

POCKET GUIDE FOR HEALTHCARE PROFESSIONALS: HOW TO KICK-START YOUR DECARBONISATION JOURNEY



INTRODUCTION

This Pocket Guide is addressed to healthcare professionals and aims to equip them with the practical tools, strategies and knowledge they need to kick-start a decarbonisation journey at their own healthcare facility.

It includes key points on how health and climate change are interconnected, essential considerations for how to calculate a carbon footprint, and strategies for effectively communicating to help mobilise healthcare climate action.

By championing sustainable practices within healthcare settings, healthcare professionals can make a profound impact, both by directly reducing the sector's environmental footprint and by establishing healthcare as a role model for sustainable practice across industries. Throughout Europe, many are rethinking their practices and advocating for policies to embed sustainability in their healthcare organisations. Health Care Without Harm (HCWH) Europe is committed to supporting their efforts by organising training sessions specifically designed to teach them the principles of climate-smart healthcare, empower them to effectively advocate for climate action, and enable change across the sector.

This Guide aims to give healthcare professionals a brief introduction to how they can mobilise collective action to decarbonise their healthcare facility's activities, through both effective communication and knowledge on the topic of carbon footprinting. It is made up of three sections:

- 1 Setting the scene: The climate-health connection**
- 2 Communicating to catalyse climate action**
- 3 Understanding carbon footprints**

These sections can serve as quick references, offering healthcare professionals concise and actionable insights to guide their efforts toward implementing and advocating for sustainable practices in their facilities.

This guide is intentionally brief – it is designed to be informative, user-friendly, and empowering, to help launch your decarbonisation journey. Its content is drawn from a training session held in 2024 for HCWH Europe's Healthcare Professional (HCP) Networks, attended by doctors, nurses, pharmacists, researchers, or students of these disciplines.





1

SETTING THE SCENE: THE CLIMATE-HEALTH CONNECTION

THE CASE FOR ACTION

The healthcare sector witnesses firsthand the health impacts of climate change, bearing the responsibility of responding to climate-driven health issues – yet it also contributes significantly to the problem, accounting for approximately [4.6% of global net emissions](#).¹ Without action, these emissions could potentially [triple by 2050](#).² However, the healthcare sector has both the capacity and the responsibility to reduce its carbon footprint. With its substantial influence in advocacy and purchasing power, the sector can lead the way in driving societal and political action toward a sustainable, climate-resilient future.

KEY DEFINITIONS

Climate is the average weather for a particular region and time period. As defined by the [World Meteorological Organization \(WMO\)](#), it is usually measured over thirty years or more.

Greenhouse Gases (GHG) are defined as gases that trap heat in the atmosphere. The most prominent of these gases is carbon dioxide (known as CO₂), but there are many others, such as methane (CH₄) and nitrous oxide (N₂O), with different abilities to trap radiation energy and heat. Human activities since the beginning of the Industrial Revolution in the late 1700s have increased [methane levels by over 150%](#)³ and [carbon dioxide levels by over 50%](#).⁴

Greenhouse effect: By trapping the sun's heat in the earth's atmosphere (the so-called "greenhouse effect"), GHGs are driving changes in our climate. Three factors affect the degree to which a GHG influences global warming: its abundance in the atmosphere, how long it stays there, and its global warming potential (GWP). Even slight temperature increases due to the greenhouse effect can have significant impacts on the planet, posing serious consequences for the environment and human health.

Health impacts of climate change: Human health and well-being are affected by both direct environmental factors – such as air, soil, and water quality, humidity, extreme weather events, temperature shifts, and UV exposure – and by secondary, climate-driven factors like changes in land use, agriculture, biodiversity and urbanisation. Vulnerable populations bear the greatest burden from these health impacts of climate change. The health consequences of climate change include:

- Temperature-related illnesses and deaths,
- Injuries and illnesses due to extreme weather events,
- Spread of infectious disease vectors,
- Increase in water-borne illnesses,
- Wide-ranging impacts due to air pollution,

Climate action encompasses both mitigation and adaptation. Mitigation focuses on reducing healthcare's carbon footprint, while adaptation centres around adjusting healthcare systems and processes to cope with the ongoing and future effects of climate change. Understanding the two key components that constitute climate action is key to communicating about it and mobilising effectively.





2

COMMUNICATING TO CATALYSE CLIMATE ACTION

THE CASE FOR ACTION

Communicating and advocating climate action:

Climate action is urgent and essential to stop the devastating impacts of climate change on both the environment and human health. At the moment, [Europe is heating up faster than any other continent in the world](#).⁵ Adapting to climate change is also crucial, as its effects are already being widely experienced, and climate change will continue to place significant strain on healthcare systems. As healthcare professionals, you have a trusted voice in society, especially when it comes to matters of science and health – and framing climate change in terms of health has proven to be the most [effective approach](#) for inspiring action.⁶ Effective communication is at the heart of all progress, every single initiative, collaboration, policy change, and community effort begins with discussion, a shared understanding, and community. The key principles and concepts introduced here will help you to be an effective communicator on this topic, mobilising action within your organisation and beyond.



KEY CONCEPTS

- **Build on scientific facts**, but remember that you don't need to be a climate expert to speak about climate action. Your expertise as a healthcare professional is valuable and relevant.
- **Focus on local and immediate impacts** to make climate change a tangible matter. You can focus on the observable impacts you have witnessed and the solutions you might be aware of. This proves that the issue is tangible and ways of combatting it are credible.
- **Emphasise the co-benefits of climate action.** For example, measures to reduce emissions often improve air quality, promote physical activity, and enhance community well-being. Measures to adapt your facilities will protect the local communities when storms or extreme weather events occur. Many of these actions can also reduce costs long term – especially given that the cost of inaction is much higher than action, not only financially but in terms of human life.
- **Practice empathy and accessibility.** Empathy means not trying to 'win' a conversation but trying to understand where the other person is coming from and acknowledging their feelings, whether fear, uncertainty, or scepticism. When we respond in this way, we create an opening for dialogue where both sides feel heard and respected. Speaking in accessible language, free from technical, medical, or climate-related jargon, further ensures that the exchange remains compassionate and inclusive.
- **Offer hope and highlight success stories.** Although acknowledging urgency can be very useful, only highlighting the negative aspects can paralyse people with fear and inaction. It's important to encourage hope and action by sharing proven solutions and reminding others of the many people in the world who are committed to making change.
- **Debunking myths** is the practice of addressing misconceptions by providing clear, evidence-based information that contradicts these inaccuracies. Armed with a good understanding of the realities of climate change, you can debunk myths and inform others about how climate action is essential to protect health.

HOW TO TAKE ACTION

Actions to progress your climate advocacy journey:

- Schedule meetings with your facility management, advocating that they prioritise climate action as part of the institution's agenda. Encourage them to start by calculating a carbon footprint, and work towards establishing clear and concrete decarbonisation goals. By engaging leadership in climate action conversations, you can help catalyse change.
- Keep learning and use resources (such as HCWH Europe communications guides) to enhance your skills, and our wealth of reports and case studies to improve your knowledge.
- Connect with peers in HCWH Europe networks, and in your own community. Be aware that you are not alone and are part of a growing movement of healthcare professionals who are committed to change.
- Start small, but start now! Your actions will provide an example for others to follow, so speak up for climate action and practice sustainability in your life.
- Keep it personally sustainable, and remember to take care of yourself: maintain balance, take breaks, and lean on others for support.

LEARN MORE

→ For help finding and using your voice, make strong points, and communicate confidently, read [Using Your Voice to Drive Climate Action](#).

→ To learn how to counter climate myths, [Debunking Climate Myths and Empowering Climate Action](#) provides pre-crafted responses to common misconceptions.

→ For advice on how to collaborate horizontally with colleagues to advocate for climate action, read [Teaming Up for Sustainability](#).

Note: This guide is available on your healthcare professional network's repository. For help using or accessing it, please email europe@hcwh.org

→ To learn about how the media works and how to give interviews, read [Mastering Media Interviews to Promote Climate and Health](#).





3

UNDERSTANDING CARBON FOOTPRINTS

THE CASE FOR ACTION

Calculating a healthcare facility's carbon footprint is crucial to understanding its climate impact. With a footprint, you or your organisation can set reduction targets, make informed decisions to reduce climate impact and implement emission-reduction initiatives. This section introduces the key concepts and steps involved in calculating a facility's carbon footprint. Get familiar with these concepts to advocate for your facility to embark on its decarbonisation journey.

KEY CONCEPTS

Carbon footprint: Sometimes referred to as a "greenhouse gas inventory," a carbon footprint represents the total greenhouse gases (GHGs) generated by an activity, facility operation, or product's lifecycle. Calculating a carbon footprint requires assessing emissions from various GHGs, expressed as a single metric known as carbon dioxide equivalent (CO₂e), to reflect their combined climate impact. Calculating a carbon footprint is an iterative process that improves over time and that requires the involvement of different people in the organisation. The first carbon footprint may not capture all emission sources, but provides a starting point to work from. While data collection and calculating emissions can seem complicated, engaging the right personnel, consulting experts, and using available tools can help kick-start data collection efforts and emission calculations, as well as the development of carbon management plans.

Emission baseline: An emission baseline is the quantified level of GHG emissions associated with a specific entity, activity, or sector during a defined reference period. It serves as a benchmark against which future emissions can be measured, evaluated and compared. Baselines are usually set to a specific financial year based on the earliest data availability, but can also be set to a given year for reporting purposes and legal compliance. By providing insights into the sources and quantities of emissions, establishing an emission baseline is a key starting point for decarbonisation efforts.

Boundaries (in the context of the carbon footprint): Boundaries are linked to the specific facility/organisation and its specificities (i.e., home care, a laboratory, a hospital) and define what will be included, or excluded from its carbon footprint. In carbon footprints, two types of boundaries are typically considered: organisational and operational boundaries. Organisational boundaries determine which assets or segments of an organisation are included in the carbon footprint. Operational boundaries, on the other hand, specify GHG emissions sources that should be included and how they are categorised.

Emission categories: the most common way to categorise emissions is by referring to the [Greenhouse Gas Protocol](#), which defines emissions scopes.⁷ According to this Protocol, emissions can be categorised into 3 scopes for the healthcare sector:

- **Scope 1:** Direct emissions that come from sources that the organisation owns or controls (such as vehicles, refrigerants, on-site energy generation, or machinery).
- **Scope 2:** Indirect emissions that occur outside the organisation from purchased energy (such as electricity, heat, cooling or steam).
- **Scope 3:** All other indirect emissions that occur outside the organisation. This encompasses the entire value chain (such as pharmaceuticals, chemicals, waste management, business travel, and food). This is the largest category contributing to the healthcare's climate footprint⁸.

Emission factor quantifies the GHG emissions per unit of activity or expenditure. It is important to recognise that emission factors are expressed in different units.

Global Warming Potential (GWP): GHGs have different levels of global warming potential. The GWP compares the impact over a specific period and converts GHGs into carbon dioxide equivalents (CO₂e).

Carbon dioxide equivalent (CO₂e) is a conversion unit used to compare the emissions from different GHGs on the basis of their GWP, by converting amounts of other gases to the equivalent amount of carbon dioxide with the same GWP.

Activity data: A quantitative measure of an activity that results in GHG emissions that take place during a given period of time. Two examples are: the kilowatt hours (kWh) used in a facility; or litres (L) of gasoline used in the ambulance fleet.

Expenditure data: Financial information on the amount spent in a given area.

Emission calculations: Carbon footprints for emissions produced by a healthcare facility are typically calculated for one financial year. To apply emission factors, data for each scope must be collected for the financial period and converted into the appropriate units, matching the units of the emission factors to enable accurate emissions estimates.

Understanding the units involved is essential, as sometimes this calculation gives emissions for a GHG, which needs to be converted to CO₂e using the corresponding GWP.

The formula for emission calculations: Emissions are calculated using the formula: **Data x Emission Factor = Emissions**

If the unit of the emission factor is CO₂e, the resulting emissions are comparable and can be summarised directly in a carbon footprint. However, if the emission factor corresponds to another GHG, an additional step is required to convert these emissions into CO₂e using the GWP of that gas: **Emissions x GWP = CO₂e emissions**

EXAMPLE

In calculating emissions from an ambulance fleet during one financial year, the activity data would be the number of kilometres (km) travelled by ambulances, and the unit of the emission factor could relate to a specific GHG or CO₂e. In this example, the emission factor is kilograms of carbon dioxide equivalent per kilometre (kg CO₂e/km). If the emission factor is already in units of CO₂e (e.g., kg CO₂e/km), only the initial formula is required to calculate emissions. To determine the emissions from ambulance travel, the emission factor needs to be multiplied by the distance travelled in km:

Kilometres(km) x Emission Factor (kg CO₂e/km) = Emissions (kg CO₂e)

The example highlights how to calculate a carbon footprint from one emissions source. Emissions from multiple sources are aggregated to obtain a facility's total carbon footprint, which can be used to assess the effectiveness of actions taken to reduce GHG emissions in specific areas and track their progress.

HOW TO TAKE ACTION

Being knowledgeable about the importance of carbon footprints can help you advocate for climate action at the individual and organisational levels.

We recommend three core steps to take action towards decarbonisation :

- **Learn and plan with our Climate Impact Checkup Course.** Enroll in HCWH's [Climate Impact Checkup Course](#) to gain the skills needed to measure healthcare institutions' carbon footprints and develop actionable plans to reduce GHG emissions. This free course, complemented by the [Climate Impact Checkup Calculator](#), is designed for beginners and requires no prior experience in GHG calculations.
- **Engage and share knowledge.** Connect with healthcare management and your colleagues to share the insights you've gained. Recommend the Climate Impact Checkup Course and explore other HCWH Europe resources, such as toolkits and guides, that support the decarbonisation journey by offering crucial information and context.
- **Practice calculating a carbon footprint.** If you're feeling inspired, start collecting data, try calculating a carbon footprint yourself, or identify key emissions sources at your facility (e.g., energy consumption).

LEARN MORE

- The [Healthcare Decarbonisation Toolkit: Experiences from the Mediterranean Region](#) provides guidance and practical tools to help healthcare providers develop and implement effective carbon management plans. It also includes case studies and experiences from the Mediterranean region.

Note: This guide is available on your healthcare professional network's repository. For help accessing or using it, please email europe@hcwh.org

- The [Global Road Map for Health Care Decarbonisation](#) provides a comprehensive guide for the global healthcare sector to reduce its carbon footprint while supporting global health goals.



CONTINUE YOUR JOURNEY

Share the resources linked in this Pocket Guide with your healthcare management and colleagues to provide key context on why healthcare climate action is essential. Advise your leadership to join our Global Green and Healthy Hospitals network (see below) for access to more resources and opportunities. Additionally, encourage fellow healthcare professionals to join our networks to meet and collaborate with others in healthcare committed to tackling climate change.

Every effort you make to advocate climate action is important, and your voice is part of a growing movement in the healthcare sector worldwide.

THANK YOU!

OUR NETWORKS



Global Green & Healthy Hospitals

Giving your institution free access to a range of exclusive tools and resources, including our Healthcare Decarbonisation Toolkit (*hospitals, health systems, and health centres only*).



Doctors for Greener Healthcare

Bringing together doctors and medical students from across Europe to collaborate, share best practices, and advocate for a healthy future by reducing the environmental impact of healthcare.



**Nurses
Climate Challenge
EUROPE**

Nurses Climate Challenge Europe

Empowering nurses and nursing students from across Europe to take action against the health impacts of climate change in clinical settings.



**PHARMACISTS
FOR GREENER HEALTHCARE**

Pharmacists for Greener Healthcare

Uniting pharmacists from across Europe to share their best practices to tackle pharmaceutical pollution and its contribution to antibiotic resistance.

→ **Subscribe to our newsletter** to be kept up to date with the latest developments from our Climate-smart Healthcare programme.



REFERENCES

- 1 Romanello, Marina et al. (2023). *2023 report of the Lancet Countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms*. The Lancet, Volume 402, Issue 10419, 2346 - 2394
- 2 Health Care Without Harm and ARUP (2021). *Global Road Map for Health Care Decarbonization*. <https://healthcareclimateaction.org/roadmap>
- 3 IEA (2023), *Global Methane Tracker 2023*, IEA, Paris <https://www.iea.org/reports/global-methane-tracker-2023>, Licence: CC BY 4.0
- 4 Etheridge, D.M.; L.P. Steele; R.L. Langenfelds; R.J. Francey; J.-M. Barnola; V.I. Morgan (1996). *Natural and anthropogenic changes in atmospheric CO₂ over the last 1000 years from air in Antarctic ice and firn*. Journal of Geophysical Research. 101 (D2): 4115–28. Bibcode:1996JGR...101.4115E. doi:10.1029/95JD03410. ISSN 0148-0227. S2CID 19674607.
- 5 World Meteorological Organization (WMO) (2021). *State of the Climate in Europe report 2021*. <https://wmo.int/publication-series/state-of-climate-europe-2021>
- 6 Dasandi, N., Graham, H., Hudson, D. et al. *Positive, global, and health or environment framing bolsters public support for climate policies*. Commun Earth Environ 3, 239 (2022). <https://doi.org/10.1038/s43247-022-00571-x>
- 7 World Resource Institute and World Business Council for Sustainable Development (2004). *The Greenhouse Gas Protocol*. <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
- 8 Health Care Without Harm and ARUP (2019). *Health care climate footprint report*. <https://global.noharm.org/resources/health-care-climate-footprint-report>





Without Harm

HCWH EUROPE

RUE DE L'INDUSTRIE 10,
1000 BRUSSELS, BELGIUM

✉ EUROPE@HCWH.ORG

✕ [@HCWHEUROPE](https://twitter.com/HCWHEUROPE)

📷 [@HCWHEUROPE](https://www.instagram.com/HCWHEUROPE)

📘 [HCWHEUROPE](https://www.facebook.com/HCWHEUROPE)

🌐 [HEALTH CARE WITHOUT HARM EUROPE](https://www.healthcarewithoutharm.org/europe)

[EUROPE.NOHARM.ORG](https://www.europe.noharm.org)



ACKNOWLEDGEMENTS

AUTHORS:

Lara Grosso Sategna

Network Development Officer – HCWH Europe

Hope Robinson

Climate Communications Officer – HCWH Europe

Andreas Ekvall

Senior Climate Officer – HCWH Europe

DESIGN

Blush Design Agency

PHOTO CREDITS

Envato Elements

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License. Reproduction, distribution, and public communication are allowed as long as HCWH Europe is credited, and no commercial use is made. [View a copy of this license.](#)



Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.