

REDUCING
THE **CARBON**
FOOTPRINT
OF **HEALTHCARE** THROUGH
SUSTAINABLE
PROCUREMENT





THE CARBON-INTENSIVE HEALTHCARE SECTOR

The World Bank estimates that the healthcare sector **makes up approximately 5% of global carbon emissions**.¹ Considering the significant carbon footprint of the European healthcare sector, with approximately 15,000 hospitals across the European Union,² hospitals and health systems could play a major role in achieving and going beyond the EU's climate and energy targets.

These hospitals and health systems have a high demand for heating, cooling, and electricity, and require a large amount of energy for transport, lighting, ventilation, air conditioning, and electric and electronic equipment. Health systems are also major consumers of medical goods and equipment, which are often produced in carbon-intensive processes in the developing world under unsafe, toxic, and unregulated conditions.

Procurement and carbon emissions

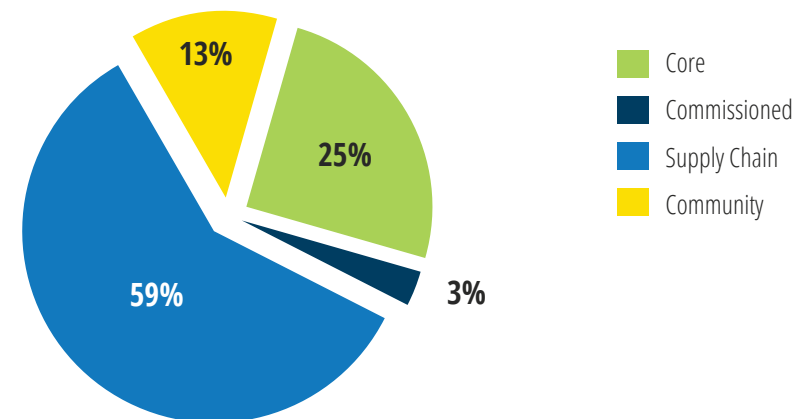
The measurement of greenhouse gas (GHG) emissions is a crucial first step towards identifying the most carbon-intensive "hotspots" and developing plans and strategies for reduction. Whilst Scope 1 (direct GHG emissions from sources owned or controlled by the organisation)³ and Scope 2 (indirect GHG emissions from the consumption of purchased electricity, heat or steam)³ are often more easily measured and reduced, emissions from the

procurement of goods and services (which mostly fall under Scope 3)³ make up a significant proportion of a hospital's carbon footprint.

The Sustainable Development Unit (SDU) for the NHS, Public Health and Social Care in England has carried out some of the most comprehensive research into the mapping of carbon emissions from the healthcare sector.

The SDU put the carbon footprint of the NHS in 2017 at 21.6 metric tonnes of CO₂e (carbon dioxide equivalent).⁴ Of these emissions, 59% came from the supply chain, and pharmaceuticals and medical devices represent the two largest contributors, collectively making up 30% of the entire NHS footprint.³

2017 breakdown of NHS greenhouse gas emissions⁴



Considering the large carbon footprint of procurement for the healthcare sector, sustainable procurement policies, strategies, and practices (particularly when carried out on a large scale), can be a key leverage point for decarbonising the supply chain and achieving climate-smart healthcare. Through purchasing and investment choices, the health sector can help drive market transformation to a low carbon economy.

Hippocrates Data Centre

One of the most comprehensive tools that exists for the measurement, tracking, storing, and visualisation of environmental data (including energy use and GHG emissions) is Global Green & Healthy Hospital (GGHH)'s Hippocrates Data Centre. The tool is the first international platform of its kind designed specifically for the health sector to measure actions towards reducing its environmental footprint and puts the power of data management, goal benchmarking, and progress-tracking into the hands of each GGHH member.

Hippocrates allows GGHH members to track waste management improvements, analyse the impact of their energy efficiency efforts, understand greenhouse gas emissions from their facilities (including GHG emissions from energy consumption and anaesthetic gas use), and report on progress to facility leadership.

To become a GGHH member today and take advantage of Hippocrates and wide range of other tools and resources, please visit www.greenhospitals.net.



REGULATORY FRAMEWORK FOR PUBLIC PROCUREMENT

The **Sustainable Development Goals (SDGs)** have reiterated the strong link between environmental conservation, sustainable development (in its three dimensions: social, environmental, and economic), and public procurement. SDG 12 concerns sustainable production and consumption, and Target 12.7 focuses specifically on the promotion of “...public procurement practices that are sustainable, in accordance with national policies and priorities”.⁵

The development and promotion of sustainable public procurement practices will play a crucial role in achieving the SDGs and other targets (such as those outlined in the **Paris Agreement**) at the national, European, and global levels. Public authorities must therefore start leading the way through better alignment of their policies with best practice in terms of sustainable and ethical procurement.

Current **EU public procurement legislation (Directives 2014/23/EC, 2014/24/EC, and 2014/25/EC)**⁶ gives public authorities the power to set environmental and social criteria when procuring products and services for the healthcare sector through simplified procedures which respect the principles of transparency and competition between providers.

Directive 2014/24/EC identifies that contracts should be awarded to suppliers that provide the “most economically advantageous tender” (art. 67.1). Although these tenders should be identified by price and cost, a cost-effectiveness approach can also be used that includes the best price-quality ratio – also taking into account life-cycle costing based on environmental and/or social criteria (art. 67.2).

The life-cycle cost calculation (art. 68) takes into account costs directly linked to the lifecycle of a product, service or works (such as energy or other resource use), as well as other costs such as the cost of GHG/other polluting emissions including climate change mitigation costs.

On 3 October 2017, the European Commission published a new communication - “**Making Public Procurement work in and for Europe**” - which identifies six priority areas that can transform public procurement into a powerful instrument for change in each Member State.⁷ One of these priorities is to improve the professionalisation of public buyers at national, regional, and local levels, which includes access to tools, methodologies, support, and the necessary institutional policy architecture to conduct or participate in tasks related to procurement and deliver the best outcomes.

The European Commission’s 2017 “**Recommendation on the professionalisation of public procurement - Building an architecture for the professionalisation of public procurement**”⁸ calls on Member States to develop appropriate training programmes – both initial and lifelong – for contracting authorities/entities, and encourage the use of IT tools that can simplify and improve the functioning of procurement systems. These IT tools include online portals, helpdesks, or online forums, which would enable the exchange of best practice and improve cooperation amongst practitioners.

THE ROLE OF HEALTHCARE PROCUREMENT IN DRIVING THE LOW-CARBON ECONOMY

Sustainable procurement can drive positive health impacts for patients, communities, and the environment. Public procurement has been identified as a key entry point for promoting more sustainable production and consumption patterns.

The role of procurement in influencing the environmental impact of health sector operations is well acknowledged, and sustainable procurement practices have the capacity to reduce a significant proportion of the health sector’s greenhouse gas emissions.³

By adopting sustainable procurement policies, strategies, and practices - health systems, national and sub-national governments, and international development actors can lead the shift towards inclusive, green economies. Hospitals and health systems should demand products and services that are compliant with environmental and social standards throughout their lifecycle.

On the hospital and system-level, many examples of how procurement has been used as a tool to reduce carbon emissions exist:

The Sustainable Health in Procurement Project (SHiPP)

In 2018, the United Nations Development Programme (UNDP), in collaboration with Health Care Without Harm (HCWH), officially launched its new programme - Sustainable Health in Procurement Project (SHiPP). Funded by the Swedish International Development Cooperation Agency, SHiPP is a four-year project aiming to promote sustainable procurement in the health sector, in the United Nations Agencies, and in key project countries through the reduction of toxicity of chemicals and materials in health products, the reduction of greenhouse gases in the supply chain and the conservation of resources. The program began implementation in January 2018, visit www.noharm-global.org/issues/global/sustainable-health-procurement-project for further information.

Project countries include Guatemala, Moldova, Ukraine, Tanzania, Vietnam, and Zambia. Work in these countries, together with regional components in Latin America and South-East Asia, will be designed to replicate success in neighbouring countries for future phases of the project. The project will also work in fast-growing economies, China, Brazil, India, and South Africa, whose health sectors present a significant opportunity to impact the global supply chain.

For regular updates on SHiPP, please visit the Global Green & Healthy Hospitals website: www.greenhospitals.net

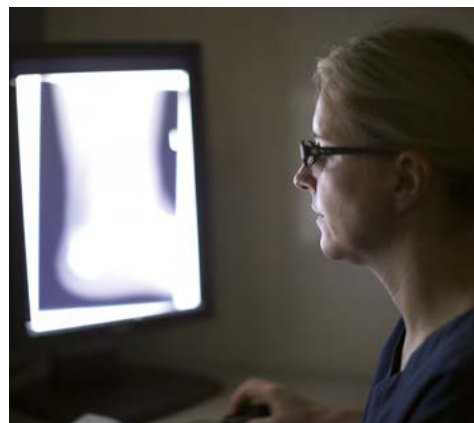
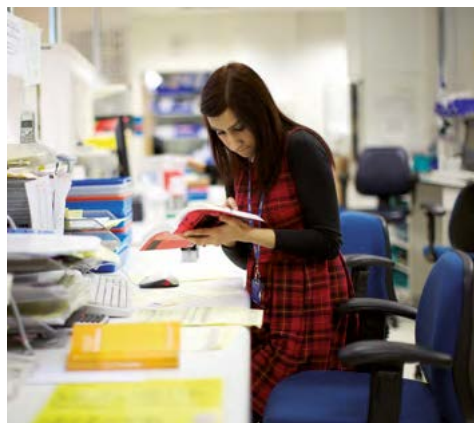


CASE STUDIES:

NHS Carbon Reduction Strategy in England (2009), UK

In an effort to contribute to the UK Climate Change Act (2008)'s target of an 80% reduction in the country's emissions by 2050, the NHS set out to achieve a 10% reduction in emissions between 2007-2015. Despite an increase in activity of 18% over this period, the NHS achieved an 11% reduction in emissions, with an overall reduction in emissions from procurement of 16%.⁹

Key to this reduction has been a suite of research, tools, and guidance produced by the NHS Sustainable Development Unit.¹⁰ Research into "procurement hotspots" identified areas of high priority for the NHS for which specific tools and guidance were also developed, including the Procuring for Carbon Reduction (P4CR) Toolkit, which aims to provide procurement professionals (as well as other staff) with guidance, methodologies, and tools to identify and understand the carbon reduction opportunities for their organisation.⁹



Environmental Programme at Landspítali National University Hospital, Iceland

The vision of Landspítali¹¹ is to be a role model in environmental issues and use social responsibility as a guiding principle in decisions and in daily work. To that end, the hospital has implemented an environmental programme since 2012, and paid special attention to the largest sources of emissions - anaesthetic gases (39%) and employee travel to and from work (31%).

The hospital has also focussed on green procurement, and achieved impressive results. For example:

- The use of disposable plastic coverings on trolleys has discontinued, with a resulting decrease of 10 tons/year of plastic used, and savings of about ISK 6 million (approx. €47,830) annually.
- The availability of vegetables and organic food in the kitchen and canteens has increased. Also, food waste is composted, and hospital employees can receive free compost to use in their own gardening.
- They no longer use Styrofoam boxes for take-away food, which has led to a reduction of 123,000 boxes annually. Currently, employees use a high-quality, reusable box, which is BPA-free.
- 10 non-ecolabelled detergents are no longer being used at the hospital.





Single-use healthcare products in Region Skåne, Sweden

Region Skåne is the region's largest healthcare provider, serving 1.3 million citizens each year. In the process of delivering care, the region purchases vast quantities of goods, and many products are made from disposable materials that generate large amounts of waste.

The region increasingly uses products made from biomaterials – which can consist of raw materials from renewable sources – to replace some plastic materials. For example, as the result of innovative procurement, a supplier has developed more climate-friendly aprons using 91% renewable materials.

More than 48 million disposable plastic examination gloves are bought annually by Region Skåne. The tight packaging of gloves was examined in a study carried out at one hospital, and it was discovered that 6% of the gloves had to be discarded due to them falling to the floor. The reason for this was that several gloves sometimes stuck together and when a glove was removed from the packaging, another stuck to it and often fell. When procuring gloves, the region demanded a smarter packaging solution from the supplier in order to reduce this unnecessary waste.

Finally, Region Skåne has also procured a plastic syringe that weighs less compared to the model previously used. This reduces waste, lessens the region's climate impact, and lowers costs. The region now recognises that if such initiatives could be applied to other suitable medical devices throughout their operations, the carbon footprint of these materials would be greatly reduced.

Example product group: Reducing the carbon footprint of anaesthetic gases

Although emissions from the use of anaesthetic gases are small relative to other sources in healthcare, they are extremely potent greenhouse gases and persist in the atmosphere for a long time. As a recent HCWH Europe project has shown, implementing changes in anaesthetic practice (such as using Sevoflurane instead of Desflurane where possible, and reducing or eliminating the use of nitrous oxide) could result in significant emissions reductions.

If half of European hospitals achieved the potential savings identified in the five pilot hospitals in this project, it would save 700 kilotonnes of CO₂ – equivalent to taking 300,000 cars off the road.

For more information about this project, please visit: www.noharm-europe.org/issues/europe/fostering-low-carbon-healthcare-europe

RECOMMENDATIONS FOR HOSPITALS AND HEALTH SYSTEMS

- 1. Start by measuring and monitoring the GHG emissions from procurement.**³ From such measurements, “carbon hotspots” can be identified. The Sustainable Development Unit for the NHS and health sector has developed a wide range of tools and resources that can help organisations on their carbon reduction journey.⁹ One example of such tools is the Marginal Abatement Cost (MAC) curve,¹³ which can show users which carbon reduction measures save the most money.
- 2. Develop and implement an online platform** to track the carbon footprint of products used and resource consumption, generating useful data that can be used to identify areas in which sustainable procurement can reduce emissions and improve efficiency.¹⁴
- 3. Take advantage of the new definition of the ‘most economically advantageous tender’** in the EU's Public Procurement Directive⁶ by using a price-quality ratio. Contracting authorities can now set quality standards based on technical specifications or contract performance conditions.
- 4. Use life-cycle costing to choose the best tender.** The Public Procurement Directive's definition⁸ of life-cycle costing covers both costs borne by the contracting authority and other users, as well as costs imputed to environmental and social externalities which are able to be monetised. Examples of such externalities are the costs of pollution caused by the extraction of the raw materials used in the product, and climate change mitigation costs.
- 5. Encourage innovation procurement,**¹⁵ creating conditions where innovation can thrive in the local economy and suppliers can provide goods and services that better serve the needs of the organisation and reduce the carbon footprint of healthcare.
- 6. Provide access to information and comprehensive training programmes** for staff involved in procurement so that they develop and hone the necessary skills to deliver greater cost savings and emissions reductions through procurement practices.

7. Where possible, **engage in cross-border and joint purchasing initiatives that promote sustainable procurement**, leveraging and aggregating the purchasing power of the sector for greater environmental and societal impact.
8. **Foster the exchange of examples of good practice and case studies** (for example by joining networks such as HCWH Europe¹⁶ and Global Green & Healthy Hospitals¹⁷) in order to share ideas and promote sustainable procurement in the sector, highlighting opportunities for greater collaboration among sectors, stakeholders, and programmes.

CONCLUSION

Sustainable procurement can greatly reduce the health sector's carbon footprint and drive the shift towards a low-carbon economy, ensuring that high environmental and social standards are upheld.

Hospitals and health systems have the moral responsibility and social obligation to make responsible decisions that guarantee both human and environmental health throughout their entire supply chain. The opportunity is ripe for the healthcare sector to reduce its carbon emissions through procurement practices.

REFERENCES & NOTES

1. World Bank Group (2017). Climate-Smart Healthcare: Low-Carbon and Resilience Strategies for the Health Sector. Available at: <http://documents.worldbank.org/curated/en/322251495434571418/Climate-smart-healthcare-low-carbon-and-resilience-strategies-for-the-health-sector>
2. European Hospital and Healthcare Federation (HOPE) and DEXIA (2009). Hospitals in the 27 Member States of the European Union (pp. 47). Available at: http://www.hope.be/wp-content/uploads/2015/11/79_2009_OTHER_Hospitals-in-27-Member-States-of-the-European-Union-eng.pdf
3. For more information on direct and indirect GHG emissions and Scopes 1, 2, and 3: https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf
4. Sustainable Development Unit (2018). Reducing the use of natural resources in health and social care. Available at: <https://www.sduhealth.org.uk/policy-strategy/reporting/natural-resource-footprint-2018.aspx>
5. United Nations Sustainable Development knowledge platform (2015). Transforming our world: the 2030 Agenda for Sustainable Development. Available at: <https://sustainabledevelopment.un.org/post2015/transformingourworld>
6. European Commission (2014). EU Public Procurement Directives. Available at: http://ec.europa.eu/environment/gpp/eu_public_directives_en.htm
7. European Commission (2017). Communication from the Commission to the Institutions: Making Public Procurement work in and for Europe. Available at: <http://ec.europa.eu/docsroom/documents/25612>
8. European Commission (2017). Recommendation on the professionalisation of public procurement - Building an architecture for the professionalisation of public procurement. Available at: <http://www.sercobe.es/wp-content/uploads/2017/10/c-2017-6654.pdf>
9. Sustainable Development Unit (2016). Carbon Footprint update for NHS in England 2015. Available at: https://www.sduhealth.org.uk/documents/publications/2016/Carbon_Footprint_summary_NHS_update_2015_final_v2.pdf
10. More information at: <https://www.sduhealth.org.uk/areas-of-focus/commissioning-and-procurement/procurement/research-tools-and-guidance.aspx>
11. More information at: <https://www.landspitali.is/default.aspx?pageid=deac0479-05aa-11e8-90f1-005056be0005>
12. Health Care Without Harm Europe (2018). Fostering Low Carbon Healthcare in Europe – EUKI Anesthetic Gases Project. More information at: <https://noharm-europe.org/issues/europe/fostering-low-carbon-healthcare-europe-euki-anaesthetic-gases-project>
13. More information at: <https://www.sduhealth.org.uk/delivery/measure/finance/macc.aspx>
14. More information at: https://noharm-europe.org/sites/default/files/documents-files/4746/HCWHEurope_Climate_Report_Dec2016.pdf
15. More information at: www.ecoquip.eu
16. More information at: www.noharm-europe.org/content/europe/hcwh-europe-members
17. More information at: www.greenhospitals.net



HCWH Europe
Rue de la Pépinière 1,
1000 Brussels, Belgium

E. europe@hcwh.org,
T. +32 2503 4911

 **@HCWHEurope**  **HCWHEurope**

www.noharm-europe.org

Authors: Paola Hernández Olivan, Food Policy & Projects Officer
Viktor Jóna, Climate Policy & Projects Officer
Aidan Long, Senior Management and Projects Officer

Design: prinzdesign Berlin
Marc Prinz & Maren Maiwald

Published: September 2018

Photos: Mirinae@shutterstock (Title), Eoneren@istockphoto (P.2-3) Sustainable Development Unit (P.6), Landspítali (P.7), Region Skåne (P.8), ipopba@istockphoto (P.9)

Health Care Without Harm (HCWH) Europe is the European arm of a global not for profit NGO whose mission is to transform healthcare worldwide so that it reduces its environmental footprint, becomes a community anchor for sustainability and a leader in the global movement for environmental health and justice. HCWH's vision is that healthcare mobilises its ethical, economical, and political influence to create an ecologically sustainable, equitable, and healthy world.



HCWH Europe gratefully acknowledges the financial support of the European Commission's EU Life+ programme.

HCWH Europe is solely responsible for the content of this publication and related materials. The views expressed do not reflect the official views of the European Commission.

Printed on 100% recycled paper using vegetable based ink.

