

A lush green forest with moss-covered ground and tall trees. The scene is filled with vibrant green moss on the forest floor, interspersed with fallen branches and tree stumps. Tall, slender trees rise vertically, their trunks partially covered in moss. Sunlight filters through the canopy, creating a dappled light effect on the forest floor.

Sustainable procurement in the health care sector

**Consensus paper created by Advisory
Board Sustainability, 2024**

Contents

2	Methodology
3	Executive summary
4	Background: Healthcare and the climate crisis
5	Question 1: Why should I buy sustainably?
7	Question 2: What are the hidden costs and risks of less sustainable products and how to measure them?
11	Question 3: How can I measure sustainability in the procurement process?
12	Question 4: How to convince the hospital management regarding the financial impact?
14	Question 5: How do I convince clinical stakeholders?
16	Question 6: What sustainability specifications should be requested when procuring products and services?
18	Question 7: What are the key supplier certifications to look out for?
20	Question 8: What are the best ways to explore and conduct market research?
22	Question 9: What are the best ways to provide and get feedback from relevant stakeholder?
23	Question 10: What are the best ways to monitor performance?
25	Conclusion and outlook
26	Sustainability Advisory Board Members
27	Glossary
28	References

Methodology

This paper was developed following a series of workshops discussing sustainable procurement in healthcare, during the period March to December 2023.

The consensus statements are designed to provide practical guidance to procurement professionals on a range of factors relating to procuring more sustainably, including around financial impact, measurement and performance.

Mölnlycke Health Care convened the group of independent experts to provide insight on what procurement teams should consider when purchasing products with the aim of increased sustainability in mind. During the project, Mölnlycke coordinated each meeting and provided editorial guidance around the final output to ensure accuracy.

The independent members of the advisory board shaped the contents of this paper and crafted the narrative.

The expert panel fully realise the complexity of the issue of sustainability. The elements of waste reduction and greenhouse gas emissions were covered in most detail in this document, due, in large part to the desire to make the document accessible and readable for all interested parties. It is the intention of the advisory board to cover other elements of the sustainability story in greater detail in future papers.



Executive summary

The purpose of this paper is to act as a practical guide to the necessary transformation process towards sustainable procurement. While numerous documents address sustainability in diverse industries, this document uniquely tailors its insights to the interdependencies of healthcare procurement. Recognising the critical role healthcare plays in societal well-being, our pragmatic approach moves beyond theoretical frameworks, offering actionable strategies to inspire and empower stakeholders.

“ This hands-on publication aims to drive real change, aligning the healthcare sector with a sustainable future, where procurement decisions not only meet current clinical safety and performance needs but safeguard the health of our planet for generations to come. ”

Given the World Health Organisation (WHO) has declared a global health emergency, healthcare professionals now face multiple challenges. However, it is crucial to recognise that integrating environmental, social and governance (ESG) criteria into healthcare procurement decisions is not an additional burden, but rather has the potential to provide a coherent framework to help address the many challenges. ESG (Environment, Social, Governance) principles provide a strategic direction that not only complements but enhances the resilience and effectiveness of healthcare systems in times of crisis, laying the foundation for a sustainable and resilient future.

This consensus paper encapsulates three central concepts to help navigate the

complex landscape of sustainable procurement in the healthcare sector. Firstly, it underscores the symbiotic relationship between economic objectives and ESG criteria. Contrary to common misconceptions, ESG creates shared value for all stakeholders and does not impede cost reduction goals; rather, it offers a harmonious path toward financial prudence without sacrificing sustainability and medical outcomes.

Secondly, at the heart of sustainable procurement lies the recognition that success is a collective effort. Recognising the essential role of people in this transformative journey, this document provides valuable ideas and pragmatic solutions to bring stakeholders together. From users to decision-makers, this paper makes the case for a collaborative approach.

Lastly, this publication challenges the status quo by redefining success. In addition to meeting legal requirements, the focus is on exceeding basic expectations and developing the ambition to go the extra mile for sustainability. The rewards go beyond compliance and offer tangible benefits and long-term advantages. By fully embracing the concepts of sustainability, healthcare professionals and organisations can cultivate a legacy of positive impact, elevating the industry and securing our collective future.

Background: Healthcare and the climate crisis

The critical reality of climate change as a healthcare crisis could not come at a more important moment. Heat waves, extreme rainfall, air pollution and wildfires are just some of the contributors to negative health outcomes; disproportionately impacting those who have contributed the least to global carbon emissions. Weather and climate hazards affect health both directly and indirectly, increasing the risk of deaths, noncommunicable diseases, the emergence and spread of infectious diseases, and health emergencies.ⁱ Furthermore, The World Health Organization (WHO) has estimated that one in four deaths is attributed to preventable environmental causes.ⁱⁱ

The healthcare sector faces a dual challenge; not only in responding to these existential threats to global health, but in reducing the causes of climate change itself. Whether in the running of hospitals and other healthcare facilities, rollout of telemedicine, the procurement and transport of medicines, medical supplies and other goods purchased to provide care, the sheer scale of resources required to maintain human health is considerable.

The healthcare sector is thought to be responsible for 4-5%ⁱⁱⁱ of total global carbon emissions and generates significant demand for energy and materials, as well as hazardous waste streams that can cause damage to the air, soil and water.

With significant purchasing power, the procurement departments of healthcare providers are in an influential position to make deep cuts in emissions, mitigate social risks in the supply chain and introduce products that can have a positive impact on the environment and society. By collaborating with suppliers to encourage them to set reduction plans, invest in greener technologies and products, and setting green standards for suppliers to adhere to, healthcare providers can play a significant role in decarbonisation whilst improving the social impact of the healthcare sector.

Question 1: Why should I buy sustainably?

With the amount of waste going to landfill, or worse, into our environment and oceans every year^{iv}, procurement teams have a pivotal role to play in reducing the impact of the healthcare sector. Purchasing items manufactured and packaged in a more sustainable way makes an important contribution to this. For example, some plastics take over 500 years to decompose^v, therefore requesting products with no or low plastic packaging can significantly reduce their impact.

Climate change is a fundamental threat to human health. It affects the physical environment as well as all aspects of both natural and human systems, including social and economic conditions and the functioning of health systems. All aspects of health are affected by climate change, from clean air, water, and soil to food systems, biodiversity and livelihoods.

Further delay in tackling climate change could potentially reverse decades of health progress^{vi}, and contravene our collective commitments to ensure the human right to health for all.^{vii}



Zero Waste: The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health^{viii}

We have identified six points to be included in a business case for sustainable procurement in healthcare:

- 1 Buying sustainably has many benefits for our society and environment from reducing resource consumption and pollution to ensuring a fair wage and working conditions for employees. Adopting a sustainable procurement approach sends a message that you prioritise quality over convenience - an approach many stakeholders will value.
- 2 Sustainable procurement contributes to the creation and maintenance of a 'good reputation,' minimising exposure to any future reputational risk ([see Question 2, point 3](#)).
- 3 Preparing for new and more restrictive EU ESG disclosure legislation (e.g. CSRD, CS3D) is also a necessity for many small and large businesses in your supply chain, leaving little room for businesses to avoid disclosure and encouraging them to sharpen up their activity to reduce their overall impact ([see Question 2, point 2](#)).
- 4 Developing a sustainable procurement framework aligned to the EU Green taxonomy could benefit any future loan applications as it could be adopted for the purpose of issuing green loans, meaning companies wishing to gain capital investment will need to disclose alignment to the EU Taxonomy. Failure to disclose might have a significant impact on capital expenses ([see Question 2, point 6](#)).

5 Retaining employees is a key issue across the sector, having a clear sustainability stance will become a strategic argument for retention and recruitment of medical staff and staff in general ([see Question 2, point 5](#)).

6 By purchasing more sustainable goods and services you can:

- reduce your carbon emissions, e.g. by buying energy efficient products to reduce your energy use
- save natural resources, e.g. by choosing products and services that use less and/or recycled materials or waste as a raw material or resource
- reduce waste sent to landfill, e.g. by buying products which can be reused or recycled
- help your local and wider communities, e.g. by creating work for local suppliers or buying fairly traded goods to help improve living and working conditions
- create a market for new sustainable goods and materials to help the green economy grow and create new green jobs.



Question 2: What are the hidden costs and risks of less sustainable products and how to measure them?

The challenge for procurement teams is to be able to include sustainability as a criterion for procurement decisions alongside cost and quality, while balancing sustainability with safety and quality. In the context of general budgetary constraints, costs will remain an essential element of decision making for products and services. Environmental and social criteria alone will not be able to balance the financial challenge that most organisations in the medical sector face across the EU.

The myth that the procurement of more sustainable products is inevitably associated with higher costs persists, but consideration should be applied to the hidden costs of not buying sustainably. This chapter categorises the diverse types of hidden costs and provides real-life examples on where to spot them when evaluating the total cost of a product or service.

In general, it is necessary to analyse the whole lifecycle costs, not only of the product or service, but also how the purchasing organisation may be using them. Procurement is a strategic activity that needs a comprehensive approach, even if decisions are made on a strictly 'cost basis.'

1. Increased operational costs

Less sustainable procurement practices often lead to higher operational costs.^{ix}

Energy inefficient products can often result in a higher energy use and bills. Equally, poorly designed products that do not allow for easy maintenance or upgrades can increase costs over the products lifetime, especially if components are replaced on a regular basis. Each replacement entails a cost even if only regarding working time. In the long term, consumables should be avoided or recycled whenever possible.

Purchasing products with excessive and/or non-sustainable packaging leads to more waste, which often causes increased waste management time at the hospital and waste treatment costs, in the form of local taxes, when these are based on weight and/or volume.^x

Productivity of healthcare professionals is a priority across the sector, and we must try to reduce burdensome tasks where possible to keep operating costs down. Products that come in excessive packaging will require time to be unwrapped, and waste sorted and recycled which can add minutes to a time pressured medical professional.

In addition to the time spent managing less sustainable products, the opportunity cost should be taken into consideration. When weighing two or more courses of action, the opportunity cost refers to the value of the option sacrificed to pursue the chosen option. In the considered situation, medical staff might need more time to manage less sustainable products. By making less sustainable choices, this additional time is a cost in itself: what would the healthcare professionals be able to do with that wasted time? Maybe spend more time at the patients' side?

2. Legal and regulatory compliance

There are increasing legal requirements to consider sustainability in procurement processes. Jurisdictions are increasingly implementing environmental regulations and standards that require organisations to adopt more sustainable practices.

For example, in waste management, many jurisdictions provide for waste sorting and/or proper recycling obligations. Sustainable products often benefit from an eco-design focus, making sorting and recycling possible and easier, saving local taxes, and avoiding penalties.

Considering sustainability aspects may result in procuring products that are safer to manage and dispose of, and exceeding existing legal requirements may help reduce your legal risks. This creates a positive working environment and may help protect organisations from liability beyond meeting legal minimums. Less sustainable products might still qualify in terms of medical performance, but healthcare workers are stakeholders that should not be discounted from the calculation. Failure to provide a safe working environment can of course result in legal liabilities, worker compensation claims, and regulatory sanctions. The EU's CSRD reporting framework will strengthen this further as it progressively comes into effect over the coming years, as organisations will have to disclose their health and safety indicators.

EU regulations:

Implemented:

- The EU Corporate Sustainability Due Diligence Directive (CS3D): Since 2024
- EU Deforestation-Free Regulation (EUDR): Since 2023
- EU Packaging and packaging waste Directive 2019 and 2023
- EU Green Taxonomy: Since 2020
- EU Whistleblowing Directive: Since 2019

Planned:

- Eco design for Sustainable Products Regulation (ESPR) 2024 - 2026
- EU Corporate Sustainability Reporting Directive (CSRD) 2024 - 2025
- Eco-design for Sustainable Products Regulation (ESPR) 2024 - 2026
- The EU Digital Product Passport (DPP): In Discussion

Individual countries that have passed or are preparing more restrictive legislations:

- German Supply Chain Due Diligence Law (LkSG): Since 2021
- Swiss Conflict Minerals and Child Labour Due Diligence Directive: Since 2022
- The Norwegian Transparency Act: Since 2022
- The Belgian Vigilance Proposal: In Discussion
- The Dutch Child Labour Due Diligence Act: In Discussion

3. Reputational damage

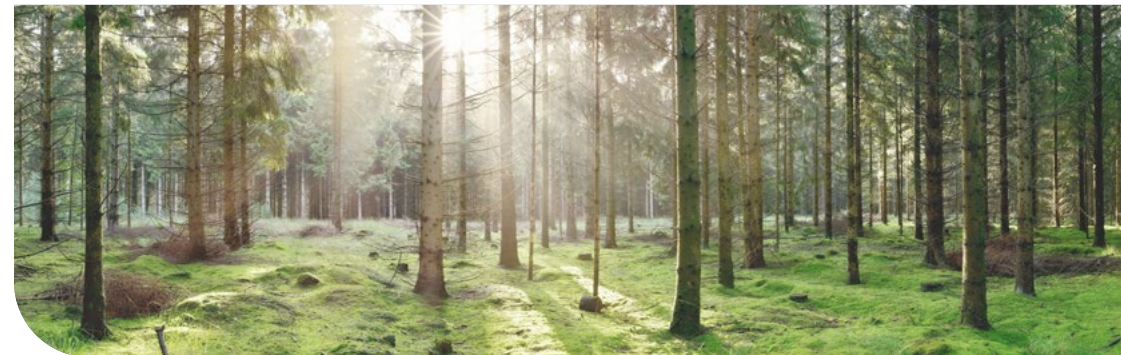
“ It takes 20 years to build a reputation and five minutes to ruin it. If you think about that, you’ll do things differently. ”

Warren Buffet

In today’s socially conscious world, employees, patients, and stakeholders increasingly value sustainable practices. The risk of not implementing sustainable practices in procurement include harm to an organisation’s reputation, loss of trust and credibility among stakeholders.^{xi}

Being able to demonstrate that sustainability aspects were given due weight in the procurement process will reinforce public confidence. Medical service providers are no exception in this field and they need to build and maintain a trusting relationship with the public in their operating perimeter. Failure to do so runs the risk of a reduced number of patients, which in turn could result in budget cuts for those providers whether they work within a public activity-based system or in a private context.

For the monetary impact in relation to employees, please refer to [section 5](#).





4. Supply chain disruptions

Less sustainable procurement practices can create vulnerabilities in the supply chain. These risks include supply interruptions and/or public backlash, anger or resistance, which can have significant financial implications for an organisation.^{xii} If such risks materialise, the cost of finding alternative products in an emergency are often much higher.

Supply chain disruption could have a direct financial impact as well as the organisational and medical impact. In times of disruption, procurement professionals might need to invest time in finding alternative products or services (thereby incurring opportunity costs) and the medical professionals might need to adapt to new medical consumables and devices, entailing new medical procedures and practices. Therefore, having an excellent supplier relationship is key, but risks of disruption are also impacted by distance from site of manufacture, source of raw materials used for the products, country of origin.

These issues are overly complex and need a thorough case by case evaluation, but the ideas mentioned under [Question 7](#) could provide useful guidance to select your providers.

5. Employee satisfaction and talent recruitment

Sustainable procurement practices include social responsibility and ethical considerations. Neglecting sustainability aspects can negatively affect employee morale and the talent recruitment of an organisation.^{xiii} Employees who are aware of an organisation's less sustainable practices may feel demotivated or disengaged, leading to decreased productivity and potential increased staff turnover. As discussed in section 1, a more efficient use of resources would not only allow more time at the patient's side but could also lead to less over-time worked leading to a better work-life balance. This balance is becoming increasingly important for staff, even more so in the context of a shortage of medical staff. Attracting and recruiting new employees will also become progressively more difficult if an organisation cannot give evidence of proper sustainable policies, especially in the economic context of scarce human resources, where candidates have multiple career options.

Staff turnover and recruitment processes have direct financial impacts and opportunity costs that should also be considered when designing a procurement policy for an organisation.

This is one of the main challenges for any organisation, the health care sector is no exception and will need to give due attention to this issue.

6. Financing and funding

Over time it is expected that the EU Taxonomy will encourage a transition towards sustainability to achieve the EU's climate and environmental goals.^{xiv}

Under the EU Taxonomy, organisations that do not adopt sustainable practices could end up paying higher interest rates for the financing and funding of their projects.



Conclusion

If an organisation makes decisions that are strictly based only on a financial cost analysis, consideration should be given to the hidden costs related to less sustainable products and a comparison made to more sustainable alternatives. Disregarding such 360° analysis could result in inaccurate calculations and potentially poorer, less well-informed decisions not to mention increased costs.



The EU Green Taxonomy is a classification system that helps companies and investors identify 'environmentally sustainable' economic activities to make sustainable investment decisions. It is not a mandatory list for investors to invest in. It does not set mandatory requirements on environmental performance for companies or for financial products. Investors are free to choose what to invest in.

Question 3: How can I measure sustainability in the procurement process?

Measuring sustainability performance is complex. There is no one standard methodology for measuring performance of products or the supplier providing them. However, there are various methodologies to choose from giving the buyer flexibility to select an approach that works for their needs.

In procurement, the Life Cycle Assessment (LCA) is a widely understood and used approach for measuring the impacts of a product across the steps from raw material through manufacture, distribution and usage to final disposal.

The LCA provides a complete system approach to analysing the environmental and social impacts of the product or service across its lifetime. The methodology can be used to define the carbon footprint of the product alongside other sustainability metrics including other greenhouse gas emissions, water use, levels of toxins and the impact on human health. Results from an LCA are based on international standards 14040 and 14044 which provides certified reliable and authentic data buyers can trust.

Social LCA is an innovative methodology which considers the social impact of technology, and when used in combination with the more standard LCA provides a more holistic view than using the LCA alone.

Other ways you could consider in measuring environmental impacts of a product or supplier would be to use external databases for average emissions data (e.g. Ecolnvent) or asking your supplier to provide spend based data from which you can calculate emissions using widely used carbon accounting methods. This method of calculating GHG-emissions takes the financial value of a purchased good or service and multiplies it by an emission factor - the number of emissions produced per financial unit - resulting in an estimate of the emissions produced.

Conclusion

Measuring the sustainability of a procurement process is a challenge that will only be achieved if reliable data is collected. For this to happen, organisations need to set up methodologies that will guide the collection of relevant data and allow for more precise measurements of sustainability in the future, as statistical inputs become meaningful. Please also refer to [Question 10](#).



Life cycle assessment/approach (LCA): LCA is a systematic analysis of the potential environmental impacts and the energy balance of products throughout their entire life cycle. Before each analysis, the system boundaries (e.g. 'from cradle to grave,' 'cradle to gate') are defined, because different boundaries make sense depending on the product and the goal of the analysis.

Question 4: How to convince the hospital management regarding the financial impact?

It is important to frame the argument for sustainable procurement in a way that directly addresses the strategic goals of the organisation. Here we provide a step-by-step approach that could help to convince your hospital management to reach their sustainability goals, generate positive social impact and adopt responsible governance.

1. Understand the decisionmaker's perspective

Start by understanding the decisionmaker's priorities, goals, and concerns. This will help you tailor your message to resonate with their specific interests and visions for the organisation. Often, management focuses on the 'low hanging fruits' from energy, facility and food, but there are also good opportunities to reduce impacts on larger spend categories such as medical devices e.g. anaesthesia gas.^{xv}

2. Check for existing sustainability targets

Your organisation might already have sustainability targets or public sustainability statements. It will be useful to cite these in your arguments for developing a sustainable procurement strategy.

3. Financial data to support your case

Collect comprehensive financial data and evidence that demonstrates the potential benefit of sustainable procurement as well as the hidden costs of less sustainable procurement processes. This should include examples of cost savings achieved through sustainable procurement practices such as reduced energy consumption, lower waste disposal costs, improved social impact or more efficient supply chain management. Please also refer to [Question 2](#).

4. Develop a clear and practical roadmap

Create a well-functioning and comprehensive business case that highlights the advantages of sustainable procurement for your hospital. Outline a clear and practical roadmap for implementing sustainable procurement within the organisation. Include estimated timelines, resource requirements, and key performance indicators (KPIs) for tracking progress and measuring the impact. Please refer to [Questions 3](#) and [5](#) for further details.

5. Showcase industry examples

Provide case studies and examples of other organisations, including from industries or other healthcare systems that have already successfully implemented sustainable procurement practices and reaped the financial rewards. Real-world success stories can have persuasive power and may show how sustainable procurement can give an organisation a competitive edge in the market, potentially leading to an enhanced reputation.

6. Risk assessment and mitigation

Discuss the financial risks associated with not adopting sustainable procurement practices. This could include potential regulatory fines, risk of energy and waste disposal price increases or reputational damage, all of which can have significant financial implications for the organisation. Emphasise that sustainable procurement is not just a short-term cost-saving measure but an investment in the organisation's long-term 'health.' Sustainable practices may lead to ongoing financial benefits over time even if only due to increased regulation. For example, the European Corporate Sustainability Due Diligence Directive (CS3D) will force companies to identify, bring to an end, prevent, mitigate and account for negative human rights and environmental impacts in their own operations, their subsidiaries and their value chains. Please also refer to [Question 2](#).

7. Involve Stakeholders

To convince the hospital management, you should not hesitate to involve various stakeholders, including wider procurement teams for example, and ask them to support your case. Collaboration and buy-in from multiple departments can only enhance your argument. Of course, if your organisation has a sustainability manager, they should be involved from the beginning (if not, your organisation should consider appointing one). Please also refer to [Question 5](#).

8. Continuous monitoring and reporting

Once the CEO and the managing board are aligned, commit to ongoing monitoring and reporting of the impact of sustainable procurement practices. Regularly share updates and success stories to maintain support and accountability within your organisation. The set-up of key performance indicators, not only on financial aspects, will be essential for effective reporting. This might be a challenge for certain dimensions such as for reputation which can be measured through customer surveys. Please also refer to [Question 10](#).

9. Future steps: Benchmark against other healthcare organisations

If applicable, benchmark your organisation's sustainability efforts against other health care organisations or industry leaders to illustrate the potential financial and reputational benefits of staying competitive in the market.

Conclusion

The design of this practical step-by-step approach supports your sustainable procurement ambitions. However, remember that CEOs and/or members of the managing board are often concerned with the financial health and competitiveness of the organisation, so focus on highlighting how sustainable procurement can directly contribute to these aspects.



Question 5: How do I convince clinical stakeholders?

Convincing clinical stakeholders for sustainable procurement can be a challenging but important endeavour in adopting a sustainable approach. Sustainable procurement in healthcare not only contributes to environmental and social responsibility but can also lead to cost savings and the improved reputation of a hospital. The overall goal is to provide a sustainable procurement process, while maintaining patient safety and high standards of care. Here we provide a step-by-step approach that could help to convince patient facing stakeholders in your hospital:

1. Understand the basics and gather data and evidence

Start by thoroughly understanding the concept of sustainable procurement in healthcare. This includes the environmental, social, and economic aspects of sustainability in this context. Collect data and evidence that supports the benefits of sustainable procurement in healthcare. This can include case studies from your own or from other hospitals, cost-saving examples, and statistics on the environmental and social impacts of conventional procurement practices. Focussing on minimising waste, energy efficient technology, water conservation and hazardous waste reduction to develop a well-functioning and comprehensive concept.

2. Identify and engage stakeholders

Identify the key decision makers and influencers at your hospital who can impact procurement decisions. This could include physicians, nurses, hospital administrators, procurement officers, and sustainability officers.

Arrange discussions with these key stakeholders to present your case or concept. Be prepared to address their concerns and questions. It might be useful to tailor your message to each stakeholder's interests. For example, emphasise cost savings to financial decision-makers and environmental benefits to sustainability officers. As well as increased security for patients and healthcare workers, easier and better waste management to facility managers; less regulatory risks to legal managers, less reputational risks to communication officers.

Emphasise that sustainable procurement processes are an investment in the hospital's long-term success. It can lead to reduced operating costs, increased patient satisfaction, a positive public image and has therefore long-term benefits for the organisation. Please also refer to [Question 4](#).

3. Highlight security compliance of sustainable solutions

To convince medical staff, it will be essential to present clear evidence that the new product is as safe as the existing one and is more sustainable. This also applies to all cleaning and reprocessing aspects of new sustainable devices. It is essential that these products should meet the same hygienic standards, as less sustainable alternatives.

4. Highlight regulatory compliance

Emphasise any regulations or industry standards that promote or require sustainable procurement in healthcare. Compliance with these regulations can be a compelling argument in favour of adopting sustainable practices such as waste management regulations or taxation according to the 'polluter pays' principle or Green Public Procurement. Similarly, sustainable procurement practices will help the organisation align to new EU regulation including Corporate Sustainability Reporting Directive (CSRD), Corporate Sustainability Due Diligence (CS3D) and the EU Taxonomy regulation.

5. Pilot programs and collaboration with champions

If possible, suggest starting with small-scale local pilot programs to demonstrate the feasibility and benefits of sustainable procurement. Success in a pilot program can lead to wider adoption. Identify and enlist champions within, or outside, the hospital who are passionate about sustainability. These individuals can help you advocate for your cause and influence other stakeholders.

6. Measure and communicate results

Once sustainable procurement practices are implemented, regularly measure and report on their outcomes. Share success stories and highlight the positive impact on the hospital's bottom line and reputation. Such internal communication will contribute to the general sustainability culture of the organisation and thus encourage, strengthen, and accelerate the efforts of all stakeholders which also contributes to achieving KPIs. Stress the importance of continuous improvement in sustainable procurement practices. Encourage stakeholders to stay updated on best practices and emerging trends in healthcare sustainability. Please also refer to [Question 3](#) and [10](#).

7. Seek external support

If needed, reach out to external organisations or sustainability consultants that can provide guidance and expertise to support your efforts. For example, the mission of the European Financial Reporting Advisory Group (EFRAG) is to serve the European public interest in both financial and sustainability reporting and therefore might be a useful resource regarding sustainability reporting standards.

Remember that convincing stakeholders may take time and persistence. Be prepared to adapt your approach and messaging as you gather feedback and address concerns. Building a strong coalition of supporters and consistently demonstrating the benefits of sustainable procurement will increase your chances of success overall.

Conclusion

As an African proverb says 'if you want to go fast, go alone; if you want to go far, go together.' Implementing sustainability policies are long-term projects supported by the whole organisation, not only via a coercive top-down approach. Onboarding a maximum number of stakeholders over time will be crucial for the success of such policies in achieving your goals.

Question 6: What sustainability specifications should be requested when procuring products and services?

While many tenders still focus only on product specifications and price, there are many other award criteria that can contribute to sustainable procurement, keeping in mind national tender legislations and the Public Procurement Directive (PPD).

Once the product specifications have been set (i.e. the operational needs the product must meet) additional sustainable features could be identified as award criteria, for example^{xvi}:

- 1 Product lifespan of capital equipment, considering:
 - a. repairability
 - b. capacity to be upgraded over the period of use.
- 2 Reusability of the product. In the medical sector, single-use products are widely used as they reduce infection risk and minimise cost by avoiding sterilisation processes between each use, but as shown in [Question 2](#), there are hidden costs that need to be considered relative to clinical benefit.
- 3 Design of the product: e.g. it may be possible to replace a part of a device rather than the whole product (eco design approaches often adopt a modular product structure).
- 4 Compatibility of the product with consumables produced by the same manufacturer or even competitors, known as 'Platform sharing.'
- 5 Energy efficiency of the product e.g. one device may need double the energy of its competitor.
- 6 Water efficiency of the product:
 - a. how water intensive is the production and use of the product?
 - b. how is water managed at the production site?

7 Packaging of the product. Depending on the product specifications, you might want to consider:

- a. The total weight of packaging per unit. The heavier it is, the more carbon emissions this will generate for transportation.
- b. The types of packaging used (cardboard, plastic etc.) and their respective percentage in the product and the recyclability of each.
- c. The possibility to return packaging waste to the provider for proper recycling or reuse.

8 Source of raw materials used for the product and its packaging.

- a. Geographic origin of the main components to evaluate the GHG emissions of getting the product to the production site and onwards to your site.
- b. Whether the product contains virgin raw material or recycled materials, or a combination - and the percentage split.

9 Recyclability or circularity of the raw materials used for the product and its packaging.

An operational example can be found in the quick guide published by Health Care Without Harm entitled '[New sustainability criteria for examination and surgical gloves](#)'.^{xvii}

Working with your suppliers

Engagement with suppliers will be key to getting buy-in and delivering results. Collaborating with suppliers to identify ways of upskilling and educating them on your ambitions will help encourage them to start the sustainability journey with you.

Claims by suppliers can be accredited by reputable third-party certifications (when audited) that will provide sufficient evidence. Otherwise, suppliers will need to describe in detail their practices and commitments to enable you to evaluate their offer properly. These descriptions will then be included as a contractual commitment.

It is possible to extend requests for information to the whole production chain, including subcontractors of the provider. This information can be based on self-declaration, but making wrong declarations should be explicitly sanctioned by penalties defined in the tender.

Conclusion

Public tenders allow for qualitative criteria that are either linked to the purchased products or to the provider. These criteria must not, however, result in only one potential provider that could meet all requirements, because that would not be compliant with public tenders: playing on competition to get the best offer. Therefore, the selected sustainability criteria should be organised around a grading system that will produce a final global grade. This grade will allow an organisation to rank potential providers and mitigate the sole financial ranking based on price.



Question 7: What are the key supplier certifications to look out for?

When preparing a tender, buyers should also spend time and thought on the selection criteria of the potential suppliers, in addition to the specification of the products.

International standards for sustainability are always a good start, but there is no comprehensive standard that applies to all companies in every specific context. Various frameworks, guidelines, and standards developed by different organisations are available and here are some of the key international standards and frameworks related to sustainability:

1. Global Reporting Initiative (GRI): ^{xviii}

The GRI provides globally recognised framework for sustainability reporting. It sets out principles and indicators that organisations can use to measure and report on their economic, environmental, and social performance.

2. ISO 14001: ^{xix}

An international standard for environmental management systems. It provides a systematic approach to managing an organisation's environmental impact and can be used as part of a broader sustainability strategy. An alternative could be EMAS (Eco-Management and Audit Scheme).

3. ISO 26000: ^{xx}

ISO 26000 provides guidance on social responsibility and ethical behaviour for organisations. It offers principles and guidelines for integrating social responsibility into an organisation's operations and strategies.

4. UN Global Compact: ^{xxi}

The United Nations Global Compact (UNGC) is a voluntary initiative that encourages companies to align their operations and strategies with ten universally accepted principles in areas such as human rights, labour, environment, and anti-corruption.

5. UN Sustainable Development Goals (SDGs): ^{xxii}

Although not a standard, the United Nations 17 SDGs provide a global framework for sustainable development. Companies can align their sustainability efforts with specific SDGs that are relevant to their business.

6. OECD Guidelines for Multinational Enterprises: ^{xxiii}

The guidelines are recommendations addressed by governments to multi-national enterprises operating in or from adhering countries. They provide non-binding principles and standards for responsible business conduct in a global context consistent with applicable laws and internationally recognised standards. The guidelines are the only multi-laterally agreed and comprehensive code of responsible business conduct that governments have committed to promoting.

7. Science Based Targets initiative: ^{xxiv}

The Science Based Targets initiative (SBTi) drives ambitious climate action in the private sector by enabling organisations to set science-based emissions reduction targets. It is a partnership between CDP, the UNGC, World Resources Institute and the World Wide Fund for Nature. The SBTi call to action is one of the We Mean Business Coalition commitments.

Companies may also be subject to specific regional or industry-specific regulations and standards. In Europe, for example, there is Responsibility Europe, a European network of leading CSR labels, which covers, at the time of this publication, France, Luxembourg, and Switzerland. In every European country, there are national initiatives that can be considered, but always look for labels and certifications that provide an independent third-party audit on the premises of a potential supplier. Labels and certifications that perform audits from a distance (i.e. online) do not offer the necessary trust that the considered supplier is really implementing the measures put forward.

An example of an industry-specific initiative could be the Pharmaceutical Supply Chain Initiative (PSCI), which is a group of pharmaceutical and healthcare companies who share a vision of better social, health, safety and environmental outcomes in the communities where they buy.

Setting such certification criteria should, however, not result in a de facto exclusion of small and medium enterprises (SME) who might not have the resources to implement certification processes but have sustainability measures in place. A tender should therefore provide opportunity to assess sustainability claims of SMEs. In such a case, the effort for an SME would be limited to the criteria set out in the tender, whereas labels and certificates consider all the various activities that a provider might have.

An operational example can be found in the guide 'New sustainability criteria for examination and surgical gloves'^{xvii} published by Health Care Without Harm.

Conclusion

Tender processes allow you to ask bidders to explain what they do regarding recognised international sustainability standards.

In general, collaboration between healthcare organisations and suppliers is needed to make the necessary change in the long term. Healthcare organisations therefore need to take their suppliers with them on this journey, especially as they cannot achieve their sustainability ambitions without suppliers' help. Suppliers might have innovative solutions to problems the healthcare provider is facing.

Depending on your national reference system or the specific targets of your organisation, further available standards are:

- **ISO 50001:** An international standard for energy management systems that supports companies in improving energy efficiency and reducing energy costs
- **ISO 45001:** An international standard for occupational health and safety management systems that supports companies in creating safe and healthy working conditions and reducing occupational accidents and illnesses
- **SA8000:** An international standard for social responsibility that helps companies to ensure socially fair working conditions in their supply chain
- **EcoVadis:** A platform for evaluating suppliers regarding their environmental and social performance
- **SEDEX:** A platform to improve ethical and social performance in global supply chains
- **MSCI:** A rating and research company that helps companies and investors to measure and improve their ESG (Environmental, Social, Governance) performance
- **SASB (Sustainability Accounting Standards Board):** An organisation that has developed industry-specific sustainability standards to help companies measure and report their sustainability performance
- **Cradle to Cradle:** A concept that aims to design products and processes in such a way that they can be recycled or biodegraded at the end of their life cycle

Question 8: What are the best ways to explore and conduct market research?

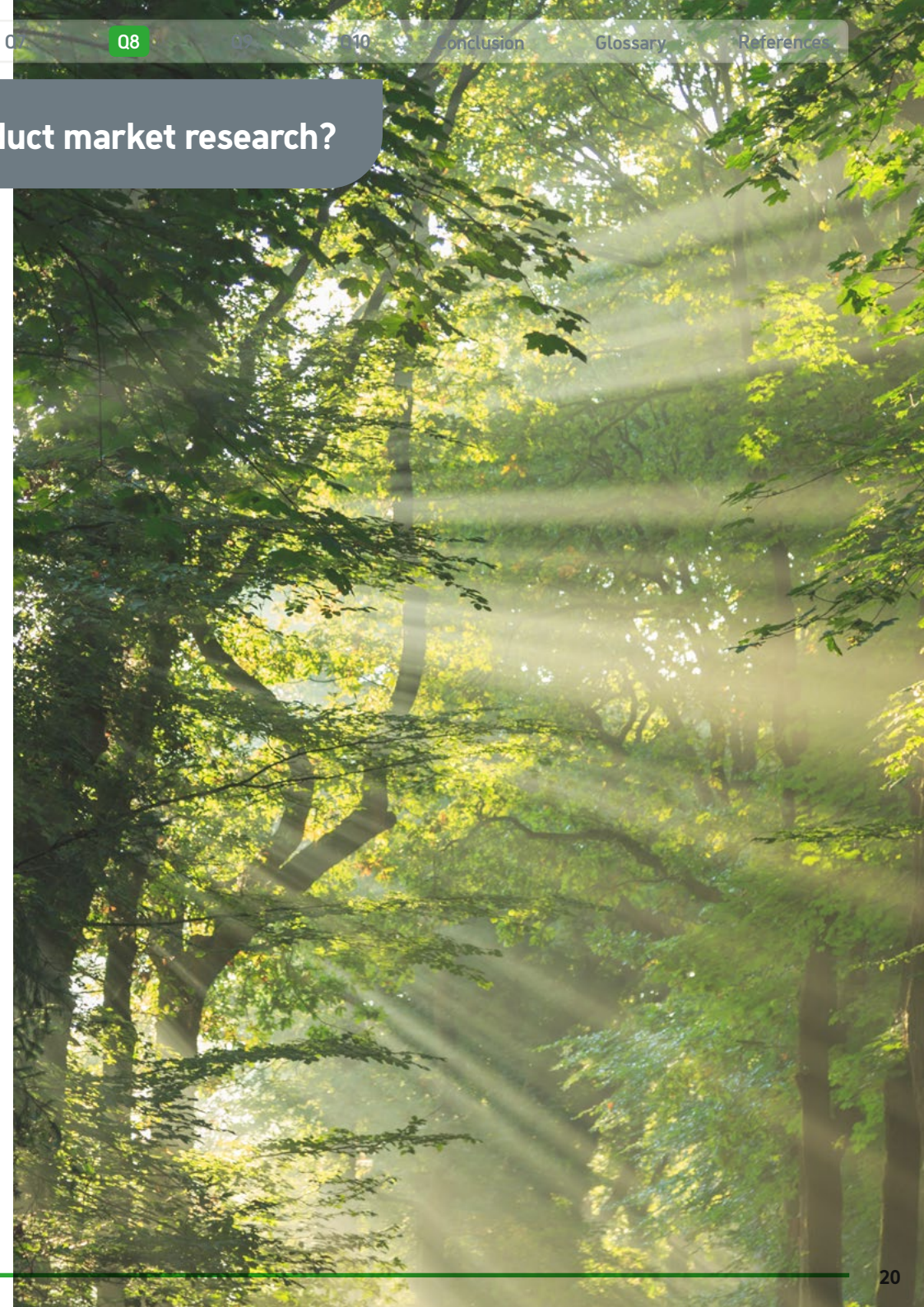
The ability to analyse statistical data and ESG reporting is key for a buyer in the healthcare sector to know which suppliers are eligible to bid and to be able to identify the characteristics of other contracting authorities' procedures for similar procurement.

Researching potential bidders

Market research in public procurement has a wide range of opportunities. In our case, market research is the search for potential bidders, including both active and less active players in public procurement. In addition to traditional data collection, such as examining previous contracts or interviewing contacts in hospitals, a huge advantage of the public procurement market is the availability of procurement projects categorised in [Tenders Electronic Daily](#) and later in European Public Procurement Dataspace. This means that the demand for procurement items can be tracked, either with region-specific or contracting authority-specific focus. The market research can track whether healthcare institutions typically procure products through framework agreements or open tenders, and similarly how they negotiate.

The use of dynamic purchasing systems, or even the awarding criteria used, should also be part of the 'procurement market research'. In this case, it will be possible in future to fully identify what and under which conditions contracting authorities have purchased the products selected and among these, you should be able to filter on sustainability criteria. However, market prices are difficult to verify, as other conditions in public procurement often influence the price, so that the price in the contract notice may not be comparable between two tenders for the same subject matter.

When searching for new entrants, many EU Member States manage free electronic databases for economic operators, if the manufacturer or supplier is established in Europe. For non-European suppliers, access to data is sometimes much more difficult, especially on sensitive issues such as the level of environmental fines and pollution or the use of child labour.





How market research can help sustainability evaluation

From an environmental point of view, the contractual performance of suppliers does not necessarily imply sustainable environmental performance, so the contracting authority may not be able to identify a company with the necessary skills and verifiable environmental commitments. This is why it is essential to include in possible polluting activities, their consequences and the sustainability content of its own Code of Conduct.

In many Member States, market research can also be used to monitor the performance of public contracts, which can notify the contracting authority of the procurement procedure for those companies that are of interest and have a good performance record.

In the coming years, the verification of non-financial reports will also become a part of the preparation for CSRD reporting requirements. Valuable information can be gathered about potential bidders demonstrating what the company's priorities sustainability are.

It is also worth reviewing the suppliers' Code of Conduct, as evidence for the company's procedures, policies on supply chain control, human rights, and environmental approaches.

Conclusion

In making its own public procurement more sustainable, the contracting authority should use market research to ensure that potential bidders can demonstrate awareness of environmental and social considerations of the tender requirements.

Question 9: What are the best ways to provide and get feedback from relevant stakeholders?

A crucial element of feedback is to focus not only on the product itself, but also on the consequences of its use based on sustainability criteria.

In general, gathering feedback during the preparation of the procurement process is crucial. Experience of past performance goes far beyond whether a supplier has performed as contracted. The quality of performance depends on the perceptions of those working in the healthcare institution. Therefore, performance should be objectively measured by an efficient procurement and supplier management process. Organisation, trained staff, adequate quality, and quantity of information about the delivery and the product, frequency of collection, handling of hazardous waste are all aspects that determine the overall opinion and attitude of users towards the product or service.

Partnering with suppliers and engaging with them in two-way communication about the ideas of the user opens channels which, once the information reaches the manufacturer, enable it to take a bottom-up initiative and introduce innovations which will subsequently be better perceived by the users themselves. If your organisation wants to get feedback on sustainability aspects, it implies that the users are aware of them and their consequences on their work, on the environment and/or society at large. Sustainability training is therefore recommended to obtain informed feedback from your users. For example:

- less packaging not only benefits the environment, but also reduces the burden on health care professionals
- reusable products can have a reduced impact on the environment, but might increase the workload by requiring the need to sterilise the product after every use
- fewer defective products indirectly lead to more efficient work, creating a win-win situation.

A healthcare worker seeking a new product from a manufacturer, who is informed and wishes to improve environmental and social impact, should be able to make their expectations known. When preparing the procurement process, these needs should be considered, and a sample product should be requested and evaluated by a jury. In some jurisdictions evaluations outside of clinical practice is severely limited,

therefore these evaluations should be complemented by peer-reviewed clinical evidence and other data made available by a manufacturer. The feedback gathered by this jury, and used to enable a decision, is therefore crucial. The request for feedback should, where appropriate, allow an anonymous channelling of opinions and enable the contracting authority to impose, conditions and parameters that allow for an objective selection of products, based on technical and clinical features on one side and on a sustainability qualitative assessment on the other.

In any case, feedback should be organised in the simplest way possible, as medical teams are often overloaded with work and giving feedback could be considered as additional red tape. One idea is to standardise the process for quick cooperation and easy comparison of the results.



Conclusion

The solicitation, collection and evaluation of feedback is linked to the preparation of procurement procedures, where the stakeholders of the healthcare institution express their views and should be given the widest possible opportunity to do so. Training on sustainability issues related to their work and product procurement will enable more informed and meaningful feedback on sustainability criteria.

Question 10: What are the best ways to monitor performance?

The marketing of medical devices is highly regulated. The first requirement for the commercialisation and use of medical devices is the approval by respective jurisdictional regulatory agencies. In Europe, medical devices can be marketed in all Member States after having obtained the CE mark (*Conformité européenne*) from one of the European Notified bodies – private agencies for-profit in charge of issuing the CE mark.

In healthcare, safety is the priority for any device; a non-inferior safety evaluation is mandatory in the introduction of new devices.



Product performance is defined as the ability to perform as intended by the manufacturer and not compromise the clinical condition or the safety of patients, or the safety and health of users or, where applicable, other persons.

The major drivers of choice of medical devices are the benefits that they will bring to patients, to healthcare providers, and where they will fit into pathways of care.

The same KPIs can be employed for the post-market evaluation of device performance, although additional sustainability criteria as discussed in [Questions 6](#) and [7](#) may be added.

More sustainable products often demonstrate equivalent or better performance than less sustainable ones. However, but in certain cases, verification is required to demonstrate the devices with better sustainability have operational performance comparable to similar devices. While patient benefits are a non-negotiable aspect, some of the health system benefits should be analysed regarding sustainability aspects. For example, the impact of reducing staff at the bedside could be outweighed by increasing staff on the waste management aspect (sorting and recycling, plus the necessary facilities for this) or vice-versa. Similarly lower waste treatment costs could be counterbalanced by increased transport and waste management costs of the products used.

The evaluation of new technologies in the NICE medical technologies system (UK) is based on the following aspects:

- **Patient benefits:**
 - Safety (specifically less complications)
 - Clinical benefit (e.g. more effective, lasts longer)
 - Experiential benefit (e.g. less time in hospital, less painful, fewer visits)
 - Psychological benefit (e.g. immediate results, more information)
 - Quicker recovery (e.g. quicker return activities and/or to work)
- **Health system benefits:**
 - Shorter length of hospital stay
 - Fewer hospital visits
 - Lower 'treatment costs' (e.g. consumables, facilities, treatment time)
 - Less staff
 - Lower pay grade of staff
 - Less treatment of complications
- **Sustainability:**
 - Less waste
 - Less direct use of power
 - Less travel

When comparing similar devices with different sustainability features, once safety is ensured, it is necessary to understand if, and to what extent, a disadvantage in terms of performance could be considered adequately balanced by greater sustainability. Such consideration is, however, an overly sensitive issue that would need a thorough cross-competence analysis.

Conclusion

As the saying goes, 'If you can't measure it, you can't manage it.' It is therefore important to define KPIs that make sense for each organisation. When setting KPIs, always remember that a good KPI is specific, measurable and impactful. And that too many KPIs may lead to confusion and administrative overload.



Conclusion and outlook

As we conclude our exploration into sustainable procurement in the healthcare sector, it is evident that the journey toward environmental, social, and governance (ESG) excellence is both imperative and within reach. Considering our responses to the ten fundamental questions, we offer a practical checklist to guide your next steps:

- 1 Collective responsibility:** Embrace sustainability as a shared responsibility, acknowledging that avoidance only exacerbates the challenges. Ignoring it will not solve the issue.
- 2 Commence now:** Initiate your sustainability journey at your pace but commence without delay. If lacking a sustainability manager, consider acquiring one to spearhead these efforts.
- 3 Do not fear:** Embrace a culture that welcomes mistakes as learning opportunities. Fail fast, correct course, and persist in your commitment.
- 4 Target low-hanging fruits:** Identify and prioritise 'low-hanging fruits' for quick wins, setting the stage for broader and sustained success.
- 5 Internal collaboration:** Engage your team as active collaborators in the sustainability initiative within your institution.
- 6 External collaboration:** Seek external collaborators and tap into the willingness of suppliers and third-party stakeholders to contribute to your sustainability goals.
- 7 Measure progress:** Set KPIs and implement measurement mechanisms from the outset to gauge the impact of your sustainability endeavours.

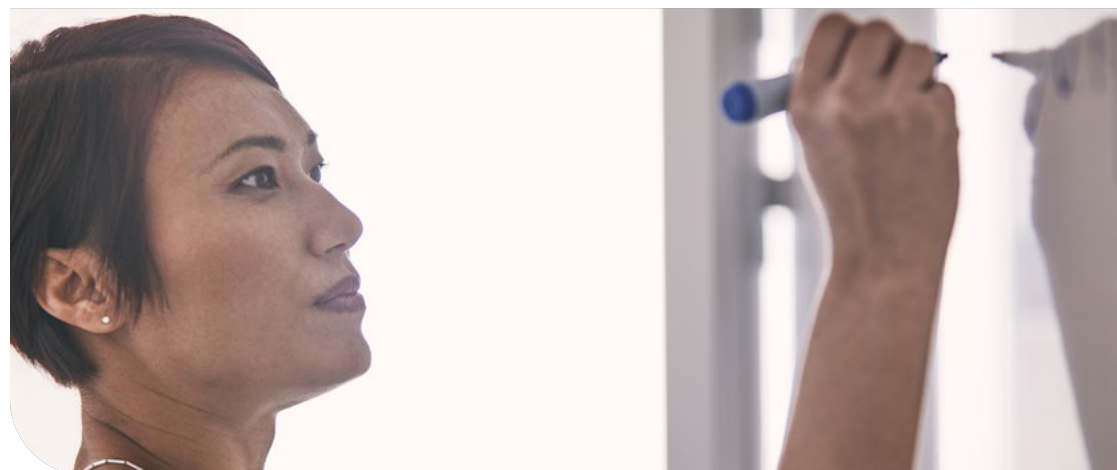
8 Seek and share best practices: Explore and share best practices, recognising that innovation and success are not proprietary.

9 Holistic approach to procurement: Expand the focus beyond drafting tenders. Consider the entire procurement process, from preparation through implementation, with key performance indicators (KPIs) guiding your efforts.

10 Community engagement: Broadly share your experiences and results, contributing to the collective knowledge of the community.

11 Celebrate achievements: Acknowledge and celebrate successes with your team and stakeholders, fostering a positive and motivated work environment.

Moving forward, stay informed and adapt to the evolving landscape of sustainability. As literature and information on these issues continue to progress, an ongoing commitment to learning and improvement will position your healthcare institution as a role model of sustainable procurement practices.



Sustainability Advisory Board Members



Nicolas Henckes (Chair)

CEO Hospilux S.A., Luxembourg

[Nicolas Henckes on LinkedIn](#)

Nicolas Henckes is an entrepreneur at heart who has adapted to a number of professions and environments: business lawyer in Paris, head of the cabinet of the Governor of the Luxembourg Central Bank, founder and Managing Director of a legal publisher, employer lobbyist and now CEO of Hospilux, the leading company in

Luxembourg in the field of medical technologies and equipment. Alongside these professional duties, he has also been holding various high-level positions at the national level and has been seating on the board of several non-profit organisations. Since 2007, Nicolas has been actively involved in CSR and has been the director of the Luxembourg National Institute for Sustainability & CSR (INDR) between 2013 and 2018, before joining its board from 2019 to 2021. Nicolas graduated from HEC Paris, CEMS and Paris XI Law University.

Dr. Mark-Andree Punke

OR Manager University Hospital Hamburg-Eppendorf, Germany

[Dr. Mark-Andree Punke on LinkedIn](#)

Dr. Mark Andree Punke is Head of OR-Management at University Hospital Hamburg Eppendorf (UKE), previously holding post of Head of Central Operating Room Management. He is a medical specialist in anaesthesiology, intensive care medicine and pain medicine.



Dr. Punke has worked to deliver a number of sustainability projects including special plastic recycling, recycling of gas absorbents, and the automated shutdown of air handling systems in the OR.



Prof. Marco Caricato

Director of Colorectal Surgery, Vice Dean Faculty of Medicine and Surgery, Campus Bio-Medico University Hospital Rome, Italy

[Prof. Marco Caricato on LinkedIn](#)

Marco Caricato, MD, FACS, FEBS (Coloproctol) is a Laparoscopic Colorectal Surgeon and Director of Colorectal Surgery Unit at Fondazione Policlinico Campus Bio-Medico. He is also Professor of Surgery at Campus Bio Medico University in Rome, Italy.

Professor Caricato is involved in research activity on sustainable surgery, founding the Green Team in his hospital which has received EU grants for their work on sustainability in healthcare.



Prof. Tünde Tatrai

Professor of Economics at Corvinus University of Budapest, Hungary

[Prof. Tünde Tatrai on LinkedIn](#)

She is economist and lawyer, works currently as a full professor at the Corvinus University of Budapest. She has been playing leading role in international research projects (for example International Research Study on Public Procurement; SAPIENS Network H2020) and is the author of numerous books and international publications.

She is member of the Editorial Board of the European Procurement and Public Private Partnership Law Review and member of the Editorial Advisory Board of Journal of Public Procurement. She teaches electronic procurement, sustainable public procurement, ethical procurement and public procurement law. She is member of the Multi-Stakeholders Expert Group on eProcurement (European Commission).

Sustainability is the key to the future of innovative public procurement, and I believe that it can motivate stakeholders to ensure that their purchases are of real benefit to the environment and society.

Stefan Krojer

Founder Zukunft Krankenhauseinkauf, ZUKE green, Germany

[Stefan Krojer on LinkedIn](#)

Stefan Krojer has 20 years of practical experience in the healthcare sector and is a healthcare procurement leader, expert and networker in the area of sustainability for healthcare. By founding ZUKE Green, a digital network for sustainability in hospitals, he is pursuing the goal of making the healthcare system climate-neutral and resource-saving. Members of the community are Hospital employees from all departments, managers and sponsors in the D-A-CH region. He has a degree in business administration for hospital management and an MBA in health care management.

Sustainability and health are closely linked. Managing our resources responsibly secures the livelihoods of our children and increases our well-being.

I see it as my mission to spread this message and have a positive impact on the world through sustainable choice of topics.



Glossary

CO2 measurement:

Organisations must use standards such as the GHG protocol to measure carbon dioxide emissions released by their facilities or activities.

Corporate Sustainability Reporting Directive (CSRD):

CSRD is an EU rule that requires large and listed companies to publish regular reports on the social and environmental risks they face, and how their activities impact people and the environment. Hospitals and health care providers are seen as companies in this context.

Corporate Sustainability Due Diligence Directive (CS3D):

CS3D requires companies to establish due diligence procedures to address adverse impacts of their actions on human rights and the environment, including along their value chains worldwide. Hospitals and health care providers are seen as companies in this context.

European Financial Reporting Advisory Group EFRAG:

EFRAG provides technical advice to the European Commission in the form of draft European Sustainability Reporting Standards (ESRS) elaborated under a robust due process and supports the effective implementation of ESRS.

European Sustainability Reporting Standards ESRS:

Adopted by the European Commission, the standards cover the full range of environmental, social, and governance issues, including climate change, biodiversity and human rights. They provide information for investors to understand the sustainability impact of the companies in which they invest.

EU-Taxonomy:

The EU taxonomy is a cornerstone of the EU's sustainable finance framework and an important market transparency tool. It helps direct investments to the economic activities most needed for the transition, in line with the European Green Deal

objectives. The taxonomy is a classification system that defines criteria for economic activities that are aligned with a net zero trajectory by 2050 and the broader environmental goals other than climate.

Greenhouse gas (GHG) emissions:

Greenhouse gases (GHGs) are gases that trap heat in the Earth's atmosphere and contribute to global warming. The most common GHGs are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Human activities such as burning fossil fuels, deforestation, and agriculture have increased the concentration of these gases in the atmosphere, leading to climate change.

Life cycle assessment/approach (LCA):

LCA is a systematic analysis of the potential environmental impacts and the energy balance of products throughout their entire life cycle. Before each analysis, the system boundaries (e.g. 'from cradle to grave,' 'cradle to gate') are defined, because different boundaries make sense depending on the product and the goal of the analysis.

Life cycle cost (LCC):

LCC means considering all the costs that will be incurred during the lifetime of the product, work or service: Purchase price and all associated costs (delivery, installation, insurance, etc.), operating costs, including energy, fuel and water use, spares, and maintenance.

Public Procurement Directive (PPD):

Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC Text with EEA relevance.

Social LCA:

Social life cycle assessment/approach is a form of life cycle analysis that assesses the human impacts of producing a product or providing a service. The results of an SLCA can be incorporated into a Life Cycle Sustainability Assessment.

References

- i Rocque RJ, Beaudoin C, Ndjaboue R, et al. Health effects of climate change: an overview of systematic reviews (2019). *BMJ Open*;11:e046333. doi:10.1136/bmjopen-2020-046333. <https://bmjopen.bmj.com/content/11/6/e046333> Accessed 12 January 2024
- ii World Health Organization. Public health and environment data. <https://www.who.int/data/gho/data/themes/public-health-and-environment> Accessed 12 January 2024
- iii Pichler, P, Jaccard I, Weisz U, Weisz H. International comparison of health care carbon footprints. (2019). *IOP Science*. <https://iopscience.iop.org/article/10.1088/1748-9326/ab19e1/meta#erlab19e1s3> Accessed 12 January 2024
- iv Eurostat Statistics Explained- Waste generation 2020 https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics Accessed 12 January 2024
- v United Nations. In Images: Plastic is Forever. <https://www.un.org/en/exhibits/exhibit/in-images-plastic-forever> Accessed 12 January 2024
- vi Salas, N and Jha, A. (2019). Climate change threatens the achievement of effective universal healthcare. <https://doi.org/10.1136/bmj.l5302> Accessed 12 January 2024
- vii World Health Organization. Climate change fact sheet 2023. <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health> Accessed 12 January 2024
- viii Zero Waste International Alliance. Zero Waste Definition. <https://zwia.org/zero%20waste-definition/> Accessed 12 January 2024
- ix CDP. Global Supply Chain Report 2019. <https://www.cdp.net/en/research/global-reports/global-supply-chain-report-2019> Accessed 12 January 2024
- x EUR-Lex. EU Waste Management Law <https://eur-lex.europa.eu/EN/legal-content/summary/eu-waste-management-law.html> Accessed 12 January 2024
- xi National Center for Biotechnology Information. Hospital Reputation and Perceptions of Patient Safety. 2013. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5586829/> Accessed 12 January 2024
- xii AHRMM. Domestic Sourcing Strategy Brings Balance to Health Care Provider Supply Chain <https://www.ahrmm.org/domestic-sourcing-strategy-brings-balance-healthcare-provider-supply-chain> Accessed 12 January 2024
- xiii Frontiers. Sustainable leadership and wellbeing of healthcare personnel: A sequential mediation model of procedural knowledge and compassion <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1039456/full> Accessed 12 January 2024
- xiv European Commission. EU Taxonomy Navigator. <https://ec.europa.eu/sustainable-finance-taxonomy/> Accessed 12 January 2024
- xv Environmental sustainability in anaesthesia and critical care, Forbes McGain, Jane Muret, Cathy Lawson and Jodi D. Sherman, *British Journal of Anaesthesia*, 125 (5): 680e692 (2020)
- xvi European Commission. Green Public Procurement. https://green-business.ec.europa.eu/green-public-procurement_en. Accessed 12 January 2024
- xvii Health Care Without Harm. New sustainability criteria for examination and surgical gloves. <https://noharm-europe.org/documents/new-sustainability-criteria-examination-and-surgical-gloves> Accessed 12 January 2024
- xviii GRI. The global leader for impact reporting. <https://www.globalreporting.org/>. Accessed 12 January 2024

- xix** ISO 14001. Family Environmental management. <https://www.iso.org/standards/popular/iso-14000-family>. Accessed 12 January 2024
- xx** ISO 26000. Social responsibility. <https://www.iso.org/iso-26000-social-responsibility.html> Accessed 12 January 2024
- xxi** United Nations. Global Compact. <https://unglobalcompact.org/>. Accessed 12 January 2024
- xxii** The 17 Goals. <https://sdgs.un.org/goals>. Accessed 12 January 2024
- xxiii** OECD. OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. <https://mneguidelines.oecd.org/mneguidelines/> Accessed 12 January 2024
- xxiv** Science Based Targets. Ambitious Corporate Climate Actions. <https://sciencebasedtargets.org/> Accessed 12 January 2024

