

Greener Inhaler Alternatives Medicines Optimisation Toolkit for **ADULTS**

- This tool should be used as an aid to guide clinicians on alternative lower carbon-emitting inhalers. Alternative inhalers suggested, adhere to the Notts APC Formulary and offer CO₂e savings. **Inhalers should only be changed after a patient-centred consultation, taking into account factors such as patient preference, inhaler technique and compliance. This tool should be used for adult patients only.**
- Please use this tool in conjunction with the Nottingham and Nottinghamshire [Adult asthma guidelines](#), [asthma self-management plan](#) and [COPD guidelines](#) and [COPD self-management plan](#)
- Patients should always be reviewed for their asthma / COPD control and the clinically appropriate medications prescribed for each individual patient.
- Assess if patient is suitable for DPI – if not suitable code: Y2f5c: Dry powder inhaler not indicated
- If suitable, switch to most clinically appropriate DPI

Table 1: Summary table for switching to lower carbon footprint inhalers - always prescribe the most clinically appropriate inhaler for the individual patient.

pMDI	Options for consideration for active switch
Salbutamol pMDI 100micrograms Ventolin pMDI 100micrograms	Easyhaler Salbutamol 100micrograms Salamol pMDI 100micrograms (*not DPI but has lower carbon footprint than Ventolin)
Clenil 50micrograms 2 puffs BD Clenil 100micrograms 2 puffs BD QVAR 50micrograms 2 puffs BD	Beclometasone Easyhaler 200micrograms 1 dose BD
Clenil 200micrograms 2 puffs BD QVAR 100micrograms 2 puffs BD	Beclometasone Easyhaler 200micrograms 2 doses BD
Fostair pMDI 100/6 1 puff BD Seretide evohaler 50/25 2 puffs BD Flutiform pMDI 50/ 5 2 puffs BD	Fostair NEXThaler 100/6 1 dose BD Fobumix Easyhaler 160/4.5 1 dose BD Symbicort Turbohaler 200/6 1 dose BD
Fostair pMDI 100/6 2 puffs BD Seretide evohaler 125/25 2 puffs BD Sirdupla pMDI 125/25 2 puffs BD Flutiform pMDI 125/5 2 puffs BD	Fostair NEXThaler 100/6 2 doses BD Fobumix Easyhaler 160/4.5 2 doses BD Symbicort Turbohaler 200/6 2 doses BD
Fostair pMDI 200/6 2 puffs BD Seretide evohaler 250/25 2 puffs BD Sirdupla pMDI 250/25 2 puffs BD Flutiform pMDI 250/10 2 puffs BD	Fostair NEXThaler 200/6 2 doses BD Fobumix Easyhaler 320/9 2 doses BD Symbicort Turbohaler 400/12 2 doses BD
Trimbow MDI 87/5/9 2 puffs BD	Trimbow NEXThaler 88/5/9 2 doses BD

Table 2: Summary of suggested product switches in ADULTS to reduce the use of pMDIs -always prescribe the most clinically appropriate inhaler for the individual patient. (Prices taken from RightBreathe June 2023)

Switch from (pMDI)	Switch to: lower carbon alternative	Different drugs?	Different dose?	Cost difference (cost correct as of June 23)	Image for NEW device	Links to training videos on how to use device
SABA						
Salbutamol pMDI 100micrograms/dose or Ventolin pMDI 100micrograms/dose NOTTSAPC: Green Approx 28kg CO2e	Easyhaler Salbutamol 100micrograms/dose (*NB. device expires 6 months after the foil patch is opened) NOTTSAPC: Green Less than 1kg CO2e	No	No	+£0.20 compared with Airomir +£0.27 compared with Venotlin +£0.28 compared with Salamol (based on 1puff/day)		How to use an Easyhaler inhaler - YouTube
Salbutamol pMDI 100micrograms/dose or Ventolin pMDI 100micrograms/dose NOTTSAPC: Green Approx 28kg CO2e	Salamol pMDI 100micrograms/dose cfc free (salbutamol) (NOT easy-breathe) NOTTSAPC: Green Approx 10kg CO2e	No	No	-£0.08 compared with Airomir -£0.01 compared with Ventolin (based on 1puff/day)		How to use a pMDI inhaler - YouTube

LAMA (Long-acting muscarinic antagonists) All formulary LAMA choices are either DPIs or SMIs						
LABA/LAMA All formulary LABA/LAMA choices are either DPIs or SMIs						
Inhaled corticosteroid						
PLEASE NOTE< recommendations are based on the BTS ICS tables for low, medium and high ICS and are not always exactly equivalent						
Clenil Modulite 50micrograms 2 puffs BD (Beclometasone) NOTTSAPC: Green Approx 10-25kg CO2e	Beclometasone Easyhaler 200micrograms 1 dose BD NOTTSAPC: Green Approx 1kg CO2e	No	Yes	+£2.26		How to use an Easyhaler inhaler - YouTube
Clenil Modulite 100micrograms 2 puffs BD (Beclometasone) NOTTSAPC: Green Approx 10-25kg CO2e	Beclometasone Easyhaler 200micrograms 1 dose BD NOTTSAPC: Green Approx 1kg CO2e	No	Yes	+£0.03		How to use an Easyhaler inhaler - YouTube
Clenil Modulite 200micrograms 2 puffs BD (Beclometasone) NOTTSAPC: Green Approx 10-25kg CO2e	Beclometasone Easyhaler 200micrograms 2 doses BD NOTTSAPC: Green Approx 1kg CO2e	No	No	-£0.74		How to use an Easyhaler inhaler - YouTube

QVAR 50micrograms 2 puffs BD (Beclometasone extra fine so twice as potent as Clenil) NOTTSAPC: Green Approx 10-25kg CO2e	Beclometasone Easyhaler 200micrograms 1 dose BD NOTTSAPC: Green Approx 1kg CO2e	No	Yes	-£0.24		How to use an Easyhaler inhaler - YouTube
QVAR 100micrograms 2 puffs BD (Beclometasone extra fine so twice as potent as Clenil) NOTTSAPC: Green Approx 10-25kg CO2e	Beclometasone Easyhaler 200micrograms 2 doses BD NOTTSAPC: Green Approx 1kg CO2e	No	No	-£1.37		How to use an Easyhaler inhaler - YouTube

ICS/LABA Please note, recommendations are based on the BTS ICS tables for low medium and high dose ICS and are not always exactly equivalent						
Flutiform 5 / 50mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 1 Fostair 100/6 mcg NEXThaler 1 dose BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS -Yes LABA - No	Yes	+0.26		How to use a NEXThaler inhaler - YouTube
Flutiform 5 / 50mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 2 Fobumix Easyhaler 160/4.5 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	Yes	-3.65		How to use an Easyhaler inhaler - YouTube
Flutiform 5 / 50mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 3 Symbicort turbohaler 200/6 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS -YES LABA - No	Yes	-0.40		How to use a Turbohaler inhaler - YouTube

Flutiform 5 / 125mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 1 Fostair 100/6mcg NEXThaler 2 dose BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	No	+1.32		How to use a NEXThaler inhaler - YouTube
Flutiform 5 / 125mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 2 Fobumix 160/4.5 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS -Yes LABA - No	No	-6.50		How to use an Easyhaler inhaler - YouTube
Flutiform 5 / 125mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 3 Symbicort turbohaler 200/6 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	Yes	0		How to use a Turbohaler inhaler - YouTube

Flutiform 10 / 250mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 1 Fostair 200/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) note asthma only) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	No	-16.24		How to use a NEXThaler inhaler - YouTube
Flutiform 10 / 250mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 2 Fobumix Easyhaler 320/9 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	Yes	-2.56		How to use an Easyhaler inhaler - YouTube
Flutiform 10 / 250mcg 2 puffs BD (Fluticasone + Formoterol) NOTTSAPC: Green Approx 37kg CO2e	Option 3 Symbicort turbohaler 400/12 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	ICS - Yes LABA - No	No	+10.44		How to use a Turbohaler inhaler - YouTube

Fostair 100/6micrograms MDI 1 puff BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 100/6 NEXThaler 1 dose BD (Beclometasone + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	No	No	0		How to use a NEXThaler inhaler - YouTube
Fostair 100/6micrograms MDI 1 puff BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix Easyhaler 160/4.5 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£3.91		How to use an Easyhaler inhaler - YouTube
Fostair 100/6micrograms MDI 1 puff BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort turbohaler 200/6 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£0.66		How to use a Turbohaler inhaler - YouTube

Fostair 100/6micrograms MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 100/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) (Note Asthma only) NOTTSAPC: Green Approx 1kg CO2e	No	No	0		How to use a NEXThaler inhaler - YouTube
Fostair 100/6micrograms MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix 160/4.5 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£7.82		How to use an Easyhaler inhaler - YouTube
Fostair 100/6micrograms MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort turbohaler 200/6 2 doses BD Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£1.32		How to use a Turbohaler inhaler - YouTube

Fostair 200/6 MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 200/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) (note asthma only) NOTTSAPC: Green Approx 1kg CO2e	No	No	0		How to use a NEXThaler inhaler - YouTube
Fostair 200/6 MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix Easyhaler 320/9 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£13.68		How to use an Easyhaler inhaler - YouTube
Fostair 200/6 MDI 2 puffs BD (extra fine Beclometasone + Formoterol) NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort turbohaler 400/12 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£26.68		How to use a Turbohaler inhaler - YouTube

Seretide Evohaler 50/25micrograms 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 100/6 NEXThaler 1 dose BD (Beclometasone + Formoterol) (Note Asthma only) NOTTSAPC: Green Approx 1kg CO2e	Yes	Yes	-£2.80		How to use a NEXThaler inhaler - YouTube
Seretide Evohaler 50/25micrograms 2puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix Easyhaler 160/4.5 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	Yes	-£6.71		How to use an Easyhaler inhaler - YouTube
Seretide Evohaler 50/25micrograms 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort Turbohaler 200/6 1 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	Yes	-£3.46		How to use a Turbohaler inhaler - YouTube

Seretide 125/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 100/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) (Note Asthma only) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£5.87		How to use a NEXThaler inhaler - YouTube
Seretide 125/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix 160/4.5 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£1.95		How to use an Easyhaler inhaler - YouTube
Seretide 125/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort Turbohaler 200/6 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£4.55		How to use a Turbohaler inhaler - YouTube

Seretide 250/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 200/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	0		How to use a NEXThaler inhaler - YouTube
Seretide 250/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix Easyhaler 320/9 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+13.68		How to use an Easyhaler inhaler - YouTube
Seretide 250/25 Evohaler 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort Turbohaler 400/12 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£26.68		How to use a Turbohaler inhaler - YouTube

Sirdupla 125/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 100/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) (Note Asthma only) NOTTSAPC: Green Approx 1kg CO2e	No	No	+£6.87		How to use a NEXThaler inhaler - YouTube
Sirdupla 125/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix 160/4.5 2 dose BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	-£0.95		How to use an Easyhaler inhaler - YouTube
Sirdupla 125/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort Turbohaler 200/6 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£5.55		How to use a Turbohaler inhaler - YouTube

Sirdupla 250/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 1 Fostair 200/6 NEXThaler 2 doses BD (Beclometasone + Formoterol) (note asthma only) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£1.00		How to use a NEXThaler inhaler - YouTube
Sirdupla 250/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 2 Fobumix Easyhaler 320/9 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£14.68		How to use an Easyhaler inhaler - YouTube
Sirdupla 250/25 pMDI 2 puffs BD <i>NEW initiation of Fluticasone + Salmeterol is not recommended</i> NOTTSAPC: Green Approx 10-25kg CO2e	Option 3 Symbicort Turbohaler 400/12 2 doses BD (Budesonide + Formoterol) NOTTSAPC: Green Approx 1kg CO2e	Yes	No	+£27.68		How to use a Turbohaler inhaler - YouTube

ICS/LABA/LAMA 3 in 1 inhalers will provide cost savings and carbon reduction						
Trimbow pMDI 87/5/9 micrograms doses 2 puffs BD (Formoterol, Beclometasone + Glycopyrronium) NOTTS APC Amber 2/3 Approx 10-25kg CO2e	Trimbow NEXThaler DPI 88/5/9 micrograms 2 doses BD (Formoterol, Beclometasone + Glycopyrronium) NOTTS APC Amber 2/3 Approx 1kg CO2e	No	No	0		How to use a NEXThaler inhaler - YouTube
SAMA (Short Acting Muscarinic antagonists)						
Atrovent/Ipravent/Inhalvent pMDI 20micrograms/dose 200 doses/inhaler (Ipratropium) NOTTSAPC: Green	No DPI or SMI preparations available					
LABA (Long-acting beta-2 agonists) In asthma, LABA must be prescribed alongside ICS, consider single combination LABA/ICS inhaler						
Serevent Evohaler Salmeterol pMDI 25 micrograms/dose 120 doses/inhaler 2 puffs BD NOTTS APC Amber 3 Approx 10-25kg CO2e	Serevent Accuhaler 50micrograms (Salmeterol) 1 dose BD <i>New initiation alone for COPD not recommended.</i> <i>In Asthma LABAs should always be prescribed as a combination product</i> NOTTS APC Amber 3 Approx 1kg CO2e	No	Yes	+£5.85		How to use an Accuhaler inhaler - YouTube

References:

1. LLR Inhaler Greener Alternatives Medicines Optimisation tool for Adults: [LLR-Inhaler-Greener-Alternatives-Medicines-Optimisation-Tool-for-Adults.pdf \(areaprescribingcommittee.leicesterleicestershirerutland.nhs.uk\)](https://areaprescribingcommittee.leicesterleicestershirerutland.nhs.uk/LLR-Inhaler-Greener-Alternatives-Medicines-Optimisation-Tool-for-Adults.pdf) accessed 4th October 2022
2. Greener inhalers guide, reducing the environmental impact of Metered Dose inhalers: [East-Sussex-Green-Inhaler-Guide Final 2.pdf \(sussexccgs.nhs.uk\)](https://sussexccgs.nhs.uk/East-Sussex-Green-Inhaler-Guide-Final-2.pdf) accessed 4th October 2022
3. BTS information: respiratory inhalers: [BTS Information Respiratory Inhalers \(2\).pdf](https://www.bts.org.uk/media/1000000/2022-09-27-BTS-Information-Respiratory-Inhalers-2.pdf) accessed 4th October 2022
4. Inhaler Comparison: [Inhaler comparison – Green Inhaler](#) accessed 4th October 2022
5. Inhaler carbon footprint: [295. Inhaler carbon footprint 2.0 \(prescgipp.info\)](https://www.prescgipp.info/295-Inhaler-carbon-footprint-2.0) accessed 4th October 2022
6. Right Breathe : [RightBreathe](#) accessed 15th June 2023

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