

Bulletin

Supporting the era of green pharmaceuticals in the UK

A report from the Office of Health Economics, commissioned by the ABPI, was recently published, looking at how industry, the NHS and government can move further and faster together towards an era of green pharmaceuticals¹. It highlights the need for action on all sides, particularly to overcome key challenges in the drive to meet environmental goals.

UK governments and the NHS have shown international leadership by setting ambitious net zero targets in recent years. However, it is widely recognised that to meet net zero targets, the private sector has an important role to play in reducing the carbon and broader environmental footprints of the products and services they supply to society. Many pharmaceutical companies have made commitments to reach net zero carbon across their operations, but in order to deliver, several significant, industry-specific challenges must be overcome.

This new report sets out the high-priority activities that the NHS, UK governments and industry should undertake to tackle these challenges. To adopt the recommendations, investment and co-ordination is needed from the industry, UK governments and the NHS. No one actor can be expected to lead or foot the bill for the upfront and ongoing investment needed to achieve long-term sustainability. Any action taken in the UK will need to be replicated internationally to have any impact.

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¹ <https://www.ohe.org/publications/supporting-era-green-pharmaceuticals-uk-0#>

Meaningful engagement, collaboration and action needs to be taken now by governments, health systems, medicines regulators and companies globally to secure the era of green pharmaceuticals.

Despite the core analysis for this report being undertaken before the Ukrainian war and associated energy crisis began, the recent soaring cost of energy serves to reinforce both the recommendations and urgency for action outlined in this report.

Recent experiences demonstrate that actions to improve energy efficiency and move away from carbon rich energy sources will not only slow climate change such as heatwaves, fires and droughts, but may pay for themselves more quickly, increasing the incentives on governments, healthcare systems and pharmaceutical companies to reduce their vulnerability to global shocks in the future.

Drop-In Session at the Welsh Parliament – ABPI Cymru Wales and RPS Wales



ABPI Cymru Wales joined with RPS Wales to host an information session at the Welsh Parliament in November 2022

Sustainability is at the heart of the pharmaceutical industry's day-to-day operations, with many skilled individuals working in sustainability roles. We are starting to see initiatives and practical examples from companies in the UK and across the world; with investment in recycling and renewables, development of low-carbon inhalers, and net zero buildings, each demonstrating their ambition and commitment to tackling the challenges in building a greener pharmaceutical industry.

This is a global industry with global supply chains. As a consequence, the industry in the UK must act in partnership with other regions, if we are to create lasting, effective change. A recent joint industry statement signed by the ABPI, and biopharmaceutical industry trade associations from across Europe and the world (EFPIA, Farmindustria, IMC, IFPMA, JPMA, LEEM, PhRMA, vfa) recognised that its members have a responsibility to minimise its impact on the planet as

well as to research and develop new health products that manage and mitigate health risks from environmental challenges. In order to deliver medical innovations to patients in ways that also protect and support the environment our members are investing in research and development in greener products, as well as more sustainable production and distribution practices.

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Eighty percent of the innovative biopharmaceutical industry's largest companies have set net-zero or carbon-neutrality targets and many more have committed to ambitious short-term greenhouse gas emissions reduction efforts. These efforts are already yielding results in terms of emissions reductions, energy efficiency savings, and increased shares of renewable electricity.

In the UK we are working with governments, the NHS, and other partners to drive forward progress and, as a global industry with global supply chains, our members are also coordinating their UK activity with work in other countries, regions, and healthcare systems to create lasting change. This includes initiatives to reduce carbon emissions across our own operations and value chains; investments in renewable electricity and energy efficiency measures; recycle and cut water use; and on bespoke projects which will impact positively on the environment.

ROYAL PHARMACEUTICAL SOCIETY

Wales Cymru

As part of this work, ABPI Cymru Wales and our members joined with the Royal Pharmaceutical Society (RPS) Wales to hold a drop-in session at the Welsh Parliament. The session focussed on sustainability – and examined how the impact of medicines on the environment could be minimised.

We were delighted that so many Members of the Senedd – and their teams – were able to join us. Issues under discussion ranged from antimicrobial resistance, appropriate inhaler prescribing, medicines use reviews, and ensuring that the lessons from Your Medicines, Your Health² – which encourages patients to “Take them if you can, tell us if you can't” – isn't lost, post-pandemic.

We shared some of the key challenges and opportunities as a one-page document on the day. They are shown on the next page.



Joyce Watson, MS, who sponsored the Drop In pictured with Richard Boldero (AWTTC) and Aaron Gowson (Chiesi)



David Rees, MS, talking to ABPI Cymru Wales members at the November Drop In



Senedd Members at the ABPI Cymru Wales / RPS Wales Sustainability Drop In



Senedd Members at the ABPI Cymru Wales / RPS Wales Sustainability Drop In

² <https://www.dewis.wales/ResourceDirectory/ViewResource.aspx?id=18748>

Background

- ◆ Medicines remain the most common patient-level intervention in the NHS, and cover all sectors of care: primary, hospital, public, and community health. 82.8 million items were prescribed by GPs in Wales and dispensed in the community in 2021-22³. Pharmacists are experts in medicines and their safe, effective, and sustainable use.
- ◆ Medicines account for between 12.5% and 25% of carbon emissions within the NHS.
- ◆ Welsh Government report medicines and vaccines account for around 10% of the NHS Wales budget. By reducing inappropriate prescribing and ensuring patients understand how to take their medicines correctly we can not only address the climate emergency – but save money!
- ◆ The antimicrobial resistance crisis is driven by overuse and inappropriate disposal of antibiotics. Working with the public, a similar wider approach to medicines will reduce the medicines contribution to the climate crisis.

Sustainable Medicines Use and Prescribing:

- ◆ Medicines reviews by pharmacists can make a huge difference – leading to appropriate de-prescribing and switching to low carbon options.
- ◆ Pharmaceutical companies are using green chemistry principles and changing the way they manufacture products, to reduce the total environmental impact of creating medicines.
- ◆ This change in the way we produce our medicines can often mean we are able to reduce carbon emissions, save water, and cut waste from the manufacturing process, all at the same time.
- ◆ 'Best medicine can be no medicine' principle – best for the individual and the environment.



Educating the Public and Changing Behaviours:

- ◆ Pre the pandemic, progress was made in Wales through the Cwm Taf UHB-led 'Your Medicines Your Health' campaign which advised patients to only order what they needed, not to stockpile medicines, and tell their clinicians if any of their circumstances changed. It also educated the public not to ask for medicines that they wouldn't, or couldn't, use to prevent waste and promote patient safety.
- ◆ The time is right now to re-emphasise these messages on an all Wales basis through a national campaign, explaining to the public how their behaviours can influence climate change.
- ◆ There is broad public support for a range of measures to reduce the NHS's carbon footprint and a willingness to make changes to their behaviour⁴.
- ◆ Ensuring that patients always complete their course of antibiotics as advised and dispose of any waste appropriately is key to the NHS response to the climate emergency and help guard against antimicrobial resistance.

Tackling Waste:

- ◆ Reducing waste from packaging is one of the biggest challenges the pharmaceutical industry faces, and we are looking to solve it by working with regulators and governments and investing in research and new technologies.
- ◆ This can involve increasing recycling, replacing paper-based patient information leaflets with online versions, and increasing the recycled content in packaging.
- ◆ Community Pharmacy – working alongside some pharmaceutical companies – have some recycling schemes already up and running. However, these need to go further – and be made sustainable.
- ◆ We can only tackle waste – and address the wider climate emergency – by working together.



³ <https://gov.wales/prescriptions-wales-april-2021-march-2022.html#:~:text=section-,Main%20points,have%20slowed%20in%20recent%20years>
⁴ <https://www.health.org.uk/publications/long-reads/going-green-what-do-the-public-think-about-the-nhs-and-climate-change>

GSK is reducing emissions from inhalers

One of the participants at the drop-in session were GSK. GSK's metered dose inhalers for asthma and COPD account for about 40% of their carbon footprint because the propellant used is a potent greenhouse gas. As part of GSK's commitment to have a net zero

impact on climate by 2030, they have started an R&D programme to find a lower-impact propellant that could reduce emissions from their inhalers by about 90%.

In line with the NHS agenda, GSK supports the prescription of lower carbon inhalers where medically possible. GSK has been working towards achieving carbon neutral status (as certified by the

Carbon Trust) for its lower carbon inhalers, by starting to deliver a product carbon reduction plan and then offsetting the remaining carbon that cannot currently be reduced, including supporting a reforestation project in Ghana.

You can find out more about the work that GSK is doing in this regard on the ABPI website ([here](#))⁵ and the GSK website ([here](#))⁶.

Healthcare and Sustainability: A Sanofi Perspective

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The climate crisis is now one of the most salient public health concerns of our time. It is well-documented that non-communicable and infectious diseases, malnutrition, and water scarcity are resulting in increasingly poor mental health outcomes and premature death globally^{7,8}. Healthcare systems are responding to the impacts of the climate crisis but are also responsible for 4–5% of total global net emissions, equating to 2.4 gigatonnes of carbon dioxide equivalent^{9,10}. Therefore, it is necessary that healthcare systems and industry align to review their environmental impact.

This has already begun in the respiratory field with the recycling of inhalers¹¹. Given the diabetes treatment pathway has a large carbon footprint, there is much to be considered. Sustainability in diabetes also includes timely and effective interventions with low side effect profiles that reduce frequent clinic or hospital visits, ambulance callouts, blood tests, changes in medications and thereby reducing carbon footprint¹².

Sanofi's activities to reduce its carbon footprint in line with the UN's Sustainable Development Goals largely falls under 6 main areas: climate change, waste management, pharmaceuticals in the environment, water stewardship, biodiversity, and eco-design¹³. Our commitment to achieving carbon neutrality by 2030 and net zero admissions by 2045 is reinforced by a 27% reduction in greenhouse gas emissions from all activities since 2015, particularly in car fleet emissions by 51% through prioritising hybrid and electric cars, globally.

This is emphasised here in the UK with 100% of energy usage by the head office site and half of the energy supplied to sites worldwide being renewable. Additionally, our environmental footprint is being reduced with 73% of waste reused, recycled, or recovered and 59% of sites landfill free.

Most importantly, Sanofi is undertaking a lifecycle assessment on all medicines and medical devices as well as supporting local, national, and international programmes to collect unused medications¹⁴. Insulin production has been addressed to reduce wastage and increase yield through using highly selective enzymes. The final insulin yield is increased by 50%, therefore reducing the future number of batches per year. For each batch the savings are 2,000 m³ purified water, 22t of raw materials, and 61t CO₂¹⁵. Sanofi has also been one of the leaders in conversations with key charities such as Diabetes UK to highlight the importance of sustainability in diabetes and vocalise support for improvement.

As a result of these efforts, Sanofi's Environment, Social, Governance (ESG) strategy implementation was ranked first in the European pharmaceutical sector in the latest international ESG ranking issued by Vigeo Eiris¹⁶. In March 2022, Sanofi was recognised as one of the most sustainability-committed companies by Standard & Poor's Global Ratings, with a score of 86/100, one of the highest scores across all sectors globally¹⁷.

A collaborative effort is needed to truly achieve positive and sustainable health outcomes by both healthcare and industry. Not only from a policy level but also on a practical, disease specific level by co-creating ideas with clinical teams, local and national organisations, and the public.

⁵ <https://www.abpi.org.uk/reputation/cop26/tackling-carbon-emissions/>

⁶ <https://www.gsk.com/en-gb/responsibility/environmental-sustainability/>

⁷ (2022). The World Health Organization. Climate change and health. <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>

⁸ (2022). The World Health Organization. Climate change and health. Why mental health is a priority for action on climate change (who.int)

⁹ (2021). Global Road Map for Health Care Decarbonization. Healthcare without Harm. <https://healthcareclimateaction.org/road-map-press-release>

¹⁰ (2022) Sustainable Markets Initiative Health Systems Task Force and BCG. Decarbonising Patient Care Pathways: How choices in patient care can drive reductions in carbon emissions.

¹¹ (2020). Prescajpp Recommendations. Inhaler Carbon Footprint. <https://www.prescajpp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f5723%2f295i-inhaler-carbon-footprint-22-wales.pdf>

¹² Fordham R, Dhatriya K, Stancliffe R, et al. Effective diabetes complication management is a step toward a carbon-efficient planet: an economic modeling study. *BMJ Open Diabetes Research and Care* 2020;8:e001017. doi: 10.1136/bmjdr-2019-001017

¹³ (2020). Sanofi's Contribution to the UN Sustainable Development Goals. Sanofi Integrated Report 2021. <https://integrated-report.sanofi.com/society/contributing-to-the-un-sustainable-development-goals/>

¹⁴ (2022). Planet Care. Sanofi. <https://www.sanofi.com/en/our-responsibility/environmental-sustainability>

¹⁵ (2022). Tailor-made enzymes enable eco-design of Insulin production. Sanofi [Internal document]

¹⁶ (2021). Progress on Corporate Social Responsibility strategy. Sanofi. <https://www.sanofi.com/en/media-room/press-releases/2021/2021-10-28-05-30-00-2322319>

¹⁷ (2022). Sanofi recognized by S&P as one of the most sustainability-committed companies. Sanofi. <https://www.sanofi.com/en/media-room/press-releases/2022/2022-03-08-13-25-40-2398922>

Novartis – “Our ambition is to be a catalyst for positive change...”

Author: Shaun Andrew Shaw, Government Affairs Manager - England and Wales at Novartis Pharmaceuticals UK Ltd

At Novartis, we are harnessing our heritage of advancing medical science to reimagine how we fight diseases, how we deliver treatments and how we run our business. We harness the power of science to push boundaries, develop breakthrough treatments and deliver them directly to the millions of people who need them. We are a major partner to the NHS and wider life science sector. In 2021, our estimated total GDP contribution in the UK economy was £1.46bn, and through our total economic impact supported 18,732 jobs¹⁸.

Our ambition is to be a catalyst for positive change. Our continued investment in our planet supports our purpose to reimagine medicine to improve and extend people's lives. We aim to drive sustainability through our own operations, as well as those of our suppliers, and we have set ambitious targets to minimise our impacts on climate, waste, and water. We have committed to reach across our supply chain Net Zero in 2040 and be carbon neutral in our own operations by 2025¹⁹. By 2030 we will be both water and plastic neutral, and all new products will meet sustainable design principles²⁰.

Below are a short few examples of how we are doing this:

1. Optimising shipments in global clinical supply to reduce avoidable carbon footprint

Novartis started to gather information on the number and frequency of the patient kit shipments to each clinical site to understand if some of the shipments could be consolidated without any negative impact on the trial's progress or patient care. Using smart adjustments from 2021 onwards, Novartis will avoid an average of 18,000 shipments per year²¹. This represents a reduction of approximately 1,400 tons of CO₂ annually²².

¹⁸ Europe Economics, The Economic, Social and Innovation Value Novartis Brings to the UK, 2021 Data Update Annex, page 6

¹⁹ Novartis, Website "Climate": <https://www.novartis.com/esg/environmental-sustainability/climate>, Last Accessed November 2022

²⁰ Novartis, Novartis Environmental Sustainability and Occupational Health and Safety Data Supplement 2019, https://www.novartis.com/sites/novartis_com/files/novartis-environmental-sustainability-occupational-health-safety-data-supplement-2019.pdf, Page 3, Last Accessed November 2022

²¹ Novartis, Climate Change Information Request, https://www.novartis.com/sites/novartis_com/files/cdp-2021-climate-change-information-request-response.pdf, Page 28, 29, 30, Last Accessed November 2022

²² Novartis, Climate Change Information Request, https://www.novartis.com/sites/novartis_com/files/cdp-2021-climate-change-information-request-response.pdf, Page 28, 29, 30, Last Accessed November 2022

²³ Novartis, Climate Change Information Request, https://www.novartis.com/sites/novartis_com/files/cdp-2021-climate-change-information-request-response.pdf, Page 18, Last Accessed November 2022

²⁴ ABPI, 2021, Novartis Sustain Case Studies, Page 4.

²⁵ Novartis, Novartis Environmental Sustainability Strategy, https://www.novartis.com/sites/novartis_com/files/novartis-environmental-sustainability-strategy.pdf, Page 36, Last Accessed November 2022.

²⁶ Novartis, Novartis Environmental Sustainability Strategy, https://www.novartis.com/sites/novartis_com/files/novartis-environmental-sustainability-strategy.pdf, Page 36, Last Accessed November 2022.

²⁷ <https://www.abpischools.org.uk/topics/green-careers-week-2022/green-careers-week/>

²⁸ <https://www.abpi.org.uk/careers/>

²⁹ <https://www.abpischools.org.uk/careers/>

2. Green chemistry & cutting-edge technologies

A new generation of Novartis scientists are working across our pipeline to protect the climate and help achieve the company's ambitious environmental targets by introducing more sustainable principles in the design, development and manufacturing of chemical products and processes. The team is confident to reach an average of 20% Process Mass Intensity (PMI) reduction by sustainability-focused synthesis and process design optimisations²³. Additionally, cutting-edge technologies such as Surfactant Chemistry, Biocatalysis, Continuous Manufacturing and the High-Density Perfusion Batch technology have the potential to significantly reduce required resources. This has greater than 5 million tons CO₂ saving potential by 2030²⁴.



3. Maximising wind power with Virtual Power Purchase Agreements

In 2020, Novartis signed five Virtual Power Purchase Agreements (VPPAs) which are expected to collectively add more than 275 megawatts of clean power to the electrical grid²⁵. A Novartis renewable energy solution required a fluid arrangement to respect the European footprint and needs that comprised of numerous locations with different energy needs. These agreements now allow the aggregation of power from multiple countries, but also provide flexibility in the event of any changes to the size or location of the company's operations. This will enable Novartis to achieve 100% renewable electricity for electricity procured in Europe operations by 2023²⁶.

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Green Careers Week 2022

Green Careers Week aims to promote any career that helps to protect and restore the planet.

To support Green Careers Week 2022, ABPI has added a number of new case study vehicles to its Schools Website²⁷. Amongst the roles discussed are a Global Head of Drug Product Design, Sustainability Strategy Steering Group Representative, and an Environment Advisor. You can find out more about careers in the pharmaceutical industry on our careers website²⁸ or via our dedicated Schools website pages²⁹.