Advancing Impacts

2023 SUSTAINABILITY REPORT

REPLIGEN
INSPIRING ADVANCES IN BIOPROCESSING

Welcome to Repligen Corporation's third sustainability report, "Advancing Impacts," which covers the period from January 1 to December 31, 2023.

We are delighted to share the progress we have made in advancing our sustainability strategy and raising our ambitions since our last report. We have adopted a new and more streamlined reporting format organized by six key impact areas that deliver focused content for each. These areas include **Products & Packaging**, **Operations**, **Talent**, **Supply Chain**, **Communities**, and **Partnerships & Pathways**. As in past years, we have also included disclosure indices for the most highly referenced frameworks and a content annex at the end of the report. We hope you find this report informative, insightful, and inspiring.

We welcome your feedback at sustainability@repligen.com.

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A Message From Our Leadership

We are pleased to share with you our "Advancing Impacts" report for 2023, which demonstrates how we are moving our sustainability strategy forward and making meaningful, measurable impacts. This report reinforces our commitment to the Ten Principles of the United Nations Global Compact (UNGC) related to human rights, labor, the environment and anti-corruption. It also serves as our 2024 UNGC Communication on Progress (COP).

Inside, you will find a fresh approach to sharing our Progress on the Repligen Integrated Sustainability Management (PRISM) program, which we introduced in our 2022 "Making An Impact" report. The PRISM program reflects our belief that an effective sustainability strategy is built and managed with all of our stakeholders in mind, and this year, we have organized the content in a modified format designed to streamline our progress updates according to six key impact areas.

We describe the actions we've taken to support the UNGC, its Ten Principles and the seven UN Sustainable Development Goals (SDGs) most relevant to our business. We've included shorter high-impact narratives with year-over-year data updates and select disclosure framework indices. We are moving extended narratives and select evergreen content, such as our materiality matrix and governance practices, to the end of this report and to our company website sustainability page at www.repligen.com/company/sustainability. We also plan to make periodic updates to our website throughout the year to highlight recent events, policy changes, data updates and additional progress in real time.

At Repligen, our mission is to "Inspire Advances in Bioprocessing" and be a trusted partner in the production of biologic drugs that improve human health worldwide. Our deep commitment to sustainability supports this mission, and we believe that every employee can contribute to our progress. In 2023, we demonstrated this in several ways: We furthered the already significant transition to renewable electricity across our manufacturing facilities; we made significant productivity gains through our Repligen Performance System, driven by a new cohort of certified process managers; we committed to achieving net-zero emissions by 2050 in alignment with the latest climate science and the Science Based Targets initiative (SBTi); and we moved to an annual cadence for sustainability reporting.

These are just a few examples of how we continued to advance our sustainability stewardship over the last year. By maintaining focus on making positive impacts and reducing negative impacts, we continue to drive our sustainability strategy forward. It is our hope that this year's sustainability report continues to inform our stakeholders and inspire our partners to embrace this challenging but critically important work in the coming years. Connect with us at sustainability@repligen.com.

Tony J. Hunt*
Executive Chair

Olivier Loeillot
President and CEO

> "I am extremely impressed with the progress we've made in sustainability over the past five years under Tony's leadership and look forward to continuing this important work with support from Tony and the Board."
>
> Olivier Loeillot
> *President and CEO*

REPLIGEN SDG PRIORITIES

*Tony Hunt transitioned from Chief Executive Officer (CEO) to Executive Chair effective September 1, 2024.

2023 Impact Highlights

Maintained an **MSCI AA "Leader" rating*** within the Health Care Equipment and Supplies constituent group and **Low Risk** by Morningstar Sustainalytics** with recognition as an ESG Industry **"Top Rated" company**.

Received **four silver and one bronze** site-level **EcoVadis scores** based on customer evaluations of Repligen sustainability practices as a supplier.

Learn more

Submitted our **first CDP Climate Survey** and received an **Awareness rating** on par with Global, North American and Medical equipment and supplies sector average ratings.

Learn more

Powered **13 of 18 manufacturing sites with 100% renewable electricity** (up from 9 of 18), representing 88% of our total global consumption (up from 82%) and 72% of total emissions (up from 62%).

Learn more

Rolled out progressive talent development and pipeline programs to address feedback from our 2023 employee engagement survey, which had **90% participation** and a **76% favorability rating**.

Learn more

Increased the percentage of women in management, defined as **Associate Director and above**, from 27% to 29% and the percent of our global employee base represented by women employees from 34% to 35%.

Learn more

Focused on **DEI education and recruiting** efforts contributing to a **near 50/50 balance** of U.S. employees self-reporting as either white or people of color in 2023.

Learn more

Awarded **€600,000 training grant** by Ireland's Investment Development Authority to implement a comprehensive strategic talent development plan over the next three years.

Learn more

Achieved a **60% increase in productivity savings** through the Repligen Performance System (RPS) compared to 2022.

Learn more

Improved our risk management and sustainability management capabilities for the future; selected a more robust software platform, being implemented in 2024.

Learn more

Committed to **net-zero emissions by 2050** with the Science Based Targets initiative (SBTi).

Learn more

Repligen Corporation's Reporting Framework Indices

Our values and commitment to sustainability are reflected in the transparency of our reporting disclosures.
See our 2023 Sustainability Reporting Framework Indices, which include or reflect these internationally recognized frameworks:

CDP DISCLOSURE INSIGHT ACTION · GREENHOUSE GAS PROTOCOL · GRI · SASB STANDARDS Now part of IFRS Foundation

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Sustainability Introduction

In 2023, multiple regions around the world experienced record-high temperatures and devastating climate events, including wildfires, rainstorms, heat waves and flooding. These events indiscriminately disrupted or destroyed lives, livelihoods, air quality, drinking water sources, crops, natural landscapes, power generation plants and other human-made structures, local economies, and the quality of life for tens of millions of people. In extreme cases, displaced and desperate populations pressured national borders, human welfare systems, governmental policies, and other resources.

Meanwhile, the international sustainability reporting and regulatory landscape continued to evolve and rapidly expand without standardization as stakeholder expectations around transparency, accountability and action rose to new heights. The lines between environmental, social and governance (ESG) issues further blurred, highlighting the need for better communications around risk identification, mitigation and adaptation strategies. Considering these complexities, we have decided to modify the Repligen approach to sustainability reporting, beginning with this installment for the full year 2023. We will now focus on the progress made in key impact areas instead of categorizing E, S and G separately. This shift will provide a more comprehensive view of our sustainability efforts and their interrelated impacts.

We are streamlining our report by focusing on the advances made during the previous year using concentrated narratives, data tables, visualized data sets and updates to select framework disclosures. In addition, we will build out our company website sustainability page to provide expanded narratives and company-related evergreen content, such as our sustainability governance structure. In the coming months, we also plan to highlight further progress in real time through "newsflash"-style website updates to keep stakeholders informed throughout the year. By doing so, we can better focus our resources on the challenging work required to progress our commitments.

It is worth noting that in our 2023 Sustainability Report, the "Repligen At A Glance" page cites 20 manufacturing locations; however, energy and emissions data are currently tracked for only 19 of these locations. The exception is our Mölndal, Sweden site, which we acquired in September 2023 and will be included in future reporting. Of the 19 tracked sites, one falls outside of our operational control and is therefore reported under our Greenhouse Gas Protocol (GHG) Scope 3, category 8 emissions data, known as Upstream Leased Assets. **This explains why only 18 sites are used in renewable electricity metrics**. We have also improved visibility into the waste streams and final treatment methods of our 19 tracked sites, and we expanded our water withdrawals data set from 13 sites in 2022 to 16 sites in 2023. Please see pages 12 and 13 of this report for a more detailed look into our 2023 environmental data.

About This Report

In 2023, we tracked environmental data for our manufacturing sites across all geographies in which Repligen was operating as of December 31, 2023. The only exception is our Mölndal, Sweden site, which was acquired in September 2023 and will be included in our 2024 report.

Unless otherwise noted, all environmental data sets and narratives in this report cover the period from January 1, 2023, through December 31, 2023. In some cases, data is delivered in a year-over-year comparison format for deeper insights into the progress made and challenges faced. No data previously reported

in our 2022 or 2020 Sustainability Reports have been restated in this 2023 installment. However, with each new acquisition comes new data, and we continued in 2023 to integrate new site data into our global data sets as part of our commitment to due diligence and transparency.

In 2023, we invested in a new risk management software platform that will be championed by our General Counsel and our Chief Financial Officer, who also serves as our Chief Compliance Officer. As part of this process, our General Counsel met with functional area leaders to determine relevant risk statements related to specific identified risks for Repligen. Each leader was identified as a risk owner and entered initial "yes" or "no" responses to the risk assessment questions. For "yes" responses, risk owners uploaded the relevant policy or provided additional supporting details. For "no" responses, risk owners were assigned tasks to ensure mitigation of the risk statement(s) relevant to their area of responsibility. This early-stage work, required to more effectively identify, manage and mitigate risk, continues into 2024 and will allow for more effective reporting on the Board's Nominating and Corporate Governance Committee.

Repligen At A Glance

2023 REVENUE
$632M

3-YEAR AVERAGE BASE REVENUE GROWTH*
21% (2021 – 2023)

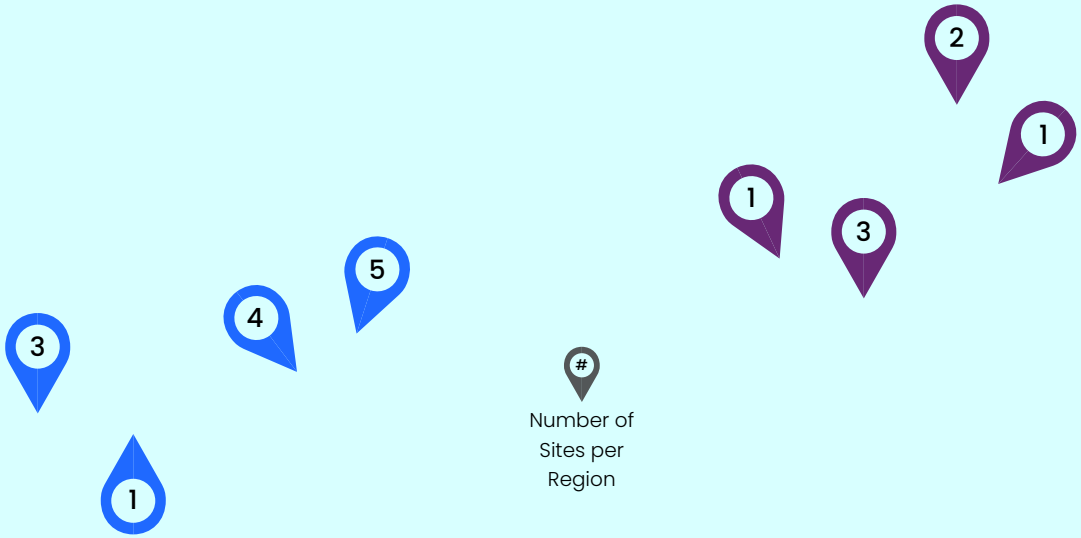
3-YEAR AVERAGE TOTAL REVENUE GROWTH
27% (2021 – 2023)

LOCATIONS
20 Manufacturing Sites**
7 Countries

GLOBAL EMPLOYEES
1,783

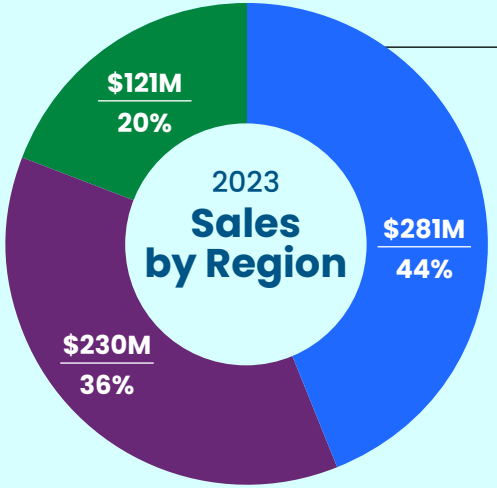
OUR BUSINESSES
Filtration (includes Fluid Management), Chromatography, Process Analytics, Proteins
See Revenue Distribution on page 81 of our 2023 10K/A.

PRIMARY CUSTOMERS WE SERVE
Global Biopharmaceutical Companies, Contract Development and Manufacturing Organizations (CDMOs), and other life sciences tools companies (integrators)



Number of Sites per Region

** The Mölndal, Sweden site was acquired in September 2023 but is not included in 2023 environmental data due to timing. Therefore, this report reflects 2023 environmental data for 19 of 20 sites, unless otherwise indicated.



NORTH AMERICA	EUROPE	ASIA PACIFIC/ROW
SITES	SITES	SITES
Anaheim, CA	Breda, The Netherlands	Sales sites only in this region, no manufacturing sites
Auburn, MA	Lund, Sweden	
Branchburg, NJ	Gothenburg (Mölndal), Sweden**	
Bridgewater, NJ	Ravensburg, Germany	
Dallas (Irving), TX	Tallinn, Estonia	
Clifton Park, NY	Toulouse, France	
Hopkinton, MA	Waterford, Ireland	
Lebanon, NH		
Marlborough, MA		
Newton, NJ		
Rancho Dominguez, CA		
Simi Valley, CA		
Waltham, MA (Corporate Headquarters)		

* Base revenue (non-GAAP) excludes COVID-related and acquisition-related revenue in current periods, for which there was no prior period acquisition-related comparable. Base growth = Current period Base revenue divided by prior period non-COVID revenue.

Products & Packaging

Innovative Design

Repligen is committed to Sustainable Development Goal (SDG) number 12, Responsible Consumption and Production, which is one of the seven SDGs we deem material to our business.

Right-Sized Packaging

We continue to work on right-sizing our product packaging and optimizing the use of renewable materials in our packaging designs. Each new product launch is also supported by an appropriate level of product qualification testing, packaging qualification testing as well as marketing and labeling strategies that comply with all applicable laws and regulations in the markets we serve. Depending on the product type, use application and other factors, our product labeling and instruction guides include specific details on the country of origin, safe handling, operating instructions and, in some cases, disposal information.

Move Over, Paper!

Repligen is also actively moving away from traditional paper-based product quality documents and user guides to electronic versions made available on our website. This will help reduce our consumption of paper, expedite product packaging and shipping processes and reduce waste at the product end-use stage.

Controlled Processes

We also make periodic label revisions, based on product or regulatory changes, that are managed through a controlled and traceable process. We assess all significant product categories for compliance using this process. In 2023, there were no significant product or service categories assessed for health and safety impact improvements, nor did Repligen identify incidents of noncompliance with relevant regulations or voluntary codes in 2023.

Designed for Sustainability

Safety and quality are our top priorities, followed closely by design. Good design is part of the Repligen ethos. Sustainable design is a key piece of our vision, driving us forward with new products, technologies, processes and packaging. The following case study briefs provide a glimpse into our work in these areas in 2023. We are proud of the advances made and look forward to building on the momentum.

Renewable Materials

Note that where fiber-based packaging is mentioned, the boxes contain at least 40% recycled content. We continue to collaborate with our procurement team and key suppliers to source packaging made from renewable materials and responsibly managed forests. We plan to expand on this initiative in our next report.

Four Case Study Briefs

CASE STUDY 1

Small Footprint, Big Impact

In 2023, Repligen introduced the CTech™ BEAMS™ System, designed to integrate with the CTech™ FlowVPX® variable pathlength spectrophotometer for in-line, real-time protein concentration measurement. The BEAMS System is a compact, single-wavelength LED light source housed in stainless steel, making it GMP-ready for production-scale use.

Compared to the traditional multi-wavelength xenon flash lamp version, which is larger, heavier, and difficult to recycle, the FlowVPX with BEAMS offers numerous advantages. It requires **69% less** amperage, ships in **73% less** packaging by weight, and provides an **86% reduction** in product weight, a **98% reduction** in product footprint, and an estimated average **86% reduction** in shipping-related emissions. Learn more

CTech™ BEAMS™ System

CASE STUDY 2

Shelf-life Extension

Repligen published two shelf-life study reports for our OPUS® Pre-packed Chromatography Columns in 2023. Large-scale OPUS 36 to 80 cm columns and small-scale OPUS 5 to 8 cm columns are now qualified for a shelf life of up to 60 months, while OPUS 10 to 30 cm columns are now qualified for up to 24 months.

This ambitious initiative enables our customers to extract maximum value from our products and offers the potential for reducing their Scope 3 emissions related to category 1 (Purchased Goods and Services) and category 5 (Waste Generated in Operations). Further potential Scope 3 emissions reductions could be realized for category 12 (End-of-Life Treatment of Sold Products) for Repligen.

For more information on the studies, please use the link below to request a copy of our OPUS Regulatory Support File (RSF). Learn more

Shelf-life Extension Summary

OPUS 36, 45, 60 and 80 cm columns: **60 months**

OPUS 10, 12.6, 14, 20, 25 and 30 cm columns: **24 months**

OPUS 5 and 8 cm columns: **60 months**

OPUS 60R column

CASE STUDY 3

100% Plastic Packaging Elimination

Spectrum® Hollow Fiber Filters

Repligen launched new, 100% recyclable packaging made from plant fiber for our Spectrum® Hollow Fiber Filters in 2023. Hollow fibers are a very significant contributor to our business. Hollow fiber filters and products are included in our largest business unit, Filtration, which accounted for over 50% of our total revenue in 2023.

For each filter module, the new shipment-ready box replaces one clear plastic tube, two orange plastic vinyl end caps, one overpack shipping box and varying amounts of plastic or paper void-fill material depending on the product size. In all, four sizes of difficult-to-recycle packaging in tube-plus-cap formats were replaced by three easy-to-recycle box sizes made from renewable fiber material.

This change has resulted in significant reductions in the average weight of packaging material per unit (**81%**), shipping volume (**90%**) and shipping-related carbon emissions (**83%**). In addition, the move from a circular-shaped primary package, which underutilized storage space and easily rolled out of position, to a squared box that maximizes and maintains storage space, has been well received by material handlers and warehouse staff at Repligen as well as our space-constrained end-use customers.

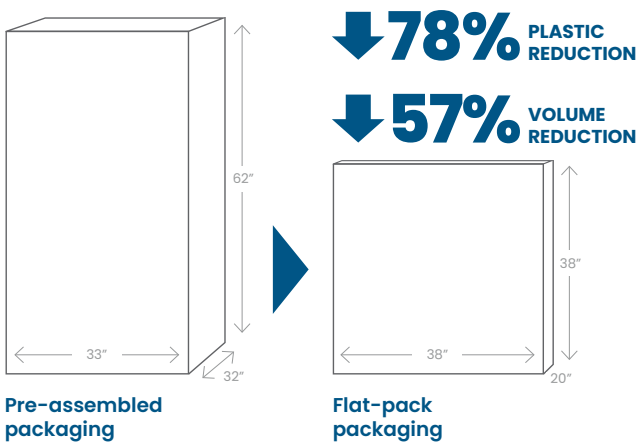
CASE STUDY 4

Flat-pack Controller Cart Crate

Repligen launched our first flat-pack style controller cart packaging in 2023 as part of the new XCell™ Lab System, replacing the traditional pre-assembled cart packaging format. The new cart ships unassembled and allows for a more compact shipping crate that is **57% smaller** by volume and uses **78% less** plastic cushioning material. However, a strict schedule prevented additional sustainable features from being available at launch, such as an integrated non-wood pallet base.

As a result, and in combination with inner fiber-based trays required to secure the new unassembled cart parts, the shipping crate was 26% heavier than the pre-assembled cart packaging. As such, shipping-related emissions are expected to increase slightly; however, the new crate's wooden base offers the potential for further design upgrades. This example highlights the types of challenges that can influence decision-making and phased improvements for new sustainable products.

XCell™ Lab System Packaging Materials Reduction



Operations

Sustainability remains a top priority for Repligen, and in 2023, we continued to invest in it and reap significant benefits.

One methodology used to drive sustainability across the organization and integrate it into our company culture is through continuous improvement and our **Repligen Performance System (RPS)**. In all, 25 employees from our Operations group were trained and certified as RPS Process Managers across eight manufacturing sites. This compares to 10 employees with this certification at year-end 2022. Employee functions ranged from Team Leads to Senior Managers and represented various departments including Manufacturing, Quality, Engineering, Supply Chain and Logistics.

Through their dedication and empowerment, this cadre of RPS Process Managers led cross-functional teams to achieve a remarkable **60% increase** in productivity savings compared to the prior year.

Top 5 RPS Wins

1. **Rancho Dominguez, CA** (U.S.), significantly improved the integrity testing process for large modules while maintaining their monthly output targets.
2. **Waterford, Ireland**, dramatically reduced customer delivery lead times while also reducing transportation movements between workspaces and facilities.
3. **Auburn, NH** (U.S.), focused on safety and scrap by optimizing factory-wide material flows, reducing opportunities for employee injuries, and increasing materials tracking capabilities.
4. **Breda, The Netherlands**, and **Waltham, MA** (U.S.), invested in the implementation of electronic batch records, bringing significant benefits in operator time and efficiency through critical process parameter capture and faster, Quality-led record reviews.
5. **Hopkinton, MA** (U.S.), focused on material efficiency and devised improved methods to reduce scrap and capture material flow, leading to a significant increase in on-time customer deliveries.

Productivity Advances

These advances in productivity coincide with advances in sustainability, employee engagement and empowerment. As a result, our RPS teams proceeded to simplify their work, augment their problem-solving skills and report greater job satisfaction during coaching sessions and through unsolicited feedback. Their successes also helped the core Continuous Improvement team to refine the RPS framework and continue to scale the "model-team-by-site" approach.

"Being able to join and lead multiple Kaizen events was a great experience. It allowed me to focus on the work, with no disruptions, and dig deep into the process. This fostered deep understanding of the process by both the impacted department and our cross-functional teammates. Together, we proved that you can improve productivity and reduce costs at the same time!"

Patrick Bruinsel
Quality Manager,
Breda, The Netherlands

Efficiency Improvements

We also continued to improve efficiencies in other areas of our work in 2023, including reducing lead times for our OPUS® Pre-packed Chromatography Columns. We attribute this success to numerous procedural and behavioral changes, including increased process automation, transitioning from manual to electronic batch records, and investing in our workforce's professional development. These changes resulted in meaningful and measurable outputs, such as reduced error rates, less paper consumption and off-site record storage, increased employee retention, and decreased deviation rates and associated delays.

Results

Through this initiative, lead times were reduced by three weeks on our OPUS RoboColumn® and MiniChrom® columns for process development, four weeks on OPUS ValiChrom® columns for process validation, and eight weeks on OPUS 2.5 to 80R cm pre-packed column sizes, including our new 36 cm column for clinical and commercial manufacturing. Learn more about our OPUS columns here.

These examples demonstrate why Repligen is recognized as a reliable and responsive partner to our customers and as a strong contributor to their sustainability goals. We strive to maintain open communication and transparency around our business, products and commitments, which in turn help our stakeholders make better-informed decisions more quickly.

The following section provides further insight into our commitments and reflects updates using standard language found in leading international reporting frameworks and throughout multiple customer-driven sustainability assessments.

Operating with the Highest Ethical Standards

Our business conduct policies reflect the high ethical standards expected of every employee and extend to those companies and individuals we partner with. We periodically revisit our policies to ensure we are considering the latest and highest global standards.

In 2023, no Repligen operations or suppliers were identified as having violated worker rights to exercise freedom of association or collective bargaining, where applicable. No supplier type, country or geographic area was considered or identified as having significant risk for incidents of child, forced or compulsory labor or young workers exposed to hazardous work. Therefore, Repligen neither identified nor took response measures to effectively abolish these types of violations, as is required by international labor standards.

"Motivated by doing the right thing and creating long-term value, our action-oriented team continued to advance our sustainability strategy across the company and raise ambitions over the last year. We remain committed to disciplined climate stewardship and making meaningful, measurable impacts. Setting priorities and maintaining a laser focus on achieving them helps us stay the course."

Dianne Heiler
VP, Sustainability and ESG, and Global Head of Packaging Engineering, Waltham, MA (U.S.)

Elevating our Reporting Commitments

Additional details around our 2023 commitments are outlined below.

CDP

Widely held as the gold standard of environmental reporting, CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. Repligen submitted our first Climate Change survey response in 2023 for the medical equipment and supplies sector and received a C score, which corresponds to the Awareness band, prior to making our net-zero commitment to SBTi. This is on par with Global, North American regional, and Sector averages. Our ambition is to achieve a B score within the next two scoring cycles. Learn more at the "Search and view past CDP responses" page on the CDP website.

EcoVadis

EcoVadis is a globally recognized sustainability rating service that scores companies on their environmental, labor and human rights, ethics and procurement impacts. Repligen participates in EcoVadis on a per-site basis with a rolling reporting cadence. Current scores, based on the percentile rank of a company, are listed below and reflect the recently changed EcoVadis methodology.

1. Anaheim, CA (U.S.): 69, Silver in 2024
2. Bridgewater, NJ (U.S.): 56, Silver in 2023 and 64, Bronze in 2024
3. Clifton Park, NY (U.S.): 56, Silver in 2023 and 64, Bronze in 2024
4. Lund, Sweden: 69, Silver in 2023 and 75, Gold in 2024
5. Ravensburg, Germany: 65, Silver in 2023 and in process for 2024
6. Waltham, MA (U.S.): 53, Bronze in 2023 and 64, Bronze in 2024

Net-Zero by 2050

Repligen submitted our commitment letter to the Science Based Targets initiative (SBTi) in December 2023 and has 24 months to develop and submit our plan to achieve net-zero emissions by 2050 for their approval. Access the SBTi "Companies Taking Action" web page here and type "Repligen" in the "Target dashboard" search box.

Repligen takes pride in the progress we've made in these areas during 2023. We look forward to making further advances against our sustainability strategy and sharing them with you in future reports.

Environmental Data

2023 was a year of advancing maturity for key Repligen sustainability data sets that will directly inform the work required to develop our SBTi net-zero target over the coming months. Our production networks transitioned two additional sites away from non-renewable fossil fuel energy to 100% renewable electricity, **increasing to 88%** of total usage from 75% in 2022. Data sets related to site capacity expansions were improved, in part, by pinpointing meter identification numbers and creating utility portal accounts. This allowed for semi-automated invoice management, representing a significant improvement over earlier manual methods that required multiple touch points by multiple users and systems. As data completeness and integrity improve, the lead times to secure the data, run calculations, share reports and make better site-level decisions dramatically decrease.

The data tables presented here and on the next few pages provide deeper insights into the advances Repligen has made in managing our energy, water, waste, and greenhouse gas emissions more sustainably. The data tables on page 12 provide year-over-year comparisons dating back to our 2019 baseline year, while those on page 13 break down waste by disposal method and recycling by material type. We continue to focus on these high-impact areas as part of our plan to achieve net-zero by 2050, which will be submitted to SBTi for review in December 2025.

2023 Environmental Data Summary

Category increases since 2020 are primarily due to the acquisition of four new sites in Q4-2020, three new sites in 2021, two new sites in 2023 (excluding Mölndal, Sweden), and capacity expansions with increased production between 2021 and 2023. All intensity data is per million USD 2023 revenue. See page 20 for information on methodologies used to prepare data. Select data values are rounded to whole numbers or one decimal place for simplified reporting.

Energy

Totals include renewable and non-renewable sources.

ENERGY	2020	2022	2023
Number of Sites	15	18	19
Number of Sites with Data	15	18	19
Energy Consumption (MWh)	16,091	30,970	38,625
Overall Change	-	↑ 93%	↑ 25%
Energy Consumption Intensity	43.9	38.6	61.1
Intensity Change	-	↓ 12%	↑ 58%

GHG Emissions

Calculations utilize market-based emissions factors.

GHG EMISSIONS	2020	2022	2023
Number of Sites	15	18	19
Number of Sites with Data	15	18	19
GHG Emissions (tons CO_2e)	3,250	4,269	3,195
Overall Change	-	↑ 31%	↓ 25%
GHG Emissions Intensity	8.9	5.3	5.1
Intensity Change	-	↓ 40%	↓ 5%

Water

The majority of Repligen operations are not water intensive.

WATER	2020	2022	2023
Number of Sites	15	18	19
Number of Sites with Data	11	13	16
Water Withdrawals (cubic meters)	113,333	136,140	119,830
Overall Change	-	↑ 20%	↓ 12%
Water Withdrawal Intensity	309.4	169.9	189.5
Intensity Change	-	↓ 45%	↑ 12%

Waste

Calculations reflect recycled and non-recycled waste.

WASTE	2020	2022	2023
Number of Sites	15	18	19
Number of Sites with Data	8	18	19
Waste Generation (tons)	668	1,898	1,762
Overall Change	-	↑ 184%	↓ 7%
Waste Intensity	1.8	2.4	2.8
Intensity Change	-	↑ 30%	↑ 16%

For a comprehensive data breakdown see next two pages.

Detailed Environmental Data

All intensity data is in million USD revenue. Select data values are rounded to whole numbers or one decimal place for simplified reporting. 2023 data sets reflect 19 of 20 sites operational due to the timing of our 2023 acquisition of Metenova in Sweden. See page 20 for information on methodologies used to prepare data.

	2019	2020	2021	2022	2023	2022 V 2023
ENERGY						
Number of sites	8	15	16	18	19	5.6%
Annual Revenue (M$USD)	270.2	366.3	670.5	801.5	632.4	-21.1%
Consumption (MWh)	13,776	16,091	23,223	30,970	38,625	↑ 24.7%
Consumption (gigajoules)	49,594	57,928	101,603	111,492	139,050	↑ 24.7%
YOY Consumption % Change	-	16.8%	44.3%	33.4%	24.7%	-
Consumption Intensity	51.0	43.9	34.6	38.6	61.1	↑ 58.2%
YOY Intensity % Change	-	-13.8%	-21.2%	11.6%	58.2%	-
Renewables* (MWh)	4,092	4,486	6,229	12,580	21,429	70.3%
Renewables Intensity	15.1	12.2	9.3	15.7	33.9	115.8%
Non-renewables (MWh)	9,684	11,605	16,994	18,390	17,196	-6.5%
Non-renewables Intensity	35.8	31.7	25.3	22.9	27.2	18.7%

2023 ENERGY MIX*

Energy Mix Total (MWh)	38,625	100%
Renewable* (MWh)	21,429	58%
Non-renewable	17,196	42%
Natural Gas	12,187	31%
Electricity	5,009	11%

Electricity Mix Total (MWh)	24,203	100%
Renewable* (MWh)	21,429	88%
Non-renewable	2,774	12%

* All 2023 renewable energy came from electricity. See page 41, section 302-1, for energy source data.

	2019	2020	2021	2022	2023	2022 V 2023
WATER						
Number of sites	8	11	16	18	19	5.6%
Annual Revenue (M$USD)	270.2	366.3	670.5	801.5	632.4	-21.1%
Withdrawals (m^3)	82,734	113,333	85,606	136,140	119,830	↓ -12.0%
Withdrawals (megaliters)	83	113	86	136	120	↓ -12.0%
YOY Withdrawal % Change	-	37.0%	-24.5%	59.0%	-12.0%	-
Withdrawal Intensity	306.2	309.4	127.7	169.9	189.5	↑ 11.5%
YOY Intensity % Change	-	1.0%	-58.7%	33.0%	11.5%	-

GHG EMISSIONS						
Number of sites	8	15	16	18	19	5.6%
Annual Revenue (M$USD)	270.2	366.3	670.5	801.5	632.4	-21.1%
Total Market-based Emissions (tons CO_2e), Scopes 1 and 2	2,736	3,250	3,960	4,269	3,195	↓ -25.2%
YOY Emissions % Change	-	18.8%	21.8%	7.8%	-25.2%	-
Emissions Intensity	10.1	8.9	5.9	5.3	5.1	↓ -4.7%
YOY Intensity % Change	-	-12.1%	-33.6%	-10.3%	-4.7%	-
Total Emissions (tons CO_2e), Scopes 1, 2 and 3	-	-	-	16,377	18,099	10.5%
Scope 1 Emissions	517	598	823.6	1,322	2,236	69.1%
Scope 1 Intensity	1.9	1.6	1.2	1.6	3.5	121.0%
Scope 2 Emissions	2,219	2,653	3,136	2,947	959	-67.5%
Scope 2 Intensity	8.2	7.2	4.7	3.7	1.5	-59.0%
Scope 3 Emissions	-	-	-	12,108	14,940	23.4%
Scope 3 Intensity	-	-	-	15.1	24	56.5%

Detailed Environmental Data, continued

	2019	2020	2021	2022	2023	2022 V 2023
WASTE						
Number of sites	-	8	10	18	19	5.6%
Annual Revenue (M$USD)	270.2	366.3	670.5	801.5	632.4	-21.1%
Generation (tons)	-	668.3	1,059.3	1,898.3	1,762.7	↓ -7.1%
Generation (metric tonnes)	-	736.7	1,167.7	2,092.5	1,599.0	↓ -7.1%
YOY Generation % Change	-	-	58.5%	79.2%	-7.1%	-109.0%
Generation Intensity	-	1.8	1.6	2.4	2.8	↑ 16.1%
YOY Intensity % Change	-	-	-13.4%	51.9%	16.1%	-71.2%

TOTAL WASTE BREAKDOWN

	TONS	METRIC TONNES	%
	41% 28% 69% 31%	41% 28% 69% 31%	
Total Waste (Non-hazardous and Hazardous in all waste streams)	**1,762.7**	**1,599.1**	**100%**
Total Waste Diverted from Landfill	**1,212.3**	**1,099.9**	**69%**
Total Non-recycled Waste	715.7	649.4	41%
Total Recycled Waste	496.6	450.5	28%
Total Landfill	**550.3**	**499.2**	**31%**

2023 WASTE BY TREATMENT TYPE

DISPOSAL METHOD	TONS	METRIC TONNES	% OF TOTAL	TONS	METRIC TONNES	% OF TOTAL
19 Sites	Non-hazardous			Hazardous		
Landfill	544.0	493.5	52%	6.3	5.7	3%
Incineration	18.3	16.6	2%	13.8	12.5	6%
Incineration with Energy Recovery (Waste to energy or WTE)	427.7	388.0	41%	168.1	152.5	75%
Fuels Blending	52.5	47.7	5%	21.8	19.8	10%
Other*	0.0	0.0	0%	13.7	12.4	6%
Non-recycled Subtotal	**1,042.5**	**945.8**	**100%**	**223.5**	**202.8**	**100%**
Cardboard	148.3	134.5	31%	0.0	0.0	0%
Plastics	40.3	36.6	8%	0.0	0.0	0%
Wood Pallets	61.8	56.0	13%	0.0	0.0	0%
Electronic Waste	26.3	23.9	5%	0.0	0.0	0%
Single Stream	189.9	172.3	39%	0.0	0.0	0%
Specialty	0.0	0.0	0%	12.9	11.7	100%
Compost	17.2	15.6	4%	0.0	0.0	0%
Wastewater Treatment	0.0	0.0	0%	0.0	0.0	0%
Recycled Subtotal	**483.7**	**438.8**	**100%**	**12.9**	**11.7**	**100%**
Total Waste	**1,526.2**	**1,384.6**	**-**	**236.4**	**214.5**	**-**

*Includes waste with as yet unknown disposal methods.

Talent

At Repligen, success is driven by our talented employees and we strive to support, encourage, invest in and reward their efforts. The following examples reflect our progress in these areas in 2023.

Engaging Employees

Our April 2023 employee engagement survey yielded a 90% participation rate and a 76% favorability score across four key categories: job, manager, team, and company. High-scoring topics related to safety, respect, collaboration, contribution to company success and enjoyment. Improvement opportunity topics related to health and well-being, effective communication, feedback, stress management and professional growth.

Education, Family, Financial Well-being

In response, Repligen rolled out a series of action plans across all levels and sites in combination with expanded employee benefit programs in the U.S. Corporate-level programs focused on employee communications, well-being, and professional development while site-level and functional-level programs addressed site-specific survey results through a more personalized approach.

We continued to hold quarterly All Hands meetings, led by our CEO and broadcast live from various sites, along with regular site-level and vice president-level meetings to review business progress, celebrate employee achievements and provide a platform for real-time responses to employee questions. We also expanded the U.S. tuition reimbursement program to cover 100% of costs, up from 90% in 2022, and our family bereavement program with additional days of leave for both immediate and extended family members. Financial well-being seminars also offered employees information, training and support for their day-to-day personal finance decisions and longer-term personal finance goals.

R Circle, Meet your Leaders, Open Dialogue

We advanced the build-out of our R Circle company intranet site with topical content related to the business and current events and launched a Repligen video series, where key leaders engage in friendly interview-style conversations and share their thoughts and perspectives on various subjects. These actions demonstrate our commitment to Repligen employees and the issues important to them.

Strategic Pipeline Development

Repligen is committed to providing enriching professional development opportunities for our employees to enhance their skills, advance within the organization and support their career aspirations. We also partner with educational and economic development organizations to engage students and inspire the next generation of talent in our industry. We highlight a few of our 2023 actions below.

> **"This achievement will support the strategic development of the Repligen Waterford site to becoming an employer of choice in the region."**
>
> Patricia Hattersley
> *Human Resources Manager, Waterford, Ireland*

Training Grants

Waterford, Ireland:

- We joined the Investment Development Authority's (IDA) Strategic Talent Development Programme in February 2022 as a team spearheaded by the site's Human Resources Manager to develop new pools of talent. Modules focused on Mentoring and Planning for Strategic Talent Development and Training, which helped the team to identify top business challenges and priority competencies, expand employee skills while increasing Repligen capabilities, and evaluate current talent to determine readiness for future needs. The team developed a comprehensive strategic plan, presented it to the IDA Review Board in July 2023 and was awarded a €600,000 training grant to support implementation of their plan—one of the largest ever made to a business. Employee trainings will begin in the fall of 2024 and continue over the next three years.

Anaheim and Rancho Dominguez, California

- We pursued in 2023 and were awarded in 2024 a $160,000 training grant through the El Camino College Employment Training Panel (ETP) that will benefit California site employees via upskill training designed to lead to good paying, long-term jobs. All courses are designed to increase efficiencies, enhance productivity and reduce business costs to remain competitive in a global economy. Repligen utilized the grant to fund job-specific training for 80 employees in Frontline Leadership, Precision Engineering and Inspection, English for Manufacturing and Statistical Fundamentals.

All Massachusetts Sites

- We also applied for and received $13,860 in training grants from the Commonwealth Corporation Workforce Training Fund Express Program. These funds supported computer software skills training for approximately 180 employees in some of the most widely used business applications, such as spreadsheet, email, organizational and presentation programs.

Investing in the Next Generation

Waterford, Ireland:

- We collaborated with the Waterford and Wexford Education and Training Board (WWETB) to provide 15 weeks

of manufacturing cleanroom practical work experience for five students who completed the Cleanroom & Packaging Operations Traineeship (QQi Level 5). Following this, three of the five participating students were hired by Repligen as regular employees!

Breda, The Netherlands:

- This Repligen site collaborates with colleges and secondary vocational schools to host tours of the facility and typically hosts several student interns each year. One student completed his third internship at Repligen in 2023 and plans to return for a fourth before graduating and considering employment opportunities.

U.S. Sites:

- Repligen hosts interns across many of our U.S. sites each year. For a glimpse of what some of these student trainees and interns had to say about their experience, see page 19.

Leadership Programs

We expanded our commitment to professional development across multiple levels of the organization in 2023, and the following section outlines specific examples in action.

For senior leaders, we continued to partner with Babson College and its Executive Education program. Leveraging Babson's reputation as a top graduate business school for entrepreneurship and the success of our 2022 pilot program, an additional 22 senior leaders were trained in its ambitious curriculum that focused on cultivating an adaptable and entrepreneurial mindset to drive innovation, social value and economic growth across the business.

For frontline leaders, we engaged with an esteemed human resources and leadership development consultancy to conduct a pilot training program for 75 supervisors in the U.S. Focus areas included Effective Communications, Addressing Poor Performance and Resolving Workplace Conflict, and were very well received. The energizing experience increased supervisor confidence and ultimately drove increased productivity (see page 9). In 2024, this program will expand to include supervisors in Europe and Asia.

> **"Over the last 10 years, I have continued to be inspired by strong leadership and energized by consistent growth. As my career has progressed, it's been rewarding to know that my contributions matter and are appreciated."**
>
> **Scott Roberts**
> *Associate Director, Manufacturing, Marlborough, MA (U.S.)*

Training Requirements for Quality and Security

In addition, depending on level and role, employees across the organization completed online training modules delivered via one- to four-hour sessions on topics ranging from safety, anti-corruption and compliance to job-specific topics. As an example, the 37% of employees identified as directly engaged in quality management completed an average of 34 hours of relevant training sessions. Training grants were also used to upskill 200 employees in computer software tools such as spreadsheets, slide decks and email. Employees also completed multiple training modules on cybersecurity, mobile device security, privacy, and data protection. These were provided through our Global Information Technology (IT) organization in accordance with all relevant state and federal laws governing security, such as the EU's General Data Protection Regulation (GDPR), the California Consumer Privacy Act (CCPA) and the California Privacy Rights Act (CPRA).

Going forward, we aim to further standardize the processes by which employee training is conducted and tracked. Annual performance reviews or feedback sessions round out our standard employee development practices. Collectively, this important work drives employee engagement, supports our sustainable talent strategy and continues to expand.

Supporting Diversity

Repligen continues to drive increased diversity within our organization and, in 2023, advanced the number of women in management positions (Associate Director and above) to 29% from 27% in 2022. This improvement is directional and continues to be a focus area. We also fostered partnerships with diversity organizations in the Boston area, a major life sciences hub.

Organizations such as MassBio, MassHire and Quinsigamond Community College aim to upskill the local workforce through industry-specific training programs designed to lead to high-quality employment opportunities within the area.

To learn more about each program's offerings, and with a view to building a robust talent pipeline, Repligen representatives participated in events such as apprenticeship conferences, the opening of the MassBio Bioversity initiative, bioprocessing employer panels, and conducting interviews with students who completed the Bioversity certification program.

Bioversity is a Massachusetts-incorporated 501(c)(3) nonprofit that blazes training pathways and creates employer connections for underrepresented populations and individuals traditionally left out of the life sciences to quickly propel them into well-paying jobs and lifelong careers.

Repligen aspires to be an equitable employer in the life sciences industry, and these partnerships are helping us achieve that goal.

Retention

We strive to enhance our employee experience and be an employer of choice. In 2023, 32% of our employees had been with Repligen (including via business acquisitions) for five or more years. These talented and dedicated colleagues have contributed to our business evolution and growth over time. They are the fuel that propels Repligen forward and pushes the boundaries of what is possible in bioprocessing.

Workforce Data 2023*

TOTAL GLOBAL EMPLOYEES
Regular Full-time & Regular Part-time

1,783

GLOBAL EMPLOYEES BY GENDER*
Self-Reported

35% Female ↑1% from 2022

65% Male ↓1% from 2022

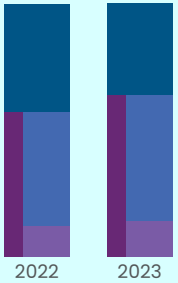
TOTAL EMPLOYEES BY TENURE
Regular Full-time & Regular Part-time

32% with 5+ Years

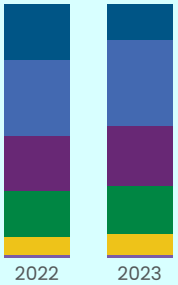
TOTAL EMPLOYEES BY GENDER AND REGION

NORTH AMERICA	EUROPE	ASIA PACIFIC
68%	**26%**	**6%**
1,198	464	97
38% Female	44% Female	27% Female
62% Male	56% Male	73% Male

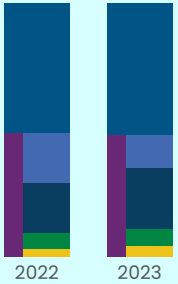
EMPLOYEES BY WORK STATUS	2022	2023
Contractor (Non-guaranteed hourly)	3	14
Temporary	8	10
Part-time**	29	29
Full-time**	1,994	1,730
Permanent**	2,023	1,783



EMPLOYEES BY JOB SECTOR	2022	2023
Manufacturing	43%	36%
Non-manufacturing	57%	64%
Non-administrative***	45%	50%
Administrative	12%	14%



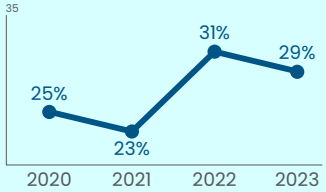
EMPLOYEES BY AGE	2022	2023
18 – 29	22%	14%
30 – 39	30%	34%
40 – 49	22%	24%
50 – 59	18%	19%
60 – 69	7%	8%
70+	1%	1%



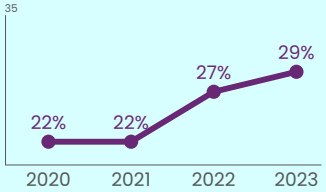
U.S. EMPLOYEES BY ETHNICITY*	2022	2023
White	51%	52%
People of Color	49%	48%
Hispanic or Latino	20%	13%
Asian	20%	24%
Black or African American	6%	7%
American Indian, Pacific Islander, two or more races	3%	4%

WOMEN (GLOBAL)

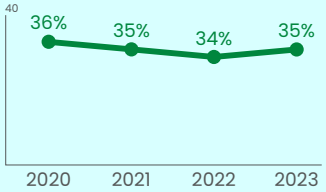
Executives



Managers*

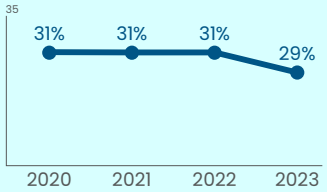


Total Employees

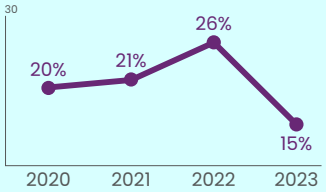


PEOPLE OF COLOR (U.S.)

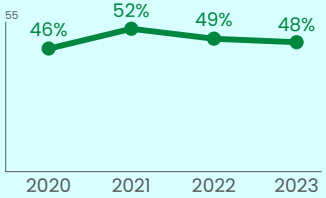
Executives



Managers*



Total Employees



* As of December 31, 2023, unless otherwise noted. Managers are defined as Associate Director level and above. Gender and Ethnicity are self-reported.

** This type of employee data is not tracked by gender or by region.

*** Includes Commercial, Engineering, Product Management, Quality, R&D and Supply Chain.

Supply Chain

In 2023 our Supply Chain team, which is part of Global Operations, leveraged the RPS system and tools to make considerable process improvements in critical areas of the business. With an eye toward overall efficiency, we focused on tightening our processes in SAP, our enterprise resource planning system. We identified, logged, and resolved issues, which allowed us to automate many manually driven processes. This significantly improved the velocity, transparency and availability of the data to those who need it. With heightened visibility, we were able to make better decisions faster, with greater confidence and impact. It also enhanced employee empowerment and enabled advancements on pipeline opportunities.

The team also used RPS to implement system changes to improve inventory management processes, create better alignment across functions and enhance disciplined decision-making. By expanding on inventory management process improvements, we were able to improve visibility and responsiveness to changes in demand so that waste and excess materials could be reduced. We also added steps to act on opportunities to re-engineer, reuse, and/or recycle items rather than scrapping them.

It is worth noting that, while no new suppliers were screened using social or environmental criteria in 2023, no suppliers were identified as having significant actual or potential negative social impacts or requiring agreed-upon improvements. Since no negative social or environmental impacts (actual or potential) were identified in the supply chain, our current supplier management program did not terminate any suppliers due to assessment, and we did not take any specific response actions.

Looking ahead to 2024, however, we will continue to advance meaningful positive impacts in other areas of our supply chain, including supplier management. We are developing a new supplier engagement program to strengthen partnerships and collect more information about their policies, processes, cultures and commitments. This work will help us identify potential risks and opportunities throughout the supply chain, make more informed procurement decisions and serve as a resource to help drive supplier sustainability more effectively, especially as it relates to the renewable energy transition and emissions reductions.

Communities

Repligen continues to partner with and invest in the communities where we work. In 2023, 16 of our sites, representing 89% of our operations, participated in some form of local community engagement, development or giving project that was based on local needs and social justice. No Repligen operations were identified to have significant actual or potential negative impacts on local communities, and positive yet unquantified impacts were made toward community goodwill and commerce.

Repligen Corporation and its employees donated time, material goods and funds in support of these impact-driven organizations and programs:

- Boston Pride for the People
- Ronald McDonald House, Albany
- CAPTAIN Community Human Services
- Capital Region BOCES
- Circle of Hope
- GotSneakers
- America's Grow-a-Row
- Hands on Nature
- Kids In Need Foundation
- Kinderboerderij Parkhoeve Breda-Noord
- MA Coalition for the Homeless
- Pancreatic Cancer Research
- Rosie's Place
- Spark of Love
- Union Gospel Misson Dallas Shelter (formerly Irving Cares)
- YWCA

Partnerships & Pathways

Repligen develops and maintains trusted industry partnerships that relate to our mission, inform our work, and inspire our commitment to developing innovative products and technologies that improve human health on a global scale.

In 2023, we continued to engage with organizations to learn from their expertise on topical and emerging issues, leverage best practices, share perspectives and help shape the future of the bioprocessing industry. We consider these memberships, webinars, certifications, events and leadership opportunities as investments in the professional development of our employees and our future success.

COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

Leading by Example

In 2023, our Global Head of Packaging Engineering and Sustainability was elected to the Bio-Process Systems Alliance (BPSA) Board of Directors for a two-year term starting in January 2024. She was uniquely qualified to serve, in part, due to her active participation on the BPSA Sustainability Committee and its Communications Subcommittee, her previous participation on the BPSA Transportation Committee with white paper coauthoring credentials, and her "2022 SDG Pioneer, U.S. Network" title awarded by the UNGC.

"Repligen first joined the ASME BioProcess Equipment (BPE) group in 2014 to learn about existing and evolving industry standards for mechanical design in the biopharmaceutical space. Since then, we have joined subcommittees and workstreams in an effort to drive collaboration and cross-pollination of ideas and lessons learned with the intention of helping to advance the quality and standards of products produced within the industry as a whole. We continue to invest in this symbiotic partnership."

Travis Ward
Senior Director, Product Development & Sustaining Engineering, Waltham, MA (U.S.)

Looking Ahead

While we are proud of our accomplishments in 2023, we recognize that our work is ongoing in our commitment to advancing progress on sustainability topics that are material to our business. Through our first CDP response, multiple standardized and customized sustainability assessments, and our bold commitment to achieving net-zero emissions aligned with SBTi by 2050, Repligen demonstrated in 2023 that we take these issues seriously and are dedicated to making our business as robust and viable as possible for the long term. We understand our fiduciary responsibility to investors and our customers' need for strong partnerships. As such, we strive to maintain a healthy and balanced business that identifies and mitigates risks across our operations and our value chain. We remain focused on our priorities and address our opportunity pipeline with forethought and discipline.

We are also looking ahead, staying informed and preparing for future developments around sustainability communications and regulatory compliance. Considerations for the future of sustainability and our company include topics such as data audits for limited and full assurance; SBTi requirements; annual reporting; and enhanced data for Scope 3 emissions, specifically categories 11 (Use of Sold Products) and 12 (End-of-Life Treatment of Sold Products). Both categories are material to Repligen and require more work to track and quantify their full impact on our emissions inventory. Despite these challenges, we remain steadfast in our commitments to improving data and reduction targets.

Closing Thoughts

Thank you for reading our 2023 Sustainability Report. We encourage our stakeholders and other interested parties to periodically visit our corporate sustainability website for further updates on our progress. With greater transparency and more frequent communication, we aim to further streamline the survey and reporting process so that we can focus our attention on doing the work to meet our sustainability commitments and to become trusted stewards of sustainability and preferred business partners.

Investing in the Next Generation

(continued from page 15)

VOICES FROM OUR 2023 U.S. INTERN COHORT

"The thing I liked best about working at Repligen was the community; everyone was easy to talk to and get assistance from. They also put emphasis on the concepts of efficiency and productivity."

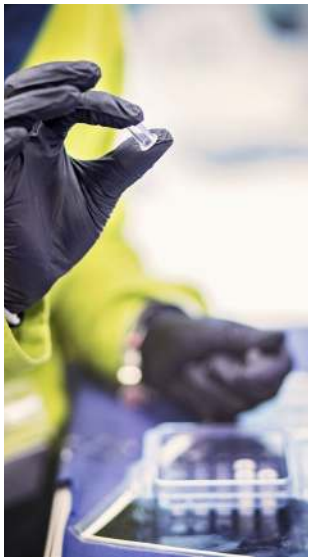
–Rishab Das, Software Engineering Intern, studying Computer Science

"New challenges everyday! I learned about the value of automation for manufacturing companies."

–Vivian Mihali, Automation Engineering Intern, studying Computer Science

"The working atmosphere was awesome — challenging but very supportive and welcoming."

–Jaime Lopez, Process Engineering Intern, studying Biophysics, Biochemistry and Molecular Biology



Repligen headquarters photo credit: Patrick Bruisel.

Extended Reporting Narrative

Methodologies

Data Collection

- GHG Protocol Guidance was used for all emissions accounting, and market-based emission factors were utilized for the calculations.
- The U.S. Environmental Protection Agency (EPA) Emissions and Generation Resource Integrated Database (eGRID) and EPA Energy Information Administration (EIA) data were used to prepare our emissions inventories.
- EPA Global Warming Potential (GWP) values were used to standardize all emissions by carbon dioxide equivalents (CO_2e).
- Energy usage and GHG emissions metrics are based on utility invoices of purchased energy, best estimates from property managers of shared rental spaces and in-house calculations from site-level data.
- The annual impact of direct renewable electricity purchases and renewable energy credits (RECs) on our total GHG emissions is based on aggregate market-based site-level data.
- Water withdrawal metrics are based on utility invoices and used as a proxy for consumption data. At our one site that is supported by well water, metrics are derived from expected baseline usage.
- Water discharge metrics are tracked for water that is used in manufacturing processes and treated before discharge.
- Waste metrics are predicated on hauler invoices, regular service provider reporting and in-house calculations.
- Employee-related data covers all Repligen sites, unless otherwise indicated.
- Annual voluntary commuting surveys directly inform our global Scope 3 category 7 (Employee Commuting) emissions data.

Data Monitoring

The Repligen ESG Ambassador network is responsible for collecting and monitoring site-level data on an ongoing basis while our corporate Sustainability team oversees uploads to our financial-grade ESG software platform.

Data Assurance

Other than audited financial data, the content of this report has not been externally verified. However, the feasibility of third-party assurance is under evaluation for future installments of our corporate sustainability report.

Financial Data

Any financial data sets in this report are historical only and have been fully audited by our independent registered public accounting firm based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). All financial information in this report is limited to continuing operations and is reported in U.S. dollars.

Sustainability Contact

For more information about Repligen Corporation's approach to ESG reporting, email us at: sustainability@repligen.com.

Materiality Assessment

The Materiality Matrix on the following page summarizes Repligen Corporation's materiality assessment aligned with our foundational four pillars of sustainability — our 4Ps.

At Repligen, we understand the value in monitoring emerging issues material to our business and our value chain, assessing related topics according to new information and evolving stakeholder expectations.

In 2023, we led and participated in numerous stakeholder communications across the business with key customers, critical suppliers, leading institutional investors and employee resource groups to learn about and better understand their interests, priorities, targets and challenges through the increasingly relevant lens of sustainability.

We remain committed to periodically updating our materiality matrices to ensure close alignment with our stakeholders' priorities and relevant regulations that impact the rapidly evolving bioprocessing industry.

Scope 3 Materiality

The second table on the following page summarizes our Scope 3 GHG emissions category materiality assessment. In our inaugural 2020 Sustainability Report, only two of the 11 material Scope 3 emissions categories had been tracked: those from category 6 (Business Travel) and category 7 (Employee Commuting). See page 21 for all Scope 3 emissions categories.

In 2022, we expanded our tracking of Scope 3 emissions data to include seven additional categories (1, 2, 3, 4, 5, 8, and 9) as part of our ambitious commitment to setting an emissions reduction target through the SBTi.

In 2023, we continued to strengthen our emissions inventory data for these nine categories to better inform our overarching emissions reduction strategy across the 11 categories material to Repligen. We also reaffirmed that the four remaining categories (10, 13, 14 and 15) are not material to Repligen.

In 2024, we began to compile emissions inventories for category 11 (Use of Sold Products) and mapped a process to compile category 12 (End-of-Life Treatment of Sold Products) for preliminary reporting in 2025.

Materiality Matrix

In 2023, the materiality assessment and Scope 3 categories reflected on this page were reviewed according to our 4Ps and reaffirmed. Additionally, we are looking to perform a double materiality assessment in 2024.

● Material to Repligen

ASSESSMENT

	COMMUNITIES	CUSTOMERS	EMPLOYEES	INVESTORS	SUPPLIERS
PRINCIPLES Working Responsibly					
Business Ethics & Compliance	●	●	●	●	●
Enterprise Risk Management	●	●	●	●	
Financial Integrity			●	●	
Cybersecurity & Data Privacy		●	●		●
Partner (Supplier) Ethics & Compliance		●			
PEOPLE Caring About Our Employees and Communities					
Health, Safety & Well-Being	●	●	●		●
Diversity, Equity & Inclusion	●		●	●	
Employee Attraction, Development & Retention			●	●	
Community Engagement & Impact	●		●		
Labor Practices	●	●	●	●	●
PRODUCT Innovating Through a Sustainability Lens					
Innovation		●	●	●	●
Supply Chain Management		●		●	●
Product Quality & Safety		●	●		
Product Design & Lifecycle Management		●	●	●	●
PLANET Protecting the Environment					
Environmental Impact	●	●	●	●	●
Energy Use & Climate Impact	●	●	●	●	●
Water Use	●		●	●	
Solid Waste Management	●		●		

SCOPE 3 EMISSIONS CATEGORIES

- ● **1** Purchased goods and services
- ● **2** Capital goods
- ● **3** Fuel- and energy-related activities
- ● **4** Transportation and distribution (upstream)
- ● **5** Waste generated in operations
- ● **6** Business travel
- ● **7** Employee commuting
- ● **8** Upstream leased assets
- ● **9** Transportation and distribution (downstream)
- **10** Processing of sold products
- ● **11** Use of sold products
- ● **12** End-of-life treatment of sold products
- **13** Downstream leased assets
- **14** Franchises
- **15** Investments

Governance

Strong Governance

We routinely evaluate our governance practices to ensure they remain current and relevant. A summary of our corporate governance practices, as detailed in our 2024 Proxy Statement, which published on April 1, 2024, is shown below. This section covers the reporting year 2023 and extends into 2024.

SUSTAINABILITY GOVERNANCE STRUCTURE

Board of Directors

The Chair of our Nominating and Corporate Governance (N&CG) Committee oversees our ESG matters and practices as set forth in the committee charter.

Executive Team

Our President and CEO and our COO are ESG executive sponsors. They engage with the Board's N&CG Committee Chair, typically quarterly, on ESG strategy and review progress against ESG objectives and performance measures. A status report is presented to the full Board annually.

Head of Sustainability

Our Vice President of Sustainability and ESG leads a dedicated team of full-time sustainability professionals and oversees a well-established global network of cross-functional ESG Site Ambassadors.

ESG Steering Committees

On a quarterly basis, our Head of Sustainability leads three executive-sponsored steering committees that drive progress on Environmental, Social and Governance initiatives and commitments.

CORPORATE GOVERNANCE PRACTICES

Board Independence and Diversity*

- Separation of the positions of Chairperson and CEO
- 8 of 9 directors are independent
- Independent Board committees
- 37.5% of directors are diverse
- 3 of 9 (33%) of directors are female, including our Chairperson
- Average age is 62 years; average tenure is 7 years
- Strong skills and diverse experience

Director Elections

- Annual Board elections
- Directors are elected by a majority of votes cast
- Directors not elected by a majority of votes cast are subject to the company's resignation policy

Board Practices

- Non-employee directors meet in executive session without management at each regularly scheduled Board meeting
- Annual Board and Committee self-evaluations
- Annual director evaluations and Board refreshment as appropriate

Stock Ownership Requirements

- Directors are required to hold a minimum level of company shares
- Executives and directors are prohibited from hedging, pledging and/or shorting company stock
- No re-pricing of stock options

Compensation Practices

- Executive compensation links pay with individual and corporate performance
- Compensation clawback policy in place
- Significant percentage of target compensation is at risk through short-term and long-term incentive awards
- No tax gross-up payments, excess perquisites or guaranteed bonuses
- Double-trigger severance benefits
- Individual ESG goals for Named Executive Officers (NEOs)

Stockholder Rights

- Our By-laws include shareholder rights to amend our By-laws
- Proxy access via the 3% ownership/ 3 year/20 holders/20% standard
- No super-majority voting requirements

*As of April 2024 Proxy Statement.

Governing Policies and Charters

Our most current Policies and Charters are available in the Investors area of our website.

- Corporate Governance Guidelines, updated in February 2023
- Business Partner Code of Conduct
- Code of Business Conduct and Ethics
- Insider Trading Policy, updated in December 2023

Compliance Hotline — "See Something, Say Something"

Our business codes of conduct and insider trading policy highlight multiple channels—direct and anonymous—for our employees and business partners to report any concerns of improper conduct. When a situation does not feel right, we encourage and provide avenues for employees to speak up, knowing that any concern raised will be treated seriously, confidentially and without fear of retribution.

Financial Integrity

Our focus on ethics applies to financial integrity, and we are committed to acting with honesty, integrity and reliability to safeguard our investors and the public's confidence in Repligen.

As outlined in our Code of Business Conduct and Ethics, our commitment to financial integrity also encompasses record keeping and financial reporting, gifts and entertainment, political and charitable contributions, and government interactions.

Internal and External Financial Controls

Repligen has a robust set of internal controls to ensure proper accounting and compliance across all locations. With oversight of our Controller, extensive financial and control reviews are conducted to ensure our financial statements align with the U.S. Generally Accepted Accounting Principles (GAAP).

These controls are designed in coordination with our internal audit team and Chief Compliance Officer, who is also our CFO, to apply risk-based rankings across the organization and to apply risk mitigation programs as required.

In addition to internal responsibilities for preparing and presenting complete and accurate financial statements, our independent registered public accounting firm, Ernst & Young LLP, performs an audit of the company's financial statements in accordance with the standards of the U.S. Public Company Accounting Oversight Board (PCAOB) and issues quarterly and annual audit reports. The Audit Committee oversees and monitors the company's management and its independent registered public accounting firm throughout the financial reporting process.

Risk Management

Oversight

In 2023, the risk management program was spearheaded by our General Counsel. High-level material risks are reviewed with the Board every six months while the Senior Management team meets every six weeks to track progress on risk areas and update the risk hierarchy, assessing the profile of each and assigning actions to mitigate them.

The company conducts periodic risk assessments, including corporate governance audits, in order to ensure that our policies and guidelines are best-in-class, in line with peers and aligned with stakeholder interests.

Reporting and Tracking Risk

During the first half of 2022, our risk tracking and reporting methods were thoroughly reviewed. As part of the process, we leveraged industry-accepted standards and frameworks and performed an in-depth analysis of each business unit and function within the organization. In the interest of elevating our risk management capabilities, we assessed a variety of risk management tools available on the market, including the current provider we use for financial compliance with Sarbanes-Oxley. We ultimately selected this provider's risk management module and began implementing it in November 2022.

Cybersecurity

In our 2020 Sustainability Report, we discussed cybersecurity as a key area for risk assessment and management. We are pleased to report that, as security threats and data breaches have become more common, we have continued to elevate our cybersecurity systems and protocols to protect our company, our employees and our stakeholders.

Repligen deploys information security systems to meet regulatory and customer obligations and to protect our internal systems, data and employees.

Oversight

Our Chief Information Officer (CIO) is responsible for the development and implementation of our data privacy and information security programs. The Information Technology team drives the execution of these programs, supported by staff representing Human Resources, Finance, Legal, Supply Chain, and Operations. The CIO and/or our Head of IT Infrastructure and Cybersecurity Operations provide regular updates to our Executive team on our information security programs and progress.

We continue to invest strategically in this area to protect the company and all stakeholders. Our Board is responsible for ensuring that the company's cybersecurity policies and practices are effective, up-to-date, and aligned with the organization's overall strategy and risk appetite. It does this through quarterly evaluations with oversight by the Audit Committee.

Every Employee's Responsibility

All employees are expected to participate in safeguarding all computer equipment and data against security breaches. These can include efforts by individuals or organizations to gain or restrict access to company data via deploying malicious codes and viruses, social engineering, or other attempts to gain unauthorized access to company computers, systems or networks with the intent to cause damage.

Training and Results

In 2023, Repligen successfully sustained a cybersecurity awareness training completion rate above 95%, significantly contributing to the security of the company's digital assets. This high completion rate is a testament to the company's commitment to fostering a robust security culture and ensuring all employees have the knowledge and skills necessary to protect sensitive information. The training program has been meticulously designed to cover a wide range of cyber threats, enabling employees to identify and respond to security incidents promptly.

Artificial intelligence-driven (AIDA) phishing email campaigns were used throughout 2023. AIDA creates a security-aware culture by continuously challenging users with realistic phishing simulations and providing targeted training. This ongoing engagement keeps security top of mind and helps reduce the risk of successful phishing attacks.

Monitoring

Cybersecurity risk is monitored 24/7 using multiple security platforms and a Security Operations Center. Repligen follows the CIS 20 Controls framework and leverages the following security platforms: SIEM (Security Information and Event Management), continuous VM (Vulnerability Management), and EDR (Endpoint Detection and Remediation).

The Center for Internet Security (CIS) Top 20 Critical Security is a prioritized set of best practices created to stop the most pervasive and dangerous threats of today.

Impact

In 2023, Repligen continued to increase its maturity across all the CIS controls and subcontrols. This was accomplished through a systematic approach to addressing and tracking each control and sub-control, strategic planning, continuous improvement, and the adoption of best practices.

Cyber Incident Response Plan

Repligen has a robust Cyber Incident Response Plan in place, which follows a documented framework for handling high-severity security incidents and facilitates coordination across multiple locations of the company. We routinely perform simulations and exercises at both a technical and management level and incorporate external expertise and reviews in all aspects of our cybersecurity program.

Adherence to Data Privacy Regulations

To raise awareness about GDPR adherence, Repligen introduced an extensive training system featuring dynamic and interactive sessions customized for various positions in the company. This system encompassed ongoing evaluations and practical examples so that staff members grasped the tangible aspects of GDPR. Moreover, Repligen arranged regular updates and review courses to maintain up-to-date knowledge of the newest regulations and top compliance strategies.

Implementing a Zero Trust Framework

In 2023, Repligen replaced traditional multi-factor authentication (MFA) with a passkey solution with several benefits. Passkeys eliminate the need for passwords, reducing the risk of phishing attacks and password breaches. They also provide a more seamless user experience, as users can authenticate with biometrics or device-based methods, which are faster and more convenient.

Repligen also implemented a DMARC (Domain-based Message Authentication, Reporting & Conformance) verification solution for email. This solution significantly enhances email security by preventing email spoofing and phishing attacks and ensuring that only legitimate emails are delivered to recipients. This boosts the trust and credibility of your domain, as recipients can be confident that emails from your domain are authentic.

Finally, Repligen implemented a robust application allowlist solution, ensuring that only approved applications can run on our systems, significantly reducing the risk of malware and unauthorized software. It also offers granular control over file and storage access, preventing data breaches and unauthorized data manipulation. Additionally, the solution includes ringfencing capabilities, which isolate applications to prevent them from interacting with each other in harmful ways.

Advancing Our Enterprise Resource Planning (ERP) System

To increase awareness around GDPR compliance, Repligen implemented a comprehensive training platform that provided engaging and interactive modules tailored to different roles within the organization. This training platform included regular assessments and real-world scenarios to ensure employees understood the practical implications of GDPR. Additionally, Repligen scheduled periodic refresher courses and updates to keep everyone informed about the latest regulatory changes and best practices. We also expanded our Data Privacy program to our APAC region (PIPL finalized; the rest is still an ongoing project) and updated diverse internal-related policies. A global Personal Data Protection Policy has been implemented.

As data privacy overlaps with AI, Repligen set up diverse AI policies and created an AI Task Force. This way, we will be ready for upcoming AI legislation.

SAP Updates

Repligen management takes seriously its responsibility for effective internal controls over the company's financial reporting. In 2023, we completed Phase 5 of the ERP implementation by adding four new sites, bringing the total number of sites to 18. Our Phase 6 ERP implementation is scheduled for completion by June 2025 and will include our recent acquisitions plus three other sites that focus on R&D and manufacturing.

All major sites and distribution centers operate on the same ERP system. The system has allowed for improved controls and enhanced reporting and business capabilities through access to real-time information across multiple sites. The scalability of our ERP system has resulted in more efficient business processes and strategic planning.

Scaling with Repligen Performance System

The Repligen Performance System (RPS) is a continuous improvement program founded in proven LEAN tools and methodologies. It's how we create a culture of empowered people to drive efficiency across the company toward a value-driven purpose. See page 9 of this report for our Top 5 RPS Wins in 2023.

Bioprocessing Industry

It's important to note that our industry, bioprocessing, does not fit neatly into existing reporting frameworks and rating categories. Repligen GICS® classification is "Life Sciences Tools and Services" within the Pharmaceuticals, Biotechnology & Life Sciences industry group of the Health Care sector.

We Don't

When considering the ESG performance of Repligen, note that we do not develop or sell biopharmaceuticals. With the exception of a small product line representing less than 1% of our 2023 revenue, we also do not sell medical equipment or supplies to the medical community. Products representing approximately 99% of our 2023 revenue are not sold to patients, dependent on payor reimbursement or marketed to the medical community. Our product development and testing are technology-focused and thus do not involve human or animal studies. We continue to engage with key reporting frameworks and ratings firms to clarify our business model.

We Do

As a bioprocessing technology company, we do develop and sell technologies and systems that improve the process of manufacturing biopharmaceuticals. Our direct customers are global biopharmaceutical developers and manufacturers, as well as other life sciences companies. We are proud of our indirect impact on improving human health by bringing innovation to biopharmaceutical production processes.

SDG Priorities Index

Through our recent reassessment process of the 17 UN Sustainable Development Goals, we confirmed the following seven as most relevant to Repligen in 2023.

SUSTAINABLE DEVELOPMENT GOALS

Repligen reporting year 2023

PRIORITY	TITLE	DESCRIPTION	RESPONSE
3 GOOD HEALTH AND WELL-BEING	Good Health and Well-Being	Ensure healthy lives and promote well-being for all at all ages	2023 Annual Report, Form 10-K/A, Part I, Item 1, Overview, p.2, Health, Safety & Well-Being, p.12
5 GENDER EQUALITY	Gender Equality	Achieve gender equality and empower all women and girls	2023 Sustainability Report, Talent, p.14
8 DECENT WORK AND ECONOMIC GROWTH	Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	2023 Annual Report, Form 10-K/A, Part I, Item 1, Health, Safety & Well-Being, p.12
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Industry, Innovation and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	2024 Proxy Statement, Sustainability — Environmental, Social and Governance Matters, p.23-25 2023 Annual Report, Form 10-K/A, Part I, Item 1, Manufacturing, p.16
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Responsible Consumption and Production	Ensure sustainable consumption and production patterns	2023 Sustainability Report, Products, p.7-8
13 CLIMATE ACTION	Climate Action	Take urgent action to combat climate change and its impacts	2023 Sustainability Report, Elevating Our Reporting Commitments, p.10 2024 Proxy Statement, Sustainability — Environmental, Social and Governance Matters, p.23-25
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Peace, Justice and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	2023 Sustainability Report, Talent, p.14

GRI Standards Index

Statement of use: Repligen Corporation has reported in accordance with the GRI Standards for the period January 1 through December 31, 2023.

GRI 1 used: GRI 1: Foundation 2021 (which includes topic standards from previous years where noted)
GRI Sector Standard: No sector standard applicable to Repligen Corporation is available.

Global Reporting Initiative™ (GRI) Index

DISCLOSURE	2023 SOURCE LOCATIONS
General Disclosures	
GRI 2: General Disclosures 2021	
2-1 Organizational details	Repligen Annual Report 2023, Form 10-K, Part I, Item 1, Business, p.2, and Exhibit 21.1 Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Business, p.2-9
2-2 Entities included in the organization's sustainability reporting	Repligen Annual Report 2023, Form 10-K, Exhibit 21.1 2023 Sustainability Report, Repligen At A Glance, p.6
2-3 Reporting period, frequency and contact point	2023 Sustainability Report, About This Report, p.5
2-4 Restatements of information	2023 Sustainability Report, About This Report, p.5
2-5 External assurance	2023 Sustainability Report, About This Report, p.5
2-6 Activities, value chain and other business relationships	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Business, p.2-11 2023 Sustainability Report, Supply Chain, p.17
2-7 Employees	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.12 2023 Sustainability Report, Talent, p.14-16 2023 Sustainability Report, GRI Content Annex, p.40

DISCLOSURE	2023 SOURCE LOCATIONS
2-8 Workers who are not employees	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.12 2023 Sustainability Report, Talent, p.14-16
2-9 Governance structure and composition	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Sustainability, p.13, 17 Repligen 2024 Proxy Statement, Board Information, p.19-23 2023 Sustainability Report, About This Report, p.5 Corporate Governance Guidelines, full document
2-10 Nomination and selection of the highest governance body	Repligen 2024 Proxy Statement, Procedures, p.20-21 Corporate Governance Guidelines, p.2-5 Nominating and Corporate Governance Committee (N&CG) Charter, Parts A & B, p.1-5
2-11 Chair of the highest governance body	Repligen 2024 Proxy Statement, Proposal 1, p.12-19 Code of Business Conduct and Ethics, Fair Dealings, p.14-15 Insider Trading Policy, p.3-7, 11
2-12 Role of the highest governance body in overseeing the management of impacts	Repligen 2024 Proxy Statement, Corporate Governance and Board Matters, Board Information, The Board's Role in Risk Oversight, p.23-27 Nominating and Corporate Governance Committee (N&CG) Charter, Part B, Goals and Responsibilities, p.2-4

DISCLOSURE	2023 SOURCE LOCATIONS
2-13 Delegation of responsibility for managing impacts	Repligen 2024 Proxy Statement, Corporate Governance Highlights, p.4, Sustainability, p.25 2023 Sustainability Report, A Message From Our CEO, p.3
2-14 Role of the highest governance body in sustainability reporting	Repligen 2024 Proxy Statement, Corporate Governance and Board Matters, Board Information, The Board's Role in Risk Oversight, p.23-25
2-15 Conflicts of interest	Code of Business Conduct and Ethics, Conflict of Interest, p.15-16 Repligen 2024 Proxy Statement, Certain Relationships, p.18-21, Compensation Evaluation Process, p.33 Corporate Governance Guidelines, p.7 Audit Committee Charter, p.10 Nominating and Corporate Governance Committee (N&CG) Charter, Part B, Goals and Responsibilities, p.3 Business Partner Code of Conduct, Integrity and Compliance, p.3 2023 Sustainability Report, GRI Content Annex, p.40
2-16 Communication of critical concerns	Code of Business Conduct and Ethics, Reporting Process, Resources & Penalties, p.5, p.17-18 Business Partner Code of Conduct, Management Systems, p.6 Insider Trading Policy, p.9 Corporate Governance Guidelines, p.8, 11 Repligen 2024 Proxy Statement, Corporate Governance Highlights, p. 5, Communication Policies, p.22
2-17 Collective knowledge of the highest governance body	Repligen 2024 Proxy Statement, Occupations of Directors & Executive Officers, p.13-19
2-18 Evaluation of the performance of the highest governance body	Repligen 2024 Proxy Statement, Corporate Governance & Board Matters p.19, Audit Committee Report p.29, Executive Compensation, p.37-38 2023 Sustainability Report, GRI Content Annex, p.40

DISCLOSURE	2023 SOURCE LOCATIONS
2-19 Remuneration policies	Repligen 2024 Proxy Statement, Compensation Discussion and Analysis, p.31-40 Compensation Committee Charter, full document
2-20 Process to determine remuneration	Repligen 2024 Proxy Statement, Compensation Discussion and Analysis, p.31-40 Compensation Committee Charter, full document
2-21 Annual total compensation ratio	Repligen 2024 Proxy Statement, CEO Pay Ratio, p.54 2023 Sustainability Report, GRI Content Annex, p.40
2-22 Statement on sustainable development strategy	Repligen 2024 Proxy Statement, ESG Oversight, p.23-25
2-23 Policy commitments	Code of Business Conduct and Ethics, full document Business Partner Code of Conduct, Integrity and Compliance, p.2, 5 2023 Sustainability Report, GRI Content Annex, p.40
2-24 Embedding policy commitments	Code of Business Conduct and Ethics, full document Business Partner Code of Conduct, full document 2023 Sustainability Report, 2023 Highlights, p.4 2023 Sustainability Report, GRI Content Annex, p.40
2-25 Processes to remediate negative impacts	Code of Business Conduct and Ethics, full document Business Partner Code of Conduct, full document Insider Trading Policy, full document 2023 Sustainability Report, GRI Content Annex, p.41
2-26 Mechanisms for seeking advice and raising concerns	Repligen 2024 Proxy Statement, Shareholder Communication Policies, p.22 Code of Business Conduct and Ethics, Reporting Process, Resources and Penalties, p.5 Business Partner Code of Conduct, full document
2-27 Compliance with laws and regulations	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risk Factors, p.28-29 2023 Sustainability Report, GRI Content Annex, p.41

DISCLOSURE	2023 SOURCE LOCATIONS
2-28 Membership associations	Repligen 2024 Proxy Statement, Biographical Information, p.14-18 2023 Sustainability Report, GRI Content Annex, p.41
2-29 Approach to stakeholder engagement	Repligen 2024 Proxy Statement, Shareholder Engagement, p.5, Board Information, p.20-23 2023 Sustainability Report, A Message From Our CEO, p.3
2-30 Collective bargaining agreements	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.12
Material Topics	
GRI 3: Material Topics 2021	
3-1 Process to determine material topics	2023 Sustainability Report, Materiality Matrix, p.21
3-2 List of material topics	2023 Sustainability Report, Materiality Matrix, p.21
GRI 201: Economic Performance 2016	
3-3 Management of this material topic	2023 Sustainability Report, GRI Content Annex, p.41
201-1 Direct economic value generated and distributed	Repligen Annual Report 2023, Form 10-K/A, Part IV, Item 15, Exhibits and Financial Statement Schedules (Restated), Segment Reporting, p.81 2023 Sustainability Report, Repligen At A Glance, p.6 2023 Sustainability Report, GRI Content Annex, p.41
201-2 Financial implications and other risks and opportunities due to climate change	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risk Factors, p.29
201-3 Defined benefit plan obligations and other retirement plans	Repligen Annual Report 2023, Form 10-K/A, Part II, Employee Benefit Plans, p.116
201-4 Financial assistance received from government	Repligen Annual Report 2023, Form 10-K/A, Part II, Item 7, Income Taxes, p.106-109 2023 Sustainability Report, GRI Content Annex, p.41

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 202: Market Presence 2016	
3-3 Management of material topics	Repligen 2024 Proxy Statement, 2023 Business & Financial Highlights, p.9 2023 Sustainability Report, GRI Content Annex, p.41
202-1 Ratios of standard entry-level wage by gender compared to local minimum wage	2023 Sustainability Report, GRI Content Annex, p.41
202-2 Proportion of senior management hired from the local community	2023 Sustainability Report, GRI Content Annex, p.41
GRI 203: Indirect Economic Impacts 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K, Part II, Item 5, p.37 2023 Sustainability Report, GRI Content Annex, p.41
203-1 Infrastructure investments and services supported	2023 Sustainability Report, Products, p.7 2023 Sustainability Report, GRI Content Annex, p.41
203-2 Significant indirect economic impacts	2023 Sustainability Report, Communities, p.17 2023 Sustainability Report, GRI Content Annex, p.41
GRI 204: Procurement Practices 2016	
3-3 Management of material topics	2023 Sustainability Report, GRI Content Annex, p.41
204-1 Proportion of spending on local suppliers	2023 Sustainability Report, GRI Content Annex, p.41

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 205: Anti-corruption 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Business, Code of Business Conduct and Ethics, p.12, Our Commitment to Sustainability, p.13 2023 Sustainability Report, p.3, 22
205-1 Operations assessed for risks related to corruption	Repligen Annual Report 2023, Form 10-K/A, Item 1A, Risk Factors, p.30
205-2 Communication and training about anti-corruption policies and procedures	2023 Sustainability Report, Talent, p.14-16
205-3 Confirmed incidents of corruption and actions taken	2023 Sustainability Report, GRI Content Annex, p.41
GRI 206: Anti-competitive Behavior 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risks Related to our Products, p.34-35
206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risk Factors, p.28-29, 31, 34-35
GRI 207: Tax 2019	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risks related to Investment in Our Securities, p.28 and Part II, Item 9A, Report of Independent Registered Public Accounting Firm, p.51-55
207-1 Approach to tax	Repligen Annual Report 2023, Form 10-K/A, Part II, Item 7, Income Taxes, p.42, Part II, Item 7, Foreign Earnings, p.51
207-2 Tax governance, control, and risk management	Repligen Annual Report 2023, Form 10-K/A, Part IV, Index to Financial Statements, Consolidated Statements of Cash Flows, p.68, and Recent Accounting Standards Updates, p.85
207-3 Stakeholder engagement and management of concerns related to tax	Repligen Annual Report 2023, Form 10-K/A, Part IV, Index to Financial Statements, Notes to Consolidated Financial Statements, Summary of Significant Accounting Policies, p.79

DISCLOSURE	2023 SOURCE LOCATIONS
207-4 Country-by-country reporting	Repligen Annual Report 2023, Form 10-K/A, Part II, Item 7, Foreign Earnings, p.51, and Notes to Consolidated Financial Statements, Summary of Significant Accounting Policies, p.79
GRI 301: Materials 2016	
3-3 Management of material topics	2023 Sustainability Report, Products & Packaging, p.7
301-1 Materials used by weight or volume	2023 Sustainability Report, Products & Packaging, p.7
301-2 Recycled input materials used	2023 Sustainability Report, Products & Packaging, p.7
301-3 Reclaimed products and their packaging materials	2023 Sustainability Report, Products & Packaging, p.7
GRI 302: Energy 2016	
3-3 Management of material topics	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.41
302-1 Energy consumption within the organization	2023 Sustainability Report, Operations, p.9-10, 12 2023 CDP Climate Response, p.46 2023 Sustainability Report, GRI Content Annex, p.41
302-2 Energy consumption outside of the organization	2023 Sustainability Report, Operations, p.9-10 2023 CDP Climate Response, p.53 2023 Sustainability Report, GRI Content Annex, p.41
302-3 Energy intensity	2023 Sustainability Report, Operations, p.9-10 2023 CDP Climate Response, p.43 2023 Sustainability Report, GRI Content Annex, p.41
302-4 Reduction of energy consumption	2023 Sustainability Report, Operations, p.9-10 2023 CDP Climate Response, p.26-29 2023 Sustainability Report, GRI Content Annex, p.42

DISCLOSURE	2023 SOURCE LOCATIONS
302-5 Reductions in energy requirements of products and services	2023 Sustainability Report, Operations, p.9-10 2023 CDP Climate Response, p.29 2023 Sustainability Report, GRI Content Annex
GRI 303: Water and Effluents 2018	
3-3 Management of material topics	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
303-1 Interactions with water as a shared resource	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
303-2 Management of water discharge-related impacts	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
303-3 Water withdrawal	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
303-4 Water discharge	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
303-5 Water consumption	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
GRI 304: Biodiversity	
3-3 Management of material topics	2023 Sustainability Report, GRI Content Annex, p.42
304-1 Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas	2023 Sustainability Report, GRI Content Annex, p.42
304-2 Significant impacts of activities, products and services on biodiversity	2023 Sustainability Report, GRI Content Annex, p.42

DISCLOSURE	2023 SOURCE LOCATIONS
304-3 Habitats protected or restored	2023 Sustainability Report, GRI Content Annex, p.42
304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	2023 Sustainability Report, GRI Content Annex, p.42
GRI 305: Emissions 2016	
3-3 Management of material topics	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
305-1 Direct (Scope 1) GHG emissions	2023 Sustainability Report, Operations, p.9-10
305-2 Energy indirect (Scope 2) GHG emissions	2023 Sustainability Report, Operations, p.9-10
305-3 Other indirect (Scope 3) GHG emissions	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
305-4 GHG emissions intensity	2023 Sustainability Report, Operations, p.9-10
305-5 Reduction of GHG emissions	2023 Sustainability Report, Operations, p.9-10
305-6 Emissions of ozone-depleting substances (ODS)	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
GRI 306: Waste 2020	
3-3 Management of material topics	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.42
306-1 Waste generation and significant waste-related impacts	2023 Sustainability Report, Operations, p.9-10 2023 Sustainability Report, GRI Content Annex, p.43

DISCLOSURE	2023 SOURCE LOCATIONS
306-2 Management of significant waste-related impacts	2023 Sustainability Report, Operations, p.9-10
306-3 Waste generated	2023 Sustainability Report, Operations, p.9-10
306-4 Waste diverted from disposal (reuse or recycling)	2023 Sustainability Report, Operations, p.9-10
306-5 Waste directed to disposal	2023 Sustainability Report, Operations, p.9-10
GRI 308: Supplier Environmental Assessment 2016	
3-3 Management of material topics	2023 Sustainability Report, Supply Chain, p.17
308-1 New suppliers that were screened using environmental criteria	2023 Sustainability Report, Supply Chain, p.17
308-2 Negative environmental impacts in the supply chain and actions taken	2023 Sustainability Report, Supply Chain, p.17
GRI 401: Employment 2016	
3-3 Management of material topics	2023 Sustainability Report, Talent, p.14-16
401-1 New employee hires and employee turnover	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, 2023 Acquisitions, Human Capital, p.9, 12-13

DISCLOSURE	2023 SOURCE LOCATIONS
401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Repligen Annual Report 2023, Form 10-K/A, Part IV, Notes to Consolidated Financial Statements, p.15, Employee Benefit Plans, p.116
401-3 Parental leave	2023 Sustainability Report, GRI Content Annex, p.43
GRI 402: Labor/Management Relations 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, full document Business Partner Code of Conduct, full document
402-1 Minimum notice periods regarding operational changes	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Manufacturing, p.16
GRI 403: Occupational Health and Safety 2018	
3-3 Management of material topics	2023 Sustainability Report, GRI Content Annex, p.43
403-1 Occupational health and safety management system	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.9, 12 2023 Sustainability Report, GRI Content Annex, p.43
403-2 Hazard identification, risk assessment, and incident investigation	2023 Sustainability Report, GRI Content Annex, p.43
403-3 Occupational health services	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.9, 12 2023 Sustainability Report, GRI Content Annex, p.43
403-4 Worker participation, consultation, and communication on occupational health and safety	2023 Sustainability Report, GRI Content Annex, p.43
403-5 Worker training on occupational health and safety	2023 Sustainability Report, GRI Content Annex, p.43

DISCLOSURE	2023 SOURCE LOCATIONS
403-6 Promotion of worker health	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.9, 12-13 2023 Sustainability Report, GRI Content Annex, p.43
403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	2023 Sustainability Report, GRI Content Annex, p.43
403-8 Workers covered by an occupational health and safety management system	2023 Sustainability Report, GRI Content Annex, p.44
403-9 Work-related injuries	2023 Sustainability Report, GRI Content Annex, p.44
403-10 Work-related ill health	2023 Sustainability Report, GRI Content Annex, p.44
GRI 404: Training and Education 2016	
3-3 Management of material topics	2023 Sustainability Report, Talent, p.14-16
404-1 Average hours of training per year per employee	2023 Sustainability Report, Talent, p.15 2023 Sustainability Report, GRI Content Annex, p.44
404-2 Programs for upgrading employee skills and transition assistance programs	2023 Sustainability Report, Talent, p.14-16
404-3 Percentage of employees receiving regular performance and career development reviews	2023 Sustainability Report, Talent, p.14-16

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 405: Diversity and Equal Opportunity 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, p.9, 14 Repligen 2023 Proxy Statement, Proposal 1, Corporate Governance and Board Matters, p.21-23 Compensation Committee Charter, p.4-5 2023 Sustainability Report, Talent, p.14-16
405-1 Diversity of governance bodies and employees	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.9, 12 Repligen 2024 Proxy Statement, Summary, Board Composition, p.20 2023 Sustainability Report, Talent, p.14-16
405-2 Ratio of basic salary and remuneration of women to men	2023 Sustainability Report, GRI Content Annex, p.44
GRI 406: Non-discrimination 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, p.9, 14
406-1 Incidents of discrimination and corrective actions taken	2023 Sustainability Report, GRI Content Annex, p.44
GRI 407: Freedom of Association and Collective Bargaining 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.9, 12
407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	2023 Sustainability Report, Operations, p.9-10

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 408: Child Labor 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, Human Rights section, p.17 Business Partner Code of Conduct, Human Rights, Labor and Employment section, p.3-4
408-1 Operations and suppliers at significant risk for incidents of child labor	2023 Sustainability Report, Operations, p.9-10
GRI 409: Forced or Compulsory Labor 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, Human Rights section, p.17 Business Partner Code of Conduct, Human Rights, Labor and Employment section, p.4
409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	2023 Sustainability Report, Operations, p.9-10
GRI 411: Rights of Indigenous Peoples 2016	
3-3 Management of material topics	2023 Sustainability Report, GRI Content Annex, p.44
411-1 Incidents of violations involving rights of indigenous peoples	2023 Sustainability Report, GRI Content Annex, p.44
GRI 413: Local Communities 2016	
3-3 Management of material topics	2023 Sustainability Report, Communities, p.17 2023 Sustainability Report, GRI Content Annex, p.44
413-1 Operations with local community engagement, impact assessments, and development programs	2023 Sustainability Report, GRI Content Annex, p.44
413-2 Operations with significant actual and potential negative impacts on local communities	2023 Sustainability Report, GRI Content Annex, p.44

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 414: Supplier Social Assessment 2016	
3-3 Management of material topics	2023 Sustainability Report, Supply Chain, p.17
414-1 New suppliers that were screened using social criteria	2023 Sustainability Report, Supply Chain, p.17
414-2 Negative social impacts in the supply chain and actions taken	2023 Sustainability Report, Supply Chain, p.17
GRI 415: Public Policy 2016	
3-3 Management of material topics	Code of Business Conduct and Ethics, p.7, 8, 11
415-1 Political contributions	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risk Factors, p.29
GRI 416: Customer Health and Safety 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K, Part I, Item 1, Human Capital, p.12, Item 1A, Risk Factors, p.19, Risks Related to Government Regulation, p.28 Repligen Annual Report 2023, Form 10-K/A, Item 1A, Risk Factors, p.19, Risks Related to Government Regulation, p.29-30 2023 Sustainability Report, Products & Packaging, p.7-8
416-1 Assessment of the health and safety impacts of product and service categories	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Human Capital, p.12, Item 1A, Risk Factors, p.19, Risks Related to Government Regulation, p.25-26 2023 Sustainability Report, Products & Packaging, p.7-8
416-2 Incidents of noncompliance concerning the health and safety impacts of products and services	2023 Sustainability Report, GRI Content Annex, p.44

DISCLOSURE	2023 SOURCE LOCATIONS
GRI 417: Marketing and Labeling 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Business, Our Market Opportunity, Sales and Marketing, p.11
417-1 Requirements for product and service information and labeling	2023 Sustainability Report, Products & Packaging, p.7
417-2 Incidents of noncompliance concerning product and service information and labeling	2023 Sustainability Report, Products & Packaging, p.7
417-3 Incidents of noncompliance concerning marketing communications	2023 Sustainability Report, Products & Packaging, p.7
GRI 418: Customer Privacy 2016	
3-3 Management of material topics	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, Risk Factors, Risks Related to Data and Privacy, p.25-26
418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	2023 Sustainability Report, Cybersecurity, p.23 2023 Sustainability Report, GRI Content Annex, p.44

SASB Standards Index

SASB STANDARDS
Now part of IFRS Foundation

Sustainable Accounting Standards Board
Health Care Sector: Medical Equipment & Supplies Industry
Industry Standard | Version 2018–10

Current standards do not include Bioprocessing (our industry), so there is no direct match. Please see page 24 for a description of what "We Do" and "We Don't."

CODE	METRIC	CATEGORY	RESPONSE
Activity Metric			
HC-MS-000.A	Number of units sold by product category	Quantitative	Repligen Corporation believes that the number of units sold by product category is proprietary information and uses business franchise-level revenue as an Activity Metric. Revenue by each of our businesses (Filtration, Chromatography, Process Analytics and Proteins) can be found in our 2023 Annual Report.
Affordability and Pricing			
HC-MS-240a.1	Ratio of weighted overage rate of net price increases (for all products) to the annual increase in the U.S. Consumer Price Index	Quantitative	Our 2023 Consumer Price Index (CPI) increased by 3.4% compared to 2022. The realized impact of price increases at Repligen were modestly less than the 2022 CPI average. Price increases, if necessary, are typically determined annually and are made effective at the beginning of the next fiscal year.
HC-MS-240a.2	Description of how price information for each product is disclosed to customers or to their agents	Discussion and Analysis	Repligen Corporation has fixed prices for all products that are hard-coded into our quoting system (Salesforce). These prices reflect a fair value proposition for the benefits that our technologies provide. Price increases, if necessary, are typically determined annually and made effective at the beginning of the next fiscal year. Increases are derived from a composite of increases in the cost of labor and raw materials and investments made by Repligen Corporation to improve product access and quality. Pricing is provided to potential customers, who are biopharmaceutical developers and manufacturers, and life sciences companies, on request through our customer service or sales team. We do not publish an annual price list. In certain circumstances, where required by Master Service Agreements, Repligen Corporation provides annual pricing updates for certain products to customers. Volume-related pricing discounts are also considered.
Product Safety			
HC-MS-250a.1	Number of recalls issued, total units recalled	Quantitative	Eight recalls globally, totaling 455 units. None of these recalls resulted in fines or penalties from regulatory bodies or voluntary codes related to health and safety concerns in 2023.
HC-MS-250a.2	Products listed in the FDA's MedWatch Safety Alerts for Human Medical Products database	Discussion and Analysis	No products were listed in the FDA's MedWatch Safety Alerts for Human Medical Products database in 2023. For Repligen Corporation, this database is only relevant for a small hospital supplies business unit (Repligen Corporation of Irving, TX) that manufactures less than 1% of our products by revenue. The unit operates under an ISO 13485:2016 Certified Management Quality Program.

CODE	METRIC	CATEGORY	RESPONSE
HC-MS-250a.3	Number of fatalities related to products as reported in the FDA Manufacturer and User Facility Device Experience	Quantitative	0
HC-MS-250a.4	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practices	Quantitative	0
Ethical Marketing			
HC-MS-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims (USD)	Quantitative	0
HC-MS-270a.2	Description of code of ethics governing promotion of off-label use of products	Discussion and Analysis	This is not applicable, as Repligen Corporation is not a drug manufacturer and our products do not undergo FDA, EMA or other regulatory approvals for any particular indication/disease area. Our Code of Business Conduct and Ethics governs the promotion of all of our products.
Product Design and Lifecycle Management			
HC-MS-410a.1	Discussion of process to assess and manage environmental and human health considerations associated with chemicals in products, and meet demand for sustainable products	Discussion and Analysis	The development of new products and the enhancement of existing ones includes a thorough risk assessment and a stringent compliance component with established guidelines specific to each type. Guidelines for this activity are informed by our established quality processes, regulatory checklists, global regulations, certified testing facilities and consulting subject matter experts as required. Processes typically include the review of raw substances and mixtures for environmental and/or human health impacts, as well as regional electrical safety or product composition laws for controllers or other electrical products under development. Post product launch, Repligen Corporation monitors changing global regulations related to environmental or human health considerations that may impact existing products on the market.
HC-MS-410a.2	Total amount of products accepted for take-back and reused, recycled, or donated, broken down by: (1) devices and equipment and (2) supplies (Metric tons (t))	Discussion and Analysis	Repligen Corporation does not currently offer a formal product take-back, reuse or recycling program. However, we seek to improve the sustainability of our products and continue to hold discussions with interested collaborators toward a pilot program for select products and situations.
Supply Chain Management			
HC-MS-430a.1	Percentage of (1) entity's facilities and (2) Tier 1 suppliers' facilities participating in third-party audit programs for manufacturing and product quality	Quantitative	All suppliers, critical and non-critical, complete a questionnaire to become an approved supplier. Subsequent to this, the questionnaire is updated every 3-5 years. Additionally, critical suppliers are audited either on-site or remotely every 3-5 years. A "for-cause" audit can occur anytime as a function of their risk to Repligen.
HC-MS-430a.2	Description of efforts to maintain traceability within the distribution chain	Discussion and Analysis	Every shipment is traceable by its bill of lading and on-package labeling. Repligen Corporation assigns batch and/or lot numbers to all incoming raw materials and lot and/or serial numbers to outgoing orders. Barcoded labels are used to enable traceability of any package or shipment at any point, in or out of Repligen Corporation's carrier network.

CODE	METRIC	CATEGORY	RESPONSE
HC-MS-430a.3	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	Product quality and safety are fundamental tenets to Repligen. These are managed through our evolving cross-functional risk management program. We look forward to sharing more about this program in our 2024 sustainability report. Our Business Partner Code of Conduct clearly sets out expectations for our suppliers, including Human Rights and Fair Labor Practices.
Business Ethics			
HC-MS-510a.1	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption (USD)	Quantitative	There were no monetary losses as the result of legal proceedings associated with bribery or corruption in 2023.
HC-MS-510a.2	Description of code of ethics governing interactions with healthcare professionals	Discussion and Analysis	Repligen Corporation does not typically interact with healthcare professionals as part of our business activity. The Fair Dealings section of our Code of Business Conduct and Ethics governs the interaction of our directors, officers, and employees with customers, suppliers, competitors, employees, and all others.

TCFD Framework Index

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Task Force on Climate-related Financial Disclosures

According to its October 12, 2023 status report, the TCFD has fulfilled its remit and disbanded. While the FSB has asked the IFRS Foundation to assume monitoring responsibilities of companies' progress on climate-related disclosures, the original TCFD recommendations remain a useful framework for disclosures.

DISCLOSURE TOPIC	RECOMMENDED DISCLOSURE	RESPONSE
Governance		
Disclose the company's governance around climate-related risks and opportunities.	a) Describe the Board's oversight of climate-related risks and opportunities.	2024 Proxy, Sustainability — Environmental, Social and Governance Matters, p.23-25
	b) Describe the management's role in assessing and managing climate-related risks and opportunities.	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1, Sustainability, p.13-14
Strategy		
Disclose the actual and potential impacts of climate-related risks and opportunities on the company's businesses strategy, and financial planning where such information is material.	a) Disclose the climate-related risks and opportunities the company has identified over the short, medium, and long term.	Repligen Annual Report 2023, Form 10-K/A, Summary of Material Risks with Our Business, p.1, Risks Associated with Government Regulation, p.29 2023 CDP Climate Change Response, p.8-15
	b) Describe the impact of climate-related risks and opportunities on the company's businesses, strategy, and financial planning.	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, p.29
	c) Describe the resilience of the company's strategy, taking into consideration different climate-related scenarios, including a 2-degree or lower scenario.	2023 Sustainability Report, Elevating our Reporting Commitments, p.10-11
Risk Management		
Disclose how the company identifies, assesses, and manages climate-related risks.	a) Describe the company's processes for identifying and assessing climate-related risks.	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, p.29 2023 CDP Climate Change Response, p.8-15
	b) Describe the company's processes for managing climate-related risks.	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, p.29 2023 CDP Climate Change Response, p.18-19
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the company's overall risk management.	Repligen Annual Report 2023, Form 10-K/A, Part I, Item 1A, p.29 2023 CDP Climate Change Response, p.10-11

DISCLOSURE TOPIC	RECOMMENDED DISCLOSURE	RESPONSE
Metrics and Targets		
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management process.	2023 CDP Climate Change Response, p.8-14 Repligen 2024 Proxy Statement, Sustainability — Environmental, Social and Governance Matters, p.23-25
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	2023 Sustainability Report, Operations Data Details, p.12 Repligen 2024 Proxy Statement, Sustainability — Environmental, Social and Governance Matters, p.23-25
	c) Describe the targets used by the company to manage climate-related risks and opportunities and performance against targets.	2023 CDP Climate Change Response, p.9-11 Repligen 2024 Proxy Statement, Sustainability — Environmental, Social and Governance Matters, p.23-25

GRI Standards Content Annex

Repligen 2023 GRI Reporting Framework Index Annex

GRI Universal Standards 2021

This section provides additional information regarding Repligen Corporation's general disclosures and material topics. It is intended as a supplemental guide to information presented in our 2023 Sustainability Report and the GRI Standards index. Comments and questions can be directed to sustainability@repligen.com.

The process used to determine topics material to Repligen is outlined in our 2022 Sustainability Report, "Making an Impact," on pages 13–14 and our 2020 Sustainability Report, "Committed to Making a Difference," on pages 10–11.

General Disclosures

2-7 Employees

Repligen employee data is publicly reported at the end of each financial reporting period for that specific point in time (i.e., December 31 of each year). Data is compared to the previous reporting period(s) to determine whether there are significant differences or fluctuations that may require explanation. On a global basis, employee data is reported by geographic location, job type and age. Employees self-report their gender and ethnicity data.

2-15 Conflicts of interest

In 2023, there was no controlling share of Repligen stock.

2-18 Evaluation of the performance of the highest governance body

Shareholders vote annually on the composition of our Board. This topic is not directly applicable to Repligen, and thus, there is no internal process in place for it. However, shareholders indirectly evaluate the performance of our highest governance body overseeing Sustainability and Environmental, Social and Governance (ESG) programs through their annual voting on director nominees.

2-21 Annual total compensation ratio

The company's Chief Executive Officer (CEO) pay ratio decreased in 2023 compared to 2022; however, CEO compensation did not. The total dollar value of CEO compensation in 2023 increased by 3% compared to 2022. The decrease in pay ratio in 2023 is a factor of an increase in median employee compensation for 2023 compared to 2022 as the total employee count decreased by approximately 12%.

2-23 Policy commitments

In 2023, Repligen continued to apply the precautionary principle approach of "safety first" when developing and launching new products and assessing their potential social and environmental risks. As part of our due diligence process, we have set clear expectations for ourselves by placing safety and sustainability at the core of our business, and we are working to mirror that effort throughout our value chain. We are committed to conducting business in accordance with our principles, legal requirements, respect for human rights and the highest ethical standards, as guided by authoritative intergovernmental instruments such as the UN International Bill of Human Rights and the International Labour Organization.

Our Code of Business Conduct and Ethics reflects our five core principles: trustworthiness, respectfulness, responsibility, fairness, and corporate citizenship. This code applies to all Repligen employees, including those who have joined us through acquisitions. Additionally, all new employees are required to review and sign their commitment to the policy. In 2023, members of our Human Resources and Sustainability teams committed to participating in the UN Global Compact (UNGC) 2024 Business and Human Rights Accelerator program to learn more about how we can grow in this area. We also operate in accordance with company commitments and policies that are Board-approved and relate to Environmental, Health, and Safety (EHS), employee safety, personal data protection, cybersecurity and data privacy, whistleblowing, and others.

2-24 Embedding policy commitments

Repligen embeds its policy commitments throughout the organization to ensure that employees at all levels act responsibly and with awareness and respect for human rights. These policies are implemented in daily activities; for example, new employees are required to read and sign our Code of Business Conduct and Ethics, and they receive training on global and site-specific EHS and Quality Management Systems. Policies such as our Business Partner Code of Conduct are also shared with key business relationships, such as suppliers and service providers, to guide all persons acting on behalf of Repligen Corporation.

2-25 Process to remediate negative impacts

Repligen is committed to addressing or cooperating in the remediation of negative impacts that the organization identifies, has contributed to or is related to. A hotline is available to all employees as a grievance mechanism. No reports were submitted via this grievance mechanism in 2023.

2-27 Compliance with laws and regulations

No significant instances of noncompliance with laws or regulations were identified, and no fines were paid in 2023.

2-28 Membership associations

In addition to our active engagement with the Bio-Process Systems Alliance (BPSA), including its Sustainability Committee and a two-year term on its Board of Directors, we share and gain insights from our involvement with the American Society of Mechanical Engineers (ASME) and the BioPhorum Operations Group (BPOG).

Material Topics

201 Economic performance

3-3: As a publicly traded company listed on Nasdaq, Repligen Corporation complies with the highest standards of fiduciary responsibility required by the exchange and the U.S. Securities and Exchange Commission. To safeguard our financial integrity, our Chief Financial Officer (CFO) and our Controller have oversight of our robust internal audit function, ensuring proper accounting and related controls, and alignment of financial statements to the U.S. Generally Accepted Accounting Principles (GAAP). The internal audit team also coordinates with our Chief Compliance Officer and CFO to apply risk-based rankings across the organization and to apply risk mitigation programs as required.

201-1, 201-4: No government is present in the Repligen shareholder structure. Repligen Corporation does not publicly disclose the economic value generated, distributed and retained by geography.

202 Market presence

3-3: Repligen complies with all local, state, and country regulations related to hiring and compensation practices.

202-1: Repligen did not track the ratios of standard entry-level wage by gender compared to the local minimum wage in 2023.

202-2: However, 100% of the Repligen Executive team (senior management) in place at corporate headquarters at year-end 2023 had been hired in the country of operation (i.e., the United States).

203 Indirect economic impacts

203-1, 203-2: When making investment and capacity expansion decisions, Repligen Corporation, a publicly traded company, considers current office and manufacturing spaces, lease parameters and other options. Expansion projects comply with all relevant local, state and country regulations and impart no to low negative impacts on the community. Unquantified positive impacts include supporting the local economies where we operate through work- and non-work-related employee spending.

204 Procurement practices

3-3, 204-1: Repligen complies with all applicable government procurement mandates and international laws and regulations as they apply to our business around the world. In 2023, we began work to develop a robust supplier management program; more information will be available in our next report. The proportion of spending on local suppliers was not tracked in 2023.

205 Anti-corruption

205-3: Repligen had no confirmed instances of corruption among employees or business partners. Business partners are expected to comply with Repligen anti-corruption policies as outlined in our Business Partner Code of Conduct.

302 Energy

3-3: All calculations were prepared according to the Greenhouse Gas (GHG) Protocol using U.S. Environmental Protection Agency (EPA) eGRID and International Energy Agency (IEA) conversion factors. Repligen Corporation did not sell electricity, heating, cooling, or steam in 2023.

302-1: Total 2023 energy consumption was 38,625 MWh (139,050 GJ). Of this, 16,174 MWh (58,226 GJ), or 42%, came from non-renewable Scope 1 and Scope 2 sources and consisted of 11% electricity, 31% natural gas and a negligible amount of propane. The remaining 21,429 MWh (77,144 GJ), or 58%, came from renewable Scope 2 sources of electricity. Other renewable sources vary by region and provider and are not included in Repligen invoices.

302-2: Scope 3 emissions inventory tracking was expanded in 2022 from two to nine categories and in 2023 those nine categories amounted to 14,904 tons CO_2e, which is an estimated 81% of our total greenhouse gas emissions. Calculations were based on actual emissions data reported by suppliers and, in some cases, verified with Repligen data. We rely on suppliers to provide Repligen with accurate data sets prepared with the appropriate conversion factors.

302-3: At Repligen, energy intensity is normalized by revenue. Fuel and electricity, including heating and cooling, were included in the ratio and represent energy consumption within the organization. Steam was not included as Repligen does not generate or use steam in manufacturing processes. The GHG emissions intensity for the same period was 5.0 tons CO_2e, the lowest intensity value reported since we began tracking this data in 2019.

302-4: Energy consumption for electricity and heat increased by 7,655 MWh (27,558 GJ) in 2023 due to increases in natural gas usage resulting from new equipment installation and operations ramp-up.

302-5: No energy reduction requirements of sold products and services were identified in 2023. However, Repligen processes aim to yield more products in less time and floor space, and with less waste, thus delivering positive impacts to customer Scope 2 and Scope 3 emissions.

303 Water and effluents

3-3, 303-1: The majority of Repligen operations are not water-intensive. Each manufacturing site has strict measures in place to manage the amount of water used and released and maintains compliance with all applicable regulations. The World Resources Institute's (WRI) Aqueduct Water Risk Atlas informs site-level water strategies and priorities, which consider water withdrawals, usage, impacts, reduction opportunities and goal setting where feasible.

303-2: Repligen Corporation makes every effort to comply with local water discharge regulations for each manufacturing site, the standards of which inform our standard operating procedures (SOPs) and enforcement programs as applicable and as managed by site-level EHS leaders.

303-3, 303-5: Ten percent of our 2023 water withdrawals were at sites located in water-stressed regions. Water data was sourced from utility invoices and best estimates from property managers of shared rental spaces. In 2023, water withdrawals were used as a proxy for water consumption data. Water storage does not have a significant impact on Repligen operations.

303-4: Repligen currently tracks the total amount of water discharged from certain manufacturing processes, ensuring that the water is treated before release in accordance with relevant regulations.

Biodiversity

3-3, 304-1: Repligen is aware of the importance of biodiversity and its relationship to sustainable development. We are in the initial stages of evaluating the actual and potential positive and negative impacts of our operations on biodiversity, and we plan to expand on this work for future reporting. No International Union for Conservation of Nature (IUCN) Red List species or habitats were identified as needing protection or restoration in 2023; therefore, no action was taken.

305 Emissions

3-3: Repligen recognizes the value of working to control and, where feasible, reduce total greenhouse gas emissions. Our operational control consolidation approach to managing emissions is to maximize direct purchases of renewable energy (both fuel and electricity) and purchase renewable energy credits (RECs) when renewable sources are not available. Repligen aligns with the GHG Protocol for all emissions accounting, uses EPA GRID and IEA energy-to-emission conversion factors and uses U.S. EPA Global Warming Potential (GWP) rates to standardize all emissions to carbon dioxide equivalents (CO_2e). We do not track emissions of ozone-depleting substances as they are not material to our operations. Previous-year data was not restated in 2023 reporting; thus, there were no changes to the base-year emissions calculation. Actual data is used to calculate Scope 3 emissions except for categories 1 and 2, which use spend-based calculations. Categories 4 and 9 are calculated using a combination of actual and spend-based data.

305-1: This report covers annual and fiscal year 2023, where gross Scope 1 (direct) emissions were calculated as 2,236 tons CO_2e of carbon dioxide (CO_2) only. There were no biogenic emissions.

305-2: Gross Scope 2 (indirect) emissions for 2023 amounted to 9,781 tons CO_2e of location-based and 959 tons CO_2e of market-based emissions. This improvement over 2022 is mainly due to our increase in renewable electricity purchases for two of our large manufacturing sites, Marlborough, MA, and Hopkinton, MA.

305-3: Gross Scope 3 (indirect) emissions for 2023 amounted to 14,904 tons CO_2e and included both carbon dioxide (CO_2e from fuel burning) and methane (CH_4—part of our waste weight data). Biogenic CO_2 emissions were already included in our waste emissions metric, as composting emissions are not tracked separately. All Scope 3 emissions categories were included in the calculation except for categories 11 and 12.

305-6: Repligen does not currently track emissions of ozone-depleting substances as they are not material to our operations.

305-7: Reported Scope 3 emissions (305-3) represent the full emissions inventory and include NOx (Nitrogen oxides) and SOx (sulfur oxides) gases; however, emissions by gas type are not separately identified. Emissions from category 3 (Fuel- and Energy-related Activities not Included in Scope 1 or Scope 2) activities were 773 tons CO_2e and reflect a complete accounting of losses associated with transmission of off-site electricity generation as well as Scope 1 fuels.

306 Waste

3-3: Repligen recognizes the value of decreasing waste generation and increasing rates of recycling and landfill waste diversion at the site level. Again in 2023, we tracked all waste types and waste streams, including hazardous and non-hazardous materials, and shared best practices across sites. Monthly steering committee calls, led by our Vice President of Sustainability and championed by our Chief Operations Officer, track progress and identify new opportunities. Data were sourced from invoices and hauler reports. We also drive proactive discussions with haulers toward improving their data quality, thereby benefiting a wider set of their climate-conscious clients. Repligen considers waste directed to disposal as waste that is not prepared for recycling. Percentages may be rounded and may not equal 100%.

306-1: Typical site-level waste streams consist of manufacturing activities and resulting scrap. Raw materials and their packaging (inputs), combined with manufacturing processes (activities), are shaped by operating efficiencies (inputs), which result in salable products and scrap (outputs). Our continuous improvement program, the Repligen Performance System (RPS), is used to drive multiple manufacturing efficiency improvement projects leading to scrap reduction and lower waste totals in 2023.

401 Employment

401-3: In 2023, all employees, regardless of gender, were entitled to parental leave. The terms of parental leave can differ depending upon the location and local or regional norms. In the United States, employees receive a paid parental leave benefit in conjunction with the birth, adoption or foster care placement of a child. Full-time employees who have completed three (3) months of service are eligible for 40 hours of paid leave. Full-time employees who have completed twelve (12) months of service are eligible for 80 hours of paid leave. Part-time employees receive a prorated amount of paid leave based on the number of hours they are normally scheduled to work per week. Employees in other countries receive statutory benefits for parental leave.

403 Occupational Health and Safety (OHS)

403-1: This topic is a priority for Repligen. It is governed by a global EHS Policy and a Management Framework, which have been proactively implemented as a standard course of business and apply to all employees and company sites. Non-employees, such as contractors and tradespeople, whose work is controlled by Repligen, are also included. Associated policies and processes serve to reinforce the company's overarching global risk management program. Our manufacturing sites comply with local regulations and stay current on regulatory changes. In 2023, 14 of 19 manufacturing sites were ISO-certified, and the remaining two sites follow processes aligned to International Standards Organization (ISO) standards. Operations and site leadership emphasize correcting situations before they become incidents, and best practices are shared across sites.

403-2: Repligen tracks reportable and recordable incidents at each manufacturing site, guided by OSHA and applicable international regulations. Weekly operations meetings open with on-site safety status reports. Each site has a target to reduce incidents by tracking "near misses," communicating safety improvements to site employees, and sharing best practices across the site network. All workers are encouraged to report safety concerns through the near-miss program and are required to escalate serious concerns to their managers. At some sites, external experts are hired to support safety goals. Our Lund, Sweden, site is certified to ISO 14001:2015 and uses POL-11086 OHS Policy, BUP-00216 Risk Assessment, SOP-00456 Routines in Case of Accidents, and BUP-00217 Reporting of Work-Related Incidents.

403-3: Repligen manufacturing sites use internal and external resources to lead OHS efforts. Larger sites have dedicated internal OHS leaders who lead related processes and ensure all on-site employees have access to information to safely conduct their jobs. Most sites have safety teams to support safe practices and track progress. Lund uses BUP-00216 for risk assessment. Bridgewater uses CFR (Code of Federal Regulations) part 364, Health and Safety Risk Assessment, for their risk assessment.

403-4: New employees receive job-specific orientation and safety training. Most sites have safety committees that provide guidelines, corrective actions and tracking of incidents and near misses. Non-employees who visit sites are provided with access to safety protocols and practices.

403-5: Employees receive in-person and online safety training that includes the Repligen EHS Policy, emergency procedures, hierarchy of controls, hazard communication plan, and ergonomic and general safety. As appropriate to their role, other employees are trained in incident reporting, security policy, lab safety, emergency action plans, and disposal of chemical and biological waste.

403-6: Repligen provides employee benefits that align with federal, country, and cultural norms. Depending on the region, these can include medical, dental and vision care, an Employee Assistance (EAP) Program to support mental health, paid time off and parental leave. Personal protective equipment (PPE) is provided for jobs that require it, and some sites provide clinics that offer flu shots, therapeutic massages, and prescription glasses.

403-7: Repligen has in place robust risk prevention, mitigation and management processes related to operations and new product development. Today, there is no formal policy in place, other than our Business Partner Code of Conduct, that specifically addresses supplier OHS topics.

403-8: Repligen Corporation site OHS programs cover all employees and site visitors.

403-9, 403-10: In 2023, Repligen had no work-related fatalities or high-consequence work-related injuries. The potential for disclosing additional information on these topics in future reporting is under evaluation.

404 Training and education

404-1: Employee training hours are neither tracked by gender nor reported by employee level.

405 Diversity and equal opportunity

405-2: The Board Compensation Committee operates under a written charter available on our corporate website. No policy exists today for reporting the ratio of basic salary and remuneration of women to men.

406 Non-discrimination

406-1: There were no reported incidents of discrimination during 2023; thus, there is no status and no actions have been taken.

411 Rights of Indigenous peoples

411-1: Repligen leases its manufacturing facilities and operates in compliance with all applicable local, state, federal and country regulations. In 2023, there were no identified incidents of violations involving the rights of Indigenous peoples. Therefore, there were no actions taken with reference to incident reviews, remediation plan implementations or results reviews, and no incidents subject to ongoing action. No policy exists today that addresses the rights of Indigenous peoples.

413 Local communities

3-3, 413-1, 413-2: In 2023, 16 of 18 manufacturing sites, representing 89% of Repligen operations, implemented some degree of local community engagement, typically in the form of local community development programs based on local community needs. No Repligen operations were identified as having significant actual or potential negative impacts on local communities. Unquantified positive impacts relate to community goodwill and commerce.

416 Customer health and safety

416-2: In 2023, Repligen had eight product recalls globally, affecting 455 total units; however, none resulted in fines or penalties from regulatory bodies or voluntary codes related to health and safety concerns.

418 Customer privacy

Repligen has invested in robust security measures, including software systems, data management processes and employee training to manage and mitigate risks related to, among other things, intellectual property, proprietary business information, customer and supplier data, and personally identifiable employee information. In the reporting year 2023, there were no substantiated complaints received concerning breaches of customer privacy categorized by complaints received from outside parties or regulatory bodies.

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