HealthTech Ireland ASSOCIATION | DAVY

White Paper

Driving Sustainability in Health Tech Supply Chains through Procurement – An Irish Leadership Opportunity

Davy Horizons. **Helping you define sustainable solutions.**

About HealthTech Ireland

Ireland's health tech industry provides medical diagnostics, devices and digital solutions to help people live healthier lives. As an independent trade association, HealthTech Ireland have been representing the manufacturers, developers and distributors of health technology products and solutions provided to the health system in Ireland for over 40 years. Their member companies, who all sign up to the MedTech Europe Code of Ethics, include the full spectrum of health technology supply and service companies from Small/Medium Employers to Multi-National Companies, many of whom have research and innovation and /or manufacturing facilities in Ireland. HealthTech Ireland provides a forum for the development and advocacy of policies that support innovation in health technology to address patients' healthcare needs. They are a facilitator for open, trusted discussion and have Memorandums of Understanding (MoU's) with many organisations across the sector including the HSE. HealthTech Ireland believe that they can build on the last 41 years of trusted collaboration, and further embed their approach of working together to embrace sustainable solutions for healthcare provision now and into the future. Collaborating in this spirit of openness, trust and engagement will be central to the success of achieving the ambitions and targets of government, that Ireland, as a country, has committed to, in reducing Greenhouse Gas (GHG) emissions by 51% by 2030 and reaching net-zero by 2050. HealthTech Ireland is also a member of MedTech Europe and the Global MedTech Alliance with access to papers, thought leaders and best practice in a number of other countries.

The HealthTech Ireland Sustainability Working Group focuses on knowledge sharing to support and advocate for a resilient and sustainable healthcare service, and in turn, patients. Along with the HealthTech Ireland board they commissioned this project with Davy Horizons, sustainability consultancy in Davy Group.

About Davy Horizons

Davy Horizons is the independent sustainability consultancy within Davy Group, offering world-class expertise in sustainability services across strategy, implementation, policy and reporting. Davy Horizons work with business, government and not-for-profits across all sectors of the economy and are subject matter experts across Environmental, Social and Governance (ESG) issues. Operating as a trusted adviser to our clients, Davy Horizons support organisations to implement bespoke sustainability solutions to drive long-term success. Davy Horizons are thought leaders on sustainability publishing insights and running events on key sustainability and ESG trends drawing on our extensive international network of experts. For more information visit **davy.ie/horizons** or to get in touch with our experts email **sustainability@davy.ie**

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Executive summary

This report describes how procurement can be a driver for sustainability and the role the health tech sector in Ireland can take in achieving climate change mitigation, the transition to the circular economy and Green Public Procurement (GPP) goals. At present, sustainability policies are not directly focused on creating the regulatory and market conditions to prioritise action and incentivise this sector. Given the significant presence of global and Irish health tech businesses, sustainable procurement presents a leadership opportunity which is currently untapped. HealthTech Ireland and their Sustainability Working Group propose a call for action and collaboration across industry and policymakers to progress next steps. This report summarises the status and evidence base to support this.

HealthTech Ireland and their Sustainability Working Group commissioned Davy Horizons, sustainability consultancy in Davy Group to conduct this research and produce this publication. The report examines the policy context and status of sustainable procurement and its enablers, as well as the current status of related policies on Climate Change, Circular Economy and GPP. It gathers existing international and Irish examples of best practice and makes recommendations for improving sustainable procurement for both policymakers and industry. Key stakeholders including HealthTech Ireland members, procurement leads in the public health sector, and policymakers were engaged to gain a deeper and more nuanced view of the practical application, opportunities and challenges for sustainable procurement within the Irish health tech industry.

This publication is being launched at the HealthTech Ireland Symposium on May 30th 2023 in Ireland, and shared with the National Association Council of MedTech Europe and the MedTech Europe community at the MedTech Forum in Dublin on May 31st 2023 to facilitate evidence based information sharing, collaboration and scaling action.

Key Takeaways

Sustainable procurement provides an important opportunity to decarbonise, reduce resource use and waste. In terms of environmental footprint, globally healthcare systems account for over 4% of GHG emissions and in Ireland, the healthcare sector emits an estimated 5% of the country's GHG emissions. In addition, the sector uses resources, and generates effluent and clinical waste, which is subject to regulated hazardous waste management treatment processes in Ireland. The sector uses a high volume of single use products for hygiene and disease prevention/ infection control, adding to resource use and waste.

Economically, the health tech sector represents a significant footprint, and in Europe alone has grown in value from $8 billion to $41 billion between 2016 and 2021.

While Climate Change, Circular Economy and GPP policies do not prioritise the health tech sector in Ireland yet, upcoming Health Service Executive (HSE) Climate Change Strategy makes for good timing for the health tech sector and policymakers to collaborate to fast-track action. The size of the health tech sector footprint in Irish hospitals across global and Irish brands provides a leadership opportunity.

International best practice in policy, such as that in the UK's NHS and the Danish Healthcare service, plus in industry, such as Philips, HealthBeacon and Boston Scientific, already demonstrate a track record showing the way with business and environmental wins. This is also reflected in leadership examples in Ireland, some of which are illustrated in this report, including Tallaght University Hospital.

Current barriers to action include the under-promotion of the business case for sustainability, lack of education and awareness, and the perceived and real complexities of safety when considering healthcare products. When education and knowledge gaps are addressed, there is a benefit to all in the public health sector.

Collaboration and joined up thinking on green procurement across industry, HSE and policymakers, plus the appointment of a Sustainability Leader in the HSE are key calls to action building on existing stakeholder networks.

1. Introduction

Aims & Scope

The aim of this report is to examine if and how procurement can be a driver for sustainability within the health tech industry in Ireland.

The report examines:

■ The policy context for sustainable procurement and its enablers

■ The current state of play of sustainability policies and GPP in the health tech sector

■ International examples of best practice

■ Recommendations for improving sustainable procurement for both policymakers and industry

The report is aimed at:

■ HealthTech Ireland members, including distributors, manufacturers, diagnostic, digital and service companies and professional associates and MedTech Europe members

■ Purchasers of HealthTech Ireland members, goods and services (Business-to-Business (B2B) and Business-to-Consumer (B2C))

■ Policymakers

Context

On a global average basis, healthcare systems account for over 4% of global GHG emissions[1]. To put this in context, healthcare emissions are similar to other high impact sectors like aviation or shipping. If the healthcare sector was a country, it would be the fifth largest emitter of GHG emissions globally. In Ireland, the healthcare sector emits an estimated 5% of the country's GHG emissions. Approximately 25% of this figure is attributed to manufacturing and transport of medicines alone[2]. The health tech sector also has a significant economic footprint and in Europe has grown in value from $8 billion to $41 billion between 2016 and 2021[3].

1   https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30271-0/fulltext
2   https://www.irishtimes.com/health/2022/11/09/hse-says-health-services-will-be-carbon-neutral-by-2050/
3   https://www.ibec.ie/connect-and-learn/media/2022/11/14/five-fold-growth-in-european-healthtech-over-past-five-years-signals-opportunity

In addition to contributing to climate change, the sector uses resources and generates clinical waste which is subject to regulated hazardous waste management treatment processes under license by the Environmental Protection Agency (EPA) in Ireland. The sector uses a high volume of single use products for hygiene and disease prevention/ infection control, adding to resource use and waste. The sector also contributes to wastewater pollution with research showing that waste from unused medicines represents 10% wastewater pollution in the EU[4].

It's clear the sector is significant in terms of its impact, positive and negative, on people and planet. This presents risks and opportunities for health tech companies, both in Ireland and internationally. Several policies, regulatory and best practice measures are in place or upcoming at a national and EU level that will further drive the sustainability performance improvement of HealthTech Ireland members. These relate to decarbonisation, a shift to the circular economy to prevent and minimise waste, and GPP.

For example, the Health Service Executive (HSE) has committed to achieving net-zero in Ireland's healthcare sector no later than 2050[5] with a climate change strategy drafted. GPP will be key mechanism for achieving this target, as the HSE is the largest purchaser in the state and has a procurement spend of approximately €4 billion on goods and services on an annual basis.
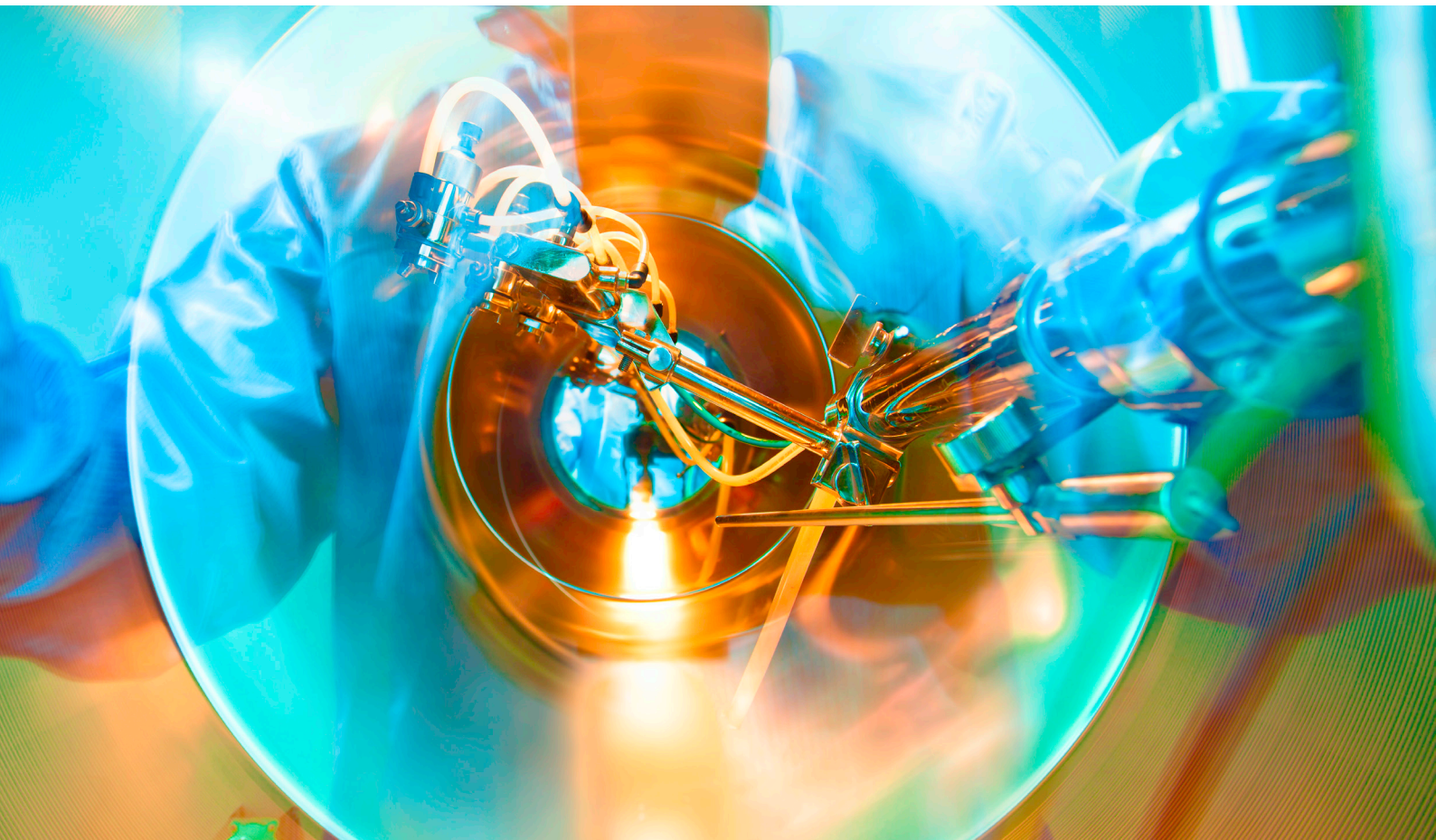
4   https://saicmknowledge.org/sites/default/files/publications/position_arzneimittel_englisch.pdf
5   https://www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/climate-change-and-health/

Sustainable Procurement as a Solution

Sustainable procurement is a clear driver for sustainability across all actors in the healthcare industry by encouraging better sustainability practices in the supply chain throughout the life of a product from manufacture through to distribution, use and end of life recovery or disposal.

National governments, along with the United Nations, are the largest purchasers in the global health sector market, which highlights the key role of public procurement in helping to make the sector more sustainable and reducing emissions[6]. Global and local sustainable development can be improved by increasing sustainable procurement practices in the healthcare sector[7].

In terms of demand, Irish Doctors for the Environment estimate that circa 78% of Ireland's GHG emissions in healthcare are covered by procurement[8]. This highlights the business case for clear, ambitious, and informed sustainable procurement practices by government, and other organisations throughout the supply chain. Clear communication, knowledge sharing and collaboration between stakeholders was identified as vital to the development and successful execution of this. Stakeholders across the healthcare system include but are not limited to manufacturers, suppliers, industry groups and member bodies, the HSE, hospitals, clinics and medical professionals, policymakers and government. Looking at the UK as an example, the NHS has estimated that over 60% of NHS GHG emissions occur within its supply chain of more than 80,000 suppliers, with medical and non-medical equipment contributing 18% of this[9]. The NHS therefore logically considers its own purchasing power as a key enabler for reducing emissions throughout the healthcare supply chain.

What is Sustainable Development

Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

(Source: Sustainable Development Commission[10])

What is Sustainable Procurement

Sustainable procurement is the integration of ESG principles into your company's procurement processes and decisions while ensuring they still meet the requirements of your stakeholders.

Sustainable procurement integrates specifications, requirements and criteria that are compatible with the protection of the environment and society as a whole. It encompasses many issues beyond, for example, child labor or the use of harmful chemicals that can affect people or the environment.

(Source: Ecovadis[11])

6   https://www.undp.org/sites/g/files/zskgke326/files/publications/undp-SPHS-bpps-health_Sustainable_Health_Procurement_ Guidance_Note.pdf
7   https://www.sciencedirect.com/science/article/abs/pii/S0959652617311964
8   https://www.irishtimes.com/health/2022/11/09/hse-says-health-services-will-be-carbon-neutral-by-2050/
9   Delivering a 'Net-Zero' National Health Service, NHS
10   What is sustainable development · Sustainable Development Commission (sd-commission.org.uk)
11   https://ecovadis.com/glossary/sustainable-procurement/

Sustainable procurement is designed to create the market "push" by policy and law and "pull" from market incentives to drive sustainable behaviour change in the economy. By adopting sustainable procurement policies, strategies and practices, health systems, governments and international development actors can be drivers for a significant shift towards inclusive, green economies. Sustainability attributes linked to products and services not only help reduce the environmental footprint of healthcare but can also bring economic savings and logistic benefits for organisations, by reducing the cost of waste disposal, delivery costs, energy use, the patient pathway, patient and visitor journeys, and capacity needs.

With this increased focus on sustainable procurement, health tech suppliers would be prudent to have sustainability embedded throughout their own sourcing, manufacturing, organisational, waste management and distribution processes. These sustainability practices must also be reflected in the company's reporting and disclosures, as well as their tender responses. Many international health tech companies operating in Ireland are already taking these actions. Holistic action should be taken by healthcare bodies beyond price alone to incorporate sustainability best practice when procuring. In addition, sustainable procurement in the healthcare sector can help to drive positive health impacts for patients, communities, and the environment.

Enabling Transformation

Effort from multiple actors across supply chains is needed to achieve a more sustainable healthcare system in Ireland. HealthTech Ireland and its members are key enablers supporting the delivery of more sustainable procurement. HealthTech Ireland has 140+ member companies segmented into 6 key areas:

- Diagnostic

- Distributor

- Manufacturer

- Digital

- Service Company (offering clinical/consultative service to healthcare sector)

- Professional Associate

Key groups within HealthTech Ireland membership which can support the delivery of sustainable procurement are distributors, manufacturers and digital companies:

- Distributor members supply the full complement of what a hospital needs to operate, diagnose, and treat – from consumables, to equipment, furniture, scanning technology and operating theatre infrastructure. Some distributors also provide after sales support to their customers.

- Manufacturer members, most of whom are also supplying global markets, supply a wide range of products, including cardiac, respiratory, and imaging. Overall, HealthTech Ireland members represent the supply of 90% of equipment sales to the Irish health system.

- Digital members are an expanding and vital category supporting sustainability solutions through data management and technology.

HealthTech Ireland and their membership can use the evidence in this report to support informed decision making and co-create solutions offering value to all. HSE, hospitals, clinics and other stakeholders can work together to ensure clarity and transparency on the guidelines for implementation of sustainable procurement that are meaningful, achievable and motivational for all sizes of company in the sector.

2. Methodology

A combination of primary and secondary research was undertaken in the development of this report. A desktop study was undertaken to understand the policy context for sustainability in the health tech sector, the gaps and opportunities in this area, and the pivotal role that procurement could play in driving sustainability solutions. Key stakeholders including HealthTech Ireland members, procurement leads in the public health sector, and policymakers were engaged to gain a deeper and more nuanced view of the practical application of sustainable procurement within the Irish healthtech industry.

As part of the stakeholder engagement process, a survey was issued to the HealthTech Ireland sustainability and procurement working group members to understand the current state of play of sustainable procurement in the industry. In addition, one-on-one interviews were conducted with key industry and policymaking stakeholders. A list of stakeholders who contributed to the report can be found in the Appendix.

3. Policy context

The requirement for sustainable procurement in Ireland is being driven by policy and legislation impacting both the private and public sector. There are several policy drivers for more sustainable procurement practices within the health tech sector including the incoming Irish HSE climate change strategy, GPP and the move to a more Circular Economy.

HealthTech Ireland members are and will continue to be subject to specific EU, UK and Irish sustainability policy, law, and guided by best practice at a company level. These include alignment with best practice frameworks like the UN Sustainable Development Goals, measuring and managing GHG emissions, energy efficiency, waste, pollution, diversity and inclusion, and environmental management. Incoming requirements for European based companies, from plcs to SMEs, are being introduced on a phased basis from 2024 onwards and will mandate disclosure and reporting under the EU's Corporate Sustainability Reporting Directive (CSRD). In addition, the incoming EU Corporate Sustainability Due Diligence Directive (CSDDD) will mandate due diligence on responsible sourcing in value chains covering human rights, modern slavery, decarbonisation, and good environmental management.

Figure 1: UN Sustainable Development Goals

Source: The Global Goals, UN

The key policy drivers are summarised in the sections below.

Climate Change and HSE Strategy

To meet Ireland's climate change targets to reduce GHG emissions by 51% by 2030 and achieve net-zero emissions by latest 2050, the Irish Government's Climate Action Plan 2023 defines the reductions required across sectors of the economy[12].

The Climate Action Plan 2023 (the Plan) sets out how *"Ireland can accelerate the actions required to respond to the climate crisis and to put climate solutions at the centre of Ireland's social and economic development"*. Figure 2 outlines the key sectors that the Plan is focusing on.

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12   https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023/

Figure 2: Climate Action Plan 2023[13]

Source: Ireland's Climate Action Plan 2023

The Plan specifies the percentage reduction across energy, agriculture, buildings, transport and other industries within which health tech is included. The Plan does outline the role of the health sector and the importance of the HSE and their upcoming Climate Action and Sustainability Strategy (2022-2050). However, the Plan does not identify the health sector as a priority sector on GHG emissions reduction.

The HSE's Climate Action and Sustainability Strategy (2022-2050) is being developed through a Steering Group, convened on 30 May 2022 and with participation from a range of relevant policy stakeholders including the Department of Health's Climate Change Unit.

The draft version of the HSE's Climate Action and Sustainability Strategy and its associated implementation plan has yet to be published. Therefore, it is difficult to say how it will approach sustainable procurement in practice. However, the Climate Action and Sustainability section of the HSE, National Service Plan published in March 2023[14] states that the HSE aims to become a *"healthcare service that is both environmentally and socially sustainable and one that leads by example on climate action."* This commits to supporting Ireland's Climate Action Plan and progressing the implementation of the HSE Climate Action and Sustainability Strategy 2022-2050.

Key actions include:

- Establish a Programme Office and wider governance structures

- Deliver on the key 2023 actions and commitments in the strategy and associated implementation plan

- Deliver actions outlined in the HSE Infrastructure Decarbonisation Roadmap, to achieve the energy related carbon reduction targets

- Deliver on staff and community engagement by providing communication, awareness, and training to proactively engage with HSE staff as agents for sustainable change

- Deliver on measures and report on key metrics and internal benchmarks

- Establish baselines where these are not known and set targets to continually improve and publicly share progress

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13   https://www.gov.ie/en/publication/7bd8c-climate-action-plan-2023
14   HSE, National Service Plan - National Service Plan 2023, 24 March 2023

In 2022, HealthTech Ireland representatives were invited to join the HSE Climate Action and Sustainability Procurement Working Group to provide industry feedback and insights on the creation of the procurement sustainability strategy. On release of the draft strategy to the working group, a roundtable with members was held to brief them on the collaborative work with the HSE procurement team. Subsequently, a policy position paper was submitted in response, outlining feedback from representative companies from across the sector on the HSE's draft Climate Action and Sustainability Strategy. HealthTech Ireland members greatly welcomed this collaborative approach and engagement. The HSE plans to establish a sustainability Programme Office and the pending HSE Climate Action and Sustainability Strategy could be suitable timing to progress engagement on the opportunity that green procurement from the health tech sector could provide. Learnings from the roll out of the UK NHS's "Delivering a Net Zero NHS" Strategy, shown in the following case study indicate that procurement from the healthtech sector covers 18% of the NHS's total GHG emissions. This provides a strong precedent for the potential role health tech procurement can play in Ireland's HSE decarbonisation.

Case Study: The National Health Service, UK – "Delivering a Net-Zero NHS"

NHS

In October 2020, the NHS became the world's first health service to commit to reaching net-zero by 2040 in response to the profound and growing threat to health posed by climate change.

The NHS has estimated that over 60% of NHS GHG emissions occur in its supply chain of more than 80,000 suppliers. The NHS therefore considers its own purchasing power as a key tool in reducing emissions throughout the healthcare supply chain. The NHS has identified that its supply chain related to medicines, medical equipment, and other sources accounts for 62% of the NHS's GHG emissions with medical and non-medical equipment contributing 18% to NHS emissions.
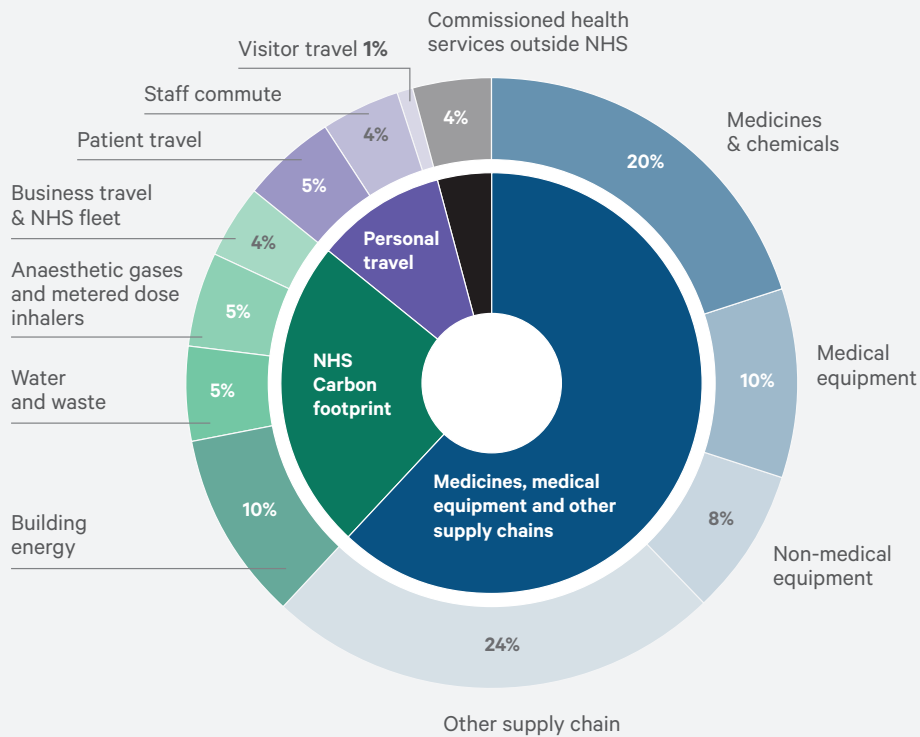
The NHS aims to achieve GHG emissions reductions through:

- Improving efficiency of resource use

- The substitution for lower carbon alternatives where available

- Ensuring that suppliers are decarbonising their processes

Through the supplier decarbonisation process the NHS has committed to also recognise and support SMEs and their unique position when it comes to requirements around decarbonising supply chains and continuing to supply the NHS.

Source: Delivering a 'Net-Zero' National Health Service, NHS[15]

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15   https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf

Green Public Procurement (GPP)

The EU Public Procurement Directive (2014/24/EU) encourages purchasing authorities to move away from price-only criteria towards Most Economically Advantageous Tendering (MEAT). The Directive introduces the concept of lifecycle costing to capture all impacts of the product – from raw materials to its end-of-life. Sustainability can be used both as screening and awarding criteria in tenders.

In Ireland the government has focused on the requirement for GPP, where organisations spending public money seek to source goods, services or works with a reduced environmental and social impact. GPP has been a key feature of the Climate Action Plan 2019, 2021 and 2023. The current Irish government has committed to mandate GPP in all tenders using public funds. This is expected to be implemented in 2023.

The EPA published guidance on green procurement for the public sector in September 2021 including practical resource tools to help procurers to build green criteria into their public tenders. As well as having a generic guidance publication, the EPA has also produced procurement guidelines and criteria for 10 key sectors of the economy, as defined by the EU. The current sector-specific guidance and criteria are not directly related to the Irish healthtech sector. This is a policy and sector guidance gap.

The HSE is the largest purchaser in the state and has a procurement spend of approximately €4 billion on goods and services on an annual basis.[16] Procurement activities take place within a regulated environment underpinned by complex EU and national legislation. The principles of GPP are embedded into the HSE's procurement objectives to *"facilitate environmental, societal and economic objectives through procurement[17]"* and identified in their Corporate Procurement Plan 2022-2024[18]. In this plan they have committed to adjusting the HSE's evaluation criteria to give appropriate weighting to products and services that assist the HSE in delivering these objectives. The HSE has indicated that it welcomes engagement with suppliers to help them understand how to best achieve this objective while also operating within existing overall total cost levels.

The Department of the Environment, Climate and Communications plans to publish a revised national GPP strategy around mid-2023, which will ask all sectors to do more, and there is consultation planned on this during Q2.

16   https://www.hse.ie/eng/about/who/finance/nationalfinance/procurement/
17   HSE Procurement Policy: Primary Objectives Procurement Policy: Primary Objectives - HSE.ie
18   HSE Corporate Procurement Plan 2022-2024 HSE Corporate Procurement Plan 2022 - 2024

As part of the new strategy the Department has indicated that it envisages future engagement with the EPA to expand the scope of its guidance and criteria, though a final decision on this remains to be taken. Given the complexity of health procurement (beyond the categories common to all public sector bodies) with decision-making being driven by clinical requirements, further consideration is required on whether and how to bring this into the scope of any updated guidance.

Learnings from the NHS outlined in the next case study, *The NHS, UK – Net-Zero Supplier Roadmap,* show a clear roadmap for implementation of sustainable procurement practices. A key policy commitment from the NHS is that from 2030 onwards it will only work with suppliers that can demonstrate progress against GHG emission reduction targets through continuous reporting cycles. If a similar approach to sustainable procurement was adopted by the HSE, it would put pressure on the health tech sector to calculate their GHG emissions and set credible reduction targets.

Case Study: The NHS, UK – Net-Zero Supplier Roadmap

NHS

The NHS has made a strong commitment to green procurement in the statement that *"before the end of the decade, the NHS will no longer purchase from suppliers that do not meet or exceed our commitment to net-zero"*. To bring suppliers on this journey, the NHS has outlined the below roadmap and milestones that suppliers will be required to meet. The particular challenges for SMEs and Voluntary, Community & Social Enterprises (VCSEs) in meeting these requirements, has been recognised and extra support from the NHS, as well as a two-year grace period in meeting milestones will be available for those organisations.

From April 2022:	From April 2023:	From April 2024:	From April 2027:	From April 2028:	From April 2030:
All NHS procurements will include a minimum 10% net-zero and social value weighting. The net-zero and social value guidance for NHS procurement teams will help unlock health-specific outcomes.	For all contracts above £5 million per annum, the NHS will require suppliers to publish a Carbon Reduction Plan for their UK Scope 1 and 2 emissions and a subset of scope 3 emissions as a minimum. The Carbon Reduction Plan (CRP) requirements for the procurement of NHS goods, services and work guidance outlines what will be required of suppliers and how it will be implemented.	The NHS will extend the requirements for a Carbon Reduction Plan to cover all procurements.	All suppliers will be required to publicly report targets, emissions and publish a Carbon Reduction Plan for global emissions aligned to the NHS net-zero target, for all of their Scope 1, 2 and 3 emissions.	New requirements will be introduced overseeing the provision of carbon foot printing for individual products supplied to the NHS. The NHS will work with suppliers and regulators to determine scope and methodology.	Suppliers will only be able to qualify for NHS contracts if they can demonstrate their progress through pubished progress reports and continued GHG emissions reporting through the Evergreen sustainable supplier assessment.

Source: Delivering a 'Net-Zero' National Health Service, NHS[19]

19   https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf
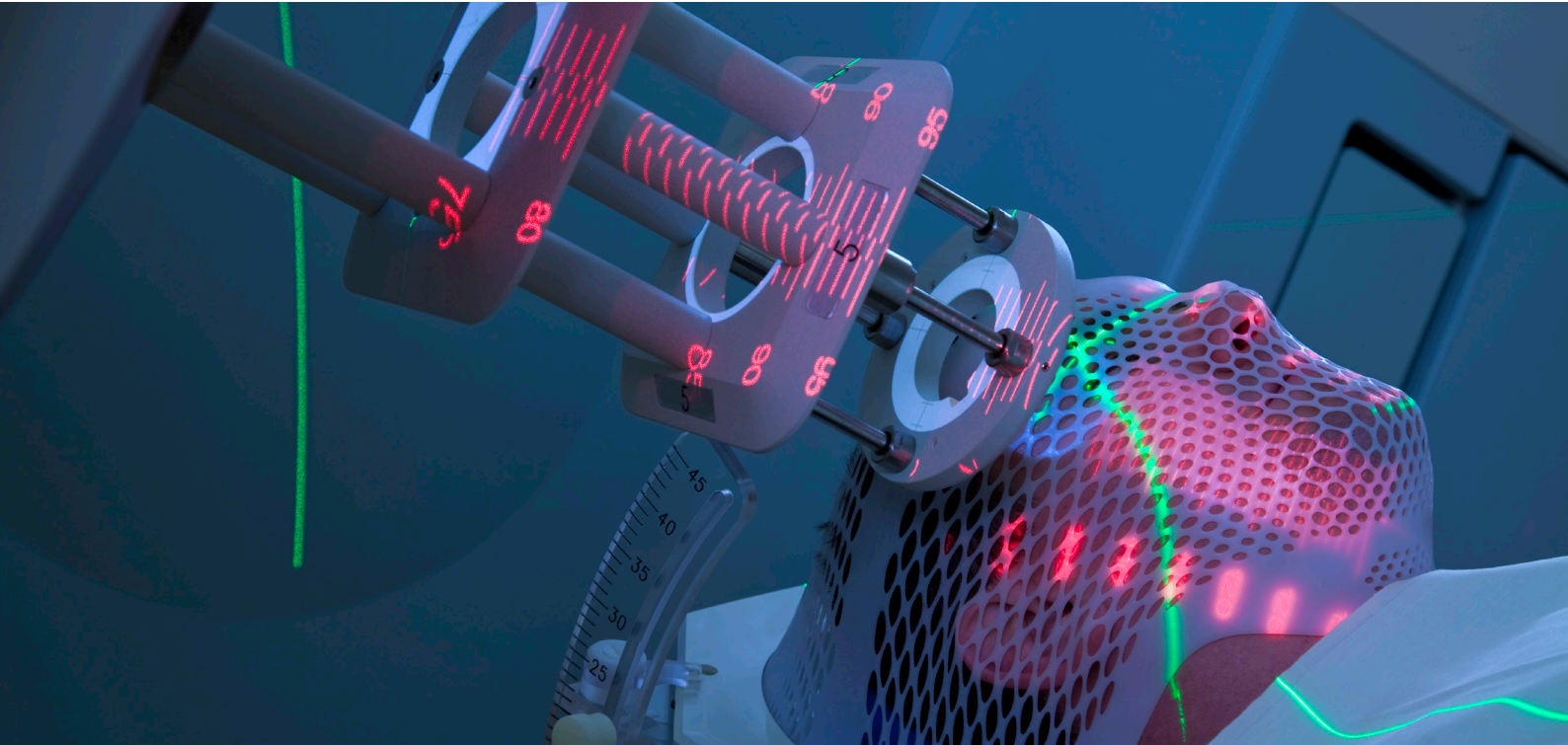
Circular Economy

The Circular Economy is a concept and policy providing an alternative to today's 'take-make-waste' linear business models which are resource intensive and focused on "Single Use" products that generate significant volumes of waste. Circular Economy models keep products in use as long as possible, and can be achieved through sustainable design principles, reuse, repair, remanufacturing, recycling, and innovative business and contracting models, such as sharing, renting or offering products as a service. Circularity is an important criterion for sustainable procurement practices since products designed using circular principles typically have lower environmental impacts.

In the EU and Ireland, the move to the circularity is being driven by the Circular Economy Action Plan and supporting sustainable product legislation across high impact products. The Circular Economy Action Plan[20] addresses the entire life cycle of products including how products are designed, embedding circular principles in raw material choices, production processes and empowering customers and public buyers to partake in sustainable consumption.

At all stages of the value chain the aim is to ensure that resources and value are maximised, and waste is minimised and prevented. Eco-design principles to embed this approach in design and manufacture are considered best practice. The EU Circular Economy Action Plan prioritises guidance for the following product value chains.

Figure 3: EU Circular Economy Plan - Priority Product Value Chains

Source: EU Circular Economy Action Plan

Key products relevant to the health tech sector include electronics like medical devices, information and communication technologies (ICT), and plastics. For electronics and ICT there is a focus on implementing the "right to repair" legislation including a right to update obsolete software. For plastics, mandatory requirements for recycled content and waste reduction measures for key products are upcoming, with a key focus on the use of fully biodegradable or compostable plastics meeting the EN13432 Standard[21] and the Single Use Plastics Directive[22] which aims to eliminate high impact Single Use Plastics.

Medical diagnostics in some leading HealthTech Ireland member corporations like Philips Healthcare are already incorporating an eco-design approach providing equipment which is low impact, can be leased, upgraded, and recycled to maximise its value. This also has commercial benefits for the user as illustrated in the following Philips Healthcare case study.

20   https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

21   https://www.en-standard.eu/bs-en-13432-2000-packaging.-requirements-for-packaging-recoverable-through-composting-and-biodegradation.-test-scheme-and-evaluation-criteria-for-the-final-acceptance-of-packaging/?gclid=EAIaIQobChMI85X_44GQ_gIVz4BQBh2rxAsPEAAYAiAAEgLfw_D_BwE

22   https://environment.ec.europa.eu/topics/plastics/single-use-plastics_en

Case Study: Philips Healthcare – Servitisation Business Model

PHILIPS
Healthcare

Philips are innovators in sustainable design and the servitisation business model - using their products to sell "outcomes as a service" as distinct from one-off sales. Philips have identified that there is value in maintaining ownership of their products. By creating a product whose components are built to be reused, the value of the product is not lost. By ensuring that the product is returned to the manufacturer, the parts can be reused to make new products or can be repaired and resold thus creating additional revenue. Undertaking this model closes the loop on circularity, benefiting the manufacturing company as well as the buyer. By maintaining ownership of its resources and potential additional revenue, it also benefits the medical consumer by ensuring high quality products that are maintained and serviced by the manufacturer.

Philips have a Diamond Select offering, where they refurbish medical equipment at a lower cost making healthcare equipment more affordable. This approach extends product life through managed services. The Diamond Select program typically provides 20% or more savings compared to the price of new equipment. The challenge with refurbished projects is the perception within the procurement industry that only new projects are viable. A barrier is the incoming equipment manufacturer is responsible for the disposal of the old equipment. Therefore, current procurement processes can prevent or delay closing the loop on circularity and shifting the needle on sustainability within the health tech sector.

In order for circular projects like Phillips Diamond Select range to succeed at a national and global scale, procurement strategies, processes and perceptions need to change. A more holistic approach is required not only for waste generation but from an ownership, refurbishment and cost approach. A product service system model where products are leased on contract and include end of life upgrades and waste management is operating in other sectors like Optical Coherence Tomography (OCT) with environmental and commercial gains. For suitable products like medical devices a similar model is possible for the health tech sector if perceived barriers can be overcome and awareness of the business case made.

Circular Economy policy in Ireland is outlined in the Circular Economy Bill (March 2022), 2021 Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' and 2020 Waste Action Plan for Circular economy.[23] Neither the Circular Economy Strategy nor Waste Action Plan reference the healthcare sector directly. This is a current gap.

For the health tech sector, the circular economy presents an opportunity for procurers of certain products – whether medical diagnostic electronics, ICT and reusable products that do not require clinical waste disposal. There are also opportunities for products that do require clinical waste disposal to become more circular, an example of this is illustrated in the HeathBeacon case study below.

23   https://www.oireachtas.ie/en/bills/bill/2022/35/
https://www.gov.ie/en/publication/b542d-whole-of-government-circular-economy-strategy-2022-2023-living-more-using-less/
https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/

Case Study: HealthBeacon's Circular Sharps Bin – Disrupting the Injection Waste Model

The World Health Organisation (WHO) estimates that over sixteen billion injections are administered globally every year with a high proportion of the associated waste being incinerated or sent to landfill, along with the plastic sharps containers that they are in, contributing to the planet's growing waste and emissions problems.

HealthBeacon is a medication adherence technology company which develops smart tools for managing medication. HealthBeacon's FDA-cleared Smart Sharps Bin has been developed for the home-injection market, and tracks patient injections, provides personalised interactive dose reminders and safely stores used injections. In addition to promoting better health outcomes, the device increases patient adherence which means less medication going to waste. This is the first step in sustainability for injection devices.

A Circular Model
From inception, HealthBeacon was in the practice of refurbishing and redeploying their Smart Sharps Bins in a circular manner. As the company grew, they turned their focus to addressing the wider challenge of injection waste from the home user, exploring how they could better manage their device's internal single-use sharps bins. To do this, HealthBeacon built a specialised waste processing facility in Dublin, Ireland called HB Green Labs, to allow recovery and reuse of their sharps bins and to manage the injection waste in a more sustainable way.

HB Green Labs Solution
For HealthBeacon to recover their internal sharps bins and put them back into circulation, they developed a take-back program, and an 8-step process for recovering and sterilising their internal sharps bins and then applied for their waste licence. The first HB Green Labs was completed in 2020 and became fully operational in early 2022. A second facility in Florida was completed in 2022 and became fully operational in early 2023. By recovering their sharps bins and reusing them, they are able to avoid the GHG emissions used in creating, shipping and destroying these bins, and to keep them in circulation. In addition, HealthBeacon is continually exploring the best recovery, remanufacturing or recycling options for the injectors themselves through their internal R&D department and through collaborations, with circularity and producer responsibility always in mind.

Responsible Sourcing and Reporting in Value Chains

A key piece of incoming legislation that will drive sustainable procurement practices within businesses is the EU's Corporate Sustainability Due Diligence Directive (CSDDD).[24] The CSDDD is due to come into effect in 2025 and will require large and plc health tech companies to integrate sustainability due diligence into their corporate governance processes to prevent and mitigate adverse impacts on human rights and the environment. SMEs are not directly in scope of this proposal. However, the proposal includes accompanying measures which will support all companies, including SMEs, that may be indirectly affected. Measures include the development of individually or jointly dedicated websites, platforms or portals and potential financial support for SMEs.

The CSDDD will establish a corporate due diligence duty for company directors to identify, prevent, mitigate, and provide traceability for negative human rights and environmental impacts in the company's own operations, their subsidiaries and their value chains. Third party verified benchmarking schemes like EcoVadis[25] are already well used in the health tech sector to rate suppliers on sustainability performance. HealthTech Ireland members including Novartis and Medtronic have this as a basic supplier requirement.

What is EcoVadis?

ecovadis

EcoVadis operates an evidence-based online platform, providing supplier sustainability ratings and allowing companies to assess the ESG performance of their global suppliers. It considers a range of sustainability issues, which are grouped into four themes: 'Environment', 'Labour & Human Rights', 'Ethics', and 'Sustainable Procurement'.

The central objective of the rating provided by EcoVadis is to measure the quality of a company's sustainability management system through its policies, actions, and results. Providing supporting documentation is a key part of the assessment.

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24   https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1145
25   https://ecovadis.com/

4. Health Tech industry

The Irish health tech industry is made up of different types of companies that differ in size and purpose. They each have their own unique drivers, blockers, and enablers for delivering on sustainability. HealthTech Ireland has 140+ member companies 30% of which are manufacturers, 26% distributors, 22% digital, 8% service companies, 8% professional associates and 6% diagnostics.

Following engagement with both industry and policy stakeholders, gaps and opportunities across five key pillars have been identified where the healthtech sector can play a role in enabling sustainable procurement within the healthcare sector – climate change, collaboration to scale, resources, education and awareness, GPP and the Circular Economy.

Climate Change – Supports to Decarbonise

Several HealthTech Ireland members such as Abbott, Boston Scientific, Microsoft, and Novartis have validated emissions reduction targets through the global best practice Science-Based Targets initiative (SBTi)[26] and have disclosed their Climate Transition Plans aligned to halting global temperature rise at 1.5 degrees Celsius.

Having a clear and credible GHG emission reduction trajectory will become more and more essential to companies in the health tech sector when selling their products or services as public bodies and other companies create their own GHG emission reduction plans and targets.

Although the exact requirements for sustainable procurement in the HSE's updated strategy are not clear yet, it is likely that there will be an expectation for suppliers to have credible GHG emission reduction targets in line with the HSE's strategy. Many HealthTech Ireland members also sell their products and services into the UK's NHS and already know that they need to comply with current and upcoming requirements for NHS suppliers to have carbon reduction plans with a sustained performance against their GHG emissions reduction targets by 2030, as outlined in the case study in Section 3.

As well as pressure from the public sector to decarbonise, HealthTech Ireland members will also experience pressure from their B2B customers to be doing more to reduce their GHG emissions. For example, a large number of health tech distributor businesses are increasingly being asked to decarbonise their fleet by their customers. Value chain engagement will accelerate further with the introduction of the CSDDD in 2025 when company directors will have increasing responsibilities for mitigating sustainability related risks in their own operations and those of their supply chains.

Industry collaboration is a key enabler for the health tech sector to encourage decarbonisation along the value chain. As health tech companies strive to decarbonise their product offerings, distribution and supply chains, they will need support, regulatory reform and new partnerships to execute and innovate. The introduction of lower emission raw materials will also be central to the success of this.

Collaboration to Scale

There are some already established industry collaborations such as the Alliance to Zero (see following case study) and the Sustainable Healthcare Coalition. The HealthTech Ireland membership platform offers a unique opportunity for the industry in Ireland to collaborate given its track record and broad reach.
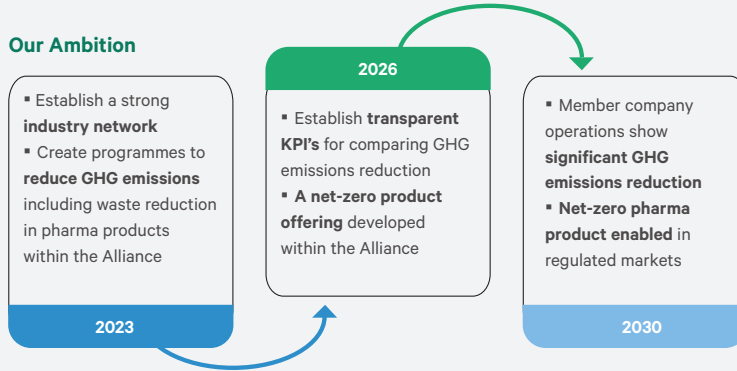
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26   https://sciencebasedtargets.org/companies-taking-action

Case Study: Alliance to Zero

Alliance to Zero

Enabling Net-zero Pharma Products

Overview:

Our Ambition

2023
- Establish a strong **industry network**
- Create programmes to **reduce GHG emissions** including waste reduction in pharma products within the Alliance

2026
- Establish **transparent KPI's** for comparing GHG emissions reduction
- **A net-zero product offering** developed within the Alliance

2030
- Member company operations show **significant GHG emissions reduction**
- **Net-zero pharma product enabled** in regulated markets

The Alliance to Zero is a supply chain initiative pioneering solutions to facilitate the pharma sector's transformation of products to comply with a 1.5°C future.

Background

In 2021, eight like-minded companies representing the supply chain for injection devices came together to discuss how to decarbonise these complex products, and jointly founded the Alliance to Zero.

raw material	device production	distribution & use	end of life
Primary packaging & device components	Fill & finish assembly — Secondary packaging		Collection
DÄTWYLER, YPSOMED SELFCARE SOLUTIONS, SCHOTT PHARMA	Harro Höfliger, schreiner MediPharm, Sharp	KÖRBER, Sharp	HEALTHBEACON
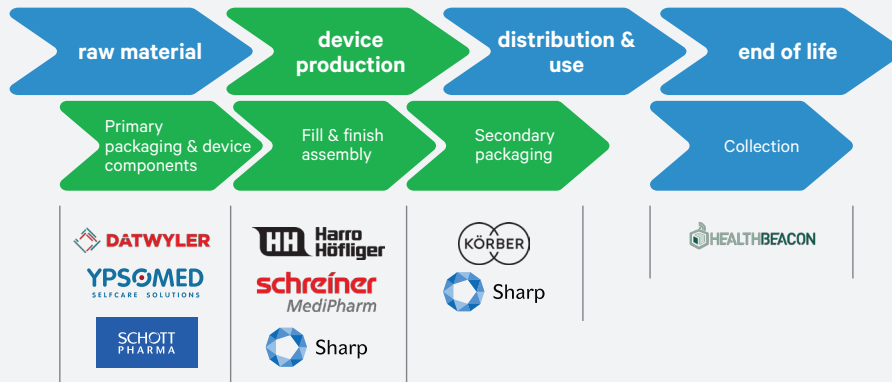
Progress

The Alliance agreed on a long-term ambition for enabling the production of a net-zero injectable product by the year 2030. To achieve this, an LCA was conducted on a sample auto-injector, and from that work a methodological guideline for the product carbon footprint (PCF) assessment of automated disposable injection devices was created. Once the autoinjector LCA was complete, the Alliance was able to clearly identify where their member company activities were contributing to 'hotspots' on a carbon map for the device. From this, the Alliance identified the priority intervention opportunities for each member company.

Case Study: Alliance to Net-zero (Continued)

Moving to circularity

Through the LCA, the Alliance recognised that the linearity of the supply chain is responsible for >50% of the emissions, and now aims to transform this 'take, make, waste' linear supply chain model to a circular model. This will take significant collaboration across the supply chain and beyond including with pharmaceutical regulatory authorities, universities, customers and competitors.
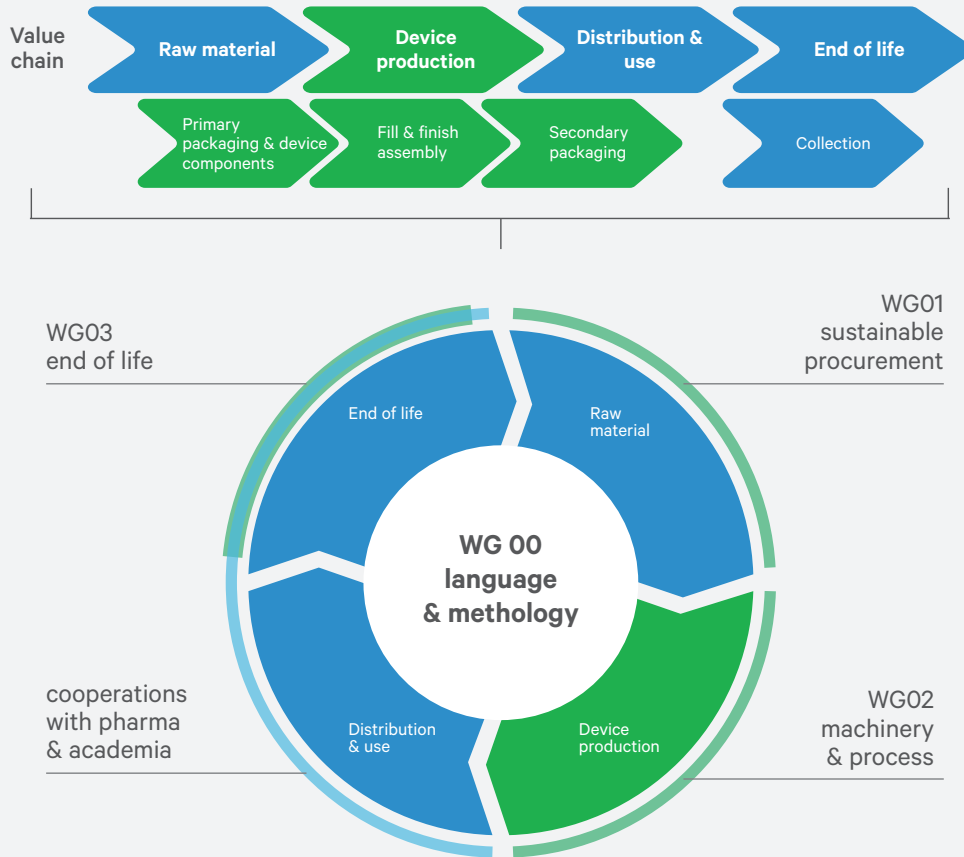
Looking forward

The Alliance believes that the industry needs to transform their capabilities to deliver on collection, disassembly, material separation & remanufacturing/recycling and to begin to think of waste as a resource and to design devices for recycling and disassembly.

The Alliance to Zero has identified more than 55 actions for its members which have the potential to decrease the GHG emissions in its current representative device by 70% overall. Most of these interventions will require supply chain collaboration. The same is true for all industries who have the ambition to achieve net-zero.

Resources, Awareness and Education

Another key barrier identified by HealthTech Ireland members for implementing sustainable procurement practices in their organisations is a lack of dedicated and knowledgeable resources to work on sustainability. There is also a lack of awareness and goal alignment in terms of sustainability efforts internally between teams. This is a common issue for organisations of all types at the moment and is not unique to the health tech industry. One option for overcoming this barrier would be to grow capabilities and sustainability education supports. This could be done through HealthTech Ireland's existing education facilitation service, with additional supports and planning.

Green Public Procurement (GPP) Driver and Supports to Prepare for Tender

The Irish public health sector is the largest domestic customer base for most heath tech companies operating in Ireland.

As discussed, GPP requirements are starting to be implemented into tenders in the public health sector in Ireland. However, without the implementation of the incoming HSE Climate Action and Sustainability Strategy, the current GPP approach to implementation of sustainability criteria on tenders is unclear. For the most part sustainable procurement is starting as a hospital level initiative with some, such as Tallaght University Hospital (TUH) as outlined in the next case study, implementing green criteria into tenders to help them achieve their own sustainability objectives.

Incorporating sustainability criteria into tenders and procurement in this way shows suppliers the importance of sustainability to key buyers and is an important indicator of the direction of travel. Future guidance from the HSE on sustainable procurement practices would encourage the inclusion of sustainability criteria in evaluating suppliers and products on a wider level.

Whilst all involved parties are upskilling on their knowledge and understanding in this space, general questions such as those in the Tallaght University Hospital case study, which allow for companies to highlight their own initiatives, should be encouraged. In addition, collaborations between procurement teams and HealthTech Ireland suppliers, to identify and agree on a core list of 'approved' questions would be ideal.

This would allow for practical, meaningful and impactful initiatives which contribute to emission reductions to be jointly identified and prioritised.

Case Study: Tallaght University Hospital – Sustainability Integrated into Tenders

Tallaght University Hospital recently issued a tender for laundry and linen services and included sustainability criteria in the scoring and evaluation processes. 5% of overall marks for this tender were given for sustainability, defined by three areas outlined below.

Sustainability
Please state any sustainable features and initiatives designed to implement energy savings, green initiatives in production and supply chain sustainable delivery solutions.
List any significant environmental initiatives (and evidence of such initiatives) undertaken by the tenderer relevant to this contract.
Tenderers must provide evidence of any Environmental Certifications held by your company.

Source: Tallaght University Hospital

In the Nordics, hospital level initiatives on sustainable procurement have led to nationwide strategies being developed. The case study below outlines how a 2017 sustainable procurement initiative by the Aarhus University Hospital in Denmark aimed at reducing plastic waste was used to inform a 2022 nationwide strategy on sustainable packaging for healthcare products.

Case Study: Nordic Criteria for More Sustainable Packaging for Healthcare Products

AARHUS UNIVERSITY HOSPITAL

In 2017 Aarhus University Hospital in Denmark launched a project that aimed to reduce plastic waste and improve plastic recycling in the healthcare setting. The hospital chose bottles used for irrigation fluids as the baseline product to focus on for the project. The hospital identified four stakeholder groups that were vital to the implementation of this from an end-to-end perspective and they engaged and collaborated with these groups to drive the success of the project. The stakeholder groups identified and their roles in the project are outlined below:

1. Manufacturers: Develop guidelines for healthcare packaging to reduce packing and commit to specific targets for improved recyclability.

2. Procurement: Develop uniform tender requirements for cooperation across markets.

3. Hospitals: Increase sorting of specific high value fractions (e.g. PP, PE, PET).

4. Waste haulers and compounders: Develop capacity to recycle clean plastic from hospitals in separate and certified streams.

The hospital also looked at their tender process and assigned a 5% tender weighting to the following sustainability criteria:

- Recycled packaging

- Include recycled material in secondary and tertiary packaging

- Develop take-back systems where relevant/possible

- Create products with mono-polymer packaging made of either Polypropylene (PP), Polyethylene (PE), or Polyethylene Terephthalate (PET) so they can be recycled

- Mark products for recycling

- The following material and characteristics are less preferred: Polyvinyl chloride (PVC), laminates, combinations of paper and plastics

Following the success of the project, in March 2022 the Common Nordic Criteria for More Sustainable Packaging for Healthcare Products initiative was developed and launched. The criteria, designed to be used in procurement and tender processes, focus on three key factors and provide clear guidance to procurers for each factor in tender design and evaluation.

These factors are:

1. Reduce material consumption

2. Design for recycling

3. Recycled or sustainably sourced materials

Case Study: Nordic Criteria for More Sustainable Packaging for Healthcare Products (Continued)

A decision tree is also provided to enable procurers to incorporate these criteria through every phase from tender planning to design, evaluation and ultimately contracting. This clarifies best practice and gives good guidance.

1. Planning phase

Clarify mandate for environmental and climate related criteria		
Is it possible to avoid some of the packaging?	Yes →	Request alternative solution
	No →	Request packaging where material weight and/or volume is reduced, and packaging that is reusable or made of recyclable, recycled or sustainably sourced materials
Investigate if it's possible to use reusable packaging. Can packaging be returned to the producer and be reused?	Yes →	Include criteria in tender
	No →	Request packaging based on recyclable, recycled or sustainably sourced material
Investigate how the products are used and will be delivered to the wards - e.g. what is the need in regards to number of products in the secondary packaging? Is it possible to include criteria that increases the number of products in the packaging unit, either in the secondary or teriary packaging?	Yes →	Include criteria for how many products there must be in one packaging unit
	No →	Ask the market if it is possible to change this during the contract period
Check with the wards and local waste management how waste is source seperated and if there are requirements impacting the criteria for packaging. Is there waste managment requirements that impact what kind of packaging is desirable?	Yes →	Include criteria 2.1 and/or 2.2. about packaging material type
	No →	Ask the market if it is possible to change this during the contract period

2. Tender material preparation phase

Decide on the long term strategy for the packaging development in the category

Set the ambition level for the tender Which level? Basic, Advanced or Spearhead? Determine which criteria should be minimum criteria and which competition criteria to include. Determine how much the environmental competition criteria shall be weighted. In order to set the ambition level a market dialogue is relevant, where all criteria is sent to relevant stakeholders to let the market comment on which criteria they can fulfil or meet in the actual tender.

On the basis of market dialogue, select the criteria to include in the tender specifications		
1. Reduce material waste	2. Design for recycling	3. Recycled or sustainably sourced materials

Consider the possibility to include development and improvement clauses in the contract period

3. Tender phase

Adapt criteria following Q&A phase	Use the evaluation guide for evaluating the bids

4. Contract period

Include packaging topic in performance and progress dialogues	Follow up on specific criteria

Source: Nordic Criteria for More Sustainable Packaging[27]

This white paper welcomed input and feedback from collaborators both in the public and private sectors. Some key issues identified by the stakeholders interviewed for this report on the implementation of GPP in the health sector are as follows.

1. **Need for clear criteria.** Currently there is no agreed and public criteria that procurement teams within the public health sector can use to specify the sustainability requirements of their tenders for health tech products or services. This is a policy and guidance gap. The EPA provides detailed information for a number of sectors on the criteria procurement teams should use when writing tenders. Some of the sectors which have EPA guidance can be used within the healthcare sector such as catering and cleaning services. However, many products or services coming out of the health tech sector do not fall under these sector-specific criteria. Understandably health tech products and services must adhere to high standards of quality and safety which has implications for the development of relevant and meaningful criteria. There is scope for the HSE and HealthTech Ireland to engage with the EPA on supporting the development of guidance for the public sector on green criteria for health tech products or services. Factors considered could include criteria such as the ability to recycle, the percentage of product which is possible to recycle and packaging weight, within the confines of current legislation and regulatory limits relating to disposal of contaminated products and recycled content. The EPA have indicated that they are in the process of updating their sectoral standards, so engagement should be fast tracked.

2. **Upskilling required.** The pace and requirement for knowledge for those procuring for sustainability is accelerating. The ability to effectively identify and integrate sustainability criteria into procurement practices is critical in meeting targets. While some hospitals are starting to implement green criteria into their public tenders, some knowledge gaps persist within public procurement teams on sustainability and its application in health tech. As mentioned in the point above, clarity of guidance will be crucial for procurement teams to include relevant and practical specifications in their tenders that align with the HSE's sustainability targets. HealthTech Ireland can support this challenge by discussing and collaborating with the public health sector to make a difference.

3. **Use of full procurement process.** A key finding from stakeholder engagement was that the full end-to-end procurement process was not being maximised. For example, pre-market engagement in this evolving area would ensure the public sector understands the latest technologies and innovations that are available on the market for them to procure. This also extends to sustainability criteria of products and services. An example of product sustainability information that can be provided by suppliers is outlined in the following Boston Scientific case study. HealthTech Ireland members can play their part by engaging with market research, art of the possible sessions and outlining the types of sustainable health tech products and services that are currently available.
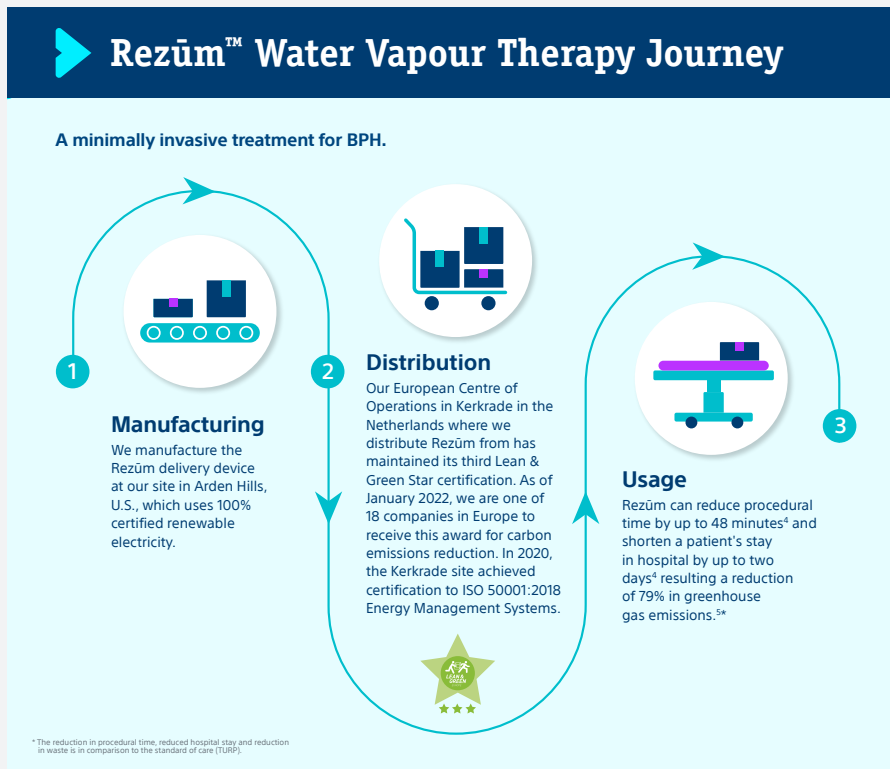
Case Study: Boston Scientific – Product Sustainability Declarations

Boston Scientific has produced a series of awareness documents for a selection of their key health tech products including:

- SpyGlass DS which enables direct visualisation of the bile ducts to optimise the removal of difficult bile duct stones during ERCP procedures.

- HeartLogic™ is a digital diagnostic technology, which can be used alongside remote monitoring, in the management of heart failure patients.

- Rezum a minimally invasive water vapour therapy treatment for Benign prostatic hyperplasia (BPH).

Each of these documents outline how the use of their products over alternative treatment options can avoid GHG emissions created in the patient pathway and reduce waste. They also describe their overall emissions reductions as a company, future goals, and Science Based Targets initiative commitments.

Rezūm™ Water Vapour Therapy Journey

A minimally invasive treatment for BPH.

1 Manufacturing
We manufacture the Rezūm delivery device at our site in Arden Hills, U.S., which uses 100% certified renewable electricity.

2 Distribution
Our European Centre of Operations in Kerkrade in the Netherlands where we distribute Rezūm from has maintained its third Lean & Green Star certification. As of January 2022, we are one of 18 companies in Europe to receive this award for carbon emissions reduction. In 2020, the Kerkrade site achieved certification to ISO 50001:2018 Energy Management Systems.

3 Usage
Rezūm can reduce procedural time by up to 48 minutes[4] and shorten a patient's stay in hospital by up to two days[4] resulting a reduction of 79% in greenhouse gas emissions.[5]*

* The reduction in procedural time, reduced hospital stay and reduction in waste is in comparison to the standard of care (TURP).

Source: Boston Scientific Rezum infographic

4. **Cost.** A perceived blocker to sustainable procurement within the public health system is cost. Some of the hospital stakeholders engaged also identified cost as one of the main barriers to implementing sustainable procurement practices. A common perception is that sustainable products are more expensive than non-sustainable ones when the focus should be on the value offered in terms of cost and outcomes. Some HealthTech Ireland members have experienced cost seeming to be a primary focus for customers with other factors not considered as much. HealthTech Ireland members welcome being a facilitator with the HSE and members to support this challenge by providing case studies, and information from colleagues in MedTech Europe for use of sustainable products. The Health Service can also facilitate this process by engaging with HealthTech Ireland members and educating industry to provide transparency on how value in tenders is measured. Sustainable products, pathways and procedures can be described in terms of both emissions and cost reduction (value-based procurement to include emissions) as demonstrated in the Boston Scientific case study. Cost reduction can also be demonstrated through practical emissions reduction programmes that optimise waste recycling, reduce volumes of out-of-date stock and optimise deliveries, for example.

Circular economy

Implementing circular economy principles across long life medical equipment and ICT using eco-design, repair and refurbishment models all present environmental and business opportunities. Ensuring that medical devices are built to a high-quality repair and refurbishment specification can help to address not only environmental issues but also budgeting challenges of hospitals. Refurbishing medical devices is cheaper than buying a brand-new device, which could cost up to five times more[28]. Ensuring that products are refurbished and repaired to a high standard by the manufacturer can help address financial constraints of hospitals. Keeping products in circulation for longer and extending their lifespan also reduces GHG emissions.

In Ireland, the culture of single-use plastic use was first introduced in the 1980's when there was fear in the public health system around Mad Cow Disease. Recently this has been exacerbated by the COVID-19 pandemic and the increase in plastic use and waste it has caused. Education on types of medical products that are safe to be reused, benefits of reuse as well as the financial gain are key enablers to assist identification of suitable products within the healthcare system.

By implementing circular economy principles in their business models and product design processes the health tech industry can be an enabler for sustainable procurement in the wider healthcare sector. There is a need for collaboration between medical staff and suppliers regarding Single Use Plastic in the healthcare sector. A gap identified is that the current Irish Government Circular Economy Strategy focuses on Single Use Plastic but does not make any reference to the healthcare sector. This is an opportunity area where HealthTech Ireland is well positioned to facilitate engagement.

Some companies are already innovating in this space such as HaPPE Earth, who have designed a compostable PPE apron which is currently being trialled at Cork's South Infirmary Victoria University Hospital.[29]

28   https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01118#B14
29   https://www.irishtimes.com/business/innovation/2023/02/08/irish-start-up-happe-earth-develops-sustainable-ppe-for-healthcare/

5. Conclusions & call to action

HealthTech Ireland members have growing drivers to improve their sustainability performance in general. However, on targeted policies in Ireland, health tech as a sector tends to fall between the cracks – including on climate change, circular economy and GPP policies. This is not because the sector cannot make tangible contributions to these objectives, but simply because other sectors have a higher perceived priority. This is starting to change with the HSE Climate Change Strategy planned and several mandatory obligations incoming that will impact many HealthTech Ireland members. This presents an opportunity for HealthTech Ireland and its membership to further facilitate engagement and develop a call to action on the points outlined below:

- **Enabling policy and guidance on sustainable procurement.** Current policy and guidance on GPP and Circular Economy do not prioritise the health tech sector due to complexities on safety and its perceived limited environmental impact compared to other sectors of the economy. Sustainable procurement is a key driver for sustainability within the health tech industry and offers an opportunity to collaborate, innovate and deliver value. It is recommended that greater consideration is given to the health tech sector by policymakers to target decarbonisation and better sustainability practices in supply chains. In addition, guidance should be made available to the health tech sector on best practice in both public and private organisations. The UK's NHS and Danish healthcare systems can be referenced to stimulate ideas for the local Irish market and are good examples to draw from.

- **Circular Economy.** Evidence demonstrates that an enhanced approach with regard to implementation of Circular Economy principles offers more overall value in terms of cost, emissions and waste reduction. We recommend an approach and framework in procurement that encourages and enables sharing of best practice examples while rewarding high return innovation or business models, for example in the areas of leasing, take-back, reuse and recycling of products.

- **Upskilling of procurement functions on sustainability.** A key takeaway from the study is that when education and knowledge gaps are addressed, there is a benefit to all in the public health sector. Teams can improve the ability to effectively identify and integrate sustainability criteria into procurement practices. HealthTech Ireland is well positioned to partner with others in creating upskilling workshops and programmes, with both public and private organisations in parallel with their own health tech industry personnel. Together, they can work to improve sustainability literacy and identification of good practice and promotion of continuous improvement from suppliers.

- **Collaboration and joined up thinking on green procurement.** There are examples of good sustainable procurement practices within the health tech sector, however projects are often isolated which highlights the need for more joined up thinking and scale. We recommend the promotion of collaboration and partnerships in order to truly enable and scale green procurement in the sector. With 41 years of experience fostering collaboration in the health tech sector, HealthTech Ireland as a body is a good mechanism to encourage innovation in this space.

- **Responsible sourcing, due diligence and reporting.** Pressure is coming on EU and Irish based companies to improve their sustainability reporting practices with incoming requirements from both the Corporate Sustainability Due Diligence (CSDDD) and Corporate Sustainability Reporting Directives (CSRD). In order to support the sector meeting goals, and for procurement teams to be able to make informed decisions on the products they are buying, there is an onus on the companies they are working with, companies in the supply chain, to take steps towards enhancing and improving their reporting practices with information on the sustainability implications of their products and services.

- **Enhancing achievement of sustainability goals through digital transformation.** Solutions in Digital Health transformation support sustainability goals in a number of ways, for example in providing the capability for patients to be managed for a number of conditions in their home, to minimise travel of patients from acute services. These steps are also aligned to Sláintecare. HealthTech Ireland recommends that opportunities in digital transformation be considered in reaching sustainability targets.

- **The Sustainability Leader.** This report calls for the appointment of a sustainability leader to oversee all aspects of sustainability within the HSE given its far and complex reach. The HSE is one of the largest employers in the country and one that has thousands of interactions with suppliers and industry daily. To ensure that sustainability is embedded into the culture of the HSE and interactions with the health tech sector it will require a true champion who can coordinate and educate throughout the organisation. The government's recommendation to establish a Programme Office as per the National Service Plan, 2023 is welcomed. It is recommend that HealthTech Ireland and this office meet with a remit to identify where the challenges, opportunities and synergies lie to bring value across the health sector.

Appendix

Stakeholder Engagement

Stakeholders	Engagement Type
John Swords, Director Procurement HSE	Interview
Frank Maughan, Principal, Climate Action, and Environment Division · Department of the Environment, Climate and Communications	Interview
Colin O'Hehir, Climate Action Lead, Department of Health	Interview
Garret Murray, Enterprise Ireland	Interview
Lucy Nugent, CEO TUH	Interview
Claire MCBride, Convene	Interview
Mr Derek Cawley, Irish Doctors for the Environment	Interview
HealthTech Ireland Sustainability Working Group	Questionnaire and working group meetings
Beatrice Cosgrove, Phillips	Interview
Brian Quirke, Department of the Environment, Climate and Communications	Interview
Peter Irvine, TUH	Interview

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