

Further Information about Sustainability

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About This Further Information on Economic, Environmental, and Social Performance

The social and environmental data and information included in the SAP Integrated Report has been prepared in accordance with the GRI Standards and were subject to an independent assurance engagement of our external auditor with different levels of assurance. At the end of each chapter, you will find a grey info box marked by the symbol ⓘ that contains further explanation about the audit scope.

Unless otherwise stated, all of the information in this Report relates to the situation as at December 31, 2023, or the fiscal year ended on that date. Furthermore, all financial numbers in this Report are based on continuing operations (unless otherwise noted). Non-financial information has not been adjusted (unless otherwise noted). For more information, see the Notes to the Consolidated Financial Statements, [Note \(D.1\)](#).

We also report on our contribution towards the United Nations Sustainable Development Goals (SDGs) and respond to the recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD).

Furthermore, we map our reporting to two additional frameworks:

- The Software & IT Services Sustainability Accounting Standards prepared by the Sustainability Accounting Standards Board (SASB), now part of the Value Reporting Foundation.
- The core “Stakeholder Capitalism Metrics” as proposed by the World Economic Forum’s International Business Council (WEF IBC).

Sustainability Management

At the heart of our strategy to bring SAP's purpose of "helping the world run better and improving people's lives" to life, sustainability is firmly anchored in our business strategy, governance, and executive compensation system. For more information about our corporate strategy, see the [Strategy](#) section.

We aim to create positive economic, environmental, and social impact within the planetary boundaries by using two key levers:

- 1) **SAP as enabler:** We strive to provide products and services that support our customers in meeting their sustainability challenges and in capitalizing on the related opportunities.
- 2) **SAP as exemplar:** To live up to our corporate responsibility and to build resilience, we strive toward leading by example in SAP's business operations and practices by running our own operations more sustainably.

We leverage our dual approach in pursuit of a world with zero emissions, zero waste, and zero inequality.⁶⁹

Sustainability Governance

To better seize the strategic opportunities of sustainability, in 2022 SAP brought together the key functional sustainability entities across SAP – corporate sustainability and the office of the chief sustainability officer, product development, marketing and solutions, and go-to-market teams – into a single end-to-end organizational unit and operating segment. This unit is led by two co-general managers reporting to the chief strategy officer who in turn reports to the CEO. Since January 2024, the co-general managers report directly to the CEO. The chief sustainability officer (CSO) leads SAP's global corporate sustainability efforts. In addition to reporting to the co-general managers, the CSO reports to the Chief Financial Officer (CFO) with a dotted line. The CEO is the Executive Board sponsor for sustainability overall. Additionally, SAP's CFO is co-sponsoring our environmental agenda (Environmental Management System (EMS) and Net Zero Program), while the Executive Board member responsible for Product Engineering is sponsoring SAP's efforts on AI Ethics.

The Supervisory Board and its committees also deliberate on environmental, social, and governance (ESG) and related reporting matters. To this end, the Supervisory Board is regularly (at least once a year) briefed about the SAP Group's sustainability approach and the state of its implementation. The entire Supervisory Board oversees the sustainability performance and advises the Executive Board in this regard.

Placing dedicated focus on SAP's own operations, the ESG Steering Board (formerly Sustainability Council) serves as a governance body to steer SAP's corporate sustainability performance. Convened by the CSO and consisting of senior executives from across the Company, it provides strategic guidance and cross-Company engagement for SAP's holistic sustainability agenda.

SAP also regularly engages with external stakeholder groups such as non-governmental organizations (NGOs), non-profit organizations (NPOs), and academia. This notably includes an external sustainability advisory panel comprised of expert representatives from our customers, investors, partners, NGOs, and academia, who provide us with valuable outside-in feedback and advice.

For more information, see the [Stakeholder Engagement](#) section.

⁶⁹ SAP's sustainability performance has been recognized by sustainability ratings and ranking and independent analysts. Recognitions are listed on [SAP's Web site](#) (link leads to information that was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor).

Changing Our Behavior and Culture

Employee engagement is essential for driving change throughout SAP. We have set up several programs to help employees understand how sustainability is engrained in our purpose and strategy, and how they can contribute. For example, SAP continues to include sustainability in its onboarding training for new hires, global and local employee engagement sessions, and various line-of-business-specific learning offerings. Furthermore, employees can take openSAP online courses on sustainability, which are also available to the general public for free.

To help drive progress in our sustainability initiatives, we need the support of employees throughout the organization. We currently have a global internal network of nearly 400 sustainability champions who represent different regions and areas of the business at SAP. Not only do they act as role models and multipliers, these champions tailor sustainability engagement activities to local and lines-of-business needs and interests and share best practices.

We measure the success of our initiatives through our employee engagement surveys. The latest results from 2023 showed that 81% of our employees stated, "I actively contribute to SAP's sustainability goals." This is down from 82% in 2022 and up from 47% in 2009 when we introduced the question.

Audit Scope

The content of the [Sustainability Management](#) section was subject to an independent limited assurance engagement by our external auditor.

Stakeholder Engagement

For SAP, stakeholder engagement and collaboration are deeply embedded into our process of innovation and the development of our products and services. Before we can design a new solution, we must first understand the issue we are addressing. This is why we regularly liaise with the stakeholder groups described below, including our sustainability and AI ethics advisory panels.

Customers

For more information about our customer engagement programs, see the [Customers](#) section.

Employees

We survey our employees regularly throughout the year. For the results of our latest employee survey, see the [Employees](#) section.

We strive for constructive labor relations across the world, working within each country's requirements. We currently have social partners in 37 countries in Africa, the Americas, Asia, and Europe. These employee representative bodies consist of elected union members and/or non-union members and are consulted by SAP management mainly on topics that define the work environment and work processes. Collective bargaining agreements with unions are only made in countries where legally required. Overall, about 52% of our employees are represented by works councils or an independent trade union, or are covered by collective bargaining agreements. The working conditions and terms of employment of the remaining employees are not influenced or determined based on other collective bargaining agreements. To foster the goal that every SAP employee worldwide can be heard and speak out without fear of retaliation, we have established a Global Ombuds Office which operates as an informal, independent, and confidential channel on top of the formal complaint mechanisms in place, including our Speak Out whistleblower reporting tool. For more information, see the [Business Conduct](#) section.

In addition, the Executive Board answers employees' questions in quarterly employee meetings. In regular coffee corner sessions, senior executives explain our strategy to employees and answer their questions directly.

Financial Analysts and Investors

For more information about our dialog with the financial community (that is, financial analysts, institutional investors, and retail shareholders), see the [Investor Relations](#) section.

Governments

For more information about our dialog with governments, see the [Public Policy](#) section.

Industry Analysts

Our Analyst Relations team, the Executive Board, and executives have strong relations with industry analysts and engage with them frequently on strategic SAP solutions and services.

Partners

With more than 25,500 partners around the world, the SAP ecosystem is vital to our success. We take a multifaceted approach to engagement that begins with the dedicated, interactive SAP Partner Portal. Partners receive regular communications including customized newsletters, training offers, and Web seminars, with the latest announcements and thought leadership relevant to their specific partnership type. Additionally, virtual events are held throughout the year, around the globe, to further gauge partners' feedback on how SAP can continuously improve.

Non-Profit Organizations (NPOs) and Academia

Our ongoing dialog with non-profit organizations (NPOs) and academic institutions plays a crucial role in our understanding of the current challenges we face as a society and how our solutions can address them. Through the SAP University Alliances program, we actively engage with students and faculty members, introducing them to SAP software through various networking and educational activities. By partnering with over 2,800 educational institutions worldwide, we aim to integrate SAP's cutting-edge technology into curricula, enabling students to gain hands-on experience in using software that powers some of the world's largest organizations. This collaboration between SAP and our academic partners puts us in a unique position to equip the next generation with the skills they need to tackle the questions of the future. By providing students with practical experience and exposure to our software, we are nurturing a pool of talent for SAP and our ecosystem that can contribute to solving the challenges that lie ahead.

To learn more about our engagement with NPOs, see the [Social Investments](#) and [Our Contribution to the UN SDGs](#) sections of this report. Alternatively, you can visit the [SAP University Alliances Web page](#) for more information.

Sustainability Advisory Panel

In 2023, the panel discussed key initiatives related to our sustainability management solutions, environmental performance, and human rights. For more information about our Sustainability Advisory Panel, see the [Sustainability Management](#) section of this report.

AI Ethics Advisory Panel

Our AI ethics advisory panel consists of academic, policy, and industry experts who advise us on the development and operationalization of the guiding principles for artificial intelligence. In 2023, we held an in-person, 1.5-day workshop with the panel where topics such as ethical implications of generative AI, human rights and AI, and high-risk use cases, were discussed. For more information about AI ethics, see the [Human Rights](#) section.

Audit Scope

The content of the [Stakeholder Engagement](#) section was subject to an independent limited assurance engagement by our external auditor.

Materiality

Defining Key Priorities for Our Non-Financial Reporting

To select the topics to be included in our integrated reporting, we conducted a comprehensive materiality assessment in 2022, applying the requirements of the German Commercial Code as well as the materiality definition of the Universal Standards of the Global Reporting Initiative (GRI): “Material topics are topics that represent an organization’s most significant impacts on the economy, environment, and people, including impacts on their human rights.”

In 2023, we re-visited the results of the materiality analysis conducted in 2022 to evaluate if there had been changes in SAP’s operations or operational environment that might trigger adjustments of the materiality analysis. As described below, no material changes occurred.

Below, we have detailed the key stages of the process we followed to assess the significance of each economic, social, and environmental impact.

Identification

We compiled a list of relevant topics that builds on the long list of 2020, using the artificial intelligence (AI) and Big Data solution from Datamaran Limited. To ensure timeliness and completeness, we enriched the list with an analysis of further external sources covering, among others, corporate peer reports as well as mandatory and voluntary regulations for the software sector. To identify key topics and their boundaries, we looked at areas related to our operations and supply chain and at topics related to our solutions. Additional topics identified were added and mapped to the long list.

Prioritization

To assess the significance of each topic on the updated long list, we considered the following two perspectives:

- 1) Outside-in perspective (impact of the topic on SAP)
- 2) Inside-out perspective (SAP’s impact on the topic)

To assess the outside-in perspective, we evaluated the financial, strategic, and regulatory relevance of each topic to SAP’s business success and resilience. To this end, we ranked the topics and applied thresholds.

Next, we assessed the inside-out perspective. In a first step, we qualitatively described positive and negative impact scenarios for each topic on the list based on the results of the impact assessment, using the Value Balancing Alliance (VBA) methodology, through which we aim to monetarily measure SAP’s impact on society and environment across the value chain, see the [Why Holistic Steering and Reporting Matters](#) section.

Following this, we assessed each negative impact scenario according to its likelihood and severity (scale, scope, remediability), and each positive impact scenario according to its likelihood, scale, and scope. We considered mitigation measures in place in the course of this process, and hence the net risks. During the assessment, we considered the input of several SAP sustainability experts from various units and regions, taking different stakeholders’ perspectives⁷⁰ into account.

Next, we prioritized the assessed impacts by translating the result of each evaluation category into numeric values, ranking the topics, and applying thresholds to derive the material topics for SAP from the inside-out perspective.

According to section 289c (3) of the German Commercial Code (Handelsgesetzbuch, HGB), the material topics are identified by considering both the inside-out and outside-in perspectives. In

⁷⁰ Represented stakeholder groups are further explained in section [Stakeholder Engagement](#).

contrast, the material topics according to GRI 3 only take into account the inside-out perspective including the impact on human rights, in the context of their activities and business relationships.

Validation

The results of the 2022 materiality assessment were reviewed and confirmed by our executive owners for integrated reporting. Our CFO thereafter approved the materiality assessment.

Review

Feedback on and analysis of our integrated report will be taken into account during future materiality assessments.

Results

In our reporting, we seek to meet the materiality requirements of both the GRI Standards and section 289c (3) of the HGB despite diverging definitions.

The following topics are material according to the HGB and/or GRI:

Topic	Definitions	Topic Material According to HGB	Topic Material According to GRI	Related Non- Financial Matters
Cybersecurity, privacy, and data protection	Protection of private, confidential, or sensitive information and data, as well as the vulnerability of critical information systems	✓	✓	
Ethics and compliance	Responsible business conduct, including anti-corruption, anti-bribery, fair competition, respect for intellectual property, and responsible tax principles	✓	✓	Anti-corruption and bribery matters
Climate change and air quality	(Non-)greenhouse gas emissions from operations and products, as well as present or potential disruptive impacts of climate change	✓	✓	Environmental matters
Customer responsibility	Responsibility to help ensure customer satisfaction and customer rights, including responsible marketing and selling practices	✓	✓	
Employee engagement	Corporate culture, employee engagement and motivation, and strategic decisions involving workforce changes	✓	✓	Employee matters
Employee rights	Labor rights, including unionization, as well as compensation and benefits offered to employees by their employer	✓	✓	Employee matters
Well-being, health, and safety	Social, economic, psychological, and physical conditions of employees in their workplace, as well as employees' occupational health and safety	✓	✓	Employee matters
Human rights	Fundamental rights of all individuals to live in dignity	✓	✓	Respect for human rights
Fair and inclusive workplace	Active integration, equal opportunity, and fair treatment and remuneration of all employees		✓	
Talent and development	Talent attraction, retention, and development		✓	
Energy	Energy consumption by operations and products, and the transition to renewable energy		✓	

Re-Visiting the Results

To re-evaluate the results, we looked at all topics that had been considered in 2022, and pre-assessed whether (1) a positive or negative impact scenario and (2) financial, strategic, and regulatory relevance could have changed. To validate this pre-assessment, we additionally consulted internal experts and collected their views.

While the likelihood and severity of impact scenarios and the financial, strategic, and regulatory relevance of a topic to SAP's business success and resilience had changed in a few instances, the overall list of material topics according to HGB and GRI had not.

Audit Scope

The content of the [Materiality](#) section was subject to an independent limited assurance engagement by our external auditor.

Why Holistic Steering and Reporting Matters

Global crises and challenges such as climate change, environmental degradation, rising societal inequalities, ongoing wars, and the COVID-19 pandemic have highlighted the urgent need for corporate accountability and value creation beyond financial performance.

Expectations of our stakeholders are still rising in this context: Customers ask us to help them in their sustainability transformation; employees expect SAP to be a truly purpose-driven company; investors demand disclosure of not only financial performance but also environmental, social, and governance (ESG) performance for their investment decisions; and governments around the globe increasingly implement ESG-related regulations, taxes, and policies.

Connecting financial and non-financial ESG metrics is key to comprehensively analyzing all dimensions of a company's performance and working toward their integration and harmonization. On this journey, digital technologies play a fundamental role in delivering embedded, validated, and real-time data.

In addition to the perspective of connecting financial and non-financial ESG metrics, holistic steering and reporting integrates the dimensions of positive and negative impacts that businesses create along their complete value chain.

Our corporate sustainability approach is to create positive economic, social, and environmental impact within planetary boundaries.

Our Journey Toward Sustainable Impact

At SAP, we have been measuring our progress holistically and connecting financial and non-financial data since 2012, when we merged our sustainability and annual reports into an integrated report.

In 2019, SAP became a founding member of the Value Balancing Alliance (VBA) to contribute our experience to support the development of a standardized methodology along with 27 other like-minded, multinational companies. The VBA helps companies, investors, and other stakeholders integrate and compare non-financial performance based on the concept of impact.

We strive to embed impact measurement in our corporate and relevant business unit decision-making and target-setting. Holistic steering and reporting is being developed across the value chain. Our impact measurement experiences also form a foundation for our software innovations in the fields of climate action, circular economy, social responsibility, and holistic steering and reporting, helping customers on their ESG journeys.

Impact Measurement and Valuation

We derive the definition of impact from the Organisation for Economic Co-operation and Development (OECD), which states that the impact of an organization is the effect it has on the condition of the natural environment and the well-being of people. This impact can either be positive or negative and can be intended or unintended. Impact measurement and valuation is the process of first identifying and quantifying the positive and negative impacts that SAP has on people and the planet in monetary terms, and then intentionally reducing the negative impacts and increasing the positive impacts.

Monetary valuation of sustainability aspects is increasingly used by corporations and investors to integrate sustainability aspects in decision-making processes. It is the language that business understands, it enables comparability, it incorporates the local context and the complexity of how impacts arise, and in the future, it could be integrated in traditional accounting systems.

Several institutions are working on developing and maturing impact measurement and valuation methodologies, most notably the International Foundation for Valuing Impacts (IFVI) and the VBA.

These insights enable companies to create business value beyond revenue or profit growth while taking into consideration the long-term impacts of their business operations on the environment and society as a whole.

The methodologies in that context continue to mature year over year, and still have several challenges to solve. Fundamentals such as global standardization, non-netting of positive and negative impacts, regulatory uptake, and ensuring a reasonable range of valuation coefficients should be integrated in the ongoing global efforts. We overcome the maturity challenge through peer learning and exchange sessions at the VBA and by taking a sensitivity analysis approach where we determine the impacts across a broad range of valuation co-efficients.

Examples of Business Steering Based on VBA Methodologies

We disclosed a selection of the results of the VBA's third methodology piloting exercise, which ended in November 2022, in our Integrated Report published in March 2023. In 2023, we leveraged these results and learnings to steer a number of our internal sustainability programs, which are mentioned below.

- **Materiality analysis:** In 2023, we revisited our materiality analysis to identify and prioritize key material topics. The VBA pilot analysis, which shows prioritized issues based on our procurement spend, was used as one of the sources to identify material issues for SAP. This data-driven, quantitative result complemented the qualitative approach generally used for materiality analyses, further improving quality and completeness.
- **Compensation cycle adjustment:** In 2023, we integrated the concept of “living wages” into our annual compensation review process.
- **Human rights due diligence:** The upstream hotspot analysis using monetized values for social indicators was an integral part of our annual risk assessment in the context of the German Supply Chain Due Diligence Act. The monetary valuation allowed us to set thresholds universally across different metrics to identify low, medium, or high risks.
- **Net zero 2030 and internal carbon pricing:** We used the pilot results to update the emission baseline figures for our net zero 2030 target. In addition, the current social cost of carbon value set by the VBA, which is US\$223 per ton of greenhouse gas (GHG), was used as the reference to update our internal carbon pricing. This brought the internal carbon price closer to the social cost of carbon than in previous years.

2023 VBA Piloting and Results

Ending in December 2023, our fourth VBA pilot analyzed metrics including GHG emissions, water consumption, GDP contribution, and training. We used data from our Integrated Report 2022, internal controlling and HR systems, and our environmental management system. The analysis primarily focused on our own operations and our supply chain. In addition, we piloted a limited scope of our downstream impacts looking at GHG impacts from our on-premise software installations. Wherever possible, we used primary data for calculations. Where primary data was not available, we used proxies, modeling techniques, and assumptions that were well-defined and documented in the VBA method papers. Key stakeholders across all relevant lines of business were engaged in the pilot.

The most relevant findings from the GHG emissions, GDP contribution, living wages, and upstream hotspot analyses comprise:

- **GHG emissions:** Our analysis enabled us to identify the GHG impact of each subsidiary and location, and we now have insights into which SAP locations have the highest CO₂ impacts and which locations have the lowest. Negative impacts of GHG on own operations and supply chain were monetized at more than US\$163 million, and this has helped inform decision-making regarding our CO₂ reduction strategy. While we are still developing a full downstream impact methodology, we calculated the negative impact of GHG emissions from our existing on-premise installations of our customer base at more than US\$1.9 billion. While these impacts were calculated using the VBA's recommended social cost of carbon valuation co-efficient of US\$223 per ton of

GHG, we realize that there is a wide range of values in the market, and the effort to standardize them further is ongoing.

- **GDP contribution:** Our overall GDP contribution from our operations and supply chain stands at more than US\$8.4 billion (CapEx and OpEx). We have the breakdown of the GDP contribution by all our operating countries. This insight enables us to sharpen our messaging toward public sector companies and governments.
- **Upstream risk analysis:** We conducted a complete upstream risk analysis using our procurement spend of 2022. The analysis showed that one of the highest negative monetized impacts was valued at more than US\$584 million for the KPI Occupational Health & Safety, and the highest positive monetized impact was valued at US\$8.4 billion for the KPI GDP Contribution.

Our induced impact calculation showed that we created a total of 110,000 jobs in the supply chain due to our procurement spend and patterns.

The real value of monetization of impacts is observable when all our procurement categories and all the KPIs are represented on X and Y axes and the main risk areas are visualized.

Outlook

As the impact measurement and valuation ecosystem matures, we will continue to play an active role in its co-development and application and to enable our customers and partners. While we maintain existing partnerships with the VBA and WifOR Institute, we will actively seek other institutional and academic partnerships as well as explore AI capabilities in this topic. We plan to use materiality analyses and material topics as the foundation for developing and applying methodologies to understand, steer, and improve our overall impact. We will increase the frequency of impact valuations to quarterly for selected KPIs. Through our SAP Cloud for Sustainable Enterprises solution and other product lines, we support our customers in their own impact management journeys. As we look ahead, we see the potential for us to place impact management at the center of everything we do and strive to become an impact positive company.

Audit Scope

The content of the [Why Holistic Steering and Reporting Matters](#) section was not subject to an independent limited assurance of our external auditor.

Social Investments

Strategy

SAP recognizes the interdependencies between today's environmental and social issues, approaching them with a sustainable corporate strategy. **Corporate social responsibility (CSR)** is part of that strategy, embodying SAP's purpose to help the world run better and improve people's lives. CSR at SAP focuses on driving long-term social and environmental impact and business value with three focus areas that power equitable access to economic opportunity, education and employment, and the green economy. These focus areas are Accelerate Social Business, Build Future Skills, and Collaborate for Sustainability.

The vast majority of our social investments (2023: €25.2 million⁷¹) are aligned with the United Nations (UN) Sustainable Development Goals (SDGs), primarily focusing on quality education (SDG 4), gender equality (SDG 5), decent work and economic growth (SDG 8), reduced inequalities (SDG 10), climate action (SDG 13), and partnership for sustainable development (SDG 17).

Governance, Guidelines, and Policies

The head of CSR globally leads the SAP CSR team, reporting to our Global Government Affairs unit. C-level executives from different Board areas form the **Global CSR Governance Committee**, tasked with guiding, overseeing, and approving SAP's CSR strategy. Additionally, regional CSR governance committees vet and approve significant CSR alliances and initiatives in collaboration with regional SAP CSR leaders. Our internal SAP CSR policy outlines our focus areas, ensuring our social investments uphold integrity and responsibility. It also delineates the operational standards, clarifying the distinct roles and accountabilities across global CSR, regional CSR, and line-of-business activities.

Impact Measurement and Management

We regularly assess the impact of our social investments, reporting specified output metrics for all initiatives across regions: employee engagement, volunteer hours, beneficiaries reached, youth trained, and social enterprises enabled. Moreover, each signature initiative adheres to a tailored impact measurement framework and logic model.⁷²

We work with third-party evaluators to assess the impact of our initiatives. Specifically, in 2023, an extensive evaluation was conducted on SAP's Africa Code Week (ACW). From 2015 to 2022, the ACW initiative engaged 14.6 million participants, introducing students to key digital skills essential for tomorrow's tech workplace. In partnership with UNESCO, SAP's gender-sensitive program reached primary and secondary school students, 46% of which were girls, across 48 African countries and promoted the integration of coding and computational thinking into seven national curricula, advancing the SDGs 4, 5, and 17.

By empowering a new generation of youth with the education, knowledge, and ICT skills needed to participate in the digital future, SAP's program increases the likelihood that ACW beneficiaries will realize higher earnings during their working lives. Based on future increased income, Common Good Marketplace estimates that ACW catalyzed up to \$1 billion⁷³ in social value for program participants.

Equitable Access to Economic Opportunity – Accelerate Social Business

Social enterprises aim to generate profit while solving social or environmental problems. Unlike traditional businesses, they reinvest most of their earnings into their mission. SAP supports social enterprises through a three-pronged approach. Firstly, SAP enhances their organizational capacity

⁷¹ The topic of SDGs was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor.

⁷² See [SAP CSR in Review 2023](#) (link leads to information that was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor).

⁷³ Assuming 50% of program participants achieved moderate learning outcomes in ICT skill improvement (.125 net standard deviation learning gain in ICT skills).

while developing SAP employees by means of on-site and virtual pro bono consulting. Secondly, by promoting social procurement, SAP facilitates social enterprises to enter new B2B markets such as SAP Business Network. Thirdly, we advocate supportive policies and dedicate (non-)financial resources towards fostering a sustainable and inclusive economy, investing in essential network-building and stakeholder capacity enhancement.

In 2023, SAP significantly increased its virtual pro-bono consulting offering through the **TRANSFORM Support Hub** jointly powered by MovingWorlds, Unilever, and TRANSFORM. The global platform connects SAP employees with social enterprises worldwide. It serves as an international one-stop shop for non-financial support to social entrepreneurs, harmonizing resources and offerings from public, private, and social sectors. Pro-bono consulting offers our employees opportunities for personal and professional growth as it does for social entrepreneurs and their businesses.

As a result, in 2023, SAP made direct capacity for non-profit organizations and social enterprises through in-kind contributions of US\$3.7 million (€3.3 million)⁷⁴ through 140 consulting projects. The number of employees engaged as pro-bono consultants increased 45% year over year to 518.

Equitable Access to Education and Employment – Build Future Skills

SAP invests in innovative education models and fosters engagement with multistakeholder partnerships to enable pathways to employment and entrepreneurship in the sustainable and digital economy for youth in need (underrepresented, underserved, and underprivileged youth between the ages of 16 and 24).

In 2023, SAP continued collaborating with UNICEF's **Generation Unlimited** and the digital marketplace Yoma to advance **SAP Educate to Employ**, a pilot program educating youth in need on soft skills, foundational knowledge, and SAP skills to enable a pathway to a successful career in the SAP ecosystem. The program started in Kenya, Nigeria, the Philippines, and South Africa with the goal of transitioning 25 youth per country to SAP-related roles. It has since engaged over 224,000 youth in digital skills training.

In 2023, in total, digital skill-building and coding programs trained 41,806 teachers and engaged 2.8 million youth, of which 46% were girls.

Equitable Access to a Green Economy – Collaborate for Sustainability

SAP fosters employee engagement, aligning employee contributions with its holistic sustainability framework. In 2023, SAP employees dedicated over 137,000 volunteer hours, of which 74% were skills-based. Our internal **SAP Together** volunteering and donation platform counts 47,300 registered employees and 459 volunteering opportunities.

Additionally, through a long-standing partnership with We Are Family Foundation, SAP champions youth inclusion in global dialogues through the Youth to the Table and Youth to the Front Fund programs. This collaboration increases youth representation in critical forums such as the World Economic Forum (WEF), UN General Assembly (UNGA), and Conference of the Parties (COP), showcasing SAP's dedication to intertwining social responsibility with tangible sustainability efforts and inclusivity. In 2023, SAP's sponsorship enabled over 35 youth social entrepreneurs and climate leaders to engage in a diverse array of forums, resulting in hundreds of meaningful exchanges.

This strategy also covers SAP's humanitarian aid efforts extending to natural disasters and beyond. Where applicable, we mobilize a swift and effective response, providing immediate aid while focusing on long-term, sustainable rebuilding efforts.

Audit Scope

The content of the [Social Investments](#) section was subject to an independent limited assurance engagement by our external auditor.

⁷⁴ Exchange rate date: December 31, 2023.

Sustainable Procurement

Making Our Supply Chain More Sustainable

A significant part of our social and environmental impact is delivered through our supply chain. Eliminating single-use plastics, decreasing carbon emissions, respecting human rights, and closely collaborating with a diverse supplier network are factors that contribute to a sustainable supply chain.

Our Global Procurement Organization (GPO), led by our chief procurement officer (CPO), aims to transform into a purpose-driven program. That is why we established the overarching Procurement with Purpose (PwP) initiative, which promotes purpose-driven initiatives such as diversity and social inclusion and environmental improvement from vendors.

Upholding High Standards Across Our Supply Chain

The [SAP Supplier Code of Conduct](#)⁷⁵ (SCoC) is required in our standard supplier contracts and is an essential part of our supplier registration. This supplier registration ensures that potential suppliers of SAP are aware of SAP's SCoC. We review and update our SCoC regularly to maintain high standards within our supplier network – the latest update being a new and improved version that was published at the end of 2023. This strengthens the SCoC's enforceability and sends a clear message to our suppliers about its importance for SAP.

Our SCoC contains provisions on labor standards, human rights, environmental standards, and diversity and inclusion. Furthermore, we recommend to SAP suppliers that they deliver goods and services that are accessible to everyone, including people with disabilities.

What We Buy and Where We Buy It From

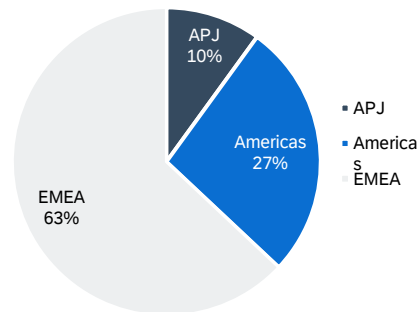
In 2023, we spent approximately €6.4 billion in purchases from around 13,000 suppliers worldwide (2022: approximately €7.2 billion from more than 13,000 suppliers worldwide). Within our seven procurement categories,⁷⁶ we approach sustainable procurement from different angles: IT Solutions (example: reduce single-use plastics packaging and packaging material), Professional Services (example: CO₂-reduced mobility concepts, electronic contracts), Marketing (example: sustainable merchandise and events), Cloud Infrastructure (example: sustainable cooling of data centers), Technical Services (example: managed services with remote delivery), Real Estate & Facilities (example: increase of self-produced solar energy and avoidance of single use tableware), and Car Fleet (example: sustainable mobility concepts with a commitment to emissions-free vehicle-only car fleet from the year 2025).

⁷⁵ Link leads to information that was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor.

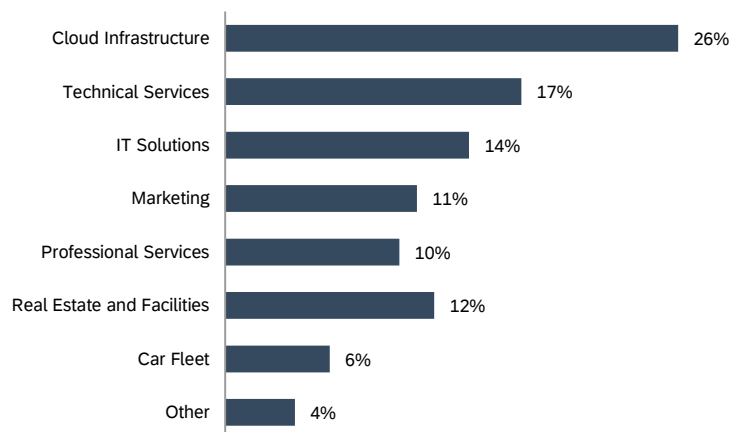
⁷⁶ (1) Car Fleet: Includes procurement relating to the global company car fleet and additional mobility options. (2) Cloud Infrastructure: Procures products and services for SAP's cloud operations such as network services, data center, co-location, hyperscaler, middleware, and related goods and services. (3) Marketing: Supports topics related to SAP's marketing, events, and merchandise. (4) Professional Services: Includes financial and legal services, temporary staff, and business travel areas. (5) Technical Services: Includes application and development services. (6) IT Solutions: Includes procurement for areas such as client services, equipment, communication, and software. (7) Real Estate and Facilities: Manages building related capital projects and operations, including catering and facility management.

Percent of Suppliers per Region

Percent of total spend

**Suppliers by Category (Tier 1)**

Percent of total spend

**Environmental and Social Procurement**

We believe that diverse and sustainable businesses bring significant added value to SAP. Establishing an inclusive supplier network – that is, minority enterprises defined by gender, ethnicity, disability, sexual orientation, and other characteristics, as well as certified social enterprises that focus their company's mission on making social impact – remains a priority for SAP. We believe that our commitment to an inclusive, bias-free culture in our workplace must be mirrored in our approach to our supplier base.

Driven by our GPO, SAP's supplier diversity and social enterprise initiatives aim to build the capacity of diverse and social businesses to provide a fair chance at competing for contracts and are treated equally to other SAP suppliers.

As part of its PwP program, SAP was a corporate member of supplier and social enterprise certification organizations such as WEConnect International, Disability:IN, and Social Enterprise UK.

These organizations enable the GPO to identify opportunities to engage with diverse suppliers and social enterprises, supporting our social procurement spend targets.

In addition, our GPO has started to implement a supplier qualification process based on sustainability indicators.⁷⁷ This will enable the organization to increase visibility over our vendors, improve our

⁷⁷ Top 100 suppliers by emissions are part of the pilot for the improved qualification process.

engagement, and make an informed supplier selection based on environmental and social performance. This process captures information pertaining to the performance of our suppliers in three focus areas: Social, diverse, and inclusive supply chain; environmental supply chain; and human rights in the value chain. As a next step, the GPO plans to set up a Supplier Enablement Team as a dedicated team responsible for the supplier qualification process.

Addressing Supply Chain Legislation Across the World

In light of the uptake in legislative action around the world, such as the UK and Australian Modern Slavery Act and the German Supply Chain Due Diligence Act (LkSG), SAP respects the human rights in its own operations but equally in its supply chain. This includes, for instance, introducing new concepts for identifying human rights risks across our supply chain (for more information, see the [Human Rights](#) section).

Audit Scope

The content of the [Sustainable Procurement](#) section was subject to an independent limited assurance engagement by our external auditor.

Waste and Water

Aspiring to a World of Zero Waste

We believe in SAP's capabilities to help transform the economy into a low-carbon, circular system to reach a restorative and regenerative world of zero waste and significantly cleaner oceans. In alignment with SAP's [Global Environmental Policy](#)⁷⁸, our waste and water strategy and corresponding company-wide initiatives aim to continuously reduce SAP's impact on the environment by generating less waste, reducing water consumption, and enabling our customer to do the same.

Being an Enabler: Leveraging Software Solutions

SAP advocates global systems change at scale to accelerate the transition to a circular economy. To make the circular economy the de facto approach to material use and waste management, we are working with our customers and partners on solutions that address full-circle transparency across a wide range of material flows. For more details about our circular economy solutions, see the [Product Strategy](#) section and our [Circular Economy Solutions Web site](#)⁷⁹.

Being an Exemplar: Cutting Down Waste in Our Own Operations

Managing Our Discarded Electrical and Electronic Devices

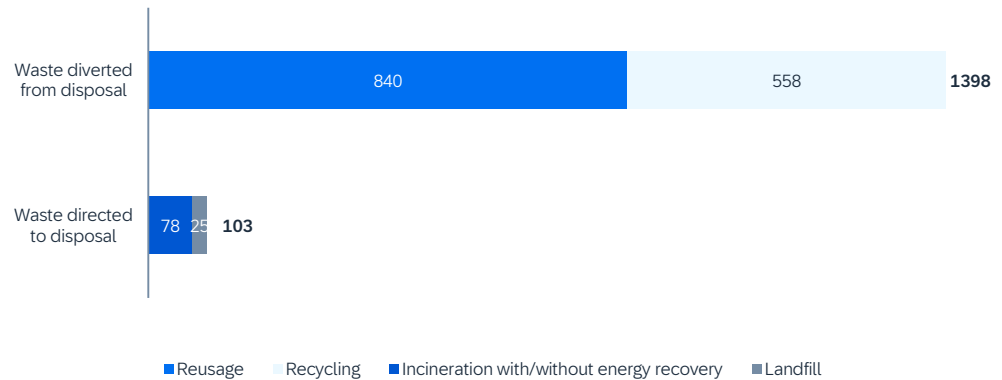
Waste of electrical and electronic equipment (WEEE, or e-waste) is one of the world's fastest-growing waste streams. As a global cloud company running data centers for our customers and office buildings across the world with a large amount of IT devices in place for our more than 107,000 employees, the ecological footprint of our electrical and electronic equipment (EEE) and their end-of-life treatment is a growing area of focus for SAP. In our Global Environmental Policy, we made the commitment to strive towards zero e-waste in our own operations by diverting close to 100% from incineration, landfill, and nature by 2030. As such, we cooperate with international and local IT asset lifecycle partners to reuse and recycle our e-waste. We also engaged with them to improve their sustainability roadmap – helping to reach our own sustainability target for 2030 – as well as with the Climate Neutral Data Centre Pact (CNDP) Circularity working group to define sustainability measures and find new levers to drive positive change forward. By the end of 2023, we had reused 56% and recycled 37% (total: 93%) of our total WEEE. For more information about the accounting of our WEEE, see the [Non-Financial Notes: Environmental Performance](#) section.

⁷⁸ The link leads to information that was neither part of the statutory audit nor included in the independent limited assurance engagement performed by our external auditor.

⁷⁹ The link leads to information that was neither part of the statutory audit nor included in the independent limited assurance engagement performed by our external auditor.

E-Waste Treatment

Tons

**Cutting Down Residual Waste Within Own Operations****Implemented Measures and Initiatives**

Elimination of single-use plastics	Based on three principles 'reduce waste, reuse items, and recycle materials', we continued to collaborate with suppliers, service providers, partners, the internal global network of sustainability champions, and other stakeholders to eliminate single-use plastic products such as bottles, cups, stirrers, straws, cutlery, and food packaging. For example, in Barcelona we reduced plastic bottles in the employees' daily lives by providing water filters for their own homes.
Improve waste segregation and reduce residual waste	<ul style="list-style-type: none"> We continued our waste separation initiative by installing 55 further waste separation systems in the flexible workspaces in Walldorf and St. Leon-Rot. The office furniture and equipment from vacated seats and floors was reused in several sites. The global printing volume remained at a low level: 12.5 million pages (increase of 18% versus 2022; decrease of 74% versus 2019) 'Too Good to Go' app installed in selected German cafeterias enabled employees to pick up leftover lunches for a small fee to combat food waste. In 2023, more than 3,000 meals were saved. There is a Waste-to-Energy (WtE) process in our headquarters in which organic waste is used to generate biogas. An Indoor Smart Composting System was installed in Budapest (Hungary) and an Organic Waste Converter was installed in Bangalore (India) to process the organic waste generated in the office.
Assessment of our suppliers and partners	<p>In 2023, we conducted a WEEE treatment compliant assessment of a selected range of key upstream suppliers and downstream asset lifecycle partners:</p> <ul style="list-style-type: none"> Upstream: 56% of servers and data storage products already comply with eco-design and hazardous waste requirements. Downstream: 94% of servers and data storage products undergo preparation for re-use, recovery, or recycling operations, or for proper treatment, including removal of all fluids and selective treatment. <p>With the results of our yearly assessments for our Taxonomy-related disclosures, we would also like to sensitize those suppliers who are not yet compliant to further develop their products and services in accordance with the requirements of the EU Taxonomy.</p>

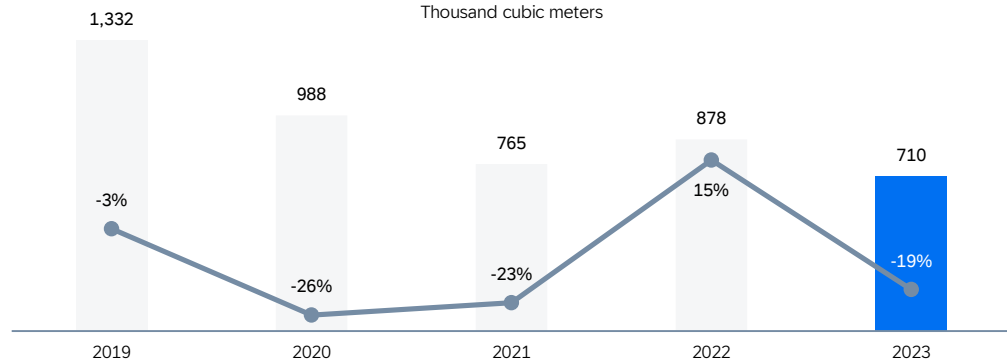
Using Water Efficiently

Climate change affects – and is affected by – global water resources and management. This is why we continue to aim to use water as efficiently as possible in our data centers and offices even though our operations are not water-intensive.

In 2023, the water usage decreased compared to 2022 and remains at a lower level compared to the pre-pandemic situation due to the introduced flexible working mode and our implemented water-reduction measures.

Global Water Usage

Thousand cubic meters



Implemented Measures and Initiatives

Water management
efforts in SAP-owned data
centers

- We completed a robust and comprehensive climate risk and vulnerability assessment to identify physical climate risks that are material to SAP's owned data centers. The results were discussed with relevant stakeholders from SAP and four climate hazards were selected for in-depth analysis, including "water stress." The vulnerability of data centers to any of the priority hazards has been assessed.
- In our headquarters, we use adiabatic cooling (evaporative cooling) and closed water circuits to minimize water consumption for cooling our server racks. In 2023, we installed an adiabatic cooling system in Bangalore (India).
- In Colorado Springs (USA), we use free air cooling in the colder winter season and leverage a non-potable water system in the warmer months. By increasing the programmed outside temperature set point that determines when the sumps are filled with water, we were able to improve our water usage efficiency (WUE).

Water management
efforts in our offices

- Based on our water risk-assessment for our ISO 14001-certified sites⁸⁰: twenty percent of these sites are located in high to extremely high water-risk regions. In 2023, we enabled access to real consumption data in these sites by installing water (sub)meters and/or sensors to measure and improve our consumption.
- At our headquarters and other locations, we use rain and run-off water for irrigation and toilets.
- In Bangalore (India), a rainwater harvesting system was installed to improve water conservation and a system to capture atmospheric particles was implemented to produce water for the cafeteria.
- In Budapest (Hungary) and Bangalore (India), we installed water aerators that reduce the water usage by 40%.

Q Audit Scope

The content of the [Waste and Water](#) section was subject to an independent limited assurance engagement by our external auditor.

⁸⁰ Based on the Aqueduct Water Risk Atlas of the World Resource Institute.

Public Policy

SAP has developed trusting and transparent relationships with governments worldwide by cooperatively exploring the potential for information and communications technologies to spur economic growth, create jobs, and address societal challenges. This includes consideration of the role governments play as users as well as policy makers, and by supporting the digital transformation of the public sector to become more efficient, effective, and citizen-oriented.

SAP engages with governments around the globe on various policy issues and on creating reasonable framework conditions for the adoption of new beneficial technologies or business models such as cloud computing, the Internet of Things, and Big Data.

SAP believes in transparency in the political process. Accordingly, we are registered in the Lobby Registry of the German Federal Parliament and selected state parliaments and in the European Transparency Register for interest representatives. In the United States, SAP is registered, and reports in compliance with, the federal Lobbying Disclosure Act. We are also registered in other countries, wherever required by local law.

Political Contributions

In accordance with the SAP Global Code of Ethics and Business Conduct, SAP does not make direct contributions for political purposes, to political parties, politicians, or political organizations other than through event sponsorships and related marketing as allowed by law and specifically approved by SAP Global Government Affairs and the Office of Ethics & Compliance (OEC). By the laws of the United States, SAP employees exercise their right to operate a political action committee (PAC). The SAP America PAC is an independent, registered, and strictly regulated organization that allows eligible SAP employees to voluntarily contribute to the SAP America PAC in the United States to financially support candidates seeking public office at the state and federal levels. Consistent with U.S. laws, SAP exercises no control over or influence on the SAP America PAC. SAP America PAC expenditure figures are transparent and accessible through the U.S. Federal Election Commission Web site.

Audit Scope

The content of the [Public Policy](#) section was subject to an independent limited assurance engagement by our external auditor.

Memberships, Partnerships, and Commitments

To better understand and evolve sustainable performance, dialog, and exchange of knowledge and different perspectives on a national, regional, and global level, are vital for SAP, both for our company and customers. Hence, SAP subscribes to, commits to, and routinely engages in a range of third-party organizations, including:

Organization

Acumen	Advancing Women Executives
Africa Code Week	Alliance for Development and Climate
Alliance for Integrity	ASEAN Foundation
Ashoka Young Changemakers	Australian Indigenous Education Foundation
Australian Climate Leaders Coalition	ASSOCHAM
Beyond Sport	Bitkom e.V.
Breakthrough Energy Ventures	Business Avengers
Business Call to Action (UNDP)	Business for Nature's Call to Action
Business for Social Responsibility	Business Coalition for a Global Plastics Treaty
Buy Social Canada	Buy Social USA
BSA - The Software Alliance	
Capital Equipment Coalition	CDP
CEO 2030 EU Climate Letters	CIPL
CII-ITC Center of Excellence for Sustainable Development	ChangemakerXchange
Climate Neutral Data Centers Pact	Climate Neutral Now
Code Unnati (India)	
Deloitte Digital	Deutsches Rechnungslegungs Standards Committee e.V.
Deutschland sicher im Netz e.V.	DIGITALEUROPE
Disability:IN	
econsense e.V.	EcoVadis
Ellen MacArthur Foundation (EMF)	EMF ERP Pledge
EMF London Design Festival Circular Design Project	ESMIG
Euclid Network	EU Code Week
European Climate Pact Pledge	European Green Digital Coalition (EGDC)
European Roundtable for Industry (ERT)	European Venture Philanthropy Association (EVPA)
Fundação Amazonas Sustentável	The Future of Privacy
Get Nature Positive	Global Business Alliance
Global Business Coalition for Education	GlobalGiving
Global Partnership for Sustainable Development Data	Goodwall
Gucci CEO Carbon Neutral Challenge	
Haus des Stiftens	
IMPACT2030 (founding member)	Information Technology Industry Council
INJAZ AL-Arab (former Junior Achievement MENA)	International Investors Association of Turkey (YASED)
Junior Achievement	
Klimabündnis Baden-Württemberg	
Latin Code Week	LEAF Coalition

Organization

Livelihood Funds	
make.sense	Mechanical Engineering Industry Association
Meet and Code	Metropolregion Rhein-Neckar
meQuilibrium	
National Chambers of Commerce	National Minority Supplier Development Council
Network for Teaching Entrepreneurship (NFTE)	
Ocean Plastics Leadership Network	
Pathway Japan	Platform for Accelerating the Circular Economy
Pratham Infotech Foundation	Pyxera Global
Race to Zero	RE100
RebootKamp (RBK)	
Schmalenbach-Gesellschaft für Betriebswirtschaft e.V.	Science Based Targets initiative
SEND e.V.	Singapore Institute of International Affairs
Singapore International Foundation	Social Enterprise NL
Social Enterprise UK	Social Enterprise World Forum
Social Impact Award	Social Traders
SRIW	
Teach For All	techUK
Tech Saksham	The Public Affairs Council
The Benefits Council	TERI Innovative Solutions for Sustainable Development
The Climate Solutions Foundation	The Climate Pledge
The Conference Board, Inc.	The Green Web Foundation
Together with Nature Principles for Nature-Based Solutions	Topolytics
Transparency International Germany	Turkish Industry & Business Association (TÜSİAD)
The Women's Industry Network	
UK Plastics Pact	United Nations Development Programme (UNDP)
UMUZI	UNICEF (Generation Unlimited)
United Nations Global Compact (since 2000)	UNGC Sustainable Ocean Principles & Sustainable Oceans Coalition
University of the People	US-EU Trade and Technology Council
UN Energy Compact called 24/7 Carbon Free Energy	
Value Balancing Alliance e.V. (founding member)	
We Are Family Foundation	WEConnect International
WEF Alliance of CEO Climate Leaders	WEF Global Alliance for Social Entrepreneurship
WEF Global Plastic Action Partnership	WEF 1t.org
WEF Stakeholder Capitalism Coalition	"We Mean Business" coalition
"We Mean Business" Letter to G20 Leaders	World Economic Forum (WEF)
WWF OneSource Coalition	World Business Council for Sustainable Development (WBCSD)
Young ICT Explorers	Yunus Social Business

Q Audit Scope

The content of the [Memberships, Partnerships, and Commitments](#) section was not subject to the independent limited assurance engagement of our external auditor.

Non-Financial Notes: Environmental Performance

General Information

We understand environmental performance as the measurable outcome of SAP's ability to meet environmental objectives and targets set forth in our [Global Environmental Policy](#)⁸¹. In this context, we determine SAP's greenhouse gas footprint (in the following called carbon emissions) as well as total energy consumed and data center electricity as the three key environmental performance indicators. Furthermore, we realize external compensations through self-generated renewable electricity and by purchasing offsets and Energy Attribute Certificates (EACs). Plus, we identify water consumption and the end-of-life treatment of SAP's electrical and electronic equipment as additional environmental topics relevant for our reporting.

Our gross carbon emissions for 2023 were 472 kilotons of CO₂ equivalents (CO₂e) (2022: 441 kilotons CO₂e), including all carbon emission categories of Scope 1 and 2, as well as selected categories of Scope 3 relevant for our carbon neutrality target as described in [Methodology and Further Details](#) below. Our net carbon emissions (0 kilotons in 2023) are calculated by deducting purchased EACs, self-generated renewable electricity, and carbon offsets from our gross emissions in the reporting period. We disclose various environmental performance indicators, including carbon neutral-relevant Scope 1, 2, and 3 emissions in the [Report Data Hub](#)⁸².

Reporting Approach

Data for our environmental indicators is collected and reported on a quarterly basis and is subject to external assurance for annual reporting (limited or reasonable assurance). Reporting on total energy consumed and data center electricity is based on the data collected for the calculation of our carbon emissions. All numbers are based on the metric system. Whenever we state "tons," we mean metric tons.

Carbon Emissions

Definition

We define the gross carbon emissions as the sum of all greenhouse gas emissions, measured and reported as CO₂e, while net carbon emissions include the compensation with renewable electricity and carbon offsets (for more information, see [External Reductions](#) below).

Reporting Principles

SAP's preparation of the carbon emissions is based on the Corporate Accounting and Reporting Standard, the GHG (Greenhouse Gas) Protocol Scope 2 Guidance, and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard of the World Resources Institute/World Business Council for Sustainable Development. This approach conforms to the requirements of GRI Standard indicators 305-1, 305-2, and 305-3.

In alignment with the GHG Protocol Scope 2 Guidance, we report our net carbon emissions based on the two different calculation approaches: location-based and market-based.

⁸¹ Link leads to information that was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor.

⁸² Selected data presented in the linked environmental section were part of the statutory audit or independent limited assurance engagement performed by our external auditor. For details, see the auditor's assurance report.

Organizational Boundaries

SAP defines its organizational boundaries by applying the operational control approach as set out in the GHG Protocol.

Operational control is established when SAP has the full authority to introduce and implement its operating policies. The emissions of all operations over which the company has operational control and all owned, leased facilities, co-location data centers, and vehicles that the company occupies or operates are accounted for in the carbon emissions. They are based either on measurements or, where no measured data is available, on estimations and extrapolations.

A portion of SAP's leased facilities operates under full-service or multitenant leases, where SAP does not have access to actual energy consumption information. SAP includes these facilities in our definition of operational control and accounts for them by estimating related energy consumption.

To support the growing demand for SAP's cloud offerings, we subcontract computation power in local third-party data centers. Carbon emissions are approximated and included based on the consumed or extrapolated computation power.

Data Consistency

Methodology Change

We aim to continuously refine SAP's emissions calculation methodology and to increase the usage of measured instead of extrapolated input data. Methodology changes include changes in the source of activity data, additional new activity types, changes in emission factors, and changes in the methodology used to calculate carbon emissions. As we implemented our methodology approaches to the best of our current knowledge and ability, and consider such changes to be continuous desired progress, methodology changes will not lead to retrospective data adjustments. Hence, changes will be applied from the current year onward. The current year's methodology changes are made transparent in this section, particularly under [Methodology and Further Details](#).

Conversion Factors

The calculation of the carbon emissions is based on factors for conversion and extrapolation, provided by IEA, US EPA, UK DEFRA, Environment Canada, and GHG Protocol. SAP also uses extrapolation factors based on own reported data (of previous quarters) to determine an average consumption value per base unit (such as corporate cars: liters of fuel per car; facility: electricity consumption per m²).

Where relevant, our conversion factors consider CO₂e for greenhouse gases. Global Warming Potential factors are based on the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). We report all our carbon emissions in CO₂ equivalents including the impact from CH₄ and N₂O in our target-relevant Scope 1, Scope 2, and Scope 3. The emission impact of refrigerants includes hydrofluorocarbons (HFCs) only. We review all our emissions and extrapolation factors annually and update them if required.

Methodology and Further Details

Below you will find the different parameters contributing to our carbon emissions. Data coverage refers to the share of measured data (compared to extrapolated data) that is the basis for emissions calculation, such as kWh for electricity emissions or liters of fuel for corporate car emissions.

Carbon Neutrality 2023

SAP reached its target of carbon neutrality in its own operations in 2023. Carbon neutrality 2023 includes the following emission categories:

Scope 1

Refers to direct carbon emissions and is defined as emissions from sources that are owned or controlled by the organization. At SAP, the following areas are covered by Scope 1:

- **Stationary Combustion in Facilities:** Emissions caused by oil or gas combustion of heating systems and generators in SAP office buildings and data centers. Emission calculation is based on gas and oil consumption in kWh. Where no measured data is available, stable values (kWh/m²) based on the previous year's stationary combustion consumption data are used for extrapolation. In cases where no specific information is available, natural gas reported by local sites is assumed to be reported as a lower heating value. Besides gas and oil, we also use wood pellets to produce thermal heat for our buildings in our headquarters in Walldorf. The Scope 1 emissions of wood pellets can be set to net '0', since the wood itself absorbs an equivalent amount of carbon emissions during the growth phase as the amount of emissions released through combustion. Still, to ensure complete accounting for all emissions caused, we document the direct carbon dioxide impact of burning wood pellets as 'outside of scopes' carbon emissions. In 2023, these emissions accounted for 0.461 kilotons of carbon emissions (2022: 0.686 kilotons).
- **Refrigerants in Facilities:** HFC emissions caused by the loss of refrigerants used in cooling systems and air conditioning equipment. The emissions are extrapolated based on the number of server units in data centers⁸³ and office space with an air conditioning (A/C) system (100% data coverage). All refrigerants are assumed to be HFC134a.
- **Mobile Combustion in Corporate Cars:** Emissions from fuel combustion of company cars. In the context of carbon reporting, the term 'company car' refers to all cars for which SAP permanently covers the fuel costs. Emission calculation is based on fuel consumption. If detailed fuel data is not available in specific countries, stable values (liters/car) are used for extrapolation based on the number of company cars reported. The stable values for extrapolation are based on the previous year's carbon emissions data.
- **Refrigerants in Corporate Cars:** HFC emissions caused by air conditioning devices in company cars (fuel and electric cars). Refrigerant emissions are based on an estimate of HFC1234yf emissions per car (in Europe) and HFC134a emissions per car (for the rest of the world) and are extrapolated based on the number of corporate cars reported (100% data coverage).
- **Mobile Combustion in Corporate Jets:** Emissions caused by business trips with SAP-owned or chartered jets. Emission calculation for SAP's jets is based on actual fuel consumption (100% data coverage).

Scope 2

Refers to indirect carbon emissions and is defined as emissions from the consumption of purchased electricity, purchased steam, or other sources of energy generated upstream from the organization. To determine SAP's global net emissions, we use the location-based method to calculate the Scope 2 emissions. To calculate the market-based Scope 2 emissions, we have applied a regional EAC portfolio approach (see [Renewable Electricity](#) below). At SAP, the following emission categories are covered by Scope 2:

- **Electricity in Office Buildings:** Emissions caused by the consumption of purchased electricity in office buildings. Calculation of emissions is based on building electricity consumption. CO₂e conversion factors are updated annually based on country-specific grid factors. Where no measured data is available, stable values (kWh/m²) based on the previous year's energy consumption data are used for extrapolation.
- **Electricity in SAP-Owned Data Centers:** Emissions caused by the consumption of purchased electricity in SAP-owned and -operated data centers. The calculation of emissions is based on data center electricity consumption (100% data coverage). CO₂e conversion factors are updated annually based on country-specific grid factors.

⁸³ Since 2022, we also consider the server units located in our co-location data centers.

- **Electricity in Co-Location Data Centers:** Emissions caused by the consumption of purchased electricity in co-location data centers. A co-location is a local computing center where the building infrastructure is controlled and managed by an external provider but where SAP has control over the operations of the network and server infrastructure on which SAP software is running. CO₂e conversion factors are updated annually based on country-specific grid factors. Electricity consumption for co-location data centers is calculated based on the consumed server power and a power usage effectiveness (PUE) factor. Where no data is available, average factors are applied.
- **E-Mobility:** Emissions from company cars with electric drive. Electricity consumption is calculated based on the number of e-cars per country, an average energy consumption value for e-cars, and an average mileage per year. Emissions calculation is based on country-specific emission factors (100% data coverage).
- **Home Office Electricity:** Emissions caused by end-user IT equipment used by SAP employees working from home. Due to the high number of employees working from home (flexible hybrid working model, Pledge to Flex) we started to report the electricity emissions of IT equipment usage outside of the office in 2022. Per employee, an average equipment usage consisting of a notebook, monitor, and mobile phone is considered. For each of these hardware device types, the model that is primarily used by SAP employees is taken into account to determine the average electricity consumption per hour. Average daily usage, charging hours, and stand-by hours are additionally considered when calculating the electricity consumption of an employee in home office. The information about the share of home office per location is determined based on the latest commuting survey conducted in 2022 (see [Employee Commuting](#)). Emission calculation is based on country-specific emission factors.
- **Purchased Chilled and Hot Water and Steam:** Emissions caused by the consumption of purchased heat or steam in office buildings (district heating). Calculation of emissions is based on consumption of district heating. Emission factors are updated annually. Where no measured data is available, stable values (kWh/m²) based on the previous year's energy consumption data are used for extrapolation.

Scope 3

Refers to other indirect carbon emissions, and is defined as emissions that are a consequence of operations of an organization but are not directly owned or controlled by the organization. Scope 3 emissions are divided into upstream and downstream emissions.

Upstream

Only selected upstream emissions are included in our target to be carbon neutral in our own operations in 2023. The following upstream Scope 3 carbon emissions are included in our carbon neutrality 2023 target:

- **Business Flights:** Emissions caused by business trips by airplane. Calculation of emissions is based on actual distance traveled and actual costs spent. This data is used to determine an average emission factor per euro spent based on short, medium, and long-haul flight emission factors. For CO₂e calculation, this factor is applied to actual costs for business flights. Emission factors for business flights do not consider the radiative forcing factors.
- **Rental Cars:** Emissions caused by business trips by rental car. An average emission factor from rental cars is calculated based on actual distance traveled and actual costs spent. This average emission factor is used for extrapolation based on the costs.
- **Train Travel:** Emissions from business trips by train. An average emission factor from train travel is calculated based on actual distance traveled and actual costs spent. This average factor is used for extrapolation based on costs. In Germany, business trips by train are considered carbon neutral as they are compensated with 100% green electricity by Deutsche Bahn.
- **Business Trips with Private Cars:** Emissions from business trips with employee-owned cars and company cars without fuel card. Carbon calculation is based on distance traveled with the car. Company car trips with fuel cards are excluded from this activity type.

- **Employee Commuting:** Emissions caused by commuting between home and work at an SAP office location. Considered are all modes of transport, excluding commuters with company cars. An SAP-global, Qualtrics-based commuting survey about the distance to work and the mode of transport is conducted to collect relevant data. The latest commuting survey was conducted in 2022 for which we received approximately 30,000 valid responses. These responses are the basis for our carbon calculation of employee commuting and home office electricity in 2023. Commuting data for non-responding employees and quarterly updates are extrapolated based on the number of FTEs, excluding those employees who have a company car.
- **Electricity Consumed by Hyperscale Services:** Emissions caused by the consumption of purchased electricity resulting from the usage of hyperscale services in providers' hyperscale data centers. Hyperscale data centers enable massive, efficient, and robust scalability of computing, system, and server architecture in order to respond to the increasing demand for cloud computing and Big Data solutions. Electricity consumption is calculated based on the total allocated server memory (RAM) and the operating processor hours (CPU) of all hyperscale services. Conversion factors are used to convert the allocated RAM and CPU values into a power value, and an average PUE factor is used to extrapolate the total hyperscale service electricity. For more information about the consideration of renewable energy sources in the calculation, see the [External Reductions](#) section.
- **Logistics:** This category consists of the following three emission sources: 1) Emissions caused by mail and parcel delivery; 2) Emissions caused by the consumption of paper; and 3) Emissions caused by our customers downloading software data from our servers (prior to 2021, this was a downstream emissions category). Due to the insignificant emissions impact of these sources, calculation is done based on an average factor 'carbon emissions per FTE.' This factor has been determined based on historical emissions data of each category.

Net Zero 2030

We aim to reach net zero across our value chain in line with a 1.5°C future by 2030. The net zero 2030 target is planned for submission to the SBTi in 2024. The baseline for the net zero target consists of SAP's Scope 1 and 2 emissions as explained above except for the emissions from air conditioning devices in corporate cars as these emissions are very insignificant compared to SAP's total footprint. The Scope 3 emissions taken into account for net zero are described below.

We measure the Scope 3 carbon emissions based on the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

Upstream Scope 3

- **Purchased Goods and Services:** Includes all significant cradle-to-gate upstream emissions of goods and services that SAP purchased during the reporting period. We also include services from waste and water disposal in this category. Furthermore, the Purchased Goods and Services category includes the services from our hyperscaler providers, fuel- and energy-related activities, and upstream transportation and distribution. In contrast to the carbon neutrality 2023 target, we consider all significant cradle-to-gate emissions for the net zero 2030 target. Therefore, we apply a different calculation approach for all purchased goods and services. To derive the CO₂e, SAP closely collaborates with a third-party provider that utilizes a spend-based method. We use coefficients that translate each US\$ of spend into kilogram of CO₂e. The coefficients are available for each country-sector combination and by supply chain tier (direct suppliers, suppliers of suppliers, and so on).
- **Capital Goods:** Includes all cradle-to-gate upstream emissions of purchased capital goods, such as buildings, data center and IT equipment, cars, and so on. SAP applies the same calculation logic as described above in the section [Purchased Goods and Services](#).
- **Business Travel:** Includes Scope 1 and 2 emissions of transportation of employees for business-related activities during the reporting year not owned or operated by SAP. The main components are emissions from business flights, rental cars, train travel, and business trips with private cars. The calculation approach is the same as outlined above in the [Carbon Neutrality 2023](#) section.

- **Employee Commuting:** Includes Scope 1 and 2 emissions of employees for transportation of employees between their homes and their worksites during the reporting year in vehicles not owned or operated by SAP. The calculation approach is the same as outlined above in the [Carbon Neutrality 2023](#) section for the category employee commuting.

Downstream Scope 3

Use of Sold Products: A big part of our overall emissions stems from the use of our software (customers running SAP solutions on their hardware and premises). Due to our lack of control over our customers' IT landscapes, these emissions are not included in our carbon neutrality 2023 target. Nonetheless, we have been calculating the emissions for indicative purposes for many years. We are also taking them into account for our net zero 2030 target. Because of this, and to enhance the accuracy of the calculation, we refined the calculation methodology in 2023. The estimated energy consumption is extrapolated globally based on an average number of productive installations and average PUE, derived from SAP's external data centers. Previously, we relied only on planning data to estimate the average system size. Now, we also use real data from our customers to calculate the weighted average system size. In addition, we revisited the underlying data base. The data base we used in the past for indicative purposes included systems with active and non-active maintenance contracts. Because of this, carbon emissions from products in use had been significantly overstated. For systems without maintenance contracts, SAP has no transparency on whether the solutions are still in use. Therefore, from 2023 onwards, we only consider on-premise solutions with active maintenance contracts. This way, we ensure that only active, still functional software products are used in the calculation.

Emissions are calculated using a global electricity emission factor. The calculation covers all of our major solutions, including on-premise software. Cloud solutions are not included, as they are part of internal, co-location, and hyperscale datacenter electricity emissions. Mobile solutions (for example, SAP apps running on customer IT equipment) are also not included.

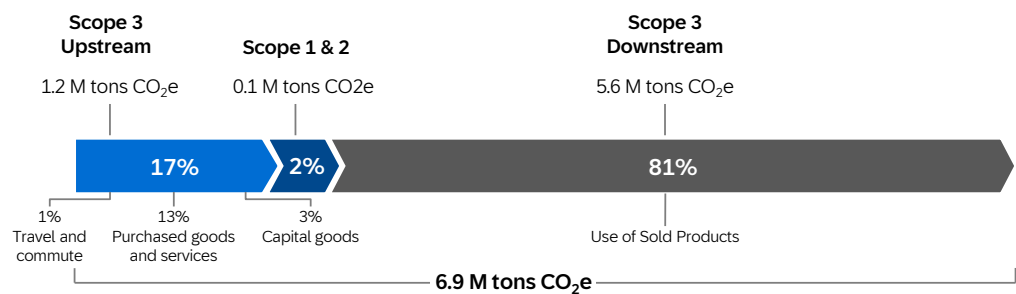
SAP aims to constantly improve the calculation methodology. Calculation parameters will be adapted when significant technology changes occur or more accurate data sources are available.

Excluded Scope 3 Emissions

The following Scope 3 emissions sources are not applicable or insignificant to SAP's business operations: Downstream transportation and distribution, processing of sold products, end-of-life treatment of sold products, downstream leased assets, franchises, and investments. Additionally, the category upstream leased assets are not relevant for SAP since we have classified emissions resulting from leased assets as Scope 1 and 2 emissions following the operational control approach of the GHG Protocol.

Baseline for Net Zero

SAP's 2023 Gross Carbon Emissions Along the Value Chain (Market-Based)



Renewable Electricity

As outlined in the [Energy and Emissions](#) section, SAP uses electricity from renewable energy sources to abate electricity-related emissions. This is a strategic lever to achieve our carbon neutrality target and net zero target.

Quality Criteria

We define renewable electricity as electricity coming from renewable electricity sources such as wind, solar, geothermal, sustainably sourced biomass (including biogas), and sustainable hydropower. As recommended by the Greenhouse Gas Protocol and CDP/RE100, we actively look for the best available quality and standards, which support renewable electricity projects that meet robust criteria in terms of environmental integrity, reporting and verification. We have defined quality criteria for the procurement of Energy Attribute Certificates (EACs) by SAP to drive change in the electricity market and to avoid the risk caused by low-quality products. The key characteristics of our renewable electricity purchasing guidelines are as follows:

Quality Criteria for SAP's Procurement of EACs

Type of Renewable Electricity	Currently, SAP only considers solar photovoltaics (PV) and wind for its own renewable electricity sourcing.
Installation	The power plant producing the renewable electricity shall not be older than 10 years. In case of renovation of an old power plant, the 10-year rule applies only to the additional electricity output due to efficiency increase. SAP strives to not consider EACs from government-supported power plants.
Vintage	The renewable electricity must be produced in the same year or the year preceding the reporting period to which it will be applied.
EKOenergy	All of our purchased renewable electricity is EKOenergy-certified, a high-quality, internationally recognized not-for-profit ecolabel for renewable energy installations that fulfill additional sustainability criteria. Through the purchase of EKOenergy-certified electricity, we also contribute to EKOenergy's Climate Fund, which finances solar projects tackling energy poverty.

Calculation

For our carbon neutrality target we implement the following calculation approach for renewable electricity:

Carbon Neutrality

Scope 2	<ul style="list-style-type: none"> The amount of renewable electricity used by SAP is calculated by adding the amounts of renewable electricity a) produced onsite, b) covered by EACs, and c) sourced through local green tariff agreements. The total of purchased EACs equals the total electricity consumption as well as the caused emissions of all electricity-related Scope 2 categories: electricity in office buildings, electricity in own data centers, electricity in co-location data centers, home office electricity, and e-mobility. The renewable electricity for EACs is only considered if confirmed by an official certificate or written confirmation of our respective EAC suppliers (100% data coverage). For location-based reporting, we consider EACs regardless of the site where the electricity is generated (unbundled EACs). SAP uses the regional- or country-specific emissions factors to calculate the emission reductions achieved by the EACs. In the location-based net carbon emissions, the purchased as well as the self-produced renewable electricity is already deducted from our Scope 2 emissions. For market-based reporting, we apply a region-based market-boundary approach to account for our procured EACs for the market-based emissions. With 'region-based market-boundary approach', we refer to mapping the electricity consumption of our SAP sites to defined regions to ensure regional purchasing⁸⁴.
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⁸⁴ SAP aims to consider the latest guidelines on EAC market boundaries. In the 2023 RE100 disclosure report, we achieved an EAC market boundary alignment of 83% based on the criteria of RE100.

Carbon Neutrality

Scope 3

- Covers electricity consumed by hyperscale services.
- Market-based reporting: To a large proportion, most of SAP's hyperscaler providers operate their data centers with renewable electricity sources. To ensure that SAP's cloud infrastructure runs with 100% renewable electricity, we procure EACs for the remaining electricity consumption not already covered by renewable electricity from our providers. For this purpose, we use the latest available and assured renewable electricity information of our suppliers: For fiscal year 2023, we relied on supplier data from 2022, as externally assured data for 2023 was not yet available at the point of publication of this Integrated Report.
- In the location-based net carbon emissions, the renewable electricity by our hyperscalers as well as the SAP-procured EACs for any remaining non-renewable electricity consumption is deducted from our Scope 3 hyperscaler emissions.
- For SAP-procured EACs, we also ensure that it is confirmed by an official certificate or written confirmation of our respective EAC suppliers (100% data coverage).

For our science-based target (net zero by 2030) baseline, we account Scope 2 market-based emissions in line with the GHG Protocol Scope 2 Guidance.

Carbon Offsets

As outlined in the [Energy and Emissions](#) section, SAP invests the equivalent of remaining emissions from our own operations (Scope 1, 2 and selected 3 emissions) in carbon projects to help reach its carbon neutrality target.

Quality Criteria

To support credible, genuine projects, SAP's due diligence approach for its offset providers and nature-based projects are outlined in the [Energy and Emissions](#) section. Further details on SAP's own, annually-reviewed quality expectations can be found below:

Additionality / Carbon	Projects and benefits shall be additional. Assumptions regarding the baseline shall reflect reality as closely as possible and avoid overstatements. Deforestation shall not have occurred to implement planting projects. The risk of leakage site shall be identified, addressed, and reduced.
Biodiversity	Local biodiversity shall be protected or enhanced. Implementors shall ensure native ecosystems are not deteriorated. All planting projects shall grow a selection of genetically diverse, at best native and climate-resilient trees in mixed stands.
Community	Projects shall be designed to protect or promote human rights. Organizations must identify and consult impacted stakeholders and ensure that projects are implemented in collaboration or with support of local stakeholders.
Competence	Partners shall have a history of successfully implemented projects and expertise to implement the right projects in the right places. Scientific partnerships and project designs are strongly preferred.
Compliance	Partners must pass SAP's standard compliance checks. Projects generating carbon offsets must be independently certified and validated.
Durability	Partners must implement measures to address causes of nature destruction, and protect the project site during the committed time, ideally permanently. The political environment shall not actively undermine project activities. If the (limited) extraction of timber is required to safeguard project durability, trees shall be responsibly harvested (for example, no large-scale clear-cuts), allowing for regrowth.
Transparency	Organizations must initially and regularly disclose selected data to provide transparency. Organizations leveraging technology, satellite imagery, or other tools to increase transparency, protection and/or understanding of the restored area are preferred.

Calculation

In the net carbon emissions relevant for our carbon neutrality target, purchased offsets are already deducted from our gross emissions. When our net carbon emission became a short-term Incentive KPI of the Executive Board compensation, we defined and documented a multi-year carbon offsetting plan (which is part of the annual independent audit procedures) to prevent misuse.

In 2023, the voluntary investments in our carbon project portfolio (see the [Energy and Emissions](#) section) were used to compensate for the remaining emissions of the following emission categories which could not be avoided nor reduced:

- Scope 1: Stationary combustion in facilities, refrigerants in facilities, mobile combustion and refrigerants in corporate cars, mobile combustion in corporate jets
- Scope 2: Purchased chilled and hot water and steam

- Scope 3: Business flights, rental cars, train travel, business trips with private cars, employee commuting, and logistics

For our science-based target (net zero by 2030), we do not consider carbon offsets (beyond value chain mitigation) in line with the Science-Based Target initiative's Corporate Net-Zero Standard.

Total Energy Consumed

We define total energy consumed as the sum of all energy consumed in SAP's own operations (Scope 1 and 2), including energy from renewable sources. It is calculated based on the consumption data obtained through our measurements for the carbon emissions and is the sum of energy consumption from stationary combustion in facilities, mobile combustion in company cars, mobile combustion in corporate jets, electricity in offices, electricity in own data centers, purchased chilled water, purchased hot water, and purchased steam, and electricity in co-location data centers (see [Data Center Electricity](#)).

Data Center Electricity

We define data center electricity as the sum of electricity consumed to provide internal and external computation power in SAP-owned data centers and contracted third-party data centers (co-locations). A data center is any global, regional, or local computing center (location with any number of server units) that is part of our global IT infrastructure strategy. Hyperscale data centers are not part of our own operations and are therefore not reflected in this disclosure. Internally, we calculate the electricity consumption of hyperscale services as basis to determine the required procurement of EACs to ensure that SAP software solutions running on hyperscale data centers are powered with 100% renewable electricity.

Additional Environmental Aspects

Water Usage

By water usage, we mean the total amount of freshwater withdrawn for our office buildings and data centers. Data is based on measurements and estimations from sites. Data was provided for 84.7% of the total water consumption; the remaining data is extrapolated based on square meter footage.

E-Waste Management

Waste of Electrical and electronic equipment (WEEE / e-waste)⁸⁵ means all the discarded electrical and electronic devices. These ranges from end-user IT equipment such as laptops, peripherals, and mobile devices to compute, to networking and storage devices of our data centers. Our international and local IT asset lifecycle partners test the collected WEEE to determine the correct treatment. We define the possible streams as follows:

Waste diverted from disposal:

1. Reusage (top priority): Refurbishing and reselling functioning devices to give it a second life
2. Recycling (second priority – previously called “mechanical recycling”): Extracting raw materials to preserve and reuse them (such as plastics, metals, and rare earths)

Waste directed to disposal:

1. Incineration with and without energy recovery (previously called “thermal recycling”), whereby the former refers to the generation of energy through the incineration of waste
2. Landfill: Disposing of waste on a landfill site (we strive to avoid this treatment as much as possible)

⁸⁵ The former categorization (Reusage vs. WEEE) has been replaced by a new structure aligned with the European Sustainability Reporting Standards (ESRS) E5 and still aligns with EU Directive 2008/98/EC & EU Directive 2012/19/EU. “Reusage” is included in WEEE and there are two sub-categories: “Waste diverted from disposal” and “Waste directed to disposal”. New terminology has also been implemented in alignment with ESRS E5 (specified in the text).

Calculation of E-Waste with Treatment Insights

The e-waste data we receive from our large IT asset lifecycle partners is based on weight or the number of devices which is converted into weight based on an average weight of the devices. To determine the share of end-of-life treatment practices (recycling versus incineration with/without energy recovery versus landfill), our partners aim to use the specific quotas of the recycling sites. If this data is not available, regional quotas or other available country quotas are used for approximation. We also collect reuse data from ISO 14001-certified SAP locations that are not (fully) covered by our large IT asset lifecycle partners. This amount is included in the reuse data visualized in the [Waste and Water](#) section.

In 2023, an analytical reporting sourcing system was developed and implemented to improve assessment and management, gain clear insights in sustainability performance in data centers (for example, waste diverted from disposal versus waste directed to disposal). We roll out monthly Sustainability & Commercial reports with complete insights in all process steps from handover to final processing for our data centers' e-waste. This report includes information about raw and extracted hazardous materials.

Calculation of E-Waste Without Treatment Insights

To supplement our e-waste data from our large IT asset lifecycle partners, we also collect data from all locations that are a) in scope of our ISO 14001-certified environmental management system (EMS), and b) not (fully) covered by our large partners.

For SAP sites that are neither covered by our partners nor are part of SAP's EMS, we extrapolate e-waste shares for end-user IT equipment based on full-time equivalents. The end-of-life treatment split into recycling and incineration with energy recovery and landfill is calculated based on the country-specific or region-specific factors of the [Global E-waste Monitor 2020](#).

For co-location data centers not covered by our global IT asset lifecycle partners, we extrapolate the data based on the electricity consumption share. The e-waste treatment split into recycling and incineration with energy recovery and landfill is calculated based on the country-specific or region-specific factors of the [Global E-waste Monitor 2020](#).

Overall, we achieved a data coverage for our WEEE reporting of 94%.

Audit Scope

The content of the [Non-Financial Notes: Environmental Performance](#) section was subject to an independent limited assurance engagement by our external auditor. Under this engagement, the quantitative indicators carbon emissions (scope 1, scope 2, and scope 3 emissions relevant for SAP's business model), total energy consumption and renewable energy certificates were audited at a reasonable assurance level.

Our Contribution to the UN Sustainable Development Goals

The 17 United Nations Sustainable Development Goals (SDGs) provide a globally accepted framework anchored in human rights, which we use for communicating our purpose to “help the world run better and improve people’s lives.” We strive to execute on this purpose by being a role model for sustainable, purpose-led operations and by enabling our customers to operate in a sustainable way.

Following the adoption of the SDGs by world leaders in September 2015, we identified and aligned existing initiatives with all 17 SDGs. For example, we looked at the environmental and social impacts of customers using SAP technology and applications, linking these impacts to the SDGs. The resulting [Web book](#) “SAP and the UN Global Goals” was published in early 2016 and has been updated regularly.

In discussions with our ESG Steering Board and external sustainability advisory panel, we defined the SDGs for which there is a tangible and material link between our own operational activities or the use of our software by customers.

The following table describes the potential positive (+) and negative (–) direct or indirect impacts of our company and of our products and services related to the selected SDGs. We use “direct” when we refer to impacts through our own operations; “indirect” describes impacts through the use of our solutions and technology or in our ecosystem.

SDG 3 Good Health and Well-Being

Our Potential Direct and Indirect Impact	Direct: + Provide access to a healthy lifestyle and a safe and healthy working environment for our employees	Indirect: + Enhance safe and healthy working conditions, healthcare, and personalized medicine on a global scale – Increase transparency of physical, medical, and health conditions of individuals, which might be abused
Our KPIs and Targets	Business Health Culture Index	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Global Health and Safety Policy; Employee Assistance Program; Healthy Leadership enablement, Employee Care Cycle for Mental Health, Global Mindfulness Practice, and programs for an active workplace and physical activity	Indirect: SAP’s solutions for healthcare: SAP Environment, Health, and Safety Management; SAP S/4HANA for product compliance; SAP Concur duty of care functionality
Where You Can Find More Information in the SAP Integrated Report	Employees	

SDG 4 Quality Education

Our Potential Direct and Indirect Impact	Direct: + Train and educate SAP employees	Indirect: + Build capability in our ecosystem and among our customers
Our KPIs and Targets	Upskill two million people worldwide by 2025	
Our Policies and Selected Activities and Programs to	Direct:	Indirect: Free learning on SAP Learning site; SAP CSR education and

**Enhance Positive Impacts and
Mitigate Negative Impacts**

Cloud-based learning management system for employees

digital skills program

SAP Educate to Employ initiative in partnership with UNICEF and Generation Unlimited; SAP University Alliance

SAP solutions: SAP SuccessFactors Learning

**Where You Can Find More
Information in the
SAP Integrated Report**[Employees](#)[Social Investments](#)**SDG 8 Decent Work and Economic Growth****Our Potential Direct and Indirect
Impact****Direct:**

- + Create decent jobs at SAP through our growth plans, specifically in developing markets

Indirect:

- + Enable an inclusive economy
- + Facilitate socially responsible employment
- + Respect human rights across value chains
- + Combat forced and child labor throughout supply chains
- Fuel negative effects on employment through digitalization and automation; potentially increase precarious jobs

Our KPIs and Targets

Number of employees

**Our Policies and Selected
Activities and Programs to
Enhance Positive Impacts and
Mitigate Negative Impacts****Direct:**

Recruiting programs; Human Rights Commitment Statement; Human Rights Due Diligence Program

Indirect:

SAP's solutions for social responsibility: SAP Environment, Health and Safety Management; SAP Rural Sourcing Management

SAP Ariba Supplier Risk; SAP Fieldglass Contingent Workforce Management

SAP CSR programs to foster social entrepreneurship

**Where You Can Find More
Information in the
SAP Integrated Report**[Employees](#)**SDG 9 Industry, Innovation, and Infrastructure****Our Potential Direct and Indirect
Impact****Direct:**

- + Increase inclusive and sustainable industrialization through SAP's investments in research and development (including in developing countries)

Indirect:

- + Support providers of infrastructure, financial services, and clean technologies
- + Provide "Best Practice" business processes through standard software solutions
- + Integrate small and medium-sized enterprises into global value chains and markets
- Unconscious bias and discrimination in AI (Artificial Intelligence) technology

Our KPIs and Targets

NA

**Our Policies and Selected
Activities and Programs to
Enhance Positive Impacts and
Mitigate Negative Impacts****Direct:**

SAP Labs Network

Indirect:

SAP support for startups through various programs, such as SAP.io Foundries, Sustainable Accelerator; SAP (Co-)Innovation Labs; SAP participation in Industry Consortia; SAP Next-Gen program, and academic partnership programs

SAP AI Ethics Guiding Principles, Policy and Governance

**Where You Can Find More
Information in the
SAP Integrated Report**[Strategy and Business Model](#)

SDG 10 Reduced Inequalities

Our Potential Direct and Indirect Impact	Direct + Ensure equal opportunity and inclusion of all employees, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status	Indirect + Enable an inclusive economy by providing tools and systems to foster inclusion of all in workforce and supply chains – Decouple societal groups from entire areas of employment through an accelerated digital divide and lack of digital skills
Our KPIs and Targets	<ul style="list-style-type: none"> 25% women on the three management levels below the Executive Board by 2027 Double the representation of African-American talent in the United States over the next three years (2022–2025) Reach 5% of annual addressable procurement spend with social enterprises and with diverse businesses by 2025 	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Human Rights Commitment Statement; Diversity & Inclusion programs including EDGE certification; Global Antidiscrimination Statement; social procurement initiative	Indirect: SAP's solutions for social responsibility; SAP SuccessFactors HXM Suite; SAP Ariba Supplier Risk; SAP's internal standard for product accessibility
Where You Can Find More Information in the SAP Integrated Report	Employees Sustainable Procurement	

SDG 12 Responsible Consumption and Production

Our Potential Direct and Indirect Impact	Direct: + Drive sustainable business practices and integrated reporting – Use energy, water, and resources; produce waste	Indirect: + Decouple economic prosperity from resource consumption by enabling transparency and optimizing resource productivity in linear or circular economies – Increase absolute resource and energy consumption because efficiency gains through automation may be counteracted (rebound effect)
Our KPIs and Targets	We drive resource productivity with an aspiration to a world with zero waste.	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Supplier Code of Conduct; Sustainable Procurement; e-waste recycling	Indirect: SAP's solutions for the circular economy: SAP Responsible Design and Production; SAP Ariba Supplier Risk; product lifecycle management solutions; SAP S/4HANA for waste and recycling; SAP Returnable Packaging Management; SAP Rural Sourcing Management; SAP Green Token, and more
Where You Can Find More Information in the SAP Integrated Report	Energy and Emissions Waste and Water Sustainable Procurement	

SDG 13 Climate Action

Our Potential Direct and Indirect Impact	Direct: <ul style="list-style-type: none"> + Assume responsibility for products in use-related emissions by running customer applications in the SAP cloud powered with 100% renewable electricity – Emit greenhouse gases 	Indirect: <ul style="list-style-type: none"> + Contribute to climate change mitigation and strengthen resilience and adaptive capacity to climate-related hazards and natural disasters of our customers + Enable holistic operational steering by integrating climate-change relevant parameters and help understand and minimize the climate footprint of a company's products, operations, and services – Increase customers' energy consumption through use of software
Our KPIs and Targets	Become carbon neutral by 2023 in our own operations; net zero along our value chain by 2030	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	Direct: Global Environmental Policy; cross-company net-zero program; Cloud transformation; emissions reduction in installed base and on-premise solution portfolio; continuous avoidance and reduction of emissions in operations including transformation of company car-fleet; top supplier engagement program; procure 100% renewable electricity; carbon impact part of Executive Board compensation	Indirect: Cloud powered by 100% renewable electricity; Business ambition for 1.5°C; SAP Cloud for Sustainable Enterprises; SAP's solutions for climate action: SAP Sustainability Footprint Management; SAP Sustainability Data Exchange; SAP E-Mobility; SAP Landscape Management Cloud; SAP Transportation Management; SAP Environment, Health and Safety Management; SAP Cloud for Energy; SAP Concur; SAP Digital Vehicle Hub
Where You Can Find More Information in the SAP Integrated Report	Energy and Emissions Compensation Report 2023	

SDG 17 Partnerships for the Goals

Our Potential Direct and Indirect Impact	Direct: <ul style="list-style-type: none"> + Build capacity throughout our broader ecosystem 	
Our KPIs and Targets	NA	
Our Policies and Selected Activities and Programs to Enhance Positive Impacts and Mitigate Negative Impacts	For more information, see the section Memberships, Partnerships, and Commitments	
Where You Can Find More Information in the SAP Integrated Report	Social Investments Memberships, Partnerships, and Commitments	

Q Audit Scope

The content of the [Our Contribution to the UN Sustainable Development Goals](#) section was not subject to the independent limited assurance engagement of our external auditor.

GRI Content Index

SAP SE has reported in accordance with the GRI Standards for the period from January 1, 2023, to December 31, 2023. The GRI 1 used was GRI 1: Foundation 2021.

The 11 material topics in this GRI Content Index were selected based on the comprehensive [materiality assessment](#) conducted in 2022 and reflect the requirements of GRI 3: Material Topics. We have clustered these topics according to the relevant [non-financial matters](#) set out in the German Commercial Code (Handelsgesetzbuch, HGB) (exception: the material topic “ethics and compliance” is not clustered under “Anti-corruption and bribery matters” as the corresponding GRI standards are defined more broadly).

We present the interconnection between the GRI topic-specific disclosures that are material to SAP and the 17 United Nations Sustainable Development Goals (UN SDGs).

General Disclosures

GRI Standards	Disclosure Title	Links and Content	In Scope of External Audit ⁸⁶	UN SDGs
GRI 2: General Disclosures 2021	2-1 Organizational Details	Strategy and Business Model	✓	
	2-2 Entities included in the organization's sustainability reporting	Strategy and Business Model	✓	
		About This Report	✓	
		Worldwide Office Locations		
	2-3 Reporting period, frequency and contact point	About This Report Independent assurance practitioner's report Financial Calendar and Addresses	✓	
	2-4 Restatements of information	Non-Financial Notes: Environmental Performance In 2023, we did not have any material restatements of information of previous reporting periods.	✓	
	2-5 External assurance	Independent assurance practitioner's report Supervisory Board		
	2-6 Activities, value chain, and other business relationships	Strategy and Business Model Sustainable Procurement	✓ ✓	
	2-7 Employees	Headcount and Personnel Expense Note (B.1) Employee Headcount Report Data Hub At SAP, we have a multitude of non-headcount-relevant employee categories defined. None of these categories match the GRI definition of “non-guaranteed hours employees.” However, at SAP we have employees who are paid hourly (for example, working students) but who have a reliable minimum number of hours guaranteed. This group represents about 1.3% of the total SAP workforce.	✓ ✓ ✓	8, 10

⁸⁶ Level of external audit: Limited assurance, reasonable assurance, and statutory audit. For more information about the External Audit scope, please refer to the Audit Scope checkboxes in each section.

GRI Standards	Disclosure Title	Links and Content	In Scope of External Audit ⁸⁶	UN SDGs
2-8	Workers who are not employees	<p>In 2023, we had on average 999 workers⁸⁷ who were not employees and whose work was controlled by SAP. GRI's definition matches SAP's external workforce category "temporary staff."</p> <p>Temporary staff are all contracted through a recruitment agency, with a contract in line with country specific legislation.</p> <p>This external workforce is deployed to act as a replacement employee for a limited period of time, provide a specialist skill on a short-term basis, or cover temporary peaks in work. The performed work is equivalent to that done by employees and spans all types of roles in the business.</p> <p>Temporary staff has access to our Health, Safety & Well-Being offerings. However, we do not include temporary staff into our Health, Safety & Well-Being-related KPIs due to data collection boundaries.</p>	✓	8
2-9	Governance structure and composition	SAP Executive Board Corporate Governance Statement Sustainability Management Executive Board Supervisory Board	✓	5, 16
2-10	Nomination and selection of the highest governance body	Corporate Governance Statement		5, 16
2-11	Chair of the highest governance body	German stock corporations have a two-tier governance system due to the legislation (AktG §105), that is, an executive board and a supervisory board. Members of the supervisory board cannot also serve on the executive board.	✓	16
2-12	Role of the highest governance body in overseeing the management of impacts	Corporate Governance Statement Sustainability Management Risk Management and Risks	✓ ✓	16
2-13	Delegation of responsibility for managing impacts	Corporate Governance Statement Sustainability Management	✓	
2-14	Role of the highest governance body in sustainability reporting	Corporate Governance Statement Materiality	✓	
2-15	Conflicts of interest	Corporate Governance Statement		16
2-16	Communication of critical concerns	Corporate Governance Statement Report by the Supervisory Board <p>The Supervisory Board is informed regularly and on an ad-hoc basis by the Executive Board about the Company's strategy and the status of its implementation, business planning, profitability, and all aspects of business performance which are material for the SAP Group, including any deviations of actual business performance from plan, and about current risks, risk management, and corporate compliance. In addition, the Executive Board involves the Supervisory Board in decisions on matters of fundamental importance for the Company, including in case of transactions requiring the Supervisory Board's prior consent. The Supervisory Board's activities of the previous year, including its decisions on transactions requiring its prior consent, are described in detail in the Report by the Supervisory Board for the relevant fiscal year, which is included in SAP's Integrated Report. Due to the overlapping and not always sharply delineated nature of matters discussed, disclosing a total number of critical concerns would not be accurate. We provide transparency qualitatively through the Report by the Supervisory Board.</p>		

⁸⁷ Number represents the average headcount over the year 2023. The number of temporary staff declined by ~4% over the year 2023.

GRI Standards	Disclosure Title	Links and Content	In Scope of External Audit ⁹⁶	UN SDGs
2-17	Collective knowledge of the highest governance body	Compensation Report 2023 Corporate Governance Statement	✓	
2-18	Evaluation of the performance of the highest governance body	Report by the Supervisory Board Performance Management System	✓	
2-19	Remuneration policies	Compensation Report 2023	✓	
2-20	Process to determine remuneration	Corporate Governance Statement Compensation Report 2023 AGM Voting on Resolutions	✓	
2-21	Annual total compensation ratio	Compensation Report 2023 Corporate Governance Statement The average annual compensation of SAP employees and the information for the highest paid employee (CEO), from which the ratio can be calculated, has been provided in the Compensation Report 2023.	✓	
2-22	Statement on sustainable development strategy	Letter from the CEO		
2-23	Policy commitments	Business Conduct Human Rights Code of Ethics and Business Conduct (CoEBC)	✓ ✓	16
2-24	Embedding policy commitments	Business Conduct	✓	
2-25	Processes to remediate negative impacts	Human Rights	✓	
2-26	Mechanisms for seeking advice and raising concerns	Business Conduct	✓	16
2-27	Compliance with laws and regulations	Note (G.3) Other Litigation, Claims, and Legal Contingencies	✓	
2-28	Membership associations	Memberships, Partnerships, and Commitments		
2-29	Approach to stakeholder engagement	Stakeholder Engagement	✓	
2-30	Collective bargaining agreements	Stakeholder Engagement	✓	8

Disclosures on Material Topics

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁹⁶	UN SDGs
GRI 3: Material Topics 2021	3-1	Process to determine material topics Materiality	SAP	✓	
	3-2	List of material topics Materiality	SAP	✓	

Topic-Specific Disclosures

Ethics and Compliance

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁸	UN SDGs
GRI 3: Material Topics 2021	3-3 Management of material topics	Business Conduct Risks and Risk Management	SAP	✓ ✓	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Business Conduct Risk Management and Risks <p>In alignment with the different legal requirements in various countries, and as per the SAP Global Risk Management Policy and supporting processes, SAP, together with legal advisory services as deemed appropriate, perform risk assessments globally. These include cross-business topics and the evaluation of risks related to compliance, bribery, and corruption. Overall, our corporate risk assessments focus on compliance topics. In addition, 38% of all audits concluded in 2023 under the risk-based audit plan are compliance-relevant audits. As part of this process, a regular and dedicated focus is also placed on identifying high-risk countries so as to identify deep dive reviews and necessary mitigations accompanied by regular monitoring.</p> <p>Furthermore, ad hoc audits are performed if there are grounds of suspicion. This regular auditing is a vital component of ensuring compliance worldwide in our business processes and identifying weaknesses or non-compliance to derive adequate measures.</p> <p>Given the holistic approach of our compliance risk assessment, SAP does not report on the number of audits solely related to corruption.</p>	SAP	✓ ✓ ✓	16
	205-2 Communication and training about anti-corruption policies and procedures	<p>SAP's Code of Ethics and Business Conduct (CoEBC) provides the primary ethical and legal framework within which SAP conducts business. It also addresses SAP's policies regarding anti-corruption.</p> <p>The CoEBC is available internally on the Company's intranet and externally on the Internet. All members of the SAP Executive Board and Supervisory Board, all SAP employees, all SAP partners, suppliers, and shareholders, as well as the general public, have full access to the CoEBC.</p> <p>We do not collect the data of the geographical distribution and the type of our business partners who access the CoEBC. For a breakdown of the geographical distribution of all SAP employees, see the Report Data Hub.</p> <p>The completion rate for mandatory training applicable to all SAP employees⁸⁸ on the subject of anti-corruption exceeded 99% in 2023. The numbers of employees per region are listed below:</p> <ul style="list-style-type: none"> • APJ: 21,465 • Greater China: 6,595 • EMEA: 13,221 (includes five Executive Board Members) • MEE: 33,446 • LAC: 5,805 • North America: 21,325 (includes two Executive Board members) 	SAP + external parties	✓	

⁸⁸ Excludes employees on long-term sick leave, parental leave, members of acquired companies, and those in early retirement.

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
		Furthermore, the Group Chief Compliance Officer (GCCO) reports on compliance matters on a quarterly basis to the Executive Board and to the Audit and Compliance Committee of the Supervisory Board.			
	205-3 Confirmed incidents of corruption and actions taken	Of all cases, only material corruption cases are reported in Note G.3 .	SAP	✓	16
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Note (G.3) Other Litigation, Claims, and Legal Contingencies Of all cases, only material legal actions for anti-competitive behavior, anti-trust, and monopoly practices cases are reported in Note G.3 .	SAP	✓	16, 17
GRI 207: Tax 2019	207-1 Approach to tax	SAP Global Tax Principles	SAP		9, 11, 16
	207-2 Tax governance, control, and risk management	SAP Global Tax Principles	SAP		9, 11, 16
	207-3 Stakeholder engagement and management of concerns related to tax	SAP Global Tax Principles	SAP		9, 11, 16
	207-4 Country-by-country reporting	As a German company, we report our tax expense separately for Germany and for the rest of the world. We are confident that this information meets our stakeholders' demands.			

Environmental Matters

Energy

GRI Standards	Disclosure Title		Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3	Management of material topics	Energy and Emissions Non-Financial Notes: Environmental Performance	SAP	✓ ✓	
GRI 302: Energy 2016	302-1	Energy consumption within the organization	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub	SAP	✓ ✓	7, 8, 12, 13
	302-2	Energy consumption outside of the organization	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub	SAP + external parties	✓ ✓	7, 8, 12, 13
	302-3	Energy intensity	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub Five-Year Summary The energy intensity ratio uses only energy consumption within the organization.	SAP	✓ ✓ ✓ ✓	7, 8, 12, 13
	302-4	Reduction of energy consumption	Energy and Emissions Non-Financial Notes: Environmental Performance Allocation of energy consumption reductions (which we experienced in 2023, for example for our own data center electricity) to conservation and efficiency initiatives cannot be presented precisely due to overlapping effects (such as reductions caused by the COVID-19 pandemic).	SAP	✓ ✓ ✓	7, 8, 13
	302-5	Reductions in energy requirements of products and services	Most of our products are hosted in the cloud. For this reason, the energy consumption is included and reported in our CO ₂ emission calculation in the section Non-Financial Notes: Environmental Performance .	SAP	✓	7, 8, 13

Climate Change and Air Quality

GRI Standards	Disclosure Title		Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3	Management of material topics	Energy and Emissions Non-Financial Notes: Environmental Performance	SAP	✓ ✓	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub	SAP	✓ ✓	3, 12, 13, 14, 15
	305-2	Energy indirect (Scope 2) GHG emissions	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub	SAP	✓ ✓	3, 12, 13, 14, 15
	305-3	Other indirect (Scope 3) GHG emissions	Energy and Emissions Non-Financial Notes: Environmental Performance Report Data Hub	External parties	✓ ✓	3, 12, 13, 14, 15

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
305-4	GHG emissions intensity	Non-Financial Notes: Environmental Performance	SAP + external parties	✓	13, 14, 15
		Five-Year-Summary		✓	
		Report Data Hub			
305-5	Reduction of GHG emissions	Energy and Emissions	SAP + external parties	✓	13, 14, 15
		Non-Financial Notes: Environmental Performance		✓	
		Report Data Hub		✓	
		Allocation of carbon emission reductions to avoidance and efficiency initiatives cannot be connected precisely due to overlapping effects (such as reductions caused by the COVID-19 pandemic).			
305-6	Emissions of ozone-depleting substances (ODS)	As a software company with no production sites, emissions of ozone-depleting substances (ODS) are not material to SAP.	SAP	✓	3, 12, 13, 14, 15
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	We report all our carbon emissions in CO ₂ equivalents (CO ₂ e) including the impact from CH ₄ , N ₂ O, and HFCs in our Scope 1 and 2 emissions. We do not provide a breakdown. As a software company with no production sites, sulfur oxides (SOx) and other significant air emissions are not material to SAP.	SAP	✓	3, 12, 13, 15

Employee Matters

The management approaches for the material topics 'employee rights', 'employee engagement', 'talent and development' and 'fair and inclusive workplace' strongly overlap. This is why we decided to combine them in one joint table, including their corresponding topic-specific disclosures:

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3	Management of material topics	SAP	✓	
		Nothing has a greater impact on our long-term success than the creativity, talent, commitment, health, and well-being of our people. Their ability to innovate and understand the needs of our customers has the potential to deliver sustainable value to our Company and our society. The management approach is applicable not only to employee engagement and employee rights, but also to fair and inclusive workplace and talent and development.		✓	
		Employees			
	Women in Management	Employees	SAP	✓	5
		Report Data Hub			
	Employee Engagement	Employees	SAP	✓	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	SAP	✓	8
		Employees		✓	
		Note (B.1) Employee Headcount			
		Report Data Hub			
	401-3	Parental leave	SAP	✓	8
		Specific rates not disclosed since employees are subject to different parental leave rights that local regulations grant to them.			

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
	402-1 Minimum notice periods regarding operational changes	For the European Economic Area (EA) and European Union (EU), we consult with the SAP SE Works Council (Europe) on significant organizational changes. At the same time, the changes are discussed with the local social partners, including outside the EEA, EU, and United Kingdom (UK). There is no fixed lead time between informing employees and implementing the changes. However, in the event of significant changes, SAP provides extensive change management measures to bring employees closer to the justification for the implementation of the measure and to motivate them to contribute to the changes.	SAP	✓	8
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Employees SAP offers a wide portfolio of learning and development offerings to help all of our employees to upskill and accelerate their career. We align training activities according to the needs of employees regardless of gender and employee categories, and they can freely choose from these offerings based on their role and development goals.	SAP	✓ ✓	4, 5, 8, 9, 10
	404-2 Programs for upgrading employee skills and transition assistance programs	Employees SAP has both dedicated and volunteer staff that supports generational intelligence on matters of continued employability, managing career endings, and cross-generational integration and collaboration. These experts work to continuously improve processes and design programs that sustain employability for as long as possible. They provide training for cross-generation collaboration, facilitate flexible career endings for employees (such as part-time options), and keep employees connected with the Company after retirement.	SAP	✓ ✓	4, 5, 8, 9, 10
	404-3 Percentage of employees receiving regular performance and career development reviews	Employees With our SAP Talk approach, employees and their managers regularly discuss performance and development goals, needs and progress, and share feedback. At SAP, it is expected that every employee, regardless of gender and employee category, has the opportunity to discuss the progress of their performance and development goals with their manager at least once a quarter. For this reason, we do not consider this a relevant disclosure.	SAP	✓ ✓	5, 8, 10
	405-1 Diversity of governance bodies and employees	Employees Corporate Governance Statement Supervisory Board Report Data Hub	SAP	✓	5, 8, 10
GRI 405: Diversity and Equal Opportunity 2016	405-2 Ratio of basic salary and remuneration of women to men	Specific rates are not reported, given that SAP's bigger company goal is fair pay for all employees, following an approach of "aggregate, don't segregate" so that everyone's unique contribution is fairly and clearly reflected. Since data on gender pay is included but not exclusive to that philosophy, we only calculate and report this data on a local level where required by law.	SAP	✓	5, 8, 10
	406-1 Incidents of discrimination and corrective actions taken	Confidentiality constraints. SAP does not publicly disclose this data.	SAP	✓	8

GRI Standards	Disclosure Title		Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Sustainable Procurement Stakeholder Engagement Human Rights without further specification of the topic has been considered material as a result of our materiality assessment. "Freedom of association and collective bargaining" has not been specifically contemplated as part of the analysis.	SAP + external parties	✓ ✓	8

Well-Being, Health, and Safety

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3 Management of material topics	<p>Nothing has a greater impact on our long-term success than the creativity, talent, commitment, health, safety, and well-being of our people. Their ability to collaborate, innovate, and understand the needs of our customers has the potential to deliver sustainable value to our company, customers, and society.</p> <p>As an enterprise software company, SAP's occupational health and safety concerns relate to the knowledge industry and are different to those encountered in manufacturing industries. Most of our employees are of academic background and have sedentary, intellectually demanding jobs in a constantly changing business environment with specifically high demands on self-organization, international collaboration, flexibility, agility, and adaptability. Key health and safety management focus areas at SAP are stress management, self-management, work-life balance support, personal resilience, a psychologically safe work environment, an ergonomically safe office setup, travel medicine, pandemic management, vaccinations, road safety, and general medical prevention for all.</p> <p>Employees</p> <p>SAP provides manifold feedback opportunities and encourages its people to get involved and shape SAP's caring culture and working conditions by "telling it like it is," and in doing so, help us improve where needed. Our success is tracked through the Business Health Culture Index (BHCI) and the Stress-Satisfaction Score (measured by regular employee surveys), which revealed that job satisfaction was equal or higher than the perceived stress for about 74% of SAP participants in 2023.</p> <p>SAP Health & Safety Commitment Statement</p> <p>Conditions in which people live up to their full potential – now and in the future of work – are mainly defined by the organization's leadership style and working culture. We believe that there can be no organizational health without individual health. SAP and its leaders take ownership for workplaces and a caring culture that foster physical health, safety, and mental well-being, while every employee is enabled and encouraged to take care of their individual health.</p> <p>The Global Health, Safety & Well-Being team (led by SAP's Chief Medical Officer), together with their partners in Human Resources, Real Estate and Facilities, Occupational Safety and Physical Security, provide the information, education, and support to foster a healthy working culture and a supporting environment for all people. In doing so, we enable the organization to be a role model in safe, healthy, and sustainable people management.</p>	SAP + external parties	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	1, 3, 6

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	<p>SAP has developed an internal health and safety management system called "Run Healthy" which is built on International Labour Organization Occupational Health and Safety (ILO-OSH) standards and SAP's internal Health & Safety Policy. Run Healthy enables SAP organizations to assess their maturity state on health, safety, and well-being to develop and drive targeted initiatives across their organizations and to boost their local Business Health Culture Index, employee engagement, and employer attractiveness. The implementation is voluntary and driven by the managing director according to country/line-of-business needs. We give all workers access to global offerings which are complemented according to local business needs. Local Run Healthy councils are key in the process to self-assess maturity levels in the light of covering local requirements and global standards. Run Healthy is expanded on a continuous basis. In addition, SAP engages with its suppliers, partners, and customers to promote the topics of people health and occupational safety beyond the boundaries of our company.</p> <p>SAP Supplier Code of Conduct Safety Instructions for Contractors</p> <p>Please also refer to GRI 2-8.</p>	SAP + external parties	✓	3
	403-2 Hazard identification, risk assessment, and incident investigation	<p>Employees: How We Measure and Manage Our Performance Employees Sustainable Procurement: Improving Sustainability Through Practice SAP Health & Safety Commitment Statement Human Rights Commitment Statement</p> <p>SAP regularly conducts health risk assessments on global level with reporting on all manager levels. Mental health is key to SAP's ability to provide innovative solutions for our customers. SAP has a long tradition in taking action against stigmatization and applying the Employee Care Cycle covering prevention, early detection, case management, and re-integration. With the Stress-Satisfaction Score, SAP is monitoring an early-watch KPI to measure resilience on people level and to detect fields of action on individual and organizational level. In 2023, we conducted a hybrid-work-related risk assessment to identify health risk factors while working hybrid. A "Country Health Dashboard" based on SAP Analytics Cloud supports the identification of health risks on country level.</p> <p>SAP relies on the enablement of internal multiplier networks such as the Health Ambassador Network, and external trainings and certifications to ensure health and safety competence across the organization.</p> <p>Our employees can use various tools to report concerns, as outlined in the Human Rights Commitment Statement, and are protected against retaliation. This document is core to our people-related policies, such as the Global Health and Safety Policy. For more information, see the Employees section. Please also refer to GRI 2-8.</p>	SAP + external parties	✓ ✓ ✓ ✓	3

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
403-3	Occupational health services	<p>Employees: How We Measure and Manage Our Performance</p> <p>Employees</p> <p>By regularly conducting surveys, we continuously receive insights which enable SAP and particularly its Global Health, Safety & Well-Being organization, together with its strong partners in Human Resources, Real Estate and Facilities, Occupational Safety and Physical Security to enforce and adjust its initiatives and counteract adverse developments in time.</p> <p>Our Global Health, Safety & Well-Being team provides global frameworks and a comprehensive health, safety, and well-being portfolio to enable SAP's business with its organizations at all levels to run healthy and safe.</p> <p>Please also refer to GRI 403-6 and GRI 2-8.</p>	SAP + external parties	<p>✓</p> <p>✓</p> <p>✓</p>	3
403-4	Worker participation, consultation, and communication on occupational health and safety	<p>SAP's Health & Safety program "Run Healthy" includes a self-assessment conducted by a cross-functional staffed council in order to drive tailor-made and effective local programs and initiatives.</p> <p>Digital solutions are leveraged to guide SAP's people to their relevant health content by considering individual needs and location and to gather their feedback to drive highest standards of quality, as we do with the permanent Qualtrics-based Health Feedback Survey across all health and well-being offerings.</p> <p>A Run Healthy council is the execution entity for the Run Healthy program (see GRI 403-1 for its purpose and target). It meets regularly (usually quarterly) and contains the Run Healthy lead, different line-of-business representatives, such as from the Human Resources, Real Estate and Facilities, and Health departments, as well as an employee representative. The program is being expanded step by step; not all SAP employees are represented by the Run Healthy program.</p> <p>Please also refer to GRI 2-8.</p>	SAP + external parties	✓	3
403-5	Worker training on occupational health and safety	<p>At SAP, we offer a flexible training and enablement portfolio (such as SAP's learning platform Success Map) to enable our people to thrive in the future of work, foster healthy working habits, and become multipliers. In addition to flagship sessions on how to manage stress and foster a healthy work lifestyle, the "Are you OK?" mental well-being initiative continued and SAP launched its first Global Health Summit to enable stakeholders, people, and leaders on the renewed Health & Safety Policy.</p> <p>Please also refer to GRI 2-8.</p>	SAP + external parties	✓	3

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁹	UN SDGs
403-6	Promotion of worker health	<p>Employees</p> <p>SAP Health & Safety Commitment Statement</p> <p>At SAP, we offer a wide range of health and well-being services to our employees, ranging from general guidance on how to be more active and to deal with stress and challenging situations in- and outside SAP, conducting health and people days, consultation on ergonomic workplace set-up to prevent back pain, to local vaccination initiatives. Employees have access to these services and are informed about them in SAP's internal employee portal, monthly newsletters, live sessions, and campaigns, or by contacting the SAP Health team directly. In addition, we have Web-based tools such as the SAP Health Navigator which guides SAP people toward health offerings and tips according to their individual needs. The Run Your Way program on our Fit@SAP activity challenge platform encourages people to integrate more physical activity into their daily life.</p> <p>Please also refer to GRI 2-8.</p>	SAP + external parties	✓ ✓	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	As outlined in GRI 403-2, we have various approaches to identify negative occupational health and safety impacts such as the BHCI and Country Health Dashboard as well as various channels to report concerns and incidents. In addition, to ensure the health, safety, and well-being of our employees worldwide, SAP runs dedicated crises management and business continuity frameworks. To safeguard our people on business travels, SAP ensures medical and security assistance through a Travel Assistance Program.	SAP + external parties	✓	3
403-10	Work-related ill health	<p>Fatalities and injuries are not a material issue for SAP, as most of our employees work in an office environment. Please refer to GRI 3-3 for the main types of work-related ill health.</p> <p>The identification of work-related hazards that pose a risk of ill health (such as via the BHCI or the Run Healthy program), as well the actions taken to eliminate/ minimize these hazards and risks, are outlined in GRI 403-1 to GRI 403-7.</p> <p>Internally, we track and monitor an SAP illness rate (in %) which is defined as the total number of days absent (including absences shorter than 3 days) / scheduled workdays per year (250 days) x 100. In 2023, SAP had a global illness rate of 2.1%.⁸⁹ We do not break the illness rate down into different categories due to the low risk of specifically work-related illnesses. Therefore, we only track an overall illness rate.</p> <p>In 2023, our Stress Satisfaction Score evaluation (see GRI 403-2) confirmed lower stress levels on average compared to satisfaction. Furthermore, we leverage the company reports from our external Employee Assistance Program (EAP) providers to recognize health trends and to derivate appropriate actions.</p> <p>For non-employee workers, we require our suppliers and sub-suppliers to uphold health and safety standards via our Global Supplier Code of Conduct. In addition, in Germany we have safety Instructions for contractors in place.</p> <p>Please also refer to GRI 2-8.</p>	SAP + external parties	✓	3

⁸⁹ Employees of recently acquired companies and SAP Israel as well as workers who are not SAP employees are excluded.

Human Rights

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights	SAP + external parties	✓	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Sustainable Procurement Stakeholder Engagement Human Rights without further specification of the topic has been considered material as a result of our materiality assessment. "Freedom of association and collective bargaining" has not been specifically contemplated as part of the analysis. However, selected information has been included in the Human Rights section .	SAP + external parties	✓ ✓	8
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Sustainable Procurement Human Rights without further specification of the topic has been considered material as a result of our materiality assessment. "Risks of child labor" has not been specifically contemplated as part of the analysis. However, selected information has been included in the Human Rights section .	SAP + external parties	✓	3, 8
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Sustainable Procurement Human Rights without further specification of the topic has been considered material as a result of our materiality assessment. "Risks of forced labor" has not been specifically contemplated as part of the analysis. However, selected information has been included in the Human Rights section .	SAP + external parties	✓	3, 8, 10

Security, Privacy, and Data Protection

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3 Management of material topics	Security, Cloud Compliance, Data Protection and Privacy SAP Trust Center: Data Protection and Privacy SAP Privacy Statement	SAP + external parties	✓	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Security, Cloud Compliance, Data Protection and Privacy SAP has not received a written statement addressed from a competent authority or similar official body on customer privacy breaches or a complaint filed with SAP that has been acknowledged as legitimate by SAP.	SAP + external parties	✓ ✓	12, 16

Customer Matters**Customer Responsibility**

GRI Standards	Disclosure Title	Links, Content, and Omissions	Boundaries	In Scope of External Audit ⁸⁶	UN SDGs
GRI 3: Material Topics 2021	3-3 Management of material topics	At SAP, we are committed to our purpose of helping the world run better and improving people's lives. To this end, we aim to create innovations that help accelerate economic prosperity, drive positive social impact, and safeguard the planet. Strategy and Business Model Performance Management System Note (A.4) Customer-Related Provisions	SAP + external parties	✓ ✓ ✓ ✓	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Human Rights As a software company without any physical products or production sites, customer health and safety is mainly related to the responsible usage of technology, especially artificial intelligence. Guiding Principles for Artificial Intelligence	SAP + external parties	✓ ✓	3
GRI 3: Material Topics 2021	Customer Loyalty	Customers Performance Management System	SAP	✓ ✓	4, 5, 8, 10

Q Audit Scope

The content of the [GRI Content Index](#) section was subject to an independent limited assurance engagement by our external auditor. The content of the column UN SDGs as well as quantitative and qualitative information in relation to GRI 207 Tax were not subject to the independent limited assurance engagement of our external auditor.

Stakeholder Capitalism Metrics

To support long-term value creation, SAP has committed to applying the World Economic Forum (WEF) Stakeholder Capitalism Metrics and encourages further global standardization and convergence in the ESG reporting landscape. We include the standards in our own reporting and also offer the framework in our core sustainability software solutions.

The following table provides information about the core metrics proposed by the WEF White Paper titled “Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation.”

The table refers to the sections of our Combined Management Report, Notes, Form 20-F, and other sources that contain the respective disclosures. Core metrics that have not been identified as material for SAP during our latest materiality analysis have been omitted.

Principles of Governance

Theme	Core Metrics and Disclosures	Links	Comments
Governing Purpose	Setting purpose	Strategy	
Quality of Governing Body	Governance body composition	Corporate Governance Statement Supervisory Board Form 20-F Item 6 Note (G.4)	
Stakeholder Engagement	Material issues impacting stakeholders	Materiality Stakeholder Engagement	
Ethical Behavior	Anti-corruption	Business Conduct Note (G.3) Other Litigation, Claims, and Legal Contingencies SAP Partner Code of Conduct	Provisions for material corruption cases would be reported together with further details in Note (G.3). Partners are also requested to complete any compliance training available based on their partner type. For more information, see SAP's Partner Code of Conduct.
	Protected ethics advice and reporting mechanisms	Business Conduct Speak Out at SAP	
Risk and Opportunity Oversight	Integrating risk and opportunity into business process	Risk Management and Risks Expected Developments and Opportunities	

Planet

Theme	Core Metrics and Disclosures	Links	Comments
Climate Change	Greenhouse gas (GHG) emissions	Energy and Emissions Report Data Hub	
	TCFD implementation	Task Force on Climate-Related Financial Disclosure Energy and Emissions	

People

Theme	Core Metrics and Disclosures	Links	Comments
Dignity and Equality	Diversity and inclusion (%)	Employees Report Data Hub	No disclosure of other indicators of diversity due to legal requirements in Germany.
	Pay equality (%)	SAP Named Among Best Companies to Work For in 2022 SAP Among Forbes' America's Best Employers For Women 2022	Creating an inclusive workplace that benefits employees, customers, and partners is a strategic commitment for SAP. We have received numerous recognitions for our advances in creating an inclusive and more equal workplace, such as, best place to work as part of "Fortune 100 Best Companies to Work For 2022", Forbes' America's Best Employers For Women ranking, and many others.
	Wage level (%)	Compensation Report	In our Compensation Report, we disclose the vertical pay ratio. This ratio compares the total compensation granted to the CEO with that of all employees who were employed at year end.
Skills for the Future	Training provided (#, \$)	Employees	Training hours split by gender and employee category are not a material issue for SAP, as we align our training activities according to the needs of each employee and do not tolerate discrimination.

Prosperity

Theme	Core Metrics and Disclosures	Links	Comments
Community and Social Vitality	Total tax paid	Analysis of Consolidated Statements of Cash Flow	

Q Audit Scope

The content of the [Stakeholder Capitalism Metrics](#) section was not subject to the independent limited assurance engagement of our external auditor.

SASB Index

SAP maps existing sustainability disclosures to the standards of the Sustainability Accounting Standards Board (SASB). The table below presents a set of sustainable indicators based on the SASB standards for Software and IT Services (Version 2023-06).

Topic	Code	Links	Comments
Environmental Footprint of Hardware Infrastructure	TC-SI-130a.1	Energy and Emissions	
	TC-SI-130a.2	Waste and Water	
	TC-SI-130a.3	Energy and Emissions Waste and Water	
Data Privacy & Freedom of Expression	TC-SI-220a.1	Security, Data Protection, and Privacy	For more information about data protection and privacy, see the SAP Trust Center.
Data Security	TC-SI-230a.2	Security, Data Protection, and Privacy Risk Management and Risks	
Recruiting & Managing a Global, Diverse and Skilled Workforce	TC-SI-330a.1	Employees Note (B.1) Employee Headcount	SAP is a multinational company with locations all over the world. At each location, we hire people based on their qualifications and our business needs. For an overview of our headcount per geographical area, see Note (B.1).
	TC-SI-330a.2	Report Data Hub Employees	
	TC-SI-330a.3	Report Data Hub Employees	As a global organization with employees from over 163 nationalities, our aspiration is that SAP's workforce mirrors the diversity in society that includes gender parity and demographics of all of the regions where we have employees.
Managing Systemic Risks from Technology Disruptions	TC-SI-550a.2	Risk Management and Risks	

Audit Scope

The content of the [SASB Index](#) section was not subject to the independent limited assurance engagement of our external auditor.

Task Force on Climate-Related Financial Disclosure (TCFD)

The TCFD recommends companies to disclose their climate-related financial risks to investors, lenders, insurers, and other stakeholders. For more information, see the table below.

Area	Content	Section
Governance	SAP's governance of climate-related risks and opportunities.	Energy and Emissions Sustainability Management
Strategy	Actual and potential impacts of climate-related risks and opportunities on SAP's businesses, strategy, and financial planning where such information is material.	Energy and Emissions Sustainability Management Risk Management and Risks Strategy
Risk Management	How does SAP identify, assess, and manage climate-related risks?	Energy and Emissions
Metrics and Targets	Metrics and targets that SAP uses to assess and manage relevant climate-related risks and opportunities where such information is material.	Energy and Emissions Risk Management and Risks Non-Financial Notes: Environmental Performance Report Data Hub⁹⁰

Audit Scope

The content of the [Task Force on Climate-Related Financial Disclosure \(TCFD\)](#) section was not subject to the independent limited assurance engagement of our external auditor.

⁹⁰ Link leads to information that was neither part of the statutory audit nor the independent limited assurance engagement performed by our external auditor.