SUSTAINABLE BUSINESS

Pro Take: Making Medicines Greener

Pharma companies are taking steps to become more sustainable, but the real challenge lies in reducing emissions in decentralized, energy-intensive supply chains

By Cecilia Butini
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Even subtle changes to the inputs or production process can require lengthy and costly regulatory approval. PHOTO: MOHAMED HOSSAM/SHUTTERSTOCK

Making and supplying medicines generates roughly a third of the global healthcare industry's greenhouse-gas emissions. But Western companies say it isn't easy to bring down that number without changing the way these drugs are produced and regulated.

Pharmaceutical companies that have committed to lowering their carbon footprint in the coming years say the main challenges arise from emissions that occur in their supply chains and as a result of how patients use some of their products. These so-called Scope 3 emissions are often the hardest to reduce because they depend on a large web of external suppliers and energy-intensive chemical processes to make medicines.

Pharma giant GSK is reformulating its flagship asthma drug Ventolin, which it hopes can reduce the climate impact of its inhalers by up to 90%. PHOTO: CARLOS JASSO/BLOOMBERG NEWS

British drugmaker GSK, for instance, plans to run on 100% renewable electricity by 2025 and to reach net-zero emissions across its value chain by 2045. The company found that more than half of its Scope 3 footprint last year came from the use of its metered dose inhalers. GSK is reformulating its flagship asthma drug Ventolin, which is often distributed through inhalers, and hopes that doing so can reduce the climate impact of its inhalers by up to 90%.

“We’ve seen encouraging progress amongst the pharmaceutical companies we work with in driving down emissions,” said Mike Peirce, executive director of systems change at the Climate Group, host of Climate Week NYC. “But it’s vital now for the sector to look beyond their walls—to seize opportunities to influence supply chains and to drive product innovation to reduce energy use by [the] consumer.”

Regulating each step in the manufacture of a drug ensures safety but also means that even subtle changes to the inputs or production process can require lengthy and costly approval. “You need to use clean labs, you are heating things up to a certain temperature, you are cooling them down, you are cleaning the systems. [These are] all regulated processes,” said Aurelio Arias, director of EMEA thought leadership at healthcare-insights company IQVIA.

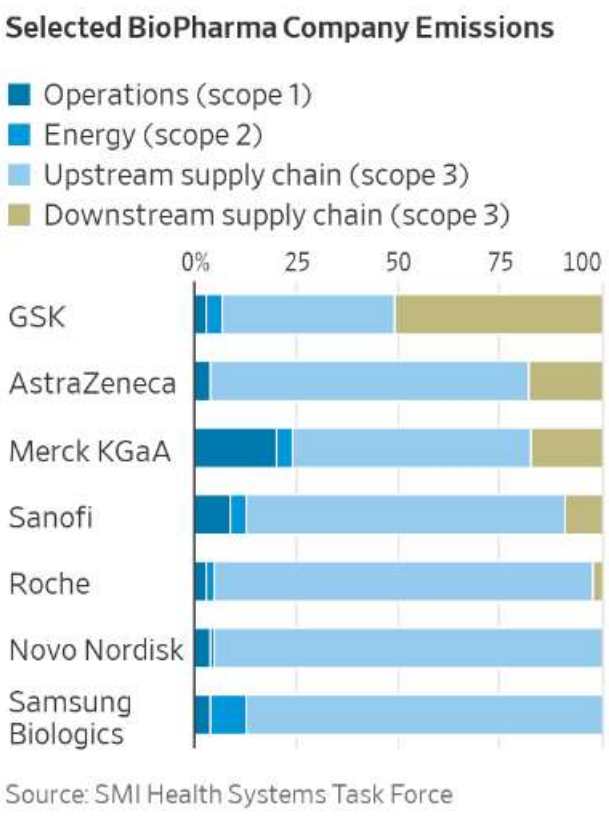
Arias studied a sample of drugmakers’ emissions data from the past few years. Extrapolating those trends, he predicted the companies would reach net-zero Scope 1 emissions from operations by 2050 and net-zero Scope 2 emissions from energy used by 2030, but that their Scope 3 emissions wouldn’t be remotely close to reaching net zero by 2050.

Roughly 50% to 80% of biopharma companies' total greenhouse gas emissions come from the extraction and processing done by their raw-materials suppliers, according to the Sustainable Markets Initiative Health Systems Task Force, a partnership between pharmaceutical companies and health institutions that was launched at COP26. For instance, the process to transform a hydrocarbon into a base chemical—used to make a drug's active pharmaceutical ingredient—requires temperatures as high as 850 degrees Celsius (1,562 degrees Fahrenheit) and large amounts of electricity, the task force explained in a paper.

"Heat is the next main frontier, I would say, in terms of the challenge to decarbonize," said Claire Lund, GSK's vice president of sustainability.

GSK is tackling the sources of heat and electricity at its own operations, including phasing out gas boilers used in all of its Indian manufacturing sites. It is a much more complicated task to do it in the company's supplier network.

China is the world's top supplier of active pharmaceutical ingredients, followed by India, which also is a significant producer of cheap, generic medicines, according to data from the European Parliament. Both countries are installing renewable energy sources but their power grids remain heavily reliant on coal and oil.



GSK partnered with AstraZeneca, Merck KGaA, Novo Nordisk, Roche Holding, Samsung Biologics and Sanofi to form the SMI Health Systems Task Force in 2021. Last year, the partnership decided to strengthen their collaboration by focusing on cutting emissions in the near term and transitioning faster toward net-zero health systems. In July, they sent an open letter to suppliers calling for a greener healthcare supply chain.

Sanofi said it received a good response from the suppliers it reached. Still, the company expects some regions to have less access to sustainable solutions while others' products might face more price pressures, which can lead some suppliers to put less priority on sustainability, said Annabelle Harreguy, Sanofi's head of global health, safety and environment.

Novartis aims to achieve net-zero emissions across its value chain by 2040. It is integrating sustainability criteria into supplier contracts to align them with its targets, but said this presents challenges.

Companies can't do it alone, IQVIA's Arias said, adding that countries also have a role to play. So far, 69 nations have formally committed to low-carbon and sustainable health systems, and 28 of those have gone one step further and made a net-zero promise, according to the World Health Organization. European national decarbonization plans include retrofitting buildings, switching to renewable energy, using low-emissions inhalers, offering vegetarian meals in hospitals, and encouraging walking or public transport instead of driving.

"It's going to be up to the individual countries. All we can do is try and incentivize that," Arias said.

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