



Sustainable Care: Reducing Carbon Through Prevention and Partnership

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AstraZeneca seeks to support high quality & equitable care via four strategic elements

Help to find & treat more patients


Support system capacity & resilience




Proactive screening & early diagnosis



Guideline implementation in practice



Accelerate & streamline specialist pathways



Policy change at national and regional level



AstraZeneca and other industry partners are engaged in collaborative working with the Health Innovation Network on a nationally aligned programme and are supporting the co-development and delivery of locally led initiatives with NHS providers.



The Need for Sustainable Respiratory Care

Inadequate, reactive care carries an extraordinary carbon footprint...

Carbon footprint increases with
unscheduled visits & treatment intensity...¹

GHG emissions (kg CO₂e) per healthcare resource event

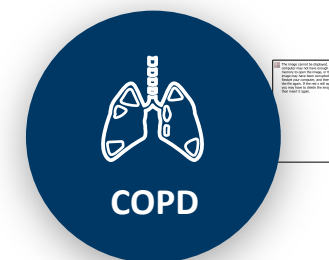


...against a backdrop of emergency service
overload due to inadequate 'reactive' care

EVERY YEAR IN UK...



127M
exacerbations²



114,000
hospitalisations³

Many millions of tonnes CO₂e

*In UK alone, annual asthma exacerbations account for 724 kilotonnes CO₂e²
(169k passenger vehicles driven for 1 year)⁴*

1. "Care Pathway Carbon Calculator". Sustainable Healthcare Coalition webpage, accessed May 2026
2. Kponee-Shovein K, Marvel J, Ishikawa R, Choubey A, Kaur H, Thokala P, Ngom K, Fakhri I, Schatzki T, Signorovitch J. Carbon footprint and associated costs of asthma exacerbation care among UK adults. J Med Econ. 2022 Jan-Dec;25(1):524-531
3. Hospital admissions for asthma and COPD, NHS England. Available online: <https://digital.nhs.uk/supplementary-information/2023/hospital-admissions-for-asthma-and-copd>. Accessed May 2026
4. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results> (miles driven by an average gasoline-powered passenger vehicle)

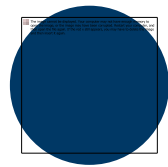


SENTINEL: Transforming Asthma Care

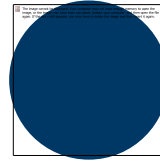


Nationwide picture

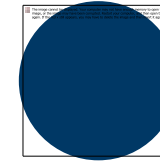
What we've achieved so far



Emergency care admissions



Sustainability



Health inequalities



more admissions over last 2 decades¹



of overall per-capita GHG[‡] emissions accounted for by SABA over-reliance^{3**}



SABA overuse and poor outcomes are linked to **deprivation**⁵

29.8% ↓

in patients experiencing asthma attacks²

44,275 fewer SABA inhalers
Equivalent to
1,200 tonnes CO₂e⁴

57.1% ↓

in number of patients receiving 6 or more SABA

** ≥3 SABA canisters/year (DPI & pMDI); GHG = Greenhouse gas emissions

1. Alwafi, H et al. BMC Pulm Med 23, 49 (2023). <https://doi.org/10.1186/s12890-023-02342-6>

2. Crooks MG, et al. ERJ Open Research Jan 2023, 00685-2022; DOI: 10.1183/23120541.00685-2022

‡Overall GHG emissions are scaled to the UK asthma population (n=5.4 million⁴) and include those related to all asthma medication and healthcare resource utilisation (HCRU) and exacerbations. September 5–8, 2021

3. Wilkinson, A et al. European Respiratory Journal 2021 58: OA76; DOI: 10.1183/13993003.congress-2021.OA76

4. Royal College of Physicians. Sentinel Project. Available online: <https://www.rcp.ac.uk/news-and-media/news-and-opinion/the-sentinel-project/>

[Accessed Jan 2025]

5 Alsallakh MA, et al. PLoS Med. 2021 Feb 12;18(2):e1003497. doi: 10.1371/journal.pmed.1003497. PMID: 33577558; PMCID: PMC7880491

The SENTINEL project was a quality improvement initiative undertaken in Hull and East Yorkshire, supported through a Joint Working Agreement between Hull University Teaching Hospitals NHS Trust and AstraZeneca UK.



Understanding Environmental Impact: CARESA



A **CARe** pathway **Environmental Sustainability Assessment** modelling tool to provide an environmental footprint of the patient journey

- ✓ Flexible: suitable across disease areas
- ✓ Scalable: adaptable to all geographies
- ✓ Intuitive: easy to use, rapid results
- ✓ Open to all: to be made free and publicly available



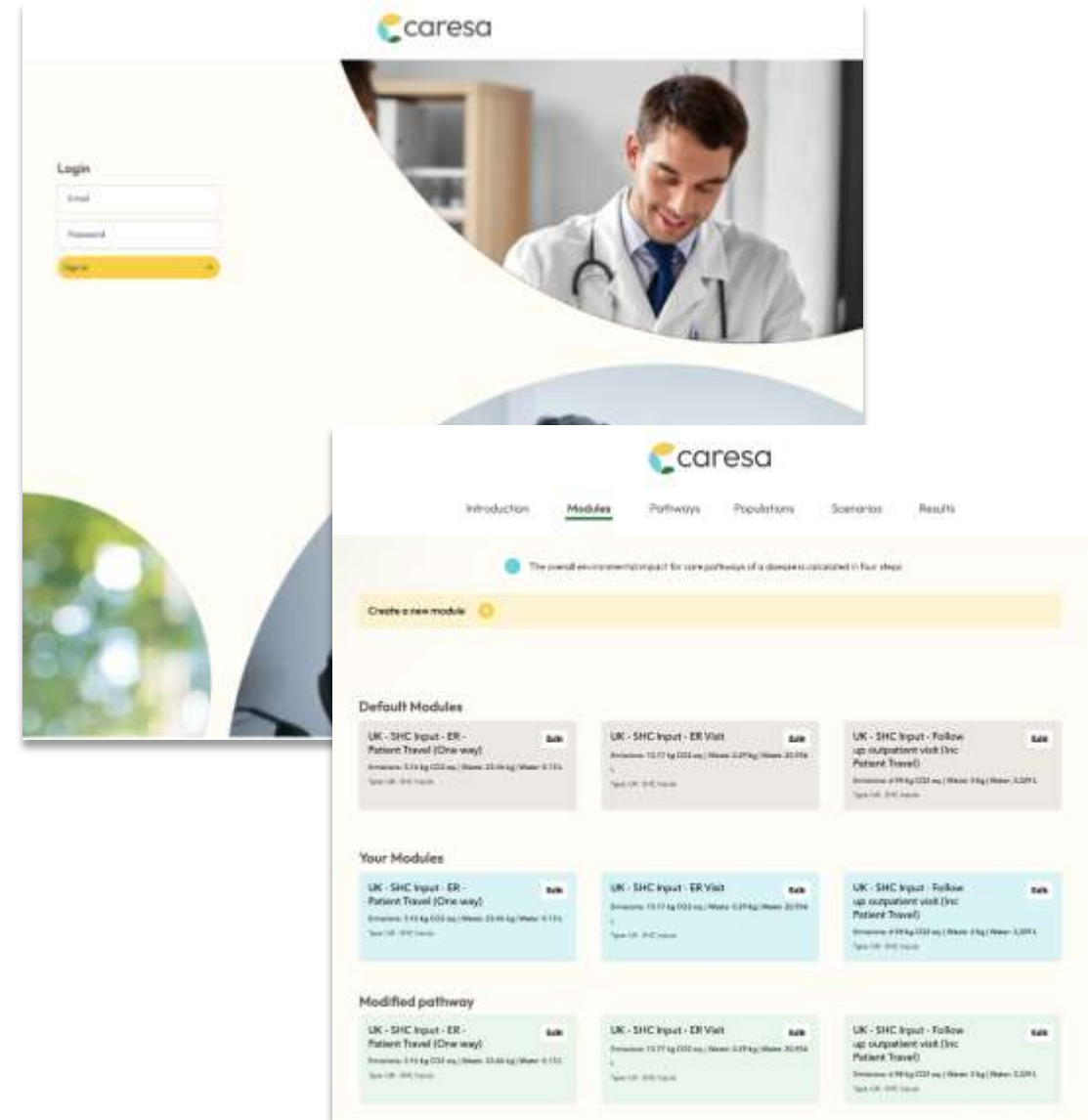
Assess the environmental impact of ongoing care pathways optimisation e.g. through pathway redesign and GDMT



Speed up case studies on optimising care to support health systems' sustainability goals



Strengthen partnerships across the healthcare sector

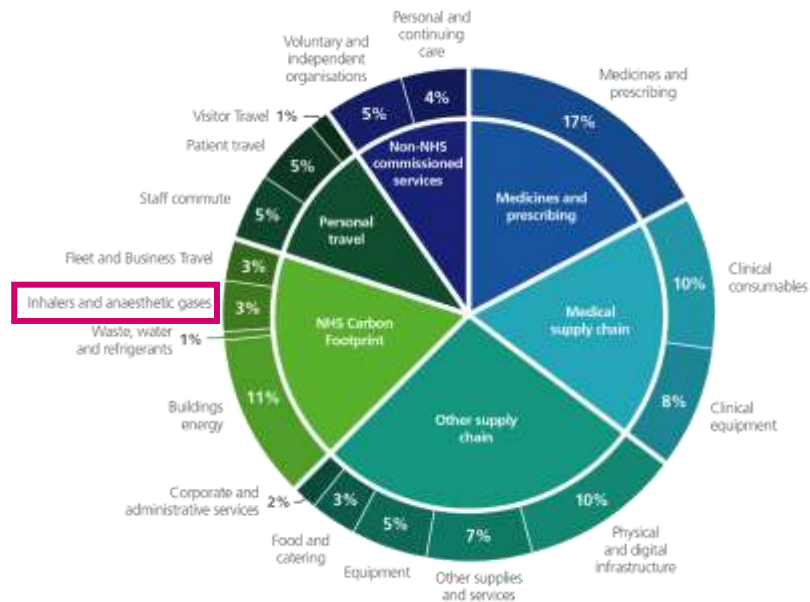


Focussing on a priority shared with the NHS:

AstraZeneca UK is leading the way in transitioning to low carbon pMDI inhalers

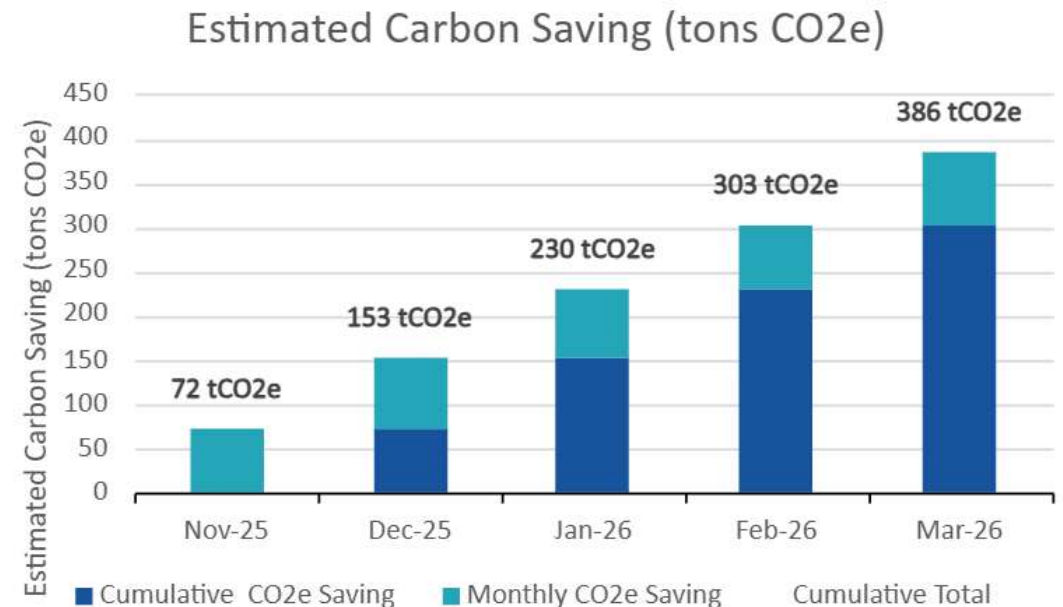
AstraZeneca's pMDI portfolio is transitioning to use a next-generation propellant (NGP) with 99.9% lower Global Warming Potential than the previous propellant.¹

Early data shows estimated UK-wide carbon savings of **3.6 thousand tons CO₂e²**



Breakdown of emissions by proportion of the NHS Carbon Footprint Plus³

Accelerating Greater Manchester's Green NHS Goals



Estimated **386 tons CO₂e** saved in Greater Manchester²

CO₂e = carbon dioxide equivalent

1. Pritchard J. Drug Des Devel Ther 2020; 14: 3043-3055
2. AstraZeneca Data on File Ref-334901
3. <https://www.england.nhs.uk/long-read/five-years-greener-nhs-progress-forward-look/> Accessed April 2026



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- AstraZeneca is committed to decarbonisation and healthcare system resilience.
 - Innovative care models can reduce healthcare's carbon footprint through proactive prevention.
 - Inhaler choice can impact environmental impact reduction.
 - Strengthening partnerships and utilising data-driven tools like CARESA are essential for shared sustainability goals.
 - Our ambition is to optimise clinical outcomes, simultaneously reducing healthcare costs and carbon impact

Thank you

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