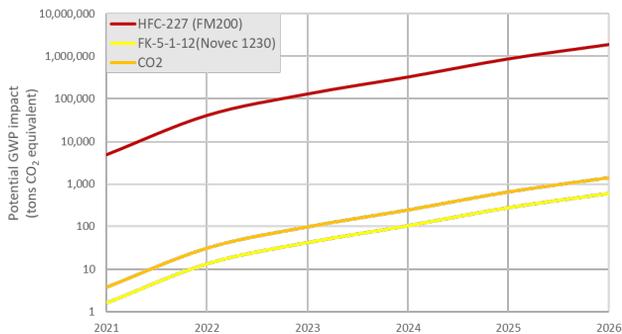


Measuring ExxFire's Environmental Impact



ExxFire - The Complete Green Solution

*ODP is relative amount of degradation to the ozone layer. **GWP is relative measure of how much heat greenhouse gas traps in the atmosphere.

Gas storage	Gas type	Ozone Depletion Potential (ODP)*	Global Warming Potential (GWP)**	Remarks	
NO PRESSURE	ExxFire N ₂	0	0	<ul style="list-style-type: none"> Greenest alternative - Zero ODP* & GWP** No safety issues from installation Maintenance-free for working lifetime 	
	HIGH PRESSURE	Cylinder N ₂	0	0	<ul style="list-style-type: none"> Safety issue due to very high-pressure storage High costs for transport & installation Yearly maintenance + each 10 years hydrostatic test
HIGH PRESSURE		Cylinder CO ₂	0	1	<ul style="list-style-type: none"> Not suitable for occupied room protection Lethal due to instant tissue/lung penetration
	C H E M I C A L	FKs <i>Novoc 1230</i>	0	1	<ul style="list-style-type: none"> Fluorinated ketones produce perfluoro-propionic acid affecting lung tissue. Class action lawsuit initiated in 2018
		HFCs <i>FM-200</i>	0	>3,800	<ul style="list-style-type: none"> Phasing out. 2016 Amendment to Montreal Protocol reducing hydrofluorocarbons by 37% in 2020, 79% in 2030
Halon		16	6,900	<ul style="list-style-type: none"> Production prohibited, except aviation & military Aviation exemption for new type certifications ends in 2024 	
AEROSOLS (not a gas, but completing the overview of available technologies)		0	0	<ul style="list-style-type: none"> Sensitive hardware corrodes after deployment despite instant cleaning Lethal incidents 	

Measuring ExxFire's Environmental Impact

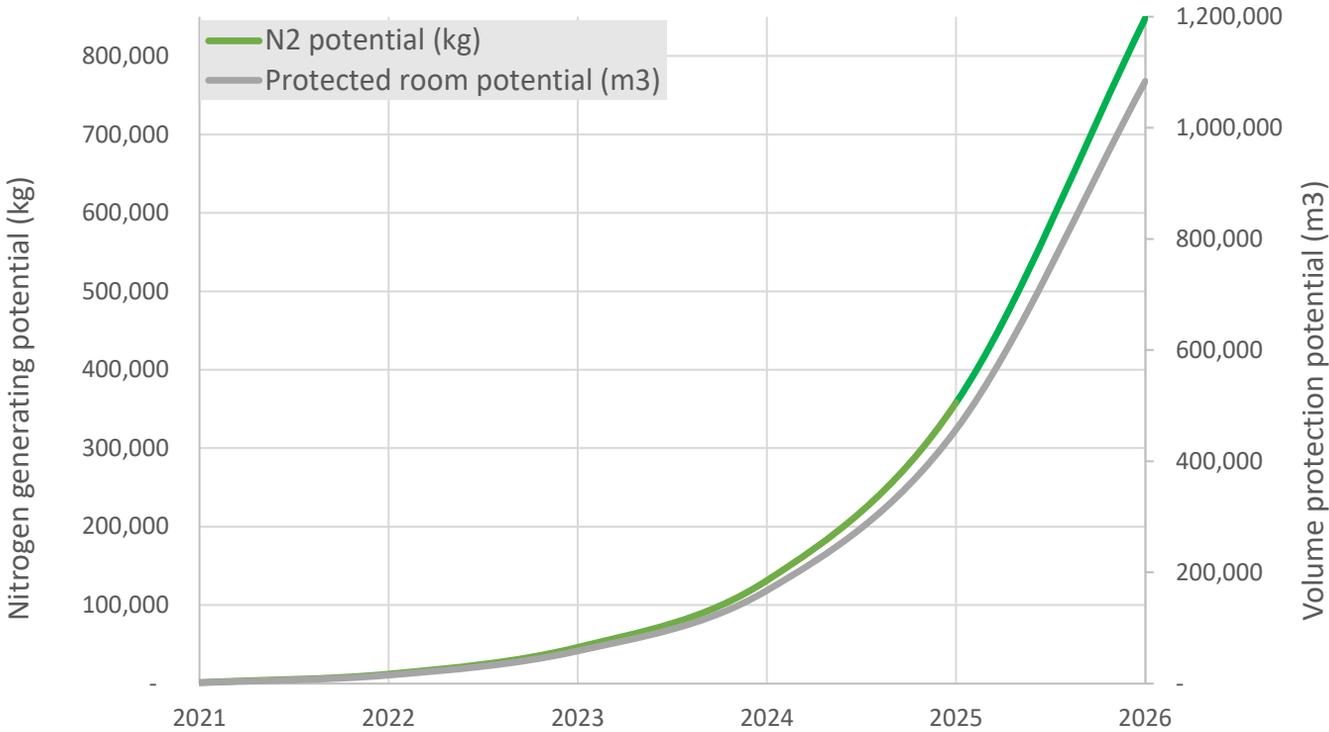
- ExxFire's Business Plan through 2026 forecasts almost 150,000 Cool Gas N₂ Generators installed throughout the world.
- The assumption is that these will replace existing fire suppression systems, which use different gases for fire suppression.
- Those gases have significantly greater impact on the environment, with most having GWP (Global Warming Potential) effects, expressed in equivalent tons of CO₂ being released into the atmosphere.
- We have adopted two approaches to measuring this impact: 1) a cumulative measure over the period; 2) an annual impact measure.

1. ExxFire's Cumulative Environmental Impact

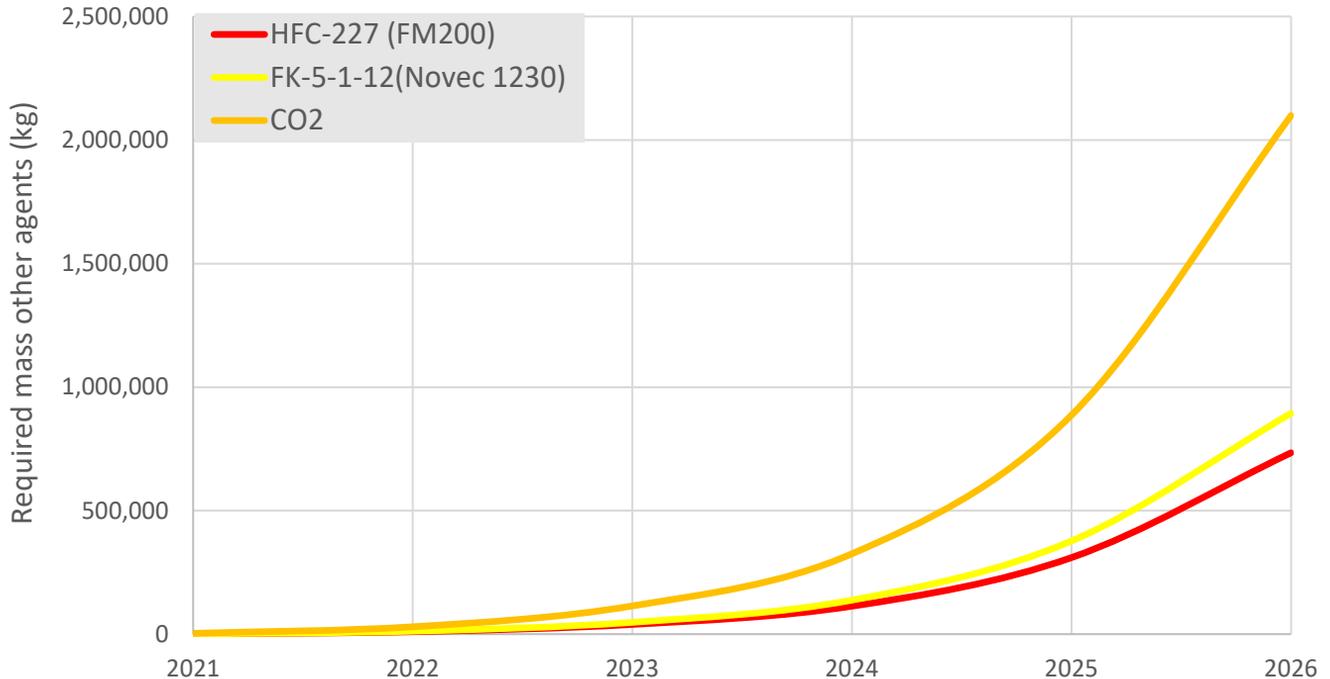
- ExxFire generators to be sold over period 2021 - 2016 = 149,745.
- Total period nitrogen generating potential = 848 tons N₂.
- Volume protection potential = 1.1 million m³. (Design concentration: NFPA 2001 - Class C: 45.2%)
- This volume protection potential can also be achieved by other agents.
- Unlike N₂, all these other agents have negative Global Warming Potential (GWP) expressed in equivalent emissions of CO₂.

Agent	Design concentration	Tons required	Global Warming Potential (GWP)	GWP in tons CO ₂ equivalent
HFC-227 (FM-200)	NFPA 2001 - Class C: 8.5%	833	>3,800	> 3.2 million
FK-5-1-12 (Novec 1230)	NFPA 2001 - Class C: 5.6%	1,015	1	1,015
CO ₂	NFPA 12 - Dry electrical hazards in general: 50%	2,086	1	2,086

Cumulative Nitrogen Generating Potential and Volume Protection Potential 2021 - 2026

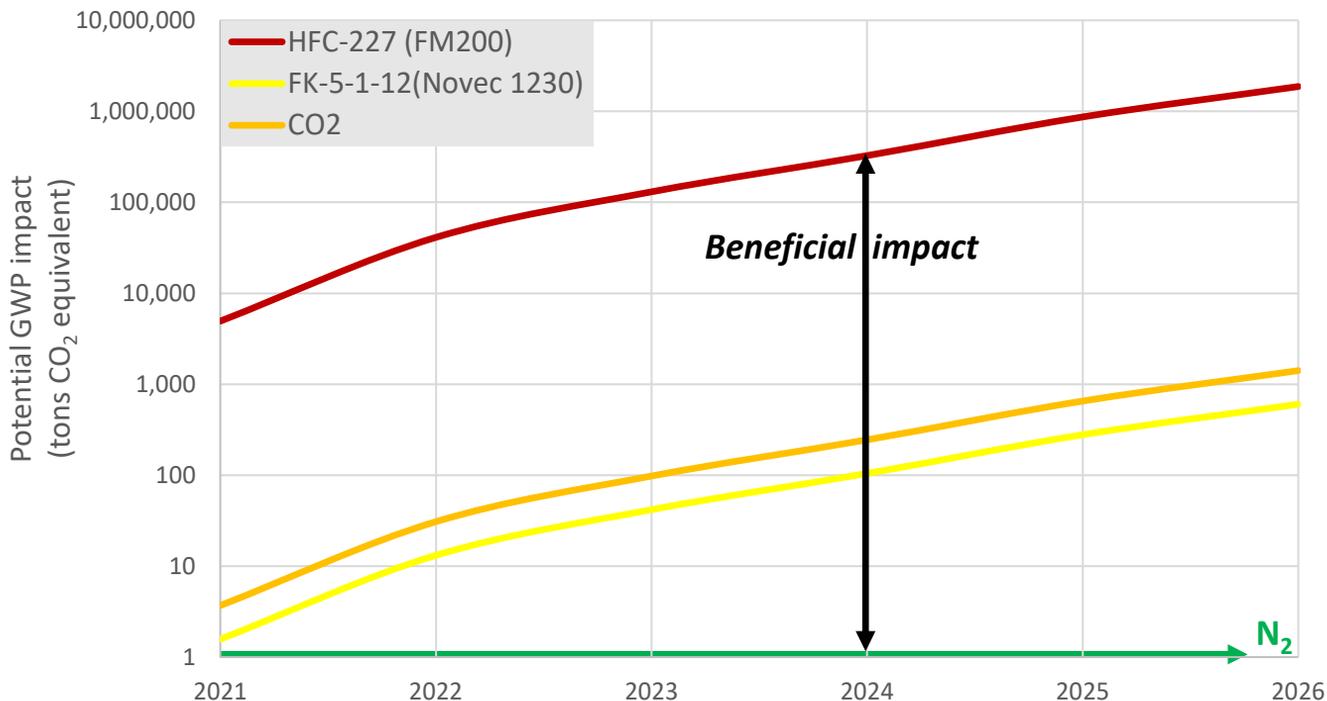


Cumulative Mass of Other Agents for Equivalent Volume Protection Potential Over Period 2021-26



NB: In order to achieve same protected volume, other agents can be used.

Alternative Agents - Cumulative Potential GWP Impact (tons CO₂ equivalent) versus N₂



NB: N₂ reference line is 0, this value cannot be expressed in logarithmic scale.

2. Measuring ExxFire’s Annual Potential Impact

- In the global gaseous fire suppression industry, between 5 and 10 million cylinders are being produced and installed annually:

	Market shares*	Agent	Market shares**
Chemical gases	37%	HFCs (FM-200)	28
		FKs (Novec 1230)	9
Inert gases	63%	N ₂	31.5
		CO ₂	31.5

- Over their lifetime (12+ years), at least 25% of these cylinders will be deployed, releasing their gases into the atmosphere.

* Source: Zion Market Research

** Source: Management estimates

Annual Global Warming Potential - Fire Suppression

Agent	Market share based on cylinders (%)	Corresponding mass (tons)	GWP (tons CO ₂ equivalent/tons agent)	Impact (tons CO ₂ equivalent/year)
HFCs <i>(FM-200)</i>	28	90,000	>3,800	340 million
FKs <i>(Novec 1230)</i>	9	35,000	1	35,000
N₂	31.5	116,000	0	0
CO₂	31.5	288,000	1	288,000
Potential				340 million

- Every year @5 million cylinders, potential GWP of 340 million tons CO₂ equivalent is introduced by industrial fire protection equipment.

Global impact - Actual Greenhouse Gases Emitted Each Year

- Potential GWP = 340 million tons CO₂ equivalent/year.
- Annually, 2% - 3% of installed park is triggered for actual fire suppression, or false alarm, or leakage.

Deployment	GWP emission (tons CO ₂ equivalent/year)
2% - 3%	6.8 million - 10.2 million

- In perspective:
 - The impact of fire protection systems worldwide represents 4% - 6% of entire emission of the Netherlands in 2019 (182.5 millions tons CO₂ equivalent*);
 - The value of this impact represents €211m - €316m, expressed in EU emission trading costs (CO₂ allowance price of €31 per ton, Dec. 11, 2020).

*Source: <https://www.cbs.nl/nl-nl/nieuws/2020/19/uitstoot-broeikasgassen-3-procent-lager-in-2019>



ExxFire's Global Impact - Reducing Greenhouse Gases

- The deployment of ExxFire generators will reduce harmful Global Warming Potential gasses.
- The nitrogen resulting from any discharge will not contribute at all to Global Warming and thereby tip the atmospheric balance back.
- As these facts becomes known, environmental pressures from global governments will increasingly favour ExxFire generators.
- We anticipate our solution will become increasingly standard.