

THE GREEN DIVIDEND

Why Sustainable Healthcare is Ireland's Health and Enterprise Opportunity

Executive Summary | Health Innovation Hub Ireland | 2026

Sustainable healthcare has too often been framed as a cost, a compliance obligation, or a long term ambition. This report presents the opposite - evidence of a return. Ireland is strongly positioned to lead one of the most consequential transitions in modern healthcare.

The Challenge

Healthcare systems face a fundamental paradox: the institutions designed to protect human health are themselves significant contributors to the conditions that undermine it. Globally, the health sector accounts for an estimated 5% of total greenhouse gas emissions. Supply chains represent the single largest category, accounting for 70% of healthcare's carbon footprint and nearly four-fifths of total health sector emissions across OECD countries (OECD, 2025). Ireland's health system does not yet systematically measure emissions across all three Scope areas, leaving supply chain carbon largely unquantified. Up to 90% of medical device waste comprises single use disposables, with incineration as the primary disposal route.

5%

global health sector greenhouse gas emissions

70%

of healthcare emissions from supply chains

30 - 50%

cost reduction from remanufactured devices

50 - 60%

CO₂ reduction per device through remanufacturing

The global healthcare sector represents almost 10% of world GDP. Countries that adapt early will benefit from reduced costs, improved compliance and leadership opportunities in sustainable healthcare innovation.

The Opportunity: Evidence from Irish Clinical Pilots

HIHI's inaugural GreenTech in Healthcare Call (2024), delivered with HSE Climate and Sustainability and the Irish College of GPs, identified six high impact innovations. Two completed pilots demonstrate that sustainability and clinical quality are not in tension.

MedFirst Supplies — Safe Clean Box

Closed-cabin pre-cleaning system for reusable medical devices, piloted at the Mater Misericordiae University Hospital.

- ✓ 50% reduction in non-conformances
- ✓ 82% energy reduction vs ultrasonic cleaners
- ✓ 1,200 litres of water saved per day
- ✓ €32,000 annual savings — 2-year payback
- ✓ 160 staff hours saved per year

EccoSpray — Ultrasound Gel Alternative

Refillable fine-mist ultrasound gel system piloted at University Hospital Galway in a high-volume urology outpatient department.

- ✓ 95% reduction in gel volume per scan
- ✓ 100% elimination of single-use gel sachets
- ✓ Zero paper towels required per scan
- ✓ €0.24 saving per scan, €461 annual per dept
- ✓ 500,000 ultrasound scans nationally/year

Across both pilots: clinical outcomes were maintained or improved, staff experience was enhanced, and the business case for sustainable procurement was validated in real world clinical conditions.

Remanufacturing: The Safety and Savings Evidence

Confirmed by the FDA, CADTH and European clinical trials properly remanufactured medical devices present no increased clinical risk compared to original devices. Under EU MDR Article 17, remanufacturers assume full manufacturer liability, ensuring rigorous conformity assessment and post-market surveillance equivalent to virgin devices.

A systematic review by Ireland’s Health Research Board found no additional adverse safety events across all device risk classes (McGrath et al., 2023), confirmed for both high-risk and Class I, IIa, IIb devices (McGrath et al., 2025; 2026).

Vanguard programme at Bon Secours Cork: 150 remanufactured devices generated 25, a 261 kg CO₂ reduction, and zero adverse patient outcomes.

30–50%

Cost reduction vs virgin devices

50–60%

CO₂ reduction per device lifecycle (LCA)

€150k+

Annual savings potential for EP labs alone

11,900+

Hospitals globally using remanufacturing

The Policy and Market Context

The regulatory environment is consolidating rapidly. EU legislation - the Ecodesign for Sustainable Products Regulation, Corporate Sustainability Reporting Directive, and Packaging and Packaging Waste Regulation - embeds circularity and carbon accountability as legal obligations. From April 2027, all NHS suppliers must publish comprehensive Carbon Reduction Plans covering full Scope 1, 2 and 3 emissions. For Irish SMEs for whom the UK is a primary export market, this is an immediate competitive pressure.

The OECD (2025) confirms healthcare procurement is the largest single category of government procurement, and green procurement policy the most consequential lever for reducing supply chain emissions.

Key Recommendations

Realising the full green dividend requires system level commitment from partners who hold the levers of change.

Department of Health

Explore dedicated funding for green procurement pilots generating lifecycle and circularity evidence, with HSE Climate and HIHI GreenTech.

HSE

Support full Scope 1, 2 and 3 emissions reporting, and shape green procurement pilots embedding life cycle costing and circularity criteria

Enterprise Ireland

Design ahead of the EU regulatory curve - from ESPR product passports to NHS full-scope emissions reporting from 2027.

Dept of Climate, Energy & Environment

Include healthcare as a named priority sector in the next Circular Economy Strategy iteration.

Health Innovation Hub Ireland | GreenTech in Healthcare | galvinei@tcd.ie | Full report available at hih.ie