FORUM FOR THE FUTURE

DRIVING CO-BENEFITS FOR CLIMATE AND HEALTH

2022 Update: How the private sector can accelerate progress

Guidance for businesses, investors and policy makers

ABOUT THIS REPORT

This guidance document has been produced by the Climate and Health Coalition, a private sector collaboration convened by Forum for the Future and co-founded by Bupa, Haleon, Reckitt and Walgreens Boots Alliance. The Coalition aims to enable businesses to design and deliver corporate strategies that deliver co-benefits for climate and human health. This guidance builds on the original report first launched in 2021.


ABOUT FORUM FOR THE FUTURE

Forum for the Future is a leading international sustainability non-profit. For more than 25 years we've been working in partnership with business, governments and civil society to accelerate the shift towards a just and regenerative future in which both people and the planet thrive. As our environmental, social and economic crises intensify, the world is rapidly changing, with multiple transitions already reshaping how we all live and work. But will we go far enough, and fast enough? Forum is focused on enabling deep transformation in three game-changing areas: how we think about, produce, consume and value both food and energy, and the role of business in society and the economy.

EXECUTIVE SUMMARY

In September 2021, Forum for the Future published a report highlighting the mounting threats to human health from the climate crisis, and the opportunities to alleviate both by treating them together. We did so because the climate crisis is also a health crisis, and by taking an integrated approach, we are convinced we can make greater progress on each than if we address them separately.

Following the publication of the 2021 report Forum for the Future and leading healthcare businesses Bupa, Haleon, Reckitt and Walgreens Boots Alliance formally joined forces in the Climate and Health Coalition to mobilise and equip the private sector to accelerate the integrated transformation of our health and climate systems, towards outcomes that deliver benefits for both people and planet.

Whether it's tackling air pollution, restoring nature and regenerating agricultural land, improving the energy efficiency of our homes and workplaces, or making our cities cleaner and greener – all of these have immediate benefits for our health and wellbeing, while simultaneously tackling climate change. They also hold out the prospect of new business opportunities in a fast-changing environment.

The 2021 report made a series of recommendations for business, inviting its leaders to seize the opportunity in that integrated approach. Some have responded; but many have not. Climate and health strategies within the private sector are still largely seen as separate.

This is a missed opportunity. Because business is critical in determining whether we can succeed in tackling the climate-health crisis. Both through its own actions, and its influence on supply chains, consumers and policy makers, it has the resources, leverage and creativity to drive real change – at scale and speed.

WHY NOW?

Over the last 12 months, the case for urgent action on the climate-health crisis has been thrown into sharp relief. Across the globe, we've seen heatwaves of unprecedented severity, droughts destroying crops and food supplies, air pollution so severe that governments imposed stay at home orders, devastating floods in Pakistan and elsewhere, and a series of fiercely destructive wildfires.

All are associated with climate change, and all have caused disruption, illness and death on an alarming scale. These are not just humanitarian tragedies – they also represent staggering economic losses as well.

For health professionals, the consequences are all too obvious. In October 2021, the World Health Organisation warned that climate change is the single greatest threat to human health. While in October 2022, The Lancet, the highly respected medical journal, published its latest Countdown, concluding that "the worsening impacts [of climate change] are increasingly affecting the very foundations of human health and wellbeing".

The message is clear: we cannot divorce our own health from that of the planet. Without healthy planetary systems, such as ample fresh water, clean air, and reliable weather, we cannot have healthy humans.

WHAT'S IN THIS REPORT?

In this 2022 report, we review progress, highlighting some encouraging examples of integrated action on climate and health which deserve to be widely replicated, and detailing actions business can take to seize the initiative and make change happen.

We also illustrate opportunities to integrate equity of health outcomes into climate and health strategies and explore the intersection of biodiversity and nature with climate and health.

We focus on four sectors which have particular leverage: **food, technology, the built environment and healthcare**.

And we widen the scope to include the important role which the finance, investment and philanthropic community can play, along with policy makers at all levels of government. Here, too, there is a serious lack of a joined-up approach to climate and health.

WHO IS IT FOR?

The report contains practical information and recommendations for **business leaders** across all sectors, notably CEOs, CSOs, and all who shape business strategy and practice, including procurement and HR leads.

While it's primarily aimed at corporates, there are actions here that SMEs can take, too – either alone, or in partnership with clients and investors.

There are also sections aimed specifically at **policy makers**, since they set the enabling environment in which engaged business can succeed, and **financiers / investors and philanthropists**, as they can unlock the full potential of private sector action on climate and health.

At Forum for the Future, we look forward to working with all these key actors to bring the report's recommendations to life. Please get in touch if you want to help make this happen. There are opportunities to be seized – and no time to waste.

HOW WAS THE REPORT COMPILED?

The findings in this report arose from a two-fold process:

i) Convening groups from a diverse section of over 40 private sector organisations, along with others working on the frontlines of climate and health;

ii) A major research exercise, distilling the findings of over 5,000 multi-disciplinary papers covering the climate and health interface, and uncovering and assessing case studies across all key sectors.

As well as identifying signs of progress and actions required, this work also threw up areas of persisting uncertainty: on how to measure impact, and assess likely returns on investment. There is an urgent need to strengthen the business case and so create an environment for rapid systemic change.

RECOMMENDATIONS

A suite of detailed recommendations are given for each key sector. Here are some broad examples of what's covered. Please see the sector sections for specific, actionable points.

ACTIONS FOR BUSINESS

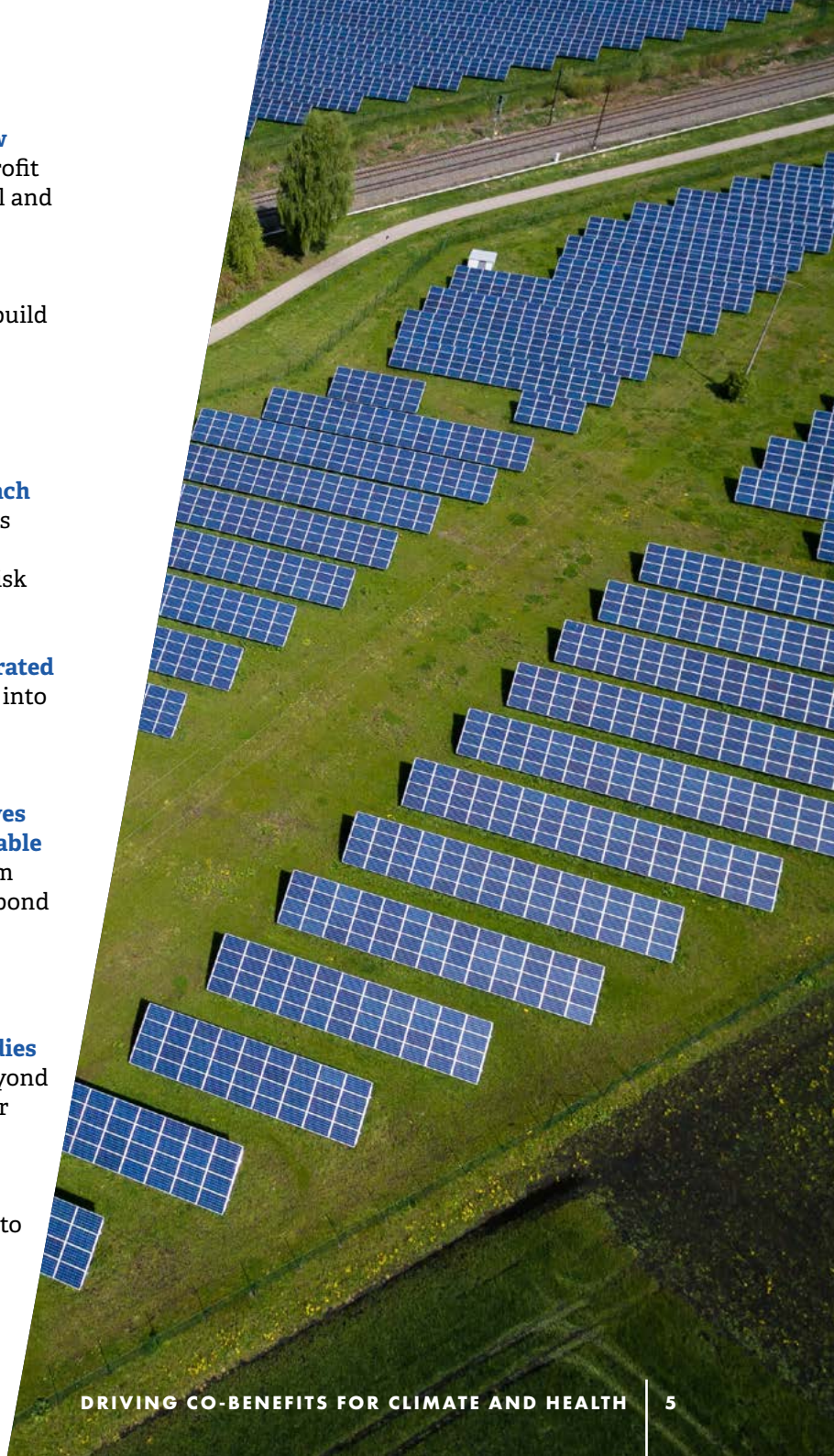
- **Reduce emissions and contribute towards cleaner air.** Examples include: procurement of clean energy, reduction of vehicle use, greening operations and logistics.
- **Invest in clean, green buildings (new or retrofit) that are safe and sustainable**, with zero- or low-carbon energy systems, green roofs and walls, natural light and ventilation, and features to enhance biodiversity.
- **Educate employees and customers about climate and health,** and so help them to take individual actions, at home and at work, to improve outcomes on both.
- **Consider climate and health outcomes within product design** by linking carbon intensity reduction targets with those on health benefits.
- **Leverage business's voice as a platform to build a shared case for a just and regenerative economy.** Work to ensure that lobbying departments and trade associations are aligned with core company goals on climate and health.
- **Collaborate with suppliers** to design strategies for carbon reduction, biodiversity net gain, positive health outcomes, and climate adaptations, including investing in nature-based solutions.
- **Engage with academia on developing new business models** that experiment with 'profit plus' approaches designed to deliver social and environmental benefit as well as profit.
- **Educate and influence shareholders on integrated climate and health risks**, and build health into risk reporting.

ACTIONS FOR INVESTORS AND PHILANTHROPISTS

- **Recognise that taking a proactive approach** to tackling climate-induced health impacts would realise significant economic and health co-benefits, and constitute smart risk management.
- **Educate and influence investors on integrated climate and health risks** and build health into risk reporting.
- **Identify where health can piggyback on, and strengthen, existing market initiatives and incentives looking to drive a sustainable future**, such as in ESG products, ecosystem services markets, and the green loan and bond markets.

ACTIONS FOR THE PUBLIC SECTOR

- **Shift how public money (including subsidies and procurement)** is spent, by moving beyond 'do no harm'; towards net positive goals for nature and society.
- **Integrate approaches to the connected challenges of health, climate and nature**, to achieve both greater value for money, and benefits which span all three challenges.



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PURPOSE OF THIS REPORT

We are at a crucial juncture in human history, with a rapidly closing window of opportunity to create a world in which more than nine billion people live well, within planetary boundaries. Business is critical in determining whether we can succeed. Both through its own actions, and its influence on supply chains, consumers and policy makers, business has the resources, leverage and creativity to drive real change – at scale and speed.

Both climate and health challenges are increasingly severe across the globe, with rising incidences of diseases exacerbated by climate change and its impacts, such as malaria and cholera, and spiralling health costs associated with air pollution and unhealthy diets. Tackling climate change and health together holds out huge promise for improvements. Doing so separately, in different silos, risks unintended consequences and delay.

BUSINESS CAN AND MUST ACT TO ALLEVIATE THE TWIN, LINKED CRISES OF CLIMATE CHANGE AND HUMAN HEALTH.

1.1 WHO IS THIS REPORT INTENDED FOR?

Business leaders across all sectors, notably CEOs, CSOs, and all who shape business strategy and practice, including procurement and HR leads.

Specific guidance is included for four sectors - food, technology, built environment and healthcare – which can have particular positive influences on climate and health.

Policy makers – local, regional and international. They can create the policy environment to enable business to deliver accelerated, integrated progress on climate and health. Such action also offers policy makers opportunities to create co-benefits that add up to more than the sum of their parts, delivering greater value for money across policy areas.

Finance sector actors and philanthropists. Their investments can unlock the full potential of private sector action on climate and health, and similarly deliver greater value for money via co-benefits, as above.

1.2 ABOUT THIS REPORT

The report begins by introducing the urgency around the twin crises of climate and health and offers a vision for a just and regenerative future where planetary and human health can thrive. It then looks at signs of progress across different levers for change in Chapter 2, highlighting the potential of two under-activated levers, policy and financial mechanisms. Chapter 3 summarises Forum's approach to system change, with particular reference to climate and health, and Chapter 4 looks for signs of progress underway.

Chapter 5.1 is the heart of this report, offering guidance to business in general, and Chapters 5.2-5.6 offer suggested actions for four specific sectors that have an impact on both climate and health: food, technology, built environment and healthcare. Chapter 6 suggests routes for the finance community to unlock private sector action, and Chapter 7 does the same for policy makers.

1.3 WHAT'S NEW

In Driving co-benefits for climate and health (2021), we identified a range of possible actions by business, with a particular focus on those that lie within a company's sphere of control: their direct operations, their employees, and their value chains.

In this report, we:

- Take a deeper dive into actions on climate and health that are within a company's sphere of influence, including policy advocacy, and shifting consumer and employee narratives.
- Look at what's needed to create a more enabling environment for business by providing guidance for finance sector actors and policy makers.
- Illustrate opportunities to integrate equity of health outcomes into climate and health strategies.
- Explore the intersection of biodiversity and nature with climate and health.
- Provide a more detailed set of recommendations for four key sectors: food, technology, the built environment and healthcare.

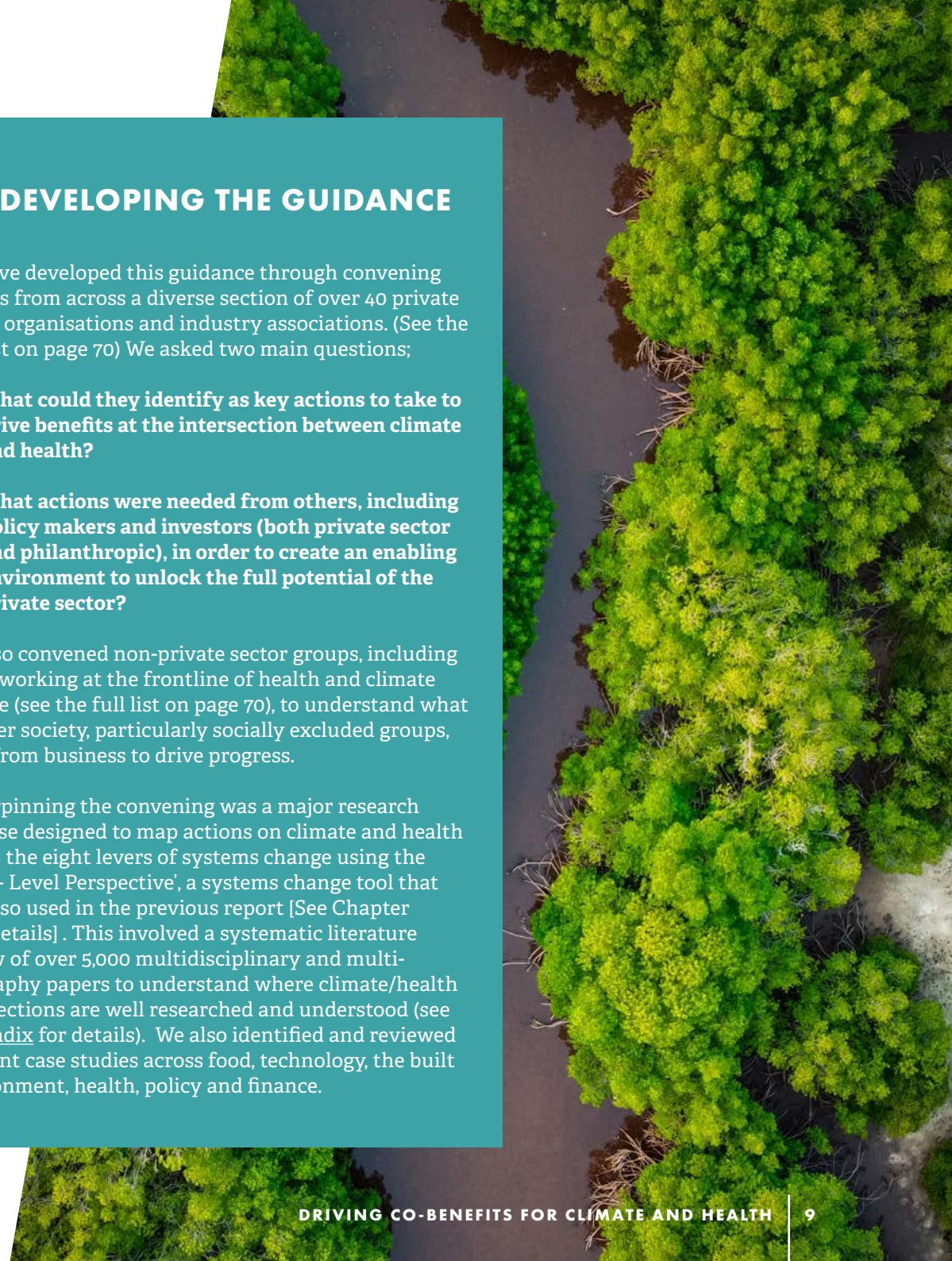
1.4 DEVELOPING THE GUIDANCE

We have developed this guidance through convening leaders from across a diverse section of over 40 private sector organisations and industry associations. (See the full list on page 70) We asked two main questions;

- **What could they identify as key actions to take to drive benefits at the intersection between climate and health?**
- **What actions were needed from others, including policy makers and investors (both private sector and philanthropic), in order to create an enabling environment to unlock the full potential of the private sector?**

We also convened non-private sector groups, including those working at the frontline of health and climate change (see the full list on page 70), to understand what broader society, particularly socially excluded groups, need from business to drive progress.

Underpinning the convening was a major research exercise designed to map actions on climate and health across the eight levers of systems change using the 'Multi- Level Perspective', a systems change tool that was also used in the previous report [See Chapter 3 for details] . This involved a systematic literature review of over 5,000 multidisciplinary and multi-geography papers to understand where climate/health intersections are well researched and understood (see Appendix for details). We also identified and reviewed relevant case studies across food, technology, the built environment, health, policy and finance.



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INTRODUCTION

2.1 WHY THE URGENCY?

Events in the 12 months since the original climate and health guidance[1] was published in September 2021 have further highlighted the direct link between climate change and human health. Extreme heat at dangerous levels across multiple continents, air pollution events so severe that governments imposed stay at home orders,[2] devastating floods causing waterborne diseases in Pakistan, and a series of wildfires across the globe, have all caused illness, death and disruption.

Despite the majority of countries and large companies now having net zero commitments in place, we are still on track to miss internationally agreed targets to limit temperature rises to 1.5 degrees.

MOUNTING PRESSURE FOR CHANGE

OCTOBER 2021

The World Health Organisation (WHO) stated that climate change is the biggest health threat facing humanity[3], and estimated that between 2030 and 2050 climate change will be the driver for over a quarter of a million excess deaths per year. It drew a clear link between health vulnerability and climate risk, emphasising that tackling health equity and climate justice must be delivered in tandem as the impacts of climate change, including on health, are not felt equally.[4]

APRIL 2022

The Sixth Assessment IPPC report[5] spells out the direct relationship between climate and human health.

JULY 2022

The UN General Assembly voted overwhelmingly to declare the ability to live in "a clean, healthy and sustainable environment"[6] a universal human right. It also called on countries, companies and international organisations to scale up efforts to turn that into reality.

SEPTEMBER 2022

In a special edition of the International Review of Psychiatry, authors from multiple geographies confirmed that "acute extreme weather events as well as chronic extreme climate events such as prolonged drought are associated with an increasing burden of post-traumatic stress disorder (PTSD), depression, anxiety, extreme psychological stress and distress, substance use and suicidality in people of all age groups."[7]

OCTOBER 2022

The Lancet Countdown Global Report 2022 says that "Governments and companies continue to prioritise fossil fuels above, and to the detriment, of peoples' health, jeopardising a liveable future. A health-centred, aligned response to the compounding crises can still deliver a future where people can not only survive, but thrive".[8]

THE MESSAGE THAT YOU CANNOT HAVE HEALTHY PEOPLE ON AN UNHEALTHY PLANET COULD NOT BE CLEARER

Despite this, climate and health strategies within the private sector are still largely seen as separate. Policy and funding initiatives that span both remain a rarity.

Yet the opportunity for all actors, especially the private sector, to address climate, nature and health in an integrated way is immense. There is huge potential to deliver just and regenerative transitions by tackling climate and health together.

And there are huge risks of inaction, too. Climate impacts are already having a significant impact on productivity and value chain resilience[9], and forecasts predict that negative health impacts (and their economic consequences) are only likely to grow as climate and nature breakdown. As a knock-on effect, we could lose the ability to fund a health service just at the time it faces overwhelming challenges.

We cannot afford to allow short-term pressures – notably the food and energy supply crisis brought about in large part by the war on Ukraine – to distract us from the task of meeting this challenge. This report offers ways of making change while operating within this uncertain environment.

2.2 TOWARDS A JUST AND REGENERATIVE FUTURE

Private sector action at the intersection of climate and health can help us transition to a just and regenerative future.

WHAT IS 'JUST AND REGENERATIVE'?

This is a vision of the future where all of our systems, from food to energy to health, have been transformed to create the conditions in which people and planet can thrive into the long-term. This is a bold ambition, but one that is necessary to drive the pace and scale of change needed to respond to our climate and health crises.

Forum for the Future describes a just and regenerative future as one where:

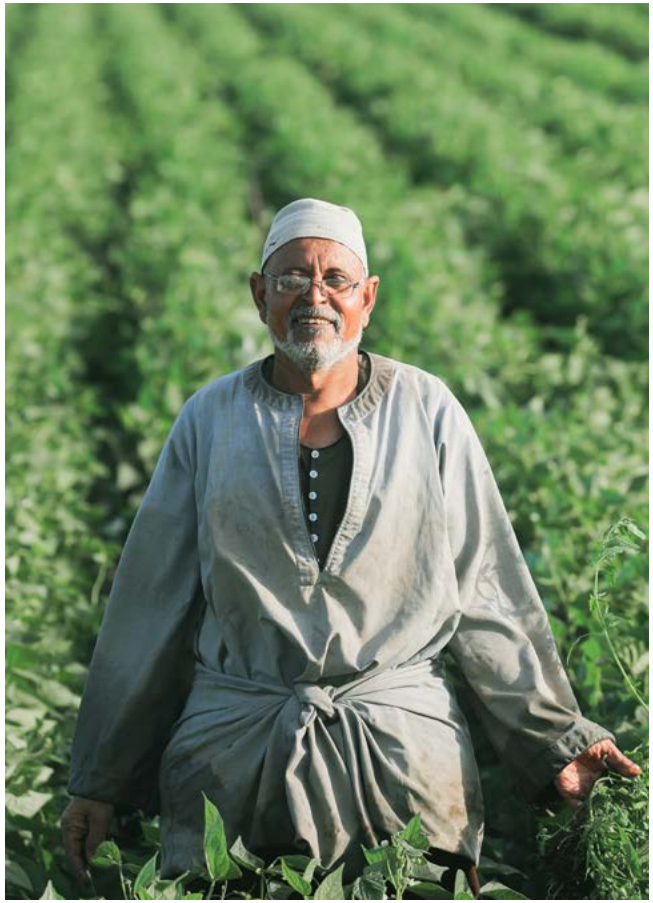
- Social and environmental systems are thriving, including the health system
- The health of the planet has been rapidly stabilised
- Human rights are universally respected
- Fairer ways to create and distribute value have been adopted
- Resilience and vitality across generations and geographies is supported.

Four sectors in particular have the potential to act on climate and health in a way which can accelerate this transition. Imagine...

- A **food sector** that protects soil and biodiversity, sequesters carbon, adapts to climate risk, and provides healthy, accessible, nutritious food, grown within planetary limits.
- **Data and technology** sectors that improve health outcomes, and emphasise the links between a healthy planet and healthy humans.
- A **built environment sector** that builds and retrofits buildings that are integrated into the wider natural environment, minimise carbon emissions, store carbon by design, and are climate resilient; and which designs cities with healthy, safe environments for humans and nature.
- A **health sector** that prioritises overall wellness, together with equity of health outcomes; and that fosters conditions in its supply chain which create healthy environments for healthy humans.

Delivering these ambitions requires a different way of doing things and a different mindset: a just and regenerative mindset. This gets to the heart of how we recognise our interdependence with other people and our planet, and ultimately how we enable all living beings to not simply survive but to thrive together. Adopting such a mindset means embracing the power of nature to renew and regenerate, understanding that humans are a fundamental part of nature, and respecting everyone's universal rights and potential to thrive.

No business can thrive on a dying planet, with employees or customers in ill health and resources too depleted to regenerate. Business needs to think and act differently to create a just and regenerative future. So throughout this report we touch on the different levers businesses can pull to help get us there.



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DESIGNING FOR SYSTEM CHANGE - HOW CHANGE HAPPENS

Achieving transformative change on climate and health at the scale and pace needed means taking a whole systems approach.

This in turn means that understanding how systems change, and how to harness this dynamic for the best, is crucial to making real progress.

A system could be a socio-economic one, such as energy or health, an ecosystem such as the ocean, or an organisation.

3.1 HOW DO SYSTEMS CHANGE?

System change comes about when relationships between different aspects of a system alter, such that the system as a whole moves towards new outcomes. Diagram 1 illustrates how systems change, using the Multi-Level Perspective model. This model describes a system as being made up of three levels: landscape, regime and niche.

Systems begin to change when pressures from the landscape (for example macro trends such as climate change or shifts in societal expectations), along with the development of strong alternative solutions in the niche, such as disruptive technologies or different ways of organising, combine to disrupt business as usual. If supported by people willing to do things differently, these isolated instances of pioneering practices can tip into mainstream practice, which eventually creates a sustainable "new normal".

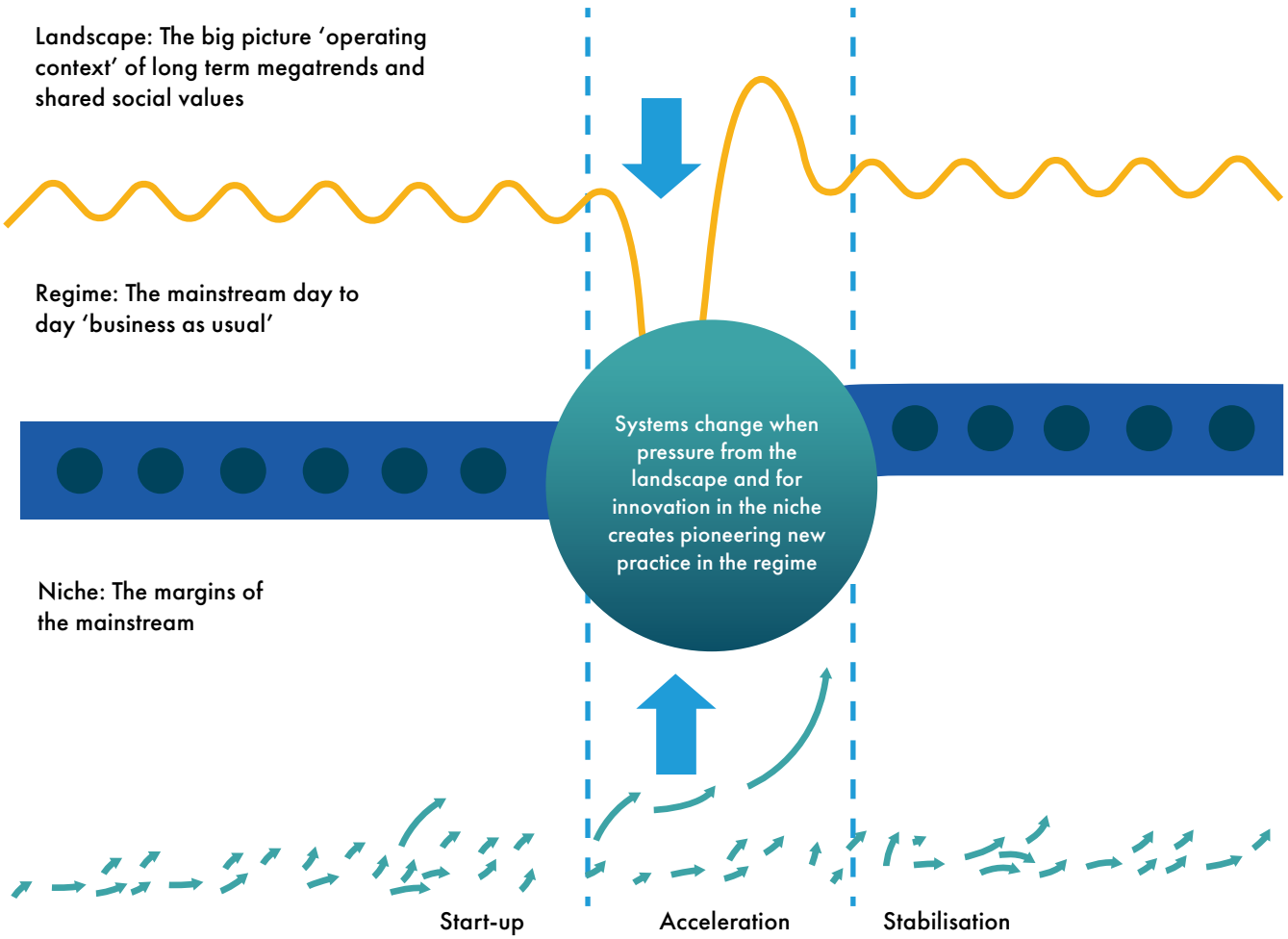


Diagram 1: How Systems Change – The Multi-Level Perspective

3.2 A FRAMEWORK FOR DESIGNING SYSTEM CHANGE IN CLIMATE AND HEALTH – EIGHT LEVERS FOR CHANGE

This guidance builds on the Multi-Level Perspective change model, which has been developed through our work in designing strategies for system change at both an organisational and sectoral level. The model allows us to understand the different levers for change that need to be addressed in order to change systems (Diagram 2). Each lever is generally (but not always) specific to a particular phase of system change. Usually, all levers need to be pulled to create change, although not necessarily in a particular order, and not necessarily simultaneously.

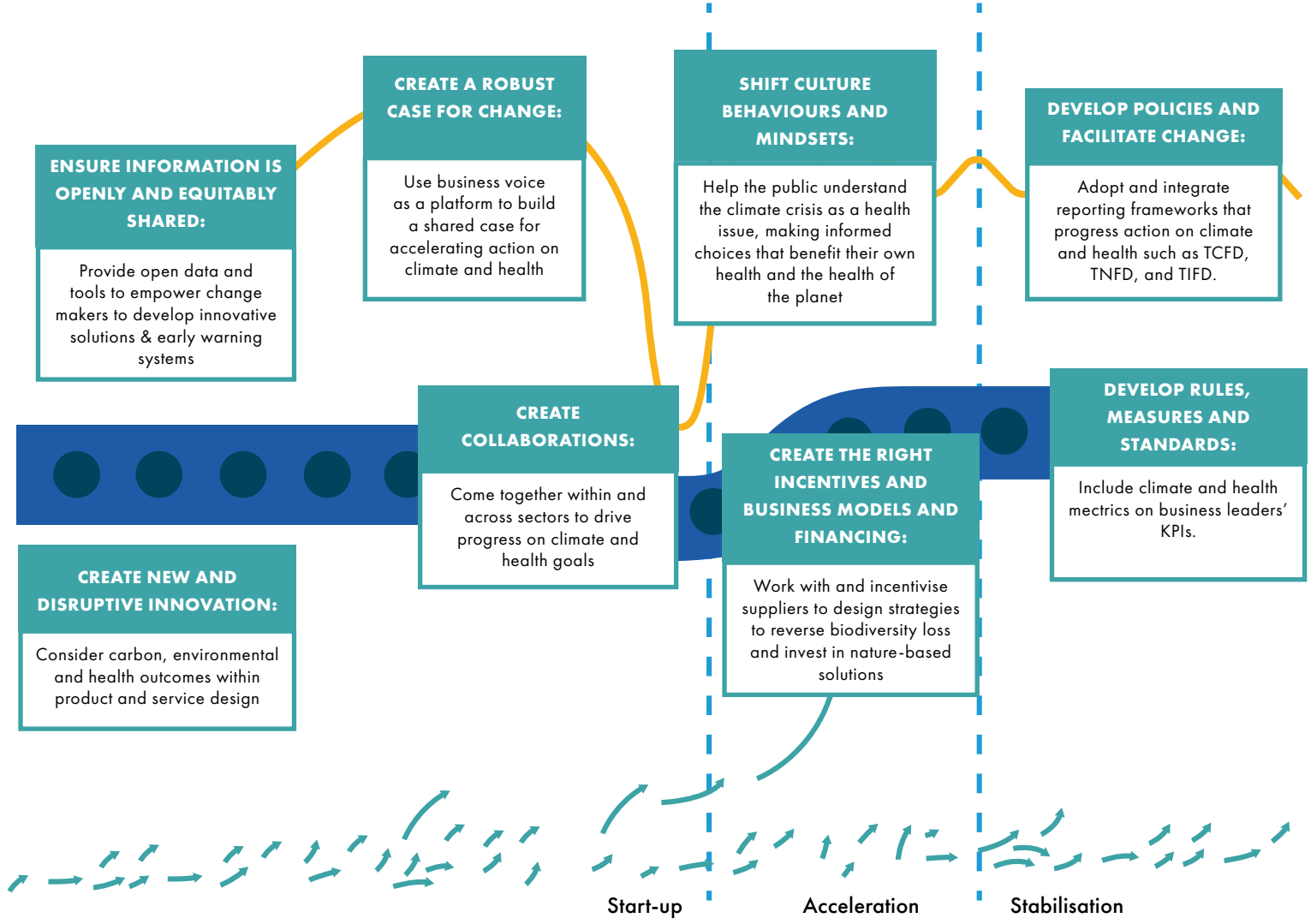


Diagram 2: The eight levers to shift a system, with examples of potential actions to shift the climate and health systems[10]

04

WHERE IS PROGRESS HAPPENING?

In updating the guidance, we have assessed progress made by the private sector, policy makers, investors, and other enabling actors in delivering co-benefits for climate and health according to the eight levers of change. Taking each lever in turn, we describe an overall assessment of progress as well as signals of change.

4.1 THE CASE FOR CHANGE

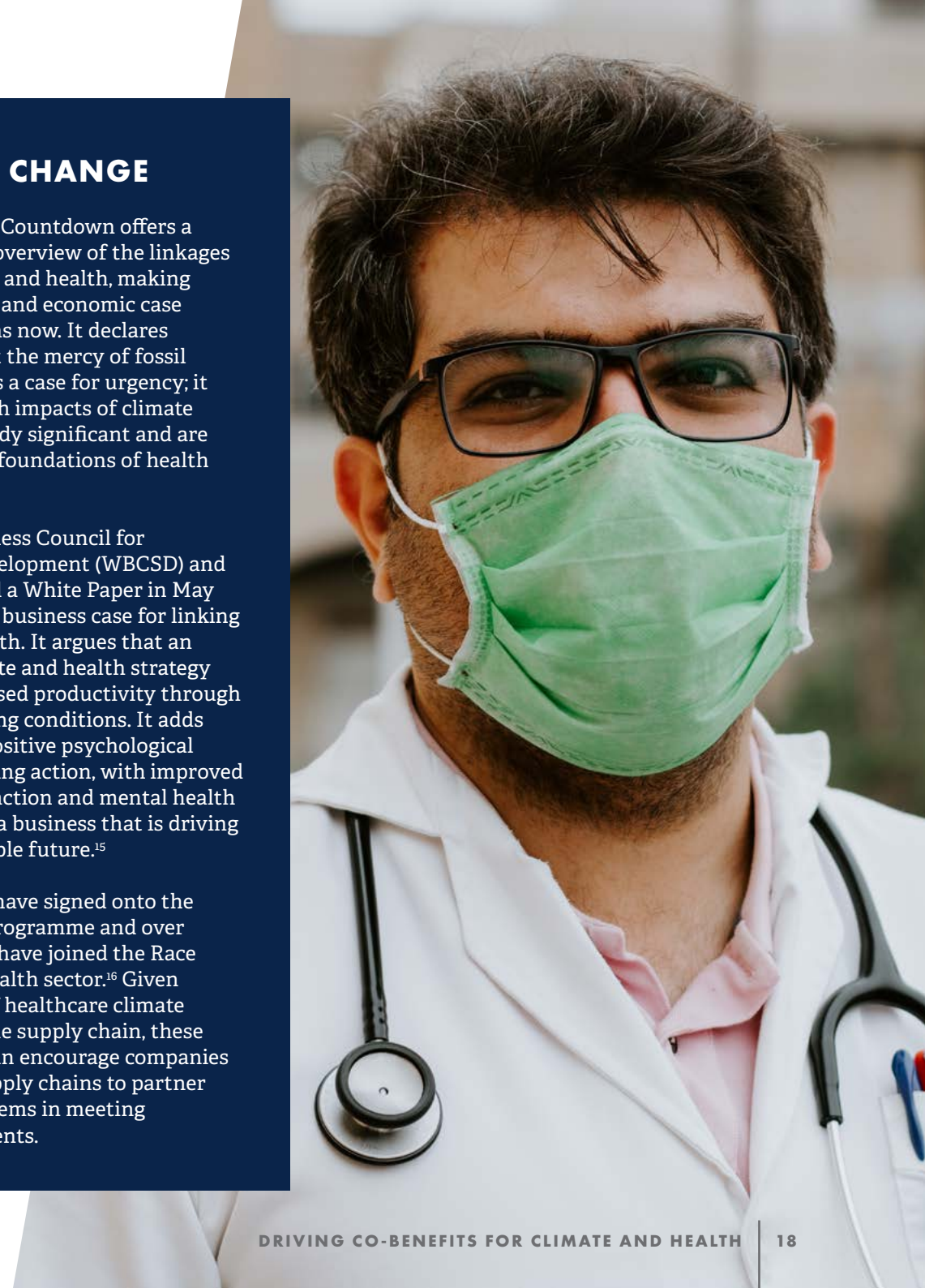
The case for integrated action on climate and health has been growing ever stronger during 2022. It includes:

- Further scientific evidence identifying myriad linkages between climate change, nature loss and ill health.[11]
- Healthcare professionals highlighting the impact climate change is having on health systems and health inequality.[12]
- Growing awareness of the risks climate change poses to businesses in terms of occupational health, lost labour hours and reduced productivity, and the opportunities provided to future proof business against such risks.[13]

The economic costs of climate change and nature loss on human health are increasingly apparent, but there are still difficulties in measuring the impact of interventions to mitigate it, or in demonstrating the potential return on investment. More work needs to be done to strengthen the business and policy case for action, and so create the environment for rapid and decisive system change.

SIGNALS OF CHANGE

- The 2022 Lancet Countdown offers a comprehensive overview of the linkages between climate and health, making a clear scientific and economic case for taking actions now. It declares that "health is at the mercy of fossil fuels" and makes a case for urgency; it argues the health impacts of climate change are already significant and are threatening the foundations of health and wellbeing.[14]
- The World Business Council for Sustainable Development (WBCSD) and Deloitte released a White Paper in May 2022 making the business case for linking climate and health. It argues that an integrated climate and health strategy will drive increased productivity through improved working conditions. It adds that there are positive psychological outcomes to taking action, with improved employee satisfaction and mental health associated with a business that is driving a more sustainable future.[15]
- Sixty countries have signed onto the COP26 Health Programme and over 14,000 hospitals have joined the Race to Zero in the health sector.[16] Given that over 70% of healthcare climate footprint is in the supply chain, these commitments can encourage companies within these supply chains to partner with health systems in meeting those commitments.



4.2 FLOWS OF INFORMATION

Innovations in clinical and population health informatics are emerging that help decision makers to make sense of climate related indicators and their relationship with health. For example, early warning systems for waterborne disease outbreaks based on climatic events such as heavy rain. If such tools can be co-developed with, and made available to, community health workers, then rapid, localised decision-making and planning can be improved.

SIGNAL OF CHANGE

- The Africa ChemObs project, a collaboration between UNEP, WHO and the Africa Institute, works to understand chemicals that are threatening populations by connecting health and environment data. It's developed a "vulnerability calculator" to help African governments develop evidence-based policy interventions.[17]
- UNICEF has developed a child health risk indicator which overlays healthcare vulnerabilities with environmental hazards and exposures.[18]
- Lancet Countdown Data platform[19] is an extensive resource, which quantifies the connection between climate and health in five key areas:
    - climate change impacts on health, exposure and vulnerability;
    - adaption, planning and resilience;
    - health co-benefits;
    - economics and financing;
    - public and political engagement

It offers a tool for business, finance, and policy makers to quantifiably understand the linkages between climate and health across these areas and assess indicators across country-specific, regional and income levels.[20]

4.3 COLLABORATION

A multitude of collaborations at the intersection of climate and health have emerged over the last 12 months. A core objective of the Climate and Health Coalition going forward will be to align strategies and avoid duplication. Collaborations would also benefit from increased participatory engagement with historically underrepresented voices. Understanding the needs of community health and giving agency to those who are feeling the brunt of the crisis will be crucial in ensuring equity and justice are at the heart of private sector action.

SIGNAL OF CHANGE

- Collaborations include the UN's Race to Zero campaign,[20] in which the private sector collaborated with Health Care without Harm and the WHO to map out healthcare's decarbonisation pathway,[21] and also through initiatives such as the Sustainable Healthcare Coalition[22] and the Health Systems Taskforce in the Sustainable Markets initiative[23 24]
- Frontline health practitioners have played a key role in advocating for integrated climate and health action through organisations such as the Medical Society Consortium on Climate and Health[25] and the Health Voices for Climate Action[26] (both in the US). In the policy space, vocal advocates for change include the Health and Climate Network, convened by the Global Climate and Health Alliance.[27] Organisations such as Clim-HEALTH Africa span the technical and policy spaces.[28]

4.4 INCENTIVES FOR ACTION

Our research has identified financial and market incentives as a particularly under-activated lever of change. As yet, there are none that actively encourage the private sector to address climate and health as interconnected challenges when investing capital. A short-term focus on shareholder value and quarterly returns comes at the expense of the substantial longer- term returns which could flow from tackling this omission. While there are some examples of businesses and financial actors who are less constrained by this short-term focus – including some not-for-profits, a few SMEs and value-based healthcare companies -- these are in the minority.

SIGNAL OF CHANGE

- Efforts to integrate health more thoroughly into ESG strategies have started to gain momentum. For instance Legal & General is arguing for inserting an 'H' into ESG, to help bring health as an issue to the fore and so drive change.[29]
- The Wellcome Trust has developed a dedicated workstream on climate and health which opens up new opportunities for scientific collaborations across sector.[30]
- Philanthropic and grant funding can also support community-led initiatives. Live Well Springfield accessed $600,000 of grant funding to support climate adaptation and community health inclusion through urban regeneration and nature based solutions.[31]
- The Human Health and Education and Research Foundation[32] is a philanthropic organisation set up to improve human health through better planetary health, working through advocacy and local projects.

4.5 POLICY

Governments met the threat of the COVID-19 pandemic with unprecedented funding and increased policy engagement on health. By comparison, overall progress on meeting internationally agreed climate targets remains poor. Existing commitments, if met, would see us stabilise global warming at 2.7˚C, as opposed to the agreed 1.5˚C target.[33]

The UN has called for 50% of all climate finance to be oriented towards adaptation,[34] but as yet, funding for this is sorely lacking. By implication, this will negatively impact human health as climate impacts intensify.[35]

Governments identify the major barriers to taking action on the interconnections between climate and health as funding, resourcing and a lack of intersectoral collaboration.[36] Ensuring more equal distribution of access to financing, both public and private, for Low- and Middle-Income Countries (LMICs) is key to making progress here.

Most countries also lack a preventative focus on health and wellbeing, instead focusing on treating illness. For instance, in the US, less than 3% of health spending is oriented towards public health, with 97% oriented towards individual healthcare.[37] A greater preventative focus would shift policy and funding towards improving the environmental conditions in which people live, and so strengthen the intersection between climate and health policy.

SIGNAL OF CHANGE

- In the US, The Department of Health and Human Services (HHS) launched an Office of Climate Change and Health Equity (OCCHE) within the department to address climate-related health issues affecting low income and socially excluded groups[38] and support designing low carbon and climate resilient health systems.
- As part of the Greener National Health Service (NHS) campaign, the UK government has committed the NHS to achieving net zero by 2045, five years sooner than the overall UK government targets.[39]
- At COP 26, 50 countries made a commitment to foster climate-resilient and low- carbon health systems.[40]

4.6 INNOVATION

There has been considerable progress in technological innovation within the healthcare sector, with new digital tools offering real promise for shifting it towards a preventative model,[41] with a reduced carbon footprint.[42] Technological innovations that work to directly connect vulnerable populations with both public health and healthcare have also accelerated over recent years[43], and many seek to address the social determinants of health, such as mobility, literacy and poverty.

Local institutions collaborating in new ways and utilising their purchasing power have also started to tackle human health issues preventatively by addressing their root cause. For example, through housing retrofits that target living conditions and energy efficiency, or through using healthy and sustainable food as medicine in their canteens, with ingredients procured and delivered in ways that promote health inclusivity, climate adaptation and community wealth building.[44]

SIGNAL OF CHANGE

- Since 2013, Anchors in Resilient Communities, founded by Health Care Without Harm and Emerald Cities Collaborative, have facilitated collaboration between anchor institutions in healthcare, such as hospitals, and communities to co-develop innovative solutions for how procurement and anchor assets support citizen interventions for health.[45]

- The Seasonal Health Intervention Network (SHINE) programme run by Islington Council in London connects health and housing professionals to offer referrals, assessment and advice to patients suffering from poor health conditions in their homes. NHS costs are reduced in the long-term, housing stock is improved and retrofitted, so reducing emissions, and human health issues are addressed preventatively at their root cause. Examples of interventions include insulation and double glazing, so reducing cold and damp, which are drivers of ill health.[46]

- The Sustainable Medicines Partnership, a public-private collaboration convened by YewMaker, is innovating to reduce waste in the healthcare system, via four key areas: improving "metrics for medicine" via the Medicine Carbon Footprint classifier (Beta version to be released in 2023)"[47], addressing the amount of pharmaceutical products that are currently wasted through tracking and optimising inventories, "digitising medical information", and working to create more circular packaging in the healthcare sector.[48]

4.7 RULES, MEASURES AND STANDARDS

We are starting to see health being integrated into sustainability metrics, and sustainability into health care sector standards - although there is still some way to go before these are working at scale. The next step - converting these standards into policy - could be an important avenue for private-public collaboration - with the key objective being to raise the floor of action, insisting that any laggards catch up with industry leaders.

SIGNAL OF CHANGE

- My Green Lab Certification, a worldwide standard for medical certification recognised by the UN Race to Zero Campaign as a key measure of progress in decarbonising healthcare, signals a shift towards increasing standardisation in setting reduction targets for waste and emissions in the biotech and pharmaceutical industry. It draws together scientists, vendors, designers, energy providers and others to ensure that all scientific research reflects the highest standards of social and environmental responsibility My Green Lab also offers education and technical assistance in reducing waste produced by the pharmaceutical sectors, via its accreditation programme.[49]

- Business for Health is working to develop a framework and index to be used for health in ESG - both products and reporting.[50] The Index will help to identify positive (and negative) "commercial determinants of health", share best practice, and facilitate research leading to a model by which companies can play a key role in improving population health. Developing measures and standards for mobilising capital to deliver co-benefits for climate and health will be key to improving the quality of data, and encouraging the adoption of frameworks to strengthen the business case for change through quantifying and measuring climate-related health risks.

"Health data and metrics are improving rapidly and the positive and negative health impacts of companies can, along with climate impacts, be assessed to encompass direct impact (e.g. employee health), secondary impacts (e.g. products and services sold) and contribution to health externalities (e.g., use of product by consumers)." [51]

— Business for Health

4.8 SHIFTING CULTURE, BEHAVIOURS AND MINDSETS

The concept of planetary health has become significantly more influential over the last year. The Planetary Health Alliance defines the concept as "a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth."[52] There has been an associated shift in consumer facing interventions by the private sector – ones which deliver benefits for both the health of people and the planet.[53] This enhanced willingness to take action in an integrated way is critical if the full potential of the private sector is to be realised.

SIGNAL OF CHANGE

- The UN Environment Programme (UNEP) argues that planetary health is the foundation of all health, with Inger Andersen, Executive Director, stating: *"Human health. Veterinary health. Atmospheric health. Planetary health – are all one and the same. At the end of the day, we cannot achieve universal healthcare without expanding the depth of our understanding on all these issues."*[54]

- 'One Health' approaches are gaining in momentum. First formally recognised by the Global Risk Forum at Davos in 2012, the approach explores the intersections between human health and wider systemic health,[55] and has been adopted by the WHO and the US Centers for Disease Control and Prevention (CDC).

05

ACTIONS FOR BUSINESS AND CASE STUDIES

5.1 GUIDANCE FOR ALL BUSINESSES

The recommendations in this document are designed to enable private sector organisations to develop or strengthen net zero and adaptation strategies in ways that activate co-benefits for climate and health, often adding up to more than the sum of their parts. They also iIllustrate opportunities to integrate equity of health outcomes into climate and health strategies, especially where those most impacted by the health and environmental impacts of climate change have caused them. The guidance builds on that previously published in 2021 and reflects what businesses are learning through tackling climate and health in an integrated way.

The sections below outline how all businesses can act across their spheres of influence to drive progress. We have also provided more sector-specific actions for food, the built environment, technology and healthcare businesses. These sectors have the potential for disproportionately greater positive impact at the intersection of climate and health, with accompanying commercial opportunities.

SPHERES OF INFLUENCE IN AN INTERCONNECTED WORLD

Every business has a range of spheres of influence. Often the easiest place to start is with direct operations, products and services (including consumer use and behaviour), and employee policies and programmes. Then there are value chains, over which all companies have influence, from suppliers to consumers.

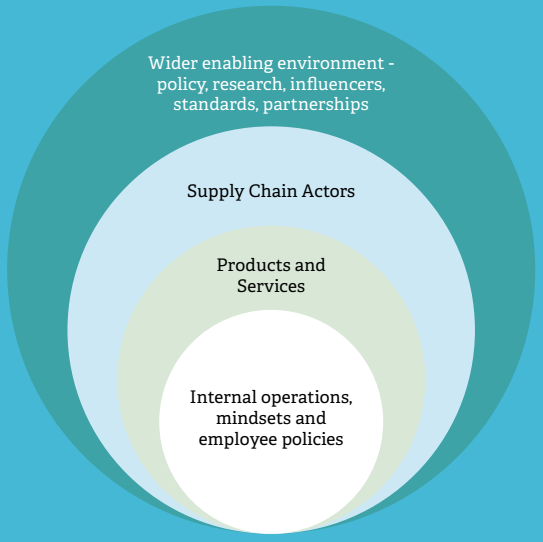


Diagram 3: Business spheres of influence

Meanwhile, consumers, employees, investors and other stakeholders increasingly expect businesses to utilise the influence they have over the wider landscape they operate in, to shape the rules and policies that govern or guide their particular sectors. This type of influence is often exerted through advocacy, collaboration or partnerships around key systemic issues, such as Growing Our Future, a Forum for the Future-led collaboration which seeks to transform the agriculture system in the United States through scaling up regenerative agriculture.

Ideally, businesses should be designing strategies that deliver for both climate and health across all spheres of influence. This expanded view of the remit of business is important to ensuring health equity and climate justice across the supply chain as well as unlocking further action to improve human and planet health.

5.1.1 INTERNAL OPERATIONS AND EMPLOYEES

This is often the easiest place for a business to start.

DIRECT OPERATIONS

- **Reduce emissions and contribute towards cleaner air.** Examples include: procurement of clean energy, reduction of vehicle use, and otherwise greening operations and logistics.
- **Invest in (including retrofit) clean, green buildings that are safe and sustainable.** Examples include: introducing zero- or low-carbon energy systems; incorporating green roofs and walls, and other features to enhance biodiversity; and investing in sustainable cooling systems to deal with extreme heat, which protects employees from the impacts of climate change at work in a more sustainable way than conventional air-conditioning.
- **Utilise Nature-based Solutions (NbS) on sites to promote biodiversity and health**. Regenerated green spaces can have a positive impact on the planet, biodiversity and physical and mental health.[56]
- **Where chemicals are used in manufacturing, utilise innovations in efficient chemical products/processes** to reduce human exposure to chemicals and environmental impact.

Renewables and carbon negative ambitions

- Microsoft is aiming to become carbon negative by 2030, and by 2050[57], to remove from the atmosphere all the carbon it has emitted since it was founded in 1975.
- The Responsible Energy Initiative in India[58] is going beyond a singular focus on renewable production to promote ways for companies to procure renewable energy that is produced and deployed in an ecologically safe and human rights-respecting manner.

EMPLOYEES

(This guidance draws on extensive recommendations drawn up by F. Adshead, 2022[59]):

- **Educate employees about climate and health to improve their literacy and help them to take actions that are better for their health and the climate,** including supporting advocacy in the public sphere. These might include active travel-to-work schemes, or offering plant-based sustainable food provision on site, with the dual benefits of guaranteeing a market for sustainable farmers and improving employee health. Support these behavioural changes through free or discounted access to such solutions, including initiatives outside the workplace, such as the provision of green energy use in the home. Employees in locations where climate change impacts are likely to be experienced severely, such as those in regions prone to hurricanes, typhoons or floods, may need additional support for preparedness and adaptation plans.[60]
- **Address eco-anxiety and encourage employees to feel part of the solution** by making strong company commitments on climate and health, and publicly acknowledging the impact that climate change has on mental health. Commitments might include climate-positive investments via pensions, land assets and portfolios, supporting volunteering on local environmental rehabilitation programmes, or finding other ways for employees to have a greater sense of agency as part of a broader organisational climate strategy.
- **Ensure employees and the labour force have job security and fair pay**, particularly in light of exponentially rising costs of living in many geographies. This drives co-benefits across health, as studies show that those with low pay and poor job security are at risk of negative health outcomes. It also supports climate adaptation, through ensuring personal resilience, the capacity to make consumer behavioural changes, and the ability to afford good health through preventative measures.

GOVERNANCE AND REPORTING

- **Adopt and integrate reporting frameworks that progress action on climate and health,** such as the Task Force for Climate-related Disclosures (TCFD), the incoming Task Force for Nature-related Disclosures (TNFD) and the Taskforce for Inequality-related Disclosures (TIFD)

- **Ensure business leaders' KPIs include climate and health metrics.** For example, KPIs could be linked to investment in ecosystem restoration designed to improve both environmental and health outcomes, as well as more direct measures, such as the number of employees using active transport to travel to work.

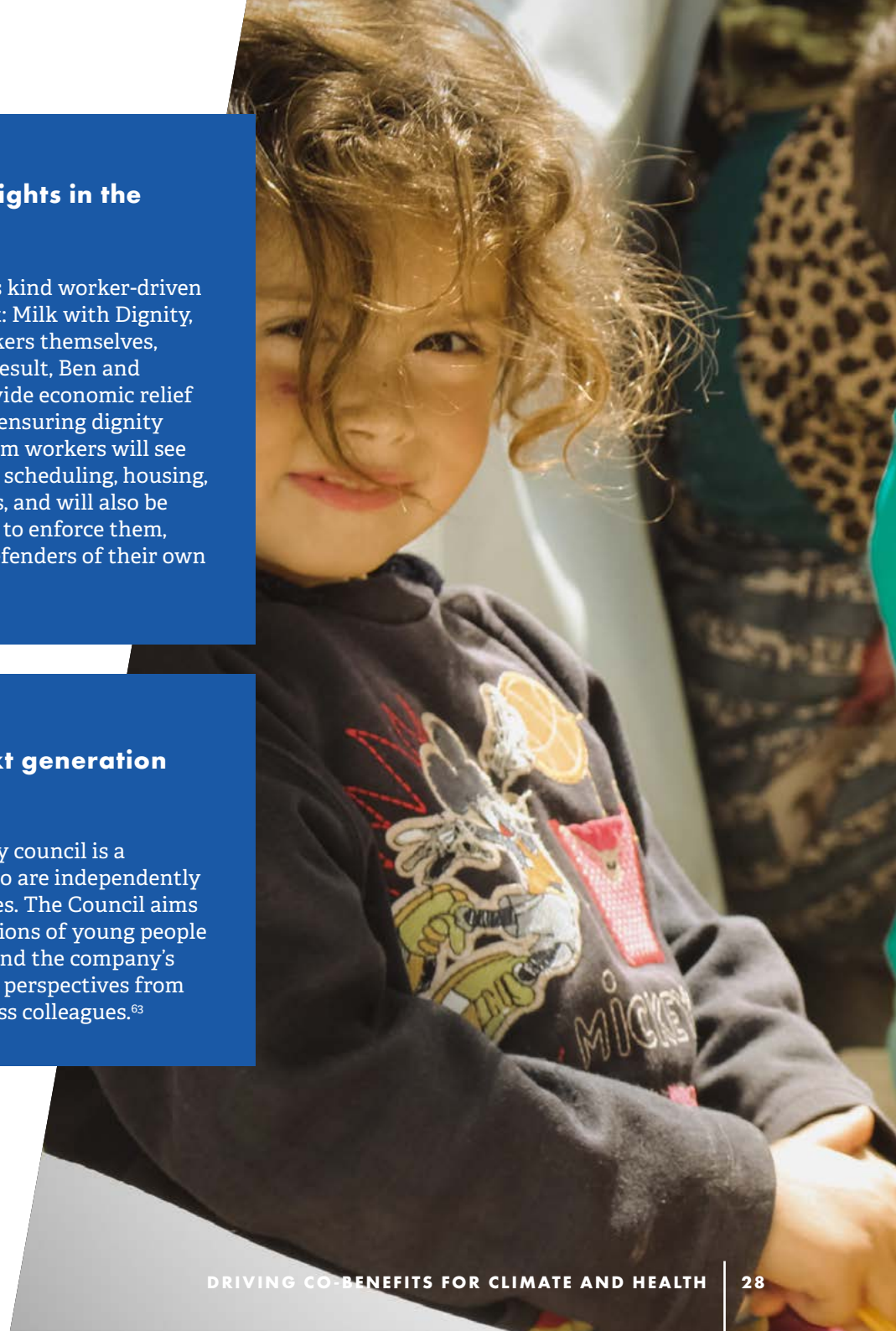
- **Influence company law in all operating territories, so that businesses have a legal obligation to deliver social and environmental benefits as well as profits.** This means that leading companies will not be disadvantaged by taking a pioneering position on climate and health agendas, as all companies would then be held to the same obligations. The B Lab (part of the B Corporation movement) offers a good example of this framework.[61]

Protecting human rights in the dairy supply chain

Ben & Jerry's adopted a first of its kind worker-driven social responsibility commitment: Milk with Dignity, originally developed by farmworkers themselves, including migrant workers. As a result, Ben and Jerrys will pay a premium to provide economic relief to struggling farm owners, while ensuring dignity and respect for farm workers. Farm workers will see concrete improvements in wages, scheduling, housing, and health and safety protections, and will also be educated on their rights and how to enforce them, effectively serving as frontline defenders of their own human rights.[62]

Listening to the next generation

Unilever's Next Gen sustainability council is a collective of young advocates, who are independently connected to broader youth bodies. The Council aims to capture the voice and expectations of young people across key sustainability issues, and the company's chief sustainability officer shares perspectives from the Council with Unilever business colleagues.[63]



5.1.2 PRODUCTS AND SERVICES

- **Consider carbon, environmental and health outcomes within product design by** linking carbon intensity reduction targets with those on health benefits. For example reusable inhalers within the healthcare sector. (More examples are provided in the sector specific chapters 5.2 to 5.6.)

- **Strengthen existing offers to customers, using your brand assets to offer information and guidance,** where appropriate, on both climate and health issues. Use packaging and in-store activity to raise customers' awareness around, for example, links between soil, nutrition and climate.

- **Leverage the business's voice as a platform to build a shared case for just and regenerative economy.** Work to ensure that lobbying departments and trade associations are aligned with core company goals on climate and health.

- **Showcase the human story.** To change individual mindsets, we need to tell strong stories that bring home the impact of environmental and health issues on real people. This can bring to life issues that are too often discussed in complex, opaque language remote from ordinary people's everyday experiences. Humanising the story can counter the tendency for consumers to dismiss climate change as a remote, distant threat.[64]

Unleashing digital innovations to reduce emissions and inform patients of savings

Bupa's Spanish business, Sanitas, is helping patients be part of its sustainability journey via the CO_2 calculator within Blua, its digital health app. When a patient attends a video consultation – or downloads a medical report to the app instead of visiting a clinic to collect results – the avoided emissions are shared with the patient via the app. It shows, for example, that a patient attending an appointment via video (as opposed to travelling to a clinic) will save an average of 3.1kg of CO_2 emissions - equivalent to the CO_2 absorbed by 186 trees per day.[65]

Using education to speed the transition to regenerative agriculture

McCain has launched #saveoursoil campaign to educate and engage next-gen audiences about the challenges currently facing the farming community and the benefits of regenerative farming. Through collaborations with one of the largest metaverse platforms, Roblox, and the first NFT-themed restaurant, Bored & Hungry, young players can virtually grow potatoes using regenerative farming methods that improve and restore soil health. This is part of McCain's global commitment to implement regenerative agricultural practices across 100 percent of its potato acreage worldwide by the end of 2030.[66]

5.1.3 SUPPLY CHAIN

- **Work with supply chains to design strategies for carbon reduction, positive health outcomes, and climate adaptations.** This might include partnering with suppliers to identify and scale innovation, or setting health and carbon targets for suppliers, including employee healthcare insurance providers. It could also include investing in the health resilience of supply chain workers, such as funding clinics or advice centres; enabling climate resilient infrastructure such as typhoon shelters or contour dams for terraced fields; or incorporating digital tools in the value chain to aid decarbonisation and keep workers safe.

- **Work with suppliers to design strategies to reverse biodiversity loss and invest in nature-based solutions.** Foster responsible land use, zero deforestation and ways to enhance biodiversity (by for example, restoring mangroves or backing community greening and gardening initiatives in cities). These interventions offer a strong return on investment by creating multiple benefits: tackling climate change, improving access to healthy nutrition, reducing risk of infectious diseases, protecting ecosystems and having a positive impact on mental health.

- **Foster long-term contracts and relationships to increase suppliers' resilience and their ability to shift to more sustainable practices.** For example, by entering into long-term, supportive relationships with farmers' groups in sectors such as cocoa and coffee; or running ongoing training programs that support the growth and success of diverse suppliers.

- **Enable easier access to finance for suppliers to transition to climate-positive practices.** This could include targeted low-interest loans to help build long-term community resilience, and improve physical and mental health in the shorter term. Within the Forum for the Future's collaborations, Cotton 2040 and Growing our Future, an ecosystem services-based approach to growing cotton is being trialled to enable easier access to finance for suppliers to transition to climate-positive practices, designed to increase incentives and financing for farmers to adopt regenerative production practices which have the potential for positive climate and health impacts.[67]

- **Ensure environmental protection measures do not come at the cost of the rights, livelihoods or resource access of local communities.** Some rigorous forest protection measures, for example, have been criticised for excluding local communities who had traditionally made use of the forest. Set clear expectations of suppliers to meet environmental targets in ways that are co-created with, and ensure direct benefit to local communities.

Supporting regenerative agriculture in supply chains

- In 2021, PepsiCo launched its Positive Agriculture initiative to spread regenerative farming practices across seven million acres, roughly equal to its entire agricultural footprint.[68]
- Nestlé is working with over 500,000 farmers and 150,000 suppliers to help them implement regenerative agriculture practices.[69]

Helping growers to thrive through new models

- Tony's Chocolonely has introduced a "living income model for cocoa" It recognises that inequality is at the root of many social and environmental issues, such as extreme poverty, ill-health, deforestation, and child labour.[70]
- German retailer Lidl funds Kuapa Kokoo, a cocoa growers' cooperative. It also partners with chocolate brands such as Divine, training cocoa farmers to harness multiple income streams.[71]

Integrating producers and workers into sustainability goals

Unilever's forest ecosystem restoration programme, in partnership with WWF, takes what's called a 'jurisdictional' approach, in which all interested parties across an entire landscape – government, private sector, civil society and local communities – identify shared sustainability goals, then put in place planning, policies and incentives structures to meet them.[72]

5.1.4 WIDER ENABLING ENVIRONMENT

There is an opportunity for the private sector to look beyond their own boundaries to help shape an environment in which ecosystems and people can thrive, using their resources to enable public discourse that supports the case for systemic change.

Specific actions include:

COLLABORATION

- **Provide new flows of information, sharing data and tools to identify what works when climate and health are looked at holistically.** Advance research into connections between climate and health, identifying effective ways of measuring and valuing impact. Collaborate with others to find new ways of integrating data sources to highlight successful climate and health interventions and create information flows which reinforce them. Make data and tools public and open-sourced to empower scientists, governments, organisations and individuals to contribute to analysis and identify solutions.
- **Engage with academia on developing new business models** that experiment with "profit plus" approaches designed to deliver social and environmental benefit as well as profit.
- **Create in-sector and cross-sector collaborations to drive joint outcomes on climate and health.** Many sectors have complementary materials, expertise or influence. The Sustainable Healthcare Coalition[73] is a group of healthcare organisations developing ideas to address these interconnected challenges at a pre-competitive level.
- **Co-develop solutions with communities who are directly impacted by climate.** Seek to develop solutions that are mutually beneficial and address equity gaps, including driving place-based funding to address the many social determinants of health.[74]

Conserving, restoring and growing 1 trillion trees by 2030

1t.org is a cross-industry alliance committed to exercising leadership and integrity in forest conservation, restoration and reforestation; reporting publicly; raising ambition and delivering long-term impact.[75]

New business models creating social and environmental value

Mars has launched a foundation to promote the 'Economics of Mutuality' and drive new models of business which can generate value for society and the environment as well as for shareholders. It aims to help deliver a fairer, more responsible form of capitalism through research, education, advocacy, gatherings and publications, and partnering with leading universities and other like-purposed companies and organisations.[76]

POLICY ADVOCACY

- **Encourage governments to re-channel subsidies into climate positive solutions,** ending support for fossil fuels and shifting it into renewables. Remove incentives that promote high carbon activities and unhealthy food, and explore mechanisms such as carbon trading and carbon taxes that could support adaptation efforts while also incentivising a shift away from high-carbon activities.[77]

- **Engage with investors and policy makers to encourage an enabling policy environment** for public-private partnerships on, for example, climate adaptation across your areas of operation.

- **Encourage the public sector to explore alternatives to GDP,** and to provide an enabling policy environment for experiments such as Beyond GDP. This could accelerate the shift to a wellbeing economy, and help to remove some of the perverse incentives that inhibit businesses from delivering benefits to consumers. For example, by encouraging a shift to tax breaks for companies that invest in community health within their value chains.

- **Continue to make the case for driving integrated climate and health benefits to consumers, governments, investors, suppliers and other businesses.** For example, in the health space, NICE Listens[78] is a new programme of public engagement by the UK's National Institute for Health and Care Excellence. It engages citizens on environmental sustainability among other topics, explaining why climate change matters in relation to medications like asthma inhalers.

Cities adopt doughnut economic model to support people and planet

Amsterdam, Philadelphia and Portland are among cities trialling and/or adopting the 'Doughnut' model of economics, a framework taking into account the minimum requirements necessary for people and the maximum support the planet can provide. They are finding that 'first and foremost, transforming an economy requires a cultural revolution, not a socio-technical one. This is changing the nature of conversations within cities and requires people to look at the challenge differently'.[79]

Investing in circularity

Extended Producer Responsibility, which promotes circularity in packaging, and is endorsed by over 100 businesses, provides opportunities to shape the future and invest in technologies before they are mandated, enabling leadership in resource management and regeneration.[80]

More guidance is available in the policy section Chapter 7.

INVESTOR STRATEGY

- **Encourage 'long-termism' in investment strategy,** to deliver sustainable profits while also meeting climate and health goals.
- **Educate and influence shareholders on integrated climate and health risks and build health into risk reporting.** Identify where health can piggyback on, and strengthen, existing market initiatives and incentives looking to drive a sustainable future, such as in ESG products, ecosystem services markets, and the green loan and bond markets.
- **Encourage investors to back green innovation that improves environmental conditions and health outcomes at the same time,** so supporting the goal of a just and regenerative transition.

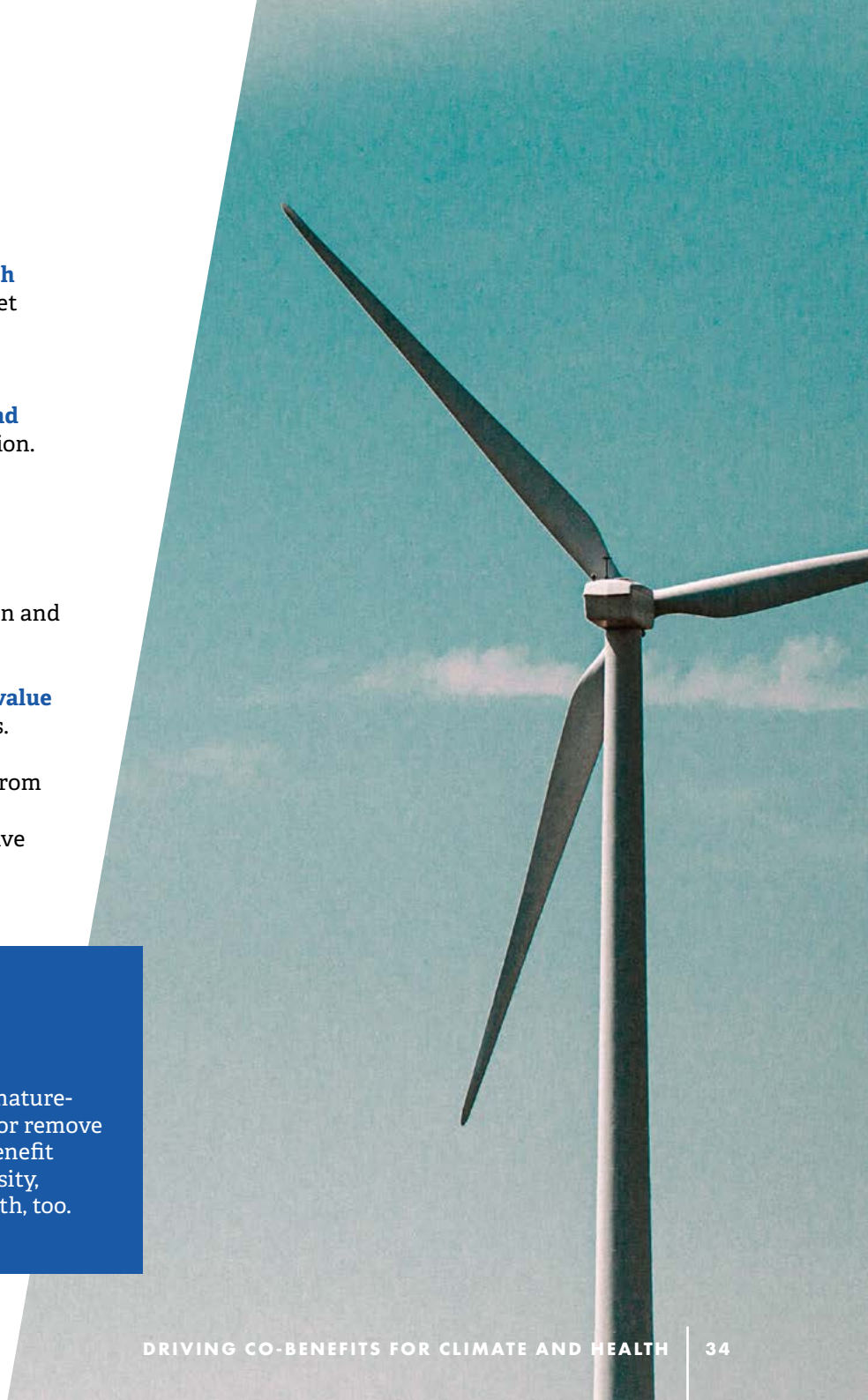
More guidance is available in the finance mechanism Chapter 6.

CORPORATE PHILANTHROPY

- **Ensure philanthropic giving is aligned with climate and health strategies** to foster cohesion and greater impact, including exploring new ways to measure impact
- **Increase funding for initiatives that invest in the social and environmental health of the value chain,** such as ecosystem restoration, building livelihoods and climate adaptation initiatives.
- **Fund systemic collaborations that bring together actors from across climate and health,** from grassroots organisations, to private and public sectors, in a way that tackles inherent power imbalances, climate injustice, and health inequality. Set up a grant committee that is reflective of the grantees being funded to ensure community-centred decision-makers and equitable distribution of funds.

Amazon invests in nature-based solutions

Amazon's $100 million Right Now Climate Fund[81] invests in reforestation projects and other nature-based solutions. The fund conserves and restores forests, wetlands and grasslands to "avoid or remove carbon emissions by supporting nature-based solutions". Such funding has the additional benefit of helping to preserve the natural world by conserving wildlife habitats, protecting biodiversity, improving water quality, and reducing flood risk – all of which have benefits for human health, too.



5.2 FOOD SECTOR

The food sector sits at the intersection of climate change, equity and health. It is responsible for 20-30% of global carbon emissions[82] and significant biodiversity loss through intensive farming practices, which have also been linked to a rise in zoonotic disease.[83] At the same time, over 820 million people are malnourished with a lack of access to affordable, sustainable and healthy food, especially in Latin America, Africa, and Western Asia.[84]

Many interventions for a climate-friendly food system provide opportunities to improve health equity and biodiversity, and create a viable and profitable market that fairly distributes value. The food sector specific guidance in this chapter offers ways to support the transition to a just and regenerative food system, building on the general guidance in Chapter 5.1.

PRODUCTS AND SERVICES

Shift product portfolios towards healthier, lower carbon diets and improve affordability and accessibility for low income consumers for whom nutritious diets are often inaccessible.[85] In regions where animal protein is overconsumed, rebalance product portfolios to include more vegetables and other diversified plant-based products and reduce antibiotic use overall in the livestock production system. These actions have the potential to reduce the incidence of both communicable and non-communicable diseases.[86]

Drive demand for products and diets which improve climate and health by using consumer communication tools, such as messages on pack, in store and online. Consider support for community kitchens, cooking lessons or even farm visits, helping people feel more connected to how their food is made and to experiment with new ingredients and healthy meal choices. Include more transparent information about nutritional quality and the climate impact of food production on packs to aid consumers to make more informed choices.

Reduce waste and design for circularity by working across consumer touchpoints, product portfolio and the value chain. This could include creating markets for misshapen food, looking for ways to extend fresh produce shelf life safely, and redistributing surplus food to communities experiencing food poverty. Businesses can also adopt more circular packaging solutions, for example, offering refill services to customers, and taking part in precompetitive collaborations to share costs, such as the Flexible Plastics Fund, which aims to improve flexible packaging circularity.[88] Seek out guidance from organisations like the Ellen McArthur Foundation to improve practice right across this area.[89]

SUPPLY CHAIN

Incentivise climate positive practices and the transition towards regenerative agriculture, supporting growers to restore soil health and biodiversity. Initiatives here could include longer-term contracts, giving suppliers security as they transition to new farming practices, introducing peer-to-peer learning opportunities, and offering farmers and landowners payment in return for providing ecosystem services.

Drive greater equity and improved distribution of value by innovating and collaborating within value chains, including enabling small farmers and those historically excluded from production to participate. By way of example, consider experimenting with new value chain models such as regional markets and "friendshoring". These can reduce emissions and offer greater resilience to the volatility of changing weather patterns. Look to create pilots with your value network which incorporate ecosystem stewardship and regenerative farming practices.[95]

Assess the links between climate volatility and health vulnerabilities, and then work with producers and growers across the value chain to support adaptation and resilience measures, which can ensure ongoing access to healthy affordable food. Measures could include loss and damage insurance and the provision of technical assistance to address risks to health and livelihoods, particularly for smallholder farmers in the developing world.

WIDER ENABLING ENVIRONMENT

Collaborate with policy makers to develop integrated frameworks that address climate, health and nutrition 'goals, helping to drive policy which supports the transition to a healthy affordable food system. Actions here could include directing subsidies towards those who use regenerative agricultural production systems.

Advocate for public procurement standards that deliver equitable access to nutritious food. This can be a powerful tool to reshape food standards and food business practice.

Rewarding healthy and sustainable choices

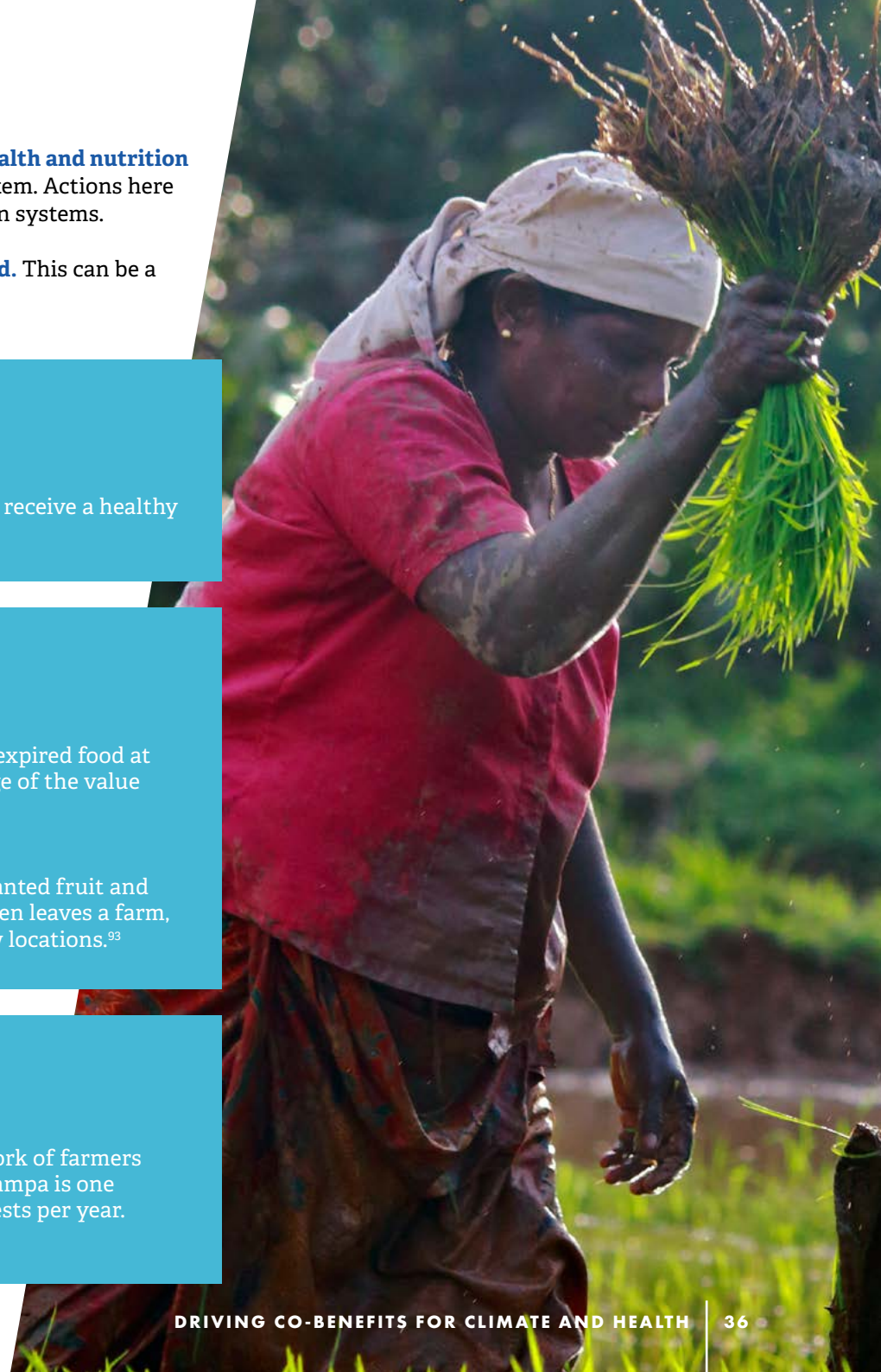
Ahold Delhaize have launched SuperPlus, a scheme that gives discounts on products that receive a healthy score from the nutritional navigation system.[87]

Innovating to reduce food waste

- Too Good To Go[90] is a platform through which retailers and restaurants can sell near-expired food at significantly discounted rates.[91] This helps reduce food waste at the consumption stage of the value chain and improve affordability of food for communities suffering from food poverty.
- Oddbox[92] is a sustainable food waste platform, delivering boxes of misshapen or unwanted fruit and vegetable directly to consumers. It repurposes food that would be wasted before it even leaves a farm, and has recently secured £16 million worth of investment to expand its service to new locations.[93]

Harnessing tradition on Mexican farms

Colectivo Ahuejote, an NGO with an associated for-profit business, has developed a network of farmers in Mexico who are using chinampa, a traditional and regenerative farming practice. Chinampa is one of the most productive types of agriculture in the world, enabling as many as seven harvests per year. Participating farmers have experienced quarterly sales growth of up to 120%.[94]



5.3 TECHNOLOGY SECTOR

At a time of rapid technological change, access to increasingly vast amounts of data, sophisticated analysis tools, and the ubiquity of digital technologies means the tech sector has a unique opportunity to develop transformative tools that can help solve integrated health and climate challenges.

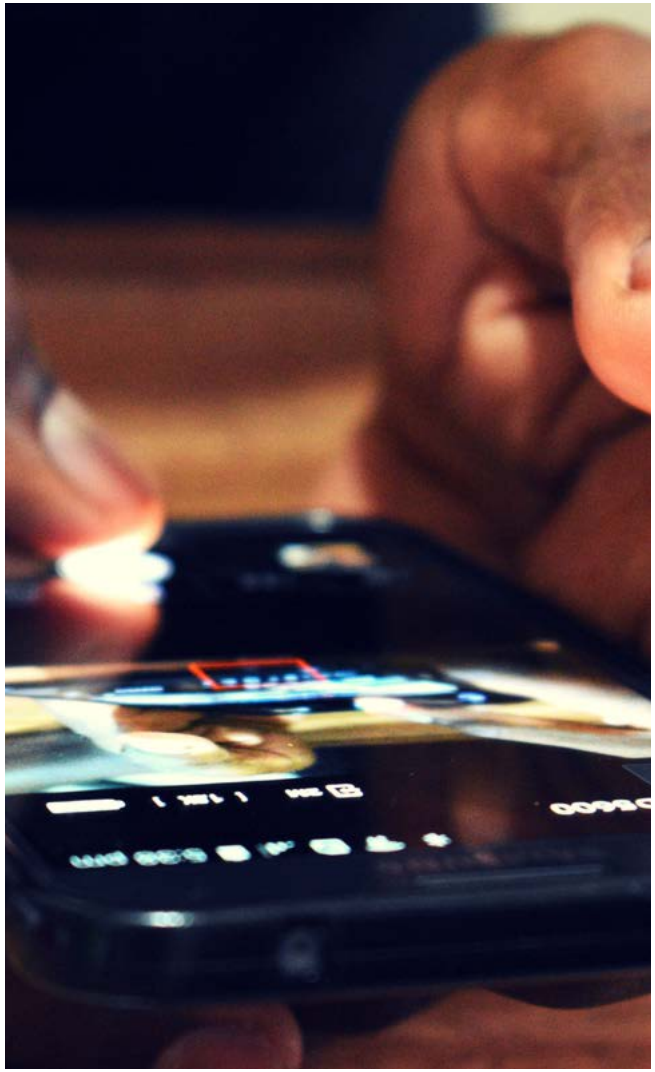
The following recommendations are designed to be used in conjunction with the general guidance found in Chapter 5.1.

PRODUCTS AND SERVICES

The technology sector is in a unique position to support urgently needed early warning systems to help communities cope with climate change shocks. These could include sophisticated warning systems for wildfires, typhoons and other weather shocks, along with climate-sensitive infectious diseases. They could be used at a local scale, supporting immediate on-the-ground adaptation efforts, as well as centrally by policy makers and insurance providers to promote longer-term planning and resilience.

Use data analysis to help citizens understand how changing climate, environmental and biodiversity conditions are impacting their personal health, translating information from global, regional and local sources to help people make sense of challenges such as heatwaves and pollution on a day-to-day basis.

Build the adaptive capacity of the tech sector to deal with climate change impacts, such as the 2022 heatwaves which led to Twitter, Google, Oracle and Amazon struggle to maintain their services.[97]



AI for health in Nepal

The Centre for Health and Disease Studies (CHDS) in Nepal launched a disease surveillance pilot project in collaboration with tech and health organisations. It leverages Microsoft's Premonition systems and GSK's expertise in health and disease to investigate how AI and robotics can support the local community response to vector-borne diseases and climate change.[96]

WIDER ENABLING ENVIRONMENT

Collaborate across sectors, using advanced data visualisation capabilities to help address research gaps and strengthen the case for change. This could involve the development of metrics and indices that convey the social and economic costs of health and climate impacts, including measuring the benefits of preventative interventions like health literacy and climate programmes, or sustainable nutrition in schools and workplaces.

Where possible, educate and mobilise consumers around the connections between personal health and climate change, by, for example, using social media to data and tech to encourage active travel such as cycling or walking.

Given the reliance on carbon offsets within the tech sector, it's vital that any offsetting projects are designed to deliver multiple benefits beyond carbon. There's an opportunity here to target and improve vulnerable community health outcomes alongside ecosystem restoration and livelihoods.

Make data and key technology products open-source, to empower scientists, governments, organisations and individuals to develop their own innovative solutions. For example, Capgemini has developed Project Farm, an Intelligent Data Platform at Capgemini's Applied Innovation Exchange (AIE) to tackle global food shortages.[100]

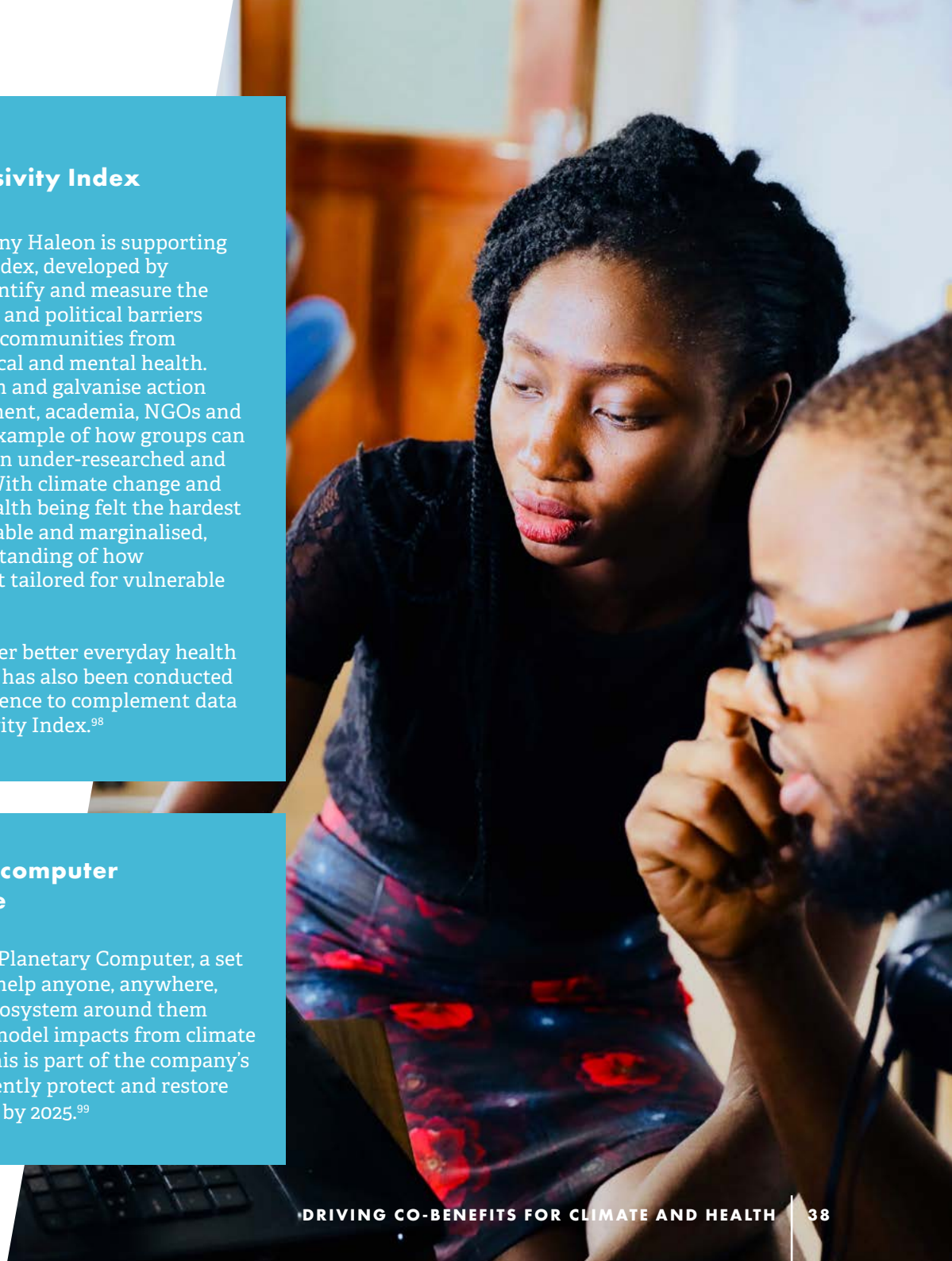
Health Inclusivity Index

Consumer health company Haleon is supporting the Health Inclusivity Index, developed by Economist Impact to identify and measure the personal, social, cultural, and political barriers that prevent people and communities from experiencing good physical and mental health. The Index aims to inform and galvanise action across industry, government, academia, NGOs and communities and is an example of how groups can collaborate to quantify an under-researched and under-prioritised area. With climate change and its effects on people's health being felt the hardest by society's most vulnerable and marginalised, building data-led understanding of how interventions can be best tailored for vulnerable communities is critical.

As Haleon exists to deliver better everyday health with humanity, research has also been conducted into people's lived experience to complement data from the Health Inclusivity Index.[98]

A planetary computer for everyone

Microsoft launched The Planetary Computer, a set of tools and services to "help anyone, anywhere, better understand the ecosystem around them today, and monitor and model impacts from climate or human behaviour". This is part of the company's commitment to permanently protect and restore more land than they use by 2025.[99]



5.4 BUILT ENVIRONMENT SECTOR

The construction sector has a considerable emissions profile, accounting for 37 percent of energy related CO2 emissions[101] and is currently not on track for decarbonisation by 2050.[102] The sector contributes to biodiversity loss and many other drivers of negative climate, nature and health outcomes, and faces challenges from the ongoing impact of its buildings as well as the impact of its own operations. Opportunities to act vary significantly by geography: in high income countries the primary challenge is retrofitting inefficient building stock;[103] in developing countries, where building stock is expected to double by 2050,[104] integrating health and climate innovations into the planning, design and construction of new developments and city design will be key.

The following specific sector recommendations are designed to be used in conjunction with the general guidance for business found in Chapter 5.1.

PRODUCTS AND SERVICES

Incorporate biodiversity 'net gain' principles in new and retrofit developments and advocate for it to become mandatory. In urban environments, nature-based solutions (NbS) can be utilised to improve mental wellbeing and health for communities,[105] offering additional benefits for heat adaptation and air quality, as well as contributing towards biodiversity net gain.[106] A range of tools are available to help guide design and execution of such solutions in an urban context.[107] Where possible, conserve areas of high biodiversity by focusing on retrofitting existing housing stock and building for density.

Innovate building design and retrofits to cut emissions, improve adaptation potential and boost health and wellbeing. Improving ventilation and daylighting, integrating renewables and low-carbon technologies and ensuring ample insulation are all important here. Where possible, design flexibility into new buildings and their energy infrastructure, for example providing for smart home power systems, vehicle-to-grid and vehicle-to-building charging to support the transition to renewable energy systems. Consider how a development might deal with issues such as floods, extreme heat or disruption to energy supplies, especially in vulnerable low- and middle-income countries. Equitable, sustainable access to space cooling is another opportunity area, with innovations including cool roofs, self-shade building design and urban ventilation corridors.[109] New build projects offer significant potential, including incorporating Passivhaus techniques, building with sustainable materials such as timber or bamboo, and using green walls and roofs.

Innovate business models to improve retrofit potential. Retrofitting is key to reducing energy demand and operational emissions, and it can also deliver health benefits such as reducing exposure to pollutants and excessive heat or cold, and improving indoor air quality.[114] The focus should be on markets where there is plentiful building stock but significant energy inefficiency, and ensure that those in social or affordable housing receive their fair share of investment.[115]

Work with supply chains to mitigate emissions from carbon embodied in building structures, limiting harmful air pollution from the manufacture and transportation of materials and construction processes.[117] Designing for greater circularity in materials use will help reduce embodied carbon and volumes of virgin material extracted for construction, as well as creating new markets and opportunities.

The World Green Building Council has developed a four-pronged approach to reducing embodied carbon:

1. Prevent: avoid embodied carbon from the outset by considering alternative strategies to deliver the desired function.

2. Reduce and optimise: evaluate each design choice in terms of the upfront carbon reductions and as part of a whole lifecycle approach.

3. Plan for the future: take steps to avoid future embodied carbon during and at end of life.

4. Offset: as a last resort, offset residual embodied carbon emissions within the project or organisational boundary, where possible; otherwise through verified offset schemes"[118]

Incorporating multiple NbS in urban redevelopment for multiple benefits

New Garden Quarter, a brownfield regeneration project in Stratford, East London, utilises multiple NbS to deliver a range of functional ecosystem services, whilst providing spaces for residents and the public to enjoy. The project included rain gardens, green roofs and a number of nature positive features and planting interventions across the site that enhance biodiversity, attenuate stormwater and deliver community amenity space.[108]

Green design standards that improve health, climate and energy cost

Passivhaus is a design standard that combines energy efficiency, thermal comfort and internal air quality and is increasingly used across the UK and the EU, to target net zero operational carbon emissions and reductions in energy demand and fuel poverty.[110] In the redevelopment of Erneley Close in Manchester by R-Gen in the UK, developers utilised Passivhaus to create a sustainable low-carbon community by retrofitting dilapidated blocks of flats in one of the poorer areas of the city. Interventions included improving air tightness and insulation, replacing individual boilers with community ones, designing a new community garden and adding new waste recycling facilities, resulting in an average 90% decrease in energy bills.[111]

Proving eco-efficient architecture doesn't need to cost more

In 2017, Infosys, India's second largest IT services company, constructed their new office block with two wings – one 'green' wing and one standard 'grey' wing. The green wing was built using a range of energy saving techniques inspired by traditional Indian designs. These included passive cooling (relying on natural airflow rather than air con), and 'radiant cooling' -- a method that draws heat from the room to walls cooled by water circulating through embedded pipes -- and maximising use of natural light. It cost 1% less to build than the grey wing and costs nearly 40% less in energy bills. It's also more popular with the workforce, with surveys showing increased productivity and lower absenteeism, with employees reporting it to be a more pleasant place to work. Infosys is sharing the building's data on an open-source basis, opening up their campus to researchers, architects and contractors.[112]

Building that are self-sufficient in energy and water

RAC Engenharia's headquarters in Bacacheri, Brazil, is the first commercial building in Latin America to be self-sufficient in energy and water.[113] All electricity consumed is generated in the building though solar panels, all wastewater is reused and rainwater is converted into drinking water. Measures have also been taken to reduce energy consumption associated with air conditioning, providing healthy and safe working conditions whilst also delivering benefits for climate.

Retrofitting funding for projects that improve people's lives and reduce emissions

Retrofit credits[116] is a carbon credits scheme that enables retrofitting of social housing, developed by HACT and Arctica partners. It unlocks additional funding for social housing retrofit by verifying the emission reductions which result and measuring the social value. This dual measurement ensures that the retrofit projects do not harm people and communities, demonstrating that these can reduce emissions in the long term, while creating social value.

WIDER ENABLING ENVIRONMENT

Advocate for mandatory building standards for climate adaptation and resilience, particularly in low- and middle-income countries, which often lack such codes, but where a huge amount of new build is anticipated between now and 2050. Standards that combine health with sustainability and energy efficiency (e.g. Passivhaus, LEED, WELL)[119] are particularly relevant here.

Advocate for retrofit subsidies, particularly for social housing in high-income countries. These can help alleviate fuel poverty, improve health and reduce inequality. Such subsidies can support businesses in shifting their offer to retrofit, opening up new markets in countries with significant proportions of existing housing stock.

Advocate for increased funding and clearer directives for planning authorities to develop holistic plans that deliver on health, equity and environmental outcomes. This could be achieved through pre-competitive collaborations between local authorities, planners, architects, public health experts and developers. The result could be greener city areas, better active transport infrastructure and greater carbon sequestration.

Improving health and climate through town planning

Ljubljana, the capital of Slovenia, developed an Urban Master Plan and an Environment Protection Programme, which closed the city centre to motorised traffic and created an 'ecological zone' with green land covering 19% of its area. It incorporated an 8 km walking and cycling path lined with over 7,000 trees, regenerated green spaces, restored rivers and created allotments for use by local people.[120]

5.5 HEALTH CARE SECTOR

> **"The healthcare sector sits in a powerful position at the epicentre of the collective climate, equity and health trauma".**
>
> **- Gary Cohen, President, Healthcare Without Harm**

With an estimated climate footprint equivalent to 4.4% of global net carbon emissions,[121] over 70% of which is estimated to be in the supply chain and investments, there is huge potential for the global health care sector to cut its climate impact. By virtue of its products and services, the sector can also play a critical role in designing climate adaptation strategies and building resilient health systems that provide equitable access to care. It should demonstrate leadership by advocating for climate policy that supports preventative health care, and mobilising its employees, healthcare professionals, and health institutions as trusted climate communicators.[122]

The following healthcare sector recommendations are designed to be used in conjunction with the general guidance for business found in Chapter 5.1

PRODUCTS AND SERVICES

Collaborate on R&D and new product portfolios which address climate and health risks. The increased emergence of climate-sensitive diseases will challenge health providers. And yet, even in countries where meteorological services provide climate information to the health sector, very few are currently harnessing this to inform the design of health interventions or investment plans.[123] Predictive analysis can be used to track and respond to new threats, allowing health services and businesses to innovate products and services to meet them.

Identify healthcare pathways that help the sector reach net zero targets, and look for opportunities to adopt new products or services which reduce carbon intensity and improve resource efficiency. Purchased goods and services and the use of products account for a total of 77% of Scope 3 emissions for the pharmaceutical and biotech sectors, with similar trends in the consumer health sector.[125] Stronger carbon footprint metrics,[126] precision medicine, AI analytics, genomics and digital treatment support could all reduce the carbon intensity of products and care pathways, as well as improve health outcomes. With "hundreds of billions of medicines never used"[127] each year, the integration of circularity principles, new incentives, and better product tracking could also significantly reduce waste.

Accelerate digitisation and personalisation of medical information and services to improve accessibility and reduce paper waste. Digitisation also enables increased at-home patient monitoring, which has the potential to reduce hospital admissions and the environmental impacts associated with hospital stays and treatment.

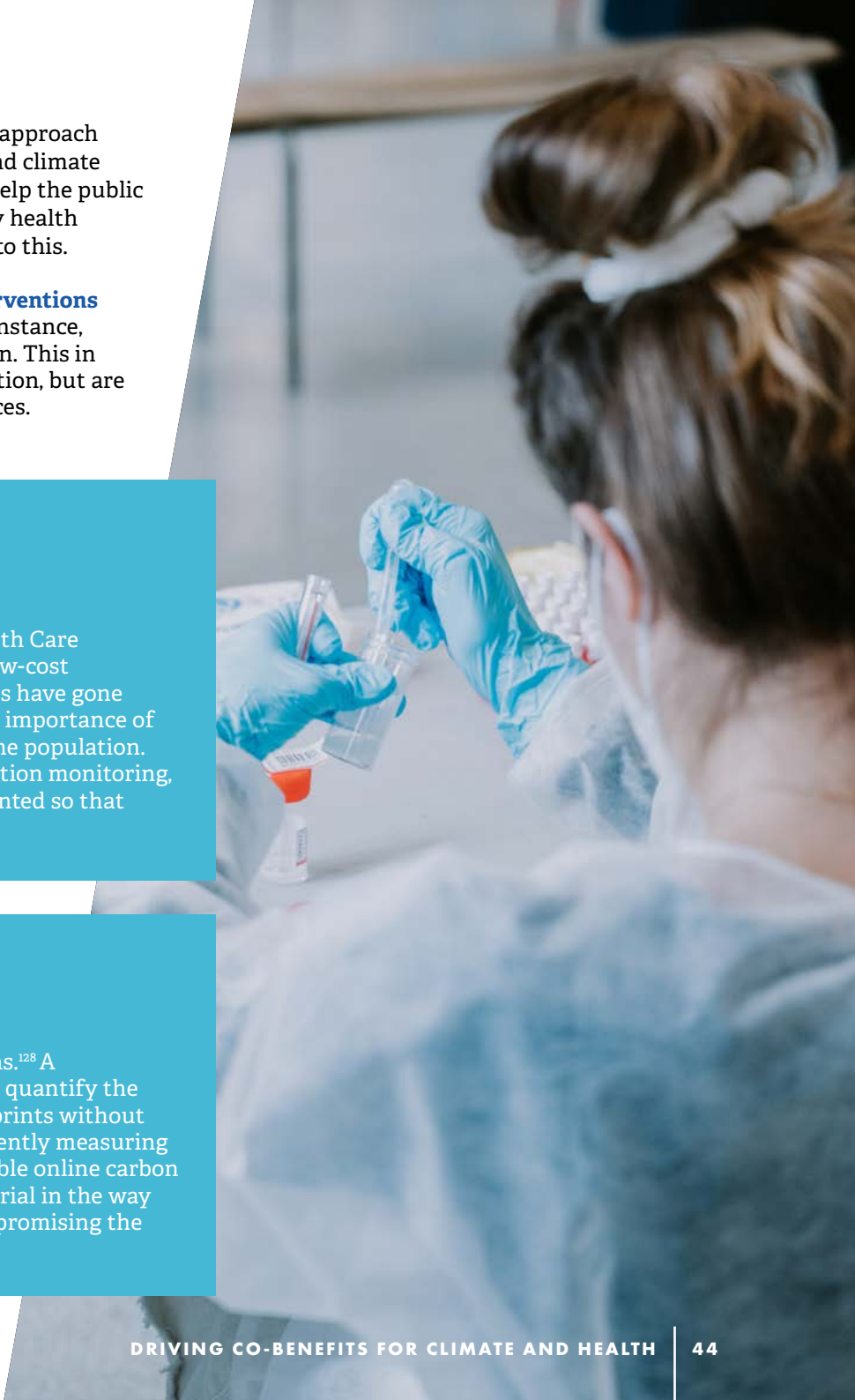
Integrate sustainability metrics into quality improvement and promote the adoption of social and environmental targets in healthcare as a core part of professional practice. Sustainability in Quality Improvement (SusQI) offers a comprehensive tool to measure the health outcomes of a service against its environmental, social and economic costs to determine its "sustainable value".[135]

Incorporate nature regeneration into R&D and services. There is increasing potential for pharmaceutical companies to help safeguard nature, particularly rainforests, as a key source for drug discovery, since there is significant potential to develop products from natural sources with antimicrobial and other properties.

Provide information and advice to the public which makes clear the links between climate and health. Healthcare professionals are ideally positioned to help the public understand the climate crisis as a health issue, so helping people to make informed choices that benefit their own health and that of the planet, such as getting on-demand critical data

and advice during health impacting events such as heat waves or days of high air pollution. This approach requires better support for primary care and healthcare professionals, including education around climate and health connections, empowering them to use their voice and develop products and tools to help the public understand these integrated issues. Trusted primary care providers, pharmacists and community health workers play a key role in educating patients and citizens, and so could contribute substantially to this.

Work directly with communities affected by climate change to co-design local adaptation interventions and health responses taking into consideration inclusivity, inequalities and local demands. For instance, examining services and products through a gender lens can make them more accessible to women. This in turn has wider benefits, as women are often responsible for household budgets, health and nutrition, but are disproportionately affected by climate change impacts,[142] and face unequal access to health services.



Monitoring air pollution where it matters

In the Philippines, as part of a pilot exercise to assess Filipinos exposure to air pollution. Health Care Without Harm installed air quality monitors in three observation areas. The installation of low-cost monitoring networks has been one of the ways civil society organisations and research groups have gone about collecting data to encourage governments to bolster their own. The pilot highlights the importance of publicly available data to monitor and track air pollution to better understand the threat to the population. This could also include providing communities with the ability to conduct their own air pollution monitoring, giving them access to important information they are not, under ordinary circumstances, granted so that front line communities can better defend their rights.[124]

Making clinical trials sustainable

Clinical trials are estimated to account for around 5% of the healthcare sector's total emissions.[128] A consortium gathered around the Sustainable Healthcare Coalition has proposed a strategy to quantify the carbon footprint of trials in their design and delivery, and identify ways to reduce those footprints without affecting the trials' quality or integrity. Projects are underway to develop a method of consistently measuring the trials' climate impacts, and the group plans to perform the groundwork for a freely available online carbon assessment tool. The hope is that in future, researchers will justify the carbon footprint of a trial in the way they currently do for budgets, demonstrating the footprint is as low as possible without compromising the value of the trial evidence.[129]

Diagnostic tools to reduce hospital admissions and save carbon

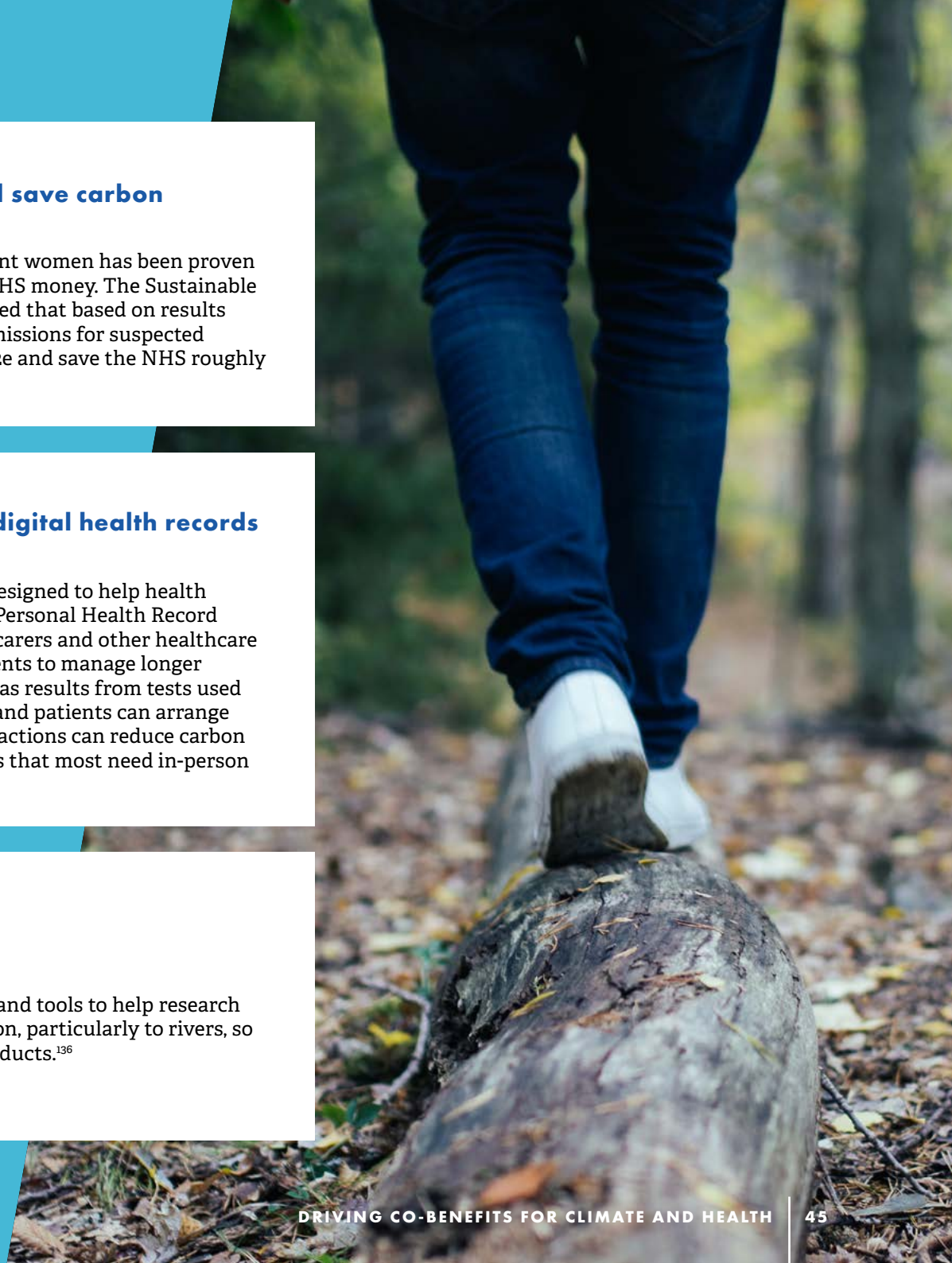
The use of quick, accurate blood tests to diagnose pre-eclampsia in pregnant women has been proven to reduce hospital admissions and anxiety among patients, and save the NHS money. The Sustainable Healthcare Coalition and Oxford Academic Science Network have calculated that based on results from Oxford John Radcliffe Hospital, this diagnostic tool could reduce admissions for suspected Pre-Eclampsia by 12,500 annually, avoid the emission of 1,149 tonnes of CO2e and save the NHS roughly £4 million per year.[130]

Empowering patients and saving carbon through digital health records

Patients Know Best (PKB) is a social enterprise and technology platform designed to help health and social care providers bring together patient data to create one secure Personal Health Record (PHR).[131] It allows patients to share all or parts of their record with family, carers and other healthcare professionals. It has proven to be particularly useful for empowering patients to manage longer term issues such as dermatological conditions[132] or rheumatoid arthritis,[133] as results from tests used to monitor symptoms or the impact of medication can be accessed online and patients can arrange their own follow up appointments when required. The use of remote interactions can reduce carbon emissions from travel and create capacity within a service to treat patients that most need in-person care and support.

Avoiding ecosystem pollution in medicine

The Innovative Medicines Initiative has developed a suite of data, models and tools to help research facilities assess which medicines are likely to cause environmental pollution, particularly to rivers, so helping pharmaceutical companies minimise pollution risks from new products.[136]



Reaching vulnerable communities and improving understanding of issues

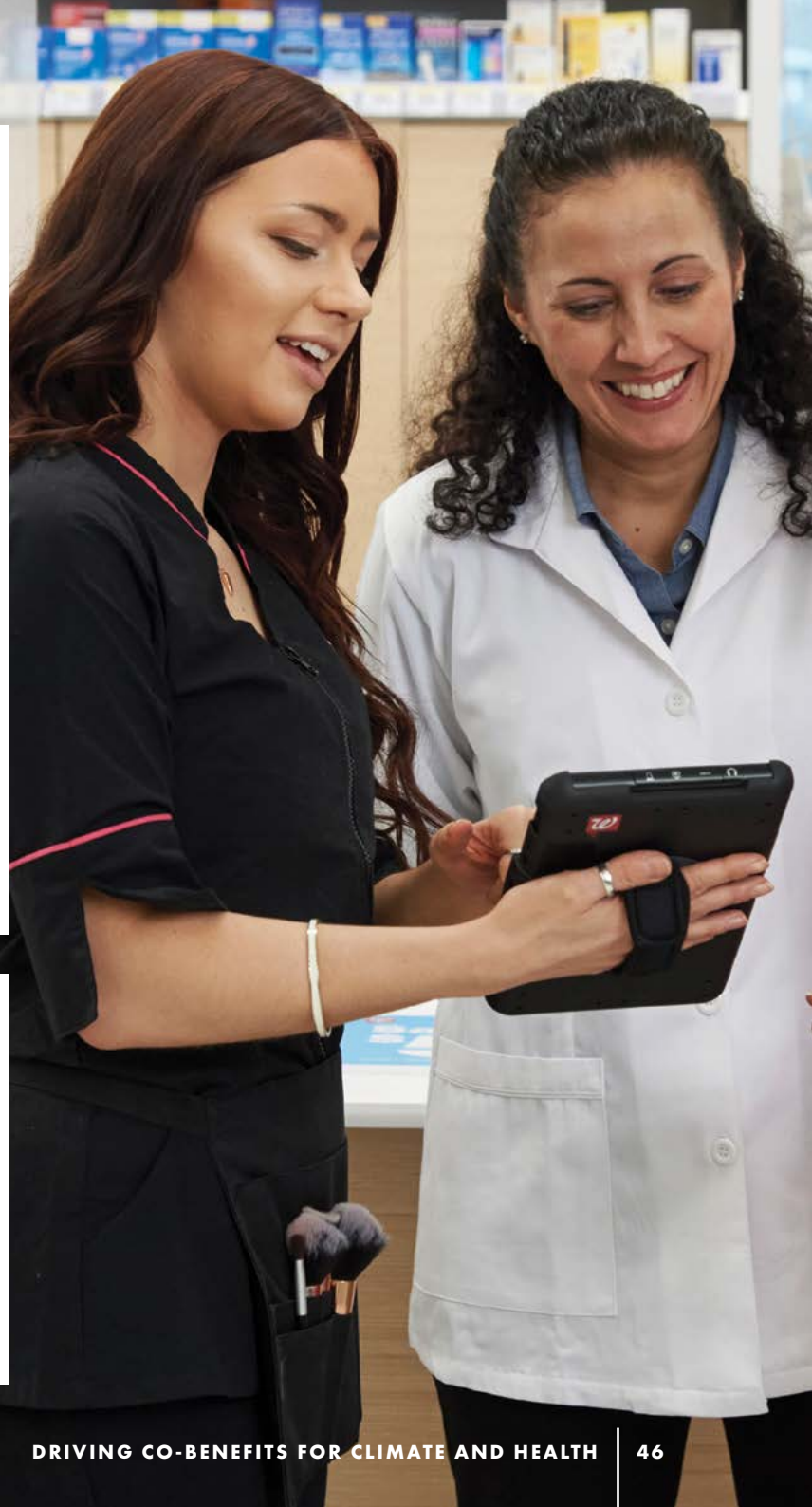
As an integrated healthcare company serving millions of customers and patients every day, Walgreens Boots Alliance (WBA) plays a critical role in the healthcare ecosystem, and fully recognizes the irrefutable evidence that cements climate change as a global health crisis.

Through WBA's newest business segment, U.S. Healthcare – a consumer-centric, technology-enabled care model powered by a nationally scaled, locally delivered healthcare platform – the company has invested almost $5.4 billion[137] in expanding its community reach, including by opening primary care practices in markets across the country, with over 50 percent located in medically underserved communities. U.S. Healthcare will bring equitable, personalized, whole-person healthcare to local communities across America, wherever and however it's best for consumers – in-store, at home, in the doctor's office and via mobile app. Serving a patient population of more than 2 million,[138] with plans to grow more partnerships and markets in the coming years, U.S. Healthcare will expand WBA's reach in areas most affected by climate change related health issues and provide the opportunity to advance patient understanding of these issues and their causes.

With almost 31,000 pharmacists in approximately 13,000 stores across the U.S., Europe and Latin America[139] – including thousands located in medically underserved communities or those with high Social Vulnerability Index[140] scores – Walgreen Boots Alliance (WBA) recognizes that sustainability, climate change, and health equity are not disparate issues and continues its commitment to improving patient outcomes by focusing on access, partnership, and education.[141]

Strengthening the resilience of health clinics

Johnson and Johnson are partnering with Americares and the Harvard T.H. Chan School of Public Health's Center for Climate, Health and the Global Environment, to bolster climate resilience at US clinics that serve people with limited access to care, in communities most vulnerable to the impacts of climate change. They plan to implement and evaluate interventions that improve operational resilience in clinics, as well as health resilience among the people they serve, so that when climate impacts occur, the clinics will be able to maintain access to quality healthcare. They plan to support up to 150 clinics across the US by 2025.[143]



WIDER ENABLING ENVIRONMENT

Advocate for a shift towards a health system that values physical, mental and planetary health and away from business models that focus solely on treatment.[144] In such a value-based healthcare system, providers are rewarded for helping patients improve their health and live healthy lives, rather than on the amount of treatment they provide. Providers could experiment with addressing some of the social determinants of health which are thought to account for 30-55% of health outcomes,[145] such as food availability, basic amenities and the environment, early childhood development, social inclusion and non-discrimination and access to affordable health services of decent quality. Understanding and valuing climate-related health needs of patients will be increasingly important, while climate disasters are likely to create a potential healthcare workforce shortage which will disproportionately affect vulnerable populations.

Call for health to be at the heart of climate policy-making. Work with relevant authorities to make health-for-all a KPI in all climate-related decision making, particularly at the level of national climate goals and urban planning.

Advisory Panel helping to dial up climate and health links at COP

Reckitt's focus on the impact of climate change on public health aligns to its core business agenda and focus on helping to solve 4 of the world's biggest public health challenges. With that in mind, Reckitt's is focussed on: decarbonising to meet its science based targets for 2030; convening stakeholders to create impact for scale; and engaging people to make an impact in their lives.

Reckitt is engaging people with health literacy and products to protect and strengthen health, hygiene and nutrition in the face of climate change. In developing this narrative for COP26 and COP27, they worked with the London School of Hygiene and Tropical Medicine and Ecohealth Alliance to identify the health impacts of climate change, an increasing focus for governments and consumers alike. Reckitt also enabled the development of the independent Reckitt Global Hygiene Institute to develop and share research and best practice solutions to address health impacts. Most recently, Reckitt has mobilised an expert advisory panel to advocate for the significant changes needed to health systems, their financing, supply chains and infrastructure needed to realise a green health future.

The advisory panel is focussed on making sure climate and health are connected at COP27 and COP28, and that climate is integrated into all government health policies. Reckitt is working with peers and asking others to collaborate in investment and cross-sectoral partnership for greater impact on the health impacts of climate change while also promoting these impacts in development projects. Recognising that human health is rooted in planetary health enables better impact in both, while the costs of keeping them separate and underperforming are simply too great to ignore.

Inspiring and mobilising the healthcare community to advocate for climate and health

In October 2022 Bupa employees joined forces with Great Ormond Street and Evelina Children's Hospital to cycle 70 miles from London to Brighton, visiting hospitals and health centres on the route to inspire action on air pollution and climate change. The cycle was part of Ride for their Lives, a global campaign which aims to help healthcare providers make the connection between planet and human health. The cyclists visited different healthcare settings on the way, and at each stop, the cyclists talked to local healthcare professionals about the relationship between climate and health and what actions the sector can take to make a better world. This is a great example of using the trusted voices of healthcare professionals to advocate for a healthy planet for healthier people and contributing to keeping the global temperatures rise to a maximum of 1.5˚C, to avoid catastrophic consequences for people and nature.[147]

How hospitals can take preventative action through place-based investment

Boston Medical Center (BMC) invested $7 million in affordable housing and a food programme in its community by way of a preventative health intervention. When challenged to consider what it could do over the next decade to have a substantial positive impact on the community, the result was to reimagine the hospital's approach to community health and resilience - stabilising housing and addressing nutritional health became core to achieving a healthy population and building a resilient community. Its partnership-based approach addresses social determinants of health, whilst establishing enduring social infrastructure that can support the community over time, including during a crisis.[146] It includes a preventive food pantry (2001), a teaching kitchen (2003), a rooftop farm (2017) and works through investing in community based organisations and other health clinics rather than becoming a landlord or household developer.

06

GUIDANCE FOR INVESTORS

INTRODUCTION

This chapter explores what actions are necessary to create a strong financial enabling environment for business. It aims to provide clear advice for investment communities and business alike.

The WHO has argued that the economic benefits from health gains achieved by keeping global warming below 1.5 degrees would more than compensate for the costs of climate mitigation.[148] In 2018 alone, lost labour days due to ill health cost an estimated 3.3% of global GDP.[149] There is also already a clear funding gap (estimated as US$274-371 billion per annum) to meeting UN SDG3 targets on health and wellbeing. Taking action now will mitigate the business risks of future regulation on health externalities.

Despite the economic case for investment being clear, with climate and health externality costs rising as the impacts of climate change worsen,[150] innovation in this space often comes with delayed returns, putting businesses with ambitious strategies at a short-term competitive disadvantage.

TAKING A PROACTIVE APPROACH TO TACKLING CLIMATE-INDUCED HEALTH IMPACTS WOULD REALISE SIGNIFICANT ECONOMIC AND HEALTH CO-BENEFITS AND CONSTITUTE SMART RISK MANAGEMENT.

It is time for the financial services sector to use its market instruments to redirect capital towards activities which deliver greater co-benefits for climate and health. This chapter looks at how investors can evolve five existing market instruments to integrate health considerations. In short, it's calling on the financial community to:

- Incorporate health into Environmental, Social and Governance (ESG) criteria
- Incorporate health into financial disclosure frameworks
- Integrate health into sustainability bonds structures
- Incorporate health more explicitly into the payments for ecosystem services market
- Design philanthropic and grant strategies to deliver positive outcomes for both climate and health

For each instrument, we will look at the benefits of incorporating a health perspective, highlight potential challenges, recognise recent progress, and offer suggestions about how best to engage.

6.1 INCORPORATE HEALTH INTO ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) CRITERIA

> **"Health is now the pivotal piece that underpins all of ESG, and it will play a key role in how companies and shareholders assess where to invest in the years to come. From where we stand, the future of investing is investing in health."**
>
> **- Global ESG Benchmark for Real Assets (GRESB)[151]**

ESG criteria are used in capital and equity markets to screen risks to investments and evaluate the impacts of a business's operations. Health is already implicit within some of the environmental and social criteria, as both can be associated with direct and indirect impacts on human health. As John Godfrey of Legal & General has argued, further integration of health into ESG can foster a more inclusive form of capitalism.[152]

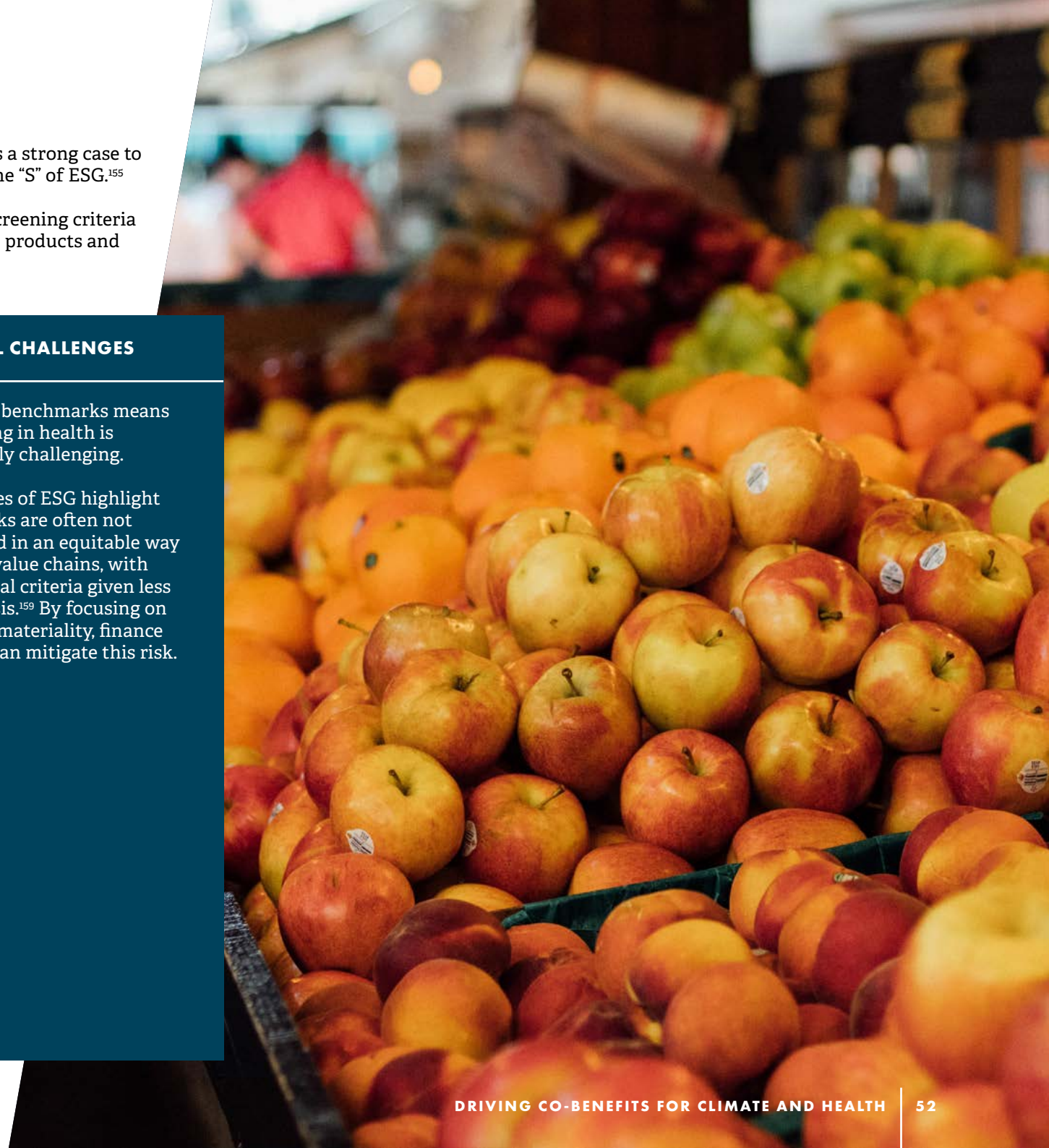
SUGGESTED ACTIONS

- **Investors can either strengthen their analysis of the environment and social factors by incorporating a health lens, or, as some have argued, explicitly include health as a core criterion, to create 'ESHG'.**[153] Adding a health lens into environmental and social factors requires an understanding of how these affect health and health-related risk. For example, how an investment that includes forest conservation would improve air quality and mitigation of the emergence of novel disease, or how a residential retrofit project would reduce both heat and cold-related health impacts. Careful metrics and reporting, such as against the Sustainable Finance Disclosure Regulation (SFDR), will be required to ensure transparency and accuracy.
- **Monitor investments for health impacts** to improve business resilience and strengthen the case for taking health and social considerations into account when making investment decisions.
- **Collaborate with leading civil society organisations and businesses to develop frameworks and metrics for business performance that encompass the intersection between climate and health.** For instance, Business for Health's Risk Management Framework for Health[154] helps to identify positive and negative commercial determinants of health, such as the nutritional content of food and the environmental impact of how the food was produced.

SIGNS OF PROGRESS

- The CEO of Legal & General has argued that "there is a strong case to consider health and health inequality as crucial to the "S" of ESG.[155]
- Blackrock established a fund in 2015 that included screening criteria of impacts on health, and excluded industries whose products and services are detrimental to health.[156]

BENEFITS	POTENTIAL CHALLENGES
• Widens the asset class of ESG to appeal to a wider range of investors, therefore driving profitability.[157] • Creates positive shareholder pressure on publicly owned businesses. • Positive health impacts will increase resilience for businesses, for example mass ill health could negatively impact on consumer demand through reduced income and leisure activities, and mitigating against health risks in the supply chain can reduce vulnerabilities to climatic events across the supply chain. • Use the ESG-linked loan market, $600bn in 2021, to offer cheaper credit for businesses addressing the commercial determinants of health.[158]	• Lack of benchmarks means investing in health is currently challenging. • Critiques of ESG highlight that risks are often not assessed in an equitable way across value chains, with the social criteria given less emphasis.[159] By focusing on double materiality, finance actors can mitigate this risk.



SINGLE MATERIALITY VS. DOUBLE MATERIALITY

Single materiality refers to a reporting approach which assesses how sustainability factors affect a firm's financial value, whilst double materiality also assesses how the firm's operation impacts society and the environment.

Double materiality can identify additional health externality costs that risk harming economic and social prosperity.[160] Private investment in health, particularly measures that mitigate health impacts for the communities in which businesses operate, can help build adaptive and resilient systems across the value network, and also improve productivity. This highlights the utility of a double materiality approach.[161]

6.2 INCORPORATE HEALTH INTO FINANCIAL DISCLOSURE FRAMEWORKS

Disclosure frameworks improve the standardisation, quantity and quality of reporting on sustainability impacts. The Task Force on Climate-Related Financial Disclosures and the Task Force on Nature-Related Financial Disclosures are two frameworks that have been widely adopted by the private sector. TCFD does not make any explicit reference to health; and while TNFD has 12 mentions of it, most of them pertain to the health of the planet, with only one mention of human health.[162]

SUGGESTED ACTIONS

- **Incorporate the financial risks of health explicitly into disclosure frameworks.** This means assessing the direct financial risks of health to businesses, such as employee productivity, but also taking a double materiality approach to better understand how potential health crises reshape the operating context for business.

- **Those involved in developing frameworks can ensure health vulnerability, equity and inclusion is front and centre in developing double materiality frameworks.** Double materiality assessments can demonstrate how mass ill health impacts the economic environment for business. This could include developing metrics that demonstrate how poor community health increases climate vulnerability,[163] with the risk of lost labour hours and reduced purchasing power.

SIGNALS OF CHANGE

- Businesses are increasingly adopting disclosure frameworks, often to pre-empt anticipated changes in mandatory disclosure, such as the EU's Sustainable Finance Disclosure Regulation (SFDR) and the Corporate Sustainability Reporting Directive (CSRD), due to be implemented before the end of 2022.

- G7 countries have also committed to mandating TCFD and TNFD. Mark Carney, the UN Special Envoy for Climate Action and Finance, is arguing for worldwide mandatory disclosures incorporating double materiality.[164] The emerging EU Corporate Sustainability Reporting Directive will utilise a double materiality approach – evidence that the European Commission is taking the issue seriously.'

BENEFITS OF INCORPORATING HEALTH	POTENTIAL CHALLENGES
• Reporting frameworks can drive health benefits by highlighting financial risks related to the health impacts of climate, such as financial vulnerabilities to supply chain resilience and occupational health • Disclosure frameworks help to standardise ESG reporting to enable more informed screening, through improved quantity and quality of data, for finance actors in both the stock market and capital markets.	• A single materiality approach misses the risks caused by vulnerabilities such as the effect of mass ill health on consumer demand, employee productivity, and supply chain disruption caused by climate or health-related events, such as those caused by extreme heat events affecting worker health. • Current frameworks do not make the interlinks between climate and health clear enough and metrics for measuring health impact need further development. For instance, in 'Recommendations of the Task Force on Climate-related Financial Disclosures' a word search for 'health' provides 2 mentions, with none for illness or sickness, across a 78 page report.[165]

6.3 INCORPORATE HEALTH INTO SUSTAINABILITY BONDS

Sustainability bonds are increasingly recognised as effective loan instruments that link repayment terms and interest rates to positive environmental and social outcomes. Four bond types have been identified that have the potential to support co-benefits in climate and health: Green Bonds, Social Impact Bonds, Development Impact Bonds and Local Climate Bonds.

Green Bonds are issued by governments, multilateral financial institutions and increasingly by private banks. They provide finance for projects that have a verifiable positive impact on climate mitigation or adaptation. Purchasers of green bonds are private investors, particularly institutional investors interested in long-term fixed securities. A third party verifies that impact has been delivered. The World Bank is one of the most significant issuers of green bonds: an example is their financing of the Rampur Hydropower Project, which provides low-carbon hydroelectric power to northern India's electricity grids, producing nearly 2 million MWh annually and preventing 1.4 million tons of carbon emissions.[166]

Social Impact Bonds (SIB) and Development Impact Bonds (DIB) are outcomes-based instruments for private co-financing of public services. For SIBs, private investors front load initial investment for a service, the government pays a return on achievement of the set outcome, and a delivery partner is commissioned to deliver the social service. The very first SIB was issued by Peterborough Prison in the UK. [167] The investment was used to create a suite of initiatives designed to reduce the incidence of reoffending, and investors received a return for successful interventions. For Development Impact Bonds, a donor pays for the outcome either in full, or jointly with the government. Development Impact Bonds are utilised to cover government funding gaps in low and middle income countries.

Local Climate Bonds and Community Municipal Investments refer to a range of financing instruments to target localised investment and involve community stakeholders in the financing of projects.[168] Although Local Climate Bonds are currently concentrated in the UK, green municipal bonds in the US are also emerging which leverage individual investors, however they do not have the same crowdsourcing focus or focus on directly involving communities.[169]

SUGGESTED ACTIONS

- **Extend Green Bonds to include health,** for instance by developing a specific climate and health adaptation bond to finance the improvement of health system resilience in geographies vulnerable to extreme weather events.
- **Create additional Social Impact Bonds and Development Impact Bonds for specific projects to address crisis financing and adaptation financing for health.**[170]
- **Establish innovative financing mechanisms such as Local Climate Bonds to engage directly with community stakeholders.** These were pioneered as Community Municipal Investments by Abundance Investment in 2020, and can make financing the energy transition more equitable by mobilising capital through crowdsourcing and engaging local communities as investors, giving them ownership and agency in the transition.

SIGNALS OF CHANGE

- The Climate Bond Initiative forecasts the size of the Green Bond market to grow to US$5 trillion by 2025.[171] Although Green Bonds are not geared towards delivering co-benefits for climate and health, the potential is there; bonds that have financed water and waste management are identified as targeting SDG3.[172]
- Health is an area in which Social Impact Bonds and Development Impact Bonds are increasingly common, proliferating during Covid-19.[173] For example, the Village Enterprise DIB raised $5.2 million to support low-income households to set up micro-enterprises, and resulted in better pay and living conditions. One example of a Social Impact Bond in health is 'Be Active', launched in Birmingham, UK, to drive healthier lifestyles. It raised £464 million.[174]
- Currently, seven local councils in the UK have set up Local Climate Bonds[175] with investment amounting to £3 million from over 1,200 investors.[176] These funds are used to implement local councils' climate policies. Camden Council in London, for instance, is aiming to raise over £1 million to fund its Climate Action Plan[177] developed through a citizen's assembly.[178] Citizens are able to invest sums as low as £5, and the bond has also attracted funding from retail investors.[179]

BOND TYPE	BENEFITS OF INCORPORATING HEALTH	POTENTIAL CHALLENGES
Green Bonds	Attractive for institutional investors, thanks to: • High credit ratings due to guarantees from governments/large banks • Are increasingly established, proven at scale, and product standardisation is already underway.	• Developing legal frameworks and adequate data. • Often require guarantees by governments or international financial institutions such as the World Bank.[180]
Social Impact Bonds and Development Impact Bonds	• Investors can use SIBs and DIBs to diversify their portfolios as they are separated from broader market trends • Through SIB/DIB, governments can engage private finance in integrated climate and health adaptation projects, especially in LMICs, where there are currently significant funding gaps.	• Nascent instruments are yet to scale adequately to finance the health and climate funding gap. • Human resource-intensive due to complicated legal frameworks needed for each SIB/DIB.
Local Climate Bonds	• Often fund schemes to tackle inequalities at the local level, helping those struggling with urban poverty. • Finance actors can foster community involvement in the mobilisation of capital, community wealth-building and upskilling.	• Scale of investment limits their applicability to small and medium budget projects. Crowdsourcing relies on mobilising citizens as investors, with Local Climate Bonds to date raising only £3 million. One avenue to leverage these instruments is to develop them in concert with other funding sources. • More likely to work in high-income countries where more individuals have significant capital to invest.

6.4 INCORPORATE HEALTH MORE EXPLICITLY INTO PAYMENT FOR ECOSYSTEM SERVICES MARKETS

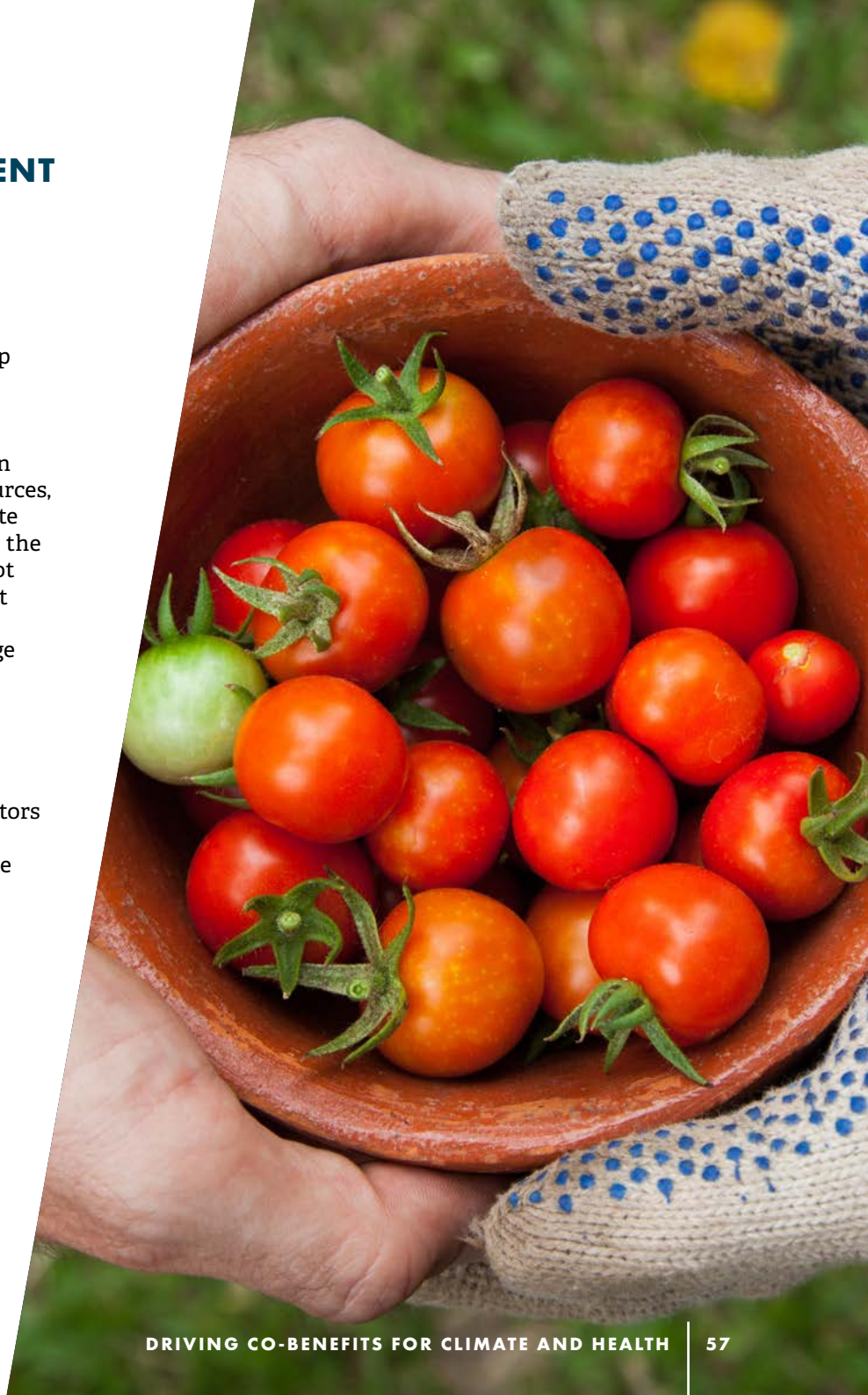
Ecosystems provide essential services for human health, including the provision of food, clean water and medicine, reduction of communicable and non-communicable disease, including mental illness, and mitigating the risk of extreme weather events.[181] Payments for Ecosystem Services (PES) are market structures used to direct capital from those who benefit from environmental services to landowners who adopt practices that regenerate nature through market payments.[182] Actions include promoting biodiversity, for instance through cover crops, crop rotation or green infrastructure, and eliminating artificial chemical pollutants.

SUGGESTED ACTIONS

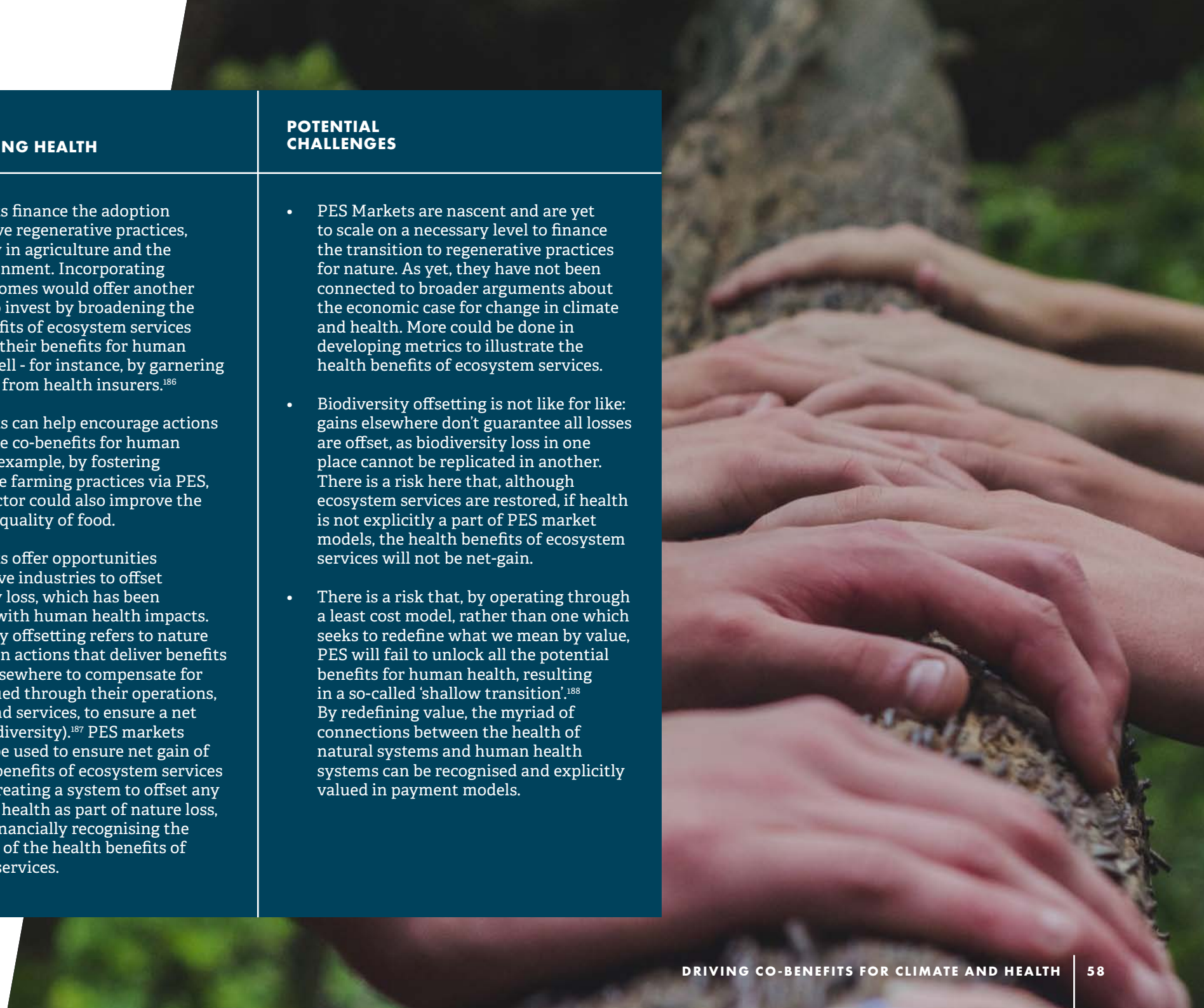
- **Health benefits can be made more explicit in PES models.** For instance, clearly outlining the health benefits of an ecosystem's services, such as air quality or water quality, could garner additional investment from sectors that would benefit from the provisioning of that service.[183]
- **Health insurers can engage with PES markets as a way of making consumer health interventions,** such as improving green spaces to encourage active travel.

SIGNALS OF CHANGE

- Forum for the Future US is in partnership with the Ecosystem Services Market Consortium (ESMC), cotton producer networks, and the Growing Our Future community. The latter seeks ways to align and collaborate, access new energy, resources, or expertise, and design ways to accelerate the scaling of regenerative agriculture in the US. The collaboration is developing a pilot to use PES markets to financially support the transition of multiple cotton farms, including both socially excluded and large conventional cotton farmers, to using regenerative methods.[184]
- The concept of Payment for Urban Ecosystem Services (PUES) is emerging. One idea suggests that "business proprietors could pay for street tree installation and maintenance to provide shade and reduce air conditioning.[185]



BENEFITS OF INCORPORATING HEALTH	POTENTIAL CHALLENGES
• PES markets finance the adoption of innovative regenerative practices, particularly in agriculture and the built environment. Incorporating health outcomes would offer another incentive to invest by broadening the stated benefits of ecosystem services to focus on their benefits for human health as well - for instance, by garnering investment from health insurers.[186] • PES markets can help encourage actions which create co-benefits for human health. For example, by fostering regenerative farming practices via PES, the food sector could also improve the nutritional quality of food. • PES markets offer opportunities for extractive industries to offset biodiversity loss, which has been associated with human health impacts. (Biodiversity offsetting refers to nature conservation actions that deliver benefits to nature elsewhere to compensate for losses accrued through their operations, products and services, to ensure a net gain on biodiversity).[187] PES markets could also be used to ensure net gain of the health benefits of ecosystem services explicitly, creating a system to offset any damages to health as part of nature loss, therefore financially recognising the importance of the health benefits of ecosystem services.	• PES Markets are nascent and are yet to scale on a necessary level to finance the transition to regenerative practices for nature. As yet, they have not been connected to broader arguments about the economic case for change in climate and health. More could be done in developing metrics to illustrate the health benefits of ecosystem services. • Biodiversity offsetting is not like for like: gains elsewhere don't guarantee all losses are offset, as biodiversity loss in one place cannot be replicated in another. There is a risk here that, although ecosystem services are restored, if health is not explicitly a part of PES market models, the health benefits of ecosystem services will not be net-gain. • There is a risk that, by operating through a least cost model, rather than one which seeks to redefine what we mean by value, PES will fail to unlock all the potential benefits for human health, resulting in a so-called 'shallow transition'.[188] By redefining value, the myriad of connections between the health of natural systems and human health systems can be recognised and explicitly valued in payment models.



6.5 PHILANTHROPIC AND GRANT CAPITAL SHOULD TREAT CLIMATE AND HEALTH AS CONNECTED

Not all interventions in climate and health will have a commercial return; philanthropic and grant capital has a role to play in funding climate and health.

SUGGESTED ACTIONS

- **Break down silos within foundations which separate health and climate programmes, and integrate them to maximise value for money and impact.** Climate funders have traditionally not seen health as a critical dimension of the climate crisis, nor the power of health professionals as messengers and advocates for policy transformation. Health funders have not seen climate as the greatest health risk we face, resulting in missed opportunities to drive outcomes across both challenges simultaneously.

- **Corporate philanthropy can help de-risk innovation and the R&D required to deliver on a deep transition to a just and regenerative future.** There are numerous opportunities to fund innovation in climate and health adaptation, such as health capacity building in low and middle income countries vulnerable to climate extremes.

SIGNALS OF CHANGE

- The philanthropic landscape is evolving to integrate climate, health and equity. The Kresge Foundation in the US has the most integrated strategy, investing in projects which link health systems, health professionals and grassroots climate justice organisations together.[189] The Wellcome Trust is also developing an integrated strategy,[190] as is Rockefeller Foundation.[191] IKEA Foundation[192] and Clean Air Fund,[193] and others have focused on air pollution as a leverage point to address climate.

- The Climate and Health Equity Toolkit is a useful resource for private philanthropic funding that is directed to climate, health and equity. [194]

BENEFITS OF INTEGRATING CLIMATE AND HEALTH	POTENTIAL CHALLENGES
• Grant capital can de-risk innovation and fund R&D for climate and health, by, for example funding multi-stakeholder collaborations such as the Sustainable Medicines Partnership, which is working to reduce the climate impact of medicines on the environment through the development of innovative metrics and data to make a powerful case for change. [195] • Philanthropy is well placed to support prototyping and incubating innovations, and funding work in civil society. • It can stimulate the growth of initiatives where there is resistance in adopting innovative technologies or practices due to increased costs.	• Better impact measurements may be required to assess the outcomes of projects integrating health and climate.

07

GUIDANCE FOR POLICY MAKERS

INTRODUCTION

Policy makers and governments, from local to regional to national and international, have the tools and levers to create the enabling environment within which the potential of the private sector to deliver accelerated progress in climate and health is fully realised.

In this chapter we explore five ways in which policy makers could act:

- Shift how public money is spent: going beyond 'do no harm' towards net positive goals for nature and society.
- Shift investments and subsidy/tax policies – in other words, how public money is invested, and how public policy shifts capital allocation -- towards solutions that promote the wellbeing of humans and the planet.
- Integrate health, climate and nature across policy making.
- Adopt participatory governance and local community capacity building to shape decision-making and address inequity.
- Embed alternative measures to GDP that measure collective health and wellbeing within institutions at all levels.

7.1 SHIFT HOW PUBLIC MONEY IS SPENT: GOING BEYOND 'DO NO HARM' TOWARDS NET POSITIVE GOALS FOR NATURE AND SOCIETY

Government procurement criteria at national and sub-national levels which integrate climate and health imperatives has the potential to shift standards in the private sector and model best practice.

'Sustainable procurement' is defined as a process whereby organisations meet their needs for goods and services in a way that achieves value for money on a whole-life basis and generates benefits not only to the organisation, but also to society, the economy and the environment.

Shifting procurement practices can be a major driver for innovation, providing industry with incentives to develop products and services with additional benefits for the wellbeing of communities, addressing inequities, and ensuring adaptation to the consequences of a changing climate.

SUGGESTED ACTIONS

- **Set a sustainable procurement legal and policy framework which promotes** societal health and environmental benefits. Ensure it includes an equity lens, for example, by stipulating sourcing from employers who pay a living wage.
- **Expand health technology assessments** so that they evaluate not only the costs and effects of a health technology but also their environmental impacts. This means considering the entire life cycle, from the choice and acquisition of raw materials and the energy used in manufacturing processes, to associated packaging and resulting waste.[196]
- **Bring communities into the process,** allowing them to identify needs and opportunities for direct benefit to both the local environment and community health.

SIGNALS OF CHANGE

- The Orkney Islands Council, Scotland, published a sustainable procurement policy in 2018 that aims to ensure value for money, while promoting the wellbeing of society, the economy and the environment. It also looks to promote equality and fairness, working directly with communities by involving community councils, groups and individuals in the procurement process.[197]
- In the health sector, the Sustainable Health in Purchasing Project (SHIPP) is developing globally validated purchasing standards, and educating purchasing staff across multiple countries and the UN system to transform the market for products and technologies that support a low carbon, toxic-free economy.[198]

7.2 SHIFT INVESTMENTS AND SUBSIDY/TAX POLICIES TOWARDS SOLUTIONS THAT PROMOTE THE WELLBEING OF HUMANS AND THE PLANET

Many governments are currently investing in and subsidising substances and practices harmful to human and planet health.

For instance, coal, oil, and natural gas subsidies accounted for about the same proportion of global GDP (6.8%) as the cost of health damages associated with air pollution (6.1%).[199] Industrial agriculture also receives substantial subsidies in many countries, while its intensive practices contribute to a range of respiratory and cardiovascular conditions, pollute air and water, deplete soil fertility, endanger farm workers, and contribute to diseases associated with poor diets.[200] As the world transitions to renewable energies, policy makers are also urged to look at the climate and health impacts of mining raw materials and rare earth minerals, and drive circular practices related to these supply chains.

Governments have an enormous opportunity to put a stop to harmful subsidies and redirect the funding towards solutions that promote wellbeing of humans and the planet. In 2022, the WHO and the Lancet Countdown joined other global health and climate organisations in calling on governments to phase out fossil fuel use and ensure a just transition to clean energy.[201]

Policy makers have recognised climate adaptation is increasingly pertinent to population health, as the effects of climate change are felt across the world, particularly by vulnerable Low- and Middle-Income Countries (LMICs). Over three-quarters of states signed up to the Paris Agreement have an adaptation plan in place or in progress.[202] But adaptive capacity is unequally spread, with climate resilience in LMICs lower than in developed countries, and health strategies are often missing: less than 5% of adaptation funding targets health.[203]

Addressing loss and damage is also a key gap in policy currently.[204] Loss and damage refers to harms caused by climate change that are too severe to be addressed by adaptation measures, or in many instances, where countries and communities lack the capacity and resources to adopt such measures.[205]

"We emit almost nothing, but in our countries, there are islands sinking, landslides burying homes, hospitals washed away by climate change impacts. Rich countries have historical responsibility for this crisis, why shouldn't they contribute to cleaning up the mess?"

- Madeleine Diouf, Chair of the Least Developed Countries Group (LDCs).[206]

Loss and damage is caused by slow onset events, such as rising temperatures, in addition to extreme events, such as typhoons or floods.[207] Economic losses are estimated to reach $1-1.8 trillion by 2050.[208] Meanwhile, 'non-economic' losses, which are more complex to quantify, but include both direct impacts on health, and secondary impacts resulting from the loss of ecosystem services, indigenous knowledge and cultural identity, are also on the rise.[209]

SUGGESTED ACTIONS

- **Phase out investments and subsidies in substances and practices harmful to the health of humans and the planet,** for example by adopting the Fossil Fuel Non-Proliferation Treaty as a legally binding agreement to shift from coal, oil and gas to clean energy on the basis of a just and regenerative transition.[210]

- **Incentivise and fund recycling of metals and rare earth minerals** that are in increasing demand as a result of the transition to renewable energy, to mitigate health and climate impacts from material extraction.

- **Promote subsidies that encourage a shift to more nature-positive, equitable and efficient agricultural systems** that promote the health of ecosystems and human health.

- **Use COP27 and associated processes to increase financial flows towards adaptation, integrating health into adaptation plans.** This is estimated to require between $1 trillion and $1.8 trillion investment by 2050.[211] Health stakeholders can assist governments in assessing demands, gaps, and barriers for adaptation in health and other sectors.[212]

- **Plan how to address the funding shortfall for loss and damage in the developing world.**[213] Two key policy interventions have been identified: providing technical support for vulnerable countries through the Santiago Network on Loss and Damage, anticipated to be launched at COP27, and the Finance Facility for Loss and Damage.[214]

SIGNALS OF CHANGE

- The governments of South Africa, France, Germany, the UK and USA, along with the EU, have announced a new ambitious, long-term Just Energy Transition Partnership to support South Africa's decarbonisation efforts – particularly helping it shift away from a heavy dependence on coal.[215]

- Along with other vulnerable LMICs, the Philippines Government is making the case for increased funding for adaptation and loss and damage measures at COP27. It estimates that it has suffered $8.46 billion worth of climate-related damages in 2010-2020. Its Department of Finance claims that "the Philippines is struck by around 20 tropical cyclones every year and an almost daily occurrence of seismic shocks [and] constantly experiences unavoidable losses and damage" Yet the Philippines only contributes 0.3% of global emissions.

7.3 INTEGRATE HEALTH, CLIMATE AND NATURE ACROSS POLICY MAKING

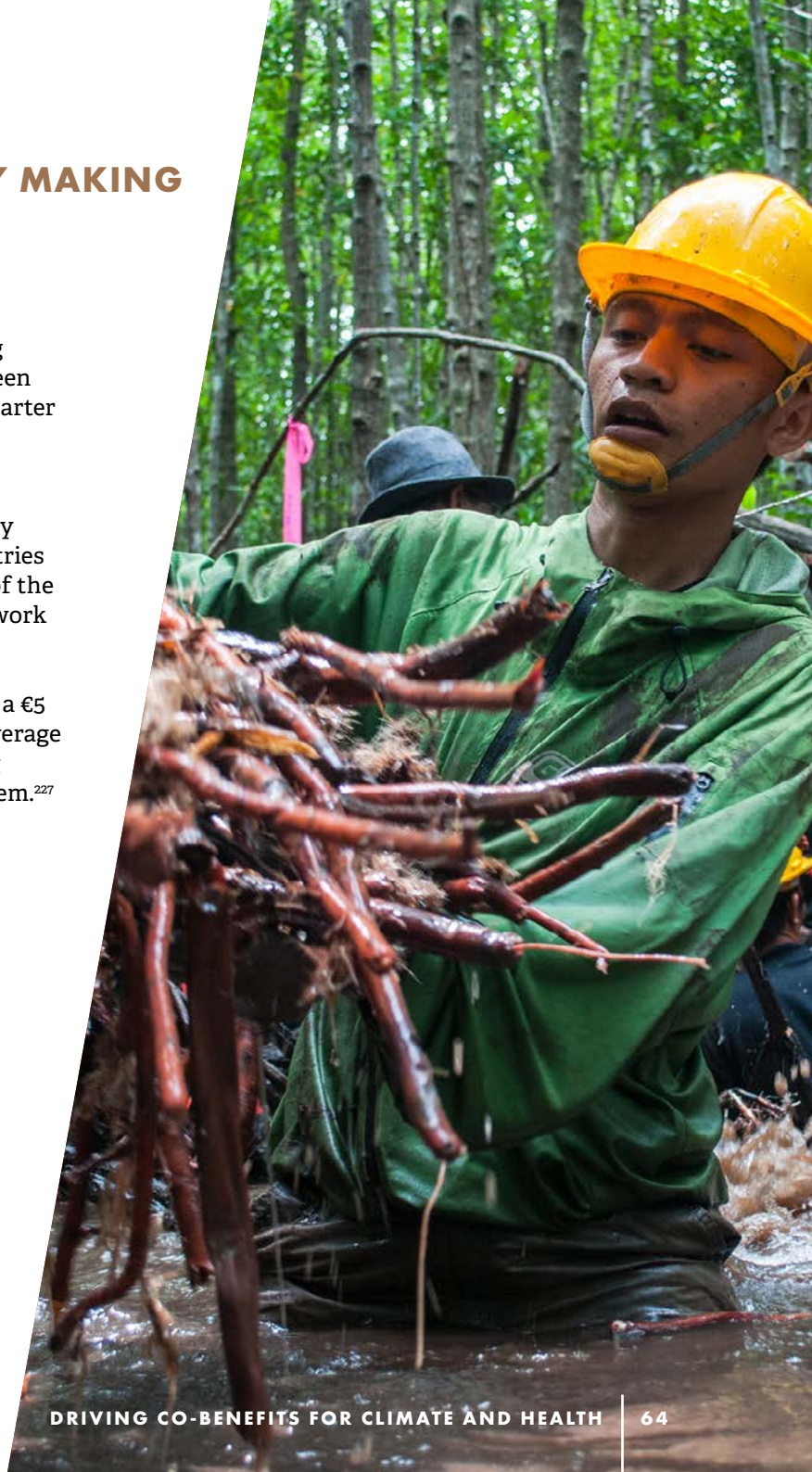
Integrating cross-cutting issues in policy development and funding allocation is critical. Most public health agencies lack appropriate funds to combat climate threats.[216] Public policies in all sectors and at different levels of governance can have a significant impact - and unintended consequences - on population health and health equity.

SUGGESTED ACTIONS

- **Collaborate across departments to articulate and integrate climate and health considerations into policy making.**
- **Find avenues to support the plans LMICs have been developing to integrate health and climate across policy-making,** either through technical or financial assistance.
- **Explore novel nature-based local health intervention programmes,** which can reduce the risk of disease.[217]
- **Promote nature regeneration to governments, decision-makers and stakeholders, to drive improved biodiversity and adaptive capacity of natural environments.** For example, forest regeneration has been identified as an area with significant potential.[218] Interventions can leverage the beneficial influences of biodiverse environments on the immune system,[219] reduce the incidence of zoonotic[220] and non-communicable diseases,[221] improve physical and mental health,[222 223] whilst also driving adaptive capacity and carbon sequestration.[224]

SIGNALS OF CHANGE

- Health in All Policies (HiAP) is an existing framework for country action that has been developed by the WHO.[225] It serves as a 'starter kit' for applying health considerations in decision-making.
- The Libreville Declaration of 2008, a policy statement developed by 52 African Ministries of Health, UNEP and the WHO, was one of the earliest examples of an integrated framework to address human and planet health.[226]
- The city of Seville in Spain is investing in a €5 million pilot project that aims to lower average temperatures at street-level by 10˚C using qanats, an ancient Persian irrigation system.[227]



7.4 ADOPT PARTICIPATORY GOVERNANCE AND LOCAL COMMUNITY CAPACITY BUILDING TO SHAPE DECISION-MAKING AND ADDRESS INEQUITY

Participation of citizens in policy development usually brings a wider range of information, ideas, perspectives and experiences to the process, leading to improved quality of services and programmes, and enables people to share in the responsibility for improving their own quality of life.[228] [229]

SUGGESTED ACTIONS

- **Create opportunities for communities on the front line of climate change to be part of decision making,** solution development, key partnerships, and co-leadership. Enable them to access research grants and adaptation and mitigation funding, and have the technical support needed for effective solutions development.

SIGNALS OF CHANGE

- The OECD's Better Life Index is providing an opportunity that enables people all over the world to share what they think is important for wellbeing, and in turn helps governments to best capture the views of citizens and residents in health policy-making.[230]

- The London Borough of Camden held a citizens' assembly on the climate crisis, with residents from across demographics coming together over three days to learn about climate change and shape a new action plan for Camden. The council committed to delivering on the assembly recommendations, with progress assessed annually by the council and scrutinised by a new citizen-led panel.[231]

- Indigenous communities in Indonesia and Brazil, in partnership with NGO Health in Harmony, designed their own place-based solutions to rainforest restoration in the face of climate disruption, with co-benefits to community health and ecosystem resilience.[232]

7.5 EMBED ALTERNATIVES TO GDP THAT MEASURE COLLECTIVE HEALTH AND WELLBEING WITHIN INSTITUTIONS AT ALL LEVELS

Health, education, long term sustainability and inequality issues are largely ignored in GDP measures. Some governments, including New Zealand, Iceland and Bhutan, are starting to look at integrating health and wellbeing metrics into policy and budgeting instruments.[233]

SUGGESTED ACTIONS

- **Provide an enabling environment for experiments that integrate wellbeing measurements into policy and budgeting instruments**, including at city and state level. Assist local authorities to coordinate with external policy networks and institutions. Provide space for stakeholders to co-create new policy initiatives. Work with local communities to identify whether current economic progress is sustainable in terms of quality of life and wellbeing.[234] [235]

- **Develop indicators and frameworks that integrate health and wellbeing metrics into policy and budgeting instruments and decisions,** utilising public consultations as part of the development process. Use them to guide policy formulation and budgeting priorities.[236]

- **Promote alternatives to GDP measures**[237] by publishing and promoting regular wellbeing assessments.

SIGNALS OF CHANGE

- The State of Iceland proposed a framework of 39 indicators, linked to the UN Sustainable Development Goals, that cover social, economic and environmental dimensions of quality of life. They are intended to complement traditional economic measures, such as GDP, and monitor trends in people's wellbeing.[238]

- The Wellbeing Budget of New Zealand helps set national priorities and influences budget allocation. The New Zealand Environmental Health Indicators programme is funded by the Ministry of Health, monitoring air quality and climate change impacts on citizens.[239]

APPENDIX

METHODOLOGY

In 2022, we conducted a systematic literature review of 5,561 articles using MEDLINE, to provide an overview of the studies investigating the biodiversity, equity, nature, and profitability determinants influencing human health in the context of climate change by systematically reviewing and evaluating the available published evidence. Please see below for the search strategy and eligibility criteria used. We also conducted a grey (non-peer reviewed) literature review of current actions and initiatives across the public, private and NGO sectors on the climate/health intersection. Our findings identified that there is insufficient research at the intersections of climate and health, and funding flows - of all provenances - focus on either climate or health outcomes, and are not sufficiently oriented towards the intersection.

In assessing which levers of change are well or insufficiently activated, we convened groups from across the food, built environment, technology and healthcare sectors to understand what the private sector priorities are at the intersection between climate and health, and what the needs are in terms of an enabling policy, investor, and collaboration environment.

We also convened non-private sector groups, including those working at the frontline of health and climate change, to understand what society needs from the private sector in terms of acting on this joint agenda. See page 70 for the full list of organisations involved in the convenings.

SYSTEMATIC LITERATURE REVIEW

Search strategy and eligibility criteria

The aim of the systematic literature review (SLR) was to provide an overview of the studies investigating the biodiversity, equity, nature, and profitability determinants influencing human health in the context of climate change by systematically reviewing and evaluating the available published evidence.

Studies investigating the determinants of human health were systematically searched on MEDLINE. The search was limited to studies published in the English language in the last 10 years, from 1 January 2012 up to 30 April 2022.

The following keywords were used and combined to search the database: (i) biodiversity AND health; (ii) equity AND health; (iii) nature AND health; (iv) profitability AND health. Finally, (i), (ii), (iii), and (iv) were connected with OR.

In addition to the databases' systematic search, a snowball method was applied to the references of the studies to identify any possible missed article.

Studies on the association between any determinant and human health in the context of climate change were included in this SLR, while all studies focusing on any determinant but not related to the interconnection between human health and climate change were excluded from the analysis.

Selection process

Relevant articles were independently screened and assessed by two reviewers belonging to the Climate and Health Coalition. Any uncertainty and disagreement were resolved by consulting two further authors.

Data extraction

From each included study, the following information was extracted: year of publication, study aim, type of determinant, overall descriptive results and recommendations of the study.

Results

The search identified a total number of 5,561 studies that were potentially relevant for inclusion in the SLR. After the removal of duplicates, 5,356 studies remained for screening. After reading the titles, 1,233 were excluded because they did not meet the inclusion criteria. The remaining 4,123 titles were categorised by determinant type: 69 were focused on the biodiversity determinants, 3,757 on the equity determinants, 135 on the nature determinants, and 162 on the profitability determinants.

GLOSSARY

BIODIVERSITY
"Biodiversity is all the different kinds of life you'll find in one area—the variety of animals, plants, fungi, and even microorganisms like bacteria that make up our natural world. Each of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life. Biodiversity supports everything in nature that we need to survive: food, clean water, medicine, and shelter."[240]

BIODIVERSITY HOTSPOTS
"To qualify as a biodiversity hotspot, a region must **meet two strict criteria:**

- It must have **at least 1,500 vascular plants as endemics** — which is to say, it must have a high percentage of plant life found nowhere else on the planet. A hotspot, in other words, is **irreplaceable.**

- It must have **30% or less of its original natural** vegetation. In other words, it must be threatened."[241]

CARBON INSETS AND OFFSETS
Insets refer to measures to that mitigate carbon emissions within their value chain, whilst offsetting refers to schemes through which companies can pay to reduce emissions outside of their value chain to reach net zero in their operations in lieu of direct reductions.[242]

CLIMATE ADAPTATION
"Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change."[234]

CLIMATE MITIGATION
"Climate Change Mitigation refers to efforts to reduce or prevent emission of greenhouse gases."[244]

DOUBLE MATERIALITY
Single materiality refers to a reporting approach in which reporting assesses how sustainability factors affect a firm's financial value, whilst double materiality also assesses how the firm's operation impacts society and the environment. Double materiality can identify additional health externality costs that risk creating a negative enabling environment for economic and social prosperity.[245]

EMBODIED CARBON
Embodied carbon is composed of emissions accrued through the extraction, manufacture, transportation, installation, maintenance and end-of-life deconstruction, transportation, and disposal of building materials.[246]

ESG
"ESG stands for Environmental, Social, and Governance. Investors are increasingly applying these non-financial factors as part of their analysis process to identify material risks and growth opportunities. Numerous institutions, such as the Sustainability Accounting Standards Board (SASB), the Global Reporting Initiative (GRI), and the Task Force on Climate-related Financial Disclosures (TCFD) are working to form standards and define materiality to facilitate incorporation of these factors into the investment process."[247]

EU CORPORATE SUSTAINABILITY REPORTING DIRECTIVE (CSRD)
The CSRD is due to be published and implemented by the end of 2022. It will utilise a double materiality approach to supplement the SFDR (see below). It "aims to ensure that companies publicly disclose adequate information about the risks, opportunities and impacts of their activities on people and the environment."[248]

EU SUSTAINABLE FINANCE DISCLOSURE REGULATION (SFDR)
"The EU Sustainable Finance Disclosure Regulation (SFDR) is a set of EU rules which aim to make the sustainability profile of funds more comparable and better understood by end-investors. The regulation focuses on pre-defined metrics for assessing the environmental, social and governance (ESG) outcomes of the investment process."[249]

EXTERNALITIES
"Externalities refers to situations when the effect of production or consumption of goods and services imposes costs or benefits on others which are not reflected in the prices charged for the goods and services being provided."[250]

GREEN BONDS
Green bonds provide finance for projects that have a verifiable positive impact on climate mitigation and/or climate adaptation. They are issued by governments, multilateral financial institutions and increasingly by private banks. Purchasers of green bonds are private investors, particularly institutional investors interested in long-term fixed securities. A third party verifies that impact has been delivered.

HEALTH EQUITY
Health equity "is the absence of unfair, avoidable or remediable differences [in health systems] among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality (e.g. sex, gender, ethnicity, disability, or sexual orientation)."[251]

JUST AND REGENERATIVE
A just and regenerative approach means strengthening the capacity of all living systems to adapt, replenish and regenerate; respecting everyone's human rights and potential to thrive; and rewiring our economies and societies to serve both people and the planet."[252]

LOSS AND DAMAGE
Loss and damage refers to harms caused by climate change that are too severe to be addressed by adaptation measures, or in many instances, where countries and communities lack the capacity and resources to utilise adaptation measures.[253]

NATIONALLY DETERMINED CONTRIBUTIONS (NDC)
Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of its long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.[254]

OPERATIONAL CARBON
'Carbon emissions' association with energy consumption (operational energy) while the building is occupied. This includes the regulated load (e.g. heating, cooling, ventilation, lighting) and unregulated/plug load (e.g. ICT equipment, cooking, refrigeration appliances).'[255]

PAYMENT FOR ECOSYSTEM SERVICES MARKET
Payments for Ecosystem Services (PES) are market structures used to direct capital from those who benefit from environmental services to landowners who adopt practices that regenerate nature through market payments.[256]

PLANETARY HEALTH
Planetary health refers to "the health of human civilization and the state of the natural systems on which it depends"[257]

PUBLIC HEALTH
Public health has been defined as "the science and art of preventing disease, prolonging life and promoting health through the organised efforts and informed choices of society, organisations, public and private, communities and individuals"[258]

RETROFITTING
Retrofitting refers to "the act of fitting new systems designed for high energy efficiency and low energy consumption to buildings previously built without them."[259]

STRANDED ASSETS
Stranded assets refer to "assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities," often referring to devaluation as a result of climate change scenarios and risks.[260]

TASK FORCE FOR CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)
"The TCFD's climate-related disclosure recommendations enable stakeholders to understand carbon-related assets and their exposures to climate-related risks."[261]

TASK FORCE FOR NATURE-RELATED FINANCIAL DISCLOSURES (TNFD)
"Nature loss poses a major risk to businesses, while moving to nature-positive investments offers opportunity. The market-led, science-based TNFD framework will enable companies and financial institutions to integrate nature into decision making."[262]

VALUE CHAIN
"A 'supply chain' refers to the system and resources required to move a product or service from supplier to customer. The 'value chain' concept builds on this to also consider the manner in which value is added along the chain, both to the product / service and the actors involved. From a sustainability perspective, 'value chain' has more appeal, since it explicitly references internal and external stakeholders in the value-creation process."[263]

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CLIMATE AND HEALTH ROUNDTABLE

Clean Air Fund
Google
GSK
Health Care Without Harm
Health and Climate Network
Medical Society Consortium on Climate and Health
My Green Lab
Sustainable Healthcare Coalition
United Nations Children's Fund (UNICEF)
United Nations Global Compact
Wellcome Trust
World Business Council for Sustainable Development

WBCSD WORKSHOP

Abbott
BioGen
Eni
GSK
Purpose Collaborative
Trane Technologies

TECHNOLOGY SECTOR WORKSHOP AND INTERVIEWS

Amazon
Capgemini
Dell
Meta
ZS

FOOD SECTOR INTERVIEWS

Ahold Delhaize
Gen Mills
The Rockefeller Foundation
Walmart.org

BUILT ENVIRONMENT AND INFRASTRUCTURE SECTOR WORKSHOP

Arup
Brookfield
Deloitte
Institute for Sustainable Infrastructure
Legal & General
Trane Technologies
UK Green Building Council
World Green Building Council

DIVERSE AND COMMUNITY VOICES WORKSHOP

Climate Cares
FMC EbuteMetta Lagos
Foodsteps (Bupa eco-Disruptive Finalist
Go Rolloe (Bupa eco-Disruptive Finalist)
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Health Care Without Harm
Homeless Link
Impact on Urban Health
INTERSOS
International Red Cross and Red Crescent Movement
International Rescue Committee
Last Mile Health
Mental Health Innovations
Naked Energy
Planetary Health Alliance
Rebalance Earth
Red Cross Red Crescent Climate Centre
The Prince's Foundation
Tomorrow's Forests (Bupa eco-Disruptive Finalist)
UK Health Alliance on Climate Change
Unjani Clinics NP
Upcycled Medical (Bupa eco-Disruptive Finalist)

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ABOUT THE CLIMATE AND HEALTH COALITION

The Climate and Health Coalition is a multi-stakeholder initiative with a mission to mobilise and equip the private sector to play a key role in accelerating the integrated transformation of our health and climate systems, towards outcomes that deliver benefits for both people and planet. It is facilitated by Forum for the Future and was co-founded by Bupa, Haleon, Reckitt and Walgreens Boots Alliance. Find out more.

The Coalition aims to enable businesses to design and deliver corporate strategies that deliver co-benefits for climate and human health.

And through mobilising the private sector in a coordinated way, the Climate & Health Coalition will position the private sector as a key actor for positive change in our climate and health systems.

Outcomes of the transformation of our climate and health systems will include:

- The goals of the current global health system shift towards keeping people physically and mentally healthy and preventing illness, within the limits of planetary boundaries
- A zero carbon economy and a just and regenerative transition
- Health equity and access for all

To learn more and explore how your organisation can drive co-benefits for climate and health, please contact info@forumforthefuture.org.