SPAC
South Pacific Air Conditioning

SPAC Limited –Refrigerants in PNG

PNG is a state party to numerous multilateral environment agreements including the *'Montreal Protocol on substances that deplete the ozone layer'* and the *'Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC)'*. Under both agreements, the Government has committed to eliminating the use of ozone depleting substances by 2025 and a significant reduction of greenhouse gas emissions. The 'PNG Vision 2050' (*40-year national development plan*) ambitiously pledges a 90 percent (%) reduction of carbon emissions to 1990 levels by 2050 [PNG Vision 2050,2011] and relevant authorities are working to ensure that necessary legislation is in place to monitor, control and achieve anticipated targets. **South Pacific Air Conditioning Limited** is committed to supporting related efforts by providing tailored technology solutions that do not use ozone depleting refrigerants such as *R-22, R502, R409A, R408A, R406A etc* and engaging in good refrigeration practices.

Legislative controls on greenhouse gas refrigerants is expected to promote industry transition to the use of more environmentally friendlier technology options; natural and hydrocarbon refrigerants [already present in domestic and commercial refrigerators using R600a, R744 and split air conditioning units using R290, R32 *HFC with generally lower GWP*]. This refrigerant category is known to be more volatile and will require specialised training for trade personnel to ensure safety procedures are observed during installation, servicing and maintenance of related technology.

As an Environment Permit holder for the import of refrigerants and HVAC-R equipment, **South Pacific Air Conditioning Limited** would like to extend to the industry and its clients; the following information concerning regulatory requirements of refrigerants and the industry.

The *Conservation and Environment Protection Authority (CEPA)* as implementing agency for the '*Montreal Protocol*' in country has established and recently revised enabling regulation [*Environment (Ozone Depleting Substances, Synthetic Greenhouse Gas and Natural Refrigerants) Regulation, 2022.]* to reinforce and impose the following bulleted points;

- An Environment Permit requirement on Importers of Refrigerants, HVAC-R equipment and other product containing ozone depleting substance or synthetic greenhouse gas (*may include certain types of fire extinguishers, foam agents/polyols, pesticide, solvents*)


Chillers

Fire Extinguisher

Polyols

Methyl Bromide

- An existing Import quantity restriction on HCFC refrigerants (R22) targeting zero consumption/import by 2025 managed through annual trade quota allocations expressed in metric tonnes to six (6) authorised Environment Permit holder importers.

Year	Ozone Depleting Potential (ODP) Tonnes of HCFC	HCFC -22 (kilogram)
2021	0.87	15,800
2022	0.87	15,800
2023	0.87	15,800
2024	0.87	15,800
2025-2030	0	0

Table 1: Table showing HCFC / R22 reduction schedule targeting zero consumption in 2025

- A ban on the import, sale and installation of HVAC-R equipment containing R22 or any other ozone depleting refrigerant effective **1st January 2022.**

- A prohibition on the release of scheduled ozone depleting and greenhouse gas refrigerants into ambient air.

- A new Import quantity restriction to be imposed on HFC refrigerants (*R134a, R410A, R404A, R407C, R507C etc*) commencing in 2024 and managed through annual trade quota allocations expressed in carbon dioxide equivalent to authorised Environment Permit holder/importers. Trade quota allocations will be based on import history calculated as an average of imports from 2020 to 2022 + 65% of HCFC baseline.

Year	HFC Quota
2024	100% baseline
2025 - 2028	100% baseline
2029 - 2034	90% of baseline
2035 - 2039	70% of baseline
2040 - 2044	50% of baseline
2045 – 2059	20% of baseline

Table 2: Table showing HFC reduction schedule targeting 20% reduction in 2045
**Schedule may be fast-tracked, and consumption levels reduced further as is the case in Australia*

- Licensing requirement for trade (purchase/sale) of Refrigerants, HVAC-R equipment and other product containing ozone depleting substance or synthetic greenhouse gas (may include certain types of fire extinguishers, foam agents/polyols, pesticide, solvents)

- Licensing requirements for Refrigerant handling restricted to trained/certified personnel.

- Guidelines and Industry standards to be referenced for the safe handling, storage and transportation of flammable refrigerants

- Ban on applications/technology where environmentally friendlier alternatives are available.

The *Conservation and Environment Protection Authority* has signed a *Memorandum of Agreement* with the *PNG Refrigeration and Air Con Association Inc* for the enforcement of its licensing requirements. **South Pacific Air Conditioning Limited** has been involved in the activities of the *PNG Refrigeration and Air Con Association Inc* through funding support and membership and is ready to comply with trade and refrigerant handling licensing requirements planned to guide industry through a safe transition to the use of more environmentally friendly and energy efficient technology options.

South Pacific Air Conditioning Limited is also involved in efforts of the *National Apprenticeship Trade Testing Board – Refrigeration Industry Technical Committee* (under Department of Labor and Industrial Relations) responsible for establishing the *Refrigeration Mechanics Training Standards (Level 1-3)* in 2017 and revised curriculum to accommodate for volatile refrigerants.

South Pacific Air Conditioning Limited, as a major player in this industry – will work to ensure that the HVAC-R sector and its valued clients are kept informed and progress along with global advancements to the use of environmentally friendly, energy efficient and sustainable technology solutions.

Robert Doyle
Managing Director

18-July-2022
Date

References:

- Environment (Ozone Depleting Substance, Synthetic Greenhouse Gas and Natural Refrigerant) Regulation, PNGSI 03/2022. S8, S11, S14, S18, S21, S22, S23, S25, S34-38, S39, S44 (2022)
- PNG Vision 2050, S1.17.9.1 (2011)
- https://www.lg.com/global/business/heating-split-R32