

CLIMATE CHANGE REPORT 2022

In line with Task Force on Climate-related Financial Disclosures (TCFD)

Version 1.0

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1 INTRODUCTION

Since our creation in 2007, Solactive has become one of the key players in the indexing space. We are a German multi-asset class index provider developing, calculating, administrating, and distributing financial indices on a global basis. Besides standard benchmarks, our main strength is the development of tailor-made indices for clients. We pride ourselves on our combined ability to deliver products faster and with more flexibility than our competitors and at a more reasonable cost. This combination has allowed us to become one of the fastest-growing index providers worldwide.

Our more than 300 employees operate from offices in Frankfurt, Dresden, Berlin, Amsterdam, Toronto, and Hong Kong to provide 24/6 coverage to our clients. As of mid-2023, Solactive is calculating more than 27,000 indices for more than 500 clients in Europe, America, and Asia. Approximately USD 300 billion are invested in products linked to or referencing Solactive indices, including more than 550 ETFs. For more details on formative milestones, please refer to our website ([Solactive About Us](#)).

Our ESG Approach

The core belief defining Solactive's ESG (Environmental, Social and Governance) approach is that a diverse set of views with regards to ESG will continue to exist in the future as various cultural, regional and institutional backgrounds will keep shaping the approach of market participants towards the topic. Whilst this shall not preclude the financial community from agreeing on reasonable standards, we believe that diversity of approaches is beneficial to the industry and will persist and even increase in the long-term. To reflect this belief our ESG approach revolves around two pillars:

- 1) **Open data architecture:** Instead of being bound to own proprietary ESG data or data from few selected partners, we offer clients the option of working with the ESG data vendor of their choice. To commit to a data vendor is to commit to its respective view and approach. We believe that our clients' views should be reflected in their data choice and hence provide them the freedom to do so.
- 2) **Focus on tailor-made index design:** We provide market-leading flexibility when it comes to incorporating clients' ESG preferences into our index methodologies. While we offer a range of core ESG solutions, the clients' views and requirements always drive the ultimate index methodology.

Against this background, Solactive constantly seeks new concepts to provide sustainable index and investment solutions to our clients. Our long-standing experience and innovation strength is reflected in the fact that we currently calculate more than 1,000 ESG indices. Our consistent focus on providing solutions across the asset class spectrum allowed us, for instance, to pioneer solutions in fixed income, such as launching the first Green Bond index in 2014 and providing the benchmark for the first Paris-Aligned bond ETF in Europe. Leveraging the advantages of our open architecture, Solactive is constantly exchanging new ideas with full-service ESG providers, niche providers, and non-profit organizations. Besides ESG index development, we facilitate access to sustainability data from our subsidiary Minerva Analytics, as well as our strategic partners and investee companies: Iceberg Data Lab, right°, SparkChange, and Tumelo.



- UK-based **Minerva Analytics**, which Solactive fully acquired in July 2022, offers ESG research built on more than 20 years of experience in proxy voting, sustainable stewardship, and data analysis. Minerva's climate-related efforts are not incorporated in this report; an exception is our joint carbon footprint which is displayed in section 2.4 Metrics and Targets.
- **Iceberg Data Lab**, located in Paris, provides climate and biodiversity data solutions to financial institutions to help them report and manage their environmental impact.
- **Right°** is a Frankfurt-based climate fin-tech that offers a temperature alignment tool across asset classes.
- **SparkChange**, domiciled in the UK, enables access to carbon allowances markets such as the EU ETS scheme.
- **Tumelo**, based in the UK, provides technology that supports impactful stewardship by offering expression of wish and pass-through voting functionalities.

Solactive has a significant track record and history of developing and calculating ESG indices used in different forms by our client base across asset managers, ETF issuers, investment banks, asset owners, and others. In the reporting year 2022 we were awarded "Climate Index Provider of the Year" at the Environmental Finance Sustainable Investment Awards.

On the environmental impact side, Solactive achieved some early milestones by measuring and recording our carbon footprint for the years 2019 to 2022. To keep an eye on further developments of our emissions – also in relation to our reduction targets – we will continue to measure our carbon footprint on an annual basis and report our progress to the Carbon Disclosure Project (CDP).

Being aware of our responsibility to employees, clients and other stakeholders, an objective of strategic importance was initiated by Solactive's CEO to combine and expand all activities related to Corporate Social Responsibility (CSR) through a company-wide, comprehensive framework. The Management Board has tasked all relevant teams to review and create the company's corporate responsibility strategy, including an environmental policy. One important aspect of the environmental policy is the measurement and management of the climate impact of our business. Among others it encourages more sustainable business travel and a reduced consumption of materials. Based on those initiatives Solactive is in the process of building the resources required to reach that goal.

Principles for Responsible Investment

Solactive became a signatory of the PRI in 2018 and pledged to contribute to developing a more sustainable financial system globally. We embrace the responsible investment principles, committing to incorporate ESG considerations into investment analysis and our services to support our clients, as well as into our own policies and practices. Furthermore, we work to promote acceptance and implementation of the Principles across the investment industry, and constantly enhance our effectiveness in implementing them and reporting our progress.



Net Zero Financial Service Providers Alliance (NZFSPA)

We are a founding member of the Net Zero Financial Service Providers Alliance (NZFSPA) which was launched in 2021 to support the transition to a net zero economy by 2050. Alongside other financial service providers that are members of the NZFSPA, Solactive undertakes to keep developing products and services and engaging with our clients in helping them transition to net zero across their index and systematic investment offerings as well as allowing them to benchmark their progress towards net zero in their investment strategies. The commitments we made by joining the alliance can be viewed on the NZFSPA website.¹

"At Solactive, our primary goal is to help our clients achieve their net zero goals with credible and transparent climate index solutions while at the same time contributing positively to the achievement of Net Zero through our own responsible business practices." – Steffen Scheuble, CEO.

One of the commitments is to address our own operational impacts by setting and disclosing progress towards **science-based emissions reduction targets** in line with the goals of the Paris Agreement and publishing disclosures aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In 2024 we plan to publish our targets and our progress regarding the commitments we made as a member of the NZFSPA.

Task Force on Climate-related Financial Disclosure (TCFD)

TCFD was launched in 2015 by the G20 Financial Stability Board (FSB) to develop recommendations for consistent and comparable climate-related corporate reporting. In June 2017, the first reporting guideline was published. The aim is to create transparency in how companies deal with the risks and opportunities of climate change. This should help all participants and stakeholders in the capital market to better understand the financial implications of climate change and to support the transition to net zero through improving transparency. Last year we published our first Climate Change Report for the reporting year 2021 and started to gain experience with the implementation of the TCFD recommendations. We will continuously strengthen and develop our climate-related reporting on this basis.



Reprinted from TCFD Overview Booklet (May 2022).

¹<https://www.netzeroserviceproviders.com/our-commitment/>



2 TCFD DISCLOSURE

2.1 GOVERNANCE

ESG considerations, including the impact of climate change, are of fundamental importance to Solactive and to our business model. We are therefore committed to continuously develop a sound and effective governance to steer the execution of our strategy.

The Management Board sets the strategy and oversees the execution of this strategy. It also allocates its components, such as the development of ESG and climate-related solutions for our clients and different reporting requirements, across the involved departments within Solactive.

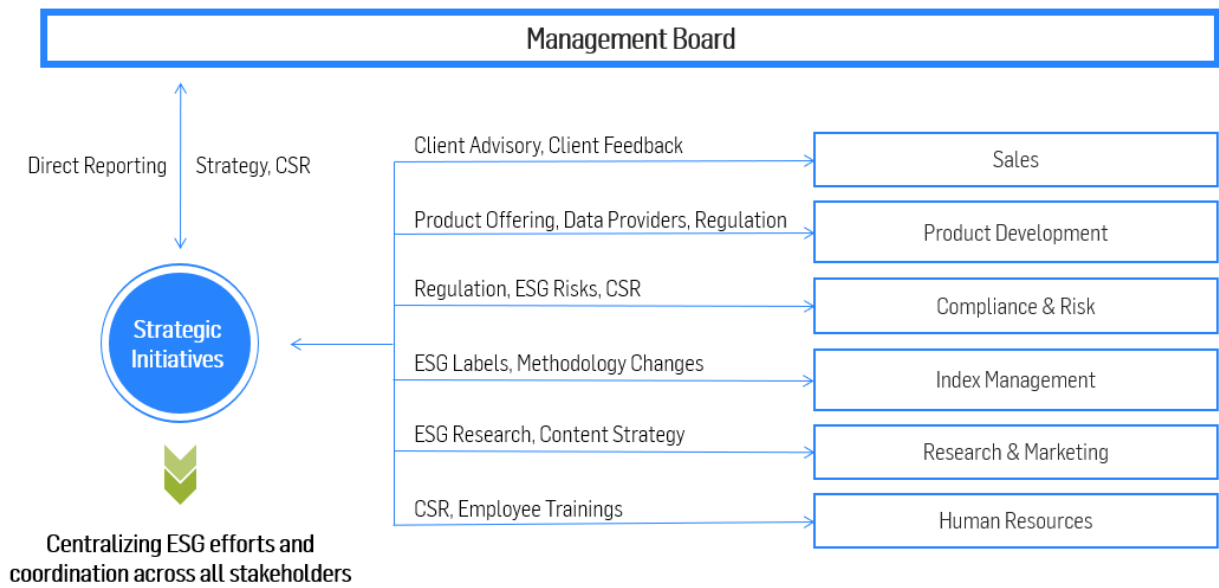
A wide range of staff is directly involved in the creation and offering of sustainability-focused solutions, spanning product development, operations, sales, research, and compliance. To ensure efficient communication between all relevant efforts and to ensure a fully aligned approach, the Strategic Initiatives team was appointed as a central coordinator and clearing house for Solactive's ESG strategy and sustainability-related efforts. The team directly reports to the CEO, which demonstrates the strategic importance of ESG for Solactive.

The Strategic Initiatives team

- orchestrates and coordinates the work of all units,
- serves as an ESG knowledge center,
- drives strategic projects with regard to ESG products and services as well as corporate sustainability,
- identifies companies in which Solactive may invest. One of the key criteria for consideration is whether these target investee companies provide more choice of ESG data and tools to the investment industry,
- regularly engages with academics, regulators, clients, and partners as well as our strategic investee companies on topics including regulation, ESG label requirements, product innovation, data provider collaboration, and corporate initiatives like the CSR framework.

Through the above, the Strategic Initiatives team completes a picture of the current ESG and climate-related landscape in the market and is able to identify global trends and analyze upcoming challenges and opportunities in the field of ESG and sustainability.

These are being addressed and discussed with the compliance and risk teams (see [2.3 Risk Management](#)) as well as the management board and business units. The solicited internal and external feedback enables us to have a better understanding of market dynamics, to create innovative product lines and help clients achieve their financial ESG goals.



In 2022 the Strategic Initiatives team started working on an Environmental Policy that was finalized and approved by the Management Board in 2023. The policy describes how Solactive handles the material ecological topics in its business, e.g., business travel, employee commute and the efficient use of energy and water. In addition to the policy, Solactive also internally published Responsible Consumption Guidelines for all employees, offering tips and best-practices for a responsible consumption of energy, water and paper, and the avoidance of waste in the offices.

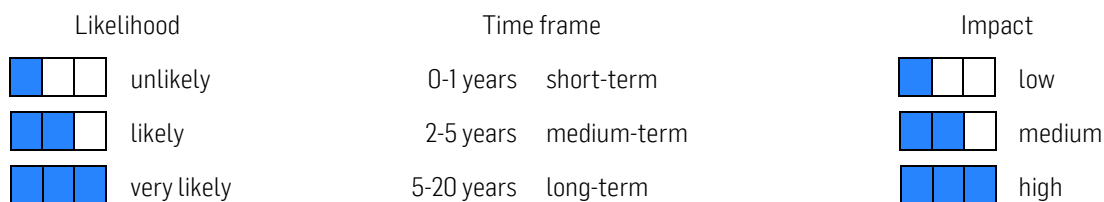
2.2 STRATEGY

The uncertainty regarding future regulatory adjustments and the risks posed by climate change presents a significant challenge for the financial industry. On the one hand, this manifests itself in both acute and long-term physical climate risks, e.g., damage to office buildings or data centers due to extreme weather events. On the other hand, there are transition risks caused by the transition to a low-carbon economy to reach net zero. The journey to limit global warming could not only shift consumer preferences but make entire business models obsolete. However, there are also opportunities for new technologies and business areas as well as companies that show leadership in the transition.

Along the value chain and all business units of Solactive, we have identified climate-related risks and opportunities for our business model and strategy (see tables below). The identification, mitigation and leverage of those risks and opportunities shape our overall business strategy, and it is updated on a yearly basis. Part of this process is a continuous dialogue with our internal experts, clients, strategic partners, and other external stakeholders. We outline how the risks and opportunities impact our business strategy and financial planning, and how we are working on mitigating the risks and utilizing the opportunities. Mainly, we continuously work on improving our products and services as well as our internal processes and targets to reflect the changing market environment.



Table 1: Climate-related Physical Risks





Description & possible impact	Likelihood	Time frame	Impact	Mitigation & resilience
ACUTE - Increased severity and frequency of extreme weather events such as cyclones and floods: Decreased customer satisfaction due to service disruptions or delays (power loss or telecommunications failure) and increased costs from repairing or restoring damaged locations		0-1 years		While most of Solactive's office and infrastructure locations are in climate resilient regions, our Hong Kong office faces acute physical risks due to extreme weather. Through business recovery plans the impact is estimated to be limited. Business recovery focuses on ensuring that Solactive's business operations can quickly resume when the primary workplace hosting those operations becomes inoperable or is not accessible. We ensure business recovery through: 1) the ability to securely remote access critical systems; 2) the ability for the critical systems to be operated from multiple locations; and 3) succession plans and a 24x6 management of the core processes. The work-from-home strategies implemented during the COVID-19 pandemic also contribute to business continuity.
CHRONIC - Rising sea levels: Increased cost related to relocation		5-20 years		Solactive's offices in Hong Kong and Amsterdam could be directly affected from rising sea levels due to their location on the coast. However, these locations are the smallest of our offices and therefore the effort of a possible relocation, if needed at some point, would be relatively small. Additionally, we see this as a long-term trend, so that we can track the development for all our locations and prepare for an appropriate solution.

Table 2: Climate-related Transitional Risks



Policy & Legal

Description & possible impact	Likelihood	Time frame	Impact	Mitigation & resilience
Regulations leading to increased pricing of greenhouse gas emissions: Impact on financial planning		2-5 years		Although our business as an index provider is not greenhouse gas intensive, we strive to conduct our operations in a safe manner that minimizes negative environmental impact and reduces carbon emissions. Solactive is committed to net-zero emissions by 2050 and we have set greenhouse gas emission targets to specify this path. These targets are validated by the Science Based Targets initiative (SBTi).



<p>Regulation and policies affecting existing and new products and services, Solactive's corporate governance, and compliance obligations: Higher compliance and operating costs, legal liabilities, product or service restrictions and/ or reputation damage</p>		<p>2-5 years</p>		<p>Solactive stays informed about evolving ESG-related regulations in its different countries of operation and adapts its business practices, products and services accordingly. We maintain regular exchange and engagement with policymakers, regulatory bodies, industry associations and other stakeholder groups to address concerns and build trust. We will reassure that this risk is reflected in financial and resource planning. Solactive is also committed to develop and communicate a clear sustainability strategy and maintain its climate-related reporting.</p>
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Market

Description & possible impact	Likelihood	Time frame	Impact	Mitigation & resilience
<p>Changing customer behavior: Decreased revenues due to reduced demand for existing products and services</p>		<p>2-5 years</p>		<p>We observe a shift in customer demand towards more sustainability and climate-oriented strategies, resulting in less demand for existing conventional solutions. However, we think the shift will be gradual and there will continue to be a need for standard benchmarks and thematic as well as smart beta indices. In addition, we also see this shift as an opportunity as shown in the next table. For the reasons mentioned below, we are prepared to cater this change in preferences and are driving forward our corresponding products and services.</p>

Reputation



Description & possible impact	Likelihood	Time frame	Impact	Mitigation & resilience
<p>Increased stakeholder concern or negative feedback: Decreased revenues and difficulties in talent management</p>		<p>2-5 years</p>		<p>A perceived imbalance between our products and our operations in terms of sustainability could lead to concerns or negative stakeholder feedback. Possible consequences could be decreasing client satisfaction and revenue and difficulties in attracting and retaining talent. To mitigate this risk, we established an Environmental Policy and an HR Framework on Corporate Social Responsibility (both internally published in 2023) and founded a Corporate Sustainability Community beginning of 2023 to include employees in our initiatives.</p>



Table 3: Climate-related Opportunities

Products & Services

Description & possible impact	Likelihood	Time frame	Impact	Utilization strategies
Shift in consumer preferences: Increased revenues resulting from increased demand for climate protection related products and services		2-5 years		Solactive recognizes changing customer demand for ESG integrated and climate aware products. While conventional indices are still a major part of the business, a shift in consumer preferences will require an increased focus on sustainable product development capabilities across our service offering. Therefore, we have and will broaden the capabilities within Solactive's team, continue partnerships with ESG data and service companies and prioritize extending our offering in this area. Furthermore, we made strategic investments in ESG service providers and already offer various ESG alternatives to conventional benchmarks. We are convinced that our strength and philosophy to create customized (index) solutions will enable us to support our existing and future clients by integrating ESG and climate considerations in our products in a very flexible way. Today, we already calculate more than 1000 ESG indices for our clients and feel prepared to accommodate changing customer demands.

Market

Description & possible impact	Likelihood	Time frame	Impact	Utilization strategies
Access to new client segments: Increased demand for highly customized solutions which is at the core of our DNA		2-5 years		We experience that customization is key in the ESG area. Thanks to our open architecture and the resulting flexibility to integrate different ESG data providers as well as our core capabilities to highly customize data integration, we are becoming particularly attractive for client segments who represent their own ESG opinion and want to implement their individual preferences.



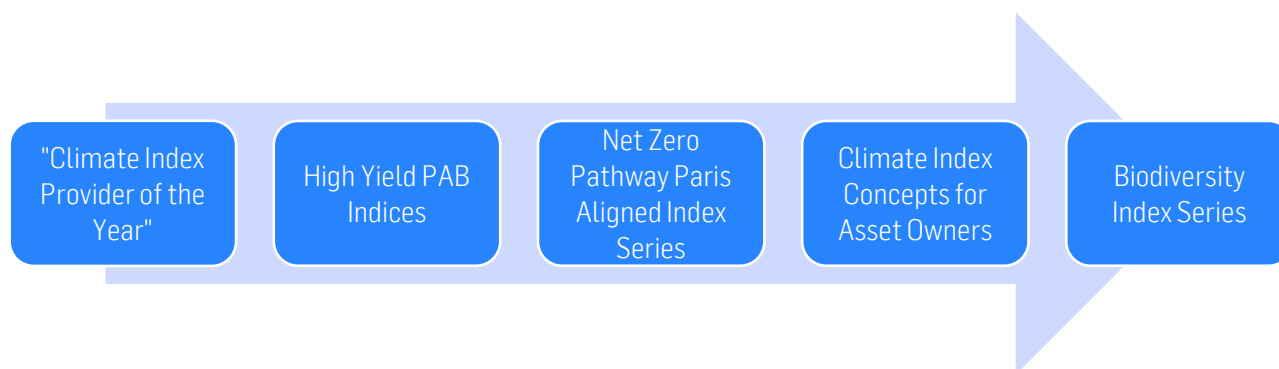
Map of Solactive Locations

The map illustrates the locations of Solactive facilities worldwide. It is important to note that the operational significance of each Solactive location varies. Whilst there are physical risks for some of these locations, in particular Hong Kong and Amsterdam, we have implemented comprehensive measures to ensure business continuity and recovery in these areas.



2022 ESG Highlights & Progress

Products & Services



After a series of innovative climate-focused launches during the year 2021 in both equity and fixed income for asset managers and issuers across Europe, Solactive was awarded as Climate Index Provider of the Year at the Environmental Finance Sustainable Investment Awards 2022. The award's objective is to recognize asset managers, analysts, and data providers incorporating ESG across all asset classes (fixed income, listed and private equity, debt funds, multi asset funds, infrastructure funds and fund of funds). The "Climate Index Provider of the Year" award recognizes the efforts of index providers in providing products specifically to address climate change or climate-related risks.

At the beginning of 2022 and with the intention to broaden the opportunity set for Paris-aligned investment strategies, Solactive expanded its suite of fixed income PABs with the launch of two high-yield versions. On

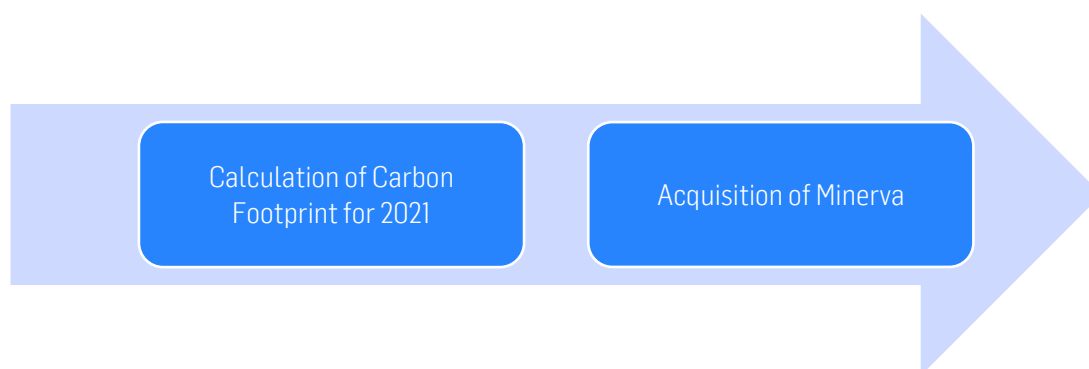


the equity side, Solactive created its Net Zero Pathway Paris Aligned suite which exceeds the requirements provided in the Paris Aligned Benchmark (PAB) regulation. Additionally, this suite aims to incorporate criteria set by the Institutional Investors Group on Climate Change (IIGCC).

Furthermore, a range of climate indices has been launched addressing specific needs of asset owners, e.g., to incorporate climate transition and social impact into defined contribution and defined benefit pension schemes.

In December 2022 Solactive started a Biodiversity Index Series based on data from our strategic partner Iceberg Data Lab. This series offers investors options to broaden their environmental focus beyond climate considerations to include biodiversity. Three months after the successful launch, in early 2023, the series was already expanded with three new indices.

Corporate Sustainability



To continue our climate-related efforts, we calculated our greenhouse gas footprint for 2021, further improving the data collection for Scope 3 emissions (see [2.4 Metrics and Targets](#) for more information on the carbon footprint for 2022).

In July 2022 Solactive fully acquired its strategic partner Minerva Analytics, in which we previously held a minority stake. As described in the introduction, Minerva offers ESG data solutions, proxy voting and stewardship services. This acquisition further strengthens our commitment to sustainability but also enhances our capabilities in providing comprehensive ESG solutions going forward.



2.3 RISK MANAGEMENT

Solactive manages the risks and opportunities arising from climate change as part of its strategy setting and overall planning process, which is informed amongst other by its risk management processes.

On a quarterly basis, leaders of various delivery teams meet with the management board to discuss and set priorities for addressing risks and opportunities, as well as to agree on key action plans from a strategic and execution oversight perspective. An annual planning process also takes place to establish priorities for the upcoming year. Risk considerations, including those arising from climate change, provide an input into these processes.

From a risk management standpoint, the risk office serves as a second line of defense in the firm's overall approach, it sets the risk management framework and checks that the overall risk architecture of the firm is fit for purpose. This is done through a variety of tools, including risk identification by the delivery teams, and grading them based on severity. We assess the level of severity through the combination of their likelihood to happen, the timeframe at which we expect this likelihood to materialize, and the expected impact of the risk should it materialize. The management board then decides, based on the resources available and its risk appetite, the resulting priorities for risk mitigation initiatives.

Our current perspective on the main risks and opportunities presented by climate change are laid out in the [2.2 Strategy](#) section above. The overall conclusion is that whilst we are acutely aware of and sensitive to climate risk, the immediate climate and transition risks that the firm faces are well within the bounds of our existing risk tolerance, with an emphasis being set on the opportunities arising from them through the changing attitudes of our clients and the desire to adopt more climate sensitive benchmarks as part of their risk allocation.



2.4 METRICS AND TARGETS

Company carbon footprint

Although our business as an index provider is not greenhouse gas intensive, we measure our emissions footprint in line with the Greenhouse Gas Protocol to create more transparency for our stakeholders as well as to make our contribution to climate protection by fulfilling our self-imposed reduction targets.

Our **total greenhouse gas emissions for 2022 are 464.7 t CO₂e.²**



The CO₂ emissions were calculated using consumption data and emission factors researched by our service provider ClimatePartner. Wherever possible, primary data were used. If no primary data were available, secondary data from highly credible sources were used. Emission factors were taken from scientifically recognized databases such as ecoinvent and DEFRA.

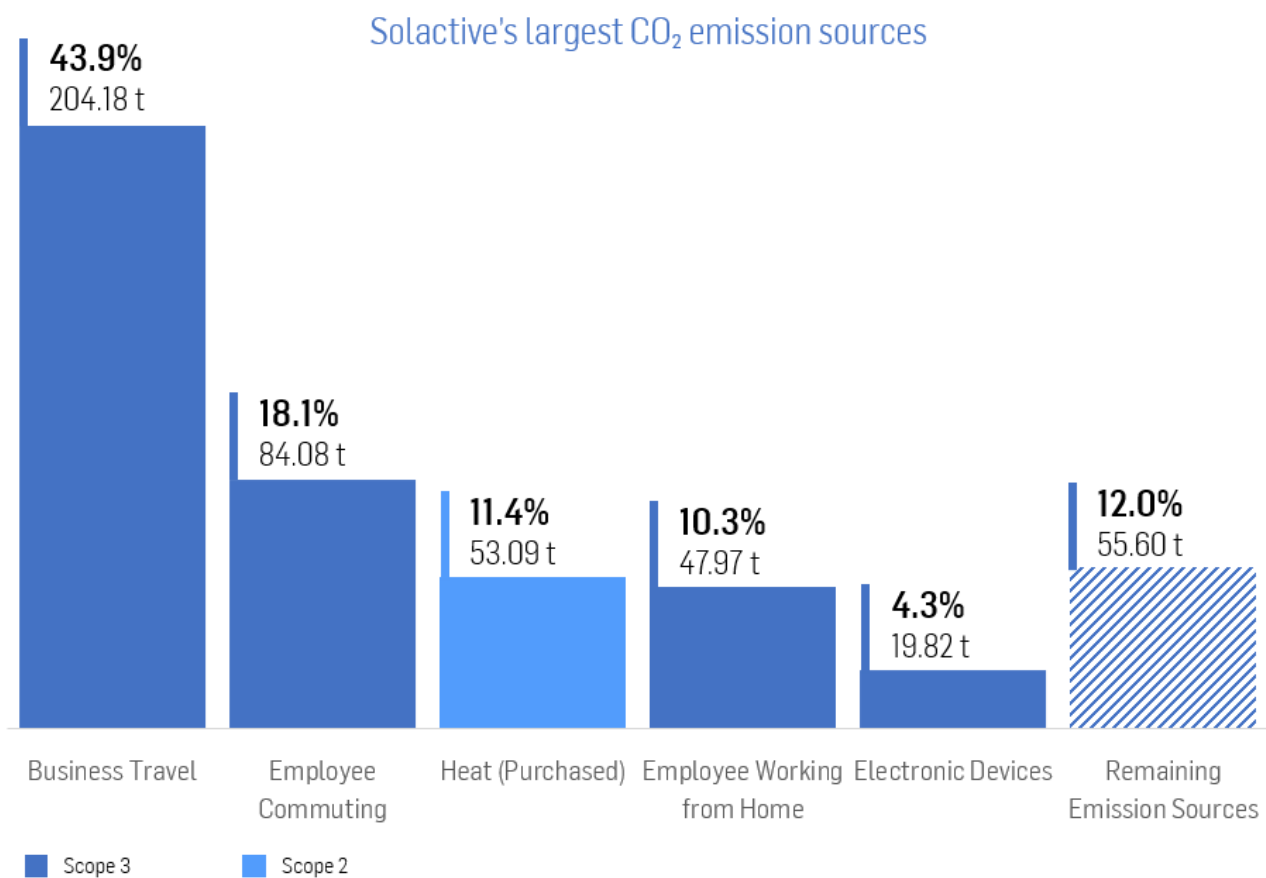
The corporate carbon footprint calculates all emissions as CO₂ equivalents (CO₂e), which this report also refers to as "CO₂". This means that all relevant greenhouse gases, as stated in the IPCC Assessment Report, were taken into account in the calculations. These include carbon dioxide (CO₂), methane (CH₄) and nitrous

² Excluding our subsidiary Minerva Analytics.



oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

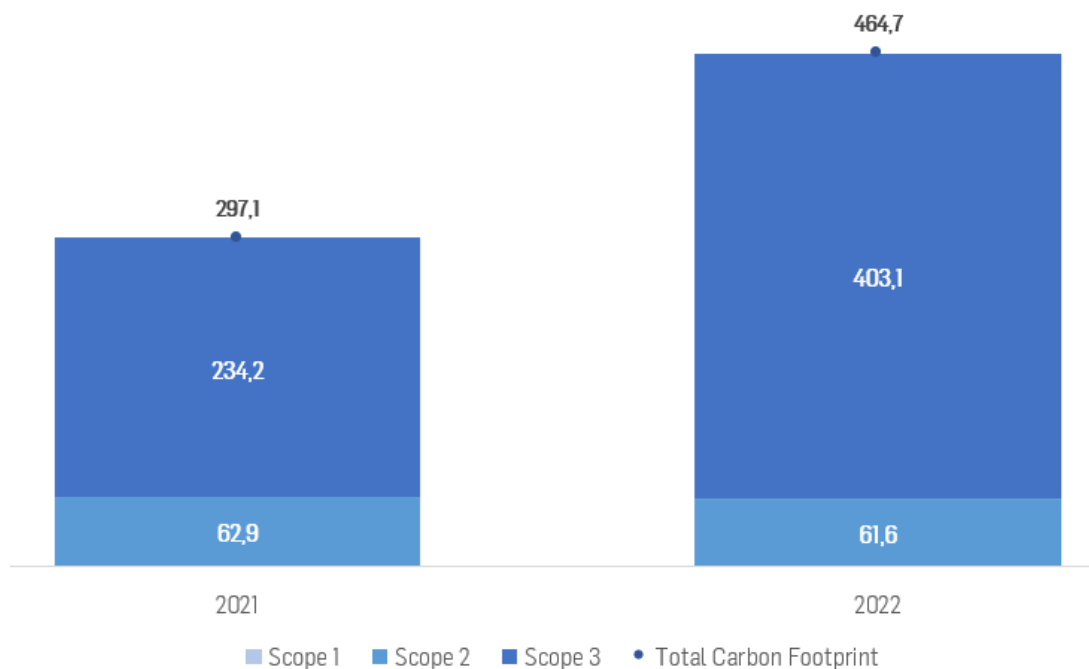
Emissions for electricity were calculated using both the market-based method and the location-based method. This dual reporting approach is recommended by the GHG Protocol. For the market-based method, Solactive used specific emission factors for the electricity we purchased, if available. If these specific factors were not available, factors for the residual mix in the country of operation were used, or, if this was unavailable, the average grid mix of the country was used. In the location-based method, the average electricity grid mix for the country is calculated. This enables a direct comparison of Solactive's values with the country-specific average.



The five largest emission sources in 2022 were business travel, employee commute, heating, working from home and purchased electronic devices. An increased frequency of business travels, compared to 2021, is also the main reason for the increase of Solactive's carbon footprint in comparison to the previous year (see graph below). This is due to the fact that the COVID pandemic prevented most business travels in 2021, whereas in 2022 we could go back to our pre-pandemic levels.



Development of Solactive's Carbon Footprint (in t CO₂e)



Solactive's subsidiary Minerva Analytics is not yet reflected in this reporting year's footprint. However, the company measured its 2022 footprint as well, which amounts to 156.0 t CO₂e. Our joint total greenhouse gas emissions for 2022 are 620,8 t CO₂e. The main driver for Minerva's 2022 emissions (close to 70%) is the renewal of its IT hardware which can be regarded as a one-off effect.

Reduction Targets

In 2022 Solactive submitted a 1.5°C aligned target to the Science Based Targets initiative (SBTi): We will reduce scope 1 and 2 emissions by 46% by 2030 compared to the base year 2019³. In addition, we are committed to reduce our scope 3 emissions without an official target, in line with the SBTi path for SMEs.

³ The target will be adapted to include our newly acquired subsidiary Minerva Analytics.

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