozone is the atmospheric chemical that blocks UV radiation, thereby protecting us from skin cancer and damage to our eyes and immune system while also protecting terrestrial and aquatic plants from damage. Without the action taken under the Montreal Protocol, health problems resulting from extreme UV exposure would have accelerated demand on health systems and further impaired population health and workforce productivity, both in Australia and internationally.

Further, extreme UV exposure impacts on agricultural productivity impairing developmental processes resulting, for example reduced leaf area in crops such as rice (UNEP Stratospheric Ozone and Human Health Project) and degrades materials such as plastics in the built environment. Mr Steiner also stated in his speech on 17 November 2014 that:

‘By 2030 the Montreal Protocol may be preventing 2 million cases of skin cancer each year. It will have prevented significant loss of food crops which in turn would have compounded future food security challenges.’

The Secretary-General of the United Nations, Ban Ki-moon, stated in a media release of 11 September 2014 that:

‘Without the Montreal Protocol and associated agreements, atmospheric levels of ozone depleting substances could have increased 10 fold by 2050.’

The action taken to date under the Montreal Protocol has had and will continue to have a major impact on the economic wellbeing, health profiles and national productivity of Australia.

3.1.2 The United Nations Framework Convention on Climate Change and the Kyoto Protocol

The Kyoto Protocol gives effect to the United Nations Framework Convention on Climate Change (UNFCCC) key principle of assigning internationally legally binding greenhouse gas emissions targets.

Recognising that developed countries are principally responsible for the current high levels of greenhouse gas emissions in the atmosphere as a result of more than 150 years of industrial activity, the Kyoto Protocol places a heavier burden on developed countries under the central principle of ‘common but differentiated responsibility’.

The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. There are three aspects behind the development of the Kyoto Protocol:

1. The first is the binding emission reduction commitments for developed country parties.
2. The second is that Kyoto Protocol countries bound to targets have to meet them largely through domestic action – to reduce their emissions on shore. Under the Kyoto Protocol it does not matter where emissions are reduced, as long as they are removed from the earth’s atmosphere. This is considered to have parallel benefits of stimulating green investment in developing countries and of including the private sector in this endeavour to hold steady of greenhouse gas emissions at a safe level. This also makes ‘leap-frogging’ more economical –

that is, the possibility to skip older, less efficient technology for newer, more efficient infrastructure and systems – with obvious long term benefits.

With this, the Kyoto Protocol has prompted governments to put in place legislation and policies to meet their commitments.

3. The third aspect is the compliance mechanism. This mechanism is designed to strengthen the environmental integrity of the Kyoto Protocol and ensure transparency of accounting by Parties to the Kyoto Protocol.

3.2 How is regulation of ozone depleting substances and synthetic greenhouse gases implemented in Australia?

Australia is a party to the Montreal Protocol and the Kyoto Protocol. Australia implements its obligations under these two Protocols for ozone depleting substances and synthetic greenhouse gases through the OPSGGM Programme.

The OPSGGM Programme came into effect in 1989 and includes a suite of legislation (three Acts, three sets of Regulations) and associated administrative policy. The Programme regulates the manufacture, import, export, use and disposal of ODS and SGGs and equipment containing these gases through import, export and domestic use licensing systems. There are around 1200 import licences issued and around 80 000 businesses and technicians licensed to trade in and handle ODS and SGGs in the RAC and fire protection industries.

As a result of a review of the 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 SGGs.

3.2.1 Objectives of the Ozone Protection and Synthetic Greenhouse Gas Management legislation

The objectives of the OPSGGM legislation are to give effect to Australia's binding international obligations to:

- Phase out the production and consumption of ODS under the Vienna Convention and the Montreal Protocol.
- To reduce emissions of SGGs and report on Australia's emissions of these gases under the UNFCCC and its Kyoto Protocol.

The *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989* states in Part 1, section 3 that:

“the objectives of the Ozone Act are:

- (a) to institute, for the purpose of giving effect to Australia's obligations under the Vienna Convention and the Montreal Protocol, a system of controls on the manufacture, import and export of substances that deplete ozone in the atmosphere; and

- (b) to institute, and to provide for the institution of, specific controls on the manufacture, import, export, distribution and use of products that contain such substances or use such substances in their operation; and
- (c) to use the best endeavours to encourage Australian industry to:
 - (i) replace ozone depleting substances; and
 - (ii) achieve a faster and greater reduction in the levels of production and use of ozone depleting substances than are provided for in the Vienna Convention and the Montreal Protocol; to the extent that such replacements and achievements are reasonably possible within the limits imposed by the availability of suitable alternate substances, and appropriate technology and devices; and
- (d) to provide controls on the manufacture, import, export and use of SGGs, for the purposes of giving effect to Australia's obligations under the framework convention on Climate Change and the Kyoto Protocol; and
- (e) to promote the responsible management of scheduled substances so as to minimise their impact on the atmosphere."

3.2.2 Mechanisms to achieve the objectives of the Programme

The objectives are achieved by regulating the manufacture, import, export, use and disposal of ODS and SGGs through import, export, manufacture and domestic use licensing systems. Provision for levies on the import and manufacture of ODS and SGGs to fund the OPSGGM Programme are also included. The full suite of Commonwealth ODS and SGG legislation under the Programme is:

- *Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 (OPSGGM Act)*
- *Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Act 1995 and Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Act 1995*
- *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995*
- *Ozone Protection and Synthetic Greenhouse Gas (Import Levy) Regulations 2004 and*
- *Ozone Protection and Synthetic Greenhouse Gas (Manufacture Levy) Regulations 2004*

3.2.3 Scope of the OPSGGM Legislation- Gas coverage

The OPSGGM legislation covers the scheduled ODS listed under the Montreal Protocol and SGGs listed under the UNFCCC and its Kyoto Protocol. These substances are listed in schedule 1 of the OPSGGM Act.

Parties to the Montreal Protocol may consider controls on additional ODS in the future if they are likely to have a material impact on recovery of the ozone layer. Australia's obligations under the Kyoto Protocol's second Commitment Period, if ratified and once entered into force, will include three high GWP gases not currently regulated. The treatment of new ODS and SGGs is considered in this options paper under *Ozone Protection and Emission Reduction Problem 1*.

3.2.4 Australia's ODS and SGG industry

Ozone depleting substances and SGGs are industrial chemicals used in a wide range of applications. These include RAC, fire protection, aerosols, electricity distribution, foams, medical and veterinary

applications, smelting, solvents, niche processing applications (such as plasma etching and semiconductor manufacture), and for laboratory and analytical purposes.

The RAC sector is the predominant user of ODS and SGGs in Australia, using over 80 per cent of the gas imported. *Cold Hard Facts 2*⁴, an analysis of the RAC industry commissioned by the Department in 2013, provides a snapshot of the RAC industry:

- Air conditioning is estimated to be installed in the majority of Australia's 8 million homes.
- Air conditioning is installed 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 RAC industry.
- Nearly \$5.9 billion was spent purchasing and installing new equipment in 2012 with a further \$533 million spent on refrigerant gas.
- Some \$26.2 billion was spent on RAC equipment and services in 2012.
- There are more than 45 million individual pieces of RAC equipment operating in Australia consuming more than an estimated 59 000 gigawatt hours (GWh) of electricity in 2012, equivalent to more than 22 per cent of all electricity used in Australia that year.

The fire protection industry represents a smaller component of Australia's total consumption of ODS and SGGs but the gases used are often more environmentally damaging due to their high GWP and / or ozone depleting potential (ODP). Ozone depleting substances and SGGs used in fire protection are generally used for special hazard systems (i.e. systems that cannot use more traditional extinguishing agents such as water, carbon dioxide or dry powder). These systems are predominantly used in critical infrastructure such as telecommunications and data centres, aircraft, marine vessels, and niche applications such protecting cultural assets in galleries and museums.

Based on bulk gas import data and consultation with industry representatives, it is estimated that fire protection applications in 2013 represented approximately 1.3 per cent of Australia's annual consumption of SGGs. This excludes use of halon which is a potent ODS and SGG. Halon emissions in 2013 were estimated at an 18,000 tonnes CO₂-e.⁵

The OPSGGM legislation directly regulates the manufacture, import, export, use and disposal of ODS and SGGs and equipment containing these gases through import, export and domestic use licensing systems. There are around 1200 import licences and around 80 000 end use permits covering businesses and technicians handling or trading in ODS and SGGs in the RAC and fire protection industries.

3.2.5 The future of ODS and SGG use in Australia

Australia is primarily a technology taker, and different technologies have been adopted from markets in Asia, Europe and North America to suit local conditions. Australian industry transitioned from highly potent ODS (such as halons and CFCs) when these substances were phased out under the *Ozone Protection Act 1989*. This was the first piece of legislation implemented under the OPSGGM Programme in response to Australia's obligations under the Montreal Protocol. The transition away from highly potent ODS was followed by a shift to less potent transitional ODS such as HCFCs and then to SGGs such as HFCs and low or no GWP alternatives. Synthetic greenhouse gases have become

⁴ Cold Hard Facts 2: A study of the refrigeration and air conditioning industry in Australia – July 2013
<http://www.environment.gov.au/protection/ozone/publications/cold-hard-facts-2>

⁵ Cost Benefit Analysis, Jacobs, 2015, pp 66

commonly used as direct replacements for some ODS. Most recently, international policy shifts under both the Montreal and Kyoto Protocols have been towards reducing the use of high GWP SGGs and improving energy efficiency.

The amount of lower GWP equipment currently entering the Australian market is 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.

Since the 2001 Review of the OPSGGM Programme there have been major advances in gas and equipment technology, along with evolving domestic and global political agendas on ozone protection and greenhouse gas emission policy. This rapid change is expected to continue over the next ten years as further generations of equipment are introduced.

For in depth background see the 'Background' section of **Attachment A** .

4. EFFECTIVENESS OF CURRENT REGULATORY CONTROLS

The OPSGGM Programme was established to meet Australia's international obligations first to phase out ODS and then to also manage the emissions of the SGGs. Australia was one of the early countries to ratify the Montreal Protocol.

Australia has met or exceeded all of its phase-out obligations under the Montreal Protocol. Australia will largely phase out imports of HCFCs by 2016, four years ahead of the schedule required under the Montreal Protocol. In doing so, Australia will import 61 per cent less HCFCs in the period to 2020 than permitted under the Montreal Protocol.

Independent analysis calculates that actions taken under the OPSGGM Programme have avoided greenhouse gas emissions of around 24.7 Mt of CO₂-e between 2003 and 2013. This has been achieved through a cooperative partnership between industry, community and all levels of government. Australia ratified the Kyoto Protocol in 2007 and has supported amendments in the Kyoto Protocol for the second commitment period. While the Australian Government has not yet ratified these amendments and will consider ratification at an appropriate time, it has committed to review Australia's greenhouse gas emissions reduction targets and settings in 2015.

The Australian Government is committed to reducing emissions by 26 to 28 per cent below 2005 levels by 2030. We are on track to achieve a five per cent reduction on 2000 emissions levels by 2020, equivalent to a reduction of 13 per cent below 2005 emissions levels.

Action to reduce the emission of the SGGs covered by the Ozone Act contribute to Australia's efforts to meet its existing targets and build towards a post-2020 target, recently emphasised by the Minister for the Environment's, the Hon. Greg Hunt MP announcement of 11 August 2015:

"Australia will show international leadership and encourage all countries to agree to a global HFC phase-down under the Montreal Protocol on Substances that Deplete the Ozone Layer. 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".

Overall the regulatory controls of the OPSGGM Programme are considered fit for purpose being the most efficient and effective way for Australia to manage ODS and SGGs and meet its existing and expected future international obligations. However the controls should be enhanced to contribute to Australia's post 2020 greenhouse gas emission reduction commitment and to implement the last phase of Australia's phase-out of HCFCs.

4.1 Discussion – An alternative approach

The review has considered an alternative approach involving abolishing the current controls and introducing a incentive based market mechanism to control ozone depleting substances and synthetic greenhouse gases

This approach is not considered feasible at this time as:

- Australia is nearing the end of its phase out of HCFCs as from 2016 Australia will reach 99.5 per cent of HCFCs phased out. A fundamental change in approach would introduce unnecessary costs and uncertainty for industry.
- The international direction is toward control of HFCs under the Montreal Protocol in the near future, indicating a similar regulatory requirements as for ODS.

- Should an alternative approach not meet the requirements of the Montreal Protocol or Kyoto Protocol and result in Australia being found in breach of international obligations, possible consequences include the possibility of trade barriers, with domestic implications.
- There is uncertainty on the ability to achieve required environmental outcomes.
- There is uncertainty around the financial impact on business and consumers.

4.2 Discussion - Expanding the Scope

Several public submissions suggested the inclusion of additional gases which are neither ODS nor SGGs but are used as refrigerant fluids, including those with low or no GWP. The two main justifications provided for including additional gases were:

- the environment impact through increased energy consumption where equipment is not operating efficiently, and
- safety concerns on the toxicity and / or flammability of alternatives.

Consultation with stakeholders and some members of the TWG showed that there is support for the OPSGGM legislation to regulate the RAC industry, rather than regulation of specific refrigerant gases.

The Commonwealth's ability to legislate is subject to constitutional limitations, including in respect of legislation pertaining to the refrigeration and air conditioning industry.

State and territory governments independently regulate work health and safety (WHS) and consumer protection matters – occupational matters – associated with work in the RAC and fire protection industries. Some Commonwealth agencies, such as those responsible for regulating the aviation and maritime industries, as well as the Department of Defence, have their own regulatory frameworks to cover work standards and safety which do interact with the OPSGGM legislation.

Expanding the scope of the OPSGGM Programme does not feed into the problem this Review is trying to resolve and is therefore outside of the scope of this process.

5 OPTIONS FOR REFORM AND MEASURES

The Review has identified four options for reform to meet the objectives of the Review. The options are outlined in **Table 1** (page 20) and represent a range of reform from a minimum level of reform to fully achieve current objectives to a high level of reform to achieve maximum emission reduction, efficiency and effectiveness gains.

The options are intended as meaningful groupings of measures identified to resolve problems under the two main areas for reform identified– Emission Reduction and Efficiency and Effectiveness Opportunities. The intention of the options is to facilitate discussion, they are not recommendations.

As such, the next sections deal with each area of reform and step through the measures identified under each to achieve the objectives of the Review as follows:

1. Emission Reduction

a. Further reduce emissions of SGGs

- i. Phase down of HFC's, complementary equipment bans and maintenance and leak testing of equipment.

2. Efficiency and Effectiveness

- a. Regulation of additional substances
- b. Improvements to HCFC phase-out provisions
- c. Licensing- Import, export & manufacture
- d. Licensing – Approvals of Destruction Facilities
- e. Licensing – End use
- f. Compliance and Enforcement
- g. Cost recovery – Licence fees and levies
- h. Cost recovery – National Halon Bank

Note

- Where administrative measures are presented as an alternative to regulatory action, only high level analysis is provided. This is because measures generally relate to very specific amendments required in the legislation and/or regulations to enact the change.
- A Cost Benefit Analysis was undertaken for emission reduction measures and some end use measures. Where a cost benefit analysis has been undertaken, this is noted.
- In accordance with Australian Government policy, the Department undertook a regulatory burden analysis of the measures. Significant regulatory burden impacts are discussed in the paper. Significant regulatory burden costings have been included in Attachment E and are referenced in the relevant section.
- Measures assessed as not feasible are addressed in the 'Measures considered infeasible' section.

5.1 TABLE 1

AREA FOR REFORM	OPTION 1 - MINIMUM REFORM	OPTION 2 - LOW-MID RANGE REFORM	OPTION 3 - MID-HIGH RANGE REFORM	OPTION 4- MAXIMUM REFORM
EMISSION REDUCTION OPPORTUNITIES				
6.1 Further reduce emissions of SGGs		<ul style="list-style-type: none"> 6.1.1 Improve effectiveness of current policies 	<ul style="list-style-type: none"> 6.1.1 Improve effectiveness of current policies 6.1.2 Phase-down of HFCs 	<ul style="list-style-type: none"> 6.1.1 Improve effectiveness of current policies 6.1.2 Phase-down of HFCs 6.1.3 HFC equipment ban 6.1.4 Maintenance and leak testing requirements of equipment
EFFICIENCY & EFFECTIVENESS OPPORTUNITIES				
7.1 Regulation of additional substances	<ul style="list-style-type: none"> 7.1.1 Include ODS and SGGs covered by current international obligations and ODS and SGGs potentially to be included in future agreements. 7.1.2 Voluntary reporting on gases that are not controlled but where countries have been asked to monitor and report 	<ul style="list-style-type: none"> 7.1.1 Include ODS and SGGs covered by current international obligations and ODS and SGGs potentially to be included in future agreements. 7.1.2 Voluntary reporting on gases that are not controlled but where countries have been asked to monitor and report 	<ul style="list-style-type: none"> 7.1.1 Include ODS and SGGs covered by current international obligations and ODS and SGGs potentially to be included in future agreements. 7.1.3 Include provisions to collect data on gases that are not controlled but where countries have been asked to monitor and report 	<ul style="list-style-type: none"> 7.1.1 Include ODS and SGGs covered by current international obligations and ODS and SGGs potentially to be included in future agreements. 7.1.3 Include provisions to collect data on gases that are not controlled but where countries have been asked to monitor and report
7.2 Improvements to HCFC phase-out provisions		<ul style="list-style-type: none"> 7.2.1 HCFC banned except for equipment servicing post 2020 	<ul style="list-style-type: none"> 7.2.1 HCFC banned except for equipment servicing post 2020 	<ul style="list-style-type: none"> 7.2.1 HCFC banned except for equipment servicing post 2020
7.3 Licensing - Import, export & manufacture		<ul style="list-style-type: none"> 7.3.1 Minor amendments 	<ul style="list-style-type: none"> 7.3.1 Minor amendments 7.3.2 Restructure into two streams: goods are regulated with or without a licence. 	<ul style="list-style-type: none"> 7.3.1 Minor amendments 7.3.2 Restructure into two streams: goods are regulated with or without a licence.
7.4 Licensing – Approvals of Destruction Facilities		<ul style="list-style-type: none"> 7.4.1 Streamlining of approvals of Destruction Facilities 	<ul style="list-style-type: none"> 7.4.1 Streamlining of approvals of Destruction Facilities 	<ul style="list-style-type: none"> 7.4.1 Streamlining of approvals of Destruction Facilities
7.5 Licensing – End use		<ul style="list-style-type: none"> 7.5.1 Minor amendments 7.5.2 Improve effectiveness of emission reduction aspects 	<ul style="list-style-type: none"> 7.5.1 Minor amendments 7.5.2 Improve effectiveness of emission reduction aspects 7.5.3 Restructure into one ODS/SGG licence 	<ul style="list-style-type: none"> 7.5.4 Facilitate administration of the end use licensing programmes on an industry-led, voluntary basis
7.6 Compliance & Enforcement		<ul style="list-style-type: none"> 7.6.1 Increased communication/education 	<ul style="list-style-type: none"> 7.6.1 Increased communication/education 7.6.2 Strengthen Commonwealth powers 7.6.3 Publication of actions undertaken 	<ul style="list-style-type: none"> 7.6.1 Increased communication/education 7.6.2 Strengthen Commonwealth powers 7.6.3 Publication of actions undertaken 7.6.4 Streamlined information sharing between Commonwealth agencies
7.7 Cost Recovery – Licence fees and levies	<ul style="list-style-type: none"> 7.7.1 Adjust thresholds, levies and import licence application fees to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.7.1 Adjust thresholds, levies and import licence application fees to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.7.1 Adjust thresholds, levies and import licence application fees to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.7.1 Adjust thresholds, levies and import licence application fees to achieve full cost recovery.
7.8 Cost Recovery – National Halon Bank	<ul style="list-style-type: none"> 7.8.1 Adjust management of the National Halon Bank through changes to management fee and/or change to price of halon to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.8.1 Adjust management of the National Halon Bank through changes to management fee and/or change to price of halon to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.8.1 Adjust management of the National Halon Bank through changes to management fee and/or change to price of halon to achieve full cost recovery. 	<ul style="list-style-type: none"> 7.8.2 Divestment of National Halon Bank to users OR 7.8.3 Privatise enterprise through tender process.
Net Impact Assessment	Would ensure Australia meets all current international obligations and full cost recovery.	Would ensure Australia meets all current international obligations, maximise current emission reduction measures, improve efficiency for all users, improve compliance and enforcement and ensure full cost recovery.	Would ensure Australia meets all current international obligations, maximise current emission reduction measures, improve efficiency for all users, improve compliance and enforcement and ensure full cost recovery.	Would ensure Australia meets all current international obligations, provide maximum emissions reduction, improve efficiency for all users, maximise compliance and enforcement capability and ensure full cost recovery.
Preliminary Regulatory Burden estimate	<p>Cost of ≈\$0*</p> <p>Expected to affect only current licensees and those who would otherwise become licensees regardless of additional regulation.</p>	<p>Saving of ≈\$2.60 million*</p> <p>Gains in efficiency and effectiveness would be expected to balance additional burden from increased fees across licensing and halon.</p> <p>Expected to affect only current licensees and those who would otherwise become licensees regardless of additional regulation.</p>	<p>Saving of ≈\$2.65 million*</p> <p>Gains in efficiency and effectiveness would be expected to balance additional burden from increased fees across licensing and halon.</p> <p>Expected to affect only current licensees and those who would otherwise become licensees regardless of additional regulation.</p>	<p>Cost of ≈\$482 million*</p> <p>Gains in efficiency and effectiveness would be outweighed by additional burden imposed through regulation of maintenance and leak testing and likely increase in regulatory burden and price related to halon.</p> <p>Expected to affect current licensees, those who would otherwise become licensees, and a large number of new members of the population (predominantly through maintenance requirements).</p>

* Based on aggregate preliminary regulatory burden costings (referenced in related sections and attached in Attachment E). Specific Compliance and Enforcement measures have not been costed at this stage (where applicable).

6. MEASURES - EMISSION REDUCTION

6.1 Area for reform: Further reduce emissions of SGGs

The Australian Government is committed to reducing emissions to meet its Kyoto Protocol target of five per cent below 2000 levels by 2020 and has announced a target of 26-28 per cent emission reductions below 2005 levels by 2030.

Australia's target poses a challenge because emissions are projected to increase without further action. On current trends, Australia faces a cumulative emissions reduction task of around 236 MtCO₂-e from 2013 to 2020, or 126 MtCO₂-e in 2020⁶.

The options discussed in this paper can deliver emission reductions of around 80 MtCO₂-e in the period to 2030. This is comprised of reduced synthetic greenhouse gases emissions through a phase-down, equipment restrictions and improved system maintenance and ancillary benefits from improved energy performance of equipment that use synthetic greenhouse gases.

Modelling undertaken by the Expert Group indicates that there are currently a range of alternatives to SGGs in most RAC applications or that alternatives are in development and could soon be introduced on the Australian market. The implication is that over time, the bank of high GWP equipment and emission from this bank will fall.

This shift is being driven by a number of factors including but not limited to:

- International regulation and phase-down of HFCs in major markets in the European Union and the United States
- Regulation requiring greater energy efficiency

The Expert Group model assumes technology transition. Without industry transition to alternatives it is predicted that the bank will continue to grow in terms of GWP and emissions will increase over time.

The RAC industry also consumes large amounts of electricity. It is appropriate to consider the impact of potential changes to policies on direct emissions will have on indirect emissions and the opportunity to leverage improvements for both.

The measures considered support industry transition to low or no GWP alternatives and reduce emissions from the sector.

⁶ Source: Emissions Reduction Fund, Green Paper, Australian Government, December 2013 - <http://www.environment.gov.au/climate-change/emissions-reduction-fund/green-paper>

6.1 Measures: International and domestic drivers to further reduce emissions of SGGs

Measure 6.1.1 - Maintain current emission reduction policies (end use licensing and product stewardship) and improve their effectiveness and efficiency.

Preliminary Net Impact Assessment: This measure is addressed through streamlining and improvements in administration of the current policies, discussed in the Efficiency and Effectiveness section of this paper, affecting current licence holders.

Preliminary Regulatory Burden Impact: ≈ 0

Measure 6.1.2 - Implement a phase-down of HFCs

Preliminary analysis

Emission reduction through the Montreal Protocol is achieved through phasing out the production of ODS, rather than managing emissions once the substances are in the economy. All ODS are assumed to be emitted once produced. This is true in a large part as their use is either emissive (eg. aerosols and fire extinguishing agents) or equipment is prone to leakage, either during service or at end of life. Phasing down supply is effective in reducing emissions as the source is gradually removed and it has sent a strong market signal, providing industry certainty to commercialise alternative gases and technologies on a global scale. This approach is proposed for HFCs as the nature of gases and areas of use are very similar.

Proposals to phase-down consumption (imports plus production, minus exports) and production (Australia has no production) of HFCs under the Montreal Protocol have been considered since 2009. In 2015 four HFC phase-down proposals have been put forward by Canada, Mexico and the United States of America (North American Amendment Proposal); the European Union; India; and a number of island states lead by the Federated States of Micronesia.

Australia could implement a HFC phase-down similar to the HCFC phase out in advance of an international agreement under the Montreal Protocol. The case for international action to phase down consumption, production and ultimately the emission of HFCs is clear. Internationally, HFCs currently comprise approximately 0.5 gigatonnes (Gt) CO₂-e emissions per year or around 2 per cent of total emissions. However, this is predicted to grow to up to 8.8 Gt CO₂-e per year 2050 based on modelled rates of international consumption growth. These emission rates are comparable to those for CFCs in the late 1980s which were about 9.5 Gt CO₂-e per year⁷.

The 2015 North American Amendment Proposal is for an 85 per cent phase-down in developed countries by 2036, and in developing countries by 2046. The United States estimates that a HFC phase down under the Montreal Protocol would reduce international emissions by 1900 Mt CO₂-e by 2020 and around 90 000 Mt CO₂-e by 2050 (equivalent to around two years of total global greenhouse gas emissions).

Modelling by the Expert Group and industry consultation indicates that Australia is well-positioned to meet the requirements of the 2015 North American Amendment Proposal.

⁷ Assessment for Decision-Makers: Scientific Assessment of Ozone Depleting: 2014, WMO Global Ozone Research and Monitoring Project – Report No. 56. Available online at: http://www.esrl.noaa.gov/csd/assessments/ozone/2014/assessment_for_decision-makers.pdf

Australia could either adopt the 2015 North American Amendment Proposal or design an accelerated phase down. Analysis of the domestic emissions reduction potential of the 2015 North American Amendment Proposal indicates that cumulative abatement between 2017 and 2030 for Australia would be approximately 12 Mt CO₂-e based on the Department’s modelling. An accelerated phase-down could achieve much more than this: approximately 23 Mt CO₂-e between 2017 and 2030 based on the Department’s modelling.

Industry consultation indicates a strong preference for a regulated HFC phase-down as it provides long term certainty and is technically and commercially viable. Industry’s preference is for a global phase-down under the Montreal Protocol but there is support for action in Australia ahead of a global agreement. There is a positive cost benefit for a phase down, based on avoided emissions.

A design element of a HFC phase-down will be to set the timing and level of reduction steps at a pace that is consistent with the rate of equipment change. The intent is that there will be sufficient HFCs available to meet the servicing requirements for existing equipment, and scarcity does not force premature equipment retirement. This approach is consistent with the HCFC phase-out which commenced in 1996 and where sufficient HCFCs have been available to service equipment.

A possible phase-down schedule

The Cost Benefit Analysis has been modelled on a comparison of the 2015 North American Amendment Proposal versus a possible accelerated Australian phase down schedule.

The 2015 North American Amendment proposal and Australian accelerated phase down schedules are set out in the table below.

Table 2. 2015 North American Amendment Proposal and Australian Accelerated phase down schedule⁸

2015 North American Amendment Proposal	Accelerated Alternative Proposal using a lower baseline
2019 – 90%	2017 – 100%
2024 – 65%	2018 – 90%
2030 – 30%	2020 – 86%
2036 – 15%	2022 – 78%
	2024 – 68%
	2026 – 58%
	2028 – 49%
	2030 – 35%
	2032 – 29%
	2034 – 24%

⁸ North American Amendment baseline includes HCFC and HFC (used figures from international work book - official consumption). Accelerated phase down only includes HFC values. Baseline for accelerated phase down is average of 2011-2013 HFC consumption (used figures from international work book). Departmental figures based on Expert Group projection which includes application specific numbers.

2015 North American Amendment Proposal	Accelerated Alternative Proposal using a lower baseline
	2036 – 17% (noting that this is the same consumption limit in Mt CO ₂ -e as the 2015 North American Amendment proposal)

Allocation of Quota

The Department has considered several measures for the allocation of import quota, including:

- A grandfathering approach, where import quota is allocated based on relative share of imports in a base year(s).
- A periodic auction of quota.
- First in time of approach (where quota is allocated by date of import).
- A combination of these options (for example, a portion of the quota is grandfathered, with some allowance for new entrants and some allocated through an auction).

For the purposes of the Cost Benefit Analysis, a hybrid grandfathered and allocation to new entrants approach has been selected. The split between grandfathered quota and allocated quota for new entrants in the modelling was 80 per cent to 20 per cent. This scenario does not include auction of any quota.

In the hybrid model, new entrants would be required to apply for a share of the new entrant quota. It could be based on a specific criteria taking into account phase down policy, the prospective importer's declared needs and the impact on Australia's HFC phase-down. Unallocated new entrant quota would be distributed to existing quota holders on a pro-rata basis.

A Baseline

It will be necessary to establish a baseline for quota allocations, should quota be distributed on the basis of past market share. Based on initial analysis, it is suggested that data on HFCs and HCFCs be included as they represent the combined fluorocarbon market in Australia (with HCFCs being largely replaced by HFCs as a result of the HCFC phase out). A calendar year basis is preferable as it is consistent with potential future Montreal Protocol obligations which are calendar year based. The baseline could be based on average of 100 per cent of bulk HFC imports and 75 per cent⁹ of bulk HCFC imports for three to five years, for example 2009-2013. It is important to note that any import data for 2012-13 will be distorted by the stockpiling of HFCs by industry prior to the equivalent carbon tax commencing in July 2012 and will therefore not give a true reflection of import trends.

For the Australian accelerated phase-down, the baseline is based on the average consumption of HFCs between 2011 and 2013, noting the issues discussed above will need to be resolved.

Preliminary Net Impact Assessment: A HFC phase down would have minor regulatory impact as importers are already subject to import controls. Implementing quota restrictions is the only additional impact. This is based on the assumption of a partial grandfathered system.

Preliminary Regulatory Burden assessment : \$17,770

⁹ The rationale for including 75 per cent of HCFCs is that a proportion of HCFCs will be replaced by not-in-kind technology.

Cost Benefit Analysis assessment: Excerpts from Attachment C:

The Cost Benefit Analysis found that the net benefits of imposing a phase down are positive over a 2016-2030 time period, ranging from \$13 394 000 - \$43 638 000.

	Unit	Accelerated alternative phase down (in Net Present Value)		North American amendment phase down (in Net Present Value)	
		NPV, 2016-2020	NPV, 2016-2030	NPV, 2016-2020	NPV, 2016-2030
Net benefits	\$000s	-2,516	13,394	7,111	43,638
Total benefits	\$000s	25,112	98,886	22,284	72,846
Total costs	\$000s	27,628	85,492	15,172	29,208
Benefit to cost ratio	Ratio	0.9	1.2	1.5	2.5

Anticipated benefits	<p>May encourage practices that reduce leakage of existing gases.</p> <p>May encourage retrofit of HFC404A systems with lower GWP alternatives. Good potential for this in supermarket sector.</p> <p>May encourage replacement of equipment with low GWP alternatives, particularly after 2020.</p> <p>Improved energy efficiency as a direct consequence of the use of alternative gas in new equipment and/or as a direct consequence of reducing leakage.</p> <p>Reduced greenhouse gas emissions.</p>
Anticipated costs	<p>Commonwealth need to design and implement a phase down process including baseline, schedule and quotas acceptable to industry.</p> <p>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 study¹⁰, this is unlikely to be a cost until at least 2020 based on current import/consumption projections.</p> <p>Equipment owners may feel the need to pay the cost of updating to a new system to avoid longer term HFC availability issues although as the phase down is gradual; it is unlikely to force early equipment retirement.</p> <p>Increased transaction costs for equipment owners who may have to undertake research to determine the most appropriate low GWP technology to replace existing equipment, incremental capital (including associated infrastructure) and/or maintenance cost associated with changing to equipment using low GWP gases. Higher maintenance costs can sometimes occur¹¹ where replacement gases have higher flammability, toxicity or require higher operating pressure.</p>

For further information see Section 5.1 at **Attachment C**.

¹⁰Expert Group (2015), Assessment of Environmental Impacts from the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989, draft report to the Department of the Environment, February 2015.

¹¹ 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.

Measure 6.1.3 - Introduce import and manufacture bans on certain equipment types

Introduce import and manufacture bans on certain equipment types, for example supermarket equipment containing gas with a GWP>2500, and automotive air conditioning equipment containing gas with a GWP>150

Preliminary Net Impact Assessment: This measure would promote a faster transition to low GWP technologies while providing certainty to industry on the rate of change. However these measures are considered to have a higher regulatory burden as they require system owners to manage a maintenance program, including engaging licensed tradespeople to undertake system work.

Preliminary Regulatory Burden assessment : \$11 021 663

Full Preliminary Regulatory Burden assessment at **Attachment E-1**

Cost Benefit Analysis assessment: Excerpt from **Attachment C**.

Anticipated benefits	Improved energy efficiency and reduced greenhouse gas emissions from displacement of high GWP gases and possibly improved leak reduction regimes – transitioning the market to newer, more energy efficient technology.
Anticipated costs	Change in compliance costs, including transition costs to government, cost of education, importers and equipment owners, administration and transaction costs (including education costs), possible incremental capital and/or maintenance cost associated with changing to equipment that is low GWP, cost to purchase alternative gases may also change and could be lower if CO ₂ , ammonia or hydrocarbon measures are chosen.

For further information see Section 5.2 of **Attachment C**.

Measure 6.1.4 - Introduce requirements for minimum maintenance and leak testing of equipment.

Preliminary Net Impact Assessment: The measure would improve the operating efficiency of equipment and lead to a reduction of direct and indirect emissions.

Cost Benefit Analysis assessment: The Cost Benefit Analysis found that “tighter equipment controls could reduce emissions, both directly (through avoided leakage of SGGs) and indirectly via reductions in electricity use.

Two measures for equipment maintenance have been suggested:

- early detection and repair of leaks and
- regular maintenance (which includes leak testing as well as a range of measures to prevent leaks from occurring and improve system energy performance)”.

These scenarios are described in Section 5.4 of **Attachment C**. The anticipated benefits and costs are summarised in the table below.

Anticipated benefits	- Reduced greenhouse gas emissions - Reduced energy consumption and therefore energy costs for equipment owner - Reduce risk of catastrophic equipment failure and as such loss of
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	<p>refrigerated good/air conditioning capacity (e.g. in the refrigerated cold food chain a catastrophic loss may mean loss of stock).</p> <ul style="list-style-type: none"> - Equipment life is extended, delaying capital expenditure for new equipment - Reduced cost for equipment owners for bulk SGG as a result of lower leak rates - Increased business for refrigerant/air conditioning technicians – increased economic activity in this sector of the industry.
Anticipated costs	Increased compliance costs, including increased administration costs, cost of education, increased transaction and maintenance costs for equipment owners

For further information see Section 5.3 of **Attachment C**.

Preliminary Regulatory Burden assessment:

Maintenance and Leak testing: \$471,997,994

Full Preliminary Regulatory Burden assessment at: **Attachment E - 1**

7. MEASURES - EFFICIENCY AND EFFECTIVENESS

7.1 Area for reform: Regulation of additional substances

Montreal Protocol - The OPSGGM Programme covers all the controlled substances listed under the Montreal Protocol. However, decisions by the Parties to the Montreal Protocol indicate that Parties should report on new ODS species being produced or sold in their territories, even where they are not controlled.

There is no provision in the OPSGGM Programme to obtain information on uncontrolled ODS being imported or sold in Australia. In the past, the Department has obtained information on imports through a combination of data from the Department of Immigration and Border Protection and communication with importers and users. Responses have been useful but not of sufficient detail to inform policy. As an example, the two surveys on n-propyl bromide indicate a wide discrepancy, with one showing imports at around one tonne and the other at 40 tonnes.

UNFCCC and Kyoto Protocol - Australia's obligations under the Kyoto Protocol's second commitment period, if ratified and once entered into force, will include three SGGs not currently covered by the OPSGGM Programme - HFC-41-10mee, PFC C₁₀F₁₈ and nitrogen trifluoride.

For further reading, see the Regulation of Additional Substances section of **Attachment A**.

7.1 Measures: Regulation of additional substances

Measure 7.1.1 - Include in the OPSGGM Act ODS and SGGs covered by international obligations and ODS and SGGs that could potentially be included in future international agreements.

Measure 7.1.2 - Include in the OPSGGM Act gases as required by Australia's international obligations.

Preliminary Regulatory Burden Impact: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 2**

7.2 Area for reform: Improvements to HCFC phase-out provisions

The Australian Government and industry agreed to an accelerated phase out for HCFCs in the early 1990s. This schedule will see Australia achieve its 99.5 per cent phase-out target from 2016, four years ahead of the Montreal Protocol obligations. The phase-out is managed through the reducing quota system set out in Part IV of the OPSGGM Act. Quota amounts are granted on the basis of past market share.

While Australia's phase out of HCFCs is progressing well, additional obligations to limit the use of HCFCs imported from 2020 to service existing RAC equipment must still be implemented from 2020 to meet Montreal Protocol obligations.

For further reading, see the HCFC phase out section of **Attachment A**.

7.2 Measures: Improvements to HCFC phase-out provisions

Measure 7.2.1 - Introduce either a legislative condition or licence condition restricting the use of HCFCs imported from 2020 to servicing RAC equipment.

Preliminary Regulatory Burden Impact: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 3**

7.3 Area for reform: Licensing – Import, export & manufacture

In order to meet its obligations under the Montreal Protocol, Australia is required to have an import, manufacture and export licensing system for ODS. The system is implemented through the OPSGGM Act. The licensing system also facilitates Australia meeting its emission inventory reporting obligations for SGGs under the UNFCCC, as well as applying regulatory measures to reduce SGG emissions.

The licensing system has worked well to meet Australia's obligations. However, the OPSGGM Act has become increasingly complex due to amendments made over time in response to evolving international obligations and domestic policy needs. The structure of the OPSGGM Act is difficult to understand for users, increasing the risk of inadvertent non-compliance and hindering efficient and effective administration.

For example, imports, exports and manufacture are controlled through a mixture of licensing, exemptions, bans, and exemptions to those bans. These appear in various places throughout the OPSGGM Act and associated regulations. Further, there are administrative inconsistencies in the application of exemptions i.e. some exemptions require an application fee, while others require Ministerial approval without an application fee.

For further reading, see the Import, Export and Manufacture section of **Attachment A**.

7.3 Measures: Licensing - Import, export & manufacture

Measure 7.3.1 - Minor Amendments

These measures would all be included as part of the Minor Amendments.

i) Increase the exemption threshold for low volume importers, ensuring only statistically significant gas imports are captured under the scheme.

Preliminary Net Impact assessment: This will reduce the number of businesses required to hold a licence to import equipment. This will eliminate licence fees, import levy, reporting and administration for those importers who import below the revised threshold.

Preliminary Regulatory Burden Impact: -\$177,855

Full Preliminary Regulatory Burden assessment at: **Attachment E - 4**

ii) Introduce equipment thresholds for HCFC, CFC and Halon equipment to achieve a similar objective to measure i).

Preliminary Net Impact assessment: This would allow small amounts of equipment containing banned substances to be imported where no practical alternative exists.

Preliminary Regulatory Burden Impact: -\$25,522

Full Preliminary Regulatory Burden assessment at: **Attachment E - 5**

iii) Allow renewal of import, export and manufacture licences (current system requires reapplication at expiry of current licence).

Preliminary Net Impact assessment: Providing for licence renewals will streamline the licence renewal process for approximately 1200 licensees. This is expected to produce a net saving for business of \$130,000 annually for all licensees.

Preliminary Regulatory Burden Impact: -\$130,272

Full Preliminary Regulatory Burden assessment at: **Attachment E - 6**

iv) Reduce reporting requirements from quarterly, allow flexibility in timing of reporting and remove requirement to submit nil reports.

Preliminary Net Impact assessment: Changing from quarterly to annual reporting, and annual levy payments will reduce the administrative burden of this activity by 75 per cent.

Preliminary Regulatory Burden Impact: -\$351,574

Full Preliminary Regulatory Burden assessment at: **Attachment E - 7**

v) Waive small levy payments to reduce regulatory and administrative burden and make levy payments variable through regulation.

Preliminary Net Impact assessment: This measure will eliminate uneconomic levy liability. It is expected to save business \$75,000 in total annually.

Preliminary Regulatory Burden Impact: -\$74,507

Full Preliminary Regulatory Burden assessment at: **Attachment E - 8**

vi) Streamline administration of specific controls:

- a. Section 40 (Halon imports) exemptions for essential uses
- b. allow the use of methyl bromide for laboratory or analytical purposes
- c. amend or remove outdated licence conditions that place unnecessary regulatory burden on licensees, such as different reporting requirements for different activities related to methyl bromide
- d. amendments to how HCFC Quota is allocated during the final stages of the phase out to allow for administrative flexibility and lower burden on quota holders
- e. regular domestic review of specific essential uses of halon

Preliminary Net Impact assessment: These measures will allow for the import of small volumes of ODS and SGGs to be imported for essential uses and laboratory and analytical uses; remove outdated licence conditions (such as requirements for methyl bromide importers to keep different kinds of records for different periods of time) and allow for administrative efficiency in HCFC Quota allocation.

Preliminary Regulatory Burden Impact: Saving of \$147 598

Full Preliminary Regulatory Burden assessment at: **Attachment E – 9 - 14**

vii) Exempt imports for feedstock use from licence and levy obligations, and quota calculation for HCFCs.

Preliminary Net Impact assessment: This measure will assist importers and users of feedstocks by removing impractical eligibility barriers from the existing exemption provision.

Preliminary Regulatory Burden Impact: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 15**

viii) Provision for an internal decision review mechanism in addition to Administrative Appeals Tribunal processes.

Preliminary Net Impact assessment: This measure will streamline the appeals process by providing for an internal review before recourse to the Administrative Appeals Tribunal.

Preliminary Regulatory Burden Impact assessment: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 16**

ix) Include provisions to enable Australian Government inter-agency data sharing to inform Australia's international data reporting and reduce stakeholder reporting requirements.

Preliminary Net Impact assessment: This measure will provide for information provided under the OPSGGM legislation to be shared with other agencies to meet common reporting requirements. This measure is focussed primarily on opportunities for data sharing with the Greenhouse and Energy Minimum Standards (GEMS) legislation.

Preliminary Regulatory Burden Impact assessment: ≈ 0

x) Include definitions of key terms to ensure consistency throughout all elements (Acts, Regulations and administrative policy) of the OPSGGM Programme.

Preliminary Net Impact assessment: The definitions of some key terms in the legislation are unclear or impractical to implement, for example 'import' and 'export'. Other terms are not defined in the legislation but are a common import and export activities, for example temporary imports and temporary exports. Amending the definitions will provide greater clarity to business and reduce the risk of unintentional non-compliance.

Preliminary Regulatory Burden Impact: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 17**

xi) Include bans on disposable cylinders

Preliminary Net Impact assessment: This would strengthen current controls and clarify the intention that disposable cylinders not be allowed for import.

Preliminary Regulatory Burden Impact: ≈ 0

Measure 7.3.2 - Restructure of the import, export, manufacture licences

Restructure and streamline the import, export and manufacturing system from the current mix of licensing, bans, and exemptions into two streams:

- Goods which are regulated but allowed without a licence
- Goods which are regulated but only allowed with a licence.

Preliminary Net Impact assessment: The main impact is reducing the need for some businesses to hold multiple licences, reducing licence fees, reporting requirements and administration.

Preliminary Regulatory Burden Impact: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 18**

7.4 Area for reform: Licensing- Approvals of Destruction Facilities

Destruction of waste or unwanted ODS and SGGs avoids their emission to the atmosphere. The Montreal Protocol provides guidelines for the destruction of CFCs, halon, carbon tetrachloride, methyl chloroform, and HCFCs, including approved destruction technologies. Consistent with these guidelines the disposal of scheduled substances is regulated under the OPSGGM Programme and requires the operation of facilities for the destruction of refrigerant and extinguishing agents to be approved by the Minister.

The current requirements under the OPSGGM Programme meet Australia's international obligations. However there are some duplicative regulatory burdens on business where they are required to submit two applications if they destroy gas that has been used for different purposes. The prior use of the gas is irrelevant as it is the specific destruction technology that must be in accordance with Montreal Protocol guidelines and destruction efficiency.

For further reading, see the Destruction Facilities section of **Attachment A**.

7.4 Measures: Licensing - Approvals of Destruction Facilities

Measure 7.4.1 - Streamline approval of destruction facilities based on the gas to be destroyed rather than the purpose for which the gas was used

Preliminary Net Impact assessment: This option reduces the burden on businesses operating destruction facilities.

Preliminary Regulatory Burden Impact assessment: ≈ 0

Full Preliminary Regulatory Burden assessment at: **Attachment E - 23**

7.5 Area for reform: Licensing – End use

Refrigeration and air conditioning and fire protection end use controls complement emission reduction measures under the import, export and manufacture controls. The end use controls were introduced in 2004 after the need for a consistent national approach to regulate the sale, purchase, acquisition, storage, use, disposal and labelling of ODS and SGGs was identified. National end use controls implemented under the OPSGGM Programme replaced the previous inconsistent controls operating in the states and territories.

The end use licensing controls have worked well and have delivered the emission reduction benefits projected in the 2001 review of the OPSGGM Programme. The current review, however, has identified that end use controls need to adapt in light of changing technology and to support a rapidly changing industry.

A global transition away from high GWP SGGs has commenced. This is particularly evident in the RAC industry. As the GWP of refrigerant gases is reduced, industry is moving towards adopting some alternatives that are either flammable or toxic, or both, raising WHS concerns.

Efforts in Australia and overseas to reduce the negative environmental effects of SGG emissions are seeing an increase in the number and prevalence of gases with flammable and/or toxic characteristics being used in both new equipment and, to some extent, retrofitted to existing equipment. These gases are safe to use in equipment that is manufactured and installed according to relevant international standards. Risks arise when equipment and equipment installations and modifications do not comply with international standards, domestic standards and codes of practice, or gases are blended in inappropriate ways, ie mixing gases and blends that result in a mixture that does not meet relevant standards including an internationally recognised refrigerant identification code, AHRI-700 or AS/NZS 1677.

Direct emission savings resulting from the end use control system will reduce over time as the bank of equipment containing high GWP gases reduces over the next two decades. The end use system will continue to provide significant direct and indirect emission savings over this period. In addition it provides certainty for business during this period of change.

For further reading, see the End Use sections of **Attachment A**.

Administration of the end use system by the state and territory governments, or by industry, has been analysed to determine whether either measure could provide efficiency improvements, however it was assessed that these measures would be a net cost to business (outlined in [Measures Considered Infeasible](#)).

7.5 Measures: Licensing- End use

Measure 7.5.1 - Minor Amendments

i) Improve the administration of licensing programmes – including restructure and streamline application and renewal processes, reporting requirements, alteration of and flexibility in licence validity periods, and include provisions to allow internal review of decisions.

Preliminary Net Impact assessment: This measure would reduce the administrative burden for business by streamlining licensing renewal, improving the clarity of the regulatory system and reducing the risk of inadvertent non-compliance.

Preliminary Regulatory Burden Impact assessment:

<p>Sub - Option 1: Change the physical licence card to a ‘membership card’ and retain licence conditions online and in supplementary documentation provided to the technician</p> <p>This option would retain the current regulatory requirements on RAC and fire protection technicians and businesses; however, it would streamline the administrative burden on those businesses by reducing any duplicative applications required for individuals who currently hold more than one licence.</p>	<p>Total regulatory cost p.a</p> <p align="right">-\$21,429</p>
<p>Sub - Option 2: Minor changes to the current RAC structure to streamline the administration of licensing</p> <p>The current structure for restricted RAC licensing is complex and highly specialised. This option proposes to simplify that structure to a single restricted licence type with conditions specific to the individual. This would remove the need for some technicians to apply for and hold multiple licences.</p>	<p>Total regulatory cost p.a.</p> <p align="right">-\$3,858</p>
<p>Sub - Option 3: Conditional renewal of end use licences and authorisations on a rolling basis</p> <p>Currently applicants for end use licences need to undertake a full application process each time they reapply for their licence. This option proposes to introduce automatic renewal of licences provided the licence holder has addressed any outstanding issues of non-compliance and has actively checked and updated their details with the administering body.</p>	<p>Total regulatory cost p.a.</p> <p align="right">-\$1,087,273</p>
<p>Sub - Option 4: Lengthen the end use licence period to a standard 3 years</p> <p>This option proposes to retain the current administrative and regulatory requirements for end use licensing but to extend the licensing period to a standard 3 years before needing to reapply.</p>	<p>Total regulatory cost p.a.</p> <p align="right">-\$580,151</p>

i Measure 7.5.2 - Improve effectiveness of emission reduction aspects

Preliminary Net Impact assessment: This measure is to focus education compliance and enforcement activity to the areas of highest gain. Some areas of the RAC industry have been identified as having greater opportunity to reduce emissions, including the automotive sector and automotive end of life.

Preliminary Regulatory Burden Impact assessment : ≈ 0

Note: In administering the OPSGGM Programme the Australian Government seeks to avoid exposing technicians to any additional WHS risks. However, it is critical to note that the power and responsibility to regulate occupational matters – including WHS – rests with state and territory agencies.

A detailed analysis of this issue addressing industry concerns is contained in the End Use Section of **Attachment A**.

Measure 7.5.3 – Restructure of end use licensing, simplifying licences to a basic ODS/SGG licence

Preliminary Net Impact assessment: This measure is to focus education compliance and enforcement activity to the areas of highest gain. Some areas of the RAC industry have been identified as having greater opportunity to reduce emissions, including the automotive sector and automotive end of life.

Preliminary Regulatory Burden Impact assessment: -\$66,367

Measure 7.5.4 – Administration of the end use licensing system by industry on voluntary basis

This measure involves removing the mandatory licensing requirements from the OPSGGM Regulations but would facilitate the transition of the licensing systems to appropriate industry bodies. This measure is contingent on industry bodies wanting to take on this regulation.

Preliminary Net Impact assessment: This measure reduces regulation. Voluntary certification was introduced in the RAC industry prior to the end use control, however less than 10 per cent of businesses and technicians participated in the scheme. Emission reductions achieved through the end use system would be eroded as businesses would be forced to reduce their standards to compete with businesses that chose to not operate to international standards and codes of practice in the absence of a regulatory requirement to do so.

Preliminary Regulatory Burden Impact assessment: -\$1,758,334

Full Preliminary Regulatory Burden assessments for End Use measures at: **Attachment E – 19-22**

7.6 Area for reform: Compliance and Enforcement

Compliance and enforcement is connected to all activities covered by the OPSGGM Programme. Requirements include licence obligations for importers, exporters and manufacturers, reporting, payment of levies and fees, record keeping, acquisition, storage and disposal of substances, and for licensed entities to manage and handle scheduled substances lawfully, and for ODS and SGGs not to be emitted unless permitted by regulation.

Industry feedback indicates a perception that the Department and the licensing bodies could do more to detect and enforce breaches of the OPSGGM Acts and Regulations.

Submissions included suggestions to increase the:

- range of offences included in the OPSGGM Act and Regulations
- powers available to enforce the offences
- enforcement of the legislation.

The Review has found that there is scope to strengthen the powers of the Commonwealth under the OPSGGM Programme and to improve the effectiveness of implementing those powers. Note that this is limited to the regulatory scope of the Programme.

For further reading, see the Compliance and Enforcement section of **Attachment A**.

7.6 Measures: Compliance and Enforcement

Measure 7.6.1 - Encourage industry self regulation through educational activities.

Preliminary Net Impact assessment: The net impact is to encourage industry cooperation in education and achieving compliance with relevant regulation. This would enable the industry to self regulate through a system covering all relevant regulatory requirements as well as workplace health and safety standards, which are outside the remit of the OPSGGM Programme.

Measure 7.6.2 - Strengthen Commonwealth powers, including:

- a. ability to audit individual end use licence holders,
- b. provisions to allow for Notice to Produce,
- c. provisions to penalise breaking or destroying goods to prevent seizure
- d. expansion of the infringement notices scheme
- e. provision to penalise false representations for fire protection permits
- f. provisions to include requesting reasonable assistance from the owner/occupier during a search
- g. provisions that address the adequacy of existing gas sampling provisions
- h. forfeiture and penalty for distribution of goods containing a scheduled substance

Preliminary Net Impact assessment: The net impact of the above measures are:

- Improvement in administrative efficiency in allowing compliance and enforcement activities to be undertaken more easily and directly; and

- Improved confidence in the Department/legislation by industry that the Department is undertaking compliance and enforcement actions and helping create a more level playing field in industry.

Measure 7.6.3 -- Publication of compliance actions undertaken

This would entail regular publication of compliance actions taken within the general limitations on disclosing information obtained under the Programme. General information that could be published by the Department could include for example the number of:

- site visits undertaken;
- infringement notices issued;
- civil penalty orders; and
- convictions.

Preliminary Net Impact assessment: This measure would allow better visibility of compliance and enforcement activities undertaken by the Department in relation to breaches of the Programme.

Preliminary Regulatory Burden Impact assessment: ≈ 0

Measure 7.6.4 - Streamlining of information sharing between the Department, state and territory and Government agencies (specific to compliance and enforcement and separate to international reporting requirement data sharing).

Preliminary Net Impact assessment: This measure would improve the efficiency and effectiveness of compliance and enforcement by enabling sharing of information between relevant regulators.

Preliminary Regulatory Burden Impact assessment: ≈ 0

At this stage, the Department has only costed the options of: Do nothing (\$NIL) or Strengthen and Streamline current systems (including consideration of supporting new proposed policy) (<\$10 000).

The preliminary assessment includes:

- *Increase enforcement options for existing offences*
- *Undertake enforcement actions under warrant*
- *Education for introduction of new provisions and penalties*

Full Preliminary Regulatory Burden assessment at: **Attachment E - 24**

7.7 Area for reform: Cost Recovery- Licence fees and levies

The administration of Australia's obligations under the OPSGGM Programme operates largely on a cost recovery basis with a range of fee and levy revenue streams through the *Ozone Protection and SGG Account* (a Special Account established under the OPSGGM Act to facilitate the administration of the Programme). It is essential that the Special Account operates on a financially sustainable basis with revenue received covering the costs of running the various obligations under the OPSGGM Programme.

The OPSGGM Programme is not currently achieving full cost recovery with expenses exceeding revenue. This shortfall has been accommodated through accumulated funds from the Special Account, however long term projections indicate reserves will be exhausted by 2020-21. Licence fees established under the OPSGGM Act and levy amounts set under the Import and Manufacture Levy Acts were last modified in 2003.

7.7 Measures: Cost Recovery – Licence fees and levies

Measure 7.7.1 - Remove the upper limit prescribed in the Import and Manufacture Levy Acts, and adjust the import licence application fees prescribed in the OPSGGM Regulations, as necessary to achieve full cost recovery

Preliminary Net Impact Assessment: Both of these options would be used together to set fees at a level necessary to continue to fund the activities of the OPSGGM Programme. Licence fees are currently set by regulation. It is proposed that the same approach be used for levies. It should be noted that the current specified amounts could increase or decrease depending on the final make up of the OPSGGM Programme.

Preliminary Regulatory Burden Impact assessment: ≈ 0

7.8 Area for reform: Cost recovery - Management of National Halon Bank

Under the Montreal Protocol, the manufacture and import of new halon has been phased out in developed countries since 1994, however the use of used halon is permitted to meet essential uses where there are no alternative is available.

A long term supply of halon is required in Australia for essential users – currently the civil aviation, civil maritime and defence sectors. Modelling for the Department by Energy International Australia in its report *Review of Australia's halon essential uses requirements* indicates a number of scenarios where halon will be required in Australia beyond 2050. Australia's current halon management strategy, including operations of the National Halon Bank, is based on an earlier end date estimate of 2030. Recent analysis by the Montreal Protocol's Halon Technical Options Committee (HTOC) indicates that the demand for halon for essential users already exceeds estimated used halon stocks potentially recoverable from decommissioned systems.

The National Halon Bank is a storage facility managed by the Department to provide a stock of halon for essential uses where no alternatives are available. The National Halon Bank is managed through a contract with a gas storage expert, supported by contracts for related services, and a long term lease of storage facilities in Melbourne. The arrangements were last put to the market in 2012.

The Australian Government has no obligation under the Montreal Protocol or any other international agreement to operate a halon bank. The National Halon Bank was originally established to manage recovery and disposal of excess halon and to manage Australia's strategic stock for essential uses. The management of the National Halon Bank was transferred to the Department of the Environment in 1999 after the then Department of Administrative Services was abolished.

The National Halon Bank achieves the intentions of its establishment; however it is operating at a significant annual loss. The cost to the Department in managing the National Halon Bank is approximately \$1 900 000 per year. This cost is only partially offset (approximately \$570 000) by revenue.

Analysis of projected revenue and expense from all OPSGGM Programme activities indicates that the balance of the Special Account, which funds all OPSGGM Programme activities, will be exhausted by 2020-21.

For further reading, see the Halon Management section of **Attachment A**.

As the Australian Government is responsible for operating the National Halon Bank, any decision to alter existing arrangements lies with the Australian Government. The regulatory burden of the options set out below could be high.

The submissions received on this problem and the options presented below will help the Department to clarify the impact of the options.

7.8 Measures: Cost Recovery - Management of National Halon Bank

Measure 7.8.1 - The National Halon Bank remains a Commonwealth managed facility

- i) Cost recovery achieved through increasing the management fee
- ii) Cost recovery achieved through raising the price of halon supplies held by the National Halon Bank
- iii) Cost recovery achieved by raising fees and levies

Preliminary Net Impact Assessment: Any of the options will result in significant price increases. It is unlikely the increase would be prohibitive for essential use applications; however the increase could lead to perverse outcomes including illegal imports, theft and substitution with gas that is not fit for purpose. The last two outcomes could endanger lives and property.

Preliminary Regulatory Burden Impact assessment: ≈ 0

Measure 7.8.2 - Divest the halon stock to users for their own ongoing management

Preliminary Net Impact Assessment: This option provides halon to the direct beneficiaries and places the long term management with those users. However it will be difficult to determine an appropriate allocation for many of the small users in the aviation industry. It will also be difficult to properly manage a disbursed stock holding, where gas storage expertise is low. Increased emissions could occur through poor storage practices and Australia's strategic stockpile could be at risk from poor storage practices.

Preliminary Regulatory Burden Impact assessment: \$1,253,491

Measure 7.8.3 - Privatising the National Halon Bank to one or more halon suppliers through a formal tender process

Preliminary Net Impact Assessment: This option has a number of potential challenges, including the loss made by the National Halon Bank on its current business model, perverse outcomes of significant changes to pricing, outlined in Option 1, and concerns about monopoly suppliers.

Preliminary Regulatory Burden Impact assessment: ≈ 0

Full Preliminary Regulatory Burden assessments at: **Attachment E - 25**

8. MEASURES CONSIDERED INFEASIBLE

8.1 Area for reform: Regulation of additional substances

Measure 8.1.1 - Make no regulatory change and undertake non-regulatory data collection.

Preliminary assessment: Australia does not have sufficient information on the use of uncontrolled ODS to take an informed policy position should there be moves to add controls under the Montreal Protocol. It is important for the development of the Australian Government's policy positions that reliable information is held on the type, quantity, location and use of ODS in Australia.

The current risks to Australia if no action was undertaken on new SGGs includes potential non-compliance with Australia's reporting obligations under the UNFCCC and its Kyoto Protocol, and misrepresentation of its progress towards, and achievement of, international emissions reduction commitments under these treaties.

Each year, Australia must report to the UNFCCC on estimated emissions of the 'new' SGGs that meet quality criteria including accuracy and minimisation of uncertainty. These reports provide the official basis to track Australia's progress towards its international emission reduction commitments.

Future risks include the possibility of new ODS and SGGs controls being negotiated under the Montreal Protocol without the Australian Government having developed an informed policy and therefore negotiating position based on a full knowledge of its domestic situation. If Australia is not able to negotiate effectively this could lead to Australian industry being disadvantaged by the resulting international agreement..

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In such an instance, Australia would be unlikely to ratify any amendment, including the addition of new gases. Failure to ratify an amendment would have a negative impact on Australia due to the universal membership of the Montreal Protocol and trade restrictions where Parties are not able to trade ODS with non-Parties. Australia is considered to be a highly effective and valued member state to the Montreal Protocol and has ratified all previous amendments without issue – any deviation from this historical approach could damage Australia's reputation in this arena.

The preferred approach is to rely on data from the Department of Immigration and Border Protection and industry surveys to develop a sound level of knowledge of unlisted chemicals used in Australia.

8.2 Area for reform: Licensing – End Use

Measure 8.2.1 - Abolish end use licensing system or transfer it to state and territory governments or industry.

This option was considered to assess the effectiveness of the Commonwealth administered end use licensing system.

Preliminary Net Impact assessment: Abolishing the end use system was assessed as having an overall negative cost benefit. Emission reductions achieved through the system would be eroded as businesses would be forced to reduce their standards to compete with businesses that chose to not operate to international standards and codes of practice in the absence of a regulatory requirement to do so.

Transferring the end use system to the states and territories was assessed as having a negative cost benefit. Operating parallel systems in each state and territory would be less efficient than a single national system. Businesses operating in multiple jurisdictions would be required to hold multiple licences. Over time it is likely that the state and territory systems would become inconsistent, adding regulatory burden to businesses operating in multiple jurisdictions.

This is further supported by industry consultation which has strongly emphasised an industry desire for *more* certainty and commonality within the industry.

Preliminary Regulatory Burden Impact assessment:

Four sub-measures to remove end use licensing arrangements from the OPSGGM Programme are described below.

The scale of the RAC industry’s usage of ODS and SGG is much larger than that of the fire protection industry. The break up is shown below.

Sub-measure 1a: Remove end use licensing from the Ozone Regulations – RAC only	Total regulatory cost p.a. -\$5,922,527
Sub-measure 1b: Remove end use licensing from the Ozone Regulations – fire protection only	-\$114,221
Sub-measure 1c: Remove licensing for both RAC and fire protection	- \$6,036,748
Sub-measure 1d: Transition end use licensing to state and territory jurisdictions	\$102,618(attributed 50:50 to Commonwealth: states / territories)

Net Benefits

The Cost Benefit Analysis found that the costs of this option outweigh the possible benefits; the following is an excerpt from the report at **Attachment C**:

	Removal of end use controls	Transfer end use controls to state and territory governments
Anticipated benefits	<ul style="list-style-type: none"> Reduced compliance costs. Reduced administrative costs (for the Department). 	<ul style="list-style-type: none"> Possible reduced compliance costs for business if licensing requirements are amalgamated within existing occupational licensing Programmes at state level (only applies to some states).

Anticipated costs	<ul style="list-style-type: none"> • Increased SGGs/greenhouse gas use / emissions • The process of change would require substantial legal and administrative work and consultation with each jurisdiction. • Loss of legitimacy of the national licence for equipment handlers may negatively impact the RAC and fire protection industry. However, it is not possible to cost this element. • Cost of education. • Reduced awareness by consumers around the environmental cost of refrigerant gases could lead to reduced operational efficiency leading to higher emissions. However, it is not possible to cost this element. 	<ul style="list-style-type: none"> • Increased transition costs to the Department and state governments. Transitional work with industry and the states and territories will be required to ensure there is clarity about regulatory coverage and requirements. The process of change would require substantial legal and administrative work and consultation with each jurisdiction. • Increased administrative costs resulting from loss of economy of scale achievable in federally operated regulations. • Increased compliance costs for businesses operating in multiple jurisdictions. • Cost of education for businesses to understand new (and possibly different) state-based regulations.
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The Expert Group Report found that direct emissions reduction of 24.7 Mt CO₂-e (16.7ODS / 8.0SGG) has been achieved as a result of the end use controls for both fire protection and RAC introduced with the 2003 amendments to the OPSGGM Act (24.37 Mt CO₂-e as a result of the RAC licensing programme and 0.33 Mt CO₂-e as a result of the fire protection licensing programme¹²). These controls have been effective in reducing direct and indirect emissions and it is expected that they would reduce direct emissions by a further 59.3Mt CO₂-e (18.0ODS / 41.3SGG) when modelled out to 2030 (58.02 Mt CO₂-e as a result of the RAC licensing programme and 1.28 Mt CO₂-e as are result of the fire protection licensing programme).

For further reading see **Attachment B**.

Additional Sub-measure: The following sub-measure was not included in the Cost Benefit Analysis but was included in a regulatory burden analysis to test the application of partial removal of regulatory requirements. This option would remove licensing for fire protection but retain permits and handling licences for halon.

[Preliminary Regulatory Burden Impact assessment: -\\$68,572](#)

8.3 Area for reform: Compliance and Enforcement

Measure 8.3.1 - Increase powers of industry licensing bodies

Preliminary Net Impact assessment:

There is an overall negative net impact of this option:

¹² Expert Group, Assessment of environmental impacts from the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989, April 2015: pg 15.

- increase administrative burden on licensing bodies in undertaking additional compliance and enforcement work
- increase risk to the Commonwealth in delegating responsibility for the appropriate undertaking of compliance and enforcement activities
- improve administrative efficiency in allowing compliance and enforcement activities to be undertaken more easily and directly
- increase compliance costs to the industry
- decrease confidence in the regulatory system

9. CONSULTATION

In addition to the consultation undertaken as part of the Review, this Options Paper will be out for public consultation for six weeks.

The Department will also engage with the TWG, IWG and individual stakeholders on specific topics throughout the consultation period and during the development of the Final Report to Government.

The full range of consultation undertaken as part of the Review will inform the final options and implementation plan recommended to Government.

10. HOW TO MAKE A SUBMISSION

The Department invites submissions to the options presented in this Options Paper from industry groups, businesses, members of the community, state and territory governments, local government and any other interested parties.

Responses received will inform the Final Regulatory Impact Statement which will be considered by the Australian Government in the first half of 2016.

Each submission, unless it is explicitly provided in confidence, will be published on the Department's website. Copyright of submissions will reside with the author(s) and not with the Australian Government.

Submissions should be lodged electronically, via the email address below. Alternatively they may be sent to the postal address below.

All submissions must be received by COB Monday 16 November 2015.

Email: ozone@environment.gov.au

Post: Ozone and Synthetic Greenhouse Gas Act Review
Department of the Environment
GPO Box 787
CANBERRA, ACT 2601

Privacy Statement

Views are being sought by the Department on the Review of the OPSGGM Programme. Personal information provided will be used for the following purposes:

- To seek input in relation to the Options Paper
- Where a submission raises a matter relevant to the portfolio interests of another agency such that it is appropriate to disclose your personal information to that agency
- Personal information included in your submission may also be disclosed in subsequent Departmental publications that are relevant to the portfolio interests of this Department.

The Department's privacy policy contains information about how personal information may be accessed, how a request for correction of personal information can be made and how a complaint may be made in relation to the handling of personal information. Should you require a copy of the Department's Privacy Policy, please contact 02 6274 2131.

Confidentiality Statement

It is preferred that submissions do not contain confidential elements to be consistent with a transparent review and decision making processes.

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