



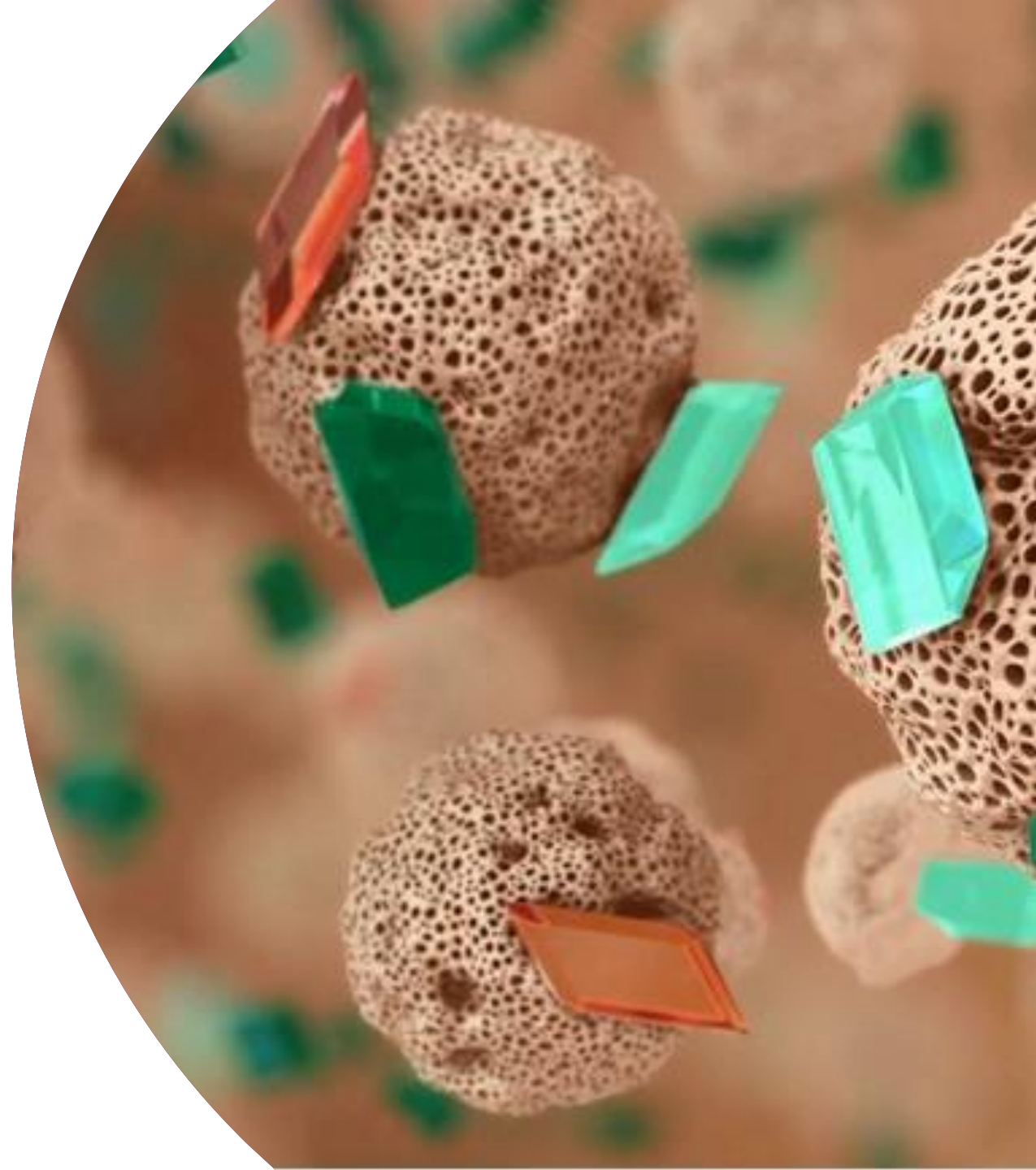
Transition to low global warming propellant in AstraZeneca pMDI products

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Transition to Next Generation Propellants is key to meeting AstraZeneca's Ambition Zero Carbon commitments



From 2026 we will have eliminated, reduced and substituted our Scope 1 and 2 GHG emissions by:

- Switch to a fully electric vehicle fleet
- Use 100% renewable energy for heat and power and heat
- Double energy productivity
- Eliminate F-Gas emissions at our sites

We will become carbon negative across our value chain by 2030, Scope 3, and have committed to:

- 95% of key suppliers and partners to have science-based targets by end of 2025
- Transition to next-generation respiratory products with near-zero climate impact propellants
- 'Design in' sustainability across product lifecycles and embed net zero into cost of goods

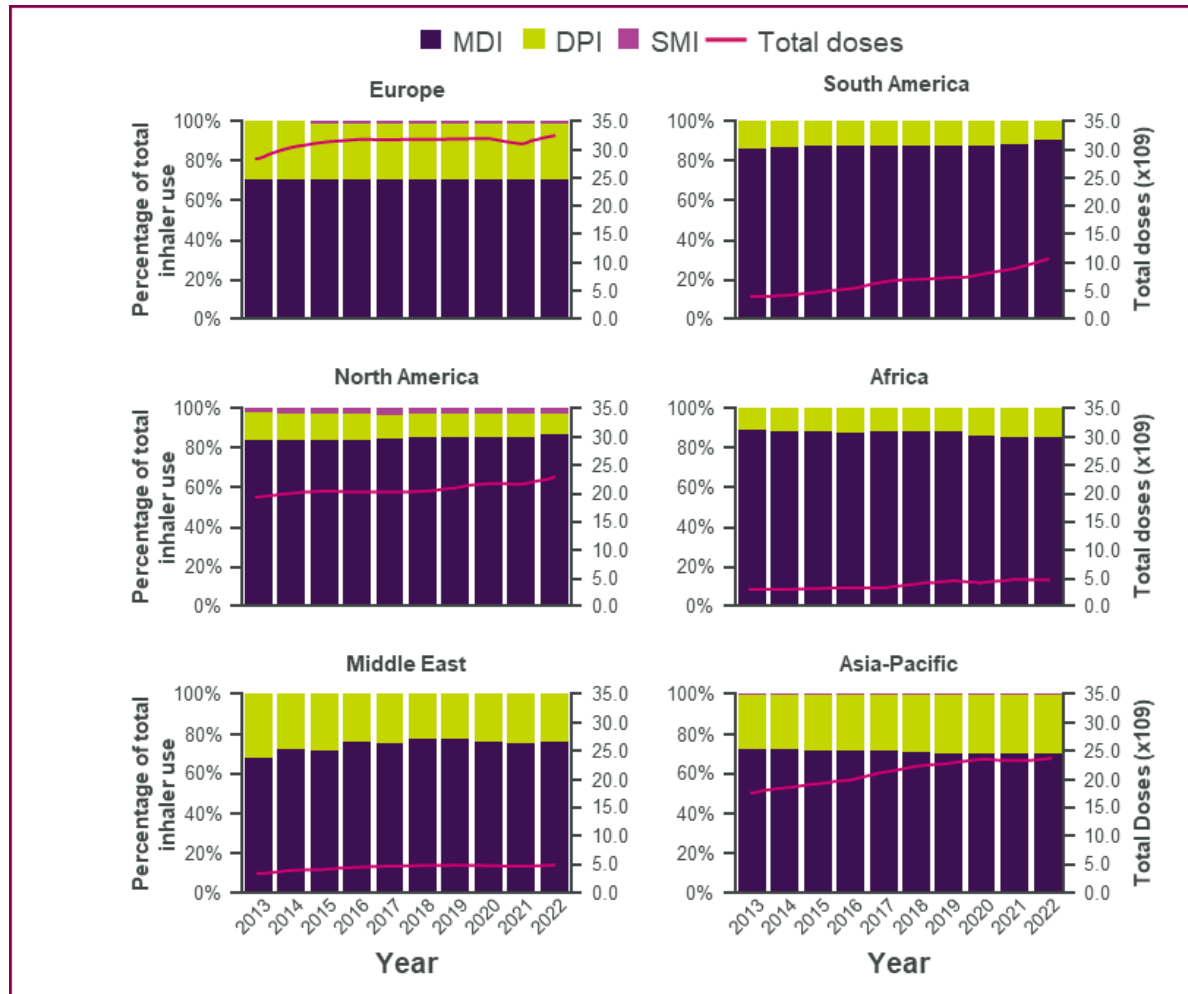
Aim to be net zero by 2045

- We were one of the first seven companies worldwide to have our net zero, science-based Scope 1-3 GHG emissions reduction targets, verified under the new Science Based Targets initiative Net-Zero Corporate Standard



There is a high dependence on pMDI-delivered pharmacotherapy¹

pMDIs doses increased and comprised a high proportion of total inhaler use overall and across geographical regions over a 10-year period (2013-2022)¹



75%
of pressurized
metered-dose
inhalers
(pMDIs)

Manufactured in
the EU are exported to the rest
of the world¹

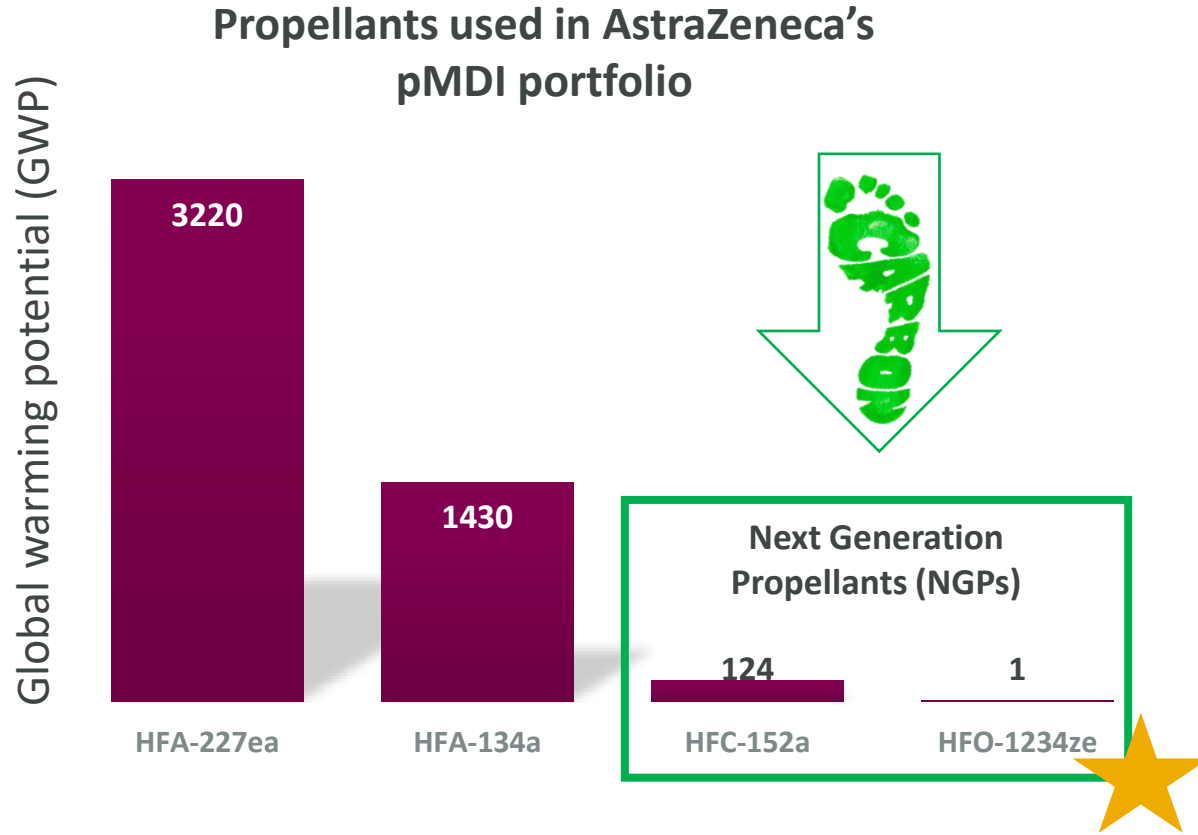


AstraZeneca transitioning to a
next-generation propellant will
have a **global impact**

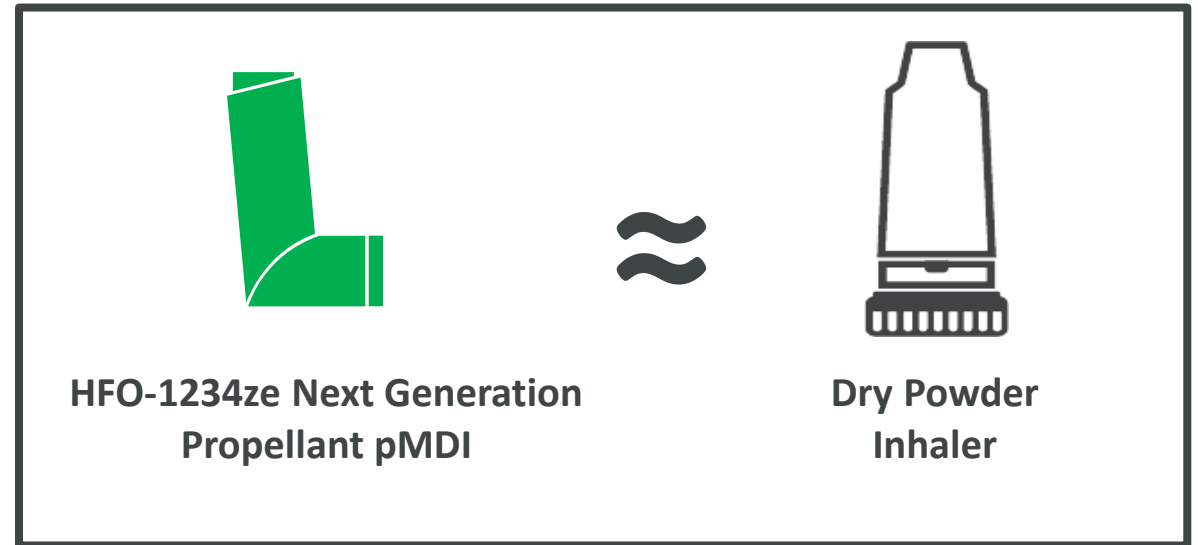
1. JP Bell, et al. An Assessment of Pressurized Metered-Dosed Inhaler Use in Countries in Europe and the Rest of the World. Poster presented at the 12th International Primary Care Respiratory Group World Congress, 9-11 May 2024, Athens, Greece. (REF-230287)



Transitioning to a Next Generation Propellant allows patients to maintain access to critical pMDIs



AstraZeneca has chosen to transition the pMDI portfolio to HFO-1234ze(E) Next Generation Propellant

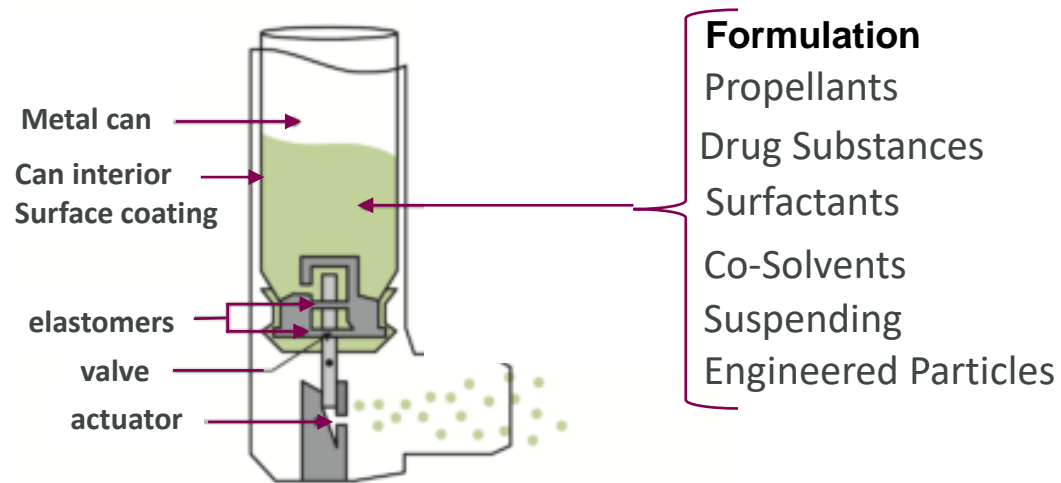


Transitioning to HFO-1234ze(E) will bring AstraZeneca's pMDI portfolio in the same Carbon Footprint range as dry powder inhalers



Critical attributes for propellant selection

pMDI Components



<https://www.hindawi.com/journals/isrn/2013/102418/>

Propellant > 99% w/w of formulation

Propellants

CFC 11, CFC 12, CFC 114

HFA 134a, HFA 227

Low GWP: HFO-1234ze, HFC-152a

Availability

- Commercially available
- Medical grade (purification)

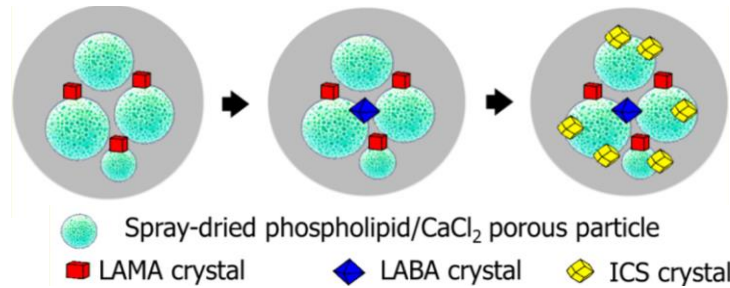
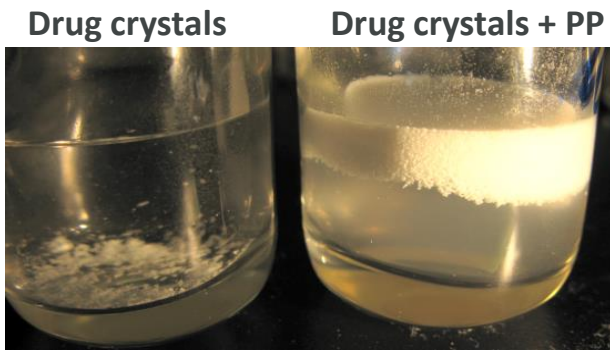
Functionality

- Liquefied gas
- Low toxicity
- Non-flammable
- Chemically inactive and stable
- Acceptable to patients (taste/smell)
- Appropriate solvency characteristics
- Compatibility with API and device components

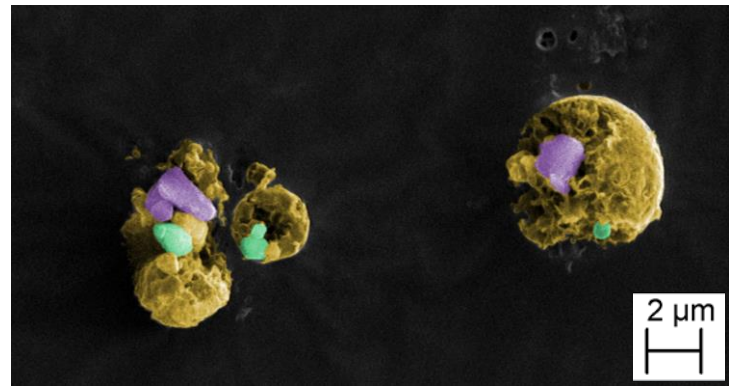


Transition to next generation propellants is enabled by the AstraZeneca aerosphere pMDI Platform

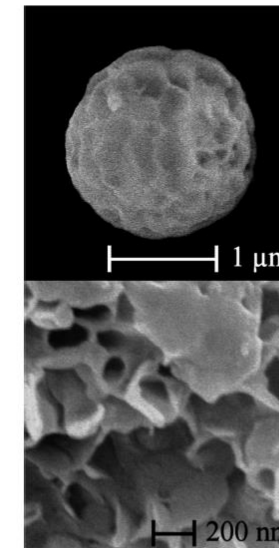
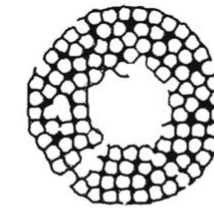
Engineered particles (PP) are not interactive with propellant while forming a stable suspension with drug crystals



The co-suspension technology enables combination therapy

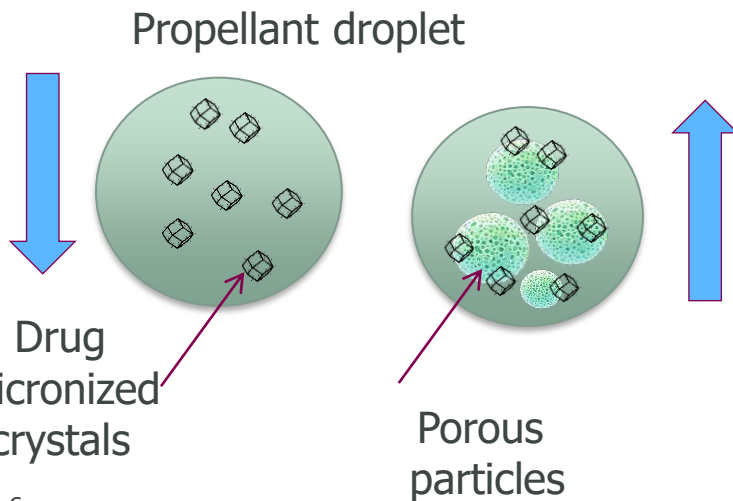


■ Carrier ■ Glycopyrrolate ■ Formoterol fumarate ■ Mometasone furoate



- Aerodynamic particles
- Low density
- Insoluble in propellant
- Stable
- Innocuous

Figure 1. Top: Schematic of typical cross section for porous microparticles derived from multiple micrographs of broken particles. Middle: Micrograph of a porous microparticle. Bottom: Internal substructure.



LGW propellant transition timeline

