

Phase-Out of R-22 Refrigerant in Maritime Industry

HCFC R-22



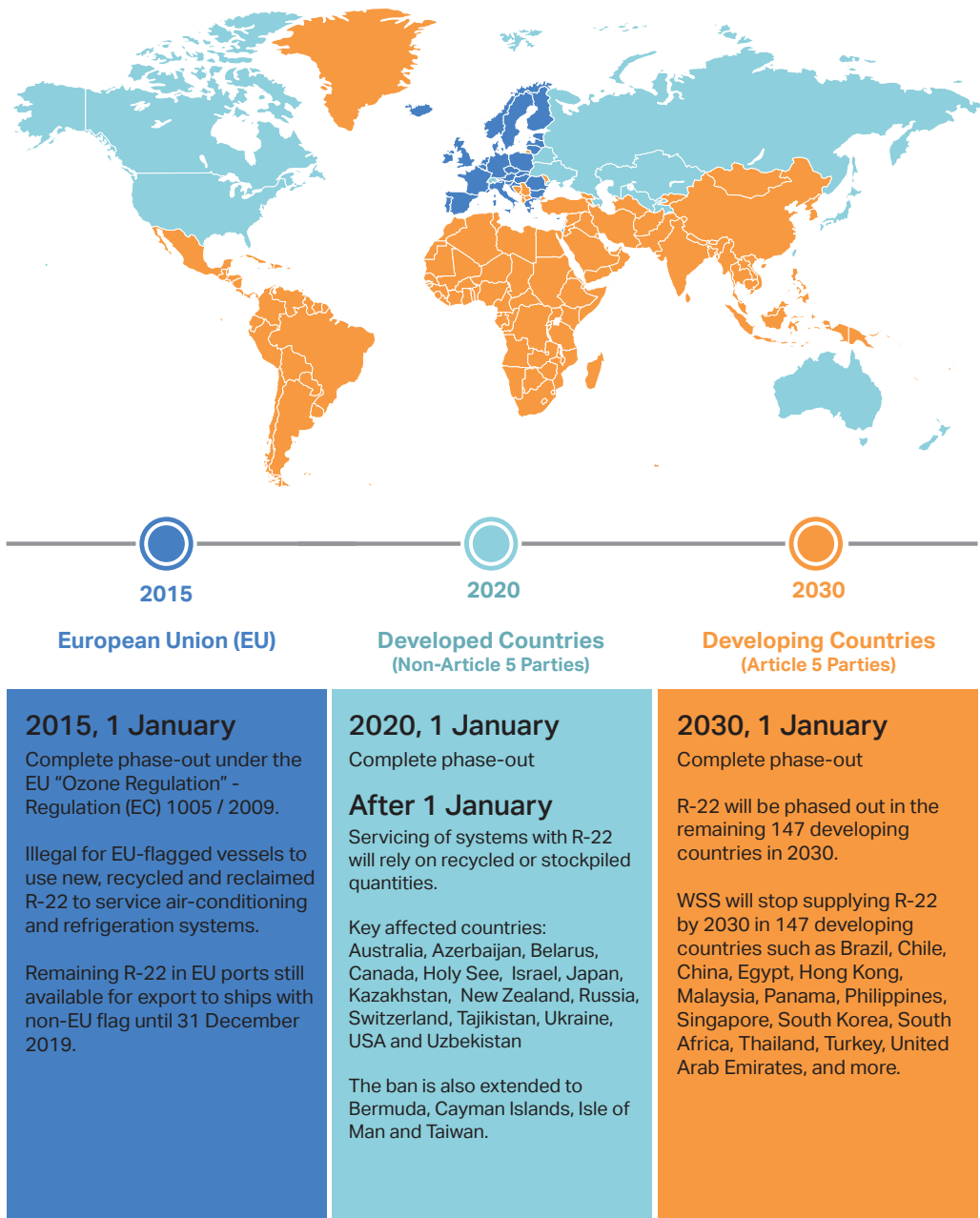
Introduction

The Montreal Protocol was established in 1987 to protect the ozone layer by controlling, reducing and ultimately eliminating global emissions of Ozone Depleting Substances (ODS) such as R-22.

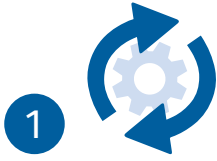
R-22 has been completely phased out in the EU since 1 Jan 2015 and other developed countries are finalising the phase-out as R-22 will no longer be produced or imported after 1 Jan 2020.

However, based on the UNEP Report of the Technology and Economic Assessment Panel in 2016, 70% of the fishing fleets in the world still use R-22 as its main refrigerant. If you are a ship-owner or manager, or someone who has responsibility for such fleets, this article will provide you the present R-22 situation on a global scale, the timeline and the recommended options available to you when it has phased out.

Timeline of R-22 Phase-Out



Recommended Options for Ship Owners/Operators



Total system replacement

This long-term solution will incur high initial cost and additional downtime.

However, installing newer and more efficient systems can result in big reductions in operation and energy expenses. We believe that it is the most environmentally responsible and cost-effective option in the long run.

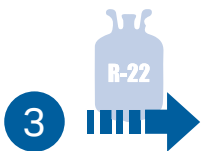


Retrofit the system by replacing R-22

If the system is still in good condition, you may consider retrofitting or converting the system to use alternative refrigerants.

As R-417A is compatible with the mineral oil used in the R-22 system, it is recommended as the cheapest and fastest way to replace R-22, while maintaining reasonable performance and operational capacity.

It is a mid-term solution to keep the system running and free of any ozone-depleting substances.



Continue with R-22

If the ship is due for scrap or if the first 2 options are simply not financially viable for you, you may have to continue with the R-22 system.

To prolong the lifespan of the system and minimise environmental impact, ship-owners should maintain the aging system properly to minimise refrigerant leaks. To ensure uninterrupted operation, owners should also keep sufficient R-22 stock for future servicing.

It is important to note that the cost price of R-22 is expected to keep rising due to fall in supply after its phase-out. Furthermore, there is high risk and impact for your business if the system breaks down and you have no R-22 available for servicing.

Availability of R-22 after 2020

New R-22 will not be available in all developed countries (Non-Article 5 parties of the Montreal Protocol) after 2020.

For Wilhelmsen Ships Service, existing R-22 stock in countries such as USA, Japan and Taiwan will still be available until end 2019, while stocks last. Similarly, existing stock in the Netherlands will still be available for export to non-EU flagged vessels until the same period. Any unsold R-22 will be transferred out of EU by then.

After 2020, we will also stop the supply of R-22 to ships carrying the flag of Developed Countries (refer to timeline). Key affected developed countries include USA, Russia, Japan, Taiwan, Canada, Switzerland, Isle of Man and Cayman Islands, Bermuda, Australia and New Zealand.

Potential Risks



Due to limited supply and rising prices of R-22 in the coming months leading up to 2020, there may be more counterfeit or illegal R-22 surfacing in the market.

Counterfeit refrigerants are dangerous as they can contain banned substances that are toxic and flammable. To avoid potential risks of using a counterfeit or illegal refrigerant, it is important for ship-owners and operators to obtain refrigerants from reliable and reputable sources.

At Wilhelmsen Ships Service, we are committed to help the maritime industry handle the R-22 phase-out and protect the ozone layer at the same time.

WSS not compromising on quality and safety



Quality Guaranteed

Some refrigerants are cheaper upfront, but they'll cost you in other ways: refrigerants susceptible to moisture contamination can cause corrosion in compressors in short time – you'll pay more via lesser operating efficiency and frequent mechanical breakdowns.

With Unicool™ refrigerants, moisture content is guaranteed at an optimum level – filled and sealed only by approved suppliers.



Global Track and Trace

Know the whats, wheres, and whens of all your cylinders with global track and trace: our accurate, secure, and cost-effective stock management system. With this, you can have your Unitor™ cylinders delivered, exchanged, serviced, and re-supplied on a worldwide stage – we'll go to wherever your vessels are.



Complete Compliance

The ISPS Code enforces strict rules on the close monitoring of high-pressure cylinder movements. Thankfully, global track and trace does just that; allowing us, and thereby, you, to stay fully compliant.

Our gas products and services also comply with all international regulations for global warming reduction and the prevention of ozone depletion.



Cylinder Safety and Maintenance

Strict rules govern cylinder inspections before filling and those that fall below our standards are scrapped, because the integrity of our cylinders is our hallmark.



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