



Fluor & Energy
Materials

**Continued support of our customers
with secured Zephex 134a supply**



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Orbia Company Overview



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Global Imprint and Impact

1953
Founded

23,000+
Employees

\$7.5B
Revenue

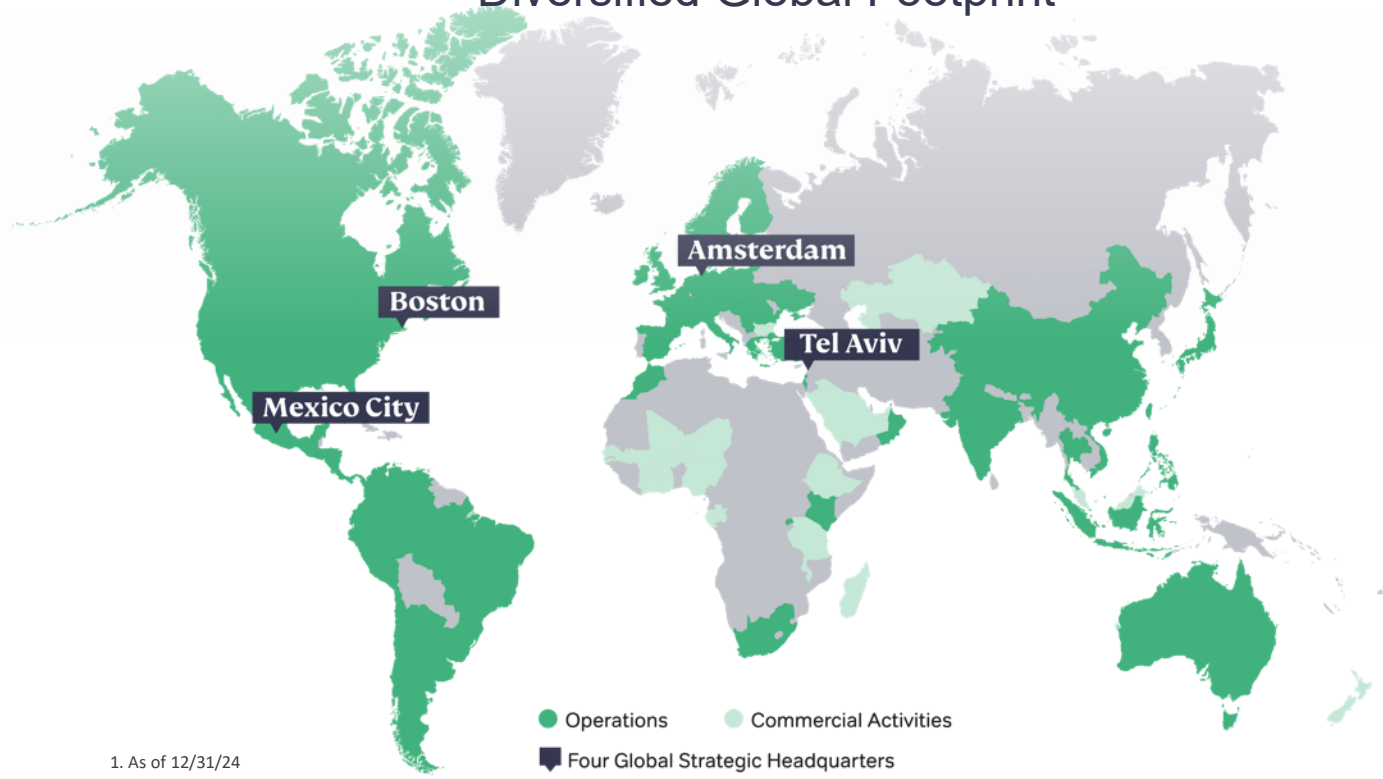
\$1.19B
Adjusted EBITDA¹

15.8%
Adjusted EBITDA Margin¹

100+ countries
Commercial Footprint

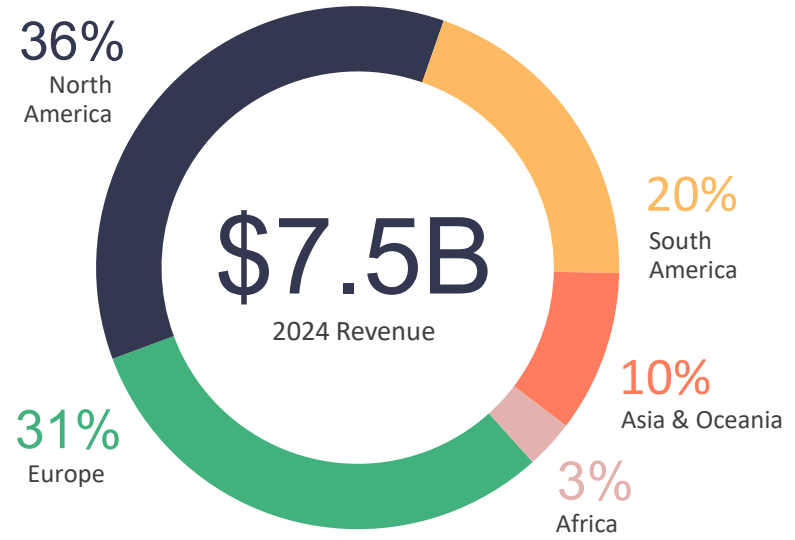
50+ countries
Operations Footprint

Diversified Global Footprint



1. As of 12/31/24

Revenue¹ by Region



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Leading Positions Across All Business Groups



Polymer Solutions

#1 Global specialty PVC producer¹

#6 Global general PVC producer²



Advantaged player in PVC and specialty PVC, serving infrastructure, health and well-being & other industries.

Building & Infrastructure

#1 in Europe³



Leading global provider of innovative water management solutions for resilient construction.

Precision Agriculture

#1 Globally³



Global market leader in precision irrigation and other solutions that enable the world's farmers to grow more with less.

Connectivity Solutions

#1 in the U.S.⁴



Market leader in data network solutions, including conduit and accessories designed to bring connectivity to all.

Fluor & Energy Materials

#1 Global fluorspar mine⁵



One of the world's largest global fluorspar providers for fluorine-based products with applications from medicine to refrigeration to energy storage.

1. IHS Markit (PVC – Capacity to produce by Process). 2. IHS Markit (PVC – Capacity to produce by Shareholder) 3. Company estimates
4. Dun & Bradstreet interview with Data Communications sales teams & experts (Mar 2022). 5. S&P Global Fluorspar and Inorganic Fluorine Products report 2024

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Orbia Fluor & Energy Materials Business

Orbia F&EM supplies fluorine-based materials to many industries



Infrastructure

Fluorspar is critical to cement, steel and aluminum industries



Cooling & Refrigeration

Fluorine is used in refrigerants for air conditioning and food storage



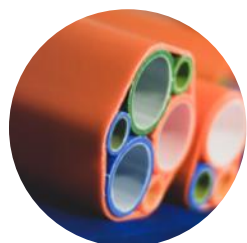
Medical Propellants

Fluorinated medical gas ensures drug stability and efficacious delivery



Pharmaceuticals

Fluorine plays a key role in life-changing drugs and anesthetics



Telecommunications

Fluorine is used in fluoropolymers and coatings for data communications



Semiconductors

High-purity fluorine is used in chips and displays



Renewables

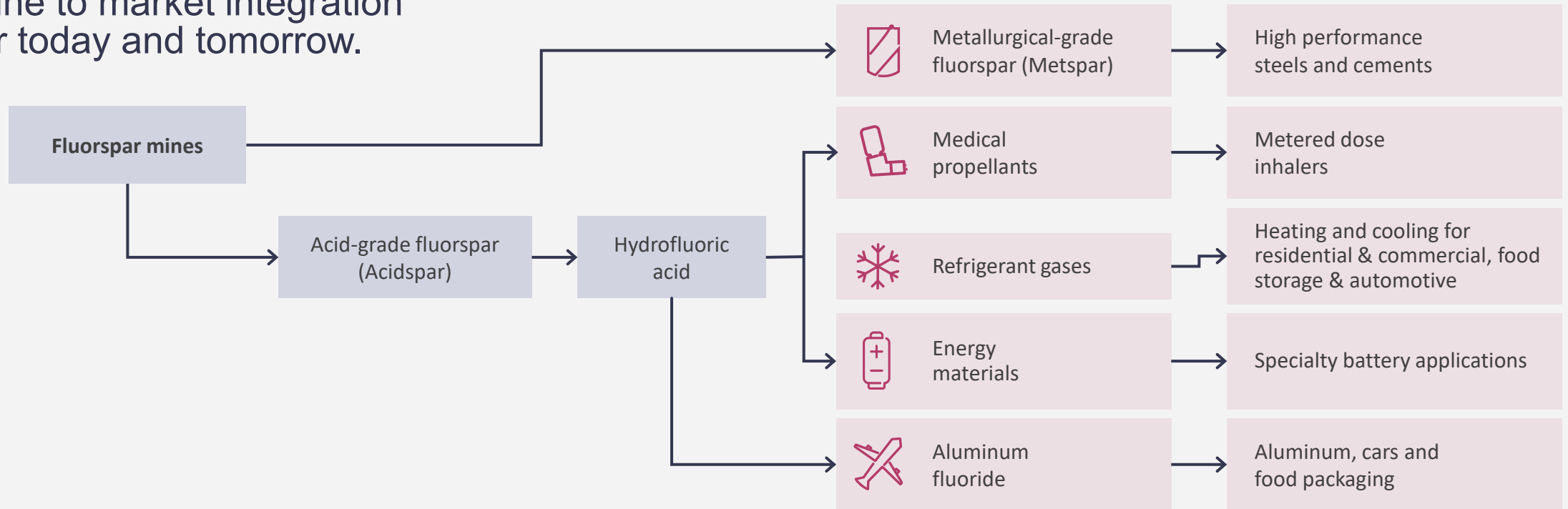
Fluorine protects solar panels from moisture



Energy Storage

Fluorine enables lithium-ion batteries to work

Mine to market integration for today and tomorrow.



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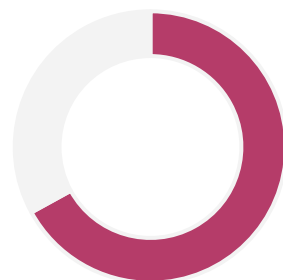
Pharma Business Unit

Zephex[®]

A World Leader in Medical Propellants

We are one of the world leaders in the manufacture and supply of **HFA medical propellants**.

Produced to the most demanding industry standards at dedicated facilities, **Zephex[®]** propellants are used in:



+67%

of the world's metered dose inhalers (MDIs).



~100 Million

people with respiratory diseases, such as asthma every year.



Products List

Zephex 134a

- Relied upon by leading manufacturers for over twenty years
- By far the most widely used medical propellant in the world

Zephex 227ea

- Produced to our exacting, industry-leading standards
- Offers performance characteristics complementary to Zephex® 134a

Zephex 152a

- A sustainable medical propellant that has been under development by Orbia for several years for use in metered dose inhalers (MDIs)
- Used for the treatment of respiratory disorders such as asthma and COPD
- Combined with a new formulation service designed to support early-stage development studies specialising in HFA152a, with internal capability to formulate and test pMDI products at bench and pilot (5L) scale



An Experienced Team at the Customers' Service

The highly experienced Zephex[®] team provide a comprehensive range of key support services to customers as an integral part of our offering, including:

- In addition to our own Certificate of Analysis, if required we can facilitate completely independent customer “acceptance testing” to analyse shipments before they are despatched
- Support in complying with ICH guidelines as confirmed by inspection bodies such as the FDA and MHRA, and in meeting other legislation such as the European F-Gas regulations
- Skilled analytical and transport engineering services to assist in the specification, design, installation and validation of propellant storage and handling facilities
- A range of technical support including formulation advice, full regulatory documentation support and updates and analytical methods



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Our Customers



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Zephex® Customers

Customers of Orbia Fluor & Energy Materials' Zephex® Brand

We're proud to partner, collaborate and work with some of the world's leading Pharma companies and CDMOs as we drive the low GWP propellant transition.



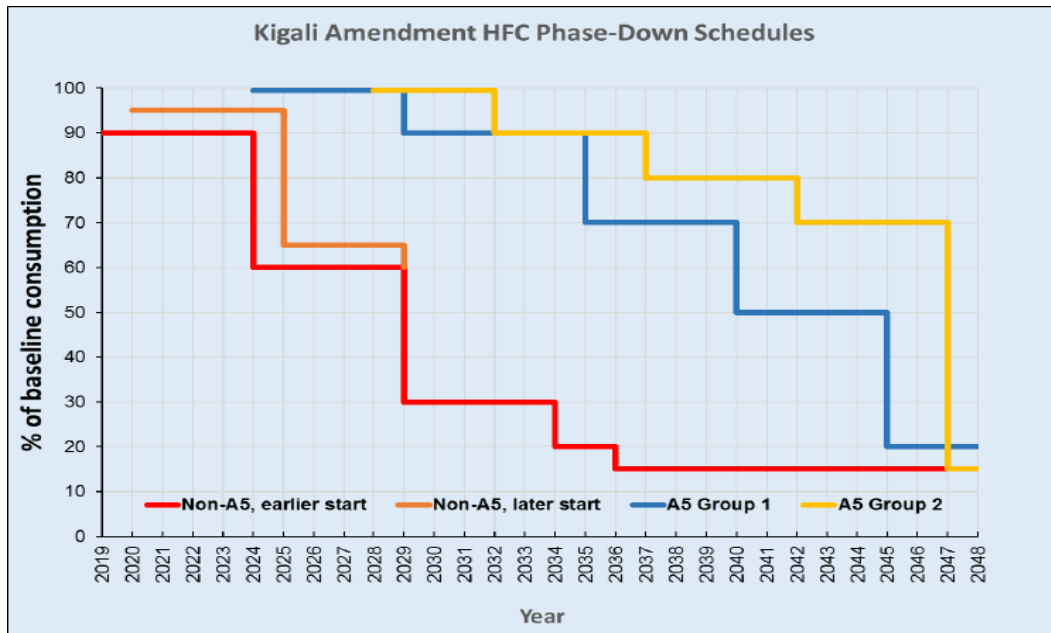
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Regulatory Challenges in Sustaining Medical Propellant Supply During The Low GWP Transition

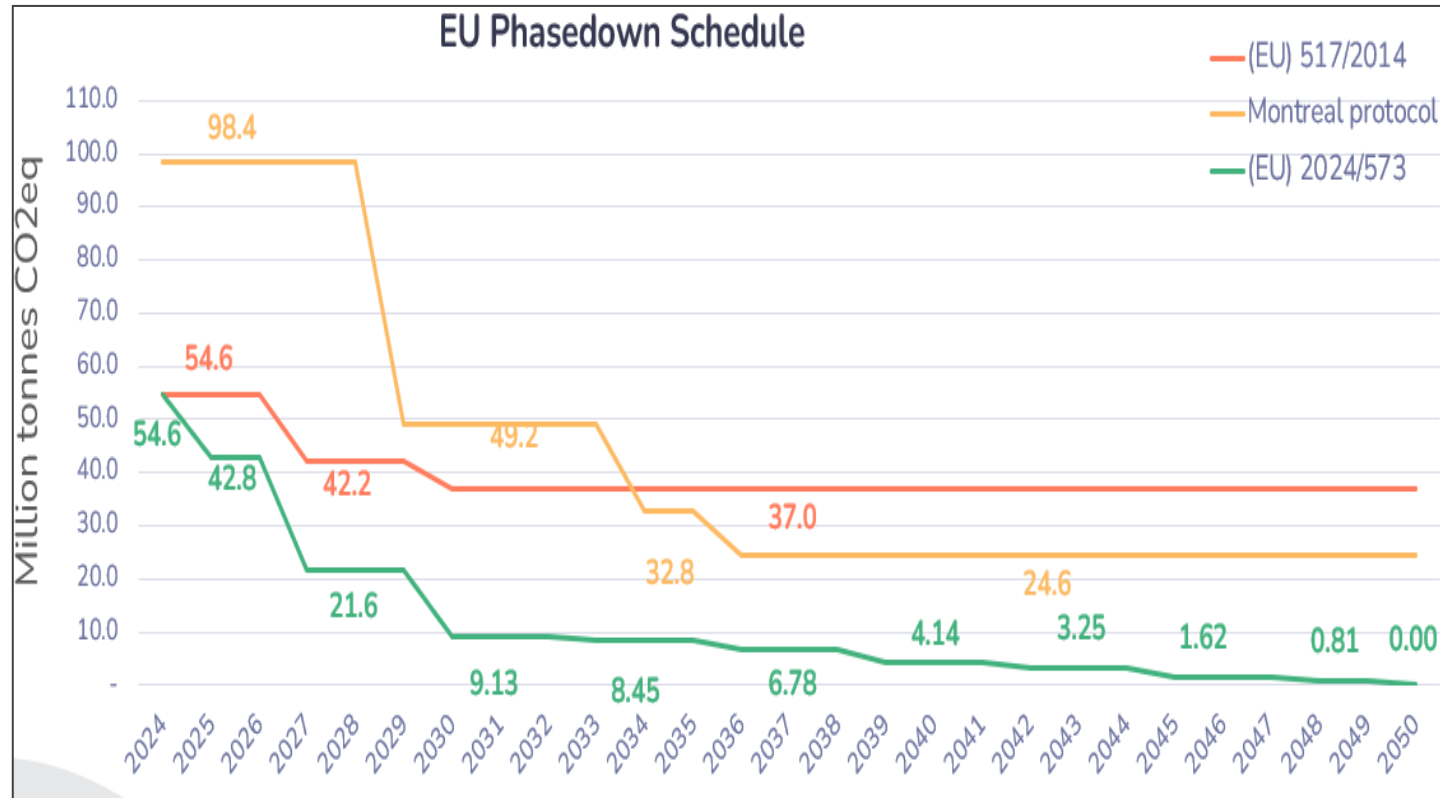
Kigali amendment to Montreal Protocol driving global phase down of HFCs by 2050

- Montreal Protocol successfully phased out ozone-depleting substances (ODS) and put the ozone layer on the path to recovery, it led to a shift towards hydrofluorocarbons (HFCs).
- On October 15, 2016, 197 countries adopted an amendment to phase down HFCs under the Montreal Protocol in Kigali, Rwanda. Under the amendment, countries committed to cut the production and consumption of HFCs by more than 80 percent over the coming decades.
- Scheduled phasedown split into a number of different groups depending on a range of factors including where the countries were in relation to the CFC, and HCFC phase down.



Non-A5, earlier start	Most non-Article 5 countries, including US, Canada, EU, UK and Japan
Non-A5, later start	Russia, Belarus, Kazakhstan, Tajikistan, Uzbekistan
A5, Group 1	Most Article 5 countries, including China and Mexico
A5, Group 2	Bahrain, India, Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, UAE

Some territories (including EU) imposing more aggressive phase down timelines than Kigali schedule



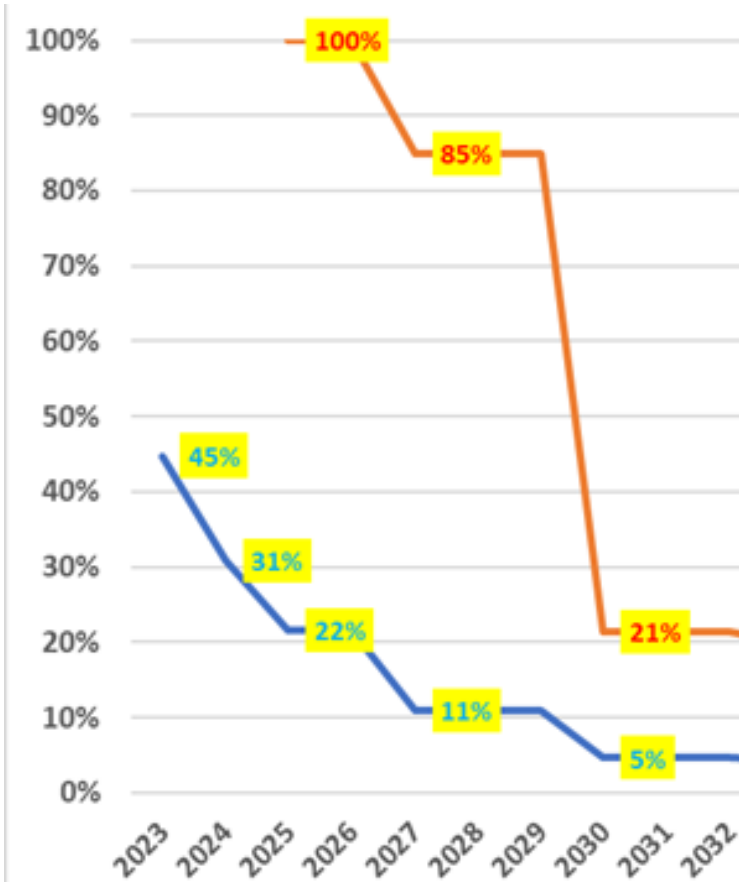
While the Kigali Amendment sets a common goal for HFC reduction, some countries may choose an ambitious approach that goes beyond these measures.

For example, the EU introduced its F-gas regulation, which enforces a 'phase-out' of HFCs by 2050.

The steep phasedown makes it challenging to meet market demand and adds additional pressure on the industry to develop suitable alternatives.

European F-Gas Regulation seeks to further limit the use of high GWP substances by imposing quotas and fees ¹⁷

European (EU): F-gas



Historical Consequences (Industrial)

- Quota and phasedown of industrial HFAs
- Availability of high GWP propellants ↓
- Cost of high GWP propellants ↑

F-gas update (pMDI)

New regulation (EU) 2024/573

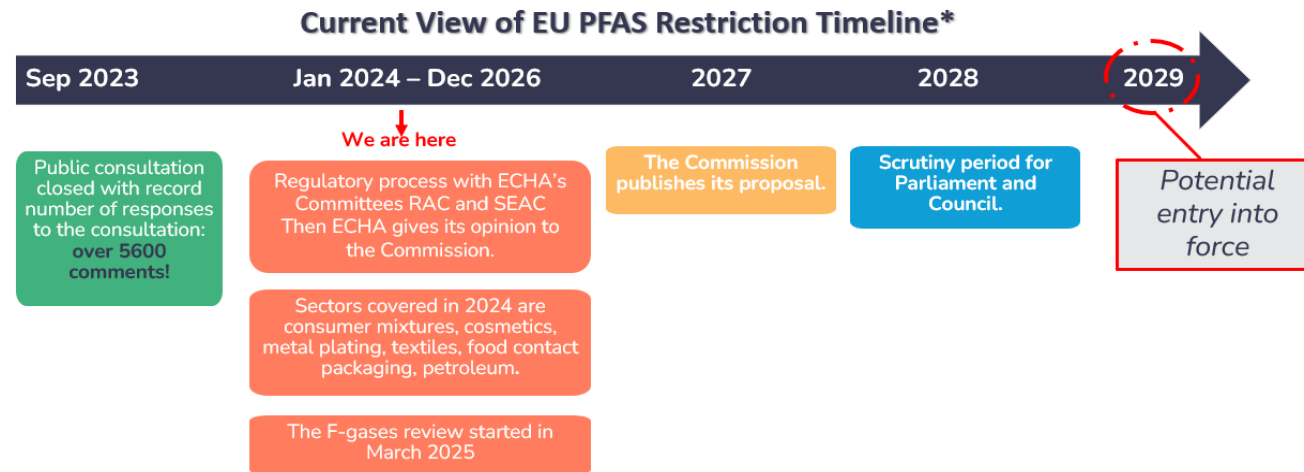
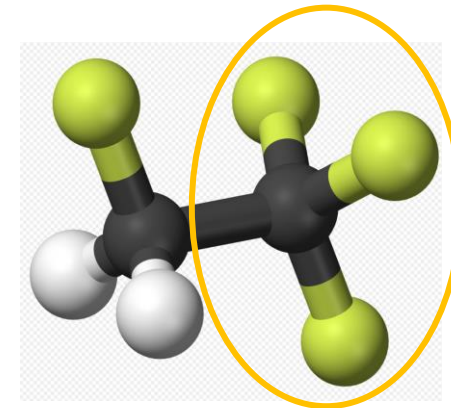
- 2024 Current F-gas schedule - MDI exempt
- 2025-26 MDI 100% of the baseline (2020-2023 MDI consumption)
- 2027-29 MDI 85% of the baseline (2020-2025 MDI consumption)
- 2030 onwards MDI meets the full phasedown schedule (review clause in place)

Quota allocation for medical propellants is subject to a fee that is related to the GWP value. Fees are payable the year before quota allocation (from 2026).

EU PFAS Restrictions creates more uncertainty

What are PFAS and where are they?

- PFAS (per and polyfluoroalkyl substances)
- The ECHA proposal adopts the OECD definition: “any substance that contains at least one fully fluorinated methyl (–CF₃) or methylene (–CF₂–) carbon atom (without any H/Cl/Br/I attached to it)”
- Used in many consumer goods products today across several applications/sectors
- Accumulate in environment and may be detrimental to human health.

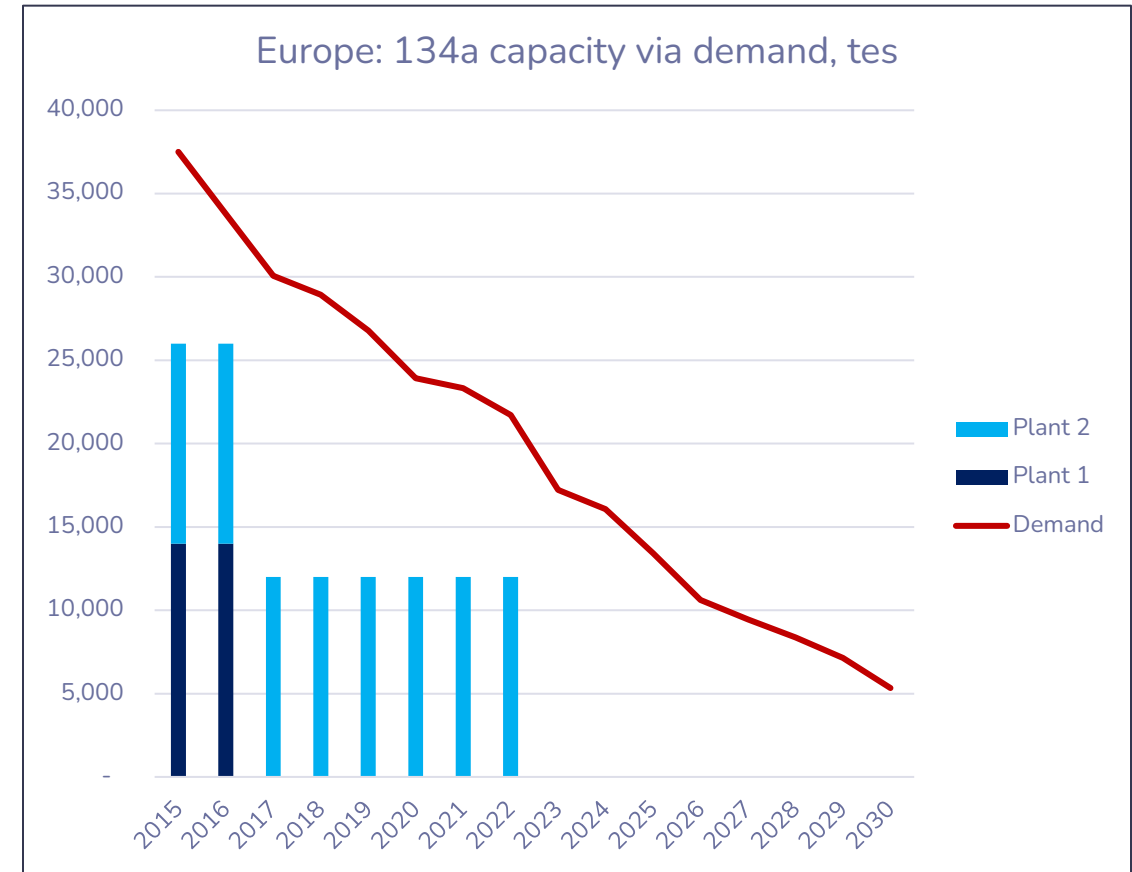
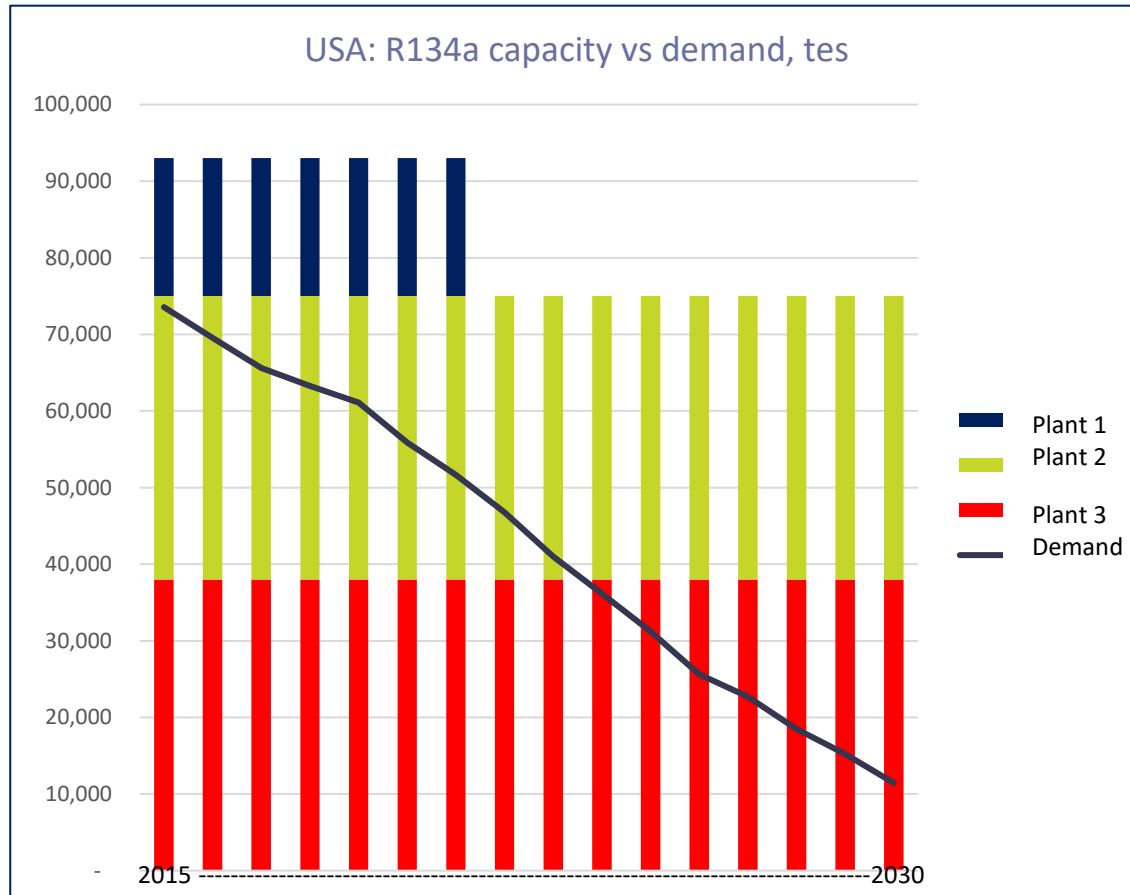


* This is not an official timeline!

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Manufacturing Challenges in Sustaining Medical Propellant Supply Chain During The Low GWP Transition

US & EU Industrial R134a demand v capacity through to 2030. Regulation driving down demand, forcing plant closure or asset conversion



Source: Orbia Fluor & Energy Materials BI team

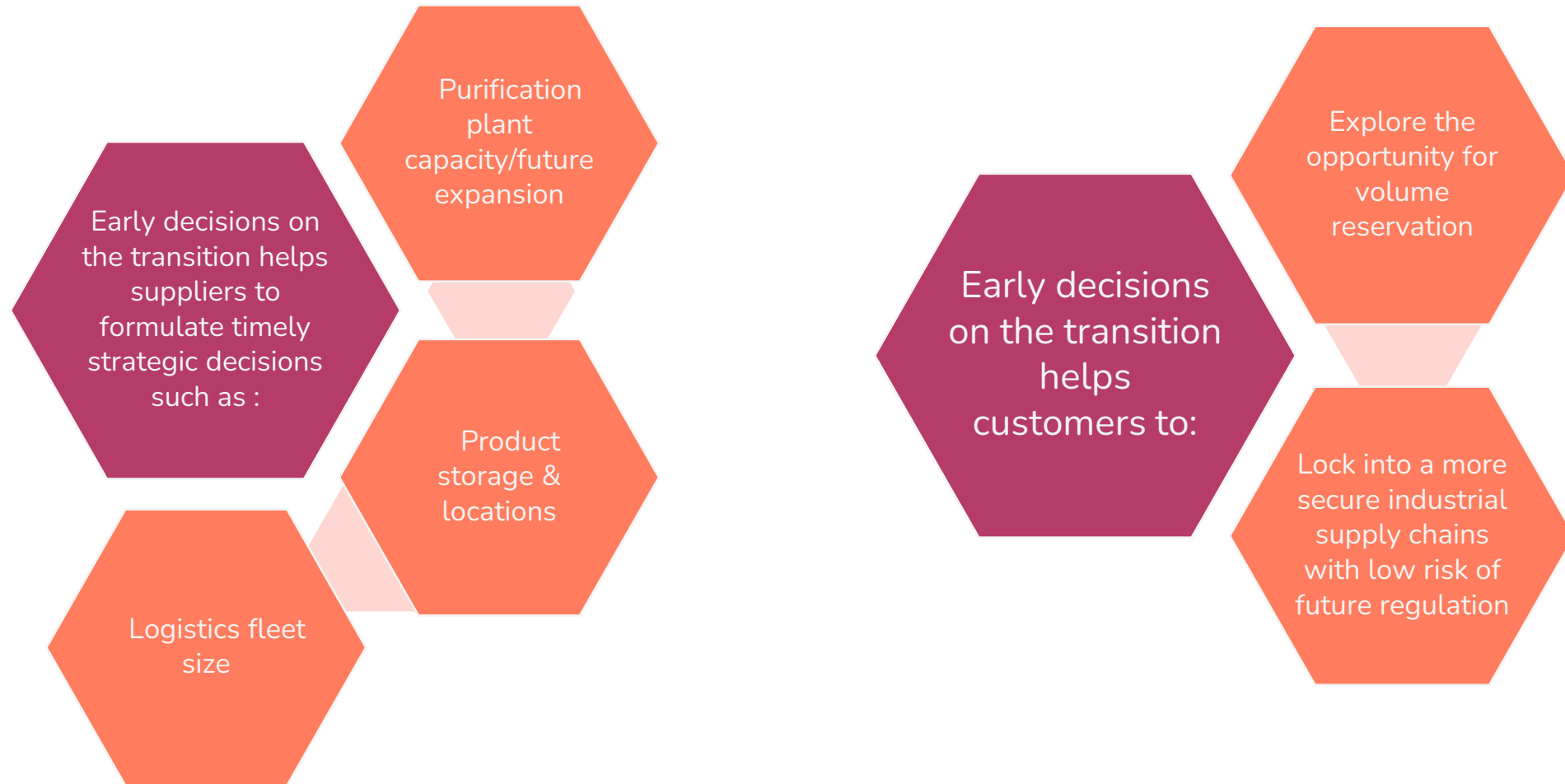


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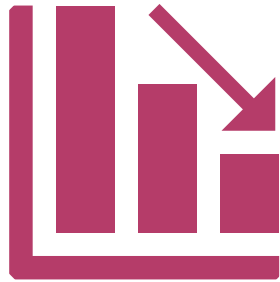


Mitigation to the Technical Challenges in Sustaining Medical Propellant Supply Chain During The Low GWP Transition

Early transition to low GWP propellants increases certainty, enabling both suppliers and pharma companies to de-risk their businesses and engineer more secure supply chains



Key takeaways



Zephex 134a supply timeline is finite, Phase down is being driven by regulation



Orbia F&EM remain committed to supplying Zephex® 134a, further feedstock suppliers will be qualified



Early transition is encouraged, This will help de-risk your business



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Keen to learn more?

Reach out to us [here](#), via email and we will be in touch with you.