Senate Standing Committee on Environment and Communications Legislation Committee Answers to questions on notice Environment portfolio

| Question No: | 57 |
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| Hearing: | Supplementary Budget Estimates |
| Outcome: | Outcome 1 |
| Programme: | Environment Standards Division (ESD) |
| Торіс: | Synthetic vs Natural Refrigerants |
| Hansard Page: | N/A |
| Question Date: | 21 October 2015 |
| Question Type: | Written |

Senator Urquhart asked:

- 1. Can you outline the pros and cons of synthetic versus natural refrigerants?
- 2. Can you outline the difference in GHG emissions between synthetic and natural refrigerants?
- 3. Do you have a perspective on the safety issues between the 2 refrigerant types?
- 4. I understand Bob Baldwin chaired the OPSGG roundtable on Friday, will he continue on this committee? He made some statements that have led some in the sector to think that the perspective from Govt has changed from being heavily in favour of synthetics to being open to an increased role for natural refrigerants, is that the case?

Answer:

1. 2. and 3.

All refrigerants, both synthetic greenhouse gases and naturals, vary in their properties, including their ozone depleting and global warming potential, the environment in which they can be safely used and the nature and severity of their inherent hazard characteristics.

Synthetic greenhouse gases vary greatly in their global warming potential but tend to be high compared to new replacement gases, including natural refrigerants. The Ozone legislation places tight controls on scheduled substances to promote the responsible management of gases to minimise their emission and impact on the atmosphere.

Overseas and Australian experience demonstrates that all refrigerants can be used safely and effectively when installed in equipment designed specifically for them and where the manufacturers' instructions and appropriate work health safety controls are followed. The Department works with state and territory regulators and industry bodies to ensure that licensed technicians are aware of how to safely handle refrigerants, including flammable refrigerants, while meeting their obligations under the Ozone legislation.

All refrigerants have some hazard characteristics, including toxicity, flammability and issues associated with operating under high pressure. Both synthetic substances and natural refrigerants exhibit a variety of these characteristics which need to be managed carefully. For example, many synthetic greenhouse gases and emerging synthetic replacements (for example hydrofluoroelfins) produce toxic by-products when burned and some are mildly flammable. The characteristics of natural refrigerants also vary greatly: ammonia is both flammable and toxic; carbon dioxide is an asphyxiant; and hydrocarbons are highly flammable.

4. The Department of the Environment administers the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 and its Regulations 1995 (the Ozone legislation). The Ozone legislation gives effect to Australia's obligations under the Vienna Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer; and to obligations under the Framework Convention on Climate Change and its Kyoto Protocol. This suite of legislation is currently under review and an options paper was released on 16 October 2015 for public consultation.

The purpose of the Ozone Protection and Synthetic Greenhouse Gas Roundtable on 16 October 2015 was to enable a cross section of industries either regulated by, or with an interest in, the Ozone legislation to discuss issues being addressed through the current review. The Roundtable is not a formal, ongoing committee. Mr Baldwin was asked to chair the committee on behalf of the Minister for the Environment, Greg Hunt.

The Australian Government does not favour one gas type or technology over another and does not prescribe which replacement gases should be used, allowing the market to determine the gases and technologies that will be adopted within the regulatory framework.

Global drivers for increased use of alternatives to synthetic greenhouse gases include technology development, design trends, government environmental policies, and supply and demand are leading a trend towards the use of lower global warming potential gases.

The Department of the Environment will continue to work with relevant industry bodies, including those represented at the roundtable, on matters related to the regulation of scheduled substances. The Ozone legislation and the Australian Government's emissions reduction policies encourage industry to transition to lower emissions practices but do not prescribe which alternative gases or technologies should be adopted.