



Sharing our journey to net zero and nature positive for a healthier future

September 2022



Ahead Together

Learning out loud: two years in

The world is waking up to the climate and nature crises we are all facing, and is starting to acknowledge that they pose an urgent threat to human health.

Air pollution causes or exacerbates respiratory diseases; warm wet weather helps disease vectors like mosquitoes spread; and the destruction of forests increases the risk of pandemic viruses making the leap from animals to humans¹. Climate change and nature loss also exacerbate health inequalities, disproportionately affecting marginalised communities who often have fewer resources to adapt to a changing planet.

The health benefits of action on climate and nature are clear. So are the health risks of inaction.

Our purpose is to unite science, technology and talent to get ahead of disease together. But we also need to get ahead of other issues that really matter too. That is why, two years ago, we made an ambitious commitment to have a net-zero impact on climate and a net-positive impact on nature, across our full value chain.

We know that taking actions now will make our business more resilient, protect our supply chains, and support growth in the long-term. It makes good business sense as well as being essential for the health of the planet and people.

Over the last two years the scale and urgency of the challenge has only grown. And most recently, the complex challenges that the current energy crisis poses in many parts of the world will require careful navigation while remaining resolute on the long-term path towards alternative, lower carbon energy.

At the same time, scepticism over corporate climate commitments has reached new highs. Employees, patients, regulators, shareholders and civil society want to see action not just words.

So here we are setting out where we are on our journey. The headline is: we are making good progress against our goals. But it has not always been easy, and there are areas where we need to accelerate action. So, we're also sharing some of the challenges that we have faced and the lessons we have learnt along the way.

The climate and nature crises are shared challenges. We do not have all the answers, but by openly and transparently sharing our experiences and learning out loud, we hope that GSK can help us all move faster towards collective solutions.

Emma Walmsley
CEO, GSK

We are sharing here some examples of key projects that are critical to our delivery of our ambition. You can read a full summary of our detailed progress towards our climate and nature targets in our [2021 ESG Performance Report](#).



¹ <https://www.nature.com/articles/d41586-020-02341-1>

Net Zero: how we are reducing our impact on the climate

Addressing climate change is undoubtedly hugely complex, but the good news is that it's a challenge that is well understood. It is widely agreed that limiting warming to 1.5°C above pre-industrial levels is crucial to mitigate the effects and safeguard human health and infrastructure.

Frameworks also exist to measure corporate impact. At GSK we have committed to reach net-zero carbon emissions by 2030. We have an [action plan](#) to reduce our emissions by 80%, while we work to protect and restore nature at the same time. We expect offsetting to account for less than 20% of our emission reductions. We are also working on a pathway for further reductions beyond 2030, in line with the Science Based Target Net Zero Standard.

CASE STUDY

Tackling our biggest impact: reformulating inhalers

Metered dose inhalers (MDIs) deliver life-saving medicines to patients with respiratory conditions, such as asthma and chronic obstructive pulmonary disease (COPD), which are estimated to impact more than 600 million people worldwide^{2,3}.

The current propellant gas used in our MDIs is a greenhouse gas. This means that 50% of our current carbon emissions come from the patient use phase of our MDIs, including one of our oldest inhaler products.

A number of our respiratory medicines are already in a low carbon dry powder format and provide an important treatment option for patients. At the same time, we are committed to reducing the carbon footprint of this vital medicine and have made good progress towards formulating an alternative gas that could potentially reduce the climate impact by up to 90%, if the clinical trials are successful.

If clinical studies confirm that the new propellant could be an appropriate replacement, approval from regulators

in more than 100 markets will be needed to make the new product widely available to patients. This process can take from months to years and requires considerable investment.

So driving a reduction in global greenhouse gas emissions from inhalers will be a lengthy, complex process requiring strong partnerships centred on a common goal, across the full healthcare ecosystem. This includes manufacturers, governments, regulators, and healthcare professionals to ensure patient care is not interrupted. Still lacking and urgently needed, are globally harmonised accelerated regulatory pathways to support rapid introduction of new inhaled medicines with low global warming potential.

As a biopharma company we are focused on finding new medicines and vaccines where they are needed. This programme has challenged us to think differently and invest in a sustainability-driven R&D programme of an old and established medicine, because it matters for patients and the planet.

CASE STUDY

Harnessing the scale of the industry to drive change

One of the major sources of carbon emissions at GSK is indirect and comes through the energy used by our suppliers. To address that issue, we partnered in a first-of-its-kind programme with industry partners to use our collective scale in an innovative way.

We are a founding partner of *Energize* in partnership with other global pharmaceutical companies and Schneider Electric. The programme encourages the use of renewable sources of energy by our suppliers

through Power Purchase Agreements, leveraging the scale of our joint value chain to create demand for new renewable electricity sources.

While collaboration between competitors has required complicated mechanisms and has not always been straightforward, it has paid off. Suppliers registered in the Programme so far have a combined total electricity consumption of over 45+ TWh (Terawatt hours) – that is equivalent to the annual consumption of Singapore.

“The pharmaceutical companies collaborating on the Energize programme had already made good strides in reducing their own electricity use, but by working together they can get the hundreds of companies they work with to follow suit. We are pleased to be coordinating this first-of-its kind initiative, and we’re looking at expanding this approach to more locations or for other topics, such as green heat. It’s a model that could work in other industries.”

John Powers, VP Global Cleantech and Renewables, Schneider Electric.

² ERS-position-statement-on-asthma-and-the-environment-5-May-2021.pdf (ersnet.org)

³ Global and regional estimates of COPD prevalence: Systematic review and meta-analysis – PubMed (nih.gov)



Nature Positive: how we are addressing our impact on the natural world

An important part of getting ahead of disease is protecting nature. Habitat degradation is increasing the risk of new human pathogens and potentially pandemics. Safeguarding nature is also essential as the natural world provides inspiration and ingredients for us to continue making existing medicines and discovering new ones.

We have committed to being nature positive by 2030 and are one of the first companies to trial the Science Based Targets Network (SBTN) for Nature methodology to measure our impact. This process has helped us understand where we have gaps in data to understand our full impact on nature. Guided by SBTN's concept of 'no regret' actions, we have set and are on track to deliver against our Nature targets, while we continue to collect more comprehensive data on our impact.

These actions include sustainable management of the natural materials used to make vaccines, while the industry explores alternative materials.

Additionally, we are progressing our plans for net positive biodiversity at our own sites by investing in programmes that improve habitats, protect species and improve soil or water quality.

Once the SBTN framework is finalised, we will seek to accredit our nature targets and then disclose them according to the Taskforce for Nature-related Financial Disclosures, of which we were an early supporter. It is crucial that companies, including GSK, better understand their impacts and dependencies on nature – so that we can ensure we are doing enough across our value chain to safeguard the planet's ecosystems and make our business more resilient.



CASE STUDY

Protecting water resources

Access to clean water is crucial for human health: every minute, a new born dies from infection caused by lack of access to safe water⁴. Climate change and nature loss are fuelling water pollution and increasing the frequency of flooding and droughts.

That is why GSK is working to protect water basins where we operate. We have identified three water basins in water-stressed areas where we have manufacturing sites, including across India, Pakistan and Algeria, where we aim to be water neutral.

At our 47-acre manufacturing facility in Nashik, India we have designed and built plants for rainwater harvesting. Before 2016, our plants used water pumped from deep boreholes in this important agricultural region; today, we no longer use them thanks to a new sustainable system. To improve sanitation conditions for this community, we have also worked with Save the Children to build toilet facilities for local schools.

There have been several challenges, including operationalising the diverse, sometimes contradictory, technical approaches to water management including Net Positive Water Impact (NWPI), water neutrality, and stewardship schemes. We have focused on delivering results and ensuring these complexities do not hinder delivery. Alignment of water experts behind a single, clear concept of how to measure and manage water impacts would help companies to move further and faster.

CASE STUDY

Protecting and restoring nature

Alongside reducing our carbon emissions as far as possible, we will use carbon offsets, investing in high quality nature-based solutions. These can be good for the natural environment, the climate and human health.

We understand scepticism around offsetting. Our internal incentives drive us to maximise reductions and only offset emissions that cannot be abated. Our robust criteria for carbon offsetting and nature-based solutions prioritise high-quality offsets that have the potential to deliver social and health benefits for local communities. We are following the science to reduce emissions, while making sure we capitalise on the opportunities of further carbon sinks in the next 10 years.

However, procuring nature-based removal offsets is challenging and demand is often outstripping quality supply. We are now in negotiations for a carbon removal project that meets our criteria, but we need to identify and buy into more projects to guarantee meeting our targets.

Collaboration is key to overcome these challenges. GSK is part of the LEAF coalition (Lowering Emissions by Accelerating Forest Finance) alongside governments and other businesses, which aims to finance large scale tropical forest protection. In 2021, the coalition mobilized \$1 billion in financing, kicking off the largest-ever public-private effort to protect tropical forests.

We believe there should be greater international collaboration, transparency and consistency in carbon markets to ensure the availability of high-quality solutions.

That is why we're currently testing the Voluntary Carbon Market Initiative (VCMI) framework for voluntary carbon credits, which aims to provide companies with a globally standardised benchmark.



⁴ <https://www.unicef.org/wash/water-scarcity>

Adaptation and resilience to climate-sensitive diseases

Adaptation and resilience are crucial as, despite our collective efforts, it is inevitable that there will be impacts from society's emissions to date. We believe that health should be included as a key part of any adaptation and resilience discussions, which have traditionally been dominated by infrastructure projects such as flood defence measures.

The scientific rationale is clear. Climate change and nature loss are already changing the burden and spread of disease globally, exacerbating existing health threats, creating new ones, putting health systems under pressure and reinforcing health inequalities.

This year, for the first time, we put climate and nature on the agenda of our annual Paliyo meeting, which brings together leading science and health experts to discuss key questions for vaccines and global health.

We asked if vaccines could also play a role in protecting the health of the planet, revealing a variety of underexplored links and perspectives.

We want to get ahead of disease by developing and manufacturing new medicines and vaccines for the diseases most affected by climate change that disproportionately impact lower income countries. Through our Global Health Unit, a dedicated non-commercial group, we are focusing on infectious diseases, including those that are climate-sensitive such as malaria, Neglected Tropical Diseases and salmonella.

CASE STUDY

Prioritising health resilience in lower income countries

GSK and Save the Children have been working in partnership for over 10 years to strengthen health systems and respond rapidly to humanitarian crises across the world.

The partnership recognises that the climate crisis is one of the biggest emerging threats to children's survival. This is why in 2021, through our partnership, we set out to tackle the climate crisis by investing in programmes to build and protect the resilience of communities to climate-related shocks. This work will generate critical global evidence on new ways to bring the climate and health sectors together to drive lasting environmental change.

First, GSK is investing in Save the Children's Anticipatory Action work, taking a pro-active approach to get ahead of emerging risks, implementing early action activities with at-risk communities.

Second, GSK is seed funding the full design of two ground-breaking climate health adaptation projects with partner governments in Malawi and Senegal. When approved, the designs will catalyse an investment of over USD \$60 million from the Green Climate Fund – the world's largest dedicated fund for climate action – to create climate-resilient communities and health systems. We are working to leverage GSK's technical expertise and knowledge to inform the programme designs from 2023 onwards.



Jenny Cleeton / Save the Children



Fredrik Lemeryd / Save the Children

“We are proud to be working with our most trusted partner GSK to spearhead our innovative climate and health adaptation work. Climate change poses a major threat to children's health. GSK and Save the Children will work in new ways to interpret climate health data, strengthen health systems, and build the resilience of children and communities on the frontlines of the climate crisis.”

Nick Ireland, Director of Climate Change, Save the Children

For more information about GSK and Save the Children's climate work, please visit our partnership website www.gsk-savethechildren.com



Lessons learnt

When we made our commitment to become net-zero and nature-positive we knew that it would be difficult, and that progress would likely take place in fits and bursts rather than along a smooth path.

We believe it is important to be open and to 'learn out loud'. That's how we can demonstrate the seriousness of our intent. And we also hope that our experience can help other businesses and organisations grappling with these same challenges.

In the last two years, we have learnt:

1.

The devil really is in the detail. Progress often requires getting far into the specifics – especially in the supply chain.

However big and complicated you think the challenge is, it is probably even bigger and even more complicated.

As is the case for many companies, we have found that 90% of our climate impact sits outside of our physical site operations, and to truly confront the challenges we had to go even further than our direct suppliers. For example, we have been working with our upstream chemical suppliers to help understand their environmental footprint. We discovered that the real challenge is with their third-party solvent suppliers. We are now working with them to change the recovery and processing of the solvent.

2.

The urgency of the challenge means we must get started and learn along the way – it would otherwise be too easy to get distracted by data paralysis.

While the detail is important on such a complex challenge, we learnt that there are ways to get started while we figure out how to get a full picture. For example, on nature, we are guided by SBTN's concept of "no regret actions" and taking action at the same time as improving data collection. As we gain more clarity, we will build on this work and go further; however, we know the actions we are already taking are putting us firmly on the path to a nature-positive future.

3.

Real progress is often dependent on other stakeholders, so time invested in building coalitions and advocating for change is never wasted.

Achieving our goals requires working with governments, communities and sometimes our competitors. It can be challenging: we have different levels of ambition, different drivers, different priorities and commercial sensitivities. The innovative cross-sector collaboration forged through Energize came with challenges and associated costs; but those discussions have ultimately allowed us to make ground-breaking progress.

4.

We need to work across disciplines to get the best results for people and planet.

Environmental sustainability cannot be considered in isolation of social impact, including health outcomes. The examples we have highlighted here illustrate the difficulty of working at the nexus of evolving health and environmental science, along with business priorities. This is a big cultural shift, and it takes time.

We are working to break down silos, for example by bringing together our expertise in sustainability and our understanding of disease, particularly infectious and respiratory diseases. This is something we see reflected outside our company too, as the need to respond to the human impacts of environmental change that are already being felt becomes ever more clear.

5.

Offsetting and nature-based solutions are a key part of the solution but are complicated and difficult to get right.

There is scepticism and challenge about the role of offsetting, so it really matters to ensure the projects and credits are genuine and high-quality. That focus on credibility can make the practical purchase tricky. We're still trying to secure high-quality nature-based projects, underscoring the persistence that is needed – now and throughout the full 10 years of our 2030 commitments.

Looking ahead

I am hugely proud of the progress we have made to date on our climate and nature commitments, both on the big decisions we have made, such as an R&D programme for green inhalers and Energize, and also the small steps that we are taking every day.

Building on these learnings, at New York Climate Week 2022 we announced two new initiatives that mark exciting steps in our progress. One will bring our suppliers on this journey with us, by requiring them to align with our own climate and nature goals. The other is an innovative partnership with Microsoft to use AI to model and predict the spread of diseases driven by a changing climate.

We know there is much more to be done, but we are confident that the big and small changes we are making, together, will ultimately help GSK play our part in moving towards a net-zero, nature-positive world where people can live healthy lives.

The second half of 2022 is set to be a critical year for nature and climate, with COP27 (the UN Climate Change conference) and COP15 (The UN Biodiversity conference) as major milestones.

At GSK we believe it is crucial that human health is central to the conversations at both of these events, and part of the frameworks and programmes they create. For too long, the climate, nature and health conversations have been siloed. Now is the time to break down those divides.

COP27, in November in Egypt, is an opportunity to place a sharper focus on people, their health, and the need to quickly build climate resilience and adaptation. We ask governments and other funders to increase their focus on research into climate and nature-sensitive diseases, and to make health an integral part of the discussion on adaptation and resilience.

We welcome action by governments and other healthcare providers to address the climate impact of healthcare systems, and encourage medicines regulators to take a lead in accelerating access to the products and services that will support a transition to net zero healthcare. Further, we encourage countries and companies to identify win-wins by prioritising action on climate and nature that also improves human health.

COP15, in December in Canada, is a critical chance to turn the tide of nature loss and to protect human health. There, we ask governments to agree an ambitious framework that puts the world on course to halt and reverse nature loss by 2030. We would also like to see mandatory disclosure for businesses and financial institutions to assess and reveal their impacts and dependencies on nature, incentivising business to act.

Beyond these immediate conferences, we will be playing our part in keeping momentum moving. There is an opportunity for a 'just transition' where social and environmental factors can be improved at the same time, and we will continue to act as an advocate for human health to be an integral part of those conversations. It is what the next generation of our customers, employees, and community members is demanding, it is what the science shows, and it is what is good for our business and the planet.

Claire Lund
Global Vice President,
Sustainability, GSK



FRONT COVER IMAGES



Homa Bay Community
Clinic, Kenya



Ted Chapman, Bio
Process Science Lead,
GSK Worthing



Wind Turbines,
GSK Barnard Castle