



ELHT GREEN  
NEWSLETTER

December 2023

[NHS organisations cut desflurane in drive for greener surgery](#) - aim to remove desflurane completely from NHS Hospital in England in early 2024 – ELHT is on course to all desflurane in the coming months.

Putting the right rubbish in the right bin means transparent (domestic) waste can be sorted and recycled. If you put contaminated waste into the domestic bin, the whole bag is incinerated rather than recycled.

We spent £33,133 on disposable theatre hats alone from March 2021 to August 2022! Re-useable hats would cut that down to £8,200! Do your part if you can!

# Success Stories

Welcome to the 6<sup>th</sup> edition of ELHT Green Newsletter.

Here are our success stories so far:

- ❖ From >20% of our total order of volatile anaesthetic gas being desflurane in 2018 to complete removal in the coming months.
  - ❖ Successfully decommissioned piped nitrous oxide from both sites in 2021-22 after significant leaks were identified at the manifolds, saving >£128,000 per year over 10 years.
  - ❖ Annual monitoring hazardous gas levels.
  - ❖ Increase awareness on how to improve our recycling capabilities by placing the correct substances at the correct coloured bins & sharp bins.
  - ❖ Introduction of Coolsticks to all the theatres to reduce our use of disposable single-use Ethyl Chloride sprays for the monitoring of central neuraxial blocks.
  - ❖ Continue to trial innovative technologies for the future to minimise our impact to the environment, namely volatile capture technology, Nitrous Oxide Destruction Units, etc
  - ❖ Encourage Procurement to follow the 7 principles on new products
  - ❖ The CERNER roll out in June 2023 has been a success and has resulted in a significant reduction in paper use.
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# ELHT

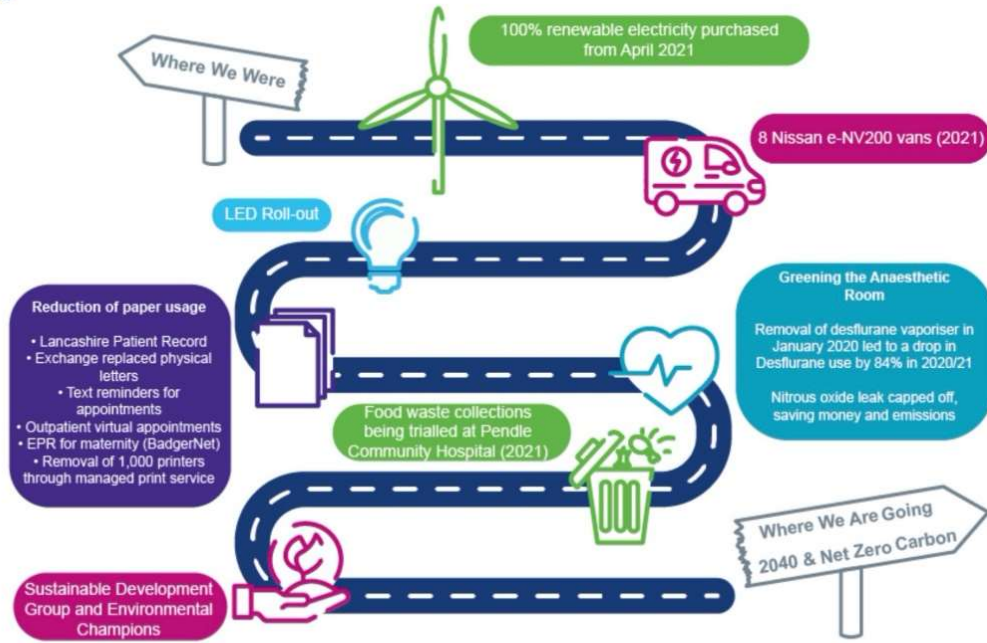
## Vision and Goals



Our Green Plan has nine Areas of Focus that appraise our status and set actions to be achieved within the next three years:

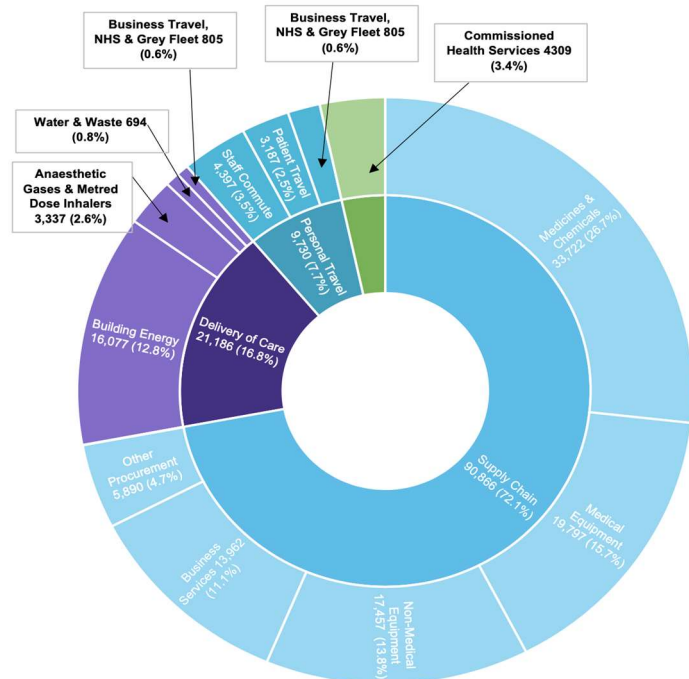
1. Workforce and Systems Leadership
2. Sustainable Models of Care
3. Digital Transformation
4. Travel and Transport
5. Estates and Facilities
6. Medicines
7. Supply Chain and Procurement
8. Food and Nutrition
9. Adaptation

## Highlights



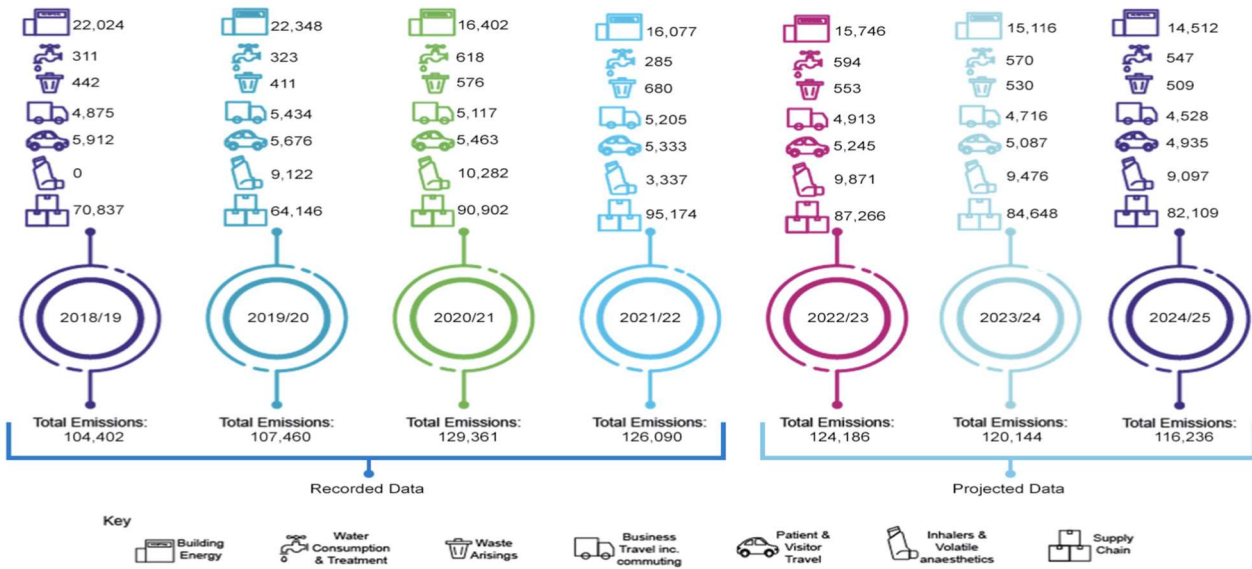
## Our Carbon Footprint in 2021/2022 was 126,090 tCO<sub>2</sub>e

This means that emissions have decreased by 3,271 tCO<sub>2</sub>e since our baseline year. 20.3% of our emissions arise from sources we can control or strongly influence: 13.6% of our emissions came from the operation of our buildings, 2.6% from our prescription of inhalers and volatile anaesthetics and 4.1% from operational travel and transport.



“Images sourced from East Lancashire Green Plan Refresh”

### Emissions Reduction Trajectory (tCO<sub>2</sub>e)



## ELHT Emission Reduction Trajectory

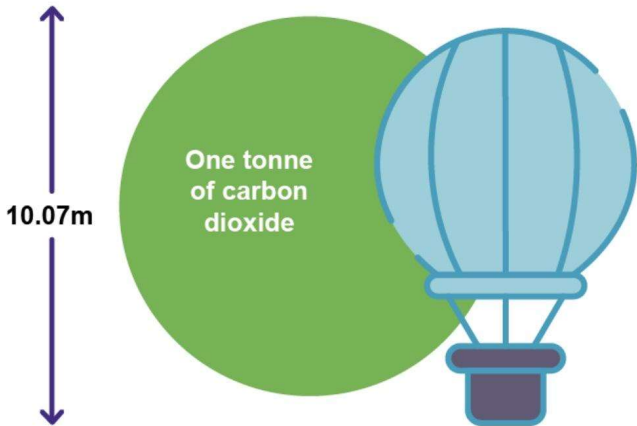
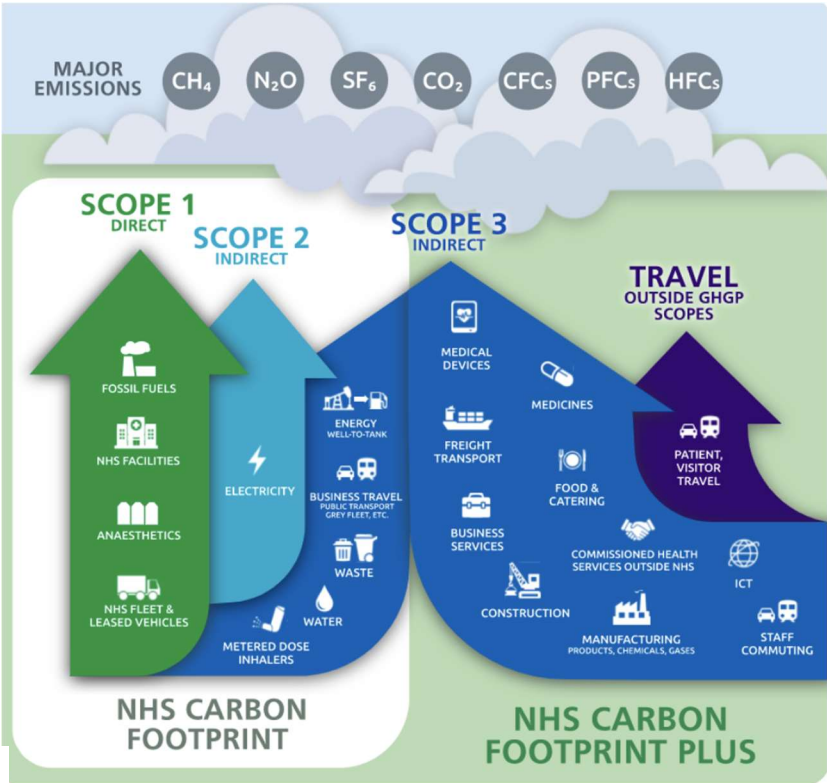
We need to reduce our total emissions by 13,125 tCO<sub>2</sub>e from our 2020/21 baseline, by 2024-25. This roughly equates to 3,281 tCO<sub>2</sub>e per annum. We successfully reduced our emissions by 3,270 tCO<sub>2</sub>e in 2021-22, which means that we are on track with our emissions trajectory.

“Source :ELHT Green Refresh Plan”

# Sustainability 101

## Emission Sources and scopes

Greenhouse gas emissions are conventionally classified into 'scopes', dependent on what the emission source is and the level of control an organisation has over it. They are reported in 'tonnes of carbon dioxide equivalent' (tCO<sub>2</sub>e). Scope 1 and 2 emissions are those that we can control and directly influence. Some scope 3 emissions such as waste and business travel can be influenced indirectly.



## What does one tonne of carbon dioxide look like?

One tCO<sub>2</sub>e can be visualised as a volume of gas the size of a hot air balloon – a sphere about 10 metres in diameter.

The average 3-bedroom semi-detached home in Northwest England emits around one tCO<sub>2</sub>e per year from electricity consumption and almost two tCO<sub>2</sub>e from the use of natural gas for heating and cooking.



# Reduce

## NHS Cutting Desflurane for a Greener NHS

[NHS organisations cut desflurane in drive for greener surgery](#)

Desflurane is more than 2,500 times more potent as a greenhouse gas than carbon dioxide (CO<sub>2</sub>). An hour's anaesthetic using the gas will warm the atmosphere by the equivalent of between approximately 30 and 60kg of CO<sub>2</sub>. That's the equivalent of driving between 200 and 400 kilometres compared to driving between five to ten kilometres for sevoflurane, a lower carbon alternative.

Following the success of our [Greening the Anaesthetic Room](#) project, the use of desflurane across ELHT has dropped dramatically in the last five years – falling from more than 20% of all anaesthetic gases used in 2018-19, to 0.6% in 2022-23. We are due to remove all desflurane from ELHT in the coming months.

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## Energy Reduction- Estates and Facilities

Source: ELHT Green Plan Refresh

16,402 tCO<sub>2</sub>e was emitted from buildings across our estate in 2020-21. 100% of our electricity is renewable since April 2020, resulting in a 76% decrease in emissions compared to 2019-20 (despite more electricity being consumed).

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## Staff Exposure to Anaesthetic Gases 2023

### BGH (May 2023)

Due to the lack of returned samples, this is being retested currently. There is also more focus on the monitoring of nitrous oxide levels to those who regularly work with Entonox for labour.

### RBH (November 2023)

Monitoring to determine staff exposure to anaesthetic agents has been carried out in 11 Theatres, 11 Anaesthetic Rooms, and the Recovery Area at Royal Blackburn Teaching Hospital.

The results show that staff exposure to anaesthetic agents was low, indicating that good practice was being followed by the staff and the control measures in place to limit staff exposure were functioning effectively.

The levels of sevoflurane detected inside the Theatres and Anaesthetic Rooms were entirely consistent with well-ventilated Theatres with active scavenging operating. There was no cause for concern in any area.

Staff exposure to anaesthetic agents in the Recovery Area was also low and not a cause for concern.

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## The Nitrous Oxide Project - Update

Dr Khosla, Dr Shahid, Dr Barnes and Dr Lie 2021

Dr Khosla, Dr Shahid, Dr Khan, Dr Heward and Dr Lie 2022

Dr McClure and Dr Lie 2023

In March 2023, several hospitals across the country have recently suspended the use of gas and air, due to prolonged exposure posing potential health and safety concerns for midwives and hospital staff.

<https://www.womenshealthmag.com/uk/health/female-health/a43116289/gas-and-air-ban-hospitals/>

**Rest assured that from our annual hazardous gas monitoring on Central Birth Suite & Birth Centres at ELHT in 2022, all our rooms were within the normal limits.** This year's annual hazardous gas monitoring is currently ongoing.

**We are currently investigating our Entonox manifold to ensure there are no significant leaks to the atmosphere as well as in discussion on trialling Nitrous Oxide Destruction Units on Birth Centres to further minimise our midwives' prolonged exposure to Entonox (see below).**

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## Medclair - Nitrous Oxide “Cracking” Device

Nitrous Oxide (N<sub>2</sub>O) is **265-298 times worse** than Carbon Dioxide (CO<sub>2</sub>) as a Greenhouse Gas and it is estimated that we contributed to **256kg of CO<sub>2</sub>e per delivery** since 80% of Entonox (50:50 N<sub>2</sub>O:O<sub>2</sub>) never reaches the patients. So to put it into perspective, 71% of women used Entonox at some point for labour in the UK (average 8 hours per labour) - that would equate to >600 miles by car.

If remifentanyl or epidural analgesia were used, the patient would need to be cared for in a consultant-led unit, but this may not align with their wishes. Furthermore, remifentanyl and epidural analgesia carry additional risks and may not be suitable for all patients.

Entonox (N<sub>2</sub>O) is clearly harmful to our workforce from long-term exposure:

- direct neurotoxicity - neuropathy, myelopathy, sub-acute combined degeneration of spinal cord
- vitamin B12 deficiency - neurological effects as above, megaloblastic anaemia
- DNA synthesis - 1st/2<sup>nd</sup> trimester miscarriage
- sub/infertility

Improved ventilation of our delivery rooms has reduced its impact but not completely.

**We are hoping to trial this to reduce the harmful exposure effects of Entonox/nitrous oxide to everyone working with Entonox and nitrous oxide, especially midwives. Watch this space!**

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## Greener Inhalers

There is a 2% (from 20% to 22%) increase in the prescription of DPI (dry powder inhaler) between 2019-20 and 2020-21. Our goal is to achieve the NHS target of 30% DPIs. This would reduce MDI (metered dose inhaler) prescriptions which have fluorinated gases which contribute significantly to GHG emissions.

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# Estimate of the total carbon footprint and component carbon sources of different modes of labour analgesia

F. Pearson, N. Sheridan, J.M.T. Pierce

<https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/10.1111/anae.15678>

The UK National Health Service’s Sustainable Development Unit calculated that 30% of greenhouse gas emissions from anaesthetic services in 2017 were attributable to nitrous oxide used in maternity services.

Introduction of nitrous oxide capture and catalytic destruction devices in Swedish hospitals and maternity units resulted in a 50% reduction in greenhouse gas emissions. Catalytic destruction devices can be mobile or central units; both require specialised delivery systems and the latter also necessitates central scavenging. Acquiring and installing catalytic destruction units would require significant investment but has the additional benefit of reducing environmental exposure to nitrous oxide for patients and staff. Mobile nitrous oxide destruction units are currently being tested in several UK hospitals.

Judicious use of Entonox, reducing waste in delivery systems and utilising catalytic destruction systems could have a huge impact on reducing greenhouse gas emissions from maternity services. This multifaceted approach, along with considering ways to reduce greenhouse gas emissions associated with other forms of labour analgesia such as reducing waste; recycling; and using renewable energy sources, is essential to help the NHS become net zero by 2050.

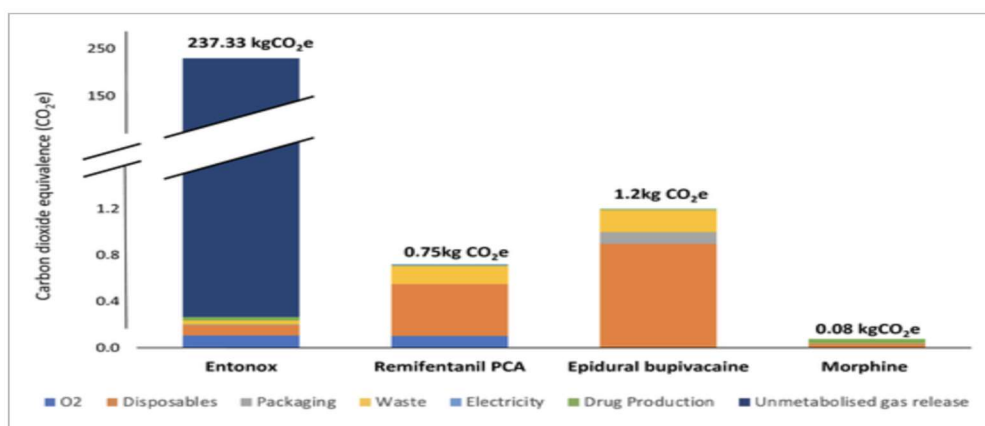


Figure 1

[Open in figure viewer](#) | [PowerPoint](#)

Estimated carbon footprint, and component carbon sources, for a 4-h period of labour analgesia. Nitrous oxide/oxygen is associated with the highest CO<sub>2</sub>e (carbon dioxide equivalence). PCA, patient-controlled analgesia. [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

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## Enteral vs IV Paracetamol QI Project - Critical Care (2022)

Dr Heselden, Dr Demetriou, Dr Colebrook, S. Morgan, Dr Waqqar-Uddon and Dr Lie 2022

We know that IV paracetamol has 65x the CO<sub>2</sub>e compared to oral/NG (0.193kg vs 0.003kg CO<sub>2</sub>e), and is 25x more expensive (51p vs 2p per 1g)!

On average 7.7 parenteral paracetamol doses were given to patients who could have enteral doses during this period. Extrapolated over a year this would save £1273.99 (vs dispersible)/£1098.70 (vs tablets) on medication alone, not including the cost of giving sets and disposal of glass waste.

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## Oral vs IV Paracetamol QI Project - ELHT Theatres (2023)

Dr Fernandez, Dr Hodgson, Dr Ko Shivanandappa, RN Khan and Dr Lie 2022-23

The equivalence of efficacy between both oral and IV paracetamol has been researched in recent decades. Studies show equivocal bio-efficacy of the two preparations, despite several differences in peak plasma concentration in the given time.

**Pain relief with IV and oral is similar after 45 min and subsequently could be superior after oral administration.**

(NICE guidelines 2020 (Peri-operative care in adults: NICE guideline - [www.nice.org.uk/guidance/ng180](http://www.nice.org.uk/guidance/ng180) page 11/30; 1.6.6), recommends oral paracetamol instead of IV paracetamol unless oral medicine could not be taken.)

Oral paracetamol reduces the carbon footprint approximately 68 times less compared to IV paracetamol.

A recent study in the UK showed approximate cost saving of £20,000 annually and 476kg of consumables diverted from clinical waste when oral paracetamol was used instead of IV. That would mean for ELHT, with 17,645 day case surgeries taking place every year. If oral paracetamol is used, about £20,000 will be saved and 3,300kg CO<sub>2</sub>e could be reduced.

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## Oral Paracetamol Pre-med QI Project – Day Cases (2024)

Dr Mehboob, Dr Ffrench-Constant, Dr Parashar, Dr Sengupta & Dr Lie 2024

We will be looking into our current practice of oral paracetamol pre-med for day case surgery to see if we are adhered to the NICE Guideline. More updates to be provided in the next newsletter.

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## Elective Theatre Shutdown checklist

Dr Byatt & Dr Lie 2023

A recent presentation on an audit performed at another hospital on the benefits of using a theatre shutdown checklist in their elective theatres. The goal was to decrease the amount of time that equipment was left on unnecessarily overnight. Anaesthetic rooms and theatres use a large amount of energy on a daily basis, however, other than emergency theatres, most equipment does not need to be on overnight in elective theatre. This includes anaesthetic machines, computers, phones, ventilation systems.

Example of the energy expenditure is:

Anaesthetic gas scavengers use 18.02 kWh per 24 hour day

Ventilator fans achieve up to 500 air changes a day

The cost of electricity is 28p per kWh

**The potential savings were:**

**44,774 Kg CO<sub>2</sub> per year which is the equivalent of driving 128, 957 miles in a car and also could save approximately 26,000 a year from just switching off Anaesthetic machines and gas scavenging pumps alone.**

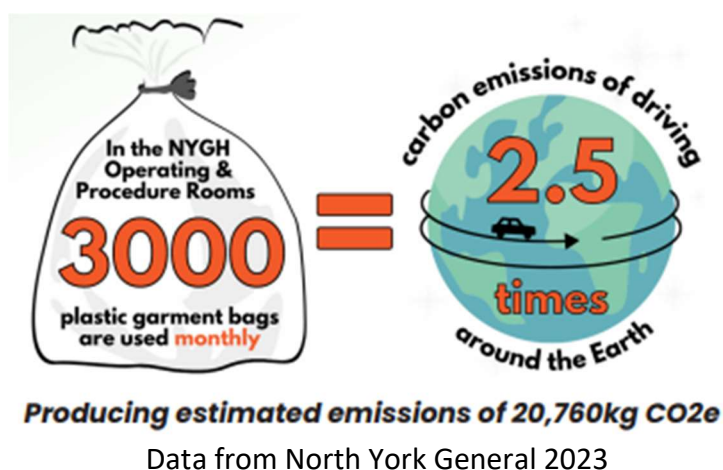
Only theatre 6 and potentially a second emergency theatre are used overnight – the rest are elective theatre.

Now that Cerner has been more established, we will be looking to trial this in 2024.

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## Bring Your Own Bags initiatives

Patient belonging bags are a source of peri-operative waste that can be easily addressed. This initiatives (BYORB) could lead to the reduction of plastic waste, carbon emissions, and costs. This is something that we are gradually working towards. Currently, we are implementing some changes to verbally ask patients to do this (pre-op/elective admissions), and RBH Theatres have moved to an alternative bag to reduce cost of the bags that we do have to use.



# Intercollegiate Green Theatre Checklist

ELHT is in the process of introducing this checklist as proposed by the Royal College of Surgeons.



## Intercollegiate Green Theatre Checklist



Below are a list of recommendations to reduce the environmental impact of operating theatres. All the relevant guidance and published evidence has been included in the Compendium of evidence, accessed via the QR code:

Anaesthesia		
1	Consider local/regional anaesthesia where appropriate (with targeted O <sub>2</sub> delivery only if necessary)	<input type="checkbox"/>
2	Use TIVA whenever possible with high fresh gas flows (5-6 L) and, if appropriate, a low O <sub>2</sub> concentration	<input type="checkbox"/>
3	Limit Nitrous Oxide (N <sub>2</sub> O) to specific cases only and if using: <ul style="list-style-type: none"> <li>▶ check N<sub>2</sub>O pipes for leaks or consider decommissioning the manifold and switching to cylinders at point of use;</li> <li>▶ introduce N<sub>2</sub>O crackers for patient-controlled delivery.</li> </ul>	<input type="checkbox"/>
4	If using inhalational anaesthesia: <ul style="list-style-type: none"> <li>▶ use lowest global warming potential (sevoflurane better than isoflurane better than desflurane);</li> <li>▶ consider removing desflurane from formulary;</li> <li>▶ use low-flow target controlled anaesthetic machines;</li> <li>▶ consider Volatile Capture Technology.</li> </ul>	<input type="checkbox"/>
5	Switch to reusable equipment (e.g. laryngoscopes, underbody heaters, slide sheets, trays)	<input type="checkbox"/>
6	Minimise drug waste (“Don’t open it unless you need it”, pre-empt propofol use)	<input type="checkbox"/>
Preparing for Surgery		
7	Switch to reusable textiles, including theatre hats, sterile gowns, patient drapes, and trolley covers	<input type="checkbox"/>
8	Reduce water and energy consumption: <ul style="list-style-type: none"> <li>▶ rub don’t scrub: after first water scrub of day, you can use alcohol rub for subsequent cases;</li> <li>▶ install automatic or pedal-controlled water taps.</li> </ul>	<input type="checkbox"/>
9	Avoid clinically unnecessary interventions (e.g. antibiotics, catheterisation, histological examinations)	<input type="checkbox"/>
Intraoperative Equipment		
10	REVIEW & RATIONALISE: <ul style="list-style-type: none"> <li>▶ surgeon preference lists for each operation - separate essential vs. optional items to have ready on side;</li> <li>▶ single-use surgical packs - what can be reusable and added to instrument sets? what is surplus? (request suppliers remove these);</li> <li>▶ instrument sets - open only what and when needed, integrate supplementary items into sets, and consolidate sets only if it allows smaller/fewer sets (please see guidance).</li> </ul>	<input type="checkbox"/>
11	REDUCE: avoid all unnecessary equipment (eg swabs, single-use gloves), “Don’t open it unless you need it”	<input type="checkbox"/>
12	REUSE: opt for reusables, hybrid, or remanufactured equipment instead of single-use (e.g. diathermy, gallipots, kidney-dishes, light handles, quivers, staplers, energy devices)	<input type="checkbox"/>
13	REPLACE: switch to low carbon alternatives (e.g. skin sutures vs. clips, loose prep in gallipots)	<input type="checkbox"/>
After the Operation		
14	RECYCLE or use lowest carbon appropriate waste streams as appropriate: <ul style="list-style-type: none"> <li>▶ use domestic or recycling waste streams for all packaging;</li> <li>▶ use non-infectious offensive waste (yellow/black tiger), unless clear risk of infection;</li> <li>▶ ensure only appropriate contents in sharps bins (sharps/drugs);</li> <li>▶ arrange metals/battery collection where possible.</li> </ul>	<input type="checkbox"/>
15	REPAIR: ensure damaged reusable equipment is repaired, encourage active maintenance	<input type="checkbox"/>
16	POWER OFF: lights, computers, ventilation, AGSS, temperature control when theatre empty	<input type="checkbox"/>

DISCLAIMER: These suggestions are based upon current evidence and broadly generalisable, however, specific environmental impacts will depend upon local infrastructure and individual Trusts’ implementation strategies.

Intercollegiate Green Theatre Scorecard, November 2022.



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## Procurement Principles

We will continue to request the Procurement team to ensure the below 7 points of principles are adhered to when we purchase any more products in the future. All companies would be requested to provide information of the followings:

1. energy consumption
2. greenhouse gas emissions
3. reduction of waste
4. use of recycled products
5. reduction in hazardous substances
6. packaging
7. end-of-life recycling

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## Non-Emergency Patient Transport Vehicles

The Trust is moving towards replacing non-emergency patient transport vehicles with Ultra-low Emission Vehicles (ULEVs, such as plug-in electric hybrid), or Zero Emission Vehicles (ZEVs, such as electric cars. A total of seven 7kW EV charge points at our Burnley and Blackburn sites. At present these are for the sole use of our electric estate vehicles however the goal is to install more charge points.

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# Reuse

## Re-using walking aids

ELHT have set up an initiative to reuse and recycle walking aids given to patients. The NHS spends millions of pounds every year on walking aids, many of which are not returned. With this scheme, we could reduce the NHS's carbon emissions by 7.4kt over the next 3 years.

Return Reuse Recycle

### Return for reuse and recycling

For more information visit:  
[recyclenow.com/walking-aids](https://recyclenow.com/walking-aids)  
or scan the QR code.



## Coolstick - a sustainable alternative to ethyl chloride spray

Dr Thorell, Dr Durdin and Dr Lie 2022

### Why?

The environmental and cost impact is high. Spray itself takes 1-2 months to break down in the environment. Medogesic brand is however CFC free. Cans cannot be recycled, added cost of disposal.

### Current Consumption

The financial cost:

ELHT consumption 1/4/2020-31/3/2021: 1,513 cans (average 29.1 cans/week) at £16.21+ VAT per can = **£24,525+ VAT**.

### The environmental cost:

Each can of spray is estimated to be responsible for 890 kgCO<sub>2</sub>e. Based on the last 12 months' use, CO<sub>2</sub>e equals 479 average petrol cars driving 10,000miles.

Total **1,346 tonnes CO<sub>2</sub>e/year**.

### The Alternative - A Reusable Coolstick

Cool stick is a stainless-steel stick with a handle that can be reused and kept in the fridge. Trials in 2022 showed that **we have reduced our order of ethyl chloride by 23%**. Ethyl chloride costs **£16.95 each (ex VAT)**, which would mean we had saved **£1,288.20** over a 13-week period.

**Coolsticks are now available in all theatres across both sites. Please do consider using them as your first line.**

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## Reusable Theatre Hats!

The trust spent over £33,000 on single-use theatre hats from March 2021 to August 2022. We are encouraging staff to wear personal, reusable theatre hats to avoid waste! It also helps communication with your colleagues and patients, especially in emergency situations. Plan is to get everyone one using the 10,000 feet charity funding.

We are now not far from providing all theatre staff with their own reusable theatre hats!! Watch this space!!



# Recycle

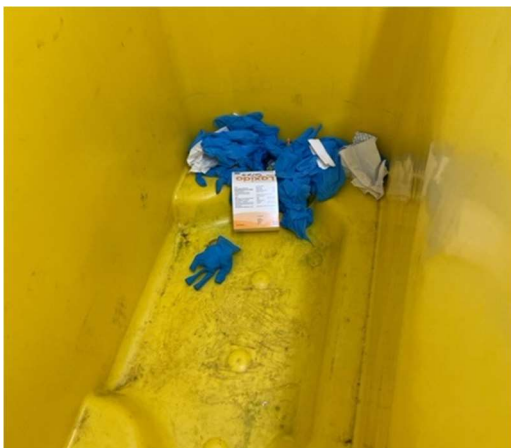
## Important clinical waste reminder

The management of healthcare waste is an essential part of ensuring our activities do not pose a risk of infection. Particular attention should be given when disposing of clinical waste into bins in the hospital.

Please take care when disposing of clinical waste and ensure it is done correctly, as putting clinical waste in the wrong bins can leave the Trust open to prosecution and potential large fines – as well as putting colleagues handling the waste at risk of infection.

All colleagues are responsible for ensuring waste is disposed of in the appropriate bin or bag and this should be done as daily practice to prevent the risk of infection.

Some photos show this is not always followed:



Please follow these steps to keep colleagues and patients safe:

- Please do not put blue gloves directly into the yellow bin, make sure they are in a bag. Ensure that no loose items are put directly into the yellow bins
- Please do not put cardboard/ domestic waste or any recyclable items in the clinical waste (yellow bins). Instead, use the general waste bins provided
- Please do not put any clinical waste in clear plastic bags into the yellow bins for disposal.

Let's work together to maintain a healthier environment.

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## Waste Recycling - ELHT Green Plan Refresh

Source: ELHT Green Plan Refresh 2023

Waste reduction (negation) needs to be our aim. In line with the NHS' net zero plan, we should reduce our waste by 359 tonnes by 2024/25 from our 2020/21 baseline (equating to 87 tCO<sub>2</sub>e emission reduction). The waste hierarchy of Reduce, Reuse, Recycle, Recovery (energy from waste) before disposal (landfill) must be embedded to ensure we are maintaining our waste duties of care and circular economic principles.

We collect four main waste types: general, clinical/offensive, dry mixed recycling, and waste electrical and electronic equipment (WEEE)

**2,386 tonnes** of waste were produced, emitting **576 tCO<sub>2</sub>e** in 2020/21. **170 tonnes of offensive waste were sent to landfill** in 2020/21, emitting **78 tCO<sub>2</sub>e** (**14%** of all emissions from waste).

Our General Waste is sorted for recyclable materials and Refuse Derived Fuel (non-recyclable materials) is incinerated at an energy-from-waste facility. Food waste collections are being trialled at Pendle Community Hospital, with a view to rolling this out at all sites (except Accrington Victoria Community Hospital). Recycling rates need to be increased and dedicated dry mixed recycling bins may help this.

The reuse of PPE should be explored where clinically appropriate. Innovations are coming on to the market such as face masks and aprons, that meet the various clinical safety standards. Approximately 5% of walking aids issued by our Occupational and Physiotherapy teams. are refurbished/reused.

Stericycle manages our clinical waste disposal. The cost of management of clinical waste has increased in July 2023.

### Clinical Waste Stream Tonnage Rate (from 01/07/2023)

Incineration £950

Alternative Treatment £495

Offensive £375

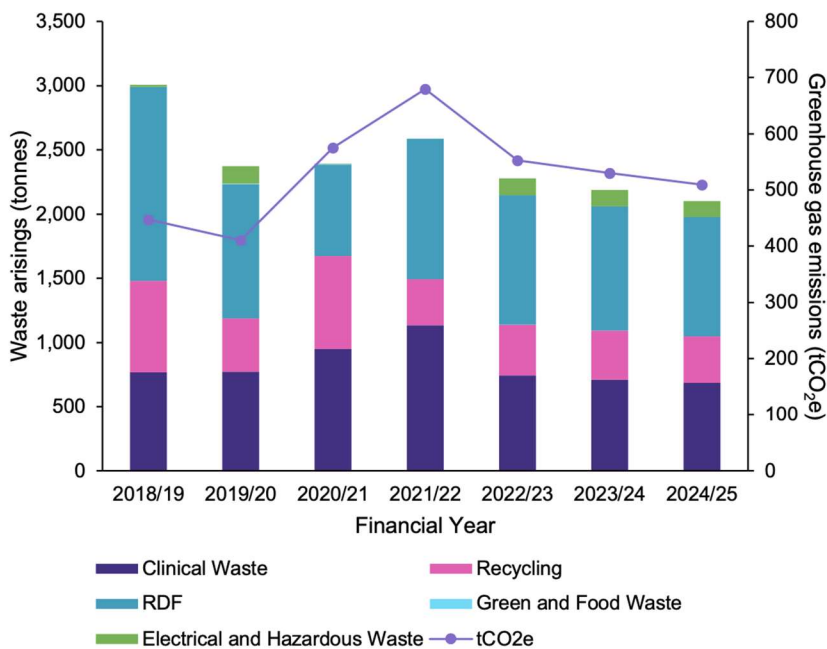


Figure 26 Stacked bar chart to show total waste arisings and emissions reduction trajectory to 2024/25

## Waste Management Update Nov 2023:

Suez replaces Biffa regarding waste management for the trust; their treatment and disposal goals are:

*“We specialise in extracting value from waste. It is the key both to sustainability and to providing the most cost-effective service possible.*

*It may be that we can extract secondary raw materials (such as metals, plastic, and wood) from your general waste at our sorting and treatment facilities.*

*The majority of residual waste will be put to good use.*

*Our energy-from-waste facilities generate electricity to power homes and businesses across the country.*

*We also turn general waste into an alternative fuel that displaces fossil fuels. Our solid recovered fuel and refuse derived fuel products are made from processed municipal and business waste. These are used instead of coal to power cement kilns, or to generate heat and power for homes and businesses.*

*A small percentage of non-recycled waste may be disposed of at one of our landfill sites, but even here, the gas created by the waste as it breaks down can be used to generate power. These highly engineered waste treatment facilities are managing waste in a safe and environmentally responsible way”*

The costs for domestic waste disposal (tonnage rate) are as follows:

General waste -	£11.71 (1100 L)
	£51.50 (FEL)
DMR/Recycling-	£6.70 (1100 L)
	-£39.14 (FEL)
Cardboard-	-£6.70 (1100 L)
	-£39.14 (FEL)
Food waste-	-£7.80 (per bin exchange)

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## Waste Stream Recycling Project – Domestic waste

Dr Barnes and Dr Lie 2021

Dr Newport, Dr Heselden and Dr J Lie 2022 (+ a lot of our Green Champions)

Waste is an unfortunate by-product of the procedures undertaken and services provided in the NHS, it has been identified as a carbon hotspot and in 2016/17 the NHS was responsible for generating almost **590,000 tonnes of waste** (1.7% of all commercial and industrial waste in England).

Not all waste we produce is healthcare waste and not all healthcare waste is hazardous or needs to be classified as such. There are a wide range of waste streams available to us.



## Do you know?

All rubbish (NOT gloves) is recycled from the clear bag bins for you! 😊

Since our snapshot audit, we have introduced up-to-date visual aids for waste stream segregation available in all departments:

- **Posters** on walls with quick and easy to understand descriptions of correct waste disposal techniques.
- **Labels on bins** to ensure staff are disposing of waste correctly

**CLEAR BAG**

East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust



YES Packaging & Wrappers Cardboard & Paper	NO Clinical Waste / Gloves Sharps / Medicines
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♻️ RECYCLED ♻️  
 £150/TONNE  
 50KG CO2/TONNE

**CLINICAL BAG**

East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust



YES Infectious / Potentially Infectious Waste	NO Sharps / Drugs
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♻️ 'ENERGY FROM WASTE' / LOW TEMP INCINERATION ♻️  
 £385/TONNE  
 200KG CO2/TONNE

**SHARPS BIN**

East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust




YES Sharps Broken glass	NO Recycling Flames
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♻️ High-temp incineration ♻️  
 £500/tonne  
 1000kg CO2/tonne

**BLUE LID BOX**

East Lancashire Hospitals  
NHS Trust  
A University Teaching Trust



Yes Medicines & Syringes Fluid Rags & Giving Sets Bottles & Unbroken Vials / Ampoules	No Sharps Broken Glass / Sharp Edges Blood
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♻️ HIGH-TEMP INCINERATION ♻️  
 £500/TONNE  
 1000KG CO2/TONNE



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## Baxter CONTRAfluran Anaesthetic Gas Recapture

Dr Fletcher & Dr Lie 2022

We trialled the anaesthetic gas re-capture in theatre 6 at RBH in September 2022.

## SageTech Anaesthetic Gas Recapture Technology

Dr Froud & Dr Lie 2023

The SAGETech Trial on Volatile Capture in Theatre 6 was trialled in March to April 2023.

**Currently awaiting decision from the Trust to decide whether to invest or not on this technology.**

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## RecoMed

A company that specialises in recycling face masks and breathing circuits, it is the first scheme of its kind in Europe, and provides collection bins and delivers shredded plastic to specialist recyclers. ELHT is currently on their long waiting list!

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## Environmentally sustainable waste reduction and management service for hospitals

ELHT is continuing to be involved with the Environmentally Sustainable Waste Reduction and Management Service for hospitals project initiated by University Hospitals Bristol and Weston NHS Foundation Trust (UHBW).

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# Green Champions

We are building a network of "Green Champions" – ideally one or two in each department (clinical and non-clinical) to act as a role model, point of contact and a local expert who can feed back more ideas on how we can save money and help the environment.

Email Dr Lie at [jason.lie@elht.nhs.uk](mailto:jason.lie@elht.nhs.uk) to find out or be the Green Champion of your working area – your support will be very gratefully received!

Feel free to approach the Green Champions in your working area to get involved!

[https://docs.google.com/spreadsheets/d/1XVt-KKcZrzFNwpy\\_x4neu2JCixG5WRoCPEd\\_fURiofl/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1XVt-KKcZrzFNwpy_x4neu2JCixG5WRoCPEd_fURiofl/edit?usp=sharing)

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## Sustainability Working Group – The Green Team at Critical Care RBH

I am Mhairi Stewart a dual anaesthetic/critical care ST7 working in ELHT. I am passionate about reducing waste and environmental harm associated with healthcare. Our critical care in Royal Blackburn Hospital has just created a Sustainability Working Group.

The group consists of leaders from each area of the multidisciplinary team. We work together to identify and implement key projects for improving the unit's sustainability and provide an educational resource to increase awareness and understanding of the importance of addressing our environmental impact.

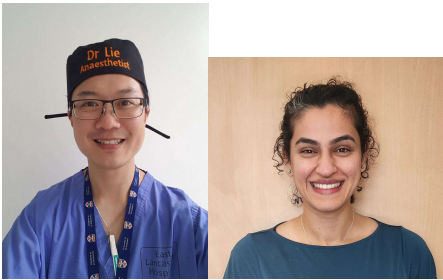
Focussing on addressing a "Reduce, reuse, recycle" tenet, our first "bundle" of projects is already underway.

Our aim is to embed a sustainability philosophy into our critical care practices and we hope that our work will act as a roadmap to inspire both other departments within ELHT, and other critical care departments across the network to develop their own "Green Teams".

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## Volunteers Wanted!!!!

We are interested in hearing about any new “green” articles or green projects you have undertaken, please email [jason.lie@elht.nhs.uk](mailto:jason.lie@elht.nhs.uk)!



### Editors:

Jason Lie and Meherunnisa Khan

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## Green Resources

We have mentioned a few of the many useful resources that can guide your sustainability efforts:

- Transport: [Journey emissions comparisons: GOV.UK](#) - gives comparisons of different modes of transport / distance.
- Healthcare: Sustainable healthcare pathways Calculator <https://shcpathways.org> gives the average carbon footprint for different healthcare activities. E.g. GP or outpatient appointment.
- Materials: The [ICE database](#) - developed by the University of Bath and Circular Ecology this is useful for finding materials (E.g. Constituents of a medical device) for bottom-up measurement.