



Twist Bioscience Releases 2023 ESG Report and Quantifies Carbon Footprint of Manufacturing a Single Gene

August 22, 2023

SOUTH SAN FRANCISCO, Calif.--(BUSINESS WIRE)--Aug. 22, 2023-- [Twist Bioscience Corporation](#) (NASDAQ: TWST), a company enabling customers to succeed through its offering of high-quality synthetic DNA using its silicon platform, today [released its environmental, social and governance \(ESG\) report for 2023](#), highlighting Twist's approach to sustainability, social responsibility and commitment to ethics.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20230822647314/en/>

Manufacturing **one gene** is equivalent to driving:



Visual comparison of emissions equivalent from manufacturing a single gene using Twist Bioscience's approach versus manufacturing a single gene using a 96-well plate approach (Graphic: Business Wire)

"We took a big step forward in our ongoing commitment to deliver sustainable solutions to our customers, quantifying the impact of our proprietary approach to making synthetic DNA," said Emily M. Leproust, Ph.D., CEO and co-founder of Twist Bioscience. "Last year we quantified our chemical footprint and found that our silicon chip-based approach to creating DNA uses 99.8% fewer chemicals than 96-well plate approaches¹. This year, we've quantified the carbon footprint of manufacturing a single Twist gene compared to manufacturing a gene using a 96-well plate approach and the results are dramatic. Manufacturing one gene using the Twist method is equivalent to the emissions from driving a gas car 0.092 miles or 0.15 kilometers². The amount of CO₂e emitted using a standard 96-well plate approach is equivalent to driving 59 miles or 96 kilometers. The more sustainable synthetic DNA we provide to our customers is not new; we have just quantified the emissions impact of our proprietary approach, which then carries through to all of our customers who use our DNA for new therapies, diagnostic tests, materials, biobased chemicals, and more."

Dr. Leproust continued, "In addition to the quantification data, we continue to exemplify good environmental, social and governance practices. We joined the United Nations Global Compact and committed to Sustainable Development Goals focused on sustainability, food security, health and gender equality. As a company, we continue to foster a diverse workforce and support career growth and development while running an ethical business with cyber and biosecurity measures in place."

Sustainable Platform and Minimal Carbon Footprint

Twist has quantified the carbon footprint of manufacturing a single gene using its silicon chip-based platform compared to approaches that use a 96-well plate. Twist's approach emits 36 grams (0.036 kilograms) of carbon dioxide equivalent (CO₂e) per gene, compared to up to 23,000 grams (23 kilograms) per gene emitted by 96-well plate approaches¹. The calculation to determine the carbon footprint of Twist's process is validated by two independent consulting firms, Silinnov and SRI Quality System Registrar.

Beyond the sustainability of its platform, Twist has several internal recycling programs to reduce waste from nitrile gloves and plastic tip boxes. In 2022 Twist diverted 7,745 pounds of nitrile glove waste from landfills and diverted more than 21,760 pounds of waste since starting the program. As a result of its plastic tip recycling program, Twist diverted 7,635 pounds of single-use plastics from landfills. In 2023, Twist updated its packing materials with recyclable coolers and boxes made from 50% recycled material.

Fostering a Diverse Workforce

Twist continues to foster a diverse, inclusive and safe work environment. As of the end of fiscal 2022, 61% of Twist's workforce identified as people of color, with women of color making up 25% of the organization³. Women make up 41% of the total workforce at Twist, and are well represented in

leadership positions, accounting for 39% of the executive team and 33% of the Board of Directors. Twist is committed to diversity in its recruitment efforts and engages in partnerships with local community colleges in California, Oregon and Massachusetts.

Twist invests in developing talent, offering a year-long leadership program for mid-level managers and tuition reimbursement of up to \$5,250 per year for all employees. The company also invests in an online learning platform for employees to refine or develop their professional skills and explore new software to plan their career growth.

Twist grants employees eight hours of paid time off each year for volunteering. In fiscal 2022, Twist employees collectively volunteered 592 hours for various causes and organizations. In 2022, Twist earned Great Place to Work® Certification™ in the U.S. for the second consecutive year and for the first time in China, Germany, Singapore, and the United Kingdom.

Commitment to Ethics and Security

Twist is dedicated to protecting the digital information of its customers and employees. The company has robust cybersecurity and biosecurity policies and systems in place, including an International Organization for Standardization (ISO) certified information security management system. Twist performs rigorous biosecurity and export control screening to ensure that sequences of DNA that could pose significant risk if misused are not synthesized and shipped to unlicensed organizations. In addition, Twist works with governments as well as other DNA synthesis providers to develop, promote and evolve a consistent set of biosecurity best practices. To maintain ethical practices across the organization, Twist engages in red teaming and is meticulous in keeping records, reporting, and in allocating personnel resources to ensure that employees follow set policies and procedures.

To download the full report visit: <https://www.twistbioscience.com/company/esg?tab=environmental>

¹ Calculated Twist internal data using Dr. Oligo benchmark January 2021

² Calculated using the [EPA Greenhouse Gas Equivalencies Calculator](#)

³ Data for US employee base only

About Twist Bioscience Corporation

Twist Bioscience is a leading and rapidly growing synthetic biology and genomics company that has developed a disruptive DNA synthesis platform to industrialize the engineering of biology. The core of the platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by “writing” DNA on a silicon chip. Twist is leveraging its unique technology to manufacture a broad range of synthetic DNA-based products, including synthetic genes, tools for next-generation sequencing (NGS) preparation, and antibody libraries for drug discovery and development. Twist is also pursuing longer-term opportunities in digital data storage in DNA and biologics drug discovery. Twist makes products for use across many industries including healthcare, industrial chemicals, agriculture and academic research.

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Twist Bioscience Legal Notice Regarding Forward-Looking Statements

This press release contains forward-looking statements. All statements other than statements of historical facts contained herein are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve known and unknown risks, uncertainties, and other important factors that may cause Twist Bioscience’s actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, the ability to achieve the expected benefits of Twist Bioscience’s workforce reduction and reduced investments in DNA data storage; the ability to attract new customers and retain and grow sales from existing customers; the ability of Twist to achieve sufficient revenue to achieve or maintain positive cash flow from operations or profitability in any given period; risks and uncertainties of rapidly changing technologies and extensive competition in synthetic biology that could make the products Twist Bioscience is developing obsolete or non-competitive; uncertainties of the retention of significant customers; the ability of Twist Bioscience to successfully integrate acquired companies and to achieve expected benefits from acquisitions; supply chain and other disruptions caused by the COVID-19 pandemic or otherwise; risks of third party claims alleging infringement of patents and proprietary rights or seeking to invalidate Twist Bioscience’s patents or proprietary rights; and the risk that Twist Bioscience’s proprietary rights may be insufficient to protect its technologies. For a description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to Twist Bioscience’s business in general, see Twist Bioscience’s risk factors set forth in Twist Bioscience’s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 7, 2023 and subsequent filings with the SEC. Any forward-looking statements contained in this press release speak only as of the date hereof, and Twist Bioscience specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

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Source: Twist Bioscience Corporation