

Enabling a Healthier World

Lonza

Sustainability Report

2021



Contents

4	Our Commitment to Sustainability	18	Responsibility	26	Environment
6	About Us	18	Risk Management	28	Energy
11	Our Journey	22	Anti-Bribery and Anti-Corruption	30	Water
14	Our Stakeholders	24	Supply Chain Responsibility	32	Greenhouse Gas Emissions
				37	Waste
				39	Innovating for Sustainability

42	People and Society	52	GRI and TCFD Overview
42	Occupational Health and Safety		
45	Diversity and Equal Opportunity		
46	Employee Recruitment, Retention and Development		
48	Employee Engagement		
48	Investing in Communities		

Our Commitment to Sustainability



Dear Friends of Lonza,

Welcome to our Sustainability Report 2021.

This year was important for sustainability across our global network. We have redesigned our business to become a pure-play strategic partner to the healthcare industry, with a focus on the pharma, biotech and nutrition markets. This new focus has provided us with an opportunity to realign our strategy and ensure we are set to deliver sustainable value creation in the long run.

Within our newly focused structure, we have defined and communicated our long-term strategic priorities. Sustainability is a critical component of this strategic framework, sitting in the center of a wider “Five-S” Model that also includes scope, scale, solutions and speed. To support this commitment, we have formed a global Sustainability and Risk Committee, which defines our sustainability strategy and delivery mechanisms, as well as ensuring that relevant topics are communicated and discussed with stakeholders and the group leadership.

We have structured our efforts around seven of the UN Sustainable Development Goals to deliver on global challenges. These include: good health and wellbeing; climate action; gender equality; industry, innovation and infrastructure; responsible consumption and production; clean water and sanitation; and quality education. More widely, we also remain committed to upholding the ten principles of the UN Global Compact, which we use as a compass to balance our sustainability strategies, policies and activities with stakeholders and societal needs.

Our environmental impact has been recalculated to reflect our new footprint, which is now smaller since the divestment of our former Specialty Ingredients business. Completing this divestment in 2021 also provided the opportunity for us to address legacy issues arising from Lonza’s past.

In the Visp (CH) region, we have been working closely with the authorities to deploy a lasting solution to the issues caused by the old Gamsenried landfill. In line with reporting requirements, we have made a provision of CHF 285 million for the first phase of the remediation project, which will take a decade to complete and will commence within the next two years. We have worked with our environmental experts to establish a provision to cover the majority of the remediation costs. By addressing legacy issues, we are now more strongly positioned to deliver a step change in our environmental performance.

Prior to the Specialty Ingredients business divestment we worked with the Swiss Federal Office for the Environment (FOEN) to plan and construct a catalytic converter to remove nitrous oxide emissions arising from the production of niacin. In doing this, we ensured that the divestment was completed responsibly, by providing a solution which was already on track to be resolved by the time of the sale.

At Lonza, the safety of our employees is a top priority for us and we are pleased to confirm that in 2021 we made around 32,200 safety improvements across our global site network based on observations and recommendations of our workforce. We are pleased to continue the good performance from the prior year regarding lost-time injuries.

We have also continued to focus on maintaining business continuity through the pandemic. We have delivered to our customers without interruption, despite global uncertainties and ongoing supply chain challenges. Specifically, we have worked on a series of COVID-19 related programs for a number of customers, such as AstraZeneca, Capricor Therapeutics and Humanigen, as well as expanding our existing collaboration with Moderna on Spikevax, the COVID-19 vaccine.

Our focus on delivering for our customers was cited alongside other factors in the positive response to our 2021 customer engagement survey. Inevitably there is work to do to maintain and improve current satisfaction levels, but we are pleased to see widespread endorsement of our efforts to navigate the pandemic and maintain business continuity.

Finally, in 2021 we were recognized as one of the World's Most Ethical Companies 2021 by the Ethisphere Institute, a global leader in defining and advancing the standards of ethical business practices. This recognition is based on a comprehensive and robust review of a company's governance, leadership and reputation, environmental and societal impact, ethics and compliance program and overall commitment to a culture of ethics.

Looking to 2022, we are focused on building on the positive momentum we have generated around sustainability. We have built ESG metrics into our company performance measurements and our reward and recognition allocations for the global employee community, commencing in 2022. We trust this will further unite and galvanize our employee community around long-term value creation, and ensure that we continue to fulfil our purpose of enabling a healthier world.

Best regards,
Pierre-Alain Ruffieux
Chief Executive Officer (CEO)

About Us

Founded in Switzerland 125 years ago in 1897, we are one of the world's leading and most trusted strategic partners to the healthcare industry. We work to enable a healthier world by supporting our customers in the pharma, biotech and nutrition markets to deliver new and innovative medicines that help treat a wide range of diseases. Our structure of four divisions has been designed to capture synergies and meet our customers' needs.

More information on our business and markets is provided in the [Our Businesses](#) section of our Annual Report.

Economic Performance

We strive to create value for our shareholders, customers, employees, suppliers and communities. We distribute our derived economic value to various stakeholders through a variety of streams. This includes employees through compensation and benefits, shareholders through share price appreciation, suppliers and service providers through raw material and service contracts and society and governments through taxes and local community projects. Part of the earned value is retained in

the company for further growth through innovation, strategic investments and bolt-on acquisitions. For further information, please see the [Financial Statements](#) section of our Annual Report.

We continue to focus on our growth trajectory by making targeted investments, while optimizing our business and product portfolios. In 2022, we will prioritize the following key internal initiatives:

- Full integration of material environmental, social and governance (ESG) measures, and alignment of our ESG ambitions with Lonza's compensation systems;
- Focus on safety and health of our employees, and business continuity through the pandemic;
- Continued levels of capital expenditure (CAPEX) investment to meet customer demand and deliver sustained growth;
- Focus on talent attraction and development to support expansions and new programs;
- Establish and strengthen systems and processes across our divisions, to optimize efficiency and delivery.

Lonza's Business Divisions

Small Molecules

Cell & Gene

Biologics

Capsules &
Health Ingredients

Governance

In accordance with the law and the Lonza Articles of Association, the Board of Directors is the most senior management body of the Lonza Group. The Board of Directors defines the strategic direction and is responsible for the supervision of the persons entrusted with the Group's management.

The members of the Executive Committee (EC) are appointed by the Board of Directors. The Executive Committee is responsible for managing Lonza globally and for implementing policies and strategies as defined by the Board of Directors.

Governance and oversight over Sustainability and ESG is with the Board of Directors, headed by the Chairman of the Board, with specific aspects to be covered by the Board's committees (Nomination and Compensation Committee, Audit and Compliance Committee, and Innovation and Technology Committee). While the Board acts as sponsor and overall owner of the program, the implementation is the responsibility of the EC. The Board and its Committees review and endorse Lonza's sustainability

efforts and reporting. Sustainability includes environmental, social and governance (ESG) topics of importance relating to our business and our stakeholders. The Sustainability and Risk Committee (SRC), headed by the Lonza Group General Counsel and Company Secretary, manages identified material topics (as shown in the Materiality Matrix on [page 15](#)), and is responsible for sustainability reporting. The Head of Global Sustainability and the Head of Global Environment, Health and Safety (EHS) and their teams are responsible for proposing the corporate sustainability strategy and for implementation and oversight of the Safety and Sustainability Policy. The Global Sustainability and EHS teams report to Lonza's Group General Counsel.

In 2021, as Lonza started a new chapter as a strategic partner to the healthcare industry, we created a dedicated Sustainability Group to further advance our sustainability agenda and our internal and external sustainability profile. The former Sustainability Council was replaced by the Sustainability and Risk Committee (SRC) and the Safety and Sustainability Steering Board (SSSB) which includes operations and supply chain functions.



Lonza's Financial Performance 2021



1,665 mio.

CORE EBITDA in CHF



5,409 mio.

Sales in CHF



10.7

ROIC in %

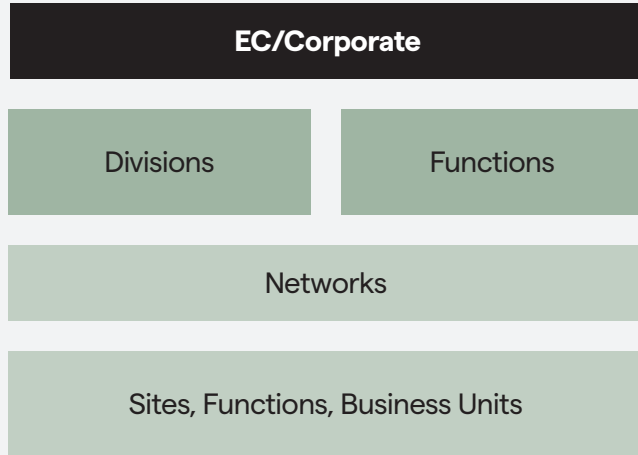


30.8

CORE EBITDA margin in %

Sustainability Governance

Organizational Structure



Governance and Escalation Structure



The SRC meets on a monthly basis. It includes members from Global Sustainability, Ethics & Compliance, EHS, Corporate Responsibility and Enterprise Risk Management. Its responsibilities include the following:

- Define Lonza's sustainability strategy implementation and alignment with global functions, e.g. Operations, Human Resources, Finance, etc;
- Provide leadership, drive awareness and engagement on sustainability in Lonza;
- Serve as a link and source of dialogue between internal networks and external stakeholders;
- Encourage sharing of established best practices across divisions and functions.

The SSSB deals with the operational aspects and meets on a quarterly basis. It includes global management from EHS, Sustainability, Operations, Engineering, Procurement, HR, Corporate Responsibility and Enterprise Risk Management, as well as the Head of Group Operations (member of the Executive Committee).

Its responsibilities include the following:

- Endorsing global EHS and sustainability procedures and standards and ensuring involvement of the business divisions;
- Monitoring the EHS and sustainability performance of the business divisions and aligning corporate targets into divisional targets;
- Identifying significant operational EHS and sustainability risks, emerging issues, regulatory developments and compliance matters;
- Reviewing quarterly audit summaries and significant governmental enforcement notices, citations and actions to ensure appropriate corrective actions and programs.

We further enhanced our ESG agenda by working with Board and management to embed ESG targets into our compensation framework. These will be implemented in 2022 and include relevant material topics and Sustainable Development Goals. The Sustainability Report is reviewed by the Nomination and Compensation Committee (NCC) and the Audit and Compliance Committee (ACC) with final approval by the Board of Directors. Further details on Corporate Governance and the Group Structure can be found in the [Corporate Governance](#) section of our Annual Report.

Employee Community

16,218

Employees
2020: 14,062

15.2%

Growth in employee population
2020: 9.9%

3.0%

Internal promotion rate
2020: 2.3%

30

Countries with employee presence
2020: 31

40%

Female new hires
2020: 40%

12.7%

Total turnover
2020: 9.6%

100+

Nationalities
Mainly from Switzerland, United States, China, and United Kingdom

36%

Female population
2020: 35%

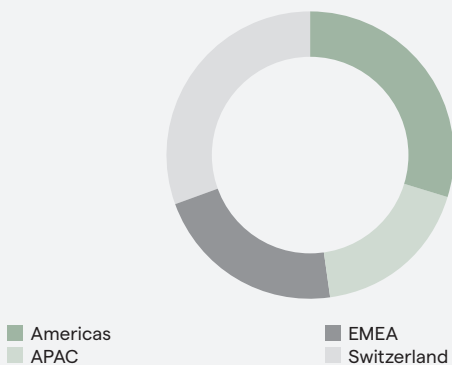
Employee Community

Our purpose, enabling a healthier world, is realized through the effort and dedication of 16,218 employees around the world. As we continue to expand in response to escalating customer demand, we are proportionately growing our employee population. Our colleague community grew by more than 15% in 2021. The majority of these new joiners have come into key sites in Visp (CH), Portsmouth (US) and Houston (US), focused on strategic growth projects. This growth has brought the need to consider talent from other industries requiring similar skill sets, including fast-moving consumer goods and consumer companies. We had to broaden our search for talent across European countries to find critical skill sets, and to make one of our major sites, Visp (CH), a place for international talent. As we welcomed employees from other industries and countries, we have provided new employees with onboarding and training opportunities to support their success from the outset. Our core organizational values (initiative, innovation, inclusion and integrity), are also integrated into our training and development plans for all employees.

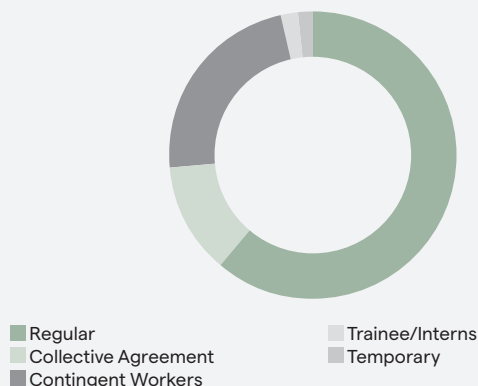
Voluntary and involuntary turnover is analyzed and monitored regularly at a site, division, function and global level to support talent attraction and retention. Like many other companies, we have seen an increase in turnover in 2021 to 12.7% (including voluntary and involuntary cases). This was largely a knock-on effect from the more limited job market movements in the previous year, during the height of the pandemic. The current number still leaves us positioned in the average range of our own industry.

In 2021, we worked to further digitize and automate our HR service offerings. Our new technologies are designed to provide efficiency and consistency, as well as creating an improved experience for our new joiners going through the onboarding process. Technology also supports the People Leaders within the organization in monitoring multiple metrics, including turnover rates, to ensure alignment and efficiency by a data driven approach to people management across the business.

Geographic Diversity



Worker Type



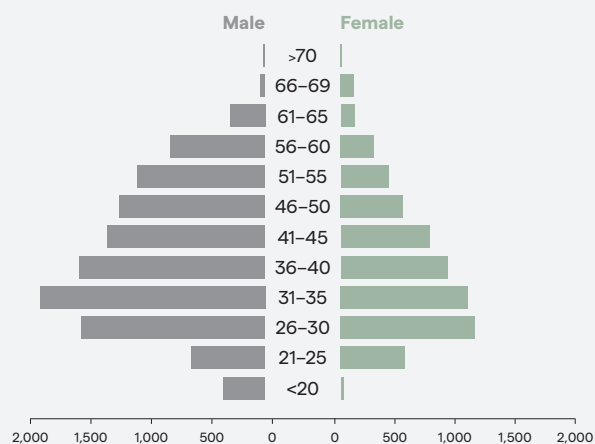
Our Workforce

		2020	2021
Gender ¹	Male	9,209	10,574
	Female	5,041	5,839
Region ¹	Americas	4,315	4,901
	EMEA	7,061	8,534
	APAC	2,674	2,983
Hires (headcount) ¹		2,323	4,516
Hires by Region ¹	Americas	716	1,504
	EMEA	1,226	2,393
	APAC	381	619
Turnover (%)		9.6%	12.7%
Turnover by Region (headcount) ¹	Americas	569	900
	EMEA	511	693
	APAC	212	310
Voluntary Turnover (%) ²	Managers	7.4%	8.9%
	Non-managers	8.1%	11.4%
Involuntary Turnover (%)	Managers	1.9%	0.9%
	Non-managers	1.7%	2.0%

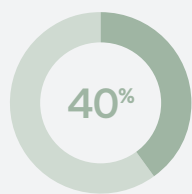
¹ Headcount, excluding contingent workers

¹ Voluntary Turnover represent departures who for their own reasons leave Lonza (incl. retirement)

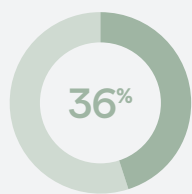
Broad Balance Across Age Groups



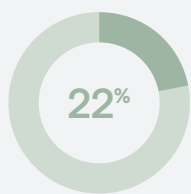
Five employees did not wish to disclose their gender



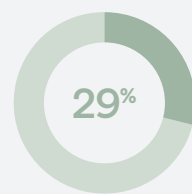
Female New Hires



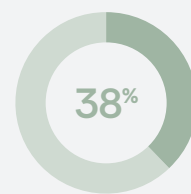
Female Employees



Female Top Management¹



Female Executive Committee Members



Female Board Members

¹ Reflects female top management reporting into the Executive Committee. Previous years' figure represented all female roles reporting directly into the Executive Committee, which sits at 32% of the population in 2021. All female management roles within Lonza sits at 26%.

Our Journey

Safety and Sustainability are essential elements of how we do business. We foster transparency and reporting in line with the Global Reporting Initiative (GRI) Standards which represent the accepted industry practice for tracking performance on a range of economic, environmental and social indicators.

The 2021 Sustainability Report is our fourth report and provides insights into our renewed commitments and performance relating to the most relevant sustainability topics for our business and our stakeholders. It reflects our increased focus as a pure-play strategic partner to our customers in the pharma, biotech and nutrition industries, following the divestment of the Specialty Ingredients segment, which closed mid-2021.

We group our sustainability initiatives around selected key [Sustainable Development Goals](#) (SDGs). SDGs are the United Nation’s global blueprint to achieve a better and more sustainable future for humanity. Many companies use the SDGs to participate in a common and consistent framework that will help achieve future sustainability ambitions.

While the UN has identified 17 SDGs to address global challenges, Lonza has selected seven SDGs, most relevant to our businesses, around which to build our initiatives. We also matched each of the material topics with the seven SDGs (see GRI Index), which we have translated into a Lonza-specific interpretations. This will enable us to prioritize ESG initiatives and create a meaningful program that is relevant to our business. It supports and guides us on our journey to develop a robust action roadmap for the mid- and long-term, while taking account of our existing targets and achievements.

As a further improvement, the seven SDGs are directly assigned to Executive Committee (EC) members, who in turn have nominated a Program Manager to develop an effective program around each goal. The executive compensation will be aligned with these SDGs and related metrics, with collective accountability. ESG metrics will also be included in the company performance measurements and reward and recognition allocations for everyone in the global employee community.

What the Seven SDGs mean for Lonza



Good Health and Wellbeing: We enable a healthier world by working with our customers to overcome some of the greatest challenges in patient treatment. We aim to achieve this with products, services and cutting-edge technologies that can help to save, extend and enhance lives. The safety of our employees has always been a top priority for us and a healthy and safe workforce contributes to our success.



Climate Action: Based on scientific evidence, greenhouse gas (GHG) emissions contribute to global warming. This affects the climate globally, impacts the planet, health and wellbeing. To enable a healthier world, we must take decisive steps to reduce our own GHG emissions over the next decade and ultimately aim for net-zero GHG emissions by 2050.



Gender Equality: We gain and maintain our competitive advantage and strength by having a diverse global employee community, which embraces the value and benefit of differences in characteristic, preference, perspective and belief.



Industry, Innovation and Infrastructure: We continuously invest in innovation while further improving our operational excellence. We are also creating vital, game-changing technologies, including gene editing systems and automated therapy manufacturing systems. We aim to embed sustainability into our organic growth and footprint expansion by design.



Responsible Consumption and Production: We continue to reduce our impact on the environment and have programs to limit our material consumption and waste generation. We aspire to source materials from responsible suppliers that meet strict compliance standards and have actions in place to reduce their emissions, waste, natural resources in line with our expectations, in addition to a climate action plan which supports Lonza’s Scope 3 emissions reduction plan.



Clean Water and Sanitation: Access to clean, plentiful and potable water is a basic human need and critical to ensure the quality of our products. We need to protect the water ecosystem to ensure that they are not contaminated by pharmaceutical substances or other pollutants.



Quality Education: We recognize that our people are the cornerstone of our success and we want to see them grow. As we develop innovations in pharma, biotech and nutrition, we aim to increase partnerships and our contribution to the scientific community.

Our Sustainability Journey

Our Values and Policy

Our Values

Integrity

Having the accountability, honesty and courage to speak up and do the right thing

Inclusion

Being supportive, respectful and responsible towards others

Innovation

Being engaged, curious and enquiring to find the best possible solution

Initiative

Being self-driven, motivated and committed to focus and deliver

Our Policy

Vision ZERO

We continually improve our systems and aspire to ZERO incidents, injuries and environmental footprint.

Our Environment

We strive to continually reduce emissions, energy, water and material intensity.

Compliance and Integrity

We ensure that legal compliance, integrity and ethical conduct are the foundations in every place we operate.

Our People

We develop our employees by helping them grow. We provide safe workplaces, care for employees' wellbeing and foster their involvement and participation.

Value for Society

We create value for society by innovating and delivering science-based solutions to enable a healthier world. We engage in the communities where we operate.

2

1

Our Strategic Priorities

Service

Manufacturing and operational excellence to deliver quality, value and "right first time"

Scope

An unparalleled breadth of offerings across services and modalities

Sustainability

Delivering long-term value, economically, environmentally and socially

Solutions

Scientific, regulatory and manufacturing expertise to solve our customers' challenges

Speed

Ability to accelerate the path to commercialization

Our Targets: •
ESG Framework: Seven ESG Targets
Integrated into Compensation System



Material Topics:

- Customer Satisfaction
- Supply Chain Responsibility
- Carbon emissions
- Energy, Water and Waste
- Occupational Health and Safety
- Employee Recruitment, Education and Retention
- Gender Equality

Our Compass:
The Seven SDGs

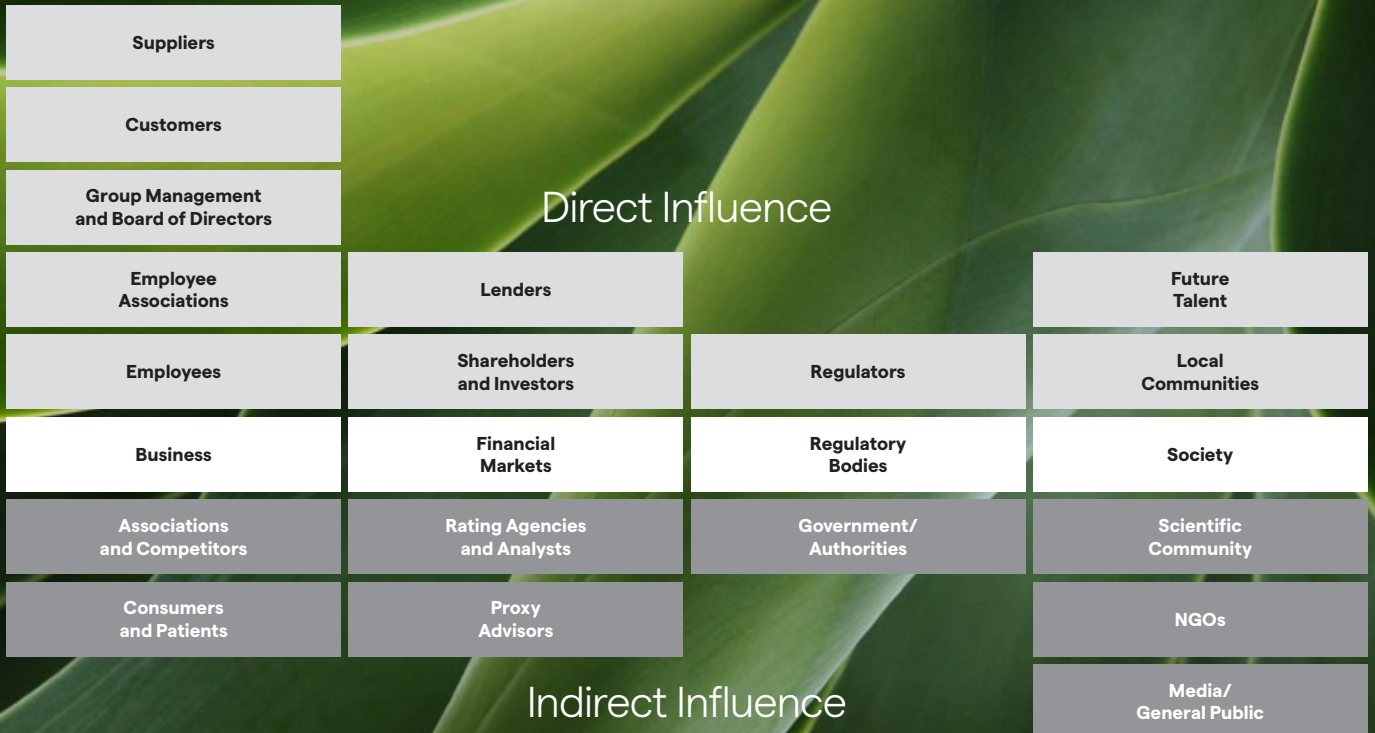


Our Stakeholders

We have identified relevant stakeholders which may have a vested interest in our performance and can directly or indirectly influence the direction of the company. These stakeholder groups are shown below. We perceive international bodies like the United Nations as authorities and the relevant agreements between states as a guideline for the industry. The SDGs guide and direct our corporate goals and approach to sustainability.

As part of the sustainability reporting process, the main stakeholder groups were categorized according to how the company may impact the stakeholder and how the stakeholder may impact the company. Results were verified with different entities within Lonza (Management, Business Units, Human Resources, Legal, Investor Relations and Communications), alongside external benchmarks.

Our Stakeholders



Materiality

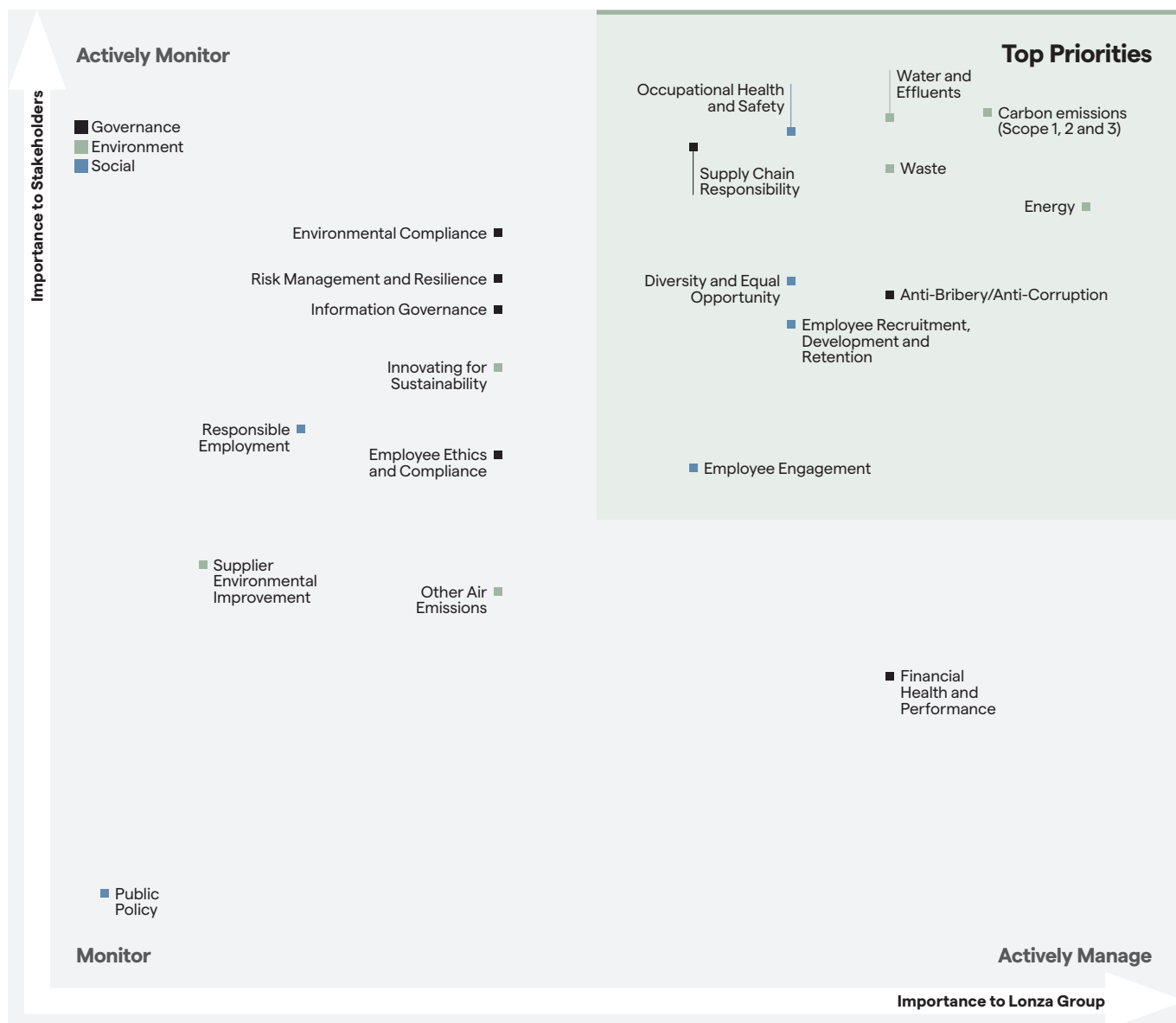
The most relevant stakeholder groups (or their proxies) were involved in the 2021 materiality process to better understand their specific requirements and priorities, specifically employees, customers, scientific community, shareholders, financial analysts, Group Management and Board of Directors.

The survey included topics listed in the GRI, as well as others that were considered relevant to our industry. The materiality mapping, as shown below, was based on:

- The main sustainability topics raised by our stakeholders;
- Relevance to our business;
- Potential reputational impacts;
- Potential to influence or impact the topic;
- Significance (extent) of the impact on our business.

The evaluation engaged the identified stakeholders in a survey to understand their perspective. Our priorities were validated by the Sustainability and Risk Committee and by Group Management. A further verification mapping was also undertaken using only input from stakeholders external to Lonza, and the results were similar.

This report focuses on highly material topics. Topics rated moderate and low are not necessarily covered in our reports but are nonetheless monitored on a regular basis. Newly identified issues will also be analyzed, prioritized and integrated, based on their relevance. Our ongoing dialogue with stakeholders, especially with the sustainability experts of financial and proxy advisors, help us to refine our scope and identify new and additional material topics.



Stakeholder Engagement

Our entities regularly engage with their relevant stakeholders on a local level and incorporate their requirements for site development, though not necessarily in a formalized manner. As a company, we are active on multiple social media platforms, which provide additional channels through which to receive feedback from individuals or groups.

In 2021, the annual meeting of the European Works Council (EWC) took place in person with senior Lonza leaders. It included an update on the business and Lonza's people strategy. Ad hoc information sessions with the EWC and its local representatives took place during the year to update the Council on relevant COVID-19 developments and additional people-related topics.

Around 50 exchanges took place with shareholders, key proxy advisors and rating partners discussing corporate governance, incentive compensation, sustainability and other relevant topics. These meetings were held in both virtual and face-to-face settings. We also maintain regular contact with our customers through our sales teams at a divisional level, and through direct contact with the group leadership. This took place both virtually and face-to-face, depending on relevant restrictions.

As part of the annual sustainability reporting process, we specifically engage with selected internal and external stakeholder groups, so we may include their views on the material topics.

Associations

Lonza joined the [United Nations Global Compact \(UNGC\)](#) in 2009. We are committed to aligning our businesses and operations with these universally accepted principles of sustainable development. This encompasses the areas of human and labor rights, anti-corruption and environmental sustainability. Lonza is fully committed to implementing the UN Global Compact's Ten Principles and this report serves as our annual Communication on Progress (CoP). Our CoP is mapped in the GRI content index at the end of this report (see [page 53](#)).

We have been a member of the non-profit business membership organization [Pharmaceutical Supply Chain Initiative \(PSCI\)](#) since 2019. The PSCI is a group of pharmaceutical and healthcare companies, which share a vision to achieve better social, environmental and economic outcomes in member companies. This includes:

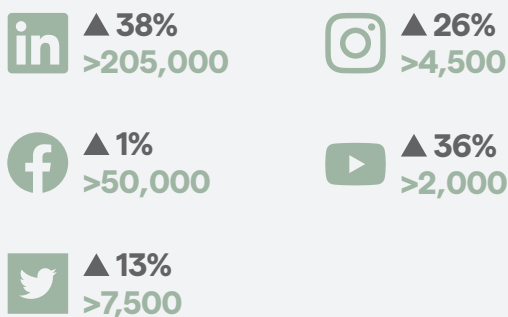
- Fair and safe work conditions and practices;
- Responsible business practices;
- Environmental sustainability and efficient use of resources.

The purpose of the initiative is to bring together the pharmaceutical industry to define, implement and champion responsible supply chain practices. It has developed a set of principles to deliver a more sustainable supply chain. We have embedded these principles in our Supplier Code of Conduct and we actively encourage our suppliers to follow them.

We are a member of various associations in the pharmaceutical, biopharmaceutical and personal care industry sectors, as well as in the wider business community. Associations may serve a variety of purposes such as exchanging best practice, aligning on public policy issues or collaborating on advocacy activities. The following list shows some of those associations: [Scienceindustries](#), [SwissHoldings](#), [Biophorum Operations Group](#), [Drug, Chemical and Associated Technologies Association](#), [International Society for Cellular Therapy](#), [International Society for Pharmaceutical Engineering](#), [Association A3P](#) and [Rx-360 Consortium](#).

Lonza Corporate Social Media Presence 2021

In 2021 we continued to increase our social media presence. These numbers show the number of followers as of 1 January 2022.



Customer Satisfaction

We are privileged to have several thousand customers and we proactively use opportunities to engage with them regularly. Customer satisfaction forms a core pillar in our business management system and we provide multiple channels for capturing feedback at all stages of the customer journey.

Each division takes accountability for requesting regular feedback across all stages of the lifecycle, from customer acquisition to onboarding, project kick-off, service delivery as well as at project close-out and debrief. In compliance with all relevant privacy regulations, we capture metrics across quality, service, on-time delivery, lead times, communication, project governance and reliability, all of which form key selection criteria for our customers when choosing to do business with us.

Last year we launched an annual customer satisfaction program – the Lonza Promoter Score (LPS) – across our Contract Development and Manufacturing Organization (CDMO) teams. The aim of the survey was to provide a quantifiable and reliable measure of customer engagement in Lonza. The success of the 2020 launch and its insights allowed us to expand the survey. In October 2021, we extended this to our customer teams across all four divisions and received more than 1,000 responses.

Despite the COVID-19 pandemic impacting supply chains across the industry, our focus on business continuity has allowed us to keep all our sites operational. As a result, customer feedback has been extremely positive and confirmed our position as one of the leading suppliers to the healthcare industry. We were told by customers that our employees are widely regarded as experts and that we combine world class quality and pioneering technology to solve their problems. From our data, we can see that we are outperforming the industry benchmark. This confirms that our vision to bring any therapy to life and our purpose to enable a healthier world resonates with our customers. It is a primary reason many choose to do business with us.

We will be putting customer centricity action plans in place to further drive continuous improvement and run the survey again in 2022 to track our progress.

SDG 3 Good Health and Wellbeing

“Sustainability is a key priority for Lonza. Our focus on safety, quality and right-first-time enables us to best serve our employees, our customers and their patients in enabling a healthier world.”

Pierre-Alain Ruffieux
Chief Executive Officer



Customer Vision

“Deliver a great customer experience, as recognized by our customers.”

“Lonza has demonstrated the ability to deliver on the technical and quality front. They are an exceptional partner for multiple technologies. They have shown strong technical understanding as well as program management abilities.” (Big Pharma)

“Lonza has been a key partner for our company. We have developed a strong relationship based upon open communication. We are confident in Lonza’s technical capability and they continue to meet expectations at a high level.” (Mid Pharma)

“The services provided by Lonza are of high quality, well managed, with timely execution. The open communication and responsiveness make Lonza a good partner to advance the project quickly.” (Small/Emerging Pharma)

Lonza Customer Satisfaction Survey 2021

>1,000

Responses

- Customers recognize us for having the broadest range of products and services in the healthcare industry
- We are known for industry-leading expertise and quality
- We are trusted to help solve their most challenging projects across all modalities ranging from small molecules to biologics

Responsibility

We assume our responsibility across environmental, social and financial areas and take an active and robust approach to providing value to all stakeholders through the work we do, our partnerships and our community involvement. For 125 years we have generated sustainable value for our stakeholders, from our customers and suppliers to our employees and their families, from the communities in which we operate to our global shareholders.

Risk Management

We apply the precautionary principle within a systematic risk management framework. Risk management is a process applied from the shop-floor of a single site to the whole Group. Selected elements include:

- Job safety analysis, technical safety reviews of equipment;
- Process hazard analysis, audits and inspections;
- Site risk analysis, including fire safety, natural risk, and interruption risk;
- Supply chain risk analysis; and
- Enterprise risk management including ESG risks.

The Enterprise Risk Management (ERM) program is a critical component of our global organization and business, as it provides a mechanism and governance for identifying, assessing, addressing and reporting risk across multiple levels of the organization. Our ERM program enables us to identify the most significant risks to our organization that impact value to our stakeholders, along with mitigation actions and owners to minimize the probability and/or impact of risks.

The findings of the annual bottom-up enterprise risk identification and assessment process, the year-on-year changes in risk categories, and updates on mitigation actions are included in the information presented to and discussed annually with the Executive Committee and the Board of Directors. Some of the trends influencing the industry are viewed as opportunities rather than risks for companies in the healthcare industry such as ourselves. An increasing focus on ESG topics, as well as trends such as aging societies, growing populations and the increasing need for safe and abundant food are directly considered in our enterprise risk assessment and shape our global strategy. Alongside this, we also include climate, natural and environmental risks into our assessment.

For more information about ERM, see the [Financial Statements](#) section of our Annual Report.

Business during COVID-19

Lonza has played a critical role in the response to the ongoing COVID-19 pandemic as a manufacturer of various treatments, from mRNA vaccine drug substance to anti-viral drug components. We managed challenges as the COVID-19 pandemic evolved throughout 2021 and played an active role in helping to control the pandemic. In 2020, we established both global and regional cross-functional taskforces to manage every aspect of the pandemic development; the taskforces have continued to manage their responsibilities throughout 2021.

Vaccine Manufacturing and Other COVID-19 Related Projects

We have continued to develop and manufacture many potentially life-saving treatments this year, by establishing new partnerships and expanding existing collaborations to manufacture COVID-19 therapies for our customers.

We have expanded our collaboration with Moderna to produce drug substance for its Spikevax COVID-19 vaccine. The extended agreement included doubling production capacity at our site in Visp (CH) to a total of six production lines and installing a new drug substance production line at our site in Geleen (NL).

In addition to our work with Moderna, we have been working on COVID-19 projects with other customers, including:

- AstraZeneca's AZD7442, a combination of two long-acting antibodies;
- Capricor's CAP-1002, a cell therapy candidate for the treatment of Duchenne Muscular Dystrophy (DMD) and complications arising from COVID-19;
- Humanigen's Lenzilumab COVID-19 therapy.

Supporting our Employee Community

Since the outbreak of the pandemic, the health and safety of our employee community was a top priority. We have taken steps to ensure that employees feel supported as our working practices continue to adapt to the conditions required by the pandemic.

A dedicated wellbeing program focused on mental and personal health has provided employees with access to support, across issues including digital wellbeing and the impact of COVID-19 on children and childcare. The global program has been complemented by local wellbeing initiatives at sites including the People Care Center in Visp (CH), Mental Health Ambassadors network in Slough (UK) and volunteering hours at sites in the US.

Encouraging Vaccination

We have taken an active role in encouraging our employee community to be vaccinated to protect both the health of individual employees and the broader population of the communities in which we operate.

At our site in Visp (CH), an important global vaccine substance production center, we set up a vaccination center with the support of local health authorities to offer eligible employees and their families the opportunity to be vaccinated on site. The initiative served to relieve pressure on the local vaccination center and supported the community by accelerating the pace of vaccinations in the region.

Cybersecurity

The security of information and data is a priority for our business. It enables us to ensure the constant availability of our critical systems and to protect our information, including the information that is entrusted to us by our customers and partners.

The Lonza IT Security Department is responsible for ensuring that appropriate technical, procedural and organizational safeguards are in place for our information systems, including testing for potential security weaknesses. The Department is also responsible for providing training to our employees and contingency workers on how they contribute to the security of our information assets. The IT Security team's activities in 2021 included:

- Continued expansion and enhancement of governance and policy, based on international standards;
- Implementing a robust, user friendly and scalable security architecture including solutions and services;
- Optimizing the security operations service, rapid response and risk awareness;
- Minimizing possible business disruption and empowering associates to work securely and effectively in an international collaborative environment.

The strategy of Lonza IT Security includes implementing holistic, preventive, detective and reactive IT security measures, in line with the relevant risk levels. It also provides risk assessments, contributes to enterprise risk management and defines security and IT control requirements for projects and risk remediation measures. Finally, it aims to ensure that we meet applicable laws and regulations in collaboration with Legal, Quality Assurance and other departments.

We run ongoing training and awareness initiatives on the subject of information security. Recent surveys indicate that well over 95% of our associates are aware of their critical role in protecting our information. New technologies and methods are being used to ensure this awareness remains high, without reducing the impact of the message.

Measures and Activities to Enhance IT Security



At the time of writing, Lonza Group has a Secure Scorecard® rating of A/95 and the Bitscore® rating as Advanced/740¹. This is above average for the industry and has been for more than a year. These ratings are provided by independent organizations based on a technical analysis of our assets and provide a snapshot of cybersecurity risk.



Data Protection

We take data protection seriously around the globe. Our guiding principle is the General Data Protection Regulation (GDPR), in addition to any national law of those countries in which we operate. Moreover, every employee commits to follow our Internal Data Protection Guidelines. The content of these Guidelines is also included in the annual Code of Conduct training which all employees are required to complete.

The protection of our employee and our customer personal data is critical to maintaining trust with our stakeholders. It has long been a focus for the Privacy Taskforce, meeting monthly to address any concerns, and developing issues. Taskforce members include our Data Protection Officer and dedicated members from across our divisions, sites and functions, including colleagues from the Legal, IT and Marketing Departments.

Our website Privacy and Cookies Policies are updated to provide our customers and website visitors with maximum choice and safety.

Compliance

We are committed to regulatory compliance and ethical behavior across all areas of our businesses and operations. Our industry is highly regulated, which implies that we are inspected by various regulatory authorities, certification bodies and customers regularly. Any findings during these inspections are addressed and used to support the continuous improvement process.

In 2021 our sites underwent 33 regulatory inspections. In line with the increase of the commercial and development production, and a growing portfolio, the number of customer audits (on-site plus remote audits) also continues to increase. The successful inspections and audits are a valuable feedback loop to assure compliance across the company.

Environmental compliance is also critical to our operations. Lonza sites employ a management system approach, which includes regular information updates on legal changes and a compliance assurance mechanism with internal and external controls. Various sites have implemented a certified ISO 14001 system, which includes oversight of regulatory requirements. Additionally, we received assurance by a Swiss certification body that Lonza's Corporate EHS management system is fully aligned with ISO 14001 and ISO 45001 standard requirements.

In 2021, we recorded ten environmental incidents across our network, largely through wastewater permit exceedances and our incident-rate (per 200,000 worked hours) decreased to 0.05 (from 0.10 in 2020). Our rate of process safety incidents (number of events, fines and penalties) with eight incidents decreased to 0.06 (from 0.08 in 2020). Most of these incidents were related to contained spills. These rates refer to all Lonza sites, including the Specialty Ingredients business until end of June 2021.

Regular internal audits of different functions (e.g. EHS audit, loss prevention visits, quality audit) provide both oversight and governance. EHS audits of our sites are performed every three years, findings reported to the senior management team and agreed action items followed up to closure. In management reviews with their teams, site managers verify compliance and results from regulatory inspections. Negative findings of this review are reported to our Ethics and Compliance Group. Fines, if any, are an indication of non-compliance and are reported into the environmental data system and reviewed to identify the root causes.

Finally, through the Lonza Ethics Hotline, every employee can raise concerns about non-compliance with internal and external rules, and environmental concerns.

Product Compliance

All our products require a high and often regulated manufacturing practice to assure required standards of quality and efficacy. They must be evaluated, manufactured, labeled and used appropriately, to exclude health and safety risks for customers and end-consumers.

Moreover, we must take into account public perceptions, regulation and global chemical management initiatives such as GHS (Globally Harmonized System for classification, labelling and packaging of chemicals).

¹ Bitsight uses a credit rating style measurement to communicate IT Security Risk. BitSight Security Ratings are calculated on a scale of 250-900 with a higher rating indicating better security performance. Secure Scorecard uses a combination of data points and then applies proprietary algorithms to articulate an organization's security effectiveness into a quantifiable A-F score.

We are predominantly involved in business-to-business transactions. We work to ensure that our products can safely be used by customers for their intended purpose. Our customers generally have their own procedures and specialists to assess hazards and risks, and we aim to provide the foundation and necessary data to support the safe use of our customers' products.

Product health and safety profiles are evaluated through systematic processes and procedures that are embedded in our organizational and business structure. We have experts in regulatory compliance and registration, dangerous goods and product classifications, toxicology, risk assessment and product stewardship, covering the regions and markets in which we operate. Potential hazards and risks associated with their intended use are clearly communicated to our customers via product labels, Safety Data Sheets (SDS) and technical communications.

Our processes in assessing and improving the health and safety impacts of our products, continue to remain a focus for growth and investment as we integrate newly acquired products and businesses into our product stewardship and management structures.

Our product formulation expertise, product-regulatory assurance and global regulatory support provide distinct competitive advantages in a world of increasing chemicals registration, labeling and packaging requirements. We have a team of more than 60 regulatory experts in Europe, the Americas and Asia Pacific who serve and support our business globally.

Challenging programs include the European Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) initiative, the US EPA Toxic Substances Control Act (TSCA) and California Safe Drinking Water and Toxic Enforcement Act (Proposition 65). In addition, other countries are launching similar regulatory schemes (e.g. China-REACH, Korea K-REACH and K-BPR, Turkey KKDİK). These are ongoing efforts and we continue to strive to comply with the requirements, including those related to REACH Substances of Very High Concern (SVHC).

The health and safety of our employees will always remain a top priority. During 2021, 800 substances were assessed or reassessed for their safe handling limits in relation to the risk of exposure to chemicals in the work environment.

Animal Testing

To ensure the safe handling and use of products, regulatory authorities in many countries require animal testing, especially in the development of health ingredients. When this is the case, we work with independent contract laboratories who are carefully selected to ensure they meet the highest ethical and quality standards. Whenever possible, we request validated alternatives to animal tests. We work with contract laboratories that are accredited for animal welfare protection, plus all the study protocols are approved by the institutional ethics board and the Institutional Animal Care and Use Committee (IACUC).

We have also developed alternatives to animal models. Examples include the Bioscience Solutions' primary cell and media product lines, which provide a viable alternative to animal models in research and development labs.

An example where we work with animals is with horseshoe crabs. The blood of the North American Horseshoe Crab (*Limulus polyphemus*) is the only known natural source that can be processed into a component of the LAL (Limulus Amebocyte Lysate) Assay. Such assays are used in Quality Control (QC) tests which ensure that injected pharmaceuticals and implanted medical devices are free from endotoxins and thus safe for patient use.

Blood is collected from each crab in a similar way to human blood donation and Lonza is committed to obtain and handle horseshoe crabs using best practices in animal protection. We ensure the wellbeing of the crabs at every stage of the process. The crabs are collected beginning the second week of June, after the major spawning period in May, and one to three miles offshore to ensure that any remaining spawning activity is not interrupted. They are also marked in a harmless way to ensure no crab is bled twice in the same season and are safely returned to the waters from which they were taken, usually within 24 hours of their original collection.

We support conservation and educational programs that help coastal communities protect horseshoe crab breeding and nursery grounds, which include initiatives that seek to eliminate the use of crab species as bait in conch and eel fishing, and implement alternative solutions.

At the same time, we introduced an alternative approach: in 2003 we launched the first animal-free endotoxin detection method, PyroGene® rFC Assay, which relies on a man-made recombinant form to deliver an equivalent and reliable endotoxin detection method. Worldwide, there is a growing appeal in the pharmaceutical industry to consider recombinant technologies that can help alleviate, and eventually replace, the need for animal resources for endotoxin testing purposes.

We pursue a dual path in which we maximize our efforts to ensure that our work with horseshoe crabs has only a minimal impact on the animal and we simultaneously drive the introduction of alternatives. This way, we strive to find the best possible balance between preserving nature and helping our customers to deliver safe products.

Anti-Bribery and Anti-Corruption

Conducting business in an ethical and compliant manner is at the forefront of all Lonza interactions. We take a zero-tolerance approach to bribery and corruption and we are committed to acting professionally, fairly and with integrity at all times. Lonza expects all employees to perform with integrity every day across all divisions and locations. To reinforce this expectation, all employees, regardless of job responsibility or location are required to complete Lonza's annual Code of Conduct training with a specific focus on recognizing, avoiding and reporting any actual or suspected corruption activities. New employees receive an introduction on anti-corruption and anti-bribery via an online training module. In addition, all Lonza employees with computer access are provided specific Anti-Bribery and Anti-Corruption training on a recurring basis. On a more granular level, employees with job responsibilities or locations with higher risk are provided with live training on corruption and bribery, and given guidance on how to raise issues for review. The Board and Executive Committee also receive this training in addition to other regular training programs.

To supplement our training programs, we frequently communicate key elements of our Anti-Bribery and Anti-Corruption Policy. Short videos, infographics and actual stories of misconduct are provided to all employees as a reinforcement of Lonza's expectations for compliance. All employees have access to our Anti-Corruption and Anti-Bribery Policy via our intranet.

In addition, suppliers that enter into our standard supply agreement commit to our Supplier Code of Conduct, which sets out commitments to working against corruption and bribery. The Supplier Code of Conduct applies to our suppliers as well as to any subcontractors or third parties that a supplier may engage in the performance of its contractual obligations. Currently, suppliers are required to implement internal measuring procedures, tools and indicators to guarantee compliance with the Supplier Code of Conduct principles and are encouraged to report any violations via e-mail or via the [Lonza Ethics Hotline](#).

Our Ethics & Compliance Group is charged with monitoring and promoting compliance with anti-bribery and anti-corruption laws. In addition, we operate an automated interface for third party due diligence checks and monitoring.

Lonza Ethics Hotline

The Lonza Ethics Hotline provides a mechanism for employees and stakeholders to report potential violations of the Code of Conduct, our policies and procedures (including those related to anti-corruption), or applicable laws and regulations. Such reports may be made anonymously where permitted by law. Those found responsible for any violations may face disciplinary action (which may include termination of employment).

The Ethics & Compliance Group regularly conducts assessments of hotline submissions for trending and benchmark purposes. Data generated from these assessments is used to guide training and communications around geographies or business units as well as to measure the effectiveness of existing training, policies or procedures. Review of hotline data has shown consistent utilization, although we observed fluctuations in reporting related to the COVID-19 pandemic, which is similar to what has been observed by our peers. We did note a wide range of case submissions indicating an awareness and comfort in speaking up across all aspects of our business.

Internal submissions are also used for benchmark purposes against other companies similar in size, industry, revenue and/or geographic location. Multiple data points (e.g. submission type, disclosure of the reporter, source of the report, etc.) are consistently reviewed as a measure of hotline and investigation effectiveness. We met or exceeded benchmark standards in multiple categories, which further highlighted the effectiveness of Lonza's Speak Up Program and communications. Areas that were at benchmark or below were addressed via targeted and specific training and communications programs.

World's Most Ethical Companies Award

We have been recognized as one of the World's Most Ethical Companies 2021 by the Ethisphere Institute, a global leader in defining and advancing the standards of ethical business practices. This recognition is based on a comprehensive and robust review of a company's governance, leadership and reputation, environmental and societal impact, ethics and compliance program and overall commitment to a culture of ethics. Structured by Ethisphere's proprietary Ethics Quotient[®], the assessment process includes more than 200 data points, which serves as an operating framework to capture and codify the leading practices of organizations across industries and around the world.



The list distinguishes companies that influence the business community and societies around the world in order to drive positive change. It also highlights companies working with partners and clients doing the right thing, by operating with integrity every day.

Being designated as one of the World's Most Ethical Companies recognizes our high standards of corporate integrity and respect towards its customers, suppliers, business partners and other stakeholders. Lonza is one of just two companies headquartered in Switzerland to be included in the 2021 ranking. It is also one of only two companies to be named within the pharmaceuticals category of the Ethisphere[®] Institute ranking. According to Ethisphere's Ethics Index, the 2021 World's Most Ethical Companies outperformed a comparable index by 7.1 percentage points from January 2016 to January 2021.



Operations Assessed for Risks Related to Corruption

We conduct periodic risk assessments to identify business areas and geographies for corruption and bribery risk. Taking into consideration Lonza’s material topics (as a result of our 2021 materiality assessment), risks are categorized by likelihood as well as impact in relation to existing operations, future planned operations, suppliers and other interactions. This is completed organically as well as with assistance and guidance from external experts. Where higher risks are identified, mitigation plans are developed and mitigation steps are implemented, as required. A global risk assessment was completed in 2018, which focused on antitrust, trade and anti-corruption.

Supply Chain Responsibility

Drawing on a broad global base, the Procurement teams play a vital role in reliably providing the right raw materials and indirect goods and services to our manufacturing, research and development sites worldwide.

Together with stakeholders from the different divisions and functions, the Procurement teams develop solid approaches for spend categories across a diverse range of strategic raw materials and services. The team also improves data quality, analytics and dashboards to track and communicate performance and progress.

As an element of our supply chain responsibility, we also aim to understand and assure the ESG performance of our suppliers by expanding our third party supplier due diligence process. With many legislations defining supply chain rules based on human rights or environmental requirements, managing the supply chain has become a pre-requisite of transparent reporting and compliance. This includes targeting a reduction of GHG emissions across the supply chain (known as Scope 3 GHG emissions) by collaborating with our top suppliers. This enhancement will be also linked to the incentive compensation framework.

Ensuring Seamless Supplies

The Procurement teams faced various challenges in 2021. The strong global demand, combined with reduced labor availability and a shortage of shipping containers, generated shortages of many basic raw materials (e.g. oil, wood, basic chemicals, etc.). In turn, these led to price increases. Manufacturers continue to face delayed supplier deliveries and supply shortages, alongside labor shortages in many countries due to the COVID-19 pandemic.

We were able to respond to these challenges appropriately and effectively. In addition, the team navigated several unexpected force majeure events affecting major suppliers. Those events and related geopolitical challenges encouraged us to strengthen our risk management, mitigation processes and tools. An end-to-end risk management process has been developed and rolled out to automatically assess risks to Lonza’s raw materials against a five-gate risk register. This process allows the identification of all high risk items from a business continuity perspective and the development of appropriate mitigation plans as required.

Value Chain and Supply

The breadth and diversity of our business means that the supply chain includes approximately 23,000 suppliers. Roughly 3,000 are direct material suppliers ranging across basic chemicals and naturally derived materials such as gelatin, to high-end systems and consumables for biopharmaceuticals or specialized components for cell and gene therapy production. Eighty percent of spend originates from European or North American supply locations, with the remainder from other locations across the world. Half of our third party spend is on indirect goods and services (including energy, logistics and equipment).

In order to cope with this complexity, our Procurement teams include category managers and site-based buyers, all focusing on procurement excellence. They develop and implement category strategies and manage the selection of suppliers and negotiation of terms. They also reduce exposure to supply risks and scout, evaluate and drive technical innovation and digital solutions. All these activities are designed to continuously improve internal efficiency and enhance customer experience.

SDG 12 Responsible Consumption and Production

“It takes a network of suppliers and partners to enable a healthier world and it takes collaboration of that same network to reduce the collective carbon footprint across the supply chain.”

Claude Dartiguelongue,
President, Capsules &
Health Ingredients (CHI)



Sustainability in Procurement

Through stakeholder engagement, we identified gaps, future trends and requirements regarding sustainable sourcing and supplier risk assessment. The resulting procurement processes include:

- Enhanced approaches for sustainable procurement, increasing the number of assessments and audits of our strategic suppliers;
- Voluntary membership of sustainable sourcing platforms to engage with our industries and to enhance our capabilities;
- Maintaining a systematic and integrated supplier risk management system.

We are a member of the Pharmaceutical Supply Chain Initiative (PSCI), an association of pharmaceutical, biotech and medical device industries. It aims to establish and promote responsible practices to improve ethics, labor, health, safety and environmentally sustainable outcomes, as well as to improve supplier capability for member supply chains. This active membership enhances our organization's capabilities and processes in sustainable supply chain management. As a PSCI member, we perform audits of key suppliers and are in turn audited with a similar scope by our customers.

In addition, Procurement established a comprehensive and integrated supplier risk-management process to support sustainable business growth by capturing opportunities, anticipating and mitigating supply risk.

The following key principles define the risk management framework using Enterprise Resource Planning (ERP) automation:

- Key supplier risk assessment and management by global Procurement experts;
- Integrating risk assessments into business processes to enable and support business continuity;
- Using criteria and a risk register for scalable assessments of materials and suppliers;
- Monitoring and ranking supply risks, including risk mitigation and implementation;
- Embedding the supplier's on-time/in-full delivery and quality performance ratings into the risk assessment process.

Supplier Due Diligence

As part of our commitment to sustainable development, Lonza's [Supplier Code of Conduct](#) sets high standards for suppliers and provides a framework to evaluate their practices.

We carefully select and evaluate suppliers for security of supply and specifications of materials and services. We also audit some of our critical suppliers to assure and improve performance and relationships, in line with the Pharmaceutical Supply Chain Initiative (PSCI) principles.

We operate an automated anti-bribery and anti-corruption due diligence process, monitoring for high-risk suppliers. This is run by the Ethics & Compliance Group and integrated into the procurement and supplier management process through our ERP system (SAP). Third parties in qualification are blocked in SAP until the due diligence process is complete. All third parties, regardless of their interactions for Lonza, are screened and continually monitored (i.e. Lonza is notified if there is a change in screening status for any Lonza vendor).

The screening process includes real-time corruption, trade sanctions, human rights, environmental and adverse media screening for all third party suppliers with increased due diligence for higher-risk third parties. For the latter, the process includes mandatory completion of a due diligence questionnaire and tailored anti-bribery, anti-corruption and competition law training. Results from the questionnaire are scored using a proprietary algorithm that determines a vendor's risk profile. Third parties with higher risk profiles are then further reviewed and assessed by members of the Ethics & Compliance Group, with additional diligence being performed as required. Complete due diligence is performed on a two-year automated cycle or on an ad hoc cycle, depending on monitoring.

New Swiss and European legislation will increase the responsibilities of large companies for their selected supply partners. In line with these new requirements, we are continually reviewing and refining our supplier due diligence processes and human rights assessments. Specifically, conflict minerals and child labor will be introduced into the non-financial reporting requirements in the coming year.

Environment

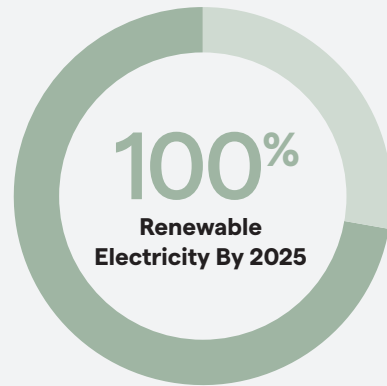
We continually strive to reduce our impact on natural systems and the environment, conserve energy and resources, assure safety, health and wellbeing of our employees and help to improve the quality of life in the communities in which we operate. The aim of our “Vision Zero” initiative is to reduce workplace accidents and injuries, environmental incidents and manufacturing process incidents. Through these and other safety, quality and human resource initiatives, we strive to make meaningful improvements. Programs are developed at site level, in alignment with company priorities and goals. We build multi-year roadmaps to enable continuous improvement, follow-up and reflect the type and impact of the operations over a number of years.

The targets are intensity targets based on million CHF sales to factor in Lonza’s continuous growth. They also reflect our diverse and evolving product portfolio, which includes manufacturing of pharmaceutical ingredients, medical capsules, food supplements, gene therapy and cell media production, and the licensing of technology and systems. Such diversity can be integrated with a financial denominator, and using intensity targets also allows us to carry forward this metric in the event of major acquisitions or divestments. The targets and baseline have been reassessed with the divestment of the former Specialty Ingredients segment and have been updated as shown below. We will review these targets to reflect the increased ambition levels.

Higher Ambitions

With the commitment for the SDGs around Climate Action, Water and Infrastructure we have introduced new or higher ambitions related to our environmental performance. In addition we have set an ambition to source the electricity we purchase from renewable sources by 2025. In 2021, we also increased the 2030 energy efficiency target to 36%, meaning a reduction of 3%, per million of sales per year.

Renewable Electricity Ambition

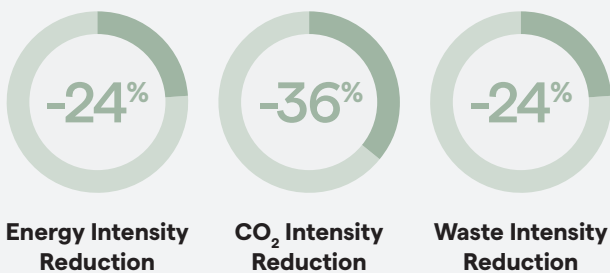


2021 Achievement:
28%

■ 2025 ambition ■ Achievement for 2021

2030 Targets

Baseline 2018, Total Company (Per CHF 1 Million Sales)



Revised Energy 2030 Target

Baseline 2018, Total Company (Per CHF 1 Million Sales)



Energy Intensity Reduction

Energy and resource efficiency within each site is the responsibility of the site network and operations management, reporting to the operational head of the divisions. At a local level, operations, engineering and environment, health and safety (EHS) departments are responsible for devising and developing three-year rolling safety and sustainability roadmaps. These are designed to drive our manufacturing sites towards compliance, efficiency and safety, thereby helping reach our overall sustainability targets. Local goals are added according to the materiality analysis at the sites (e.g. for water consumption and air emissions).

Energy use and CO₂ emissions, effluents, waste, water and emissions data are reported quarterly to Corporate EHS and Global Sustainability. This vital information forms the basis for updated reduction goals and potential capital expenditure projects to achieve major improvements in energy efficiency alongside other areas.

At Lonza, we are continuing on our sustainability journey and are proud of the milestones we have achieved so far.

Following the divestment of the Specialty Ingredients business, we saw a footprint reduction by around one third in GHG emissions, and by half in energy and waste. We also recorded a substantial reduction in energy, GHG and waste intensity in 2021, compared to the 2018 baseline. This was due to significant growth without an increase in footprint, and efficiency gains.

We are committed to making further progress and have developed an SDG framework with new or higher ESG performance targets to maintain momentum as we work towards this critical strategic priority.

Our Progress in 2021

Our absolute environmental footprint is significantly reduced following the divestment of the Specialty Ingredients business, both relative and absolute. More specifically, we saw a reduction in greenhouse gas emissions of around one third, and a reduction in energy consumption and waste generation by half. In addition, in 2021 we sourced 28% of the electricity we purchased from renewable sources.

The significant reduction we have recorded in the intensity numbers are related to significant growth without footprint increases, and efficiency gains. This is also a consequence of a shift in technologies, away from basic chemical production towards biologics and higher value compounds synthesis. Specifically the fourth quarter of 2021 saw an over-proportional output increase from new facilities, e.g. the Ibex® facility in Visp (CH), deploying these technologies.

All environmental data relates to Lonza's Continuing Operations (and excludes the discontinued Specialty Ingredients business). Data for 2018, 2019 and 2021 has been rebased throughout this report to exclude Specialty Ingredients business data. For the Visp site, where Lonza manages infrastructure for both Lonza and the former Specialty Ingredients business, data for Continuing Operations was allocated based on the use intensity.

These factors and the reconfiguration of our business results in a different and much more volatile footprint to sales pattern. As seen above, we are already close to achieving our 2030 ambitions. Therefore, over the course of 2022 we will reset the 2030 ambitions and the baseline we report upon to reflect these new conditions.



Divested Business Lonza Specialty Ingredients Environmental Footprint	
Indicator	Half Year 2021
Energy consumption	2,800 TJ
Greenhouse Gas Emissions (tonnes CO ₂ -eq), Scope 1 and 2, excluding N ₂ O leakage	150,000 tonnes CO ₂ -eq
Greenhouse Gas Emissions (tonnes CO ₂ -eq), Scope 1 and 2, including N ₂ O leakage (ended Q3 2021)	460,000 tonnes CO ₂ -eq
Waste (tonnes)	50,000 tonnes

Divested Business Footprint

Lonza has massively decreased the footprint due to the divestment of the Specialty Ingredients business closed on 01 July 2021. Above is the overview of the environmental footprint of the Specialty Ingredients business from 01 January 2021 until 30 June 2021, when it was still under Lonza ownership.

Energy

Energy consumed at sites for manufacturing or infrastructure processes is one of the largest contributors to our climate-relevant emissions. We therefore concentrate efforts to reduce GHG emissions on measures that allow for increased energy-efficiency at our manufacturing sites. We have launched a project to scope and source electricity from renewable sources by 2025 and – in doing so – de-couple electricity consumption and GHG emissions.

Our continuous improvement goals and processes encompass existing facilities, as well as CAPEX investments and new facilities. Our capital expenditure approval process includes a sustainability assessment of larger projects, in which a project must show its contribution towards the company’s ESG targets.

Since 2018, we have been working with a partner to analyze data for energy sourcing, contracting and supply and demand patterns, to centralize the data for all sites into one platform. This initiative has given us a better understanding of how and where to further improve energy efficiency and cost management. Some sites have adopted an energy management system aligned with the ISO 50000 framework, which includes an energy team, policy, target setting and a rolling action plan.

At our Agarose plant in Copenhagen (DK) steam production is essential to our processes. As part of our continued effort to improve energy efficiency, the site team investigated if water could be heated by using waste heat energy in the exhaust air from the gas boiler. This project was implemented in 2021 and calculations show that the site can save around 12% of its total gas consumption. In the context of these savings, the investment payback is approximately seven years.



Energy Consumption within the Organization

Fuels are necessary inputs for our manufacturing processes and are vital for utility generation such as steam, heating, cooling, ventilation, air compressors and pumps, for air conditioning of buildings, refrigeration and transport. The major fuel is natural gas, followed by electricity and energy generated on site, mainly through incineration of gaseous by-products, solvents and waste. The total energy consumption from our Continuing Operations is flat compared to 2018.

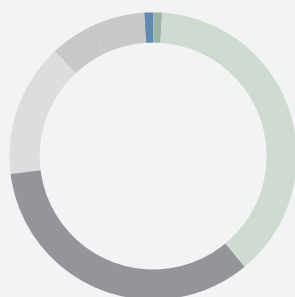
Energy Intensity

In 2021, the energy intensity values decreased by 31% compared to the 2018 baseline, which is far above our 2021 target of minus 9% of energy consumption per CHF million of sales. This decrease in consumption is driven by our increase in revenue and transformation of our product mix from basic chemical synthesis to biologics, using bacterial and mammalian systems, and higher value compounds synthesis. These processes are less energy intensive in nature and we benefit in addition from modern, energy-efficient buildings, assets and production technologies.

Lonza Energy Consumption 2021

Net Consumption [TJ]	5,950
Diesel [TJ]	5
Fuel Oil [TJ]	24
Gasoline [TJ]	0.11
LPG [TJ]	5
Natural Gas [TJ]	2,600
Purchased Electricity Non-Renewable [TJ]	1,630
Purchased Electricity Renewable [TJ]	665
Renewable Electricity (On-Site) [TJ]	8
Self-Generated Energy (Waste, Processes) [TJ]	995
Purchased Steam [TJ]	775
Energy Produced for Others [TJ]	835
Biomass (Wood) [TJ]	70

Lonza 2021 Energy Consumption by Source



Liquid Fossil Fuels (1%)	Purchased Steam (11%)
Natural Gas (38%)	On-site Renewables (1%)
Electricity (34%)	
On-site Generated Energy (15%)	

	Energy Consumption Intensity [GJ/Mio. CHF]	
2018	1,571	
2019	1,404	
2020	1,300	2021 Revised Target
2021	1,100	1,429
		ACHIEVED

Note: data for 2018-2021 were rebased throughout this report to exclude data from Specialty Ingredients sites. For the Visp site, which manages operations for both Lonza and the former Specialty Ingredients business, data for Continuing Operations was extrapolated using allocation keys based on the usage intensity.

Industrial Water Used in 2021

3,450
Thousand m³

Cooling Water Used in 2021

33,500
Thousand m³

Water Withdrawn by Source 2021

	Thousand m ³
Total Water Withdrawn	31,600
Groundwater Wells	2,600
Public supply	4,000
Surface Water Bodies	25,000

Industrial Water Intensity

	Industrial Water Intensity [m ³ /Mio. CHF]
2018	1,066
2019	938
2020	799
2021	639

Note: data for 2018-2021 were rebased throughout this report to exclude data from Specialty Ingredients sites. For the Visp site, which manages operations for both Lonza and the former Specialty Ingredients business, data for Continuing Operations was extrapolated using allocation keys based on the usage intensity.

SDG 6 Clean Water and Sanitation

“Lonza is committed to conserving water, maintaining quality of supply and decoupling water use from production volumes.”

Gordon Bates,
President, Small Molecules Division



Water

Water is used for a variety of purposes across our business, including heat transfer and cooling, steam generation, washing and cleaning, as a product ingredient and for sanitization. It is a precious, vital and burdened natural resource, of increasing importance and scarcity, which must be actively managed, especially in water-scarce locations.

Access to clean, plentiful and potable water is an important factor to ensure the quality of our products. Our sites are not located in areas known for major water risks or scarcity. Nevertheless, we are taking a series of measures to minimize downstream effects and water withdrawal impact on the local environment and communities. Internal standards on water and wastewater include a water balance at site level in order to optimize usage and limit losses, reduce water usage through asset optimization and process changes and promote water recycling and the use of rain water.

In addition, each site assesses local water risks and opportunities. Risks could include water scarcity, droughts, or other supply limitations, discharge restrictions, risks associated with a direct discharge to natural water bodies or publicly owned wastewater treatment plants and emerging regulations. Opportunities could include ways to improve water conservation and resource efficiency, ground and surface water protection, and discharge quality. Our sites are required to identify stakeholders to address water in their local basin and downstream and encouraged to explore and address locally relevant water issues such as availability and quality.

In regions where freshwater is scarce, we may be exposed to water shortages or restrictions, water price volatility and a decline in water quality. To mitigate these water-related risks, sites track their water balance and run water management programs to meet agreed reduction targets. Sites in water-stressed regions and geographies (e.g. India and Mexico), incorporate measures to optimize water consumption and management into their sustainability roadmaps.

We measure and monitor both industrial water (which may be altered chemically and physically by the manufacturing processes) and non-contact cooling water (which is not altered, except for temperature), as well as other indicators on water source and water output.

Each site is responsible for managing and optimizing its water balance, with targets for quantity and wastewater set at a site level. Globally, in line with our commitment to the SDG 6 Clean Water and Sanitation, we will also track the status of water risk assessments at our sites and continue to strive to reduce our industrial water use intensity.



Water Discharge

Sites hold local permits and follow all local requirements related to water treatment and relevant wastewater discharge parameters, such as quantity and chemical limit values. In addition, Lonza's waste and wastewater standard defines that sites handling APIs (Active Pharmaceutical Ingredients) – which are viewed as Lonza's substances of concern in this area – adopt a risk-based approach regarding the discharge of wastewater. This approach is based on current industry practice as promoted by the Pharmaceutical Supply Chain Initiative (PSCI). It involves comparing the predicted environmental concentration (determined by mass balance or analytical means) with the Predicted No Effect Concentration (PNEC). Effluent with a high risk is investigated in detail and a tailored approach is taken (which may include a change to the cleaning process, incineration of first rinse or an alternative appropriate method).

At many of our sites, industrial water is collected in tanks or reservoirs and treated in our own or external wastewater treatment facilities. It is tested according to local permits before discharge into the sewage system or into a surface water body. Due to the diverse nature of requirements, we do not report on discharge water quality. The following water emission parameters are tracked at sites where the following emissions are material: heavy metals, nitrogen, organics (COD and TOC) and phosphorus. Other parameters are tracked in line with local regulation and the type of operation undertaken.

Lonza Water Discharge 2021

	Thousand m ³
Total Water Discharged	28,200
Water Discharged to Sewer	3,200
Water to Water Bodies	25,000

Greenhouse Gas Emissions

Based on scientific evidence, GHG emissions contribute to global warming, largely caused by the combustion of fossil fuels to provide energy. Energy generation, waste incineration and other industrial processes also result in other emissions, such as particulate matter (PM), nitrogen oxides (NOx), sulfur dioxide (SO₂) and volatile organic compounds (VOC). Our goal is to continuously monitor and control such emissions, to comply with statutory requirements and to reduce them beyond regulatory requirements. GHG emissions are categorized by three groups: Scope 1 and Scope 2 cover emissions from our operations and our energy use, while Scope 3 includes all other indirect emissions that occur in our value chain.

Our GHG emissions result mainly from combustion processes for energy conversion (including incineration of waste). With this in mind, we focus on managing the total energy consumption, energy sources and waste.

To decouple GHG emissions from energy consumption, we strive to increase the proportion of renewable electricity (wind, hydro, solar, etc.). Our sites have energy efficiency and waste reduction measures as elements of their roadmaps and also apply low carbon energy alternatives, e.g. biomass. We are implementing "sustainability by design" standards (energy and water efficiency), to ensure growth projects are built with best-in-class technologies for low carbon and energy efficient consumption.

In addition, we are participating in research projects to evaluate carbon capture possibilities.

SDG 13 Climate Action

"In our work to enable a healthier world, we have committed to reduce our carbon footprint over the next decade and thereafter, as our business continues its transformation."

Stefan Stoffel,
Head of Group Operations



Our site in Nansha (CN) has several initiatives to improve its energy efficiency and reduce its carbon emissions. Sensors are being installed to ensure that the lights on the road are only on when needed, as they used to be controlled manually or by timer. The payback is estimated to be one year. The concept will also be applied in offices and bathrooms. In 2021 the site also began investing in renewable power onsite. A 120 kW solar field was installed on the roof, which will supply 10% of the electricity consumption in all office areas generating an estimated saving of more than 70 tons CO₂-eq per year.



Solving the Nitrous Oxide (N₂O) Leakage in Visp (CH)

In 2017, internal analyses at our Visp site indicated the presence of nitrous oxide emissions within the Niacin production facility. As nitrous oxide is considered a GHG, we took appropriate measures in cooperation with the Swiss Federal Office for the Environment (FOEN), to reduce emissions.

The planning and construction of the catalytic removing stage began so Lonza could hand over a well-functioning plant to the new owners of the Specialty Ingredients business in 2021. The building application for a catalyst was submitted at the end of 2019 and construction of the 18-meter high catalyst started as soon as permission was secured in January 2020.

With the completed sale of the Specialty Ingredients business, the Niacin production facility was also transferred to the new owner in July 2021. The Specialty Ingredients business successfully commissioned the nitrous oxide catalyst in early October 2021, ahead of schedule. Lonza is pleased that the new owner could bring the catalyst on stream promptly so that the challenge has now been addressed.



Scope 1 GHG Emissions

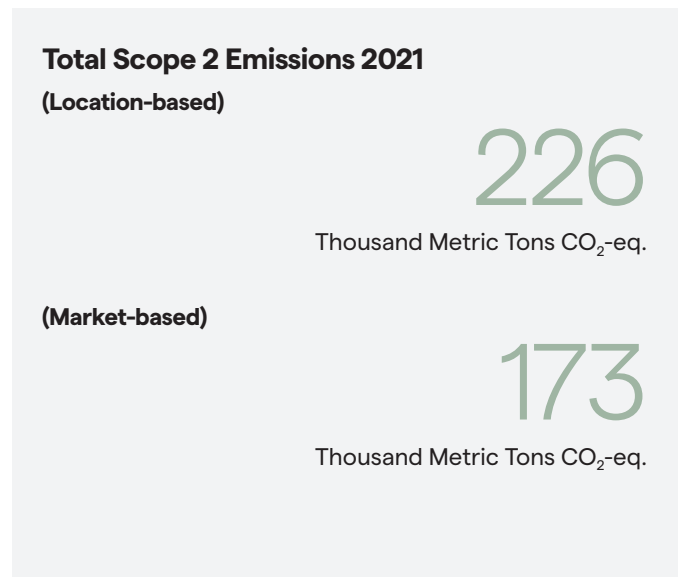
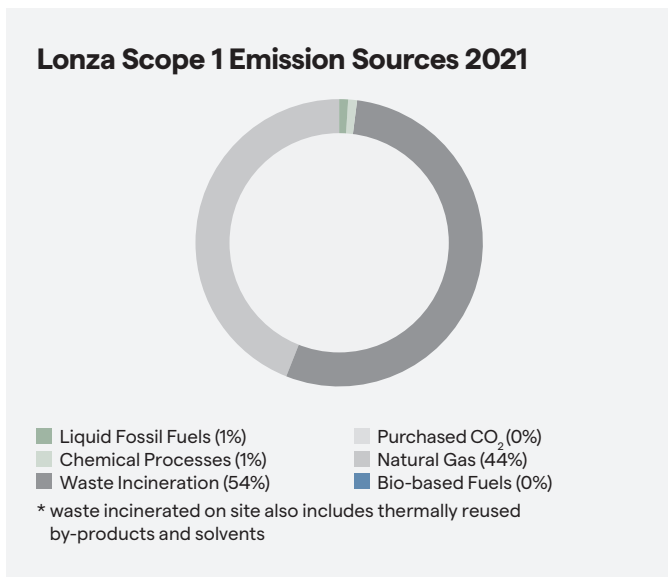
Scope 1 includes direct GHG emissions from sources owned or controlled by Lonza. Emission factors are used for calculating emissions from fuel combustion (CO₂, CH₄ and N₂O), including from company-owned vehicles. CO₂ and N₂O emissions from other on-site processes, such as chemical reactions or waste incineration are directly measured, calculated or estimated by each site. A relevant part of our Scope 1 emissions comes from onsite waste and waste gas incineration, which serves two purposes: final waste treatment and energy production. From the 160,000 tons CO₂-eq. from Lonza’s onsite waste incineration, over 20% are due to waste incineration services that our site in Visp (CH) performs for two neighboring companies. However, due to the GHG accounting rules these quantities are consolidated in our reporting.

Scope 2 GHG Emissions

Scope 2 encompasses GHG emissions from the electricity and steam purchased. The reported values are calculated with region-specific standard emission factors using IPCC AR4 and U.S. EPA Climate Leaders. At most of our sites, the purchased electricity and steam consumption is metered directly on own devices. In multi-occupant facilities, consumption is derived from the total to reflect our proportionate consumption.

We report Scope 2 GHG values using two methods, “location-based” and “market-based”. The “location-based” method (based on electrical energy consumption) reflects the total electricity consumption of the site, multiplied with local electricity grid average emission factors. The “market-based” method (based on electricity production mix) reflects emissions from electricity sources we have selectively chosen to buy, e.g. renewable or nuclear energy certificates and claims, green tariffs. For the company’s GHG- targets, the location-based (consumption based) values are used to track energy efficiency gains. Efficiency in this context means producing higher output or achieving higher sales with the same amount of energy input and related emissions.

In addition to energy- and GHG-efficiency, Lonza strives to be carbon neutral within the next three decades. This effort will include procuring renewable electricity to replace fossil electricity in the coming years. The difference between location-based and market-based values reflect the reduction in GHG emissions from the purchase of renewables, and nuclear electricity, in addition to energy efficiency gains. This reduction in GHG-emissions amounts to 23% of the Scope 2 footprint.



Scope 3 GHG Emissions

Scope 3 includes GHG emissions from purchased goods and services, business travel, upstream and downstream transportation, waste disposal, employee commuting, etc.

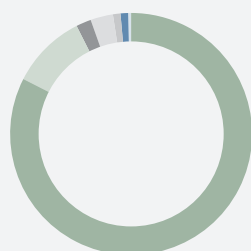
We have quantified our Scope 3 GHG emissions for 2021 after a first assessment of the various Scope 3 categories and their relative importance, using 2019 data.

As generally observed in our industry, Scope 3 GHG emissions are considerably higher than Scope 1 and 2 emissions. The main part of our Scope 3 GHG emissions can be attributed to purchased goods and services and capital expenditure. Waste disposal and fuel- and energy-related activities (not included in Scope 1 and 2) also contribute, though to a lesser extent. Business travel, employee commuting and downstream distribution are a minor contribution to the total Scope 3 emissions.

As a main element of our commitment to SDG 12 Responsible Consumption and Production, we are launching a program to improve our Scope 3 performance, and are targeting a reduction of GHG emissions across the supply chain by collaborating with our top suppliers.

The underlying approximations rely on average industry data and thus have some level of uncertainty. Therefore we will focus our efforts creating more granularity and reduction action on the categories with the highest contribution.

Lonza Scope 3 Emission Sources 2021



- Purchased Goods and Services (Category 1) (83%)
- Capital Goods (Category 2) (10%)
- Fuel and Energy Related Activities (Category 5) (2.3%)
- Waste Generated in Operations (Category 5) (3%)
- Business Travel (Category 6) (1%)
- Employee Commuting (Category 7) (1%)
- Downstream Transportation and Distribution (Category 9) (0.4%)

Scope 3 Emissions 2021

2,452

Thousand Metric Tons CO₂-eq.

Calculations for the categories Purchased Goods and Services and Capital Goods are based on spend data covering Q4 2020 to Q3 2021, all other data refers to Full-Year 2021. Upstream transportation (category 4) has been directly integrated in the models for categories 1 and 2. Upstream leased assets (category 8) are included in Scope 1 and 2. Upstream transportation is included in categories 1 and 2. Other categories are not integrated in the calculation because they are either negligible or the data collection and modelling is not feasible.

To encourage sustainable mobility at the Visp (CH) site, a pilot project has been running onsite since June 2021, where a fleet of five e-cars, 80 e-bikes and four e-cargo bikes are available to Lonza employees around the clock. The fleet can be used free of charge to travel within the site, to and from work or to attend external meetings. In the first five months, over 2,300 employees used the platform to travel 218,000 km. If these journeys were made using an average car, up to 70 tons CO₂eq could have been emitted.

Our Bornem (BE) site has also implemented several measures to promote a more sustainable commute. 91 bicycles were made available as part of a bike lease plan open to any employee. As part of the scheme, employees can choose a bicycle from a large selection - from standard to electric - lease it for three years and have the option to buy at a later stage. Approximately 20% of the employees are registered and more interest is expected. To encourage commuting by bike, employees who do not participate in the bike lease plan have the opportunity to receive free bike maintenance when cycling to work for more than 30 days each year. In addition, charging points have also been installed onsite for e-bikes and e-cars/hybrids. Cyclists with e-bikes can charge their bicycles for free.





GHG Emissions Intensity

The carbon emission intensity values from Scope 1 and Scope 2 (location based) decreased by 33% in 2021 (compared to the 2018 baseline), exceeding the 9% reduction target set in our long-term goal. We refer again to the over-proportional increase of sales and technology shifts for the reduction effect. The absolute GHG emissions from our Continuing Operations (Scope 1 and 2) saw a slight decrease compared to 2020 (approximately minus 1%).

In addition to our intensity target and in line with our commitment to the SDG 13 Climate Action, we are setting internal targets for a yearly absolute reduction of our Scope 1 and Scope 2. Metrics for the contribution to this SDG will also be linked to the incentive compensation framework.

	Carbon Emissions Intensity [tons CO2-eq /Mio. CHF]	
2018	143	
2019	125	
2020	117	2021 Target
2021	97	131
		ACHIEVED

Other Air Emissions

While our materiality assessment identified only GHG emissions as the priority, other emissions such as VOC and NOx are also important to our operations and monitored for compliance with local regulations.

Continuous investment, technical improvements at emission points and emission control equipment contribute to control and reduce such emissions. Air impurity targets are included in the site roadmaps, where this parameter is material.

Note: data for 2018-2021 were rebased throughout this report to exclude data from Specialty Ingredients sites. For the Visp site, which manages operations for both Lonza and the former Specialty Ingredients business, data for Continuing Operations was extrapolated using allocation keys based on the usage intensity.

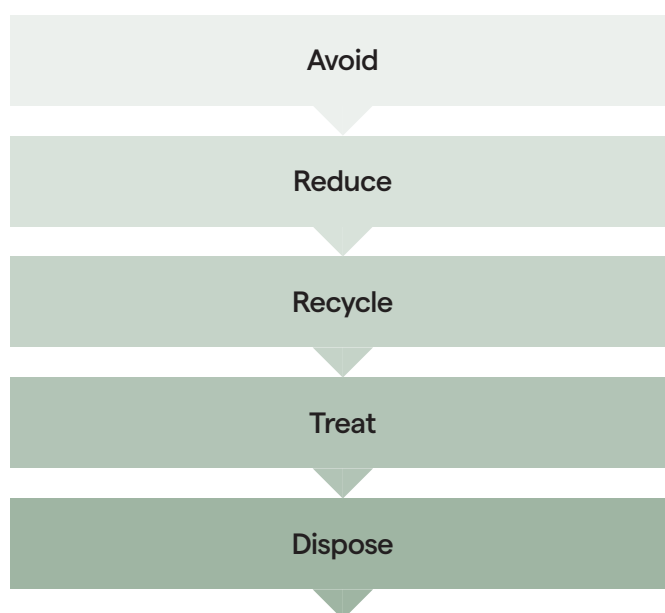
Lonza Total Air Impurities 2021

Total Air Impurities [t]	330
VOC [t]	109
NOx [t]	189
SO ₂ [t]	6
Particulate Matter [t]	26

Waste

As a company operating in the pharma, biotech and nutrition markets, which includes chemical production facilities for active pharma ingredients, we strive to remain transparent with stakeholders and local communities about how we manage waste and wastewater. Communities have a vested interest in waste and water discharge from production.

Each manufacturing site maintains a waste disposal operation tailored to relevant waste streams for the efficient and environmentally sound treatment and disposal of waste outputs. All sites are committed to our waste reduction principles:



At certain locations such as Visp (CH) or Nansha (CN), we operate our own waste and wastewater treatment facilities. At other locations, we carefully select our partners for waste transportation and treatment based on performance and capabilities in safety and sustainability.

We aim to reduce waste resulting from manufacturing facilities, offices and laboratories and ensure that the treatment and disposal of all waste materials (including wastewater) is conducted in full compliance with local regulations and international standards. The waste management system and performance at our manufacturing sites are subject to regular inspections and audits.

We are committed to increasing input materials efficiency in our production processes, including reworking out-of-specification production, yield improvement and re-use of ancillaries whenever possible. We strive to reduce effluent by controlling and reducing water inputs and effluent pre-treatments. The final effluents are managed and controlled according to the parameters permitted by local authorities.

At our site in Visp (CH) we continue our solvent recycling efforts. In 2021 the site regenerated 6,600 tons of solvent, and treated 4,300 tons of contaminated water to reduce incineration.

Waste Generation and Significant Waste-related Impacts

Our goal is to reduce the environmental impact of our activities while meeting all quality and hygiene requirements. As a CDMO for the pharmaceutical industry, our influence is limited in relation to waste generated by customer-defined manufacturing processes and downstream users behavior. Therefore any of our improvements focus on own operations.

The production technology and quality requirements for biopharmaceutical production have changed in recent years. For example, the use of Single Use Technology (SUT), such as plastic bags and appliances instead of stainless steel reactors and improved cleaning practices are reducing water use but increase our waste streams. While this approach saves quantities used to clean traditional vessels, it increases the amount of plastic. As this technology is relatively new, alternative disposal and recycling solutions are not broadly available and therefore a local approach is favored. The SUT industry has still to develop a recycling or take-back system for the articles or develop reusable parts of the assembly to allow users to reduce the burden.

The majority of our waste is managed by third parties that have been approved by the relevant authorities and our local sites. We are currently working to strengthen this practice by having harmonized contractual agreements and audits. We have also introduced a waste recycling KPI for internal waste recycled or reused onsite (including closed loop), to help track and incentivize onsite circularity measures. Sites develop their own circular measures, e.g. increasing the number of recycling cycles of solvents, or using biomass waste as fuel.

Remediating Legacy Issues

Mercury Remediation

Our largest site in Visp (CH) continues to address legacy mercury contamination along a former wastewater discharge canal, on surrounding soils and other areas where contaminated sediments were deposited. This issue dates back to when Lonza used mercury as a catalyst in chemical processes. From the 1930s to the 1970s, the site discharged industrial mercury-contaminated wastewater into the canal, before the construction of the wastewater treatment plant.

Since 2013, we have worked closely with local communities to finance and implement the required technical investigations in residential areas and agricultural zones between Brig-Glis and Niedergesteln (CH). The remediation works in the residential area started in 2017.

By the end of 2021, 142 parcels of land in Visp, Raron and Brig-Glis (CH) were remediated, representing 88% of the residential plots affected. The remediation on the contaminated agricultural area started in 2021 with a first pilot remediation completed in Raron (CH) in September. In 2022 the work will continue both in residential and agricultural areas.

We are working closely with the Swiss Canton of Valais, the municipalities and other relevant parties to resolve this industrial heritage. We maintain a website on remediation activities and progress.

Old Gamsenried Landfill

The Gamsenried disposal site in Gamsen (CH) is owned and managed by Lonza and consists of an old and decommissioned area, alongside a new and fully permitted disposal site. The latter is used for waste incineration slag from the Visp site and the regional waste incineration plant. The older, decommissioned section was primarily used between 1918 and 1978 for contaminated lime hydrate and gypsum sludge. In this area, the management approach includes groundwater monitoring and pump and treatment of contaminated groundwater at the edge of the landfill.

The detailed investigation of the old landfill according the Swiss contaminated sites ordinance (CSO) has nearly reached completion in 2021. Additionally, a risk assessment has been carried out in 2021, confirming that one area of the landfill is responsible for the majority of the risk potential for the groundwater. The first phase of the remediation of the old landfill will focus primarily on this area, and Lonza has made financial provisions of CHF 285 million in the year 2021 for this program.

Waste Generated

In line with our corporate reporting guidelines, construction, demolition, remediation and excavation waste are excluded from the sustainability reporting framework. Only production-related waste is tracked at a corporate level. Solvents, which are used as fuels at some of our sites, are reported as waste for fuel, although they allow us to reduce natural gas consumption considerably.

Our sites and divisions are focusing on waste intensity reductions as part of their site plans and roadmaps and are supported by new guidance on waste management and minimization.

A significant proportion of the increase in waste is due to the cleaning in the API production, generating large amounts of liquid waste which is incinerated to avoid contamination of water streams.

In Visp (CH) and also in Nansha (CN), the energy generated in 2021 from incinerating waste solvents, by-products, and waste was 520 TJ, and from recovering waste heat was 470 TJ. These replace the consumption of 28 million m³ of natural gas. Waste that is sent to landfill mainly consists of incinerator ashes and sludges.

The waste generated and disposed by our Continuing Operations decreased by 8% compared to 2020.

Waste Intensity

In 2018, we defined a long-term global waste intensity reduction target of 24% by 2030. In 2021, with focus on our continuing operations, we have overachieved the 6% reduction target we set ourselves for 2021. As the intensity table below shows, the performance improved considerably in 2021, as it was also the first year with a reduction in total waste generated compared to previous years.

Lonza Waste Disposal by Destination¹ 2021

	Tons
Total [t]	61,900
Waste Hazardous Incinerated [t]	44,000
Waste Hazardous Landfilled [t]	330
Waste Hazardous Recycled [t]	2,600
Waste Hazardous - Treated [t]	24
Waste Non-Hazardous Incinerated [t]	4,280
Waste Non-Hazardous Landfilled [t]	4,500
Waste Non-Hazardous Recycled [t]	6,180

¹ Waste is defined as hazardous or non-hazardous by local legal definition.

	Waste Intensity [tons/Mio. CHF]	
2018	15.8	
2019	14.5	
2020	14.9	2021 Target
2021	11.5	14.9
		ACHIEVED

Note: data for 2018-2021 were rebased throughout this report to exclude data from Specialty Ingredients sites. For the Visp site, which manages operations for both Lonza and the former Specialty Ingredients business, data for Continuing Operations was extrapolated using allocation keys based on the usage intensity.

The amount of waste generated can fluctuate due to several factors, including the following:

- Use of SUT and additional cleaning practices to achieve required product quality is expected to increase our waste;
- Changes in the product portfolio, which might include more or less waste intensive products and production processes;
- Temporary shutdown of production lines, e.g. for optimization purposes;
- Discarded production batches as a result of quality issues.

Our sites have been making progress with their projects and activities to decrease waste. Some examples are listed below:

- Reduction of waste intensity for several productions by pretreating contaminated wastewater to make it suitable for wastewater treatment plant and to avoid sending it to incineration, e.g. distillation of wastewater stream or active carbon treatment. In Visp (CH), this initiative avoided over 900 tons CO₂-eq in 2021;
- Increase in solvent recycling for several production lines, resulting in the reduced procurement of fresh solvents and decrease in the amount of solvent heading for incineration;
- Process optimization, such as redesign of production processes, process streamlining and yield improvements.

Innovating for Sustainability

We are committed to creating value for society by delivering innovative, science-based solutions for our customers in the healthcare industry. For an overview of our most important innovation activities, please refer to the innovation highlights in the [Our Businesses](#) section of the Annual Report.

As a strategic partner operating in the pharma, biotech and nutrition markets, business-to-business contract manufacturing is a large part of our business. In this context, staying up-to-date with production technology and streamlining manufacturing processes is the route to improved efficiency.

SDG 9 Industry, Innovation and Infrastructure

"In the coming years, we will invest over a quarter of our revenue into growth projects, leveraging best-in-class green building techniques and technology to reduce carbon emissions and resource use. Progress for Lonza as a leader in the CDMO space will also enable our customers to reduce supply chain impact."

Jean-Christoph Hyvert,
President, Biologics and Cell & Gene Divisions

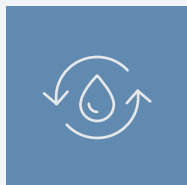


In line with our commitment to the SDG 9 Industry, Innovation and Infrastructure, we are also implementing the use of “sustainability by design” standards (energy and water efficiency) for infrastructure projects, as well as to raise awareness and promote employee-led innovation. Metrics for the contribution to this SDG will also be linked to the incentive compensation framework.

As an example, in our Small Molecules division, organic solvents play an important role in the manufacturing process. We are constantly aiming to improve the efficient use of such solvents and to increase their reuse and recycling, which reduces the environmental footprint of the processes by reducing the consumption of fresh solvents and the amount of waste generated and treated. Projects focus on the waste streams with potential for optimization, based on size and feasibility. In parallel, the projects aim to reduce production downtime through waste disposal, de-bottlenecking and simplified logistics.

In 2021, the projects implemented in the Small Molecules processes in Visp (CH) avoided 4,400 tons of wastewater being incinerated by treating it with other technologies, saving more than 900 tons fuel related CO₂-eq. In addition, we are currently recycling 10,000 tons of solvents and therefore save an estimated 48,000 tons CO₂-eq per year, by avoiding incineration and consumption of fresh solvents. At the Nansha (CN) site, the projects implemented in 2021 recycled 2,100 tons of solvents, saving an estimated 10,080 tons CO₂-eq.

Technology Toolbox*



Aqueous Wastes

Adsorption Technologies
Extraction
Stripping/Distillation
Thermal Hydrolysis
Advanced Catalytic Oxidation

Advanced Photo Oxidation
Advanced Electro Oxidation
Enzymatic Decomposition
Membrane Technologies

+ combinations



Solvent Wastes

Batch Distillation
Continuous Distillation
Wiped Film Evaporation
Falling Film Evaporation
Vacuum Distillation

Corrosion Resistant Vacuum Rectification
Pressure Swing Rectification
Extraction Columns
Pervaporation

* in-house and with support of external partners



People and Society

To enable a healthier world, Lonza engages with employees, communities and charitable organizations. We believe we also support societies' good health and well-being through our products and services in the healthcare industry.

Our people are the cornerstone of our business and we offer many opportunities for our employees to improve their skills, build on their experience and grow their careers. We provide them with safe workplaces, care for their wellbeing and encourage their involvement in creating a positive inclusive working environment and culture.

We aspire to participate as a good corporate citizen by supporting projects in alignment with our SDGs-framework. We engage in a range of initiatives to deliver benefits to our many stakeholders, including the communities in which our employees and their families live. By cultivating relationships and contributing our knowledge, expertise and support, we create sustainable value for our communities.

Occupational Health and Safety

High standards in occupational Health and Safety are the basis for assuring safety, health and wellbeing of our workers, our customers and other stakeholders present on our sites.

We regularly monitor health and safety regulations, industry standards and other best practices, to meet our and exceed obligations and ensure compliance through regular internal and external audits.

We also work tenaciously to eliminate health and safety hazards and incidents, including those that result in injuries and illnesses affecting our colleagues. We will continue our "Vision Zero" initiative, a program which has led to a considerable reduction in safety incidents. Ultimately we are striving for zero workplace injuries, process incidents, or environmental incidents.

We have set targets and are measuring safety corrective actions (safety CAPA) which are generated by our workforce. This program drives identification and closure of safety related observations and improvements across our site network. The initiative has moved the focus from a lagging injury-based metric, to a leading indicator driving employee behavior and involvement. It resulted in more than 32,200 documented safety improvements in 2021, largely identified and corrected by our manufacturing workforce. In 2021, we experienced a Lost Time Incident Frequency Rate of 0.35 (per every 1 Mio. workhours) – a decrease compared to 0.62 in 2020, and a Recordable Incident Rate of 0.52 (per every 200,000 workhours) – a slight increase compared to 0.48 in 2020. These rates refer to all Lonza sites, including Specialty Ingredients business until end of June 2021.



Labor practices and safe working conditions are the responsibility of site management, reporting to the respective Division Head of Operations. Site operations and EHS managers are both accountable for the occupational safety process, as well as for setting and helping to achieve local targets. Ultimately, every employee contributes by identifying risks and unsafe conditions, observing safe behaviors and working safely at all times. Safety is a condition of employment.

At the beginning of 2022 our Nansha (CN) site received the “Green Factory” award by the Chinese Ministry of Industry and Information Technology (MIIT). This award recognizes the site’s diligent work to improve its operations. Not only does the site now have certified EHS, occupational health and safety and energy management systems (ISO 14001, ISO 45001 and ISO 50001), it also has numerous improvement initiatives on water and energy consumption, GHG reduction and on material intensity, e.g. recovery of waste solvents. In addition, the site is also implementing requirements on sustainable performance expectations for their raw materials suppliers.



While our Safety and Sustainability policy defines high level principles, our corporate EHS management system and local EHS standards guide our actions and clarify specific roles and responsibilities. Some sites are certified according to the occupational safety standard ISO 45000 or Responsible Care. Our management system has been fully aligned to ISO 45000 requirements since 2019.

EHS standards include:

- Guidelines including Health Surveillance, Critical Work, and policies on incident tracking and reporting;
- Operational policies establishing minimum standards to ensure the safety of employees across a variety of activities;
- Site Security and Business Continuity Planning;
- Construction Site Policy, which includes contractor requirements.

We regularly audit sites and locations – on average every three years – to ensure compliance with rules and regulations, technical integrity and effective management systems.

We actively monitor our performance in occupational health and safety. A monthly analysis report is distributed to all employees. These reports and subsequent activities are carefully tracked and measured, then global and local management adapt approaches accordingly.

Hazard Identification, Risk Assessment and Incident Investigation

Work-related hazards are addressed through hazard identification and reporting (including near-miss incidents), job safety analyses, site inspections and process hazard reviews. Site employees are trained to use these tools and local and global EHS leaders collaborate with each site to ensure the workplace is safe and productive. The reporting of unsafe conditions and near-miss incidents is encouraged, with a site-specific target and reward program based on the number of corrective actions implemented to mitigate any identified potential hazards.

All incidents are investigated. A formal investigation and root cause analysis process, aligned with an internationally recognized methodology, is used for recordable injuries as well as significant process safety incidents and environmental incidents. In 2021, full training was conducted for 53 employees. All employees are trained to stop and to refuse actions that they consider hazardous for themselves, their colleagues and/or the community and environment.

Occupational Health Services

Operating sites have processes in place to recognize, evaluate and control occupational health risks. Where required, we have supplementary medical surveillance programs. All sites also have a designated clinician or physician to administer medical surveillance and evaluate occupational injuries or illnesses.

Worker Participation, Consultation, Communication and Training on Occupational Health and Safety

Worker participation is required to address safety improvements and behavior. In many cases, sites have a safety committee integrated into the EHS council to oversee all safety-related matters. Additionally, all sites are required to conduct frequent safety meetings in all teams and escalate any identified safety concerns.

All sites conduct required safety training on hazardous materials (HazCom), critical safe work procedures, evacuation and process safety, among many others. As required in our EHS Management System, each site is required to establish and maintain a Safety and Sustainability Training Matrix and Plan, which includes a listing of required training topics, training frequencies and methods, either by job title or a similarly effective means. It integrates topics which reflect changes in site activities, risks and regulations.

In 2019, our global initiative “Be a Safety Leader” (BSL) was launched, to create the best possible safety culture with the inclusion of all colleagues. BSL is an initiative to help all employees understand how to actively contribute and lead the day-to-day process of ensuring our work environment is the safest it can be. This culture change initiative has now been launched at 28 sites globally. Due to the COVID-19 pandemic, associated travel restrictions and social distancing requirements, the launch of the program at some sites was delayed. Instead, an alternative format of the training and materials was developed and a virtual version was launched during the second half of 2020. This has allowed sites to continue to roll out the initiative and select the best means of delivering the content, either virtually or in a classroom setting, based on individual needs and local COVID-19 restrictions.

Sites are required to train all colleagues, establish site implementation teams and develop creative approaches to conducting hazard assessments, defining critical behaviors and providing coaching at all levels to ensure implementation.

Promotion of Worker Health

All Lonza employees are motivated and passionate about the critical importance of health, safety and injury prevention. They understand that investing in prevention and employee health and wellbeing pays dividends and ensures colleagues remain fully engaged. Health programs are managed at site level.

Prevention and Mitigation of Occupational Health and Safety Impacts

We continuously monitor our operations to identify potential health risks to our employees. This includes (but is not limited to):

- Job and technical hazard assessments, e.g. ergonomic hazards;
- Technical improvements;
- Training and education;
- Substance exposure monitoring for chemical exposures, according to the limit values set by the Corporate Toxicology group.

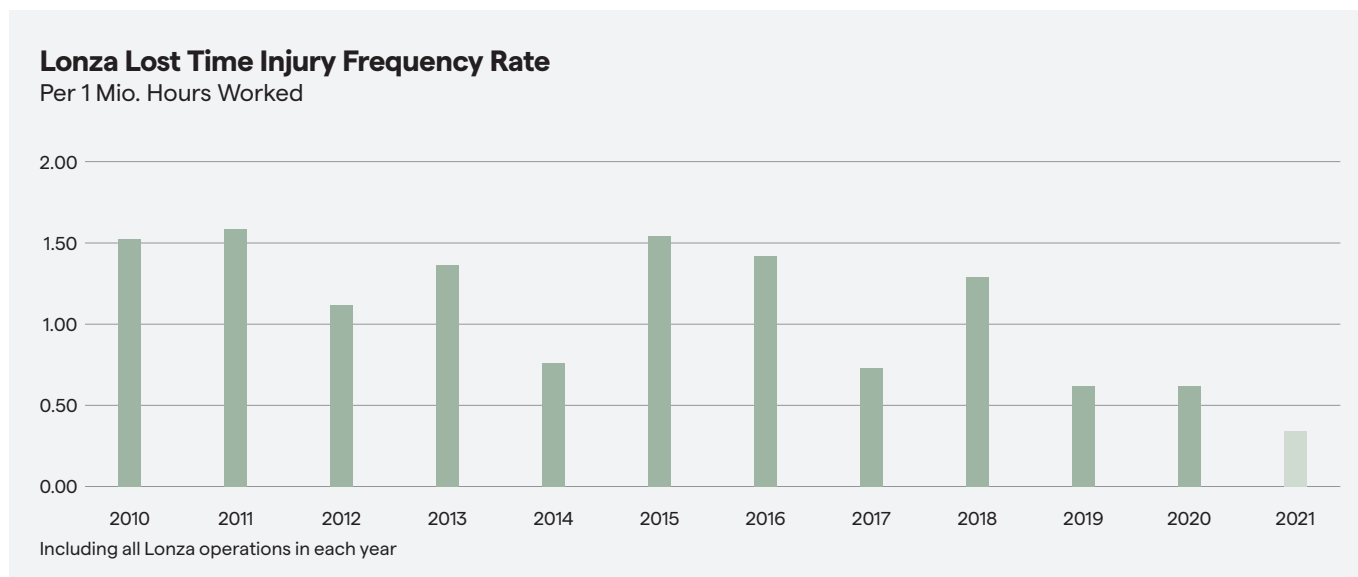
Our products are primarily pharma-related products. In addition to the required safety information, these products and their raw materials undergo extensive testing, registration requirements and instructions for use, so that they can be used safely in the market. The COVID-19 pandemic brought new challenges, which we addressed by issuing global and local guidance on how to adapt the workplace to ensure hygiene and social distancing measures could be effectively enforced. Specific guidance was also published for employees who work remotely.

Work-Related Injuries

Over the course of 2021, we recorded a total of 13 Lost Time Injuries, which is lower than last year’s number (22). The number of Recordable Incidents was 96 in the reporting year.

Most injuries recorded and analyzed in 2021 were the result of chemical contact, lifting, slips, trips, falls, sprains and strains, which can be common in our industry. There were no injuries resulting from commuting incidents from transport organized by the company.

Lost Time Injury Frequency Rates (LTIFR) are calculated based on one million hours worked. Data represents employed workforce and agency workforce in regular manufacturing processes. Workhours reported include direct employees and agency workers.



All incidents are analyzed identifying the most probable causes and corrective actions. The depth and detail of each investigation, the investigation method and the level of participation by local management, employees, and other functions, is commensurate with the nature and scale of the incident and its impact.

Diversity and Equal Opportunity

We recognize and welcome the critical value of diversity across our employee community and actively encourage a culture of inclusion. We understand that programs to support diversity and inclusion must be focused on influencing long-term, durable change. We have updated the nomenclature of our Diversity and Inclusion Taskforce to reflect this focus. It has now been named the Inclusion, Diversity and Belonging (IDB) Council.

The IDB Council promotes inclusion and reflects diversity across backgrounds, characteristics, preferences, beliefs and perspectives. Comprising a community of passionate and engaged volunteer members, the role of the Council is to devise and manage IDB programs as well as sharing knowledge and insights across our network. To achieve this, the Council is supported by a global community of IDB Ambassadors based at a site level. This enables an integrated approach in which initiatives are cascaded to employees from the group, as well as allowing individual sites the freedom to provide support that is relevant to specific employee communities and cultural contexts. The Council and Ambassadors meet regularly to share ideas and experiences. The Council also facilitates knowledge sharing within the Ambassador community and the scale-up of local initiatives where relevant to our wider corporate context. The Council is sponsored by a dedicated Steering Committee comprising senior leaders from Legal, HR and Communications to represent and advocate IDB at the Executive Committee and Board level.

Throughout 2021, the IDB and its affiliated groups hosted a series of events at a local and global level which were designed to reflect and amplify the company’s commitment to creating an inclusive environment. At a local level, multiple sites hosted workshops to recognize, explore and celebrate local and international cultural holidays. Additionally, as part of this commitment, and recognizing the stresses of remote onboarding and working, a “One Year at Lonza” workshop was organized. This aimed to ensure all new joiners felt a collective sense of belonging and connection by sharing their views and experiences. Other local initiatives included our support for Armed Service Veterans at our Portsmouth, NH (US) and Greenwood, SC (US) sites. These sites featured a diverse group of veterans on TV show Military Makeover – Operation Career, which highlighted our support for veterans in our employee community. At a global level, we hosted several virtual “Rise Up” events for all employees from across the organization to listen to internal and external perspectives on the uniquely female experience of the workplace. These meetings also provided a forum for the group to share and discuss specific challenges and opportunities relating to women in the workplace.

SDG 5 Gender Equality

“We want to attract women to every part of our business and achieve greater female representation at all levels as Lonza grows.”

Caroline Barth,
Chief Human Resources Officer (CHRO)



2021 Safety Performance

96

Recordable work-related Injuries /
80 for Continuing Operations

13

13 Lost-Time work-related Injuries /
10 for Continuing Operations

0.35

Lost Time Injury Frequency Rate
(per 1 million hours) /
0.29 for Continuing Operations

2.6

Recordable work-related Injury Rate
(per 1 million hours) /
2.3 for Continuing Operations

37

Mio. Hours worked in 2021 /
34 Mio. Hours for
Continuing Operations

In 2022, our compliance, talent and organizational development teams will develop a roadmap and activity program to foster inclusive leadership as a means of ensuring that all our employees can thrive and add value to the business. Additionally – and importantly – our Code of Conduct prohibits any form of discrimination. It states that we do not tolerate any discrimination, harassment or bullying, especially on the basis of ethnicity, national origin, color, religion, sexual orientation, creed, age, sex, disability or any similar characteristic. This requirement also applies to all our business partners (both direct and indirect) throughout our supply chain.

Employee Recruitment, Retention and Development

Supporting leadership development has been a focus throughout 2021. A solid leadership program has been developed to emphasize the role of the leader in modelling our values and empowering and coaching our employee community. Further key priorities in 2021 have included ongoing succession planning at the senior level and ensuring rigor in talent reviews for the wider organization. This work will help to ensure we maintain a robust and sustainable talent pipeline to align with our growth trajectory. In line with this, we have observed an internal promotion rate of 3%, which represents an increase of 0.7% compared to 2020.

2021 saw further extensions and enhancements to the existing Lonza mentoring program, which is offered across many divisions and functions. This is designed to support learning and development, strengthen a mentoring culture and promote networking across the global business. LinkedIn Learning also continues to offer 24/7 learning access to all our employees. It enables social learning across the business and it is used as a tool to enable employees to undertake self-directed learning across a broad range of business-relevant subjects. During 2021, 34% of employees used LinkedIn learning, with 5,250 courses and 141,500 videos completed. As leadership development remains a priority, we attach great importance to delivering ongoing training to our people leaders. This is provided through a manager fundamentals course which also encourages networking opportunities. These programs are offered across our divisions and corporate functions, including research and development, quality, operations and manufacturing.

We actively work to provide a competitive reward package to support employee attraction and retention. Rewards are reviewed and benchmarked annually at a global and local level to ensure we provide competitive compensation levels compared to our industry peers. The rewards system has been reviewed in 2021 and will undergo structural change in 2022. This will include an update to our bonus plan to provide a greater proportionate recognition of personal contribution as well as reflecting wider company performance on environmental, societal and governance indicators. Finally, we are working towards the introduction of an employee share plan in selected test countries in 2022.

We understand that employee retention can be supported by our incentive plans. With this in mind, for our senior employees, we operate a performance related share plan. This includes a contractual compensation element that is awarded annually and links to our group financial performance, measured over a three year performance period. It encourages the retention of senior talent by providing the opportunity to share in our long term business success.

The provision of equal pay at Lonza is a primary foundation of our global HR and Reward practices, and Lonza ensures that its HR practices fulfil equal and gender pay reporting requirements across the world. This includes Switzerland under Art. 13c GEA and the UK Gender Pay Reporting requirements. We continue to review pay equality across the employee population.

Childcare support is offered through local government schemes at a market level. Compensation for atypical working hours also follows local legislation and varies across our global site network. This includes – but is not limited to – additional annual leave, shift premiums, standby and call out allowances and one-time recognition awards to compensate extraordinary efforts for special projects.

SDG 4 Quality Education

“We want to be recognized as a company with a deeply embedded learning culture that invests in providing continuous education opportunities for all generations of employees.”

Philippe Deecke,
Chief Financial Officer (CFO)



To support talent acquisition and recognition across our organization, we have a number of successful programs:

- Our global Talent Referral Program encourages and incentivizes our existing employees to refer friends and acquaintances for vacant positions across our business. In 2021 we saw a 9% increase in the number of referrals and a broadly consistent proportion of candidates being successfully sourced through the program. This represented 470 referral hires in 2021 compared to 152 in 2020. This increase was primarily driven by the significant increase in overall hiring in 2021.
- We operate a cross-market online recognition program, named BRAVO. Using this platform, more than 4,600 individual “thank you” messages and awards were sent across the business over the course of 2021. The goal of the program is to encourage collaboration and recognition across the network, thereby supporting and enabling a positive and self-reinforcing company culture.

All of these initiatives align with the broader People strategy of Come, Stay and Grow. More detail on this People Strategy can be found in our Annual Report.

Performance Management

Our performance management process is consistent across our employee community. At the beginning of the year, employees are set stretching individual and team goals aligned to our strategic priorities. This is designed to unite and galvanize the global colleague community to achieve high levels of company performance and individual development. The performance review process is linked to our incentive plans, so employees feel rewarded for their efforts. It also provides structure and focus to ongoing performance, development and career conversations between managers and employees. The performance management process has been reviewed in 2021 to ensure that it remains robust for the future. A new approach, which provides an enhanced level of alignment to our group values and enables employees to include a behavioral goal, will be implemented in 2022.

Our Principles of Talent Management

Accountability

Manager accountability to continuously review talent pipeline – creating paths for top talent and building succession within the respective organization



Empowerment

Enable critical experiences and cross-functional moves or career re-invention and manage the transition of new role and enable its success

Employee-Centered

Need for regular conversation, considering talent as a ‘whole’ not just the performance and ensuring career movement is aligned with individual aspirations

Employee Engagement

Our Employee Value Proposition (EVP), “A Meaningful Difference”, reflects how our colleagues work to fulfill our purpose of enabling a healthier world. This purpose is underpinned by our four core company values:

- **Integrity** - we act with integrity by being accountable, honest, and having the courage to speak up and do the right thing;
- **Inclusion** - we demonstrate inclusion, by being supportive, respectful and responsible towards others;
- **Innovation** - we innovate, by being engaged, curious and enquiring to find the best possible solutions;
- **Initiative** - we take the initiative as a community of self-driven colleagues who are motivated and committed to focus and deliver.

Alongside these values, our purpose is supported by a focus on caring for our people, our customers and our planet. These commitments enable our employees to better connect with the global organization and act as ambassadors who are empowered, engaged and equipped to contribute to the company’s future growth.

To ensure we promote and encourage strong performance, we actively work to listen to our colleagues’ views and needs. To understand employee sentiment in 2021, we launched our “Voice of the Employee” (VoE) global employee engagement survey, focusing on inclusion and culture. It received an overall response rate of 65% from our global employee population. While this is a strong start to the measurement and evaluation process, we are aiming to achieve higher engagement levels in future editions of the VoE survey. The survey outcomes were analyzed at a company, division, site and team level to allow managers across the business to understand and act on both general and specific needs.

At a group level, the VoE survey identified strengths in how colleagues view their prospects, their ability to contribute to company success, and their sense of empowerment, purpose and pride. Areas of opportunity were identified at a manager level and our people leaders have been given support to develop improvement programs to address local challenges. This work will continue in 2022, alongside the distribution of future surveys to track progress and identify further areas for improvement.

In an effort to support our employees more broadly, a global Employee Assistance Program (EAP) was launched in the second half of 2020 to address professional, personal, psychological and financial needs. The program complements several existing local support services by offering anonymous counselling through a specialized partner organization.

A number of additional programs have been introduced to support our employee community in 2021. With up to one third of our global workforce continuing to work remotely in line with local government restrictions and our on-site workers continuing to physically attend manufacturing sites and research and development (R&D) facilities, frameworks on how to continue to work remotely and on-site effectively and safely were established, as well as support mechanisms to cope with the pandemic through our EAP. Throughout this time, we began to consider the future new working environment in line with Back to Office planning.

With the pandemic placing added pressure on our employee community, we have sought to enhance our wellbeing offering. An online wellbeing platform providing a single source of advice on health, wellness and lifestyle has been developed in 2021, and will be piloted in selected areas of the business in 2022.

We have also worked at a site level to support the development of young talent. In 2021, we have organized and hosted a number of apprenticeship programs, as well as our first graduate program at our Slough site (UK). Such programs enable more inclusive paths into our business for young people through roles aligned to academic subjects including science, technology, engineering and mathematics (STEM). In addition, we launched a wellbeing campaign called “Wellbeing Wednesdays,” which provided employees with informational articles and tools to support education and self-assessment alongside tips to improve personal and professional wellness.

As part of our wider commitment to sustainability, we have formed a network of colleagues from our largest sites (in which we have more than 100 employees) to share corporate responsibility best practices and experiences. This team connects on a quarterly basis, and representatives from each site share accounts of volunteer activities and other community engagement programs, such as those mentioned in [pages 48 to 51](#).

Investing in Communities

Our Sponsorship Approach

In many of the communities where we operate, we act as a neighbor, a vital source of jobs, a charitable sponsor of local non-profit organizations and a significant contributor to the local economy. While our financial donations are important, our greatest contributions come from our employees who volunteer in projects that are meaningful to our communities. We focus our charitable giving and volunteer activities on selected projects that align with our SDGs and where our contributions make a difference, as shown in the examples below. We evaluate the recipients of any contribution to ensure they promote high standards of ethics and compliance and a low proportion of administration charges, in the programs we support.



Good Health and Wellbeing Continuing to Support the Fight against COVID in Underprivileged Communities

We provide funding to Hand in Hand (HiH) India, a non-profit organization that focuses on child labor elimination and education, access to healthcare, empowerment of women through livelihood creation, skill development, natural resource management and solid waste management. Our support of HiH began in 2020 and continued throughout 2021. At the Chengalpattu Government Hospital, which receives more than 3,500 patients a day, we have provided a battery-operated car to help transfer patients to the appropriate buildings on the hospital campus. Our funding also supported field teams and communication campaigns to support awareness, registration and COVID-19 vaccination for more than 5,000 people, in addition to providing general guidance on how to stay healthy during the pandemic.

This initiative aligns with our Gender Equality, Clean Water and Sanitation and Climate Action SDGs. Our contribution supports the work of HiH's Green Friends, a team of workers who provide sanitation services to more than 100,000 households in six states in India. Understanding that combatting climate change at the local level is imperative, especially in a developing country such as India, HiH launched its solid waste management initiative in 2007 to encourage segregation of waste at source and ensuring proper disposal of waste. More than 70% of the Green Friends are women; they are often single and therefore the sole breadwinners for their families. By offering this job, we help provide them with wages, dignity in the workplace, safety equipment and ration kits so they may safely continue their work during the pandemic.



Supporting the Fight against Cancer

Employees from our Bornem (BE) site raised funds for and participated in the 1,000 kilometer bike ride "Fight against Cancer". Dozens of employees participated in the annual event which spanned four days. Our Greenwood, South Carolina (USA) site participated in fundraising for "Relay for Life", to support the American Cancer Society. Our Puebla (MX) site provided funding to "Una Nueva Esperanza", supporting services to children with cancer. Volunteers from our Portsmouth, New Hampshire (USA) site made birthday cards for local children with cancer and other life-threatening illnesses in partnership with "Lucy's Love Bus", a non-profit organization focused on improving the quality of life for the children it serves. Colleagues from our Morristown, New Jersey (USA) site raised funds for and participated in "Light the Night" for the fifth consecutive year, supporting the work of the Leukemia & Lymphoma Society, whose mission is to find cures and provide support to patients and their families. Lonza was honored as a 2021 Top Corporate Team by the Society.



Donating Blood in a Critical Time of Need

We support various national and local blood donation organizations, including the Red Cross, with financial support and coordinating site blood donation events. Our contribution to the American Red Cross also supports disaster relief, specifically for those impacted by tornados and western wildfires. This support helps enable the Red Cross to prepare for, respond to and help people recover from these disasters.

Colleagues from our Houston, Texas (USA) site participated in blood drives with Gulf Coast Regional Blood Center to help replenish their community's needs, which serves the Texas Medical Center, the largest medical center in the world.



Providing Food to Nourish our Neighbors

Colleagues from our sites around the world, including Tampa, Florida (USA) and Porriño (ES) volunteer at local food banks and provide food donations to ensure those in need have access to nutritious meals. Our Houston, Texas (USA) site worked with United Way to prepare snack and hygiene kits for the homeless population and children in need.



Gender Equality

Supporting Mothers in STEMM Careers

Lonza has set an ambition to increase gender equality across the organization. To also increase equality in society, we contribute to the work of Mothers in Science (MiS), an international non-profit organization providing much needed research and support for mothers in Science, Technology, Engineering, Math and Medicine (STEMM). MiS raises awareness of career obstacles faced by mothers working in STEMM fields and advocates for workplace equity and inclusion, providing resources for industry, academia and individuals. Our support helps fund global research that addresses the obstacles. It also supports the development of webinars and the expansion of its mentorship program, whereby those new in STEMM fields can be paired with volunteer mentors who have navigated the combined challenges of motherhood and a career.



Quality Education

Providing Support for Education in Science

While we establish an education program in the company, we also support outside initiatives. Various sites have donated laboratory equipment to local schools and universities, including Porriño (ES), Houston, Texas (USA) and Cologne (DE). Around the world, colleagues donate time to support local students, including Nansha (CN), where colleagues lead experiments with primary school students; Houston, Texas (USA), where we provide guest lectures and scholarships in Science, Technology, Engineering, Math and Medicine (STEM) programs and in Visp (CH), where colleagues lead lessons and experiments with local vocational and high schools.

In addition, we have continued our ongoing annual support for Schweizer Jugend forscht (Swiss Youth in Science), a non-profit organization that brings together young people who are passionate about research and coaches to support the development of scientific research in a variety of areas. This program supports the education of young people on their journey to become the next generation of innovators.



SCHWEIZER JUGEND FORSCHT
SCIENCE ET JEUNESSE
SCIENZA E GIOVENTÙ



Environment
Planting Trees and Keeping Communities Clean

Our team in Singapore participated in a greening initiative at Singapore’s Tuas Biomedical Park, which is home to many biomedical companies including Lonza. This initiative also supports Singapore in its One Million Trees movement, a nationwide effort to plant a million trees across Singapore over the next ten years. In Houston, Texas (USA), a group of colleagues also participated in various tree-planting and public clean-up events to support “Keep Pearland Beautiful”, a local non-profit organization dedicated to protecting the environment and community in the area. Volunteers from our Portsmouth, New Hampshire (USA) site also spent time cleaning local coastal areas to support the local community and its wildlife.



Industry, Innovation and Infrastructure
Enabling Innovative Solutions

We support the Swiss Cancer Foundation (SCF), which brings businesses and individuals together in the fight against cancer. The SCF aids institutions and organizations such as Krebsliga Schweiz and Stiftung Krebsforschung Schweiz by supporting innovative research, prevention and treatment projects to improve the life and health of cancer patients. Since 2019, we have contributed to SCF projects including the development of a centralized digital platform to provide crucial information in the diagnosis and treatment of patients and a research project exploring new treatment options with immunotherapy. We are committed to continue our support of SCF to help bring innovative solutions to patients in need. This initiative also delivers against our Good Health and Wellbeing SDG in supporting those with cancer and the efforts to find a cure.

We also continue to support platforms that bring together experts in various fields, including economics, science and society. These include the St. Gallen Symposium and Avenir Suisse. These efforts foster collaboration to help to address industry’s and society’s shared challenges.



GRI and TCFD Overview

The reporting period is the calendar year 2021. This is our fourth sustainability report following the principles of the GRI. We expect to continue to report on an annual basis. Our GRI Report 2021 is prepared in accordance with the GRI Standards Core Option, and it has not been externally assured.

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GRI Index, UNGC Communication on Progress, and SASB* Index

GRI standard	Disclosure	Page	Comments	SDG	UNGC	SASB*	
General Disclosures							
GRI 102: General Disclosures 2016	102-1	Name of the organization	Lonza Group Ltd				
	102-2	Activities, brands, products, and services	6	-			
	102-3	Location of headquarters		Lonza Group Ltd Muenchensteinerstrasse 38 4002 Basel, Switzerland Tel +41 61 316 81 11 Fax +41 61 316 91 11 www.lonza.com			
	102-4	Location of operations		Please consult our website: https://www.lonza.com/about-lonza/company-profile/locations-worldwide.aspx			
	102-5	Ownership and legal form		Lonza Group Ltd is a public company, listed at the Swiss Stock Exchange (SIX) and with a secondary listing at the Singapore Exchange Securities Trading Limited (SGX-ST).			
	102-6	Markets served	6				
	102-7	Scale of the organization		Page in Annual Report 2021 • Our Businesses – 36 • Financial Statements – 70 • Risk Management – 149 • Our Strategic Priorities – 22			
	102-8	Information on employees and other workers	9, 10			Principle 6	HC-BP-330a.1HC-BP-330a.2
	102-9	Supply chain	24			Principle 1	HC-BP-430a.1
	102-10	Significant changes to the organization and its supply chain		Page 10/11 AR 2021			
	102-11	Precautionary principle or approach	18				
	102-12	External initiatives	16			Principle 9	
	102-13	Membership of associations	16			Principle 9	
	102-14	Statement from senior decision-maker	4				
	102-15	Key impacts, risks, and opportunities	18				
	102-16	Values, principles, standards, and norms of behavior		The values and principles of the latest version of Lonza's Code of Conduct were approved by the Board of Directors in 2017. The Code of Conduct is available in 14 languages for all our employees as well as the public. An interactive Code of Conduct is available with additional details and examples for our employees, which includes easy-reference links to important information. Employees are required to take an annual online interactive Code of Conduct training, dealing with topics such as anti-bribery, competition law and conflicts of interest. All employees explicitly consent to uphold the values expressed in the Code of Conduct.		Principle 1, 2, 3, 10	
	102-17	Mechanisms for advice and concerns about ethics		Our Ethics & Compliance Group provides guidance in recognizing, understanding and complying with the laws and ethical standards that govern our business practices and activities. This is supervised by the Audit and Compliance Committee of the Board of Directors. In addition, we have the Lonza Ethics Hotline, operated by an external provider. The Lonza Ethics Hotline ensures that concerns can be raised anonymously if preferred and where allowed by law. All concerns and reports are, where warranted, investigated by our Ethics & Compliance Group and are finally reported to the Audit and Compliance Committee.		Principle 1, 2, 10	
102-18	Governance structure	7, 8			Principle 8		
102-40	List of stakeholder groups	14					

Sustainability Report 2021

GRI standard	Disclosure	Page	Comments	SDG	UNGC	SASB*	
General Disclosures cont.							
GRI 102: General Disclosures 2016 cont.	102-41	Collective bargaining agreements		<p>In Lonza, on global level there are no employee organizations and representatives. Therefore, we are not collecting specific information about collective bargaining agreements in affiliates. Generally, Lonza Group companies are established in countries where representation of employees is the rule, via work councils, unions and collective bargaining agreements. Local management is responsible for maintaining good labor relations according to legal requirements and agreements with unions, work councils and other employee representing bodies.</p> <p>We respect these relationships and work with these parties in a mutually respectful manner. In addition to the country-specific employee representation, we have also established a European Work Council that holds regular meetings. This is designed to maintain a positive culture of information and communication. In the European Works Council, all European countries with more than 100 employees are represented by employee nominated delegates: Belgium, France, Germany, the Netherlands, Spain, the United Kingdom and Switzerland. The European Work Council is assisted and supported by a union secretary.</p>		Principle 3	
	102-42	Identifying and selecting stakeholders	14				
	102-43	Approach to stakeholder engagement	16				
	102-44	Key topics and concerns raised	14-17				
	102-45	Entities included in the consolidated financial statements		A listing of principal subsidiaries and joint ventures of Lonza Group Ltd is available in Note 33 of the financial statements in the Annual Report 2021.			
	102-46	Defining report content and topic boundaries		Unless otherwise stated, the reporting boundaries for environmental data include the facilities for which we have operational control, own either the facility or significant relevant equipment, and where data is readily available and adequately representative. Facilities outside the reporting boundaries are smaller-sized leased facilities, laboratories, warehouses and office spaces with comparatively insignificant energy consumption.			
	102-47	List of material topics	15				
	102-48	Restatements of information		If, in individual cases, a new form of presentation, calculation method or optimized data collection has led to other results for the previous years, then this is noted under the respective statements.			
	102-49	Changes in reporting		A new materiality assessment was performed in 2021, and therefore the Report's content has been updated accordingly. The divested Specialty Ingredients business is also not included in this Report, unless specifically mentioned.			
	102-50	Reporting Period	52				
	102-51	Date of most recent report	52				
	102-52	Reporting cycle	52				
	102-53	Contact point for questions regarding the report	52				
	102-54	Claims of reporting in accordance with the GRI Standards	52				
102-55	GRI Content Index	52-57					
102-56	External assurance	52					

GRI standard	Disclosure	Page	Comments	SDG	UNGC	SASB*		
Economic								
GRI 205: Anti-corruption 2016	103-1	Explanation of the material topic and its boundary	22		3, 12	Principle 10	HC-BP-510a.1 (losses not reported)	
	103-2	The management approach and its components	22			Principle 10		
	103-3	Evaluation of the management approach	22			Principle 10		
	205-1	Operations assessed for risks related to corruption	24			Principle 10		
	205-2	Communication and training about anti-corruption policies and procedures	22			Principle 10		
Supply Chain Responsibility		24, 25		3, 13, 5, 12	Principle 1,2,4,5,8,10			
Environmental					Principle 7, 8			
GRI 302: Energy 2016	103-1	Explanation of the material topic and its boundary	28		13, 9, 12	Principle 7		
	103-2	The management approach and its components	28			Principle 7		
	103-3	Evaluation of the management approach	28			Principle 7		
	302-1	Energy consumption within the organization	29			Principle 7		
	302-3	Energy intensity	29			Principle 7		
GRI 303: Water and Effluents 2018	103-1	Explanation of the material topic and its boundary	30	As per the GRI Standard, water stress in an area was assessed using the baseline water stress above 40% from the tool Aqueduct Water Risk Atlas , consulted in 2021. Some sites in the following locations were identified as per the above definition, most being low water consumers: Mexico, India, China, The Netherlands, Belgium, UK and US.	3, 9, 12, 6	Principle 7		
	103-2	The management approach and its components	30			Principle 7		
	103-3	Evaluation of the management approach	30			Principle 7		
	303-1	Interactions with water as a shared resource	30			Principle 7		
	303-2	Management of water discharge-related impacts	30			Principle 7		
	303-3	Water withdrawal	30	The amount of Total Dissolved Solids in the water sourced is in general < 1000 mg/L.			Principle 7	
					Water Withdrawal 2021 [thousand m³]	Total from areas with water stress		
Total Water Withdrawn					810			
Groundwater Wells					350			
Public Supply	460							
Water Bodies	0							

GRI standard	Disclosure	Page	Comments	SDG	UNGC	SASB*
Social cont.						
GRI 403: Occupational Health and Safety 2018 cont.	403-2	Hazard identification, risk assessment, and incident investigation	43			Principle 6
	403-3	Occupational health services	43			Principle 6
	403-4	Worker participation, consultation, and communication on occupational health and safety	43			Principle 6
	403-5	Worker training on occupational health and safety	43			Principle 6
	403-6	Promotion of worker health	44			Principle 6
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	44			Principle 6
	403-9	Work-related injuries	44			
GRI 405: Diversity and Equal Opportunity 2016	103-1	Explanation of the material topic and its boundary	45		3, 5, 4	Principle 1, 2, 4, 5, 6
	103-2	The management approach and its components	45			Principle 1, 2, 4, 5, 6
	103-3	Evaluation of the management approach	45			Principle 1, 2, 4, 5, 6
	405-1	Diversity of governance bodies and employees	10			Principle 1, 2, 4, 5, 6
Employee Recruitment, Retention and Development		46, 47	Page 30 Annual Report 2021	5, 4		HC-BP-330a.1
Employee Engagement		48	Page 30 Annual Report 2021	5, 4		HC-BP-330a.1

* Sustainability Accounting Standards Board (SASB) – we have aligned our disclosures with the Biotechnology and Pharmaceuticals Sustainability Accounting Standard. As a Contract Development and Manufacturing Organization (CDMO) most of the SASB indicators do not apply.

The Ten Principles of the United Nations Global Compact

Human rights

Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights;

Principle 2 make sure that they are not complicit in human rights abuses.

Labor

Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4 the elimination of all forms of forced and compulsory labor;

Principle 5 the effective abolition of child labor;

Principle 6 the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7 Businesses should support a precautionary approach to environmental challenges;

Principle 8 undertake initiatives to promote greater environmental responsibility;

Principle 9 encourage the development and diffusion of environmentally friendly technologies.

Anti-corruption

Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.

Task Force on Climate-related Financial Disclosures (TCFD) and Climate Change Risk Management at Lonza

Natural and man-made factors are influencing the climate. The increase in greenhouse gas (GHG) emissions from human activities is accelerating climate change which is causing an increase in average temperatures and a growing number of extreme weather events (droughts, floods, heavy storms, sea level rise, etc.). These events can have negative impacts such as food and water availability, land erosion, fires and damage to the built and natural environment. They could potentially affect Lonza’s operations and our ability to provide our customers with the services and technologies needed to enable a healthier world.

We routinely evaluate risk categories including climate-related risks as part of our general business management, Enterprise Risk Management (ERM) program and Business Continuity planning. We strive to avoid, reduce or mitigate risks all with anticipated negative impacts of defined magnitude. However, some general developments may also present business opportunities.

Lonza is committed to following the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This document addresses the disclosures in a framework which includes four pillars: Governance, Strategy, Risk Management, and Metrics & Targets. We aim to provide quantitative disclosure on climate-related topics in the future as we continue to incorporate the TCFD recommendations into our business.

Governance

Board Oversight

Governance and oversight over Sustainability and ESG is with the Board of Directors, headed by the Chairman of the Board, with specific aspects to be covered by the Board’s committees (Nomination and Compensation Committee, Audit and Compliance Committee, and Innovation and Technology Committee). While the Board acts as sponsor and overall owner of the program, the implementation is the responsibility of the EC. The Lonza Board of Directors (Board) receives regular updates on climate related risks as part of its oversight of the environmental, social and

governance (ESG) agenda, which are presented and discussed at Board meetings. Lonza’s climate-related targets and results are discussed annually at Board level, in the context of Sustainability reporting. The Board also has oversight of enterprise risks and opportunities that are identified through the company’s ERM program, and which are reviewed annually.

Management Oversight

Senior management, and in particular the Lonza Executive Committee (EC), is responsible for continuously monitoring the evolution of the risks and opportunities and the risk mitigation progress in the organization. To ensure that risks are managed at the appropriate level, the heads of the Business Units, Operational Units, Corporate Functions and Business Services Organizations provide adequate and timely reporting to the EC. The EC escalates the information about significant risks to the Board as appropriate.

In addition to this governance structure and under the leadership of the CEO, the EC has responsibility for reviewing and approving the company’s sustainability agenda, including climate, waste and energy targets. The EC and the Board receive a quarterly update on the status of our waste, energy and GHG intensity targets.

Lonza’s EC has direct oversight of and involvement in the ERM program. At the EC’s direction, the Head of Corporate Responsibility and ERM is responsible for mapping and addressing all enterprise risks and opportunities, including those that are climate-related, as part of the ERM program. The EC’s responsibility includes oversight of actions to reduce likelihood of occurrence and the potential impact of negative risks, and consideration of opportunities as part of longer-term strategy development. Annually, the EC reviews, discusses and assesses the ERM findings for reporting to the Board.

More details on Governance may be found in the corresponding chapters of the Sustainability Report, specifically on the Sustainability and Risk Committee (SRC) and the Safety and Sustainability Steering Board (SSSB), which coordinate the sustainability strategy and activities throughout the company, including climate change and climate-related measures.



Strategy

Lonza’s purpose is to enable a healthier world. To achieve our purpose, we have defined five strategic priorities. These guide our business activities and practices, to ensure that we can capture and capitalize upon our unique points of differentiation.

Lonza is committed to net-zero GHG emissions by 2050. Global and individual site roadmaps address concrete actions and projects to support achievement of the corporate goals and work with global functions such as Engineering for new infrastructure and growth investments.

Our environmental footprint and its impact on our business does not stop at our own operations. It also extends to our external partners. The Sustainability and Procurement teams will work together to manage climate strategy and actions in the supply chain. Our first step is collaboration with our top suppliers.

We have included several ESG targets in our group-wide incentive plan as of 2022. These include targets for achieving reductions in each of the Scope 1, Scope 2 and Scope 3 GHG emission categories.

Sustainability Roadmap

We currently focus on monitoring our progress against our 2030 sustainability targets, enhancing our public disclosures for ESG topics and providing guidance and support for sustainability-related initiatives across our sites globally. We are launching a project to source the electricity globally from renewable sources by 2025.

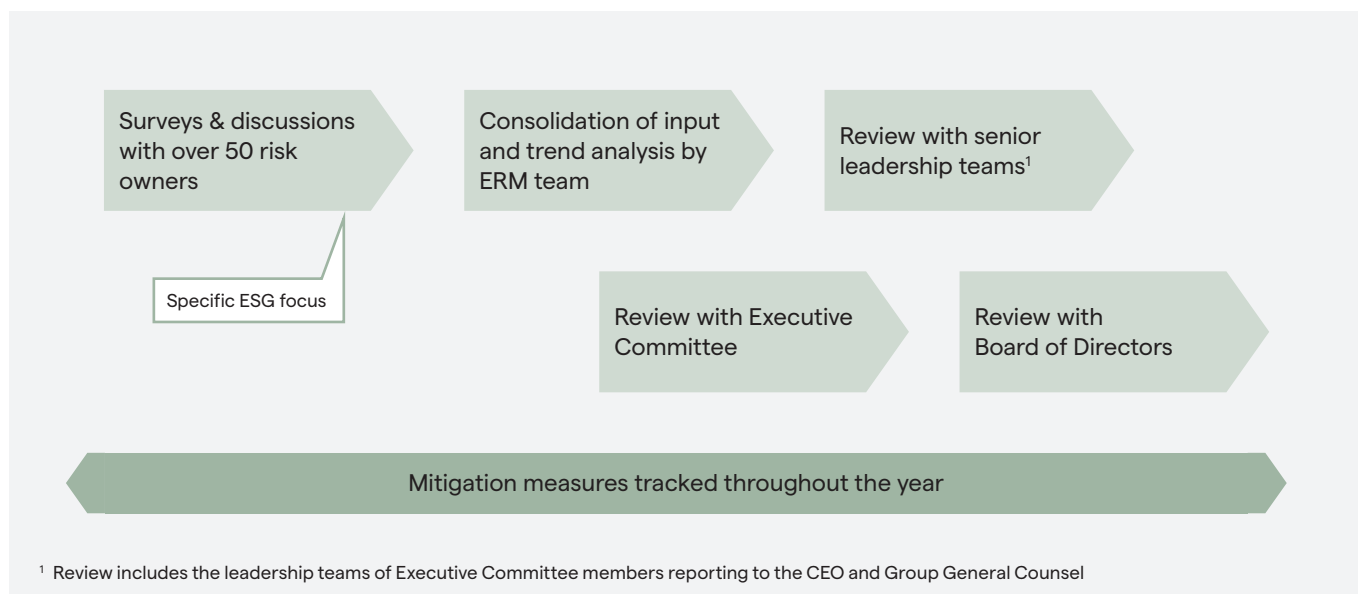
In 2020, we initiated a program to evaluate and identify the main contributors to our value chain GHG footprint (known as Scope 3), which are mainly from the products and services we purchase. We are working to engage with the largest suppliers to start to continuously reduce our Scope 3 footprint.

We are reevaluating our sourcing strategy taking into account availability of raw materials, logistics and risks for supply chain disruptions. We are also further developing our existing due diligence process for suppliers, to identify and minimize the risks of occurrence in our supply chain, e.g. for environmental and labor misconduct. Being a member of the PSCI (Pharmaceutical Supply Chain Initiative) we align with its principles and also share supplier audits with the industry group. Key elements of our sustainability agenda are more fully described in the Risk Management section below.

Risk Management

Our ERM program is a critical element of our strategic planning and provides a mechanism and structure for risk management. The focus of the program is on risks and opportunities that may affect the company’s strategic and financial targets or impact the mid-to long-term success of the business. The annual ERM process is as follows:

- Step 1: Identification and assessment of risks through bottom-up risk scanning with individual risk owners in meetings and with surveys;
- Step 2: Consolidation, review and prioritization of risks by the cross-functional ERM team, including mapping of trends versus prior year;
- Step 3: Workshop with the leadership teams of each Executive Committee member reporting to the CEO and the Group General Counsel to review and finalize the ERM team’s findings and document mitigation measures;
- Step 4: Presentation and discussion of consolidated enterprise risk overview and relevant mitigation measures to the Executive Committee;
- Step 5: Presentation and discussion of top risks and relevant mitigation measures to Board of Directors;
- Step 6: Throughout the year, monitor status of mitigation measures.



¹ Review includes the leadership teams of Executive Committee members reporting to the CEO and Group General Counsel

Our ERM program focuses on risks and opportunities that could affect our mid-term business strategy. Given the nature of our business, most climate risks that could materialize in this time frame are limited to site-specific natural disasters and extreme weather events, such as hurricanes, floods, wildfires, etc. These risks are managed by business continuity plans (see below). Additional climate-related risks are unlikely to be material during this time horizon. We do not consider our business to be carbon intensive, natural resource intensive (land, marine) and it is not consumer goods oriented. Therefore, our current focus to implement climate-related scenario analysis is at site level.

Outside of the ERM program, longer term implications of climate change are relevant for site-level planning, such as water availability, storm frequencies, wastewater disposal limitations and flooding. The risk management of these implications is part of our ongoing Business Continuity planning.

Near-term local risks, e.g. flooding risks, storm risks, are assessed for all manufacturing locations and business continuity plans are in place. In summary, the company has an overview of the individual risks at the sites and any open actions to mitigate substantial impacts. We intend to include long-term climate risk scenario planning into our risk management and business continuity management program.

Regulatory risks

The main regulatory risks identified concern the potential revision and uncertainty of developing carbon dioxide tax instruments and changing or new cap and trade systems following the Paris COP21 agreement. In the European Union, changes could increase the price of certificates and/or lower the amount of free allowances granted. In other parts of the world, new carbon pricing policies are planned or are being implemented.

These changes could affect Lonza's operations directly or indirectly leading to an increase in operating costs, as well as additional management focus and efforts, including monitoring, reporting and verification. In addition, due to the different speeds at which regional legislation is put in place, there is policy asymmetry in the short to medium term.

For the moment, energy cost or carbon pricing are not yet a decisive factor in the consideration as to where to locate our activities. An increase in fuel and energy costs are expected and recognized by the business strategies and Lonza considers the risks as part of its annual ERM program. The energy price impact risks apply worldwide, however more exposed are operations in developed regions such as Europe and the US. It is expected that energy efficiency regulations will become more stringent and increasingly be integrated into environmental legislation and vice versa, while at the same time planning will remain challenging as the volatility in political decision making may be increasing.

The potential annual financial impact of fuel prices and carbon costs depend on the magnitude of changes in the fuel market and the degree to which the carbon pricing policies across countries evolve.

It is difficult to estimate the financial implications of carbon taxes. Fuel and energy taxes as well as regulations could have a negative financial impact. The expansion of schemes into other legislations will require additional management focus. Efforts to align with suppliers will also take time and resources that have not yet been determined.

Many investments to reduce the carbon budget are not within traditional payback expectations of business expansions, and are generally not routinely accepted in the industry. Therefore, we are refining our standards for considering and approving these capital investments to allow a more long-term perspective of sustainability and cost benefits when making major capital investments.

Physical risks

Extreme weather events, such as hurricanes, floods, droughts and fires, can seriously affect the company's operations and supply chain processes. However, the additional contribution of adverse effects induced by climate change is uncertain and may lead to an increase in frequency.

For example, in 2020, the state of Louisiana (USA) was severely hit by hurricanes Laura and Delta with our former Lake Charles site impacted. As such risks are mostly local, our manufacturing sites have contingency plans and back-up systems in place, to make informed decisions on the acceptable level of risk and the physical investments needed to address such risks as part of our business continuity planning.

Lonza sites require fresh water for manufacturing and also use water for cooling. Increased temperatures could reduce cooling capacity by quantitative limits on water intake (physically/by authorities). Water risks are local by nature and therefore sites need to address local water risks as part of their business continuity plans and safety and sustainability roadmaps.

As an example, exposure to risk of flooding at the large Visp manufacturing complex in Switzerland has been drastically reduced with the completion of the correction of the river Rhone. The river bed now provides for almost full high water capacity. The multi-year regional project was financed and executed by the state and supported by public funding on a national level. A minor probability of flooding at our Visp site may still potentially lead to business interruption for a limited time. The risk is known and evaluated and the necessary contingency plans exist and are ready to be activated.

Reputational risks

Lonza's performance and value is also increasingly measured by its sustainability performance. Failure to achieve expectations can harm the company's reputation and potentially customer trust into Lonza as a supply partner. To provide transparency and accountability to Lonza's stakeholders, Lonza started sustainability reporting according to the GRI standards in 2018 and established ESG targets beginning in 2019.

Our sites regularly engage with their relevant stakeholders on a local level. On a corporate and divisional level we engage with our customers on improving the sustainability performance of our services, which also includes joint projects and knowledge exchange. We are active on several social media channels to receive feedback from individuals or groups. Our ongoing intense dialogue with stakeholders, especially with the sustainability experts of financial and proxy advisors, helps us to refine our scope and identify other material topics.

We also conduct materiality assessments to set priorities for our strategy and targets. The first materiality assessment was conducted in 2018. We have completed a materiality assessment with our new focus as a pure-play pharma, biotech and nutrition business in 2021. In this assessment, we gathered input from various stakeholder groups, e.g. employees, customers, scientific community, shareholders, financial analysts, our management and Board. This information is utilized to inform our priorities and strategy.

Opportunities

Innovation potential is unlocked through the introduction of energy efficient technologies and alternative project ideas and cooperation with external companies, e.g. the use of excess steam of an external waste incinerator to substitute fossil fuels at the production complex in Visp (CH). The installation of solar panels in sites is also being advanced, currently five sites have onsite photovoltaic panels. Reduction in energy reduces expenses, as well as absolute emissions, and the decrease in emissions also reduces the exposure to future carbon pricing schemes.

Since 2018, we have been working with a partner to analyze data for energy consumption, contracting and supply and demand. This has given us a better understanding so that we can further improve energy efficiency, manage costs and serves as a starting point for conversion of our electricity demand into renewable sources.

We measure our energy use on a regular basis. Energy use is reported quarterly into a centralized global software tool and the data is analyzed by the global Environment, Health, Safety and Sustainability teams. This vital information forms the basis for updated reduction goals and possible investment projects to achieve major improvements in energy efficiency and other areas. Some sites have adopted an energy management system according to the ISO 50000 framework, which encompasses an energy team, policy, target setting and a rolling action plan.

This engagement also aims for reduced exposure to future fossil fuel price increases and carbon costs. The opportunities are mostly managed on a local basis, therefore the cost savings have not yet been consolidated.

Metrics and Targets

We report on our direct and indirect GHG emissions (Scope 1, 2 and 3) and other data in the Environment section of our Sustainability Report, and in our most recent response to the CDP climate questionnaire, which is publicly available.

We have a GHG emissions (Scope 1 and 2 location based) intensity target of a 36% reduction by 2030 (2018 baseline), by a million of sales per year and a waste intensity reduction target of 24%.

We have now set the ambition to source the electricity we purchase globally from renewable sources by 2025. We also increased our energy efficiency target to a 36% reduction per million sales per year by 2030 (2018 baseline).

Following our 2030 energy and GHG intensity targets, we have established annualized milestones which we have been achieving year on year. We have also restated our data for 2018-2021 to exclude the data from our divested Specialty Ingredients business. Specifically for 2021, the target was -9% GHG emissions/mio CHF revenue compared to the 2018 baseline, and we achieved -33%. Several of our sites are investing in energy efficient equipment, implementing projects to capture waste energy and have also been installing onsite renewable energy equipment, like photovoltaic panels and biomass boilers.

As part of our strategy to decrease the footprint of our infrastructure, we are implementing "sustainability by design" standards specifically for energy and water efficiency, to build growth projects with best-in-class technologies for a low carbon and low resource infrastructure. We are also participating in research projects aiming to evaluate carbon capture technologies.

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Pabongpaing village rice terraces, Mae-Jam Chiang mai, Thailand

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