



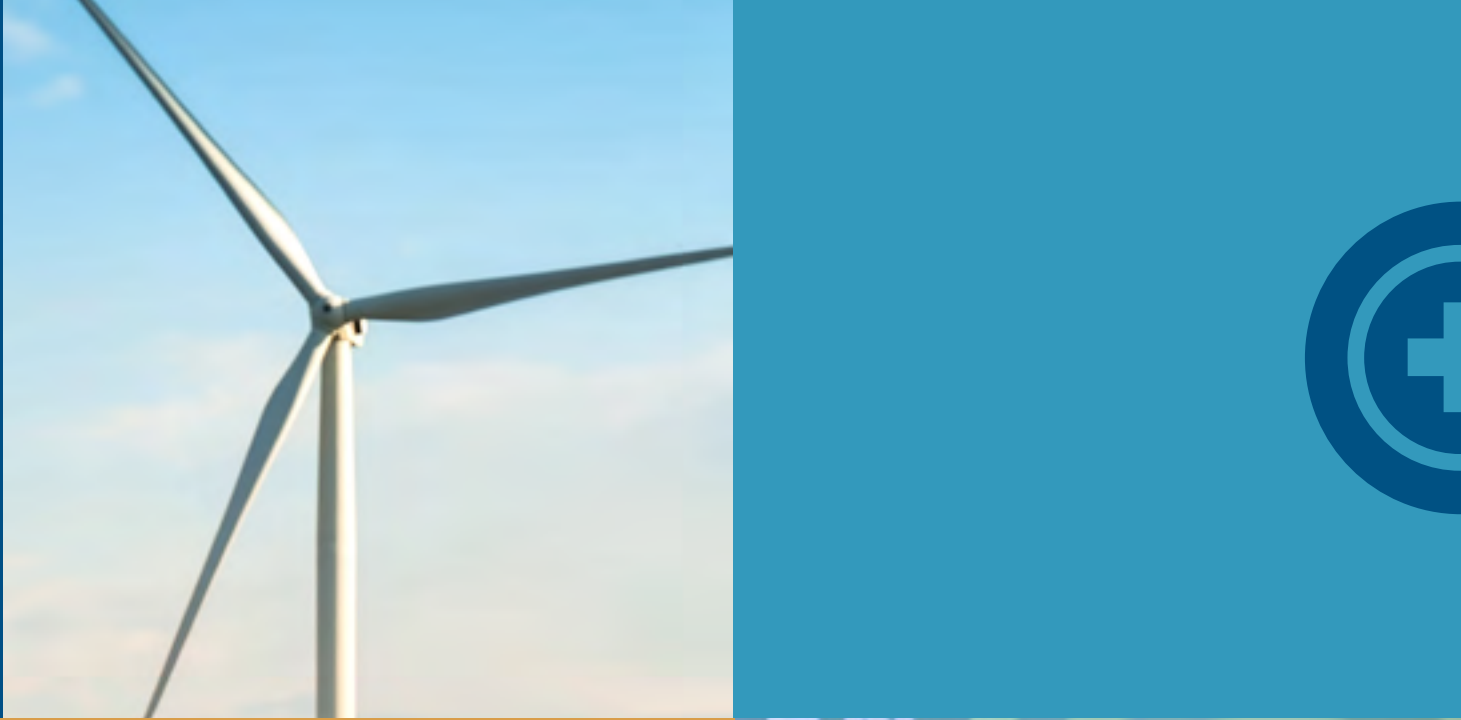
Health Care Without Harm

# EUROPE AT

Sustainable healthcare:  
The past, the present,  
and the future

**2003-2023**

# YEARS



# Foreword

For 20 years, Health Care Without Harm (HCWH) Europe has been at the forefront of the growing sustainable healthcare movement in Europe.

From humble beginnings in a small office in the Czech Republic, our team of 30 now has a strong presence in Brussels and is a trusted voice on sustainability in the healthcare sector.

We have built the largest and most diverse sustainable healthcare network in Europe: a growing movement bolstered by global collaboration and an ever-expanding community of experts, members, and partners. And we have championed progress in sustainable practices and policy across the region.

In this special anniversary report, we look back at 20 years of sustainable healthcare in Europe, and ahead, to the next 20 years to come. Whether you already know our work or you are new to our story, you can learn about our progress so far and where we are taking the movement next.

Our strength is our network – our community and collaboration. We’ve spoken to leaders and pioneers of sustainable healthcare for their valuable insight and first-hand experience of the achievements and remaining challenges. Importantly, we also asked them about the future. Where will the movement be in the next 20 years and what will sustainable healthcare look like when we get there?

We have the vision and a clear strategy to continue to push for bold, impactful action. As we look forward, our ambition is to embed a long-term aspiration for sustainability across the European healthcare sector and to accelerate action, building on our considerable collective progress so far.

Wherever you are on your sustainability journey, and whatever your role in healthcare – join us. Together, we can transform healthcare across Europe.



**Anders Bolmstedt**  
*Chair of the Board  
of Directors,  
HCWH Europe*

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1

**Our mission:  
driving change**

# The urgent threat to our planet and our health

**The triple planetary crisis of climate change, pollution, and biodiversity loss is arguably the largest public health risk we face today. From air pollution to rising global temperatures, it is clear to see how the state of the planet directly affects our health.**

The healthcare sector's mission is to promote health, and the concept of *do no harm* is central to healing practice. Yet healthcare itself makes a major contribution to the environmental crisis.

The sector is responsible for more than 5% of global Greenhouse Gas emissions. Single-use plastics are ubiquitous. Chemicals with toxic properties, such as endocrine disruptors, are still widely used, and pharmaceutical residues in water systems are contributing to the significant health threat of increasing antimicrobial resistance (AMR).

To protect patients and communities, the healthcare sector must act and take responsibility for its own impact on the environment.

Healthcare workers are increasingly at the forefront of advocating this change. Their personal and professional commitment to *do no harm* creates a strong desire for a new approach.

“

**I'm here to make a positive difference for society, for people, for health, and so are my colleagues. But why are we in a system that doesn't connect our actions to the effect on climate?**”

”

**Maria Gaden,**  
*Head of Department,  
Center for Sustainable  
Hospitals, Denmark*

# Driving change: Europe's role, healthcare's role

**Europe is critical to driving environmental action in healthcare. From the Stockholm Convention to the Paris Agreement, Europe has shown progressive leadership in policies around the environment and health. It has a distinct advantage due to its size, economy, and community commitment, which can be leveraged to implement successful solutions and serve as a testing ground.**

The healthcare sector is well-placed to lead a societal shift towards sustainability in Europe. Health professionals, in particular, hold huge influence.

They are uniquely positioned to both inspire and demand change, on a personal and governmental level. They are trusted, respected, and listened to.

At HCWH Europe we are transforming the region by connecting people and convening ideas, aiming to achieve a model of healthcare that is actively improving health outcomes at the same time as addressing the environmental crisis.

Our network of healthcare professionals and health system workers are stepping up to the challenge and driving progress in health facilities across Europe.



**Europe has been taking a stand for decreasing the climate footprint in a very distinct way.**



**Hulda Steingrimsdóttir**  
*Director of Sustainability  
for PWC Iceland and  
former Environmental  
Manager, Landspítali  
University Hospital*



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2

**The past:  
moments and  
milestones**



# Our journey

2003  
2008

**The start of the sustainable  
healthcare movement in Europe**

2009  
2013

**Becoming a leading voice on  
health and the environment**

2014  
2018

**Scaling up action across Europe**

2019  
2023

**Major steps forward in  
healthcare community action**

We are proud of the many ways we have influenced the healthcare landscape in Europe and around the world over the past 20 years, and grateful for the partnerships which have made this possible.

# In their words:



We started our work by campaigning for the phase out of mercury thermometers and blood pressure devices, which eventually led to a global treaty. It was a really big win. ”

**Gary Cohen**  
*President and Founder,  
Health Care Without Harm*



HCWH Europe has played an important role in speaking about the sustainable healthcare agenda on a European policy level - which is a hard place to get in. ”

**Maria Gaden**  
*Head of Department,  
Center for Sustainable  
Hospitals, Denmark*



HCWH Europe has really done the groundwork, in the past 20 years, to raise awareness, to set up projects and drive change. ”

**Edda Weimann**  
*Chief Executive Officer,  
Heart Care and Research  
Foundation*



It has been a great help to become a member of HCWH Europe. It is always better to work together, sharing efforts, knowledge, and experience. ”

**Anna Fuster Muñoz**  
*Environmental  
Sustainability Manager,  
Consorti Hospitalari de  
Vic and Consorci de Salut i  
Social de Catalunya, Spain*

# 2003-2008

## The start of the sustainable healthcare movement in Europe

HCWH Europe was formed in 2003 with the immediate goal to ban mercury healthcare devices and replicate the success of our sister organisation in the US.

Meanwhile, climate change was moving into the wider consciousness, with high profile international treaties such as the Kyoto Protocol coming into force in 2005.

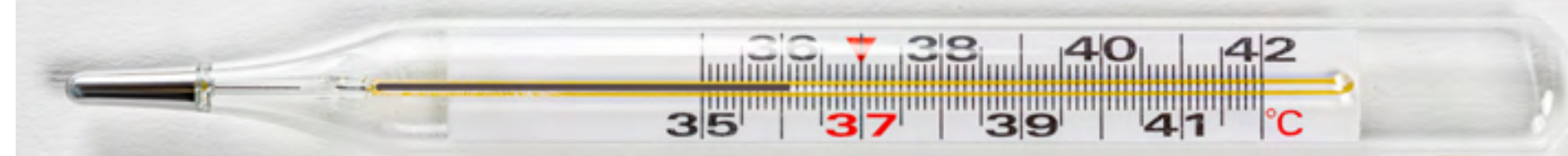
One of the most significant heatwaves in Europe's history was recorded in the summer of 2003.



**HCWH Europe is a movement fundamentally based on making changes 'inside out' – not just 'demanding' change but making an active contribution within organisations that can make a difference in making these changes happen.**



**Lone Hummelshoj**  
*Founding Member,  
Endometriosis Association*



MERCURY AND ELECTRIC THERMOMETERS.  
PHOTO: MARCO VERCH/FLICKR



HCWH PRESIDENT AND FOUNDER GARY COHEN RECEIVING THE SOCIAL ENTREPRENEUR AWARD AT THE SKOLL WORLD FORUM IN 2006.  
PHOTO: THE SKOLL FOUNDATION

# 2004

## **MILESTONES**

More than 300 healthcare leaders from 28 countries gathered in Vienna for the first CleanMed conference in Europe

## **KEY PUBLICATIONS**

HCWH Europe report: *Non-Incineration Medical Waste Treatment Technologies in Europe*

HCWH Europe report: *Preventing Harm from Phthalates, Avoiding PVC in Hospitals*

# 2006

## **MOMENTS**

President and Founder Gary Cohen received the Social Entrepreneur Award from the Skoll World Forum

# 2008

## **MILESTONES**

HCWH Europe contributed to the development of the Nordic Swan eco-label criteria for medical devices. Devices had to be PVC-free to qualify for certification

# 2003

## **MOMENTS**

HCWH Europe established as a European NGO in the Netherlands

## **KEY PUBLICATIONS**

HCWH Europe *Pretty Nasty* report on phthalates in cosmetics

# 2005

## **MOMENTS**

Development of the HCWH Joint Ownership Agreement, connecting the four HCWH regions and ensuring joint decision making on global issues

# 2007

## **MILESTONES**

Mercury thermometers were successfully banned in Europe

# 2009-2013

## Becoming a leading voice on health and the environment

Global cooperation on climate change continued to gather pace. Although no global agreement was reached, COP15 in Copenhagen laid the groundwork for future climate negotiations. In 2009, the European Parliament recognised the co-benefits of emissions reductions to global health. And the 2011 Durban Declaration on Climate and Health served as a crucial milestone in acknowledging the critical links between climate change and public health. Awareness of the healthcare sector's own negative impact on the planet was growing. Ten years since launch, HCWH Europe had become the leading authority on environmental health issues in Europe.



**The solution for better waste management lies in the challenge of addressing hospital procurement, improved segregation of non-medical waste and avoidance of incineration. We have many doctors and nurses who are questioning current practices and working towards healthier alternatives. HCWH Europe is there to be part of this process.** ”

**Anja Leetz**  
*Executive Director,  
HCWH Europe  
2009-2017*



GROWING AWARENESS:  
DELEGATES AT COP15  
IN COPENHAGEN IN 2009.  
PHOTO: UNFCCC/FLICKR

# 2010

## **MILESTONES**

The Global Green and Healthy Hospitals Network was launched. The network encourages and supports hospitals and health systems around the world to reduce their ecological footprint and play a leading role in addressing major environmental health challenges

## **KEY PUBLICATIONS**

The WHO and HCWH issued a two-year progress report: *Toward the Tipping Point* on the global Mercury-Free Health Care Initiative

# 2013

## **MOMENTS**

HCWH Europe's Declaration on Safer Medical Equipment was co-signed by 18 patients' and healthcare professionals' associations representing more than 16 million health professionals

## **KEY PUBLICATIONS**

HCWH Europe reports: *Unused Pharmaceuticals: Where Do They End Up?* and *Nanomedicine: New Solutions or New Problems?*

# 2009

## **KEY PUBLICATIONS**

Joint WHO/HCWH Europe report: *Healthy Hospitals, Healthy Planet, Healthy People*

# 2012

## **MILESTONES**

The EU acted to remove mercury sphygmomanometers (mercury blood pressure devices) and other measuring devices for industrial and professional use from the market

The European Parliament voted for the phase out of hazardous chemicals – CMRs and EDCs – in medical devices

The new Directive on Public Procurement was agreed by the EU Institutions introducing environmental and social considerations into the procurement process

# 2014-2018

## Scaling up action across Europe

Between 2014 and 2018, the climate crisis continued to escalate, with 2014 the warmest year on record since 1880. The world responded by adopting the Sustainable Development Goals in 2015, with Goal 13 targeting climate action. The historic Paris Agreement, signed in December 2015 during COP21, called on nations to limit global warming to well below 2°C.

Against this backdrop, we published a host of reports and factsheets, launched the Health Care Climate Challenge, and continued to advocate on policy issues such as the Medical Device Directive, pharmaceutical pollutants, sustainable and healthy food, and mercury regulation.



**With the signing of the Paris Agreement at COP21 in December, the global community united in recognising that time is running out to tackle one of the most devastating and widespread threats to health and the environment – climate change.**

**Dr Hanns Moshhammer**  
*Chair of the Board of Directors, HCWH Europe 2015*



A PARALLEL SESSION ON BEST PRACTICES TO REDUCE HEALTHCARE'S CLIMATE FOOTPRINT ORGANISED BY HCWH AT COP21, 2015. PHOTO: HCWH GLOBAL



COP21 PLENARY SESSION FOR THE ADOPTION OF THE PARIS AGREEMENT, 2015. PHOTO: ARNAULD BOUISSON - MEDDE/FICKR

# 2015

## **MILESTONES**

HCWH Conference on Climate Change and Health Care held in parallel with COP21

## **KEY PUBLICATIONS**

HCWH Europe report: *Non-Toxic Healthcare: An Alternative to Phthalates and Bisphenol A in Medical Devices*

# 2018

## **MOMENTS**

Will Clark appointed as Executive Director

HCWH launched the Health Care Climate Challenge to address climate change through the three pillars of mitigation, resilience, and leadership

## **KEY PUBLICATIONS**

HCWH Europe report: *The Environmental Impact of Pharmaceutical Manufacturing*

# 2014

## **MILESTONES**

HCWH Europe received an EU operating grant, providing the organisation with a stable source of core funding

The WHO established the European Centre for Environment and Health in Bonn, Germany

## **MOMENTS**

HCWH Europe worked with the City of Vienna, Austria, to launch the WIDES (the Viennese Database of Disinfectants) project. WIDES is a vital tool for healthcare institutions that provides information on occupational safety, environmental impact, and efficacy to guide procurement decisions for disinfectants

# 2016

## **MILESTONES**

The EU agreed on a phase out of amalgam for children and pregnant and breastfeeding women following advocacy from HCWH Europe and other organisations

## **KEY PUBLICATIONS**

HCWH Europe report: *Fresh, Healthy, and Sustainable Food: Best Practices in European Healthcare*

HCWH Europe report: *Reducing Healthcare's Climate Footprint: Opportunities for European Hospitals and Health Systems*



# 2019-2023

## Major steps forward in healthcare community action

The unprecedented COVID-19 pandemic made 2020 and 2021 immensely challenging years for the healthcare sector. But the stories of dedication from healthcare professionals fighting the virus in Europe were both humbling and inspiring to witness. Although focus was on COVID-19, progress around climate and healthcare continued. The EU Green Deal was adopted in 2020 and two years later NHS England committed to net zero emissions by 2045. At COP26, 51 countries joined the COP26 Health Programme – a major step forward for healthcare climate action and a landmark moment for HCWH as one of the main architects of the programme.



**Even as our systems are pushed to their limits by COVID-19 – hospitals with days-long wait times, patients treated in hallways and parking garages – the climate crisis rages on. We must confront the truth.**



**Gary Cohen**  
*President and Founder,  
HCWH, USA*



GLOBAL DAY OF ACTION  
AT COP26 IN GLASGOW, 2021.  
PHOTO: HCWH EUROPE

# 2020

## **MOMENTS**

HCWH developed its COVID-19 resource centre

# 2021

## **MOMENTS**

Safer Pharma campaign launched by HCWH Europe

Launch of Doctors for Greener Healthcare Network and European Nurses Climate Challenge

## **MILESTONES**

54 health systems representing 14,000 hospitals in 21 countries joined Race to Zero, committing to net zero emissions by 2050 or earlier.

# 2022

## **MILESTONES**

At the UN Environment Assembly, 175 nations agreed to develop a legally binding agreement on plastic pollution by 2024

## **KEY PUBLICATIONS**

HCWH Europe Operation Zero methodology: *Designing a Net Zero Roadmap for Healthcare*

# 2019

## **MILESTONES**

Publication of the European Commission's Strategic Approach to Pharmaceuticals in the Environment

## **MOMENTS**

HCWH Europe holds first ever European Healthcare Climate Summit

The UK government, the WHO, HCWH, and UNFCCC Climate Champions formed the COP26 Health Programme

HCWH Europe launches its ground breaking Operation Zero project

## **KEY PUBLICATIONS**

HCWH Europe toolkit: *Healthcare Decarbonisation: Experiences from the Mediterranean Region*

HCWH Europe toolkit: *Measuring and reducing plastics in the healthcare sector*

# 2023

## **MOMENTS**

Pharmacists for Greener Healthcare Network launched

## **KEY PUBLICATIONS**

HCWH Europe report: *Towards PVC-free Healthcare*

HCWH Europe report: *Procuring for Greener Pharma*



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**The present:  
HCWH Europe  
in 2024**

# The present: HCWH Europe in 2024

**HCWH Europe has evolved over the last two decades into an organisation capable of meeting the urgency of the triple environmental crisis. While policy-orientated campaigning continues to form an important part of our work, grassroots action is now the beating heart of what we do.**

Our work today is grounded in the principles of collaboration, action, and innovation. Working directly with our members and partners, we pilot new, more sustainable approaches to healthcare delivery, define and celebrate best practice, and build skills and capacity within the sector to enable wide-scale transformation.

We now count in the thousands – a network of hospitals, healthcare leaders, and healthcare professionals, with members and partners across Europe. From individuals championing sustainability in their workplaces to large hospitals pushing for sustainable practices, we stand side-by-side, sharing insights, inspiration, and innovation.

And as our network continues to expand, so too does our impact. The simple act of joining our networks strengthens the impact for all members. We have a growing, leading voice internationally. Each individual commitment contributes to our success. Our movement is unstoppable and with each new member and policy triumph we unlock deeper learning, greater impact, and more change at scale.

**As we celebrate our 20th anniversary, we want to thank and recognise each and every one of our members, sponsors, partners, funders, and donors over the years.**



THE HCWH EUROPE TEAM AND BOARD MEMBERS AT OUR 2022 STRATEGIC RETREAT. PHOTO: HCWH EUROPE

# Our community in 2024

**Working with a diverse network of stakeholders is fundamental to achieving our mission. Put simply, we are stronger together.**

## **Our strategic partners in 2024 are:**

- AIR FOR HEALTH
- ECODES
- ENVIRONMENTAL PHYSIOTHERAPY ASSOCIATION (EPA)
- GERMAN ALLIANCE FOR CLIMATE CHANGE AND HEALTH (KLUG)
- GROENE ZORG ALLIANTIE
- INSTITUTE FOR ENERGY AND ENVIRONMENTAL RESEARCH HEIDELBERG (IFEU)
- INTERNATIONAL NETWORK OF HEALTH PROMOTING HOSPITALS AND HEALTH SERVICES (HPH)
- IRISH DOCTORS FOR THE ENVIRONMENT
- RÉSEAU

## **Our members**

In Europe, our current membership of the Global Green and Healthy Hospitals network stands at 192 healthcare institutions, spanning 27 countries and over 7,500 hospitals and healthcare facilities.

The GGHH network is the largest sustainable healthcare network in the world, focused on the interests and needs of healthcare sustainability practitioners.

Membership of our healthcare professional networks currently stands at 302 doctors, 636 nurses and 79 pharmacists.



# Our funders and donors

HCWH Europe is a not-for-profit, non-governmental organisation. All our funds are used for educational and information purposes targeted to our key audiences: the health sector, health professionals, policy makers, and the general public.

Throughout our history, HCWH Europe's core funding has come from foundations, the EU Commission, national health and environment ministries within Europe, and individual supporter donations.

- CLEANMED EUROPE SPONSORS
- COMMISSION COMMUNAUTAIRE COMMUNE (COCOM)
- DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT GMBH (GIZ) THROUGH THE EUROPEAN CLIMATE INITIATIVE (EUKI)
- EUROPEAN COMMISSION EU4HEALTH PROGRAMME
- EUROPEAN COMMISSION HORIZON EUROPE PROGRAMME
- EUROPEAN COMMISSION LIFE PROGRAMME
- EUROPEAN ENVIRONMENT AND HEALTH INITIATIVE (EEHI)
- FEDERAL MINISTRY FOR THE ENVIRONMENT, NATURE CONSERVATION, NUCLEAR SAFETY AND CONSUMER PROTECTION (BMUV), IN COLLABORATION WITH THE GERMAN ENVIRONMENT AGENCY (UMWELTBUNDESAMT - UBA)
- FLOTILLA FOUNDATION
- IKEA FOUNDATION
- SKOLL FOUNDATION
- SWEDISH INTERNATIONAL DEVELOPMENT AGENCY (SIDA)
- WORLD RESOURCES INSTITUTE (WRI)

# Our programmes and key projects

HCWH Europe's Theory of Change and strategy focuses on driving action through innovative projects and practices on the frontline of healthcare, combined with impactful advocacy campaigning.

We now have three core programmatic priorities:

- **Climate-smart Healthcare**
- **Circular Healthcare**
- **Safer Pharma**

Each of our projects works towards at least one of these priorities.

**Read on to find out about our three programmatic goals and a selection of our current innovative projects.**

For more information, visit [noharm-europe.org](https://noharm-europe.org)



What HCWH does best is to demonstrate, drive, trigger, inspire solutions that are real and can be scaled up and taken to a different level. They created a stage in Europe for collaboration across countries.



**Sonia Roschnik**  
*Executive Director,  
Geneva Sustainability  
Centre, Switzerland*



## OUR PROGRAMMES

# Climate-smart healthcare

**The healthcare sector must seize the opportunity to address its contribution to climate change and the impact of climate change on public health. That means reducing its own emissions to net zero and adapting now, so our health systems are prepared for the pressures that the climate crisis is already creating.**

## KEY PROJECTS

### Operation Zero

A groundbreaking project that aims to put the European healthcare sector on the path to net zero emissions, in line with European and international climate commitments.

- Producing the most comprehensive overview of the European healthcare sector's carbon footprint to date
- Developing a new methodology that can be applied by any national healthcare system, which supports national healthcare decarbonisation roadmaps, piloted in four European countries

### LIFE RESYSTAL

A future-focused initiative that will ensure that health infrastructures across Europe are prepared for the impacts of climate change.

- Setting the basis for a European network committed to the climate adaptation of the European healthcare sector
- Developing, demonstrating, evaluating, and disseminating a framework for climate-resilient health systems with seven pilot hospitals and two local and regional health systems



GLOBAL DAY OF ACTION  
AT COP26 IN GLASGOW, 2021.  
PHOTO: HCWH EUROPE



## OUR PROGRAMMES

# Circular healthcare

**With its scale and huge purchasing power, the healthcare sector needs to transition away from unnecessary single-use products and toxic chemicals and become a torchbearer for sustainable supply chains and reusable, non-toxic solutions.**

## KEY PROJECTS

### Born Green Generation

By 2030, the first generation of babies in over a century in Europe will be born free of plastic pollution and toxic chemicals, thanks to a new model of clinical best practice.

- Paving the way for the safest and most sustainable maternity, neonatal and paediatric wards and embedding environmental health approaches and behaviours among healthcare professionals and parents.
- Healthcare professionals will become agents for change, promoting environmental health measures within their communities and building upon the lessons learned from the pilot.

### Towards Plastic-Free Healthcare

This project aims to support the European healthcare sector in transitioning to a circular economy model, transforming current practices to reduce plastic use and the negative impact of plastics on both human health and the environment.

- We are working with European healthcare providers to assess plastic use in their facilities, identify and implement opportunities for phase-out or substitution, and support them in raising awareness amongst their staff.



USING GLASS BOTTLES IN THE MILK BANK, MATERNITY, AND NEONATAL DEPARTMENTS. PHOTO: DAVID SIMO BUENDÍA/UNIVERSITY CLINICAL HOSPITAL VIRGEN DE LA ARRIXACA (UCHVA)

## OUR PROGRAMMES

# Safer pharma

**The healthcare sector needs to lead a change in the way we produce, use, and dispose of medicines to reduce harm to fragile ecosystems and reduce the threat of antimicrobial resistance (AMR). That means pushing for safer drugs to be developed, action on prescription drugs, and reducing pharmaceutical waste.**

## KEY PROJECTS

### MEP Interest Group on AMR

We are working to ensure that AMR is high on the EU policy agenda and that the European Parliament plays a key role in boosting urgent action on AMR, stressing the need for a One Health approach that addresses human, animal, and environmental health.

- Supporting the activities of The MEP Interest Group on AMR, the only AMR-dedicated group in the European Parliament.
- Ensuring that the EU and its Member States deliver on their commitments and implement effective actions at EU, national, and regional level.

### CAREFOOD

This project aims to empower healthcare professionals and focus their communication and advocacy efforts to end farming practices that develop and spread AMR.

- Training European healthcare professionals to advocate the responsible use of antibiotics in EU food production.
- Improving animal welfare standards in food production in EU and national policies.
- Developing concrete policy recommendations to curb poor animal welfare practices associated with high antibiotic use, whilst highlighting best practice examples.





**4**

**Sustainable  
practice in the  
spotlight**

# Sustainable practice in the spotlight

**As efforts intensify and momentum builds, there is a growing need to share exemplary best practice so we can learn from each other and rapidly scale up solutions.**

To honour the work of our members and partners, we've gathered some recent standout sustainable healthcare projects from across our movement in Europe, alongside an exclusive interview with the winners of last year's European Sustainable Healthcare Project of the Year award, NHS Scotland.

Want to find more examples of best practice or share your own? There are a number of ways of doing this: through GGHH Connect (our member platform), at GGHH member meetings, via our monthly network newsletters, and at our annual CleanMed Europe conference.



**It helps me to get ideas, contacts, and support. When talking to doctors or the management board, I can say 'HCWH is doing this and other hospitals are doing this'. So it's very important.**

**Hulda Steingrímisdóttir**  
*Director of Sustainability for PWC Iceland and former Environmental Manager, Landspítali University Hospital*



## CASE STUDIES

# Medical waste reduction

### Organisation:

**Radboud University Medical Center**

### Location:

**Nijmegen, Netherlands**

### The challenge:

**Oral anticancer drugs are often unused by patients, wasting valuable resources and causing environmental pollution.**

### The solution:

The world's first drug reuse scheme with quality assurance. Patients receive prescribed oral anticancer drugs in a sealed bag with a temperature indicator. If the drugs remain unused by a patient, the pharmacy can check their quality, based on correct storage temperature, remaining shelf-life and unopened packaging. If the drugs pass these tests they are re-dispensed.

### The impact:

**68%**

Waste reduction

**€1,348** (up to)

Mean annual cost-savings per patient

**1.9kg CO<sub>2</sub>e** (approx.)

Reduced emissions per patient per year



“

**I'm very grateful to everyone that I can use such expensive medication, because it's life-saving. It's worth so much to me. I think it's a shame to just destroy medication... it could also help someone else.**”

”

*Interview with patient, prior to project initiation*

## CASE STUDIES

# Reducing plastic

### Organisation:

**University Clinical Hospital Virgen de la Arrixaca (UCHVA)**

### Location:

**Murcia, Spain**

### The challenge:

**Harmful substances found in food contact materials (FCMs), especially single-use items, pose health and environmental risks and can end up in human bodies by leaching into food. Single-use FCMs also have a large environmental footprint.**

### The solution:

To reduce infants' exposure to harmful chemicals leaching from plastic milk containers, as well as to reduce the hospital's environmental footprint and their use of plastic, the hospital is taking steps to use glass containers for storage and serving of milk, including in the human milk bank.

### The impact:

The hospital uses reusable glass bottles to give breast milk to neonates. The bottles are washed and sterilised at their own facilities. The majority of artificial baby milk (infant formula) is purchased in glass containers. Not only reusable, the containers are produced locally and also support the local economy.



The key to progress in reducing the use of plastics in the health sector is the transformation of the health material and services market. Making manufacturers see a competitive advantage in redesign should focus the efforts of the health sector in Europe.



**David Saura López**  
*Environmental Manager,  
Pediatric Environmental  
Health Unit, UCHVA*



## CASE STUDIES

# Chemicals of concern

### Organisation:

**Health Care Without Harm Europe and leading European healthcare procurement organisations**

### Location:

**Europe-wide including Norway, Italy, and Iceland**

### The challenge:

**Chemical pollution is harmful for patients, workers in the supply chain, and hospital staff who come into contact with chemicals on a daily basis. More broadly, chemical pollution intensifies and impacts biodiversity loss, contaminates our natural resources, and contributes to climate change.**

### The solution:

A new phase-out list of chemicals of concern has been developed to enable procurement organisations across Europe to select safer alternative products for the healthcare sector.

### The impact:

Now endorsed by ten organisations, the phase-out list leverages regional procurement power to accelerate the phase out of chemicals of concern across eight categories, with rapid action on the highest-priority chemicals of concern.



**This phase-out list consolidates current requirements and standardises criteria and will enable suppliers and procurement organisations to work more efficiently towards the goal of phasing out harmful chemicals.**



**Arianna Gamba**  
*Director of Programmes,  
HCWH Europe*



PHOTO: FELIPE CAPARROS/ENVATO

## CASE STUDIES

# Circular economy

### Organisation:

**Landspítali, the National University Hospital of Iceland**

### Location:

**Reykjavik, Iceland**

### The solution:

The hospital has been working on community-based, circular economy projects to find new uses for textile waste. For one project, they have been working with Studíóflétta, a local design duo, to create five different types of bags using textile remnants, giving extra lifespan to previously discarded material. Another project engaged older people in day care to reuse discarded textiles to create telemetric bags. The bags are now sewn by the residents and put to use by the hospital.

### The challenge:

Each year, the hospital disposes of 8 tonnes of textiles from clothing, bed linen, and duvets. Textiles, such as disposable telemetric bags used in the cardiological ward, are often single use, expensive, and come at a high environmental cost. The bags are in use for two days at a time.

### The impact:

**€8,000**

per year in reduced costs for the cardiological ward

**Decreased waste**

of disposables and textiles from the laundry

**Positive feedback**

from the day care centre in terms of gaining a meaningful, community-impact project

**€4,000**

in savings per year from a second ward requesting similar bags

“

When we introduce a project like this, we get a lot of suggestions from staff. There is a wave of both understanding how we can minimise our impact but also new ideas about the circular economy around a hospital.

”

**Hulda Steingrímisdóttir**

*Director of Sustainability for PWC Iceland and former Environmental Manager, Landspítali University Hospital*



PHOTO: LANDSPÍTALI



## CASE STUDIES

# Net zero planning

### Organisation:

**The Newcastle upon Tyne Hospitals NHS Foundation Trust (UK)**

### Location:

**Newcastle, United Kingdom**

### The solution:

The Trust engaged in a local enterprise partnership with SmartCarbon Ltd. and developed a bespoke SmartCarbon Calculator platform for the healthcare sector and a five-step programme for a net zero supply chain, enabling the Trust to use the £780m annual (non-pay) expenditure to drive carbon reductions across the supplier community. The five-step programme supports suppliers in calculating their emissions, and requires them to commit to net zero targets by 2030 and to publish a carbon reduction plan to reduce their emissions.

### The challenge:

The Trust has committed to achieving net zero by 2040. Supply chain activities (scope 3) represent an estimated 65% of their emissions. The Trust needs to track suppliers' progress and efforts to reduce these emissions. There is a need for a more precise and reliable method for calculating scope 3 emissions.

### The impact:

**700 responses**

to recent supplier survey, approx. 25% of supplier base

**87%**

pledged support to help Newcastle Hospitals achieve their net zero emissions goal

**All suppliers**

now mandated to use the programme, which is in its third year

**Positive feedback**

from the supplier community



The SmartCarbon platform is a comprehensive tool to measure and track our performance. We have directly engaged with our supply chain companies to support each other on the journey to net zero.



**James Dixon**  
Associate Director  
for Sustainability,  
Newcastle upon  
Tyne Hospitals



# European Sustainable Healthcare Awards - Project of the Year 2023

In 2023, we held our inaugural European Sustainable Healthcare Awards (ESHA) to celebrate inspiring stories of progress from healthcare organisations across Europe. The awards aim to shine a light on the innovative work taking place to reduce energy consumption, CO<sub>2</sub> emissions, and waste. From reducing anaesthetic gases to redesigning work clothing to reducing waste, more than 35 projects were entered, all with the overarching ambition of speeding up the transition to net zero and resource-efficient healthcare.

## Our four finalists

Hull University Teaching Hospitals NHS Trust, Newcastle upon Tyne Hospitals NHS Foundation Trust, NHS Scotland, and Radboud University Medical Center.

But there could only be one winner. Announced at the CleanMed Europe conference, **NHS Scotland** won the top spot for their Green Anaesthesia Scotland project that works to reduce the environmental impact of medical gases across healthcare services in Scotland.



LEADING THE WAY:  
INVERNESS, SCOTLAND.  
PHOTO: KARKOZPHOTO/ENVATO

# Introducing Kenneth Barker

**Project of the Year winner and Consultant Anaesthetist, NHS Highland**

## **What issue were you trying to solve?**

Anaesthetic gases are potent greenhouse gases with global warming potentials far greater than CO<sub>2</sub>. They account for 2-5% of all NHS emissions. Using an anaesthetic gas calculator developed by a fellow anaesthetist working in Southampton, I found out that, as an anaesthetist, my personal anaesthetic gas footprint was the equivalent of driving 4,500 kilometres every day.

## **What did you do?**

There was no implication for my patients from simply changing from one gas (desflurane) to the other and omitting nitrous oxide. But it made such a difference in terms of environmental footprint.

Today my footprint is the equivalent to driving about 16 kilometres a day. Having made the switch, I had to tell my friends, and then we agreed as a department to change gases. And that's where the journey started.

## **How did you scale up the impact?**

The initial stages of the programme were very much done in isolation – we formed a WhatsApp group, a network of like-minded anaesthetists, friends, and colleagues. And we started talking about desflurane in particular, and then other issues.

For example, we worked on something we called the Ideal Green Theatre. We stood in the theatres, looking at devices and equipment and drugs and questioning if we could do any of it better from an environmental standpoint.

This group became Green Anaesthesia Scotland and we've driven changes in clinical practice including the Nitrous Oxide Mitigation Project and the National Green Theatre Programme. Green Anaesthesia Scotland started in 2018 with nine of us, now we're about 60 people.



Ultimately we're all scientists. My advice is to present the evidence and educate people, tell them about the issues, and tell them about the potential solutions.



**Kenneth Barker**  
*Consultant Anaesthetist,  
NHS Highland*



PHOTO: KENNETH BARKER

## What has been the impact of your work?

In 2023, the highlight was the launch of the National Green Theatre programme in March. And in February, Scotland became the first country in the world to remove desflurane from National Procurement contracts. Our research also identified piped nitrous oxide (N<sub>2</sub>O) loss as a major issue.

We developed a framework to reduce N<sub>2</sub>O emissions, resulting in a Scotland-wide decrease of piped N<sub>2</sub>O emissions of nearly 30%. In the meantime, we attended COP26 where we had a booth and spoke to people and made connections. We were the only grassroots medical representation there.

## How has HCWH Europe encouraged you in your mission?

HCWH Europe widened our scope and helped us to look at the bigger picture. It provides you lots of information and ideas you wouldn't ordinarily hear about. We learnt about other related issues such as single-use plastics and biotoxicity. And the National Green Theatre programme benefitted from that – it wasn't just anaesthesia we are looking at but the whole surgical pathway.

Sharing of ideas is essential – it's a really useful network, to copy from one another, to do good for the planet and share your ideas. There's no need to reinvent. And HCWH Europe helps with that.



**Most change comes from the grassroots – it's key. Target setting is all well and good, but your actual ideas for change and how to implement them come at a grassroots level. And it's about spreading and implementing that change in every hospital.**



**Kenneth Barker**  
Consultant Anaesthetist  
NHS Highland



PHOTO: HCWH EUROPE

## What does it mean to you to win the HCWH Europe project of the year award?

These awards are very useful in terms of spreading the message. I think the key message is that we went down this path because of the evidence – it shows that it's safe and efficient and good patient care to use alternative gases, and you make this amazing change in terms of the environment. And then we got to the stage of the whole country getting rid of it (desflurane).

Reading that you can take a decision to remove something on environmental grounds, it empowers people, wherever they are to say “We should do this too”. Importantly, it's about a team effort – it was a huge number of my colleagues in Scotland that made the difference with desflurane.

It's about spreading and implementing change fully in every hospital – that's the key part. This change might only be a very small part of the answer, but if we get everyone doing it, and joining us for further actions, then that's what makes the difference, isn't it?

**If you feel inspired** to share your groundbreaking work, enter our annual European Sustainable Healthcare Awards.

Follow us on social media and subscribe to our newsletter to keep informed on the latest edition.



## Inspired to take action? Here are six tips to help you identify and implement a change like NHS Scotland:

- Become part of the European sustainable healthcare **movement** by joining one of our networks
- Look at the small changes that can be made in your area of **expertise** and then scale
- Join or create a local **network** of like-minded colleagues and friends
- Attend **conferences** like CleanMed Europe and make the most of the international and local sustainable healthcare communities
- **Replicate** successful initiatives and share your ideas and evidence
- Engage **senior leaders** to encourage change at all organisational levels



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**The future:  
sustainable  
transformation**

# The future: our ambition for sustainable healthcare

Our 20th year is an important milestone; despite the significant progress made, we know there is still much work to do. As this report shows, sustainable healthcare has so far largely focused on making existing models less impactful: decarbonising facilities and processes, phasing out harmful products and materials, and shifting attitudes to embrace sustainability. This *first do no harm* principle has guided our work these past two decades and is still at its core today.

Our longer-term vision is bolder. As the need for change grows, we must transition to new healthcare delivery methods. Europe needs a healthcare model that doesn't just react to the status quo or mitigate harm. It should actively improve health outcomes while addressing the environmental crisis.

We are not alone. There is growing recognition of the need to transition from a sickness-led approach to a wellness model of sustainability; a model based on the principles of planetary health, prevention, and health promotion.

## The good news is we know how to get there.

First, we need to continue broadening our member base in Europe - we are nothing without the committed individuals who make our network. Second, we need to ensure that all healthcare organisations are applying the fundamental practices that we know make a real and lasting difference, including those showcased in this report. Finally, we need to create a well-defined sustainability pathway to lead the sector as a whole towards best practice.



PHOTOS: HCWH EUROPE

Beyond this, we need to build resilience to the rapidly changing environmental conditions and the huge new challenges these bring for citizen health. Major systemic changes will then be essential to create a more sustainable model of healthcare. Achieving this will require a deep rethink of practice.

At the political level there will need to be greater cooperation between governments and healthcare organisations to blend health policy with housing, social care, and environmental policies - embedding a health-in-all-policies approach across Europe. Technological change will also be a major factor, as will the way data is used in healthcare to support prevention, wellbeing, and patient empowerment, without creating undue barriers to access to care.

At HCWH Europe, we are committed to informing, supporting and driving this ambitious transition by working with our members, partners, industry and the wider healthcare community to build the case for a new model of sustainable healthcare in Europe. One that places sustainability at the heart of health policy and practice, and delivers a brighter and more positive future for both people and our planet. This will form the centrepiece of our future strategy, and we look forward to continuing to work with our growing community to make it a reality.

**Will Clark**

*Executive Director,  
HCWH Europe*



WILL CLARK  
EXECUTIVE DIRECTOR,  
HEALTH CARE WITHOUT HARM EUROPE



# The future: contributor views

What will sustainable healthcare look like in the next 20 years?



**Anna Fuster Muñoz**  
Environmental  
Sustainability Manager,  
Consorti Hospitalari  
de Vic and Consorci  
de Salut i Social de  
Catalunya, Spain



I believe the healthcare sector needs to move fast. The COVID-19 pandemic revealed the vulnerability of the system, and we should use this experience to our advantage in preparation for potential climate change impacts.

Regardless of the outcome, there are real changes that we must confront, which may once again strain the healthcare system in the coming years. When heatwaves or droughts come, the system is going to be stressed very quickly again. So we are on the front line. We have to take a step forward very fast I think.



**Daniel Eriksson**  
CEO and Founder,  
Nordic Center for  
Sustainable Healthcare



I think we will have fewer hospitals, alongside more effective digital solutions. This is where the major savings on carbon and resources are - just think about all the hospitals we wouldn't have to build and maintain.

Europe has one of the most resource-intensive healthcare systems so we have a responsibility to set an example to health systems in less-developed countries. By rolling out technologies and solutions that are now becoming mainstream in Europe we can lead the way in building a more sustainable sector worldwide.





**Sonia Roschnik**  
Executive Director,  
Geneva Sustainability  
Centre, Switzerland



It may be a little controversial. I feel as though we have not yet seen the real state of the art and it's still to come. We have many great demonstration projects in one area or another. We have circular healthcare. We have projects to tackle plastics. What we haven't managed to do yet is coalesce them all into one organisation. If you could pull all these things together, what would that look like?

I feel that vision of what the overall state of the art would look like encompasses a whole new way of thinking. It would be amazing. It might be a hospital, or a leader, or an organisation or a health system of the future.



**Maria Gaden**  
Head of Department,  
Center for Sustainable  
Hospitals, Denmark



[In a successful future] we will have increased activity in our investments and political focus on the area of prevention. We are preventing diseases much more than we are treating them. And that is a win-win-win situation. [We will have] realised that the only way of building a sustainable healthcare system is to focus on prevention. Besides that, we will have hospitals and healthcare systems running with a circular economy. We will have a high degree of reuse of instruments and equipment. Whatever is not being reused, is recycled. Finally, we will have a strong, international, global network, making sure we have international standards for data on climate, environmental, and human impact.



**Edda Weimann**  
Chief Executive Officer,  
Heart Care and  
Research Foundation



In the future we will be involving our communities, not thinking purely in the hospital silo. We will be looking more at healthcare perspectives, reaching out and broadening our influence. That will also feed into biodiversity, community gardening, and using local suppliers.





**Nick Watts**

Director, Centre for Sustainable Healthcare, National University of Singapore. Former Chief Sustainability Officer, NHS England



The threat climate change poses to human health is immense and the healthcare profession must rise to meet this. It will require a whole-of-system response to tackle the carbon in the medicines we prescribe, in the surgeries we perform, and ultimately in the care that we provide.

We're talking about nothing less than transforming the face of medicine, and embedding sustainability into the DNA of what it means to be an excellent nurse, an exceptional physiotherapist, and a high-quality health system.



**Gary Cohen**

President and Founder, HCWH, USA



The future of healthcare is operating at three scales; individual, community, and planetary. In 20 years time, I think we will have shown at scale how we can move away from fossil fuels to run our facilities - how we can model green chemistry for the products that we need for healthcare; how we can use our purchasing power to sustainably produce food for our facilities; how we can be anchors in our communities for the climate disasters which will continue to happen. And how health advocates will completely change the narrative around climate to be focused on people's health and their fundamental rights.

[We will realise] this vision if we make upstream interventions around housing, food, transportation, and energy... we can actually prevent disease and not just wait for people to show up in our hospitals for treatment. That's what the future looks like.



A large, white, stylized number '6' is centered on a gold background. The background features several thick, curved, overlapping lines in shades of gold and yellow, creating a dynamic, abstract pattern. The number '6' is the central focus, rendered in a clean, sans-serif font.

6

**How to get  
involved**

# How to get involved

## Join the Global Green and Healthy Hospitals Network

From Argentina to Zambia, Global Green and Healthy Hospitals (GGHH) is the largest sustainable healthcare network in the world.

The European arm of GGHH supports members to scale best practices and implement cutting-edge strategies on the front line of European healthcare.

Becoming a member is completely free. Once you've joined you'll get access to:

- The Hippocrates Data Center – the first international platform of its kind designed for the health sector to measure actions towards reducing its environmental footprint

- A discussion forum to post questions and share resources with GGHH members around the world
- Guidance documents, case studies, and webinars to learn about the latest sustainable healthcare trends and lessons other members have learned
- Quarterly GGHH Europe member meetings to learn about a specific sustainable healthcare topic, hear from experts, and connect with other leaders in sustainable healthcare
- Opportunities to participate in sustainable healthcare pilot projects, receiving hands-on support from experts around specific issues.

## More ways to get involved

If you are inspired to get involved, here are five ways you can start your journey today:

1. Visit [noharm-europe.org](https://noharm-europe.org) to learn more. The website is full of resources and information about our programmes, healthcare professional networks and projects
2. Subscribe to our newsletter
3. Join our healthcare professional networks: Doctors for Greener Healthcare, Nurses Climate Challenge, and Pharmacists for Greener Healthcare
4. Attend the next CleanMed Europe conference
5. Get in touch with us about a project or programme via [europa@hcwh.org](mailto:europa@hcwh.org)



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**Contributors**

# Contributors

We would like to thank all of our expert contributors for sharing their time, insights, and valuable input for this report.



**Dr Kenneth Barker**  
Consultant Anaesthetist,  
NHS Highland, Scotland

Kenneth Barker trained in anaesthesia in Dundee and Sweden. He has been a Consultant in Raigmore Hospital, Inverness since 2000, and in recent years developed an interest in environmental issues and sustainable medicine. He is a strong believer in grassroots change, co-founding Green Anaesthesia Scotland (@GreenAnaesScot). He is also Clinical Lead of the National Green Theatres Programme for NHS Scotland.



**Gary Cohen**  
President and Founder,  
Health Care Without Harm, USA

Gary Cohen has been a pioneer in the environmental health movement for 40 years. He has helped build coalitions and networks globally to address health impacts related to climate change and toxic chemical exposure. Gary is Founder and President of Health Care Without Harm, created in 1996 to help transform the healthcare sector to be environmentally sustainable and support the health and climate resilience of the communities they serve.



**Daniel Eriksson**  
CEO and Founder, Nordic Center for  
Sustainable Healthcare, Sweden

Daniel Eriksson is the founder of Nordic Center for Sustainable Healthcare (NCSH). He has been working with sustainable healthcare for almost 15 years. He has built a wide national and international network and participated in numerous projects in the field of sustainable healthcare. Daniel worked as an environmental coordinator at a University Hospital for five years prior to NCSH. He has led numerous projects within sustainable healthcare focusing on energy, climate, procurement, and much more.



**Anna Fuster Muñoz**  
Environmental Sustainability Manager,  
Consorti Hospitalari de Vic and Consorci  
de Salut i Social de Catalunya, Spain

Anna Fuster Muñoz is a leading light in the sustainable healthcare field in Catalonia, Spain, and currently serves as Environmental Sustainability Manager and Energy Efficiency Technician for the Consorci Hospitalari de Vic in Barcelona. She has more than 20 years of experience in the sustainability consultancy field across the public and private sectors. Anna speaks Spanish, Catalan, English, and German.



**Maria Gaden**  
Head of Department, Center for  
Sustainable Hospitals, Denmark

Maria Gaden is an accomplished leader on sustainable healthcare issues, writer, podcaster, and clinician. She is the Head of Department at the Center for Sustainable Hospitals in Denmark. She also sits on the board of HCWH Europe. Maria started her journey as a midwife, working with work-environment and social sustainability issues. She holds an international master's degree in leadership and innovation in complex systems, focusing on the leadership needed for the transformation to sustainable healthcare.

# Contributors

We would like to thank all of our expert contributors for sharing their time, insights, and valuable input for this report.



**Sonia Roschnik**

Executive Director,  
Geneva Sustainability Centre, Switzerland

Sonia Roschnik is the Executive Director at the Geneva Sustainability Centre, a board member of the Climate Action Accelerator, and an honorary member of the UK's Faculty of Public Health. Previously Sonia served as the International Climate Policy Director at Health Care Without Harm. Sonia has also worked as an expert advisor to global agencies including the WHO, UN Development Programme, and the World Bank, on strategic approaches to sustainability in healthcare. She holds a Master of Science degree in Systems Thinking and is a UK-registered occupational therapist.



**Hulda Steingrimsdottir**

Director of Sustainability,  
PWC Iceland

Hulda Steingrimsdottir has worked in sustainability for 30 years and was the Environmental Manager at Landspítali, the National University Hospital of Iceland before starting her role at PWC Iceland. She has set climate policy for the Government of Iceland with a view to systematically reducing the impact of CO<sub>2</sub> emissions activities. In her role at Landspítali, Hulda oversaw high impact projects across the estate including electrifying the fleet, quadrupling staff using public transport, ceasing steam production with oil, and eliminating plastic cups.



**Prof. Nick Watts**

Director, Centre for Sustainable Healthcare,  
National University of Singapore

Professor Nick Watts leads the Centre for Sustainable Medicine's mission of shaping the growing field of sustainable medicine, both locally and internationally. In his previous role, Nick was Chief Sustainability Officer of the NHS in the UK, where he was responsible for leading the national delivery team and the NHS Sustainability Board towards their ambition to become the first net zero health system in the world. During his tenure, he oversaw the establishment and significant expansion of the national programme, the embedding of its work into national healthcare legislation, and the securing of over \$1 billion in funding for net zero healthcare. Professor Watts trained in medicine and public policy at University College London and the University of Western Australia.



**Prof. Dr Edda Weimann**

Chief Executive Officer,  
Heart Care and Research Foundation

Edda Weimann is an internationally renowned professor of child health, planetary health, digital health, and a public health specialist in the field of health systems. She has a professorship at TU in Munich and at the University of Cape Town. She obtained her medical degree at Ludwig-Maximilians University in Munich, and her master's degree in public health (health systems) at the University of Cape Town. Over the past two decades, she has held leadership positions in academic hospitals in Europe and Africa. She has received international awards for her innovation and transformation towards net zero healthcare.





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