



# National Emergency Medicine Programme GreenEM Playbook

2025-2027



# Executive Summary

The Emergency Medicine GreenEM Playbook is a national quality improvement framework designed to support Emergency Departments (EDs), Injury Units, and Urgent Care Centres across Ireland in delivering safer, greener, and more resource-efficient care. Anchored in the Health Service Executive (HSE) Climate Action Strategy 2023–2050, the Greener models of care framework and the Royal College of Emergency Medicine (RCEM), this programme introduces a set of core actions, an implementation guide, a national reporting dashboard, and a user-friendly checklist.

At its core, the GreenEM Playbook aims to empower healthcare workers to drive system-wide change—helping emergency care transition into a more efficient, higher-value, less wasteful, and more resilient model of healthcare delivery. By encouraging teams to use resources wisely, reduce low-value investigations, and eliminate wasteful practices, we can collectively shape a system that is better for patients, better for staff, and better for the planet.

This quality improvement framework builds on outputs from GreenEM pilot sites and integrates practical feedback from staff, carbon calculator data, and strategic alignment with national healthcare sustainability goals. The framework sets out a scalable approach to action, accountability, and visibility, using a tiered structure of **Must Do**, **Should Do**, and **Could Do** interventions.

Its central purpose is to embed environmental sustainability as a pillar of quality in emergency care, without compromising safety or equity.

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# 1. Introduction

Irish EDs and IUs are high-throughput, resource-intensive environments with significant carbon footprints. Yet, they also present an opportunity: thousands of repeatable clinical and operational decisions are made every day. By embedding sustainability into these decisions, emergency care services can become drivers of national health system transformation.

The HSE Climate Strategy 2023–2050 sets a goal of net-zero healthcare by 2050. The Emergency Medicine Programme (EMP) supports this direction by integrating sustainability into clinical governance, service delivery, and operational performance through GreenEM QIP.

This document outlines:

- Priority actions classified as **Must/Should/Could**
- How-to guidance for implementation
- Examples of Local Implementation
- A checklist for local self-assessment
- A dashboard model for tracking and reporting

## SPOTLIGHT



### Mayo University Hospital – Optimising Clinical Waste to Cut Carbon

As one of the pilot sites for the RCEM and RCSI GreenED initiative, Mayo University Hospital's Emergency Department undertook a focused Quality Improvement Project (QIP) to address the carbon and financial impact of yellow clinical waste bins.

Using a simple yet effective approach, the team audited nightly yellow bin waste in the ambulatory section of the Emergency Department. They discovered that bins were routinely misused — filled with general waste such as paper towels and coffee cups — resulting in unnecessary incineration and associated carbon emissions.

The GreenED team implemented a structured ten-step plan, including collaborative walkabouts with infection control and facilities staff, re-positioning of bins to avoid “default” misuse, and visual reinforcement through signage and teaching. Importantly, inappropriate bins (five small and two large) were removed without compromising clinical safety.

The outcomes were striking. The average nightly bin weight fell from 3.66 kg to 2.86 kg, translating to an annual CO<sub>2</sub> emissions reduction of 3,136 kg and an annual cost saving of over €3,000. Importantly, this was achieved with no negative impact on clinical safety or workflow — demonstrating that sustainability and service quality can align.

Visual logs of bin contents and simple engagement tools played a key role in changing behaviours. The project also received support from hospital finance and waste teams, showing that clinical and operational alignment is possible when sustainability goals are clearly linked to safety, efficiency, and cost savings.

This work serves as a replicable model for EDs and IUs nationwide — a small change in bin placement and staff awareness can lead to large gains in environmental impact.

## 2. Getting Started with the GreenEM Playbook

Starting your GreenEM journey doesn't have to be overwhelming. Whether you're leading change in a large Emergency Department or a smaller Injury Unit, this Playbook is designed to help you start where you are—and move forward in a way that works for your team.

Here's a helpful guide to get going:

### 1. Appoint a Sustainability Lead

**Suggested timeframe: Month 1**

Identify someone in your team to take on the role of GreenEM Lead. This could be a consultant, nurse manager, ANP, or any staff member with energy and interest in sustainability. Ideally, this role should come with some protected time and clear responsibilities—though informal champions are welcome too!

**TIP**

Link in with hospital management and estates early to build support.



### 2. Complete the Self-Assessment Checklist

**Suggested timeframe: Months 1–2**

Use the Playbook's checklist to map your current activity. This helps identify “quick wins” and areas for focus. The checklist is built around a Must / Should / Could framework, allowing you to prioritise realistically based on your site's resources and readiness.

**TIP**

Involve a small working group to complete the checklist together—it builds shared ownership and insight.



### 3. Set Priorities and Plan Actions

**Suggested timeframe: Months 2–3**

From your checklist, choose 2–3 areas to focus on in the first 6 months. This might include energy use, waste reduction, sustainable procurement, or staff awareness.

Use the case studies, templates, and communications resources in this Playbook to support your plan.

**TIP**

Start small - progress matters more than perfection.



## 4. Use the GreenEM Dashboard

### Suggested timeframe: Month 3 onwards

Begin capturing simple data to track your progress. The GreenEM Dashboard is designed to be low-burden and easy to use. It supports learning, celebrates success, and helps make the case for investment or support.

**TIP**

Consider setting a standing item on team meeting agendas to share updates and data.



## 5. Engage, Educate and Embed

### Ongoing

Build sustainability into your local culture. Use the staff induction slides, noticeboard templates, and GreenEM visuals provided in this Playbook. Celebrate small wins and keep the momentum going.

**TIP**

Share your progress with the National Emergency Medicine Programme—we'd love to highlight your work!

**Remember: This is a journey**

No one is expected to do everything at once. What matters is that you start. The GreenEM Playbook is here to support you step by step, and the national team is available to connect, advise, and share learnings from across the country.

# 3. Sustainability Action Framework: Must / Should / Could

This section presents a practical and scalable set of sustainability actions for Emergency Departments, Injury Units, and Urgent Care Centres. The actions are grouped into three tiers — **Must Do**, **Should Do**, and **Could Do** — offering a flexible framework that supports both early progress and long-term improvement.

Each action is mapped to a core sustainability domain, such as energy, waste, medicines, procurement, travel, and team culture. The Must Do actions represent essential first steps that every site is encouraged to implement. The Should Do and Could Do tiers provide additional options that can be adopted based on local capacity, staffing, and infrastructure.

Many of the actions require little or no additional funding and are designed to integrate into existing workflows. The focus is on practical, evidence-based interventions that improve efficiency and care quality while reducing environmental harm. Where possible, actions are aligned with national clinical guidance and the HSE Climate Action Strategy 2023–2050.

This tiered approach supports teams to take ownership, track progress, and build momentum — at their own pace — toward more sustainable emergency care.

## 3.1 Must Do (Minimum Standard for All EDs and IUs)

ID	Action	Description	Aligned Domain
<b>M1</b>	Form a GreenEM Working Group	Appoint sustainability lead, schedule regular meetings	Organisational & Leadership
<b>M2</b>	Track Energy Use	Measure ED electricity usage and implement energy-saving practices such as screen dimming, turning off lights, and powering down unused equipment.	Energy
<b>M3</b>	Track Bin Use	Conduct quarterly bin audits to review waste composition and bin placement. Identify opportunities to improve segregation and reduce contamination.	Waste
<b>M4</b>	Remove Unused Medical Gases	Audit medical gas lines and disconnect unused N <sub>2</sub> O or oxygen outlets to reduce emissions	Anaesthetic Gases
<b>M5</b>	Reusable Cups and Basic Consumables	Replace single-use items (e.g. cups, trays, scissors) with reusable alternatives where safe and appropriate.	Procurement
<b>M6</b>	Display GreenEM Posters & Checklist	Use posters, checklists, and visual prompts to raise staff awareness and promote engagement with GreenEM goals.	Culture & Advocacy



### 3.2 Should Do (Best Practice Goals)

ID	Action	Description	Aligned Domain
<b>S1</b>	Switch to Low Carbon Inhalers	Engage pharmacy, reduce use of MDIs	Medicines
<b>S2</b>	Choose oral medications over IV where appropriate	Reduce unnecessary IV use	Medicines
<b>S3</b>	Reduce unnecessary IV cannulation	Avoid routine IV cannulation in patients who do not require IV access	Medicines
<b>S4</b>	Reduce unnecessary VBG sampling in ambulatory patients	Avoid venous blood gases in stable ambulatory patients unless clinically indicated	Diagnostics
<b>S5</b>	Conduct Waste Segregation Audit	Review contamination in bins quarterly	Waste
<b>S6</b>	Reduce Unnecessary Coagulation Testing	Limit coagulation tests to clinical scenarios where results will impact management	Diagnostics
<b>S7</b>	Reduce unnecessary radiology use	Avoid low-value imaging; follow clinical decision tools where available	Diagnostics
<b>S8</b>	Optimise Use of PPE	Follow AMRIC guidance; use gloves and gowns only when clinically required	Waste & Infection Control
<b>S9</b>	Promote Sustainable Commuting	Support active travel; provide secure bike storage and promote public transport options	Travel & Transport
<b>S10</b>	Add GreenEM Goals to Induction	Include orientation, values, and examples	Culture & Advocacy

### 3.3 Could Do (Innovation and Future Planning)

ID	Action	Description	Aligned Domain
<b>C1</b>	Leap Card Programme for Discharge Travel	Offer public transport cards (e.g., Leap Card) as an alternative to taxis for appropriate urban patient discharges where safe and practical.	Travel & Equity
<b>C2</b>	Waste Audits	Engage healthcare staff in regular bin audits to identify contamination and raise awareness of proper segregation.	Waste & Workforce
<b>C3</b>	Virtual Sharing Network	Establish a virtual cross-site network to share sustainability ideas, QIP results, and implementation tips.	Advocacy & Collaboration
<b>C4</b>	Enrol in accreditation programmes for sustainability (e.g. RCEM GreenED)	Join recognised sustainability accreditation programmes (e.g. GreenED) to set targets, track progress, and gain external recognition.	Behavioural Change & Engagement



## SPOTLIGHT



### University Hospital Galway — Reducing Unnecessary IV Cannulation in Ambulatory Patients



As part of the GreenEM pilot, University Hospital Galway's Emergency Department undertook a focused service evaluation to examine the use of intravenous (IV) cannulas in ambulatory patients within the subacute waiting area. These patients are typically less acutely unwell, yet high rates of IV insertion raised questions regarding clinical necessity, resource efficiency, and environmental sustainability.

Over a five-day observation period, the department evaluated 53 patients using a combination of direct observation, analysis of clinical documentation, and electronic health records. The results highlighted significant overuse: 58% of patients had an IV cannula inserted, 70% of discharged patients had a cannula despite not receiving IV treatment, only 13 out of 24 patients who received treatment were administered medications via the IV route.

This practice was not only inefficient, but it also introduced avoidable patient discomfort, contributed to plastic waste, and used staff time that could be better allocated. The audit estimated that over 80 minutes of nursing time was spent inserting cannulas for a small cohort of patients in just five days.

In response, Galway ED is implementing an educational campaign focused on: Reinforcing appropriate clinical thresholds for IV insertion, Increasing visibility of blood test costs, Embedding blood gas and IV stewardship discussions into daily huddles.

This initiative illustrates how seemingly routine clinical practices can be re-evaluated through a sustainability lens, yielding benefits for patients, staff, and the environment. Galway's work contributes to the growing evidence base for rationalised cannulation practices and sets the stage for follow-up audits to measure impact and drive culture change.

By targeting one of emergency medicine's most ubiquitous interventions, Galway ED has taken a meaningful step toward greener, more patient-centred care — precisely the kind of local leadership that will drive national progress under the GreenEM programme.

# 4. Checklist: GreenEM Self-Assessment Tool

The GreenEM Checklist provides a practical self-assessment tool to help ED teams track their sustainability progress over time. It translates the Playbook’s recommended actions into everyday practices, offering clear prompts for team reflection, planning, and quality improvement.

EDs are encouraged to review the checklist quarterly, using it to support local Green Teams, drive culture change, and guide data input into the national GreenEM Dashboard. Each item is marked with:

- ✔ for actions that can be implemented immediately, and
- ⊕ for interventions requiring additional planning, stakeholder input, or resources.

The checklist also includes an optional Daily GreenED Safety Pause — a quick prompt to encourage mindfulness around resource use, energy-saving, and sustainable care delivery during daily huddles or ward rounds.

Daily GreenED Safety Pause (Optional)	
✔ Have we set our PCs to energy-saving mode today?	<input type="checkbox"/>
✔ Are our bins correctly labelled and not overflowing?	<input type="checkbox"/>
✔ Are we avoiding unnecessary single-use equipment?	<input type="checkbox"/>
✔ Have we promoted any travel alternatives for today’s discharges?	<input type="checkbox"/>

## Emergency Medicine Sustainability Checklist (GreenEM v1.0)

Adapted from the Intercollegiate Green Theatre Checklist and RCEM GreenED Pilot Resources and feedback from GreenEM Pilot

Staff and Patient Flow	
1. GreenEM Working Group Active	
✓ Local sustainability lead and regular team meetings established	<input type="checkbox"/>
✓ Sustainability is included in departmental governance meetings	<input type="checkbox"/>
2. Patient Education & Digital Information	
✓ Replace paper leaflets with QR codes or digital alternatives	<input type="checkbox"/>
✓ Promote active or public transport options in signage and discharge advice	<input type="checkbox"/>
3. Low Impact Travel Options	
✓ Bike storage, showers, and lockers available for staff	<input type="checkbox"/>
✓ Cycle-to-work scheme promoted	<input type="checkbox"/>
✓ Staff taxi use for non-urgent discharge discouraged	<input type="checkbox"/>
Medicines & Clinical Practice	
4. Rationalise Cannulation and Testing	
✓ Avoid unnecessary blood draws or cannula insertions	<input type="checkbox"/>
✓ Avoid routine coagulation testing unless clinically indicated	<input type="checkbox"/>
✓ Avoid unnecessary venous blood gas sampling in ambulatory patients	<input type="checkbox"/>
+ Promote QIPs to audit usage patterns and educate staff	<input type="checkbox"/>
5. Low-Carbon Inhalers	
✓ Use dry-powder inhalers where clinically appropriate	<input type="checkbox"/>
+ Engage with pharmacy on procurement and formularies	<input type="checkbox"/>
6. Reduce Medical Gas Waste	
+ Remove piped N <sub>2</sub> O unless essential	<input type="checkbox"/>
✓ Reduce Entonox use and consider alternatives (e.g. Pentrox)	<input type="checkbox"/>
7. Radiology	
✓ Reduce Unnecessary Radiology Use	<input type="checkbox"/>
8. Personal Protective Equipment	
✓ Promote 'Gloves Off' campaign and adherence to AMRIC PPE guidance	<input type="checkbox"/>
IT, Energy & Estates	
9. Energy-Efficient Workstations	
✓ Reduce monitor brightness across department PCs	<input type="checkbox"/>
✓ Activate sleep settings or auto shutdown after hours	<input type="checkbox"/>
10. Lighting & HVAC	
✓ Install "turn off" reminder stickers in cubicles and shared areas	<input type="checkbox"/>
✓ Ensure HVAC set-back modes after hours or when unoccupied	<input type="checkbox"/>

Waste and Procurement		
11. Waste Stream Segregation & Signage		
✓ Clear, colour-coded signage for recycling, clinical, offensive, and domestic waste		<input type="checkbox"/>
+ Audit bin locations and contamination levels regularly		<input type="checkbox"/>
12. Reusable Equipment		
✓ Use reusable cups, trays, scissors, BP cuffs and thermometers where possible		<input type="checkbox"/>
+ Trial hybrid or reusable PPE and sterile packs for low-risk tasks		<input type="checkbox"/>
13. Sustainable Procurement Practices		
+ Engage with regional teams to source low-carbon alternatives		<input type="checkbox"/>
+ Review ED packs and remove routinely unused or surplus item		<input type="checkbox"/>
Team Culture and Advocacy		
14. Staff Engagement & Feedback Channels		
+ Run a regular GreenEM Ideas campaign (e.g. suggestion box or WhatsApp)		<input type="checkbox"/>
+ Include sustainability wins in staff newsletters or huddles		<input type="checkbox"/>
15. Training & CPD		
+ Integrate sustainability into staff induction		<input type="checkbox"/>
+ Promote HSE/NHS/RCEM online sustainability training resources		<input type="checkbox"/>
16. Quality Improvement		
+ Identify QI projects linked to carbon hotspots (e.g. N <sub>2</sub> O, cannulation, ABG use)		<input type="checkbox"/>
+ Include sustainability metrics in audits where relevant		<input type="checkbox"/>
Daily GreenED Safety Pause (Optional)		
+ Have we set our PCs to energy-saving mode today?		<input type="checkbox"/>
✓ Are our bins correctly labelled and not overflowing?		<input type="checkbox"/>
✓ Are we avoiding unnecessary single-use equipment?		<input type="checkbox"/>
✓ Have we promoted any travel alternatives for today's discharges?		<input type="checkbox"/>

**Legend**

- ✓ = Interventions that can be actioned today by the ED team.
- + = Items requiring additional planning, resources, or stakeholder involvement

# SPOTLIGHT



## University Hospital Waterford — Rationalising Yellow Bin Usage Spotlight on Waterford



University Hospital Waterford tackled inappropriate waste management as one of their first projects working on Green ED. Bin placement was inefficient, with yellow bins being placed in areas with non-risk waste generated with no general waste bins present. There was also an abundance of yellow bins throughout the department and it was noticed they were being filled with miscellaneous waste which posed no clinical risk, adding to overheads and emissions.

An audit of bin type, size and placement was performed throughout all areas of the department. It revealed that often all three bin types were not placed together, meaning waste was disposed of in a bin that was in close proximity regardless of colour, leading to inappropriate segregation.

Furthermore bins were placed in inappropriate places such as yellow or green bins beside sinks leading to contamination of recycling streams and inappropriate use of clinical risk waste streams.

After consulting Green Healthcare's Best Practice and How To guides regarding bin placement and management, and discussing with waste managers of the hospital, the number, size and location of bins were rationalised to increase compliance with appropriate segregation. Cleaning services were engaged in discussions surrounding the importance of segregation and emptying to ensure bin bags were replaced according to type. Where possible with space constraints bins were placed together clearly colour coded and in areas of low production of clinical waste, smaller bins were used to discourage unnecessary use.

This led to a 25% reduction in clinical risk waste bins and a 21% increase in non-clinical risk bins with a more streamlined waste management system in the department.

## 5. GreenEM Dashboard

The GreenEM Dashboard was conceived in direct response to challenges identified during initial engagement with pilot sites. Staff and key stakeholders expressed a consistent frustration: while motivated to implement sustainability interventions, they lacked any practical method to measure the actual impact of their efforts. This absence of measurement tools created a barrier to both local improvement and broader system learning, making it difficult to justify ongoing investment, share success stories, or identify areas needing further support.

### The Need for a Standardised Measurement Tool

**No Existing Measurement Method:** Early site visits and focus groups revealed that interventions—such as reducing clinical waste or switching to reusable items—were being attempted, but their outcomes were not tracked in a consistent, reliable way. Without data, teams could not demonstrate progress or learn from setbacks.

**National Applicability:** Recognising that this was not an isolated issue, but a sector-wide gap, the project team identified the need for a standardised, national rubric for sustainability measurement in emergency medicine. Such a tool would allow every ED, regardless of size or location, to measure and compare their efforts using the same benchmarks.

**Best Practice in Management Accounting:** Drawing from management accounting principles, the team emphasised that “what gets measured gets managed.” In any high-performing organisation, it is best practice to track the metrics that matter most to your core operations. For emergency medicine, this means focusing on both clinical excellence and environmental stewardship.

### Purpose and Intended Use

The GreenEM Dashboard is designed to:

- **Empower Teams:** Enable ED staff to see the tangible results of their sustainability initiatives, fostering a sense of ownership and motivation.
- **Support Data-Driven Decision-Making:** Provide clear, actionable data to inform local improvement cycles and resource allocation.
- **Enable National Benchmarking:** Establish a common language and set of metrics for sustainability performance across all Irish Emergency settings, supporting system-wide learning and improvement.
- **Align with National and International Standards:** Position Irish emergency medicine in line with best practice frameworks such as the RCEM GreenED Framework and the HSE Climate Action Strategy.

## Focus of the Beta Version

While the dashboard is designed to be modular and expandable—eventually supporting measurement of a wide range of sustainability practices—the beta version focuses on three high-impact areas:

1. **Clinical Waste:** Tracks the volume and type of waste generated, supporting targeted reduction efforts and cost savings.
2. **Cannula Usage:** Monitors the procurement and use of intravenous cannulas, a common single-use item with significant environmental and financial implications.
3. **Entonox (Nitrous Oxide) Consumption:** Measures the use of this high-global-warming-potential anaesthetic gas, enabling teams to identify opportunities for reduction or substitution.

These focus areas were selected based on their relevance to daily operations, the lack of availability of robust carbon accounting data for these items, and feedback from frontline teams about where they felt change was both needed and achievable.

## How the Dashboard Should Be Used

**Quarterly Data Entry:** Each site's designated GreenEM lead is responsible for entering baseline and quarterly data for the core metrics, the dashboard facilitates recording of easily attainable data.

**Visual Progress Tracking:** The dashboard automatically converts raw data into visual outputs, showing progress against baseline and annual targets in terms of both carbon emissions and cost savings.

**Relatable Impact Metrics:** Results are translated into everyday terms—such as euros saved, nursing shifts funded, or ambulance kilometres mitigated—to make the impact meaningful for clinical and management staff.

**Visibility-First Approach:** The dashboard is designed to encourage honest self-assessment and learning, not to enforce compliance. Sites can track their own progress and compare results over time, building readiness for future national reporting.

## Strategic Value

By embedding measurement into the core of sustainability work, the GreenEM Dashboard transforms good intentions into actionable, evidence-based practice. It empowers local teams, supports national strategy, and lays the groundwork for a culture of continuous improvement in environmental stewardship across Irish emergency medicine.



## GreenEM Dashboard

Site	Start Date	Target Reduction	1 Year Cost Saving		1 Year CO2 Saving		Cost Performance Against Target	CO2 Performance Against Target
			Target	Actual/Projected	Target	Actual/Projected		
Galway	Day 0	-3%	8,414 Euro		4.8 Tonnes			
<b>Progress Projection &amp; Tracking</b>								
<b>Clinical Waste</b>	<b>1900</b>	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1905</b>	<b>1906</b>	<b>1907</b>
Target	170,732 KG	166,123 KG	162,086 KG	158,344 KG	155,237 KG	152,648 KG	150,484 KG	148,670 KG
Actual/Projected	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
Difference	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
CO2 Savings (Tonnes)	3	6	9	12	14	16	18	19
Cost Savings (Euro)	EUR 2,319	EUR 4,344	EUR 6,117	EUR 7,761	EUR 9,126	EUR 10,263	EUR 11,214	EUR 12,010
<b>Cannula Use</b>	<b>1900</b>	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1905</b>	<b>1906</b>	<b>1907</b>
Target	55,472 Units	53,974 Units	52,662 Units	51,446 Units	50,436 Units	49,594 Units	48,890 Units	48,300 Units
Actual/Projected	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
Difference	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
CO2 Savings (Tonnes)	0.69	1.29	1.81	2.30	2.70	3.04	3.32	3.56
Cost Savings (Euro)	EUR 6,023	EUR 11,281	EUR 15,886	EUR 20,154	EUR 23,700	EUR 26,655	EUR 29,126	EUR 31,197
<b>Entonox</b>	<b>1900</b>	<b>1901</b>	<b>1902</b>	<b>1903</b>	<b>1904</b>	<b>1905</b>	<b>1906</b>	<b>1907</b>
Target	90,629 Litres	88,182 Litres	86,039 Litres	84,053 Litres	82,403 Litres	81,029 Litres	79,880 Litres	78,917 Litres
Actual/Projected	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
Difference	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required	Data Required
CO2 Savings (Tonnes)	1.42	2.66	3.74	4.75	5.58	6.28	6.86	7.35
Cost Savings (Euro)	EUR 71.17	EUR 133.29	EUR 187.70	EUR 238.13	EUR 280.01	EUR 314.90	EUR 344.07	EUR 368.51



Your target 1 year CO<sub>2</sub> saving is 5 tonnes, this is the equivalent of 19,212 ambulance KMs per year.

Your target 5 year CO<sub>2</sub> saving is 64 tonnes, this is the equivalent of 246,832 ambulance KMs.



Your target 1 year saving is €9,647, this is the equivalent of 49 nurse shifts per year.

Your target 5 year saving is €123,413, this is the equivalent of 2 nurse salaries.

# SPOTLIGHT



## Bantry Injury Unit — Small Steps, Big Impact



Bantry Injury Unit has embraced the principles of GreenEM by focusing on practical, staff-led initiatives that enhance sustainability while improving the patient experience. One such example is a low-cost, high-impact wayfinding solution that emerged from collaboration between the Medical Transport Assistants (MTAs) and the local Green Team.

Staff had observed that patients were frequently unsure of how to navigate to the X-ray area, requiring repeated redirection and additional time from clinical staff. At the same time, MTAs noticed a steady stream of single-use plastic bottles being discarded in waiting areas, often destined for general waste despite the availability of recycling options.

In response, the team began collecting these bottles and returning them through supermarket reverse vending machines under the deposit return scheme. The small proceeds were pooled to purchase bright, bear-shaped floor stickers, designed to guide patients clearly and independently to the X-ray department.

The result: reduced confusion, fewer interruptions, improved wayfinding — and a quiet boost to staff morale and environmental awareness.

As one staff member noted, “It didn’t take much — just paying attention, reusing what was already there, and doing something visible and helpful.”

Bantry’s initiative reflects the core ethos of GreenEM: local innovation, environmental mindfulness, and shared ownership of change. The team’s efforts have been recognised as an example of how sustainability and patient-centred care can go hand in hand — even with something as simple as following the bears.

# 6. Implementation

## Roadmap EMP

### (2025–2027)

The following roadmap outlines the phased implementation of the GreenEM initiative across Ireland’s Emergency Departments, Injury Units, and Urgent Care Centres. Developed by the Emergency Medicine Programme (EMP) in collaboration with the HSE Climate Action Office, this timeline supports a structured, achievable rollout of the Playbook, Dashboard, and associated tools.

The roadmap emphasises early engagement, testing, national visibility, and long-term integration into existing reporting systems. While initial participation is voluntary, early adopters will help shape future developments, contribute to national learning, and model success for other sites.

Phase	Milestone	Responsible
Q3 2025	Launch GreenEM QIP Playbook and Dashboard	EMP, HSE Climate Office
Q4 2025	Pilot Dashboard in 3 Sites	EMP GreenEM Leads
Q1 2026	Begin Quarterly Reporting (Voluntary)	All EDs
Q2 2026	Publish National GreenEM Progress Report	HSE & EMP
Q1 2027	Explore Integration into National Platform	EMP & BIU

## 7. Conclusion

The GreenEM Playbook represents a tangible and achievable approach to delivering climate-conscious emergency care in Ireland. It does not aim to burden sites, but to empower staff with tools, examples, and community support.

At its heart, this initiative is about empowering staff to lead meaningful change. By focusing on practical actions—many of which require minimal investment—the Playbook supports teams to eliminate wasteful practices, use resources more wisely, and contribute to a more resilient and responsible health system. This will contribute to the HSE journey to become a net zero health system by 2050.

However, lasting change requires leadership. Protected time and defined roles for sustainability leads at local and regional level will be essential to support planning, drive momentum, and ensure sustainability is embedded into governance structures. The Playbook is not the final word—it is a starting point for collaboration, innovation, and ongoing improvement.

Together, we can shape a model of emergency care that is better for patients, better for staff, and better for the planet.

# Appendices

## A. GreenEM Dashboard - Carbon Calculator Tool

**Tool Objective** To enable EDs, Injury Units, and Urgent Care Centres to measure their carbon footprint from key operational areas, aligned with the GreenEM checklist. This supports informed decision-making, staff engagement, and contributes to the HSE's broader climate action targets.

**Tool Components** The GreenEM Dashboard is a practical, Excel-based carbon calculator developed to support sustainable practice in Irish emergency medicine. It enables EDs, Injury Units, and Urgent Care Centres to monitor and visualise their carbon and cost impacts across key areas of clinical activity. The tool provides a clear, actionable entry point into sustainability tracking for frontline healthcare teams.

Key Features:

### Three-Category Tracking:

- Clinical waste (by bin volume and disposal route)
- IV cannula use (including cost and carbon impact)
- Volatile gas consumption (e.g. Entonox, with emissions and cost calculations)

### Automated Visual Outputs:

- CO<sub>2</sub> reduction vs target
- Financial savings in euros and estimated staff shifts saved
- Trendlines for baseline vs actual performance

### Configurability:

- Site-specific setup (e.g. ED vs IU)
- Annual target setting (default: 5%)
- Optional adjustment for waste disposal methods

### Ease of Use:

- Minimal Excel skills required
- Only green-highlighted fields require user input
- Setup guide and walkthrough included

### Implementation Approach:

- Each participating sites green team is responsible for setup and quarterly data input.
- The tool requires baseline data and ongoing monthly or quarterly updates.
- Results are displayed in a visual dashboard that does not require technical interpretation.

## **Outputs Support:**

- Local progress reviews
- Non-punitive internal comparisons
- Stakeholder presentations (e.g. to hospital management or HSE leadership)
- Alignment with potential national reporting platforms

## **Validation and Design:**

The tool was piloted in diverse emergency care settings and informed by real-world workflow observations. Clinical and operational staff helped refine assumptions and usability features. Calculations are based on international best practice carbon factors, adapted for Irish settings where possible.

The GreenEM Dashboard is a foundational step toward embedding sustainability into everyday clinical decisions. It empowers local teams to track progress, quantify their impact, and contribute meaningfully to Ireland's healthcare decarbonisation goals.

## B. GreenEM Dashboard – User Guide

The GreenEM Dashboard enables Emergency Departments and Injury Units, to track, visualise, and report on key sustainability metrics. Its aim is to support local teams in measuring progress, identifying opportunities for improvement, and contributing to national sustainability targets.

### Getting Started

#### 1. Access and Setup

- Open the Dashboard: Save the Excel file in a secure, shared location accessible to your GreenEM team.
- User Permissions: Only authorised team members should have editing rights to ensure data integrity.

#### 2. Initial Configuration

- Site Details: Select your site name from the dropdown menus.
- Contact Information: Enter details for the Site Manager and GreenEM Lead.
- Project Start Date: Input the date your sustainability project begins.
- Annual Target: Set your annual reduction target.

#### 3. Baseline Data Entry

- Required Metrics: Beta version can handle monthly data for:
  - » Clinical waste (by bin volume and disposal route)
  - » IV cannula use (number procured)
  - » Volatile gas (Entonox) consumption (litres used)
- Data Entry: Input figures in the green-highlighted fields only.

#### 4. Ongoing Tracking

- Regular Updates: Enter new consumption data at set intervals.
- Progress Monitoring: The dashboard automatically updates charts and progress indicators, showing actual performance against targets.

#### 5. Customisation (Optional)

- Cost Parameters: Override defaults if you have site-specific cost data.
- Waste Streams: Adjust disposal methods to reflect local practice.
- Patient Volume: Enter monthly patient numbers for per-patient calculations.



## Dashboard Features

- Visual Outputs: See colour-coded charts for carbon and cost savings, trends over time, and progress against goals.
- Relatable Metrics: Results are displayed in everyday terms (e.g., euros saved, nursing shifts funded, ambulance kilometres mitigated).

## Best Practices

- Backup: Save the file regularly and keep backups in line with your local IT protocols.
- Team Engagement: Share results with your GreenEM team and use dashboard outputs to drive improvement discussions.

## Need Help?

- Technical Issues: Contact your IT support or GreenEM Lead.
- Resources: Refer to the GreenEM Playbook for detailed guidance and best practice examples from other sites.

**Remember:** Your data helps drive real environmental and financial improvements—track regularly, review results, and celebrate your progress!

## C. Alignment GreenEM with HSE Strategic Objectives

GreenEM Area	HSE Priority Area	Strategic Objective (SO)	Alignment Example
Energy & Estates	Sustainable Buildings and Green Environment	SO1 – Reduce energy use and emissions	PC monitor brightness, HVAC controls, LED upgrades
Travel & Transport	Transport and Mobility	SO3, SO4 – Promote low carbon staff/patient travel	Bike-to-work schemes, reduce taxis, active transport
Procurement & Consumables	Sustainable Procurement	SO5, SO6 – Reduce Scope 3 emissions in procurement	Reusable PPE, low-carbon suppliers, waste audits
Medicines & Gases	Greener Models of Healthcare	SO7 – Rational prescribing, lower carbon meds	Inhaler switching, use PO medications, reduced Entonox/ N2O
Waste Management	Water and Waste Management	SO8 – Reduce clinical waste, increase recycling	Waste segregation, reduce single-use items
Behavioural Change & Engagement	Adaptation and Resilience	SO10 – Build climate-literate health workforce	CPD modules, staff engagement

## D. Toolkit for Implementation

The following toolkit resources support local implementation of GreenEM. Each item is designed to align with the Must/Should/Could framework and assist GreenEM teams in operationalising sustainability actions.

### Resource Library

Resource	Description	Format
HSE Poster resources	National Poster Resources HSE for sharing	PowerPoint / PDF
GreenEM Induction Slide Deck	Orientation slides for new staff	PowerPoint
QIP Project Charter Template	A3 or A4 templates for defining and tracking sustainability projects	Word / PDF
Staff Suggestion Campaign Pack	Ideas box signage, WhatsApp wording, and monthly prompt calendar	PDF / Word
Waste Audit Tool	Printable form and Excel calculator for tracking bin segregation audits	Excel / Printable
Green Team Terms of Reference	Sample ToR to formalise your ED sustainability group	Word
Dashboard Setup Guide	Visual walkthrough for dashboard configuration	PDF
Suggested Evidence Guide	Companion guide for the checklist with examples of documentation	PDF
HSE Greener Models of care Framework		PDF

### Implementation Aids

- Daily GreenED Safety Pause Card (printable lanyard size)
- “What’s in the Bin?” Interactive Staff Activity
- Sustainable Procurement Conversation Starters
- Digital Discharge Resources QR Code Templates

### Learning & Networks

- Links to RCEM GreenED Accreditation Guidance
- Links to HSE Land Climate and Sustainability hub

## E. Communications Strategy

Effective communication is essential to embed sustainability in the culture of emergency care. A well-designed internal messaging plan will help raise awareness, boost staff engagement, and foster leadership buy-in.

This section outlines simple, adaptable tools to support GreenEM awareness messaging at all levels among staff.

All communications queries should be directed to [emp@rcsi.ie](mailto:emp@rcsi.ie) and all social media should be use #GreenEM and tag RCSI and HSE.

### Launch Communications

Please see Supporting Materials section - pages 27-36

### Launch Video



<https://www.youtube.com/watch?v=RJFW-0nm-cE>



### Launch Pack

The GreenEM launch pack which will be distributed to all EDs/IUs and emergency care settings, contains a range of tools, including:

- 'How to; videos
- Poster and sticker artwork for key interventions
- Contact details of pilot site leads and central support resources for you to contact for advice, support, and ideas.

Each GreenEM site lead is encouraged to think about and plan their communications strategy to ensure all staff are aware of GreenEM and play their part. Help is available via [emp@rcsi.ie](mailto:emp@rcsi.ie). Teams are encouraged to only introduce one initiative at a time. Leads are encouraged to keep staff up to date on progress.

## Suggested Internal Messaging Themes

Use consistent, positive, and inclusive language when communicating GreenEM activities:

Theme	Sample Messaging
Collective Ownership	“Small actions in our ED add up to big system change.”
Staff Empowerment	“Your ideas are shaping how we deliver sustainable emergency care.”
Patient Safety First	“Our sustainability efforts will never compromise safety — we are improving both.”
Cost and Carbon Link	“Every tonne of waste avoided saves funding and emissions — let’s reinvest wisely.”

## Huddle Scripts

Incorporate sustainability into existing team huddles to build momentum and normalise change.

### Example: Weekly GreenEM Huddle Prompt

“This week’s GreenEM focus: Can we reduce unnecessary cannulation? Last month we used 1,000 cannulas — a reduction of 10% would save €350 and avoid 40kg of carbon. Please consider oral medications when appropriate and think twice before inserting a cannula unless it’s essential.”

## Slide Deck Templates

GreenEM leads are encouraged to include sustainability in local Grand Rounds, team meetings, or management presentations.

### Slide Deck Suggestions Include:

- 1–slide summary of your local GreenEM QIP
- Dashboard screenshot with latest progress
- Must/Should/Could progress tracker
- Top 3 wins & 3 asks for leadership support

### Suggested Titles for Presentations:

- “Greener, Safer, Smarter: The Case for Sustainable Emergency Medicine”
- “From Bin to Bedside: How Our ED is Cutting Carbon and Cost”
- “GreenEM Update: Progress, Plans, and Partnerships”

## Staff Recognition Ideas

- Highlight “Green Champion of the Month” on staff boards or in newsletters.
- Create a “You’ve Been Spotted!” sticker or postcard system for sustainability wins.
- Celebrate audit results (e.g. cleanest bin, lowest energy use zone).

## Information Area

Teams are encouraged to make visible their work and results by using a noticeboard to post all their work and updates and reminders of what they want staff to focus on. This is a space where updates and results can be posted. Remember, it's important to celebrate the wins and good results.

### SPOTLIGHT



#### Introducing Green Ted



The Green team at Bantry IU introduced a new mascot: Green Ted. Dressed in a vibrant green outfit and sporting a friendly face, Green Ted is more than just a cuddly figure—he's a visual reminder of the unit's mission to embed environmental consciousness into everyday clinical practice. His message is clear and compelling: "Watch what you waste!"

Green Ted was launched alongside the unit's first wave of initiatives, which include cutting out single-use disposable cups, reducing unnecessary glove use, and promoting proper recycling. These small but significant changes are designed to reduce environmental impact while maintaining high standards of patient care.

The Bantry team hopes that Green Ted will engage both staff and visitors, making sustainability a visible, shared responsibility within the unit. Staff are encouraged to contribute ideas, and Green Ted is already popping up on social media to spark conversation.

Bantry Injury Unit's creative and proactive approach highlights how even small healthcare sites can lead the way in the Green Emergency Medicine (Green EM) movement—one teddy bear at a time.

## Social media posting

We encourage sites to tag any GreenEM content using #GreenEM and tag RCSI and HSE accounts. This way, we can aggregate content. We encourage sites to contact the sustainability communications team via [emp@rcsi.ie](mailto:emp@rcsi.ie) with any stories or news they would like to communicate.

## F. References & Source Documents

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# Supporting Materials



## GreenEM Dashboard Setup Guide

1. Open the GreenEM Dashboard Excel file.
2. Review the pre-set data categories (energy, waste, engagement, etc).
3. Add your site name and reporting period in the summary sheet.
4. Input baseline data and update monthly using the simple drop-down menus.
5. Use the graphs tab to visualise progress.
6. Share your dashboard at Green Team meetings and submit quarterly data to EMP.
7. Contact [emp@rcsi.ie](mailto:emp@rcsi.ie) for support or template updates



## GreenEM Staff Suggestion Campaign Pack

### Suggested WhatsApp Message

- Got a green idea for our Emergency Department?  
We're looking for practical ways to reduce waste, save energy, and work more sustainably.
- Big or small, your suggestion could make a difference!  
Drop it into the GreenEM Ideas Box or message [Insert Local Lead Name].  
#GreenIdeas #GreenEM

### Monthly Prompt Calendar (Sample)

Sample Monthly Themes to Spark Staff Ideas:

- January – 'Switch it off!' (Energy use)
- February – 'Where's our waste going?'
- March – 'Think before you print'
- April – 'Sustainable transport: how do you get to work?'
- May – 'Cut the single-use' (plastics and PPE)
- June – 'Smart procurement ideas'
- July – 'Green wins from our team!'

### Ideas Box Signage

#### GREENEM IDEAS BOX

We want your ideas for making our Emergency Department more sustainable!  
Drop your suggestions here or send them to [Insert contact/WhatsApp/email].  
No idea is too small. Let's green our care together!



## GreenEM – Green Team Terms of Reference

### Purpose:

To support and lead sustainability initiatives within the Emergency Department, aligned with HSE Climate Action goals.

### Key Objectives

- Coordinate local GreenEM projects.
- Foster staff engagement and awareness.
- Track progress using the GreenEM Dashboard and checklist.
- Liaise with hospital sustainability leads and the National EMP.

### Membership

- Multidisciplinary team members from clinical, admin, and support services.
- At least one designated GreenEM Lead.
- Frequency of meetings: every 6–8 weeks.

### Reporting

- Share updates with hospital sustainability structures and EMP.
- Submit data quarterly via the GreenEM Dashboard.



# GreenEM QIP Project Charter Template

## Project Title

Enter the title of your sustainability project.

## Project Lead(s)

Name(s) and role(s) of those leading the project.

## Date Started

DD/MM/YYYY

## Background / Problem Statement

Describe the issue being addressed and why it matters.

## Aim Statement

What are you trying to achieve? Be specific, measurable, and time-bound.

## Measures of Success

What metrics will you use to track improvement?

## Interventions Planned

Outline the actions or changes you will test or implement.

## Resources Needed

List any support, time, or materials required.

## Stakeholders / Team Members

Who else is involved or affected?

## Timeline

Key milestones or phases over the project period.

## Progress Notes

Space for ongoing reflections, updates, or learnings.

## GreenEM Waste Audit Template



Area Audited	Date	Bin Type	Correct Items (%)	Incorrect Items (%)	Notes
ED Main	2025-07-16	General Waste			
ED Main	2025-07-16	Recycling			
ED Main	2025-07-16	Clinical			
ED Main	2025-07-16	Sharps			



## Suggested Evidence Guide for GreenEM Checklist

**ENERGY:** Photographs of signage, completed switch-off audits, lighting plans.

**WASTE:** Audit results, signage in place, bin training records.

**ENGAGEMENT:** Green Team meeting minutes, induction slides, staff newsletters.

**PROCUREMENT:** Records of sustainable product trials, emails with suppliers.

**QIP:** Completed project charters, data summaries, before/after graphs.

**LEADERSHIP:** Job plans with protected time, governance group minutes

## GreenEM Induction Slides

# Welcome to GreenEM

Building Sustainable Emergency Care



## Why GreenEM Matters

- ▶ Climate change is the biggest global health threat of the 21st century.
- ▶ The healthcare sector contributes ~5% of global carbon emissions.
- ▶ Emergency care is resource-intensive and has a unique opportunity to lead change.
- ▶ Sustainable care is safer, more efficient, and aligned with our duty to patients and future generations.



## What We're Asking of You

- Take small, consistent actions to reduce waste and carbon footprint.
- Use resources wisely—switch off, reduce, re-use, recycle.
- Bring sustainability into everyday decisions—procurement, energy, transport, clinical choices.
- Support and contribute to your ED's Green Team.



## How to Get Involved

- Join our GreenEM or Sustainability Team.
- Suggest an idea—big or small—for how your department could be greener.
- Help with a Green QIP project (ask your local lead).
- Use the GreenEM Dashboard and checklist to track your progress.
- Talk to colleagues and champion change!



## Thank You

- Together we can deliver high-quality care that's good for people and the planet.
- Let's make sustainability part of the way we work—every day.
- 🌍💚 #GreenEM







