Annual Report 2022

sgl carbon

Key Figures 2022

€m	Footnote	2022	2021	Change
Financial performance				
Sales revenue		1,135.9	1,007.0	12.8%
thereof outside Germany		74%	69%	-
thereof in Germany		26%	31%	-
EBITDApre	1)	172.8	140.0	23.4%
Operating profit/loss (EBIT)		120.9	110.4	9.5%
Result from continuing operations before income taxes		94.6	82.1	15.2%
Consolidated net result (attributable to the shareholders of the parent company)		126.9	75.4	68.3%
EBITDApre margin	2)	15.2%	13.9%	+ 1.3%-points
Return on capital employed (ROCE $_{\text{EBIT pre}}$)	3)	11.3%	8.0%	+ 3.3%-points
Earnings per share, basic (in €)		1.04	0.62	67.7%
Net assets				
Equity attributable to the shareholders of the parent company		569.3	371.5	53.2%
Total assets		1,480.3	1,376.3	7.6%
Net financial debt		170.8	206.3	–17.2%
Equity ratio	4)	38.5%	27.0%	+ 11.5%-points
Leverage Ratio	5)	1.0	1.5	33.3%
Headcount	6)	4,760	4,680	1.7%
Financial position				
Capital expenditures in intangible assets and property, plant and equipment		52.9	50.0	5.8%
Depreciation/amortization expense		60.8	60.3	0.8%
Working capital		345.3	341.2	1.2%
Free cash flow	7)	67.8	111.5	–39.2%

[1)] Before one-off effects/non-recurring items of €8.9 million in 2022 and of €30.7 million in 2021
[2)] EBITDApre to sales revenue
[3)] EBITpre to average capital employed (total of goodwill, other intangible assets, property, plant and equipment, investments accounted for At-Equity and net working capital)
[4)] Equity attributable to the shareholders of the parent company to total assets
[5)] Net debt to EBITDA pre
[6)] As of Dec. 31, including employees with fixed term contracts
[7)] Cash flow from operating activities (continuing operations) minus cash flow from investing activities (continuing operations)

Table of Contents

Letter from the Board of Management

Dr. Torsten Derr (Chief Executive Officer) Thomas Dippold (Chief Financial Officer)

Dear Shareholders,

The global fight against inflation, Russia's war in Ukraine and a resurgence of COVID-19 in China have put pressure on the global economic activity in 2022.

Despite these headwinds, we have performed very well! A strong product portfolio, a courageous team and the successes of our transformation over the last two years have demonstrated that we implemented a functioning and sustainable business model. A revenue growth of 12.8% to €1,135.9 million and an EBITDApre of €172.8 million, which corresponds to an improvement of 23.4% compared to the previous year, bear testimony to the economic success in the 2022 fiscal year.

We are very proud of what we achieved in this difficult fiscal year: Maintaining production capability, competitive pricing initiatives, improving occupational safety, consistently implementing and further developing our sustainability strategy, exceeding our revenue and performance targets, stabilizing our financial structure, and all this while continuing our transformation program. A true feat of strength.

Our milestones in 2022

At the beginning of the year, we already hedged around 80% of our energy requirements in terms of price. This cost us around €9.2 million in Q1 2022. In retrospect and considering the energy price development in 2022, this was exactly the right decision to safeguard our production capability.

We also responded quickly and with great flexibility to the temporary interruptions in the supply chains. Due to the events in Eastern Europe as well as the strict coronavirus policy in China, there were disruptions in the supply chains, particularly in the first half of the year. Even though we do not source materials and raw materials directly from Ukraine or Russia, we had to establish new supply routes. We succeeded in doing this thanks to our broad-based supplier relationships.

Due to congestion at major seaports, we quickly adjusted our logistics routes and switched to smaller vessels that could dock at alternative ports. Our plants were always supplied and SGL Carbon could deliver on time.

Like almost all European companies, we were unable to escape the dynamic price increases for many raw materials, transport and logistics, and above all energy. Starting in Q2 2022, we passed on a large part of these additional costs to our customers via pricing initiatives. In addition to higher production volumes, these price increases also contributed to the increase in revenue and earnings in the reporting year.

In the first months of 2022, business developed so well for us that we raised our earnings forecast (EBITDApre) from €110 – 130 million to €130 – 150 million at the beginning of June.

Unfortunately, an important contract with one of our automotive customers ended in the 2022 fiscal year. For years, we supplied carbon fibers for an electric vehicle model, the production of which was discontinued as planned in the middle of the year. We were able to fully utilize the newly available production capacities from this business through orders with new customers in the wind energy sector.

Additionally, our carbon fiber business got a boost in Q3. Due to high energy prices, some of our competitors in the acrylic fiber business had to temporarily cease production. Because of our energy price hedging, we were able to continue to produce at acceptable margins and partially meet the delivery volumes of our competitors. Certainly a temporary effect, but one that demonstrated how important it was to maintain our production during the year. Assuming that this development continues, we raised our earnings forecast again to €170 – 190 million at the beginning of September 2022.

At the same time, we continued to stabilize our financial structure. By the end of 2021, we already increased our equity ratio from 17.5% to 27.0% and reduced net financial debt from €286.5 million to €206.3 million. In 2022, we were able to improve the equity ratio again to 38.5% and to decrease net financial debt again to €170.8 million.

In an environment of rising interest rates and uncertainty on the capital markets, we refinanced our convertible bond maturing in 2023 ahead of schedule in September 2022 by issuing a new convertible bond. This shows that investors and banks trust us and believe in the future prospects of the company.

The safety and health of our workforce is always our top priority. Since last year, we included the rate of occupational accidents resulting in days lost in the short-term variable remuneration structure for management. We actually fell below of the “LTI rate” target of 2.5 with a rate of 2.3. All SGL Carbon sites held the first global Occupational Safety Day in October 2022. We thus anchored the issue of “safety” even more firmly in the minds of all our colleagues.

End of the transformation phase

Following the completion of more than 800 individual initiatives, sustainable savings of around €150 million and the reduction of around 10% of our workforce, by the end of 2022 we will have successfully completed the transformation we launched in 2020 ahead of schedule. SGL Carbon is a very different company today than it was 30 months ago. We are close to our customers and deliver innovative and highly specialized products and solutions. We are performance and results oriented, fast and efficient in our processes and financially stable. The previous fiscal year proved that our business model is much more resilient today than it was at the beginning of the transformation.

Outlook – geared towards growth

In the last two years, SGL Carbon achieved revenue growth of 23.5% and an improvement in operating performance (EBITDApre) of 86.2%. Remarkable results – but we are not stopping there. The requisites for further profitable growth have been created.

With our products, we serve industries that significantly reflect future trends: climate-friendly mobility, renewable forms of energy, and digitization.

In the coming years, digitization will be characterized by new high-performance semiconductors. These semiconductors are smaller, more efficient and more powerful than the previously used silicon ones. Components made of graphite are indispensable for the manufacturing process of these silicon carbide (SiC)-based semiconductors. They are used in particular in the production process of semiconductors, which require temperatures of more than 2,000 degrees Celsius. SGL Carbon is represented here with the most extensive range of graphite in the industry.

But graphite offers much more. It is used as a graphite anode material for lithium-ion batteries for electric vehicles, as a gas diffusion membrane for fuel cells or as an insulating material in various industries, to name just a few applications.

Wind energy is an indispensable energy source of the future. More wind turbines will be needed to meet future energy demand. The most efficient wind turbines have rotor blades over 100 meters long. The longer the rotor blades, the more wind pressure they are exposed to and the more stability they require. Carbon fibers are currently the only material available to ensure the required strength and stability. We are one of the main suppliers of these carbon fibers.

However, SGL Carbon not only supplies the carbon fiber, but also develops entire components together with its customers. Battery boxes are an increasingly important vehicle component for electromobility. Based on carbon fibers, these are lightweight, extremely robust and above all fire-resistant. This provides additional safety for electric car passengers in the event of a battery fire.

Carbon fibers can also be used in the construction industry to stabilize concrete, for example in bridge construction. Carbon fibers are used instead of steel, which is susceptible to corrosion, thus ensuring stability and longer durability. Carbon fibers thus enable thinner and more durable concrete elements with a significantly reduced CO_2 footprint.

Going forward, we want to focus more on products that make a positive contribution to environmental and climate protection. We are therefore increasingly focusing on industries that support these goals.

Sustainable action and management are an integral part of our corporate strategy. By 2025, we aim to cut our CO_2 emissions by 50% (based on Scope 1 & 2) in relation to the 2019 base year by increasing the use of renewable energies and energy-efficient technologies. We want to be climate neutral in 2038.

Sustainability is more than climate protection: occupational safety, protection of human rights, responsibility in the supply chain, governance and compliance. We made further improvements on all these issues in 2022.

Our focus on future growth markets is also reflected in our revenue and earnings expectations for the current fiscal year. We see 2023 as a stabilization and investment year to take advantage of the growth opportunities in our focus markets and ensure further profitable growth in the future. For 2023, we expect consolidated net sales to be on a par with the previous year (2022: €1,135.9 million) and adjusted EBITDA to be between €160 million and €180 million (2022: €172.8 million).

Let's look back again: before our transformation in fiscal 2020, our adjusted EBITDA margin was 10.1%; in 2023, it is expected to be 14 – 16%. At the end of 2020, the return on capital employed (ROCE) was 1.8%; in 2023, we expect ROCE to be 10% – 12%. Our share price also increased from €3.59 (closing price Xetra 2020) to €6.93 at the end of 2022. We significantly increased the value of the company!

We could only achieve this with our employees. We would like to take this opportunity to sincerely thank them for their dedication, commitment to SGL Carbon and passion for our business. Also, we would like to thank the Supervisory Board and the employee representatives for their support and always fair cooperation. Last but not least, we thank you, dear shareholders, for your trust in SGL Carbon. We will continue to work on making SGL Carbon more successful, more profitable and more future-oriented!

Sincerely,

Dr. Torsten Derr
Chief Executive Officer

Thomas Dippold
Chief Financial Officer

Report of the Supervisory Board

Dr. h.c. Susanne Klatten, Chairwoman of the Supervisory Board

Dear Shareholders,

This has been a year of major crises and upheavals as well as a very successful fiscal year for SGL Carbon. The employees achieved a further increase in sales revenue and earnings and provided encouraging news in the capital market by raising the original outlook.

We had to face the impact of the ongoing pandemic and the horrific war in Ukraine. As in the 2021 fiscal year, supply chains were disrupted and raw material and energy prices increased, significantly in some cases. The Board of Management and employees mastered these extraordinary ongoing challenges: The company is in a much stronger position economically than we had expected at the start of our transformation process 30 months ago. It is especially encouraging that all four business units contributed to this success.

The period of transformation was not an easy time for the employees, the Board of Management and the Supervisory Board, or obviously for you as shareholders. The new management ruthlessly analyzed the structures, processes, product profitability and financial stability of the company. It then developed clear measures for improvement and implemented them successfully. This yielded one of the most successful fiscal years in recent history.

Now that the transformation program has been successfully completed, the time has come for me to pass on the mantle and step down as a member of the Supervisory Board and Chairwoman of the Supervisory Board. It is a good time for change: The company is not only successful currently but is also very well positioned for the future. SGL Carbon serves promising, fast-growing markets and helps to shape the social change envisioned by the European Commission's Green Deal with its dedicated employees and innovative products – significant in wind power, solar energy, semiconductors and climate-friendly mobility.

The Board of Management and employees of SGL Carbon will remain innovative and have set themselves the goal of focusing even more on sustainable innovations related to graphite and carbon. The Supervisory Board welcomes and supports this and the new and ambitious ESG and sustainability targets. Scope 1 and 2 CO_2 emissions are to be halved by 2025, and we want to be climate-neutral in this regard by 2038. Here, too, dear shareholders, the transformation is progressing. The Board of Management will report all further progress in this regard to you.

I would like to take this opportunity – if I may speak on a personal level – to expressly thank all our employees for their outstanding work and dedication. I am grateful for everything that the Board of Management has achieved in the transformation. Of course, my heartfelt thanks also go out to the other members of the Supervisory Board for their support and special commitment.

Cooperation between the Board of Management and the Supervisory Board

In the reporting year, the Supervisory Board duly performed the duties incumbent upon it under the law, the Articles of Incorporation and the Rules of Procedure. Dr. Derr as CEO of SGL Carbon SE, and Mr. Dippold as CFO, were in close contact with the Supervisory Board.

In the reporting year, the Supervisory Board supported the Board of Management in an advisory capacity in six full plenary sessions and in meetings of the various committees, while carefully and continuously monitoring the conduct of business. In doing so, the Supervisory Board was always able to convince itself of the legality, practicality and propriety of the activities of the Board of Management. The Board of Management informed the Supervisory Board regularly, promptly and comprehensively in writing and verbally about the situation of the company and the material business events and projects. When law and the Articles of Incorporation stipulated that decisions had to be made by the Supervisory Board regarding individual transactions and projects of the Board of Management, the Supervisory Board passed a resolution after being involved at an early stage.

The Board of Management held talks with representatives of shareholders and employees in the run-up to the Supervisory Board meetings. The chairs of the committees also spoke to their colleagues on the Supervisory Board and members of the Board of Management in preparation for the committee meetings. During the Supervisory Board meetings, the Board of Management provided comprehensive and timely information — both verbally and through documents — on the items on the agenda. Deviations in the course of business from budgets and targets were explained in detail. The reasons for the deviations and the corresponding measures were discussed intensively. The members of the Supervisory Board and the committees had sufficient opportunity to critically examine the submitted documents and draft resolutions in the Supervisory Board and its committees. In addition, the Board of Management reported regularly on material business transactions, key financial figures during the year and how SGL Carbon was perceived on the financial markets.

As chairwoman of the Supervisory Board, I maintained regular and close dialog with Dr. Derr as chairman of the Board of Management and with Mr. Dippold as CFO regarding business development, planning and specific company-related issues. The chairman of the Audit Committee also maintained close and regular exchanges of information with the Board of Management between committee meetings.

Topics covered in the plenary sessions of the Supervisory Board

The company's economic situation and the outlook for the fiscal year were discussed at the Supervisory Board’s meetings in January, March, May, July, September and December. The regular topics of these meetings included the performance of operational and financial key figures, opportunities and risks as well as risk management including compliance risks. Regular and intensive discussions also focused on the strategic positioning, sustainability issues and the growth projects of the business units. A consistently important topic was short and medium-term financial planning. Some meetings were held completely virtually (January meeting). The May meeting was held in hybrid form and the others were in-person.

At the January meeting, the 2022 budget was further discussed and approved by the Supervisory Board in light of current economic and geopolitical developments.

In the March meeting of the reporting year, the Supervisory Board discussed the final version of the Annual Financial Statements and the Consolidated Financial Statements for 2021 with the auditor and approved the Annual Report. The Board of Management followed with a report on key events, in particular the impact of the Ukraine conflict on the situation with raw material prices and energy markets. Ideas for restructuring the company's retirement benefit plan were also presented. Furthermore, countermeasures taken in connection with rising energy prices – in particular energy hedging transactions at the site in Portugal – were discussed. In addition, the Supervisory Board adopted the Board of Management's target achievement for 2021; details can be found in the remuneration report. Finally, the items for resolution for the Annual General Meeting scheduled for May 17, 2022 were approved.

In the meeting following the virtual Annual General Meeting in May, the Board of Management provided the Supervisory Board with an overview of current strategic projects and presented the results of the first quarter of the fiscal year. The positive financial figures and the improvement in the Group's equity ratio to over 30% were highlighted. The meeting also dealt with fundamental considerations regarding refinancing of the convertible bond that will mature in 2023.

At the July Supervisory Board meeting at the Meitingen site, the Board of Management provided an update on the business situation. Due to the encouraging business development, the annual forecast had been raised at the beginning of June. At this meeting, the Board of Management reported in detail on the energy situation and the measures planned to secure the energy required at the various sites. The Board of Management and the heads of the business units who were present engaged in intensive discussion about the company's strategic alignment, with a focus on growth projects. Another focus was the company's sustainability activities and in particular its projects to reduce CO_2 consumption. Finally, the Supervisory Board dealt with the potential refinancing options that were presented by the Board of Management for the convertible bond that will mature in 2023.

At the September meeting, the Supervisory Board focused on innovations at SGL Carbon and energy-related topics in addition to the business development and the report on the first half of the year. On the day before the meeting, the Board of Management revised its earnings forecast upward for the second time in the fiscal year, due to the fact that business development was once again better than expected. The strategy and the guarantee of energy availability were discussed in detail. The Board of Management also reported on developments regarding refinancing of the convertible bond. In addition, the Supervisory Board received information on the status of sustainability projects and the EU taxonomy. The updated declaration of conformity was adopted, as was the adaptation of the corporate governance principles, which had to be modified due to the revision of the German Corporate Governance Code.

The focal points of the Supervisory Board meeting in December were the report by the Board of Management on the current fiscal year, the budget for 2023, and preliminary planning for 2024-2027. The year under review showed encouraging developments in all key financial figures. Added to this was the successful refinancing through the issue of a new convertible bond that will mature in 2027. Also subject to intense discussion were the developments in raw material supply and the considerable increase in energy and transport costs, including potential safeguards. These included a report on the installation of a biomass plant at our Portugal site, which will not only reduce our dependence on the volatile price of gas but will also improve the company's carbon footprint.
The Supervisory Board also approved the financial targets in addition to the personal targets for the Board of Management for 2023 and for the long-term incentive plan. At the suggestion of the Nomination Committee, it was further resolved that Ms. Ingeborg Neumann be nominated for election for a further term of office as a member of the Supervisory Board by the upcoming Annual General Meeting.

The Supervisory Board dealt in detail with the new corporate values adopted by the company and the results of a recent employee survey. The Supervisory Board received a comprehensive report from the responsible specialist department and was convinced that the company will address topics that resulted from the survey with the required intensity.
The blackout periods for 2023, the quota for women on the Board of Management, and the documentation of the competence matrix for the Supervisory Board were adopted.
Finally, the Supervisory Board decided to hold the 2023 Annual General Meeting virtually in accordance with the provisions of the German Stock Corporation Act.

Activities of the committees

The committee chairs reported extensively on the work of the respective committees at the Supervisory Board meetings.

The Audit Committee met in March, September and November in the year under review. The auditor also attended all meetings that were held in person.

In addition, the financial statements were discussed in three telephone conferences with the Audit Committee prior to publication of the quarterly figures and the figures for the first six months of the year.

Business development and the Group's risk position were discussed at all meetings of the Audit Committee.

The main topic at the March meeting was the discussion of SGL Carbon SE’s Annual Financial Statements and the Consolidated Financial Statements for 2021, as well as the auditor’s reports on them. In addition, the Audit Committee dealt with the non-financial

Group statement ("CSR report"), the internal control system, important compliance topics, and the non-audit services provided by the auditor. The Internal Audit department reported on the results of audits, the implementation status of measures and the audit plan for 2022. The Audit Committee also recommended to the Supervisory Board that KPMG be reappointed as auditors in the 2022 fiscal year.

One focus in the September meeting was the upcoming refinancing of the convertible bond. In this context, KPMG reported on the result of the review of the half-year financial statements, which the Audit Committee had decided to conduct in the run-up to the refinancing. The meeting also reviewed the audit of the financial statements for the past fiscal year based on defined criteria for measuring audit quality. Moreover, the auditor described the status of planning for the audit of the annual and consolidated financial statements for 2022 and confirmed its independence. In addition, KPMG reported on the results of the re-certification of the internal control system, which was deemed appropriate and effective. The Audit Committee also obtained an overview of the regulatory changes to non-financial reporting that are relevant for SGL Carbon. Furthermore, the Board of Management reported on planned measures to further develop the Group structure.
In another video conference held by the Audit Committee in September, the Audit Committee discussed, among other things, the current market environment and the placement of a new convertible bond. It also approved the issuance of such an instrument to the Supervisory Board based on prior authorization by the Supervisory Board.

At its November meeting, the Audit Committee dealt in detail with the audit of the financial statements for fiscal year 2022. Likewise, an overview of non-audit services both rendered and proposed in 2022/23 was provided in order to ensure compliance with the fee cap and the independence of the auditor. In addition, KPMG reported on the result of the first-time certification of the risk management system and confirmed its appropriateness and effectiveness. Internal Auditing's audit plan for the coming year was discussed in detail, as were the results of completed audits including the implementation status of the defined measures. Furthermore, the Audit Committee was given an overview of the planned implementation of the new regulatory requirements for sustainability reporting at SGL Carbon. Also discussed were the results of a review of selected investment projects from previous years and the basic premises for 2023 budget planning.

In the March and September meetings, the committee also addressed Supervisory Board members' and principal shareholders' potential conflicts of interest.

The Personnel Committee focused on personnel issues in a total of four meetings (virtual in January and otherwise in-person). In the January meeting, the Executive Board members' preliminary target achievement was discussed, including in particular the fulfillment of personal goals. The March meeting of the Committee dealt with the Executive Board members' final target achievement with regard to their variable compensation, and a proposal was resolved for the full Supervisory Board. At the September meeting, the committee obtained information on the future organization and scope of services as well as the priorities set for the global human resources department. The establishment of a value-based culture, the positioning of SGL Carbon as an attractive employer, and the measures the company is taking to strengthen digitization were presented to the committee by the head of the global human resources department. At the December meeting, the financial (for the variable short- and long-term salary components) and personal targets for the Management Board for the 2023 fiscal year were discussed with its members. This included in particular the selection of the appropriate key financial figures for the 2023 variable salary components.

The Nominating Committee met once in person in December in the year under review. The meeting focused on discussion of the competence profile of the Supervisory Board and the proposal to propose to the shareholders at the next Annual General Meeting that Ms. Ingeborg Neumann be re-elected to the Supervisory Board for a further term of office.

In the reporting period, no conflicts of interest were reported by Supervisory Board members that would have been necessary to disclose immediately to the Supervisory Board.

The Supervisory Board also carried out an efficiency review at the end of the year. I will report the results to the Supervisory Board at the March 2023 meeting. The Supervisory Board will then take appropriate joint action under new leadership.

2022 Annual and Consolidated Financial Statements

Both in the Audit Committee and in the plenary meeting in March 2023, the Supervisory Board verified that the accounting, the separate financial statements of SGL Carbon SE prepared pursuant to the German Commercial Code (Handelsgesetzbuch, HGB) and the Consolidated Financial Statements as of December 31, 2022 prepared pursuant to the stipulations of the International Financial Reporting Standards (IFRS) (as applicable within the European Union) as well as the Management Report of SGL Carbon SE and the Group were audited by KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, and provided with an unqualified audit opinion. The Supervisory Board had previously assured itself of the independence of the auditor and the persons acting on behalf of it, and commissioned the audit pursuant to the resolution of the Annual General Meeting on May 17, 2022. The audit reports on the Consolidated Financial Statements and the Annual Financial Statements were sent to us in good time. The Audit Committee dealt at length with these documents, as did the full Supervisory Board. The auditors attended the meetings of both the Audit Committee and the Supervisory Board, in which they provided advice on the Annual and Consolidated Financial Statements, reported on the audit and made themselves available for additional questions and information. Following presentation of the final results by the Audit Committee and our own review, there were no objections. The Supervisory Board approved the financial statements prepared by the Board of Management and thereby adopted the Annual Financial Statements. Since SGL Carbon SE's 2022 fiscal year ended with an accumulated loss after the net income for the financial year was offset against the loss carried forward from the previous year, no proposal by the Board of Management on the appropriation of profit had to be reviewed.

At its meeting in March 2022, the Supervisory Board also scrutinized the Report of the Supervisory Board, the Corporate Governance Declaration and the Corporate Governance and Compliance Report, the Remuneration Report and the disclosures pursuant to Sections 289a and 315a HGB. We refer to the corresponding disclosures in the Annual Report. The Supervisory Board and the Board of Management compiled the Remuneration Report and reviewed the other reports for completeness. To the extent that the reports were within their scope of competence, they also determined the accuracy of their content.

KPMG issued an unqualified audit opinion for the separate non-financial Group Report (CSR Report). This means that, based on the audit procedures performed and the audit evidence obtained, no items came to light that would lead to the conclusion that the separate non-financial Group Report is in all material aspects not in compliance with Sections 315b, 315c in conjunction with 289c to 289e HGB.

In addition, based on its own examination, the report of the Audit Committee regarding its preparatory assessment and the audit opinion of KPMG, the Supervisory Board did not identify any reason to take issue with the correctness and appropriateness of the separate non-financial Group Report.

Meetings attended by

In the year under review, Supervisory Board (SB) members attended the meetings of the Supervisory Board and of committees of which they are members as follows:

	Plenary sessions of the SB (number of sessions / participation)	Committees of the SB (number of sessions / participation)	Summary (number of sessions / participation)
Dr. h.c. Susanne Klatten	6 / 6	5 / 5	11 / 11
Georg Denoke	6 / 6	4 / 4	10 / 10
Helmut Jodl	6 / 6	4 / 4	10 / 10
Ana Cruz	6 / 6	-	6 / 6
Edwin Eichler	6 / 6	1 / 1	7 / 7
Ingeborg Neumann	6 / 6	8 / 8	14 / 14
Markus Stettberger	6 / 6	3 / 3	9 / 9
Dieter Züllighofen	6 / 6	3 / 3	9 / 9

Corporate Governance and Declaration of Conformity

At its meeting on September 7, 2022, the Supervisory Board discussed corporate governance issues and approved the declaration of conformity pursuant to Section 161 German Stock Corporation Act [Aktiengesetz, AktG]. In accordance with the German Corporate Governance Code, the declaration of conformity has been made permanently available on the company's website and is reproduced in the Corporate Governance Declaration on pages 109-119 of this Annual Report. You will also find further information on the Company's corporate governance there.

Personnel and functional changes in the Board of Management and the Supervisory Board

There were no personnel changes in the company's Board of Management and Supervisory Board during the reporting period.

Thanks from the Supervisory Board

The Supervisory Board would like to thank the Board of Management, the employees and the employee representatives of all Group companies for their work, without which it would not have been possible to meet the challenges in the corporate development of SGL Carbon in fiscal year 2022.

Wiesbaden, March 22, 2023

The Supervisory Board

S. Klatten

Susanne Klatten
Chairwoman of the Supervisory Board

CSR Report

Sustainability at SGL Carbon – an overview

Sustainable management and action are an integral part of our corporate strategy, which is why we present our sustainability ambitions and goals in the following chapters. We report on our developments in regard to ESG aspects that are material to us and our stakeholders. We make ourselves measurable and impose accountability on ourselves by making our goals, actions and metrics public.

Basics

This CSR report constitutes the non-financial consolidated statement of SGL Carbon pursuant to Section 315b of the German Commercial Code (HGB) and complies with the content requirements as per Section 315c in conjunction with Section 289c-e HGB. Unless stated otherwise, the report covers the activities in fiscal year 2022 of the entire SGL Carbon Group with the business units Graphite Solutions, Process Technology, Carbon Fibers and Composite Solutions. This year's report structure is based on the three ESG categories Environmental (including environmental and climate aspects), Social (including employee and social issues as well as respect for human rights) and Governance (including supply chain responsibility, compliance and combating corruption and bribery), which are also integrated into the mandatory reporting according to Section 315 c HGB. Furthermore, this report contains all information required by the EU Taxonomy Regulation ((EU) No. 2020/852).

In preparing the report, we have oriented ourselves to the standards of the Global Reporting Initiative (GRI). Additional key performance indicators (KPIs) were developed to better reflect the specific requirements of SGL Carbon. The KPIs in use correspond to those of the previous year. The business model is described in detail in the "Group fundamentals" (page 58) of the Group Management Report. In addition, this report serves as the basis for the progress report for the UN Global Compact.

Review of the content of the separate non-financial Group report was performed by KPMG AG Wirtschaftsprüfungsgesellschaft as part of an external limited assurance engagement (see also the notes on page 66).

Our ESG ambitions, strategy and goals

SGL Carbon is a technology-based company and a global leader in its focus markets in the development and manufacture of materials and products made from special graphite, carbon fibers and composites. With its sophisticated and in some cases customized solutions, SGL Carbon serves many industries that are shaping future trends: mobility (especially electromobility), semiconductor technology, LED, solar and wind energy, as well as the battery industry and manufacturers of fuel cells. We also develop customer-oriented solutions for the chemical industry and numerous other industrial applications. Our aspirations include growing the company with products and technologies that benefit society and reduce impact on climate and the environment.

However, it's not just our products that are to predominantly stand for sustainability; our manufacturing and management processes, as well as our supply chains, are to also meet high environmental, social and governance standards.

Having reviewed and revised our sustainability strategy (also known as our ESG strategy) in the previous year, the focus of our work in the 2022 reporting year was on implementing and further developing our ESG activities and goals. In addition to complying with all legal requirements, we want to make even more strategic use of opportunities and positive sustainability effects of our activities as well as further reduce negative impacts. Accordingly, we continued to pursue our goals in the fiscal year 2022 or have already and implemented them in part. We have also set ourselves new ESG goals to underline our ambitions in an effort to continue our improvements.

The following tables show our ESG targets and the status of target achievement.

Environmental aspects:

Target CSR report 2021	Achievement	New or updated target CSR report 2022	KPI / explanation 2022	2021	Highlights 2022	Support SDGs [1]
ENVIRONMENTAL						
50% reduction CO_2 emissions (scope 1 & 2) by 2025 (base year 2019)	○	ongoing	326 kt	337 kt	3.3% CO_2 reduction scope 1 & 2 despite increased production volume	7, 13
					Construction PV installation Ried site	
Climate neutral (scope 1 & 2) by 2038	○	ongoing	326 kt	337 kt	Start construction biomass plant in Lavradio site (Portugal)	7, 13
Develop CO_2 scope 3 target(s) until end of 2022	● (green)	Development of measures for Scope 3 reduction together with relevant suppliers	399 kt	394 kt	Initial calculation of scope 3 upstream emissions for 2021 and 2022	7, 13
Energy intensity reduction by 1% p.a.; 10% until 2027 (base year 2017)	● (green)	ongoing	-4%	-3%	ISO 50001 re-certification of material sites	7, 13

[1] SDG 7 Affordable and clean energy I SDG 13 Climate action

○ longer duration, target ongoing ● (green) target achieved ● (red) target not achieved or at risk

Social aspects:

Target CSR report 2021	Achievement	New or updated target CSR report 2022	KPI / explanation 2022	KPI / explanation 2021	Highlights 2022	Support SDGs [1]
SOCIAL						
Lost-time injury frequency rate < 2.5		Lost-time injury frequency rate annual reduction of 5% by 2026 (based on 2022 target)	2.3	2.8	Reduction of LTI FR by around 15% compared with the previous year	
					First Group-wide safety day at all sites to raise awareness of occupational safety	
Women's quota of 20% (Senior Management) till 2025		Maintain women's quota of 20% in senior management	20%	19%	Target achievement of 20% women's quota already in 2022	
					Implementation of the new personnel development format "Personnel Conference" with the focus topic "Enhancing Diversity"	
					Improve work-life balance, e.g., Mobile Working agreement in Germany; increase the part-time work rate in Germany from 7.2% to 10.0%	
					Introduction of a company-wide top talent program	
Human rights training for management and office workers		Training of all production employees worldwide on Code of Conduct and Human Rights Policy until end of 2024	100% Training attendance		Human rights training for all office workers worldwide in 2022	
		Improvement of the SGL Performance Culture Index	Performance Culture Index: baseline determined		Implementation of a regular electronic survey on value-based performance culture and employee engagement	

[1] SDG 4 Quality education I SDG 5 Gender equality I SDG 8 Decent work and economic growth I SDG 16 Peace, justice and strong institutions

longer duration, target ongoing   target achieved   target not achieved or at risk

Governance aspects:

Target CSR report 2021	Achievement	New or updated target CSR report 2022	KPI / explanation 2022	2021	Highlights 2022	Support SDGs [1]
GOVERNANCE						
100% signing rate Supplier Code of Conduct by relevant suppliers	●	Maintaining a Supplier Code of Conduct signing rate of 100%	100%	100%	Update Supplier Code of Conduct	8, 12, 13
Analysis of suppliers' ESG performance	○	Continuation of ESG supplier review and immediate remedies based on abstract risk assessment			Online assessment of 57% of all relevant suppliers regarding compliance with ESG standards	8, 12, 13
No tolerance of compliance violations, supported by investigation and sanctioning	○	ongoing			Investigation of all reported potential violations. No confirmed violations of fraud, bribery and corruption	8, 16
					Adaptation of the internal Corporate Governance Guidelines to the new legal requirements	
Maintain ISO 37301 certification	●	Re-certification of Compliance Management System (CMS) in acc. to ISO 37301 in 2023	Confirmation CMS certification	Confirmation CMS certification	Confirmation of the certification of the Group-wide CMS in acc. to ISO 37301	8, 16

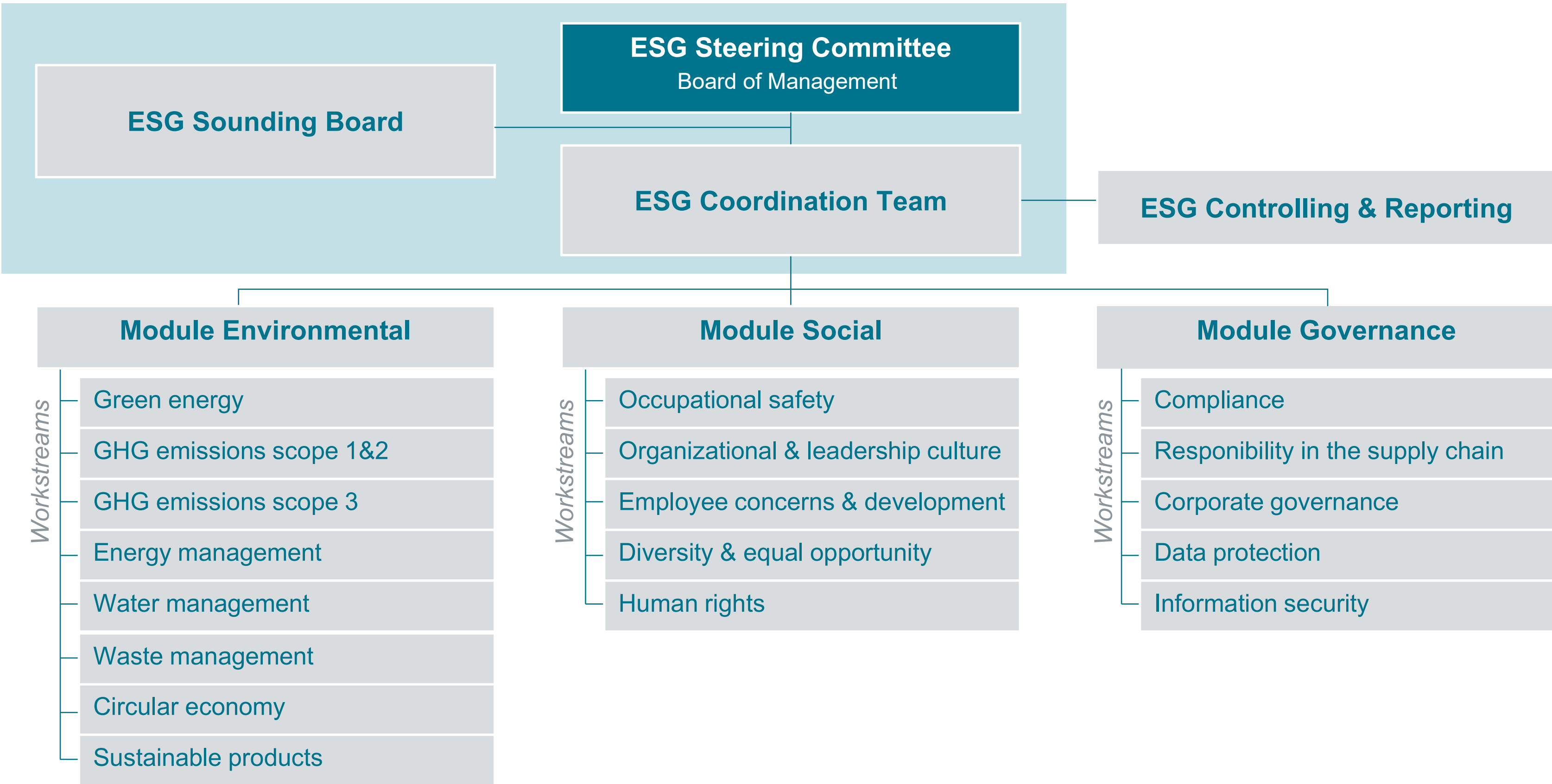
[1] SDG 8 Decent work and economic growth I SDG 12 Responsible consumption and production I SDG 13 Climate action I SDG 16 Peace, justice and strong institutions

○ longer duration, target ongoing ● target achieved ● target not achieved or at risk

ESG Governance structure

To track and further develop our ESG goals and ambitions, we have implemented a new ESG governance structure for the Group in fiscal year 2022. The highest operational decision-making body of SGL Carbon is the Board of Management of SGL Carbon SE. Due to its strategic importance, we have made the topic of sustainability the responsibility of the highest operational decision-making level. The Board of Management is supported in this area by an ESG Sounding Board made up of the heads of our four business units and various experts in ESG-relevant areas.

ESG Governance structure:



Also part of the ESG Steering Committee is the ESG Coordination Team, which consists of those responsible for the three ESG modules. On the operational level, ESG measures and goals are driven by the three ESG working groups (Environmental, Social and Governance modules). Workstreams for all relevant ESG topics with clear responsibilities have been defined below the three ESG working groups. Furthermore, dedicated individuals responsible for ESG have been appointed in all four business units to carry ESG ambitions through to the operating units. These experts work closely with colleagues from Environment, Health & Safety Affairs (EHSA), workstream leaders, and the ESG Coordination Team. The ESG governance structure therefore ensures strategic realization and development of our ESG ambitions, as well as operational implementation in the business units.

Stakeholder engagement and material issues

SGL Carbon strives to make sustainable use of human, natural and financial resources. We remain in close dialogue with our stakeholders throughout the year.

Relevant stakeholders for SGL Carbon are institutions or persons with whom we have a direct or indirect relationship through our business activities and who therefore have an interest in our actions. Our most important stakeholder groups are our customers, employees, suppliers, owners and banks, media, all neighbors of our locations and the representatives of associations, public authorities and non-governmental organizations (NGOs). We engage in dialogue with them on a regular basis to promote mutual understanding and we also seek to continuously identify topics that are important from the perspective of the context in which we operate. The relevance of the ESG issues identified was last assessed in the second half of 2021 in the form of an online stakeholder survey. We did not conduct another stakeholder survey in fiscal 2022. After many discussions with and inquiries from our internal and external stakeholders, we believe that SGL Carbon's key ESG issues did not change significantly during the reporting year. Furthermore, as part of sustainability reporting requirements that will change in the future, we have decided to conduct the next stakeholder survey in accordance with the new requirements in fiscal 2023.

For the stakeholder survey conducted in fiscal year 2021, we identified the various external and internal stakeholder groups along our value chain. On this basis, we defined the composition of our stakeholder survey in a manner corresponding to its importance for our business model. In the online survey, we posed questions to the representatives of the stakeholder groups of employees, suppliers, capital market participants and banks about the most important ESG aspects for SGL Carbon, on the basis of which a ranking was created.

The ESG aspects we asked about are based on the materiality analyses performed in previous years as well as the “Roadmap to Sustainability” project conducted. The ESG aspects were also updated to include additional ESG topics. For validation purposes, SGL's functional managers and the top management of SGL Carbon again reviewed and prioritized the identified aspects regarding their materiality. Based on both assessments, the material ESG aspects were identified (in accordance with Section 289c(3) HGB) and transferred to the materiality matrix according to their significance. The cumulative results were then presented for approval to the Board of Management as the highest decision-making body for ESG issues.

In line with the materiality of ESG aspects, non-financial Group reporting has since been broken down into environmental, social and governance aspects. Reporting on the aspects to be presented in accordance with Section 289c(2) HGB is assigned to the three umbrella terms of Environmental, Social and Governance.

The following overview shows the allocation of the primary ESG aspects to the above-mentioned umbrella terms. Individual ESG aspects listed in the overview are grouped into chapters. For example, information on the management of hazardous substances can be found in the subchapter “Environmental concerns and waste management.” Corporate ethics and the ethical conduct of enterprises play a significant role in nearly all ESG criteria. In addition, the aspects of air quality and product packaging do not fall under the materiality definition of Section 289c(3) HGB. Voluntary reporting is also once again on “social commitment”, although this topic is not identified as a material topic and is therefore not part of the non-financial Group report.

Material ESG aspects for SGL Carbon:

Environmental aspects

- GHG[1]-emissions (CO_2)
- Energy consumption
- Waste management
- Environmental product impact
- Hazardous materials management
- Circular economy
- Innovation and research
- Water management

Social aspects

- Occupational health & safety
- Diversity and equal opportunities
- Employability and development
- Human rights
- Product quality & safety

Governance aspects

- Supply chain responsibility
- Compliance
- Information security
- Corporate Governance
- Sustainable finance performance
- Data protection
- Transparency and reporting
- Business ethics

[1] Greenhouse gas

Our contribution to the implementation of the sustainable development goals

Based on the ambitions, goals and measures we have initiated and planned, our commitment to a culture of values and compliance and our innovative nature, both the environment and society should benefit.
We intend to use these points of leverage to make our contribution to achieving the United Nations' Sustainability Development Goals within the scope of our business capabilities. Our membership in the UN Global Compact will also support further progress in these areas. We already defined eight SDGs last year. We believe that with our business model, we can make the greatest possible contributions to their implementation.

The overviews at the beginning of the chapter entitled "Goals, Highlights 2022, and Contribution to the SDGs" also show key measures for achieving the goals and the contribution to supporting the focus SDGs of SGL Carbon.

Our contribution:

Core SDGs

SDGs where SGL Carbon has most significant & direct contribution

SDG 8: Decent work and economic growth
SDG 9: Industry, innovation and infrastructure
SDG 13: Climate action
SDG 16: Peace, justice and strong institutions

Supportive SDGs

SDGs where SGL Carbon can leverage its influence to reach SDGs

SDG 4: Quality education
SDG 5: Gender equality
SDG 7: Affordable and clean energy
SDG 12: Responsible consumption and production

Material risks pursuant to Section 315c in conjunction with Section 289c(3)(3 and 4) HGB

For the separate non-financial Group reporting and thus for the defined ESG aspects, both the material risks arising from SGL Carbon's own business activities and the risks associated with SGL Carbon's business relationships, products and services were taken into consideration. The identified risks could, where applicable, have a negative impact on the ESG aspects defined in the context of non-financial reporting (Section 315c in conjunction with Section 289c(3)(3 and 4) HGB). The responsible departments first identified the primary risks that could arise from the defined ESG aspects. These risks were then assessed together with Group Risk Management, taking into account the monitoring and controlling measures, and examined in particular to determine whether they will have a serious negative impact. In summary, no material risks have been identified that are very likely to have a serious negative impact on the above-mentioned ESG aspects including employee and environmental matters, human rights, anti-corruption and anti-bribery, and social matters. Further information can be found in the Group Management Report on page 93.

Environmental

Environmental concerns

As a production company with global operations, we consume natural resources and cause emissions. We are therefore particularly concerned about responsible conduct regarding the environment and climate and such issues are integral to SGL Carbon's corporate culture. We maintain high standards in our production plants and processes to comply with the relevant obligations and duties we have imposed upon ourselves. At the same time, acting in a manner that conserves resources and reduces emissions is also necessary for the company to be successful as a business on a lasting basis.

Nonetheless, a large number of the products we manufacture help to reduce CO_2 emissions, as they are used in renewable energy (such as solar and wind power), LED technology and electromobility.

The primary obligations for production are specified in the national and international regulatory permits and regulations. The European regulations on noise pollution, emissions, water and waste, the implementation of such regulations in national law, and the REACH regulation on chemicals should be mentioned here as a basis.

In addition to meeting legal requirements, the importance of protecting the environment and climate is also reflected in the SGL Carbon Code of Conduct, which defines the guidelines for action for all SGL Carbon employees. These are supplemented and specified in detail by the Environment, Health & Safety Affairs (EHSA) Policy, which has been applicable to all locations worldwide since 2015. A Supplier Code of Conduct, which commits suppliers and their subcontractors to lawful, ethical and sustainable behavior, has also been in place since 2015. In addition, the quality assurance agreement has required key suppliers to comply with the applicable laws and regulations for environmental and energy management since 2020.

One focus of SGL Carbon's partnership with suppliers and customers is the exchange of information with the aim of minimizing risks when using chemical substances and hazardous materials. In an internal, globally standardized system, we create relevant product information such as safety data sheets, which are then made available to customers. SGL Carbon meets the national requirements for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) throughout the world. SGL Carbon also makes an important contribution to dealing with hazardous substances in this way.

The central corporate EHSA unit coordinates all climate and environmental protection activities throughout the Group, defines uniform standards and reviews progress in cooperation with local Environment, Health & Safety (EHS) managers. As a rule, the sites are also audited by the central corporate EHSA unit every three years, or more often than that if incidents have frequently occurred at any given site. A total of ten sites were audited in 2022, with some of these audits performed remotely (via virtual call) due to the pandemic.

In fiscal year 2022, the central Corporate Sustainability function was additionally created to manage SGL Carbon's initiatives for environmental and climate protection as well as to evaluate and develop sustainable products, making it possible to work closely with the EHSA unit. EHSA reported to the HSE Council three times in fiscal year 2022 and provided information on current developments (additional details on the HSE Council can be found in the “Social” chapter under Occupational Health and Safety).

Energy consumption

A large proportion of SGL Carbon products are manufactured at high temperatures in energy-intensive processes. A majority of the Group’s energy consumption is used for generating the necessary process heat and for thermal purification. The energy sources used are electricity and in-part from renewable energy sources, steam, oil and gas. Some 90% of SGL Carbon’s total energy consumption can be attributed to 8 of 31 sites due to their size or necessary production processes.

SGL Carbon is constantly striving to improve the energy efficiency of its processes, both out of a sense of responsibility for the environment and for economic reasons, as energy costs account for a high proportion of our production costs. The rise in energy costs in 2022 in particular has confirmed our commitment to steadily improving energy efficiency and, where possible, increasingly switching to renewable forms of energy.

The individual business units and the heads of the production sites are responsible for the development and operational implementation of energy-efficiency measures and projects. Energy managers who report to the site management at least annually are appointed at sites that make a significant contribution to overall energy consumption. Those responsible at the plants are supported by the central energy management team.

In fiscal year 2022, the HSE Council, which also includes the Board of Management and the heads of the business units, was responsible for monitoring and strategically developing energy management. Additional details on the HSE Council and its tasks can be found in the “Occupational health and safety” section of this CSR report. In the HSE Council in 2022, SGL Carbon’s global energy officers reported on the status and progress of local and global target achievement. In addition, the ESG SteerCo, which is chaired by the Board of Management, regularly reports on energy efficiency improvements and selected projects.

SGL Carbon’s energy management aims to ensure efficient use of all types of energy. In 2018, we made a commitment to reducing global energy consumption as a percentage of adjusted sales revenue by 1% per year and to reach a 10% reduction compared to the 2017 baseline by 2027. We remain committed to the target of an annual reduction of 1%. Compared to the base year 2017, absolute energy consumption fell by around 1% to 1,301 gigawatt hours, despite a significant increase in sales revenue. In the same period, specific energy consumption in relation to economic output (intensity) fell by around 14% to 1.25 GWh per €1 million in sales (adjusted sales revenue).

Energy consumption in relation to economic output (intensity) for 2022 decreased by about 4% compared to the previous year.

Energy consumption [1]	2022	2021	Change
in gigawatt hours (GWh)	1,301	1,268	3%
thereof oil and gas	468	464	1%
thereof electricity	592	561	6%
thereof steam	241	243	–1%
Energy consumption in relation to economic output (GWh per €1.0m sales revenue) [2]	1.25	1.30	–4%

[1] Data include all fully consolidated subsidiaries
[2] Adjusted sales revenue (excluding price, currency and other special effects). The adjustment of the previous year's figure results from the use of a rolling base year

To improve energy efficiency, SGL Carbon is focusing on energy-efficient plants and process optimization. This is documented in the EHSA policy on energy management and the Code of Conduct. Likewise, training measures are offered at the ISO 50001-certified sites. In this way, our employees are encouraged to deal responsibly with the issue of energy. They should further develop skill sets that allow them to actively contribute to reducing energy consumption.

The ISO 50001 energy management system was introduced at the most energy-intensive European production sites in 2015. Currently, eight sites are successfully ISO 50001:2018 certified, accounting for 55% of SGL Carbon’s total energy consumption: Bonn, Meitingen, Chedde, Lavradio, Muir of Ord, Nowy Sacz, Raciborz and Wiesbaden. In 2022, the external audits were carried out in a uniform manner by certification company DMSZ (Deutsche Managementsystem Zertifizierungsgesellschaft mbH).

Energy efficiency projects at ISO 50001 certified sites are recorded in a central database. This database facilitates effective measure and effect controlling of all planned projects, including implemented and expected efficiency improvements.

In the 2022 fiscal year, the heating system at the Meitingen site was optimized for energy efficiency and the exhaust air system of the central laboratory was improved, among other things. A new energy-efficient compressor station for generating compressed air was installed at the Bonn site. At the Meitingen and Chedde sites, an additional part of the diesel-powered forklift fleet was exchanged and replaced by electric forklifts. Besides this, several energy efficiency projects were initiated at various sites, which will be completed during 2023.

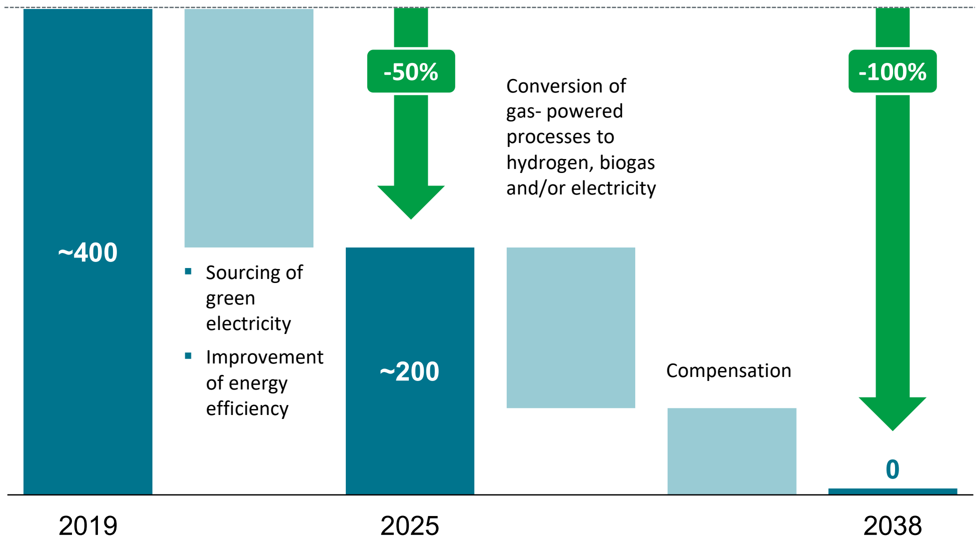
CO_2 emissions

Climate change remains one of the key global challenges of this decade. As an energy-intensive company, SGL Carbon bears a special responsibility because our energy consumption is associated with the emission of greenhouse gases, primarily CO_2. This is also our largest source of leverage for reducing CO_2 emissions. In addition, we want our products and solutions to make a contribution to climate protection. For example, we supply materials and components for electric vehicles as well as wind and solar energy production, and are one of the few European suppliers of graphite anode material for lithium-ion batteries. But our products are also needed in other alternative drive systems such as fuel cells.

Despite challenging developments in 2022, such as the increase in raw material and energy costs or their potential availability, we continued to work consistently on reducing our greenhouse gas emissions and discussed the issue between the Board of Management and the business units. SGL Carbon is committed to global climate protection and supports the UN Sustainable Development Goal “Take urgent action to combat climate change and its impacts”. SGL Carbon also participates in the program for reporting data relevant to climate protection of the international organization CDP and achieved a “C” rating in 2022.

SGL Carbon’s CO_2 emissions are Scope 1 emissions resulting from combustion processes and Scope 2 emissions attributable to power and steam consumption. In 2021, SGL Carbon had already set itself the goal of cutting total emissions (Scope 1 and Scope 2) in half by 2025 compared to the emissions of reference year 2019. We want to reduce our emissions by 100% and become climate neutral by 2038. We remain committed to these goals.

The following figure shows SGL Carbon’s CO_2 reduction targets expressed in kt CO_2e (Scope 1 and Scope 2).



Our CO_2 targets are to be achieved through specific actions. In 2022, power was largely obtained from renewable sources at the sites in Wackersdorf, Ort and Ried. In addition to commissioning a photovoltaic system in Ort in the Innkreis (Austria) in 2021, a photovoltaic system was also installed on the roof of the production building in Ried, our second production site in Innkreis (Austria), in 2022. The new 500 MWh plant will be commissioned in 2023 and is expected to save approximately 50 tons of CO_2 annually. Over 95% of the power produced is also consumed on site. We therefore expect to save a total of 80 tons of CO_2 per year in 2023 through the use of solar energy at our two sites in Austria alone.

By 2025, SGL Carbon plans to cover its global power requirements from renewable sources to the greatest possible extent. In addition to installing more systems for supplying power internally on site such as photovoltaic systems, we also rely on the conclusion of long-term power purchase agreements (PPAs), in which the power supplied to the sites is guaranteed to be from renewable energy sources. Due to the upheaval on the energy markets as a result of the war in Ukraine, procuring green electricity proved to be extremely challenging in fiscal year 2022. At our Muir of Ord (Scotland) site, for example, we had to suspend the procurement of CO_2 certificates. Both Polish sites covered 100% of their electricity requirements of around 34 GWh from green electricity in 2022. The photovoltaic systems in Bonn and Ort, Austria, fed a total of around 460 MWh of green electricity into the local power grids during the reporting period.

To achieve greenhouse gas reductions after 2025, SGL Carbon plans to use electricity to operate high-temperature processes that were previously gas-fired or to switch to the use of hydrogen and biogas. We expect that roughly one-third of emissions will be unavoidable in 2025 and will therefore need to be offset. In addition, increasing energy efficiency remains a key issue [see energy consumption section].

SGL Carbon strives to reduce not only the CO_2 emissions over which it has a direct influence but also the emissions coming from the upstream and downstream value chain. During 2022, we analyzed our upstream Scope 3 emissions in detail for the first time. To this end, we evaluated our purchasing data in the “Estell” input/output model. This is a well-established statistical process that reports emissions both at the direct supplier level and in their upstream value chain. We evaluated the following Scope 3 categories: 1. purchased goods and services, 2. capital goods, 3. fuel and energy related emissions (not included in Scope 1 or 2), 4. transportation and distribution (upstream), 5. waste, 6. business travel. Overall, Scope 3 emissions from the above categories amounted to 399 kt (2021: 394 kt).

We have set ourselves the goal of obtaining the climate targets of our top 100 suppliers and working with these suppliers to develop potential for reducing the CO_2 emissions of their materials and to start implementing them by the end of 2024.

In fiscal year 2022, SGL Carbon’s CO_2 emissions from Scope 1 and 2 totaled 326 thousand metric tons. Despite the increase in production capacity utilization compared with 2021, CO_2 emissions thus fell slightly in the reporting period (previous year: 337 thousand metric tons). If CO_2emissions are compared with economic output, they have decreased from 0.35 kt per €1.0 million in sales revenue to 0.31 in 2022.

CO_2-emissions [1] [3]	2022	2021	Change
in thousands of tons (kt)	326	337	–3%
thereof direct	86	86	0%
thereof indirect	240	251	–4%
CO_2 emission in relation to economic output (kt per €1.0m sales revenue) [2]	0.31	0.35	–11%

[1] Data include all fully consolidated subsidiaries
[2] Adjusted sales revenue (excluding price, currency and other special effects). The adjustment of the previous year's figure results from the use of a rolling base year
[3] The calculation of CO_2 emissions is based on „UK Government GHG Conversion Factors for Company Reporting“ of the Department for Business, Energy & Industrial Strategy, Gov. UK, for direct emissions (Scope 1) and steam (Scope 2) as well as on „EMISSION FACTORS 2022“ of the International Energy Agency (IEA) for indirect emissions (Scope 2)

In a regional comparison, around 97% of direct emissions and 92% of indirect emissions occurred in Europe and North America in 2022. The direct and indirect emissions of our plants in Asia (China, Japan and India) were comparatively low at 3% and 8% respectively. This distribution reflects the regional production mix as well as the regional production volumes.

Direct CO_2 emissions by regions	2022	2021	Change
in thousands of tons (kt)	85.7	85.5	0%
Europe	47.0	49.6	–5%
North America	36.1	33.1	9%
Asia	2.6	2.8	–7%

Indirect CO_2 emissions by regions	2022	2021	Change
in thousands of tons (kt)	240.1	251.4	–4%
Europe	109.9	121.6	–10%
North America	111.2	108.2	3%
Asia	19.0	21.6	–12%

Waste and water management

SGL Carbon's business activities result in carbon waste as well as various residual materials according to the stages of the value chain. For environmental and economic reasons, carbon and other residual materials that result from production processes are recycled. Water is used for purposes that include cooling production plants, producing steam and forming isostatic graphite (pressing processes). Waste from the production of graphite blocks is ground and then reintroduced into the production process.

At all its sites worldwide, SGL Carbon undertakes to comply with all applicable legal requirements and to maintain effective management processes as well as to continuously improve performance in resource management. The ultimate objective is to make efficient use of resources and prevent environmental pollution as far as possible. Water withdrawal and waste volume are to be continuously reduced in this way. The principle in the context of waste is: prevention before recycling before disposal. If it is not possible to avoid waste, it can often be possible to reuse materials in other products or at other sites. For example, recycled carbon fibers can be used as nonwoven textiles for automotive production.

Water is required at SGL Carbon sites primarily for sanitary and social purposes, cooling and for industrial applications. As the shortage of global water resources is steadily progressing and to be able to respond to possible water shortages in some regions, the topic of "reducing water withdrawal" will be a key issue in the coming years. Currently, 5 out of 31 SGL sites are located in regions with very high water scarcity (source: Water Risk Atlas, www.wri.org). To conserve water as a resource, SGL Carbon relies on secondary loops and recooling systems where they make economic sense. Water that is not used directly for the production process is not contaminated and can therefore be discharged back into rivers after use in some cases.

SGL Carbon codified its approach to resources in its EHSA training policy. The Supplier Code of Conduct also contains information on the topic of waste. It requires SGL Carbon and its suppliers to obtain necessary permits, recycle and avoid waste and the release of hazardous substances into the environment. Once a month, the central corporate EHSA unit collects data on resource use and waste generation in cooperation with local EHS managers at all sites. The water withdrawal is specified for each water source and by region. When it comes to waste, a distinction is made between hazardous and non-hazardous types and according to regional generation. Hazardous waste management is required by the operating permit for SGL Carbon production sites. Hazardous waste is treated in disposal facilities approved for this purpose.

Despite the increased production volumes in fiscal year 2022 compared to the previous year, SGL Carbon's water withdrawal was reduced by around 13% to 5.4 million cubic meters. This means that water withdrawal decreased in relation to economic output from 6.4 cubic meters per €1,000 of sales revenue to 5.2. In absolute terms, the amount of waste increased disproportionately from 23.9 thousand tons to 24.8 thousand tons based on the increased production volumes. However, in terms of adjusted sales revenue, the waste volume fell to 23.8 metric tons per €1.0 million in sales revenue, which is around 3% less than in 2021.

Water withdrawal [1]	2022	2021	Change
Total (millions m^3)	5.44	6.25	–13%
thereof from wells	3.40	4.28	–21%
thereof from rivers	0.58	0.65	–11%
thereof from public water supply	1.46	1.32	11%
Water withdrawal in relation to economic output (m^3 per €1,000 in sales revenue) [2]	5.2	6.4	–19%

Waste volume [1]	2022	2021	Change
in thousands of tons (kt)	24.8	23.9	4%
thereof hazardous waste	3.6	3.4	6%
Waste volume in relation to economic output (t per €1.0m sales revenue) [2]	23.8	24.5	–3%

[1] Data include all fully consolidated subsidiaries
[2] Adjusted sales revenue (excluding price, currency and other special effects). The adjustment of the previous year's figure results from the use of a rolling base year

In a regional comparison, around 99% of water withdrawal and 98% of waste volumes were generated in Europe and North America in 2022. This reflects the production processes and volumes in the regions.

Water withdrawal by regions	2022	2021	Change
Total (millions m^3)	5.44	6.25	–13%
Europe	4.25	5.26	–19%
North America	1.12	0.91	23%
Asia	0.07	0.08	–12%

Waste volume by regions	2022	2021	Change
Total (kt)	24.8	23.9	4%
Europe	13.1	12.6	4%
North America	11.3	10.9	4%
Asia	0.4	0.4	0%

Circular economy

In a circular economy, existing materials and products are reused, refurbished, repaired and recycled to extend their life cycle for as long as possible. The goal is to reduce resource use and waste to a minimum. The transition to a circular economy is both a societal obligation and one of the six environmental objectives of the EU taxonomy. This has led to a rise in the interest of our customers and business partners in approaches and solutions developed by SGL Carbon.

Development and operational implementation to improve the recyclability of our products is performed in the four SGL business units, which also share ideas, concepts and experiences. Three principal approaches are being pursued in this context: using recycled raw materials, improving material properties and lifecycle optimization and developing new business models.

The Graphite Solutions (GS) business unit is implementing several projects related to the circular economy that go beyond the already significant use of by-products in our manufacturing processes. For example, cutting scrap from “green” production of graphite blocks is fed into the original production process. A development project of novel recycling concepts is included in the funding decision received in March 2021 for the development and industrialization of innovative anode materials made of synthetic graphite for use in lithium-ion batteries in the context of the second European IPCEI program (Important Project of Common European Interest)/EUBatIn (European Battery Innovation). The EU-funded ICARUS project is pursuing the closure of material loops in the production of silicon wafers for the solar industry. As part of ICARUS, SGL Carbon is working on ways to reuse recycled graphite from solar silicon processing in synthetic graphite applications while also working on recycling silicon. In addition, the business unit is looking at alternative carbon raw materials from renewable and recycled sources and evaluating their use in carbon materials.

The Carbon Fibers (CF) business unit is involved in the “Green Carbon” project sponsored by the Technical University of Munich, in which “green” acrylonitrile is to be obtained from algae and used to make a carbon fiber precursor. In the project, SGL Carbon is evaluating the properties of biologically based acrylonitrile, the manufactured precursor and the suitability of the precursor in volume production of carbon fibers. Project participants expect to produce a “green carbon fiber” by the middle to end of the decade. In 2022, SGL Carbon has produced precursors and carbon fibers from bio-based acrylonitrile for the first time. The carbon fiber produced in this way has comparable properties to a fiber obtained by means of the conventional petrochemical manufacturing route.

Since carbon fiber materials can serve as valuable raw materials both as residual substances and as recycled materials, the development of recycling processes for this still young class of materials is being accelerated by Composites United e.V., among others, and coordinated with authorities and waste associations. For SGL Carbon, recycling is a cornerstone of its innovation portfolio, and we support association projects with materials expertise and research services.

The Process Technology (PT) business unit already takes into consideration the various life cycle issues and offers its customers appropriate service packages (including installation and commissioning services, inspection services and remote services). The product design is based on reliability, durability and opportunities for repairs and upgrades, including capacity expansions. An end-of-life (EoL) strategy is just as much a part of the product life cycle as customer support during the commissioning and operating phase of our equipment and plants. With end-of-life service, we offer our customers custom solutions tailored to specific requirements to improve the recyclability of plants. This can include refurbishment of the plant or further use of individual components.

The Composite Solutions (CS) business unit uses nonwoven materials made from recycled carbon fibers as structural reinforcement and as electromagnetic shielding layers in fiberglass components. Initial projects have manufactured composite components with natural fibers such as flax. Customers like to use these materials because of their natural look and because of the associated reduction in the CO_2 footprints of products. In addition, the CS business unit is looking for and testing commercially available biologically based resin systems with reduced CO_2 footprints in terms of their suitability for future composite components. In addition, tests are being conducted with various partner companies on the recycling of production waste and reject components. In the process, carbon and glass fibers are recovered for further use as reinforcement for injection-molded components or molding compounds. In a research project, methods are being developed to recover and reuse components of matrix resin in the future.

Products

Tailor-made materials and products manufactured from special graphite, carbon fibers and composites are the core of the high-quality solutions, components and materials that SGL Carbon supplies to customers and partners. Quality and the development and supply of sustainable products and innovations are the material foundation of the economic success of SGL Carbon, both now and over the long term.

Product quality

SGL Carbon's goal is to achieve a high level of customer satisfaction through product and service quality that remains high on an ongoing basis, thereby fostering lasting business relationships. The four operational business units are responsible for controlling and monitoring product quality. Local and global key performance indicators for quality are reported to site and business unit management on a monthly basis.

The business units refined their internal quality management and related reporting in 2022. The GS and PT business units use a comparable system. Monthly quality key performance indicators are collected for each site and aggregated to business unit values. The development of the key figures is regularly discussed with business unit management. In addition, quality management also reports on possible improvements and progress relating to complaints processing.

The GS business unit conducted a global customer satisfaction survey again in 2022. Overall, good participation was achieved and customer feedback was similarly positive as in the previous year. BU management considers this a success in view of the market challenges in 2022. The CF business unit installed camera-based systems for early defect detection and quality monitoring at several production sites.

To continuously improve process and organizational quality, an Operations Management System (OMS) tailored to SGL Carbon began in 2017. This SGL-specific production system pursues standardization of processes, standardization of systems within the organization and development of a common understanding across all production sites. The OMS is managed by our Global Operations Improvement (GOI) team. In 2022, these activities were integrated into the global Process, Technology, Safety and Environmental (PTSE) organization. This team reports directly to the CEO and works on efficiency improvement and quality and occupational safety initiatives at the manufacturing sites of all four business units in focused project assignments ("sprints"). In 2022, 14 project assignments were carried out at 11 SGL sites. Lean manufacturing approaches were consistently applied, resulting in substantial reductions in throughput times and scrap rates as well as increases in productivity and plant availability. Within the scope of the project assignments, workplaces were evaluated with regard to occupational safety and appropriate improvement measures implemented, where necessary.

Nearly all SGL Carbon sites are already integrated into the global quality management system and certified according to the ISO 9001 quality management standard. Depending on the specific requirements, certifications to the environmental management standard ISO 14001, the occupational health and safety management standard ISO 45001, the energy management standard ISO 50001, and the quality management standards EN/AS 9100 (for aviation) and IATF 16949 (for the automotive industry) are available.

Sustainable products and reporting on the EU taxonomy

Customers and other stakeholders increasingly expect value chains to be aligned with sustainability criteria. SGL Carbon is therefore committed to knowing the environmental and climate impacts of its products while they are being manufactured and during their service lives. The company is also committed to continuously identifying options for optimizing the effects they have on the environment and climate. We strive to grow with products and technologies that benefit society and reduce the impact on the environment and climate.

In many target markets, the reduction of environmental and climate impacts are a material decision-making criterion in the use and consumption of products. Many of SGL Carbon's materials and products are already in use in industries that make a crucial contribution to protection of the environment and climate. This includes the use of SGL composites in wind turbines for the generation of renewable energy or the increasing use of battery and fuel cell solutions in future energy and mobility concepts. Many SGL products have the potential to foster the development of low-carbon technologies, such as through increased use in photovoltaics, LED lighting and lightweight construction, or through increasing heating and energy efficiency. In the mobility sector, SGL Carbon's lightweight composite solutions help reduce energy requirements in the automotive and aviation industries, thus contributing to an overall reduction in CO_2 emissions.

SGL Carbon has already been conducting a structured assessment of the environmental impact of its own product portfolio since 2019. In fiscal year 2021, responsibility for the management of these activities was transferred to the newly created Corporate Sustainability function. This cross-business unit function receives the relevant information from the sustainability, technology and development units of the four operational business units. In the future, the new function will support Group-wide activities to improve the product portfolio in the form of sustainable products and solutions. The defined catalog of assessment criteria, according to which all product groups are analyzed in terms of their environmental impact during production and use or consumption by customers and end-users, was expanded in fiscal year 2021 to include the criteria of the EU taxonomy.

EU taxonomy

In December 2019, the European Commission presented the "European Green Deal", which includes the goal of making the European Union climate neutral by reducing net greenhouse gas emissions in the European Union to zero by 2050. Achieving this goal will require action such as redirecting private and public capital into environmentally sustainable activities. This required the development of the EU Taxonomy Regulation (EU 2020/852 or "EU taxonomy"), a classification system for defining environmentally sustainable economic activities.

For the 2021 fiscal year, companies that publish a non-financial report were for the first time be required to provide information on taxonomy-eligible sales revenue shares, capital expenditure (capital expenditure, capex) and operating expenses (opex) in accordance with the EU taxonomy. SGL Carbon is covered under this obligation since 2021 and published this information for its taxonomy-eligible economic activities in the previous year in relation to the two published environmental objectives of climate change mitigation and climate change adaption. The key figures have not yet been assessed in terms of their environmental sustainability for fiscal year 2021, as required by the EU taxonomy.

In fiscal year 2022, the legislator expects to expand reporting to include taxonomy-aligned economic activities. SGL Carbon is subject to this obligation in 2022. The necessary analyses were adjusted accordingly. The same product categories were evaluated as in the previous year.

The late publication of the EU Commission (Q4 2022) on the interpretation of specific legal provisions of the delegated act on disclosure requirements under Article 8 of the EU Taxonomy Regulation posed timely challenges for SGL Carbon and required a new assessment of each product category for its taxonomy eligibility.

On the one hand, SGL's four operating business units produce a very broad portfolio of products and solutions that are absolutely essential, and in some cases, even indispensable for sustainable value chains such as the solar industry, battery production or electromobility. For example, the production and/or functionality of solar systems, batteries, fuel cells or electric vehicles would not be possible without materials and components made of graphite or carbon. On the other hand, the legislator published further clarifications only in the course of 2022. In particular, the publication

1. of October 6, 2022 the "Commission Notice on the interpretation of certain legal provisions of the Disclosures Delegated Act under Article 8 of EU Taxonomy Regulation on the reporting of eligible economic activities and assets (2022/C 385/01)", and
2. of December 19, 2022, the "Draft Commission Notice on the interpretation and implementation of certain legal provisions of the EU Taxonomy Climate Delegated Act

establishing technical screening criteria for economic activities that contribute substantially to climate change mitigation or climate change adaptation and do no significant harm to other environmental objective"

have led SGL Carbon to review and adjust the allocation of taxonomy-eligible activities made for fiscal year 2021. For 2021, we chose an end-use approach: SGL Carbon products that are essential for taxonomy-eligible economic activities were also classified as taxonomy-eligible. Examples at the time were carbon fiber textiles and components for use in electric vehicles, as well as graphite products for the solar, LED and semiconductor value chains. SGL Carbon reported a taxonomy-eligible sales revenue share of 40% for fiscal year 2021. This viewpoint is questionable according to the latest publications of the legislature, even if the draft of December 19, 2022, holds out the prospect of further clarifications (see #37 there). Based on this, SGL Carbon had to reclassify a large part of its materials and products that are part of sustainable value chains of a taxonomy-eligible economic activity as non-taxonomy-eligible.

For fiscal year 2022, SGL Carbon could only identify the following economic activities and products as taxonomy-eligible in connection with the environmental goal of climate protection in accordance with the comments of the legislature from Q4 2022:

- Manufacture of renewable energy technologies (SGL products: carbon fibers for use in the wind industry, specialty graphite products for the wind industry),
- manufacture of equipment for the production and use of hydrogen (SGL products: equipment for the production of hydrochloric acid) and
- manufacture of batteries (SGL products: graphite anode material for lithium ion batteries).

No taxonomy-eligible products were identified under the environmental goal of climate change adaptation.

SGL Carbon regrets the EU Commission's interpretation of the disclosure requirements under Article 8 of the Taxonomy Regulation, as a large number of materials and products that flow into value chains of environmentally and climate friendly industries are not recognized as taxonomy-eligible under the current interpretation. Thus, investments made by the manufacturers of these products are also not considered taxonomy-eligible, even though they promote and strengthen sustainable activities.

Determination of the taxonomy key figures

Reporting on the nature of taxonomy-eligible as well as taxonomy-aligned economic activities is carried out in accordance with the Taxonomy Regulation (EU) 2020/852. The key figures to be reported are the shares of taxonomy-eligible and taxonomy-aligned sales revenue, investments and operating expenses. SGL Carbon uses the reporting forms provided for in Annex II of Regulation (EU) 2021/2178 for this purpose.

The data collection is based on consolidated Group data. Double counting in the allocation of sales revenue, investments and operating expenses is avoided. If data could not be clearly allocated when determining the key figures, suitable allocation keys were used.

The EU taxonomy defines **sales revenue** as net sales of goods or services including intangible assets. The share of sales revenue associated with taxonomy-eligible economic activities is divided by net sales. To determine the taxonomy-eligible sales revenue, the respective SGL Carbon products were allocated to the taxonomy-eligible economic activities. For the products identified in this way, the corresponding sales revenue with third-party customers for fiscal year 2022 (numerator) was determined and compared to the sales revenue reported in the consolidated income statement (denominator).

Capital expenditures (capex) as defined by the EU taxonomy comprise additions to property, plant and equipment and intangible assets in the financial year under review before depreciation, amortization and revaluations.

Taxonomy-eligible capital expenditures relate to assets or processes associated with taxonomy-eligible economic activities or that are part of a plan to expand taxonomy-aligned economic activities or transform taxonomy-eligible economic activities into taxonomy-aligned economic activities, or that relate to the acquisition of products from taxonomy-aligned economic activities and individual measures that carry out the target activities in a low-carbon manner or reduce greenhouse gas emissions (e.g., energy retrofits).

SGL Carbon refers to capital expenditure on property, plant and equipment and intangible assets (denominator). From this, the share of taxonomy-eligible capital expenditures is to be determined (numerator). For this purpose, the products identified via the taxonomy-eligible economic activities were related to the corresponding capital expenditures and, in addition, individual capital expenditures from the purchase of products from taxonomy-eligible economic activities and the implementation of individual measures to reduce greenhouse gas emissions were taken into account. The various taxonomy-eligible capital expenditures were compared to the investments reported in the Annual Report.

Operating expenses (opex) as defined by the EU taxonomy comprise direct, non-capitalized costs relating to research and development and maintenance and repair.

Taxonomy-eligible operating expenses relate to assets associated with taxonomy-eligible economic activities or that are part of a plan to expand taxonomy-aligned economic activities or transform taxonomy-eligible economic activities into taxonomy-aligned economic activities, or that relate to the acquisition of products from taxonomy-eligible economic activities and individual measures that carry out the target activities in a low-carbon manner or reduce greenhouse gas emissions and individual building renovations. SGL Carbon refers to expenses for maintenance and repair, renovations, and research and development (denominator). For this, the share of taxonomy-eligible operating expenses is determined (numerator). For this purpose, the products identified via the taxonomy-eligible economic activities were related to the corresponding operating expenses and, in addition, individual operating expenses from the purchase of products from taxonomy-eligible economic activities and the implementation of individual measures to reduce greenhouse gas emissions or building renovations were taken into account. This key figure is determined exclusively as part of taxonomy reporting.

Verification of taxonomy-compliance

Economic activities are taxonomy-aligned (aligned) if they make a significant contribution to at least one environmental goal (compliance with the technical screening criteria). In addition, economic activities must not cause significant harm to the broader environmental objectives (do no significant harm, (DNSH), in compliance with technical screening criteria). In addition, the minimum safeguards for occupational safety and human rights must be observed and respected.

First, the product portfolio of each business unit was reviewed with regard to the description of the activity according to (EU) 2021/2800 Annex I. For this purpose, business unit experts from sustainability, product management, development and application technology were consulted. If there was agreement, the technical evaluation criteria were reviewed with the same group of experts with regard to a significant contribution to climate protection. Environmental experts from Corporate EHSA were consulted for the subsequent review of the avoidance of material adverse effects. The results were recorded and documented in a structured manner.

An assessment of the essential use of critical substances within the meaning of the opening clauses in Annex C (f) and (g) (“essential for the society”) was not performed. SGL Carbon expects further clarifying regulations in this regard, as announced by the EU Commission for 2023.

In fiscal year 2022, capital expenditures were made related to the acquisition of products from taxonomy-eligible and taxonomy-aligned economic activities and individual measures that carry out target activities in a low-carbon manner or reduce greenhouse gas emissions. Verification of the conformity of this investment (capex (c)), including compliance with the minimum safeguards, must already be performed at the supplier level. However, the suppliers were not able to demonstrate compliance with the minimum safeguards as defined in Article 3(c) of the EU Taxonomy Regulation.

Minimum safeguards

Minimum safeguards as defined by the EU taxonomy include the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights, the International Labor Organization (ILO) Core Labor Standards, and the International Bill of Human Rights. As a signatory to the UN Global Compact and in its internal guidelines (SGL Carbon Code of Conduct, Human Rights Guideline and Supplier Code), SGL Carbon is committed to respecting and protecting human rights and upholding the principles of the UN Global Compact, which are based on the above-mentioned sets of rules. SGL Carbon has introduced a Human Rights Management System, which is part of the overarching and certified Compliance Management System. For the elements of the Human Rights Management System, please refer to the chapters on respect for human rights, responsibility in the supply chain, occupational health and safety, and compliance management in this CSR report.

The following tables show the taxonomy-eligible (eligible) and taxonomy-aligned (aligned) portions of SGL Carbon’s sales revenue, capital expenditures and operating expenses for fiscal year 2022 in the presentation required by the legislator (see in this regard Regulation (EU) 2021/2178).

SGL Carbon has no economic activities in the areas of fossil gas and nuclear energy within the meaning of the EU Taxonomy Regulation. Due to the scope of reporting templates 1 to 5 of the Delegated Regulation (EU) 2022/1214, they are not presented in tabular form, since there is no taxonomy eligibility and all reporting forms would therefore contain “no” or zero.

Outlook

The EU Commission has announced that it will publish the outstanding technical assessment criteria for the other four environmental objectives (sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems) during 2023. Furthermore, supplementary clarifications by the legislator for the interpretation of the first two environmental objectives (climate change mitigation, climate change adaption) are expected.

SGL Carbon expects the European Commission to enact the outstanding legislation on the four additional environmental objectives during 2023. Under this assumption, SGL Carbon will perform the taxonomy review for all six environmental objectives (climate change mitigation, climate change adaptation, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems) for the first time for fiscal year 2023. According to Article 19(5) of the Taxonomy Regulation, the EU Commission will review technical assessment criteria on a regular basis or at least every three years in the case of activities that are considered transitional activities within the meaning of Article 10(2) of the Taxonomy Regulation. SGL Carbon will take any resulting adjustments to the Delegated Regulation into account in the future.

Reporting form according to EU taxonomy: Sales revenue

				Substantial contribution criteria		DNHS criteria ('Does Not Significantly Harm')									
Economic activities	Code(s)	Absolute turnover	Proportion of turnover	Climate change mitigation	Climate change adaptation	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of turnover, year N	Category (enabling activity)	Category (transitional activity)
		€m	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES															
A.1. Environmentally sustainable activities (taxonomy-aligned)															
Manufacture of renewable energy technologies	3.1.	7.4	0.6%	100%	0%	-	Y	Y	Y	Y	Y	Y	0.6%	E	
Turnover of environmentally sustainable activities (taxonomy-aligned) (A.1)		7.4	0.6%										0.6%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)															
Manufacture of renewable energy technologies	3.1.	90.3	8.0%												
Manufacture of equipment for the production and use of hydrogen	3.2.	1.6	0.1%												
Manufacture of batteries	3.4.	19.2	1.7%												
Turnover of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		111.1	9.8%												
Total (A.1 + A.2)		**118.5**	**10.4%**										**0.6%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES															
Turnover of taxonomy-non-eligible activities (B)		1,017.5	89.6%												
Total (A + B)		**1,135.9**	**100.0%**												

Reporting form according to EU taxonomy: Investments (capex)

				Substantial contribution criteria		DNHS criteria ('Does Not Significantly Harm')									
Economic activities	**Code(s)**	**Absolute capex**	**Proportion of capex**	**Climate change mitigation**	**Climate change adaptation**	**Climate change mitigation**	**Climate change adaptation**	**Water and marine resources**	**Circular economy**	**Pollution**	**Biodiversity and ecosystems**	**Minimum safeguards**	**Taxonomy-aligned proportion of capex, year N**	**Category (enabling activity)**	**Category (transitional activity)**
		€m	**%**	**%**	**%**	**Y/N**	**Y/N**	**Y/N**	**Y/N**	**Y/N**	**Y/N**	**Y/N**	**%**	**E**	**T**
A. TAXONOMY-ELIGIBLE ACTIVITIES															
A.1. Environmentally sustainable activities (taxonomy-aligned)															
Capex of environmentally sustainable activities (taxonomy-aligned) (A.1)		0.0	0.0%										0.0%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)															
Manufacture of renewable energy technologies	3.1.	0.4	0.7%												
Manufacture of batteries	3.4.	3.9	7.0%												
Production of heat/cool from bioenergy	4.24.	2.6	4.6%												
Capex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		6.9	12.3%												
Total (A.1 + A.2)		**6.9**	**12.3%**										**0.0%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES															
Capex of taxonomy-non-eligible activities (B)		49.1	87.7%												
Total (A + B)		**56.0**	**100.0%**												

Reporting form according to EU taxonomy: Operating expenses (opex)

				Substantial contribution criteria		DNHS criteria ('Does Not Significantly Harm')									
Economic activities	Code(s)	Absolute opex	Proportion of opex	Climate change mitigation	Climate change adaptation	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of opex, year N	Category (enabling activity)	Category (transitional activity)
		€m	%	%	%	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES															
A.1. Environmentally sustainable activities (taxonomy-aligned)															
Opex of environmentally sustainable activities (taxonomy-aligned) (A.1)		0	0.0%										0.0%		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)															
Manufacture of renewable energy technologies	3.1.	6.1	8.5%												
Manufacture of batteries	3.4.	8.6	12.0%												
Opex of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		14.7	20.5%												
Total (A.1 + A.2)		**14.7**	**20.5%**										**0.0%**		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES															
Opex of taxonomy-non-eligible activities (B)		57.1	79.5%												
Total (A + B)		**71.8**	**100.0%**												

Sustainable product innovations

Development activities take place in the four business units and derive directly from the strategic objectives of the product groups or business lines. They are characterized by the respective market developments, customer requirements and the market environment.

The issue of sustainability is also becoming increasingly important in our product innovations. SGL Carbon has therefore established capabilities to conduct product life cycle assessments (LCAs) in the business units. These LCAs can be used to evaluate raw material and energy use in the manufacture of our products. This is done using a cradle-to-gate approach. The projects include determining the CO_2 footprint of products or product groups as well as the key levers for improvement regarding their use of resources and energy. We use GaBi from Sphera as a modeling tool. Creating the LCAs with GaBi is based on environmental life cycle assessment ISO standards 14040 and 14044. We also discuss selected LCA projects and their results with partners and customers.

We report on the research focus of the individual business units in the section “Research and development” (unaudited) in the Group Management Report of this Annual Report.

Social (including employee concerns)

Occupational health and safety

The health and safety of our employees have top priority at SGL Carbon. As a responsible company, protecting the health and safety of employees is both an ethical obligation and a prerequisite for the company’s performance. In this regard, the Code of Conduct and the globally applicable EHSA Guideline (Environmental Health & Safety Affairs) set out the requirements that are binding for all employees. SGL Carbon also attaches importance to appropriate standards for business partners and takes occupational health and safety aspects into account in the selection of suppliers. The Supplier Code of Conduct requires them to ensure the health and safety of employees in all workplaces and to establish a management system for continuous improvement. In addition, in 2022 all active suppliers received an online Supplier Risk Assessment questionnaire on sustainability. The online Supplier Risk Assessment contains standard elements on sustainability that also cover the topics of supply chain responsibility and health and safety. The results of the online questionnaire are incorporated into the risk assessment of each supplier, with the aim of eliminating or mitigating the risks identified (detailed information on the Supplier Risk Assessment can be found in the Governance chapter of this report).

The central corporate EHSA unit (Environmental Health & Safety Affairs) is responsible for drafting Group-wide guidelines and standards for preventing work-related accidents and deseases. The respective business and central corporate units and site management are responsible for implementing the specifications. Within the global EHSA network, the central corporate EHSA unit and local EHS managers also discuss overarching issues. This is to ensure that all legal and SGL-internal regulations are complied with and that corresponding systems are established at each site. In addition, the central EHSA unit, in cooperation with the local EHS managers, conducts audits that also evaluate, inter alia, the implementation of the Group-wide occupational health and safety standards and their advancement. EHSA audits also include compliance with energy and environmental standards. As a rule, the sites are inspected by the central corporate EHSA unit every three years, or more often than that if incidents have frequently occurred at any given site. A total of ten sites were audited in 2022, with some of these audits performed remotely (via virtual video). EHSA reports to the HSE Council (Health & Safety Council) and provides updates three times per year. The HSE Council is composed of the two members of the Board of Management of SGL Carbon, the heads of the business units and central corporate units and the global corporate EHSA team, with the Chairperson of the Board of Management also serving as Chairperson of the HSE Council. This body is responsible for monitoring and controlling occupational health and safety measures.

SGL Carbon’s top occupational health and safety goal is to systematically prevent work-related injuries and deseases. It is the responsibility of the company’s management, all management levels and each individual employee to ensure safe working conditions and to comply with all relevant national laws, European regulations and internal guidelines in all production processes. As a short- and medium-term objective, we have set for ourselves the goal of constantly improving the existing safety precautions. In the last two fiscal years, we have succeeded in significantly reducing our lost-time injuries per million hours worked from 4.15 to 2.3. This means that we even exceeded our 2022 set target of a lost time injury (LTI) frequency rate of 2.5. This includes the accidents of SGL employees and temporary workers[1] with at least one day of absence after the day of the accident. We are not satisfied with an LTI frequency rate of 2.5: by 2025, we want to reduce our LTI frequency rate by 5% per year so that we can achieve a rate lower than 2.0 by 2027 at the latest.

To achieve the occupational health and safety targets set, SGL Carbon uses a variety of incentive systems that actively involve employees in accident prevention and that take their ideas to eliminate accident risks into account. For example, at SGL's largest location, Meitingen, a special "Occupational Safety" campaign was performed as part of the Ideas Management program. Employees were asked to submit their suggestions for improvements in occupational safety. As a result, 118 valuable tips for improving safety were generated in just two months, 87 of which were assessed as feasible and adding value, and some of which are already being implemented. A Safety Award is also presented annually to sites where there have been no accidents in the last three years. Thirteen sites received this award in 2022. On the local level, the topic of occupational health and safety is included in the annual targets of many sites. But even when we look beyond the local sites, the topic of occupational health and safety is embedded as a target figure of the variable compensation structure for the four management levels below the Board of Management. To further raise awareness of occupational safety throughout the workforce, a Group-wide "Safety Day" was held for the first time in 2022, in which the Board of Management and management team also actively participated. On October 14, 2022, information events and live training sessions were held at all SGL sites worldwide. At all production sites, information and training was also provided in particular on the important occupational safety topics: safe working with rotating parts, hazards at workplaces with rolls and rollers, and the safe handling of forklifts.

Occupational accidents that occur despite all precautions and safety standards are recorded in the Group-wide accident management system. In a systematic process, incidents are investigated, suggestions for improvement are derived and consideration is given to which solutions have already proven effective in preventing accidents. Accidents are stringently classified according to severity. There have been no fatal accidents at SGL in the last five years. Once a month, the central corporate EHSA unit provides the Board of Management of SGL Carbon, the heads of the business units and the sites and the EHS managers with a safety report and relevant statistics. In addition, weekly reporting is carried out to track the current safety situation with detailed information on new accidents. In this way it is possible to evaluate compliance with the EHSA Guideline and immediately initiate countermeasures if a negative trend can be discerned. Furthermore, a monthly exchange between the sites takes place so that those involved can learn from each other and avoid risks identified at other sites.

Safety Day Logo:

The applicable safety precautions and standards are constantly being developed to further reduce the frequency of accidents. In fiscal year 2021, a global safety manual with minimum standards was developed and the ten most important rules for protecting occupational safety were clearly illustrated graphically to all employees. The global occupational safety policy was additionally updated in fiscal year 2022. Numerous initiatives were also made possible. More than 60 plant visits including safety inspections were conducted; more than 190 improvement opportunities were identified, of which approximately 90% have now been implemented. In addition, various local programs were performed. For example, in 2022, 1,600 Behavior Based Observations (BBO) were carried out in Shanghai: 1,104 observations had a positive result and 496 observations showed opportunities for improvement. 95% of these findings have already been implemented. The results of the

[1] Employees are all permanent and temporary SGL employees. Temporary employees are external contract employees who are directly supervised by SGL. Contractors working at an SGL site are responsible for the safety of their employees and are excluded from the calculation of accident statistics. The data includes all fully consolidated subsidiaries.

BBOs steer our program towards improving safety at the Shanghai site for 2023. SGL Carbon also conducts employee training courses. Training is provided not only by EHSA experts but also by managers who were required to train and support employees in their areas of responsibility regarding safety issues. This is intended to increase the workforce's awareness of safety-relevant aspects and to prevent accidents.

Process safety is a significant factor in the prevention of occupational accidents. Events such as accidents, fires, or explosions could cause significant harm to people and the environment as well as lead to prolonged interruptions of production and loss of quality at SGL Carbon. Claims for compensation and damage remediation could arise from this. The goal is therefore both to ensure the safety of production processes as best possible and to achieve continuous improvements in the safety culture.

As part of its corporate duty of due diligence, SGL Carbon drafted a globally applicable Process Safety Policy and has maintained a Process Safety System since 2017. The system includes a variety of different components, such as process safety analyses, accident investigations and countermeasure control. Process safety is also a topic of discussion at HSE Council meetings. In addition, every accident is precisely recorded, analyzed and classified in the Incident Management System for occupational and process safety. This is done to determine whether an incident occurred in occupational health and safety or process safety. SGL Carbon uses a uniform Group-wide risk management system to identify and, if necessary, minimize risks in its production processes. This involves analyzing the extent and hazard potential of crisis events and calculating their economic consequences – such as the costs of elimination of environmental harm or loss of sales revenue due to production downtime. For each primary risk, one or more risk mitigation measures were identified and will be initiated if necessary.

SGL Carbon conducts annual reviews in cooperation with a property insurance company. This involves subjecting many processes and plants to a safety analysis that primarily focuses on fire control and protection as well as operational interruption. The results are evaluated and documented. Specific measures for improvement are drawn up if necessary. A total of five sites were assessed in 2022. Also in 2022, the insurer continued high-level training on fire control and protection system design to a group of technicians.

Employee concerns

General information

SGL Carbon employs a total of 4,760 people in 31 locations in Europe, Asia and North America (as of December 31, 2022). Their commitment, expertise and performance make a crucial contribution to the company's success as a business. That is why SGL Carbon strives to attract the best talent and to develop and retain employees in a targeted manner. In addition to numerous training and education opportunities, SGL Carbon also relies on a fair and value-based work and management culture that embraces diversity as well as a compensation structure based on performance. The company offers all employees the opportunity to develop their full potential. This understanding of the company's relationship with its employees is defined in the Code of Conduct, the SGL Competence Model and the SGL Value Carta. The latter was formulated in 2022 and includes five values that now form the basis of SGL's performance culture:

- Integrity and honesty
- Respect and esteem
- Responsibility
- Trust
- Passion for success

At SGL Carbon, Human Resources is viewed as a strategic partner and adviser to the business units, central functions, managers and employees. The spectrum of HR tasks ranges from initiator to involvement in strategic decisions to operational HR processes.

In accordance with the wide assortment of tasks, the HR Business Partners are positioned both centrally for the business units and central functions and on the local level for the individual production sites. The SGL HR Business Partner model is structured so that the Senior HR Business Partners, i.e., the contact persons for the management of the business units and central functions in all strategic HR issues, report to the Head of Group Human Resources in disciplinary and technical terms, as do the Heads of HR at the two overarching BU sites in Meitingen and Charlotte. HR management is responsible for a wide array of tasks:

- Management of HR processes such as recruitment and supporting personnel, including labor law issues
- Qualification, coaching and continuing education of managers and employees
- Determination of market- and performance-oriented compensation systems for senior management
- Coordination of international assignments of employees
- Global HR controlling and personnel planning
- Positioning SGL Carbon as an attractive employer in the labor market and internal employee communications
- Efficient management of the impact of change processes on human resources

In addition to efficiency, customer proximity and service quality are key criteria in the design and implementation of HR processes. Against this backdrop, SGL Carbon prepared the roll-out of a comprehensive cloud-based IT solution for these processes in 2019 and 2020. The staggered go-live of this IT system began in fiscal year 2021 and continued in the reporting year.

The HR unit reports directly to the Board of Management on a regular basis. For example, the Head of Group HR holds regular consultations with the Board of Management, thus giving HR issues a high level of attention from senior management.

SGL Carbon constantly monitors and minimizes potential risks in the area of personnel. Due to the increasing shortage of skilled workers, special attention is paid to the strategic importance of recruiting. The same applies to employee engagement efforts. These are intended to counteract a high level of fluctuation, thereby also retaining expertise in the company and, in particular, preventing the departure of crucial “key employees”.

Employability and development (including values and culture)

A material objective of the work of HR is to maintain the employability of employees and nurture their professional and personal development. Systematic development of personnel is an integral component of SGL Carbon’s corporate philosophy. Such development serves to bolster the competitiveness of the company and to have the company take responsibility for the employees. Another component of personnel development is initiatives that analyze potential, that is, assessment of the potential of employees to serve in management and expert positions.

In 2021, the SGL Top Talent Program was launched and serves to identify and foster talents with medium- to long-term potential for leadership positions in senior management. In the year under review, the program was continued and intensified with a number of activities, including a specially designed training measure “Inhouse Leadership Exchange”, one-on-one meetings with mentors from top management, and initiatives formulated by program participants to further develop the leadership culture with a focus on topics such as “Diversity” and “Gen Z requirements”.

In addition, a new format for promising nominated young talent was in 2022, namely the “People Fair/Personnel Conference”. Together with the above-mentioned top talents, the participants were also invited to a meeting with the CEO in September 2022 (“A personal talk with our CEO”).

Succession management is a proven personnel and management development tool. In 2021, dedicated succession planning was performed for the first time for the top management levels. In addition, a uniform framework was compiled in 2022 and implementation was started according to which all business units and corporate functions plan and manage succession for key positions critical to the company’s success. This should make it possible to calculate company-wide indicators (KPIs) for succession management starting in 2023.

Development of personnel is not the responsibility of the HR department alone but is primarily a task for managers and thus within the scope of personnel management. The cornerstone of all personnel management is communication between managers and employees on a regular basis. That is why the “Management Dialogue” was rolled out in 2021 as a discussion format in the job areas not subject to collective bargaining agreements. The Management Dialogue involves managers and employees taking sufficient time to exchange information, provide mutual feedback and solve problems together once per month. This conversation format was continued in 2022.

Another element in the creation of a feedback culture in the company was the launch of a new 360-degree feedback tool and process. After the pilot phase in 2021 with managers who report directly to the Board of Management as focus individuals, the application was continued in 2022, particularly with participants in the Top Talent program. Employer attractiveness is a key factor of corporate culture that determines the company's ability to both attract and retain personnel resources that are critical to success. For many years, SGL Carbon has been positioning itself in the labor market with its own employer brand that can be clearly discerned on the company's careers page as well as elsewhere. The career site is constantly being developed and was redesigned in 2022.

As part of its university marketing program, SGL Carbon offers students a variety of opportunities to integrate academic theory into real-life experience in a business enterprise, including internships, student traineeships and final thesis projects. As a long-standing member of the "Fair Company" employer initiative, SGL Carbon is committed to providing students with high-quality learning opportunities at fair terms and conditions.

Number of staff	2022	2021
Number of employees	4,760	4,680
Number of new hires (worldwide) [1)]	504	310
– thereof men	81.3%	78.0%
– thereof women	18.7%	22.0%
Fluctuation rate (worldwide) [2)]	14.2%	12.5%
– Europe	11.4%	10.0%
– North America	27.7%	23.2%
– Asia	11.2%	11.6%

1) Exclusively includes "real" new hires for employees with non-limited term contracts, i.e., not taking over temporary employees or removing limited terms on employment contracts.
2) Based on the average headcount, includes employees leaving the company voluntarily and involuntarily.

The goal of standardizing the process globally to the extent that this is possible and makes sense to do, taking into account the legal and cultural framework in the individual countries, was already largely achieved in the year under review. Following the introduction of a cloud-based IT solution in 2021 with coverage of around 70% of SGL's workforce, additional SGL countries were connected to the system in 2022, resulting in coverage of around 96% at the end of 2022.

As a voluntarily provided fringe benefit that makes a positive contribution to employer attractiveness, SGL Carbon offers employees in Germany a company retirement benefit plan that provides additional financial security during retirement. For the majority of SGL's workforce in Germany, a new, uniform and capital market-based pension system was agreed with the employee representatives and implemented as of October 1, 2022.

Occupational health and safety issues play a prominent role in SGL's culture and this also applies to preventative measures regarding employee health. In the area of Workplace Health Management (WHM), employees in Germany can take advantage of a variety of different resources on a decentralized basis, that is, on the level of the individual plants. During the year under review, the activities held at the larger sites included vaccinations against COVID-19 and the flu.

Employee surveys are an established method for analyzing corporate culture and the basis for actively shaping it at the same time. In the 2022 fiscal year, a Group-wide, exclusively electronic employee survey called THE VOICE was conducted in the context of the recently launched Group initiative "Performance Culture & Values". THE VOICE records various aspects of the perceived performance culture – to what extent are the five values (SGL Value Carta) already being lived, to what extent do employees feel emotionally connected to the company (employee engagement), to what extent is employee management perceived as effective, and how likely would people recommend SGL as an employer – and provides corresponding indicators (KPIs). A key outcome indicator is the Performance Culture Index, which reflects the perceived realization of the desired performance culture and comprises the three aspects "Living the SGL Values", Employee Engagement", and "Leadership Effectiveness". The Performance Culture Index is calculated as the average approval rating of the underlying statements in the survey and can therefore range from 0% to 100%. When THE VOICE was first implemented, the survey results indicated a need for action, which will be addressed in 2023 through centralized and decentralized measures. Starting in 2023, THE VOICE is expected to be conducted twice a year to accompany and measure the further development of the SGL culture.

Training and education

Training has traditionally played an important role at SGL Carbon. The company's training program in Germany comprises a total of seven technical apprenticeships and business administration traineeships as well as three cooperative study programs. A total of 32 trainees and apprentices successfully completed their training and apprenticeship programs in the year under review. Of these, one apprentice from the Bonn site was named Chamber best in a mechanical apprenticeship ("Ausbildungsgang Zerspanungsmechanik").

The rate at which trainees and apprentices who graduated from their programs in 2022 were offered permanent employment was 100% in Germany.

SGL Carbon offers employees professional and personal development opportunities throughout their careers, including additional training and continuing education courses, the expansion of tasks and areas of responsibility within a position and the opportunity to change jobs within the organization. In meetings held on a regular basis, the manager discusses with the employees specific individual development activities such as training, coaching, or special tasks.

As a result of the ongoing transformation phase, participation in external training measures, especially on interdisciplinary and leadership skills, remained at an adjusted level in 2022 compared with the pre-pandemic years.

For the top talent target group – employees with the medium- to long-term potential for a management position reporting directly to the Executive Board – an internal training measure entitled “Inhouse Leadership Exchange” was performed in 2022 as part of the Top Talent program, combining individual reflection, collegial exchange, conceptual work on leadership and corporate culture issues, and skills training in three classroom modules.

The cloud-based IT system rolled out in 2021 to support HR processes also includes a learning management system (LMS). This system facilitates not only the effective administration of training activities by HR and individual departments but also the immediate provision of training sources for end-users as part of a “self-service” functionality, which includes e-learning courses that you can immediately access. These offerings were expanded in the year under review to include topics relevant to management and those related to IT. This marked the first steps towards the goal of establishing the learning management system worldwide as SGL Carbon’s central learning platform in the coming years.

Apprenticeships and dual degree programs	2022	2021
Total apprentices	70	83
– Site Meitingen	44	55
– Site Bonn	25	28
– Site Limburg	0	0
– Site Willich	1	0
Number of professions for apprentices	7	9
Number of apprentices	32	27
Number of dual degree programs	3	5

Diversity and equal opportunity

The diversity of the workforce is a strategic advantage for SGL Carbon: A variety of different employee skill sets and perspectives reinforces the company’s capacity to innovate and advance its position as an attractive employer. Such diversity makes it possible for SGL Carbon to compete for qualified specialists, which enables SGL Carbon to also meet the challenges arising from demographic change.

SGL Carbon has set itself the goal of establishing a work and management culture that is free of discrimination. All employees should be able to contribute their personal and professional capabilities and have the same opportunities for professional success and fair pay regardless of age, lineage, (ethnic) origin, skin color, gender, sexual orientation or identity, religion, ideology, or disability.

The SGL Code of Conduct is an important basis for the company’s commitment to diversity and equal opportunity. SGL Carbon’s guidelines for a diverse and inclusive working environment characterized by trust, openness and respect are embedded in it. In accordance with these guidelines, discrimination based on any of the characteristics listed above will not be tolerated. The SGL competency model, which was revised in 2021 describes key behavioral requirements that are applicable to middle and senior management throughout the world, also includes “collaboration and diversity” as one of seven skill sets, thus reflecting the importance of diversity. The same direction can be found in the SGL Value Carta, which was developed in 2022 and communicated to the company, and forms the basis of SGL Carbon’s corporate culture. Of the five values mentioned, three – “Respect & Appreciation”, "Integrity & Honesty", and "Trust" – directly contribute to the work environment characterized above.

A higher proportion of women in management positions can have a positive impact on SGL Carbon's success as a business, making it important for the future global development of SGL Carbon. The target of permanently increasing the proportion of female senior executives to 20% by 2025 was already achieved by the end of 2022 – this figure is to be maintained in the coming years. As in the previous year, the proportion of women in the total workforce was 17% at the end of 2022.

The "People Fair/Personnel Conference" held for the first time in 2022 under the motto "Enhancing diversity" also served to promote diversity. This talent management format, which will be held annually in the future, will give a group of selected junior employees with development potential the opportunity to get to know top management, present themselves to them and thereby gain visibility. The first "People Fair/Personnel Conference" in June 2022 was attended by 11 female and 4 male employees.

SGL Carbon applies the local systems of collective bargaining agreements or systems similar to this to ensure that remuneration is free of discrimination. For remuneration of employment that is not subject to collective bargaining agreements, the recognized analytical job evaluation procedure according to the Hay method is in use throughout the world.

Internationality	2022	2021
Total workforce	4,760	4,680
thereof Germany	2,051	2,092
thereof rest of Europe	1,375	1,318
thereof North America	781	750
thereof Asia	553	520

Percentage of women	2022	2021
Total workforce	17%	17%
thereof Germany	17%	17%
thereof rest of Europe	17%	15%
thereof North America	18%	19%
thereof Asia	14%	15%
Senior management	20%	19%
Middle management	16%	17%

Age structure	2022	2021
< 30 years	16%	15%
30 to 50 years	55%	53%
> 50 years	29%	32%

Help provided to employees in balancing the responsibilities of work and family plays a crucial role in an employer's attractiveness. This purpose is served by regulations that allow flexibility in the workplace, so that the service does not necessarily have to be provided at an SGL location. Since October 2022, the new general works agreement "Mobile Working" has been in force in Germany, which has significantly simplified flexibility and replaced a previous one. The proportion of mobile working – for example from home – can generally amount to up to 40% on average of individual weekly working hours, in consultation with the respective manager and if the employee's job permits this. Furthermore, part-time employment offers employees the opportunity to balance their professional and private lives. In 2022, significantly more of SGL Carbon's employees in Germany took advantage of this option than in the previous year, with the doubling of the proportion of part-time employees in the male workforce being particularly striking.

Part-time employment and reconciliation of work and family	2022	2021
Percentage of part-time employees in Germany [1)]	10.0%	7.2%
Male part-time employees (Germany) [1)]	5.3%	2.6%
Female part-time employees (Germany) [1)]	34.0%	29.8%

[1)] The system has been changed from a reporting date approach as of December 31 to a period approach, i.e. all employees who worked part-time continuously or for only one period (e.g. parental leave) in the respective calendar year are included. Part-time employees, students and temporary workers are also excluded. The previous year's figures have been converted in accordance with the system described above to improve comparability.

Respect for human rights

SGL Carbon attaches particular importance to demonstrating respect for human rights. For this reason, the various elements of a human rights management system have been gradually introduced since 2018. The SGL Carbon Code of Conduct commits the organization to upholding the principles of the UN Global Compact and to respecting and protecting human rights. SGL Carbon has also been a UN Global Compact signatory since 2021. Respect for human rights is further elaborated in the Employees chapter of the Code of Conduct. This section also refers to the Human Rights Policy introduced globally in 2018. This policy is available in a total of nine languages and is included in the hiring documents at all SGL sites. Group Compliance has this confirmed annually by the Local Compliance Representatives (LCRs) at the sites using the implemented LCR reporting.

A risk assessment on compliance with human rights in the company's own business unit was already carried out in 2019, and evaluated centrally by Group Compliance, in the form of an internal questionnaire with local compliance representatives and site managers together with local HR managers. For information on respect for human rights along the supply chain and the corresponding risk management, please refer to the CSR Report, Governance / Responsibility in the supply chain.

The internal questionnaire to identify potential human rights risks within the company's own business unit was based on external standards from the "Human Rights Compliance Assessment Quick Check" of the Danish Institute of Human Rights. The aim was to identify human rights risks, assess them and, if necessary, take appropriate risk mitigation measures. After evaluation of the risk assessment, no significant need for change was identified for the sites. However, additional training needs were identified for SGL as a whole to bring more attention to the topic.

For this reason, Group Compliance developed and implemented a training concept on human rights compliance together with Group Human Resources in 2021. This 2-step training concept has been rolled out globally to all office workers since October 2021. The training concept offers basic training and virtual training online, including practical examples on discrimination, harassment and bullying. The online training, which is available in a total of nine SGL languages, was made available to the target group via the internal learning management system (LMS) and is now also part of the on-boarding training program for all new employees in the target group. The virtual training was conducted worldwide by Group Compliance and Group Human Resources, in some cases with support by the local HR and/or legal department. By the end of the year, all employees in the identified target group had completed the online training and 93% had already taken part in one of the 63 virtual training courses offered. At year end, the target group comprised 1,783 employees. For employees working in production, a corresponding training concept was developed by Group Compliance and Group HR in 2022 and adopted in the Compliance Committee. This training concept also includes a two-stage learning concept. A chapter on human rights was therefore added to the newly created online training on the Code of Conduct. In 2023, production employees will first complete this online training and then take part in classroom training. The roll-out will begin at the US sites in the first quarter of 2023.

Group Compliance added a corresponding section to the compliance questionnaires for the sites regarding a regular survey on respect for human rights and compliance with national labor law requirements. In the second half of each year, the LCRs provide corresponding information regarding their locations. In addition, the compliance risk category Human Rights was part of the Compliance Risk Assessment 2021 (see also the Governance section).

Alongside the existing whistleblower system, a dedicated reporting channel was launched in 2018 in order to more effectively and directly enable employees and managers to report possible violations of the rules on respecting human rights. This new channel is described in the Human Rights Policy. Reports received are received centrally by Group HR and Group Compliance on a confidential basis, systematically processed in compliance with data protection regulations, sanctioned appropriately where necessary and reported to the Board of Management as part of the semi-annual Compliance Report.

Social commitment

SGL Carbon is active in several regions of Europe, Asia and North America. As a company, we therefore strive to be a reliable partner both internationally and locally and go beyond our business activities by assuming social responsibility for people where we operate. Our employees and the regions in which we operate are at the forefront of our activities, which is why we are particularly involved in the immediate vicinity of our own sites and primarily support projects here that have a local or thematic connection to the company.

The formal basis for SGL Carbon's social commitment is its Sponsoring and Donations Policy. It specifies the Group-wide standard and is binding for all SGL Carbon employees, ensuring that the funding and selection of projects is transparent and follows uniform guidelines. Management of the respective location makes decisions on the funding of specific projects, initiatives, institutions and associations up to a single amount of €5,000. If the amount for sponsorships and donations is above this amount, the Board of Management must approve it. The Capital Markets & Communications department is also to be informed. No violations of the guideline were identified in the year under review.

As in previous years, SGL Carbon has again placed a focus on training and development in 2022. We are already active in schools in the region. An example of this is the Meitingen site, where there are school partnerships that give students an insight into the corporate world and that are also aimed at promoting a better understanding of technical professions. We also supported a digital project in cooperation with a secondary school in Meitingen and organized an exchange project with our trainees in vocational training of a local foundation. We also support social projects outside of Germany. At our Austrian site in Ort im Innkreis, we participated in a research event that gave interested parties an insight into our plant and our various job profiles.

Although SGL Carbon does not operate a site in Ukraine, we nevertheless also want to provide assistance and support the people suffering from Russia’s war of aggression, within the scope of our possibilities. In March 2022, we therefore launched an internal fundraising campaign for the people affected, where each employee was able to donate an individual contribution to a well-known and reputable aid organization.

In addition to this selection of current projects, we particularly support sports and youth clubs, charitable initiatives and local projects around our sites that offer direct added value for the local community.

Governance

Compliance management

As a Group that operates globally, SGL Carbon bears a special responsibility in its dealings with employees, customers, business partners, shareholders and the public throughout the world.

The structure and implementation of SGL Carbon Group’s compliance management system (CMS) is therefore in accordance with national and international standards such as IDW PS980 and ISO 37301:2021. To review the relevant elements with regard to their implementation status and effectiveness, in 2020 the Board of Management engaged an independent third party to certify the CMS of SGL Carbon in accordance with the requirements of the ISO 19600:2016 guideline. The first review audit took place in 2021 and was also used as a transformation audit for the switch to the new ISO 37301:2021. The second review audit was conducted in November 2022 by DQS GmbH (the German Society for the Certification of Management Systems). After the audit was complete, DQS certified that SGL Carbon SE implemented and applies a CMS that meets the requirements of the ISO 37301 guideline. As an integral component of SGL Carbon’s management and corporate culture, the Code of Conduct sets standards for responsible and lawful conduct. The principles and values anchored in the Code of Conduct support the personal integrity of our employees and strengthen our corporate culture. This includes ensuring that all managers and employees comply with internal and external regulations and that ethical and sustainable principles determine their actions. In addition to the Code of Conduct, SGL Carbon’s compliance program includes additional internal requirements, guidelines and training for various target groups and specific topics (for further information, please refer to the Corporate Governance Declaration, Corporate Governance Report and Compliance Report in this Annual Report). A material component of this is the anti-corruption program (see section “Anti-corruption and bribery”).

The Chief Compliance Officer reports directly to the Board of Management and is responsible for the compliance strategy as well as for monitoring the structures and processes of the compliance management system (CMS). They are supported in their work by the Group Compliance department. The organization also includes the Compliance Network, which is made up of regional and local Compliance representatives as well as Compliance representatives from the business units and central functions (for additional information, please refer to the Corporate Governance Declaration, Corporate Governance Report and Compliance Report in this Annual Report).

The CMS is reviewed for effectiveness and efficiency on an ongoing basis. To measure achievement of the compliance targets, SGL Carbon has put numerous measures and indicators in place for the CMS and its components. These KPIs are published on the SGL website under Compliance. Furthermore, the aim is to respond appropriately to new legal requirements and changes in the business environment. In consultation with the

Compliance Committee, each year the Group Compliance department identifies and defines areas in which action needs to be taken, along with measurable annual targets approved by the Board of Management. The target achievement results, and any follow-up activities derived from them, are summarized in an annual review.

Regular risk assessments covering the identified compliance risk areas of SGL Carbon, which are summarized in the “House of Compliance” are a material part of the effective CMS. Risk assessments for the antitrust, anti-corruption, protection of trade secrets and human rights categories were carried out in 2021 with the management committee members from all four business units. These interviews with the heads of the corporate functions, who are also the compliance representatives for their units, were continued in early 2022. The overall objective of the interviews was to identify potential risks arising in the various compliance risk categories from the new business strategy, in addition to possible risks due to changes in the market environment. The participants also considered aspects of the coronavirus pandemic.

The CMS further stipulates that compliance issues are to be regularly documented by the local compliance representatives (LCRs) and the responsible compliance representatives of the business units as part of the relevant reporting process. Group Compliance confirms the implementation of the compliance program at the local sites by means of a semiannual LCR compliance questionnaire. The results from the evaluation of the questionnaires are discussed in detail with the Board of Management and the Audit Committee. The results also serve as the basis for repositioning compliance activities if necessary. All LCRs submitted semiannual LCR reports for the corresponding reporting period. The annual compliance surveys for the business units and corporate functions were postponed due to the overlap in content with the risk assessment performed in 2021/2022 and will be thoroughly reviewed in 2023.

Against the backdrop of a constantly evolving legal framework, SGL Carbon continuously optimizes the content of compliance training and identifies the corresponding training needs. The Code of Conduct e-learning program serves as the corresponding baseline training on compliance issues for all new office workers. It focuses especially on teaching our principles and values, which promote acting with integrity in the course of daily business. The training course is used worldwide and is available in German, English, Chinese, French and Polish. An automated verification process adds new employees in the target group to the group of participants in the e-learning program on an ongoing basis via the internal learning platform (LMS). All office workers must also complete mandatory online compliance training courses on human rights, anti-corruption and export controls as part of their onboarding.

Group Compliance developed an online training course for production staff during the last fiscal year so that the Code of Conduct e-learning program can in future be offered to all employees. Additional departments and local sites were involved in shaping the course content via the relevant LCRs. The course will be translated into at least all nine SGL languages in the first quarter of 2023. The roll-out will begin in the first half of the year and will initially be made available to production personnel at all US sites via LMS.

Regular internal compliance audits form part of the CMS. For this purpose, the Group Compliance department and Group Internal Audit (GIA) have jointly developed an audit catalog, the appropriateness of which is subject to a joint annual review. Reviews pay particular attention to findings from reported compliance breaches and changes in the compliance program. Group Internal Audit incorporates this audit catalog into its regular audits (see also the Risk Management System section of this Annual Report). In addition to compliance with legal and in-house rules, these audits also cover the observance of ethical standards, which are also addressed in the annual LCR compliance survey. GIA reviews, among other things, whether compliance topics are regularly placed on the agenda of local site committee meetings, and thus whether site management fulfills its legal responsibility and its compliance leadership role ("tone from the top") regarding addressing compliance on site and demanding and implementing legally compliant, ethical behavior. The status of SGL Carbon's compliance culture is also surveyed in the course of the regular global compliance survey that is carried out by Group Compliance. Group Compliance also draws up improvement suggestions for the compliance program on the basis of compliance incidents. Lastly, the annual external audit performed in connection with the ISO 37301 certification confirms that the compliance management system also contains the required elements of an integrity management system.

SGL Carbon strives to create an environment in which all concerns relating to compliance can be openly discussed. All employees are encouraged to raise all integrity issues and questions with their supervisors, the Compliance department or a member of the Compliance Network. They are also explicitly taught to do so in the Code of Conduct training course. In addition to the existing communication and reporting channels, SGL Carbon has a whistleblower system in the form of the “Compliance Helpdesk.” This system makes it possible for employees to confidentially report information on potential compliance violations in accordance with the Whistleblower Guideline. The Whistleblower Guideline also regulates mandatory protection of the reporting person. SGL Carbon tolerates no form of punishment, recrimination or discrimination against employees as a consequence of making a report in good faith in accordance with this guideline.

This principle applies in all cases, whether or not a reported incident ultimately proves to be a violation. The whistleblower mailbox is available to all employees, as well as to third parties via the SGL Carbon homepage. Anonymous reports are also accepted and, where sufficiently substantiated, investigated. The SGL Whistleblower Guideline is currently being revised and where necessary adjusted in line with the "Law on better protection of whistleblowers and on implementing the Directive on the protection of persons reporting breaches of Union law," which was passed by the German Bundestag on December 16, 2022. This will most likely enter into force in the first half of 2023 following its ratification by the Bundesrat and promulgation. The revised Guideline will be communicated accordingly.

Group Compliance reviews reported compliance incidents in the context of internal compliance investigations. The department’s task is to ensure that misconduct and violations are prevented and identified in due time, that enterprise activities comply with applicable law and statutory provisions, and that potential for improvement with regard to internal business activities is identified.

In the reporting period, SGL Carbon recorded all indications of potential violations in regard to antitrust law, anti-corruption, export controls and customs, protection of trade secrets, fraud prevention and human rights (such as discrimination and harassment) that, in addition to breaching the law and/or internal rules, could also result in financial or reputational damage. All such indications were processed so that specific measures could be derived and implemented where necessary. Individual sanction and disciplinary measures were also taken in accordance with local labor laws and regulations and implemented by the responsible local human resource departments. SGL Carbon is convinced that the compliance management components and monitoring processes described are suitable for creating the best possible basis for ensuring that future conduct will be legally compliant in all areas of the SGL Carbon Group.

Anti-corruption and bribery

Good relationships with customers and suppliers are essential for ensuring the positive economic development of SGL Carbon. SGL Carbon fosters and requires transparent and lawful execution of all company business. On this basis, SGL Carbon seeks to create a sense of trust and to secure lasting business relationships.

SGL Carbon's principles for combating bribery and corruption are laid down in the SGL Anti-Corruption Program, which is applicable throughout the Group. The rules are set out in a specific guideline, as well as in the Code of Conduct. The previous Gifts and Hospitality (G&H) Guideline was superseded by a new Anti-Corruption Guideline in 2022. The guideline was fundamentally revised in accordance with changes to the legal framework, while the content also took account of findings from the risk assessment of the four business units. The new Anti-Corruption Guideline sets even stricter rules on dealing with material and non-material benefits, among other things through amendments to the maximum permitted values and a general ban on providing benefits to public officials. Employees worldwide were informed of the introduction of the new guidelines via an SGL News item in November 2022. The following month, Group Compliance offered four online information events to inform staff about the main changes. Group HR also distributed the guideline to the entire target group via the controlled document management (CDM) system, with a request for confirmation of receipt. Local HR departments were informed that the new Anti-Corruption Guideline supersedes the previous G&H Guideline and will be distributed to all new hires within the target group as of January 1, 2023. The anti-corruption course that forms part of the compliance training program will be revised in the first quarter of 2023 and the new version will be rolled out as a mandatory training course for the target group in the first half of the year.

SGL Carbon has a Group-wide “Business Partner Compliance” (BPC) process to monitor risks and manage all processes that relate to dealing with sales agents. The target group for the BPC process is currently sales agents and distributors. The process requires that new business partners in the target group be subjected to a multi-stage review before any contracts are signed. This process is also part of an internal control mechanism within the framework of the internal control system (ICS). In addition to new sales agents, existing sales agents are also regularly reviewed. The nominated business sponsors from the business units are responsible for starting this process.

Moreover, the Code of Conduct provides rules for handling donations to political parties and references to the Sponsoring and Donations Policy. This policy defines the Group-wide standard that ensures a transparent approach to sponsorship and donations and prohibits actions such as providing financial support to political parties and candidates for political office and other elected positions. The rules apply to all employees of SGL Carbon, including members of the Board of Management.

Corporate governance and business ethics

For SGL Carbon, good corporate governance is not only compliance with legal requirements and applicable guidelines but also responsible action aimed at sustainable value creation. Our commitment to responsible corporate governance is derived from the SGL Carbon Code of Conduct as well as from regulations, external initiatives and international guidelines that we have pledged to adhere to. We also take these requirements into account in our ESG strategy and Group-wide policies. Examples include the SGL Human Rights Policy, which is based on the UN Guiding Principles on Business and Human Rights, the principles of the UN Global Compact and the UN Declaration on Human Rights. Our Group-wide occupational health and safety guidelines take inspiration from other guidelines such as the labor standards of the International Labor Organization (ILO).

The Corporate Governance Declaration and further information can be found in the Corporate Governance and Compliance Report (unaudited) in this Annual Report.

Responsibility in the supply chain

As a globally active company with a diversified multinational customer structure, SGL Carbon maintains a wide variety of business relationships. During the period of collaboration, SGL Carbon expects all business partners (customers and suppliers) to commit to lawful, ethical and environmentally sustainable conduct to the same extent as SGL Carbon. To ensure that this is the case, a Supplier Code of Conduct was rolled out for suppliers and their subcontractors. In addition to rules of conduct to be observed with regard to integrity, supplier-side anti-corruption and social and environmental standards, it also includes requirements for dealing with what are known as conflict materials and a binding commitment to the principles of the UN Global Compact. SGL Carbon has had its own Conflict Minerals Policy since 2015 and fundamentally revised it in 2021. The Group is committed to avoiding the use of conflict minerals in its products and production processes.

A review is performed as part of a regular due diligence process. In fiscal year 2022, the process was linked to the supplier assessment based on the Integrity Next platform.

Global Procurement is responsible for implementing and applying the Supplier Code of Conduct for suppliers and their subcontractors. The Supplier Code of Conduct was rolled out in 2015 and has been updated on a regular basis since then. It is also incorporated into SGL Carbon's General Purchasing Terms and Conditions. In the course of its successive rollouts, the Supplier Code of Conduct was issued to the primary risk-relevant suppliers. The criteria defined were a minimum sales revenue and a minimum number of orders from suppliers with a score between 0 and 53 in countries classed as critical under the CP (Corruption Perception) Index with a score between 0 and 53. 100% of primary existing suppliers committed themselves to compliance with the Supplier Code of Conduct. In addition, new suppliers that Procurement records in SGL Carbon's system are also required to sign the Supplier Code of Conduct or show that they have equivalent compliance standards. 100% of new suppliers signed the Code in 2022. The 1% who had not signed up as of December 31, 2022 are expected to sign or will be followed up on in the next few weeks. For raw materials, new suppliers are asked about the basics of the Supplier Code of Conduct and the answers are incorporated into the final selection of suppliers.

In addition to the awarding of points for delivery performance and quality, since 2018 an assessment of the supplier in terms of legal, ethical and sustainable behavior has also been carried out in the context of the annual supplier assessment. The result of the evaluation is directly incorporated into the supplier risk management. The risk assessment is used to determine whether supplier development measures are required and to decide which supplier audits will be carried out. Supplier audits also take into account issues relating to compliance with environmental and social standards.

In 2021, a new process was rolled out for the risk management of strategic suppliers. Standards are evaluated with regard to matters such as compliance, safety and environment. In 2022, all active suppliers received an online supplier risk assessment questionnaire on sustainability, as part of the preparations for compliance with the German Supply Chain Due Diligence Act (LkSG), which will apply to SGL Carbon from January 1, 2024. The online supplier risk assessment includes standard sustainability components such as ethics and compliance, as well as human rights and environmental risks in accordance with the LkSG (environmental protection; human rights; supply chain responsibility; health & safety; anti-bribery & corruption and cybersecurity). The results of the online questionnaire are incorporated into the risk assessment of each supplier, with the aim of eliminating or mitigating the risks identified. Alongside the online risk assessment, Global Procurement is developing an abstract risk assessment as a second assessment filter. This involves assessing human rights and environmental risks for all countries and sectors (based on the NACE code) by the end of 2023, with the aim of producing an overview of suppliers who qualify as problematic in all three areas (1. Online supplier risk questionnaire; 2. Countries; 3. Sectors). This procedure will make it easier to set suitable priorities for the measures to be taken with the resources available.

Group Compliance comprehensively trained the Global Procurement Team on “Due Diligence in the Supply Chain” in November 2021. SGL Carbon has manufacturing sites in many different countries and supplies products to customers all over the world. It is therefore of considerable importance to avoid risks associated with trading activity and customs regulations. Such risks include restrictions on deliverability, the underpayment of taxes, customs duties and other charges, and exposure to fines and prosecution. SGL Carbon aims to use appropriate compliance processes to ensure that the goods and technologies are exchanged and services are used in accordance with the respective internal and external requirements. This principle is defined in the Group-wide Global Trade Policy as well as in SGL Carbon’s procedural instructions on preparing, optimizing and executing all trading activities, on control mechanisms and on managing and monitoring risks and responsibilities.

In the companies and units, the export managers and export control/customs officers are responsible for export control and customs. Since 2009, the existing compliance program for export control and customs has been working with an IT-based compliance module (SAP Global Trade Services – GTS) that enables the efficient review and processing of business transactions. This module is regularly updated to bring it into line with the latest legal requirements. Following the introduction of audits for suppliers and all procurement processes in 2021, the system was expanded to include the screening of the banks used for outgoing payments in the SAP ERP system against international sanctions lists. The SAP Global Trade Services (GTS) system performs centralized screening and constantly checks all business partners, such as master data for banks, customers and suppliers, in the SAP ERP system. Business partners who match entries in the sanctioned party lists are blocked. All outgoing payments, sales and purchase orders with blocked business partners are also blocked as a result. The centrally organized Global Trade Organization can only lift such blocks if establishes beyond doubt and to the best of its knowledge and belief that the blocked business partner is not the sanctioned party. If this cannot be established, SGL Carbon will discontinue the business relationship. All decisions made in this context are documented in the SAP GTS system.

With regard to customs, our application for centralized customs clearance was approved, which marks a major step forward toward smart digital customs processes. SGL Carbon is thus utilizing the possibilities under the EU Customs Code for modern, flexible forms of customs declaration and taking a pioneering role in Germany in the effective organization of customs processes. Central customs clearance via SAP Global Trade Services (GTS) has now been implemented for the first time at SGL CARBON GmbH for exports from our two Polish plants.

Export control procedures are also a key component of the compliance risk assessment. On this basis, SGL Carbon aims to ensure that international agreements and national laws are complied with in the context of cross-border transactions and intra-Group transfers. Before going on business trips, employees are also encouraged to familiarize themselves with local export control and customs laws and regulations.

SGL Carbon is committed to ensuring that employees are informed about all relevant rules in the area of global trade compliance and that export control/customs officers and selected employees receive training on a regular basis.

Information security

An important part of our business success is information and its security, such as when research and development data or sensitive customer information is being handled. Cybersecurity breaches undermine the confidence of customers, investors, employees and other stakeholders. Cyber risks can harm the reputation and the value of a company just as much as other ESG factors. SGL Carbon invests in cybersecurity to protect technology, assets and critical information, as well as to safeguard our reputation and prevent damage or financial loss from unauthorized access to our systems and data.

In doing so, we rely on a risk-based approach that is in line with the internationally recognized ISO 27001 standard. As a company certified according to TISAX (Trusted Information Security Assessment Exchange), we use clearly defined and monitored processes and clear organizational responsibilities to meet increased cybersecurity requirements and adequately address risks such as ransomware.

Information Security is part of the IT organization and reports to the Head of Information Technology Excellence (ITX), who in turn reports directly to the Chief Financial Officer (CFO). It has the right to intervene in the event of safety violations or immediate need for action, with authority over all employees except the SGL Carbon Board of Management.

Organizational measures provide a solid foundation for the technical framework and awareness of appropriate conduct of the organization and its users. A total of 18 issued and regularly monitored security guidelines specify the basic conduct expected of the users, define technical requirements and require verification measures. This also includes exception management for abnormal temporary requirements as well as fundamental principles such as segregation of duties, need-to-know and least privilege access. This package of measures is rounded out by cybersecurity insurance and a contractually defined and incident-based forensic support service provided by an external partner.

Technical measures: With the latest hardware and software (such as endpoint detection and response software), technical measures and adequate information security processes provide a solid basis for ensuring information security. SGL Carbon relies on both preventive and reactive measures. Both last year and this year, greater focus has fallen on topics such as identity and access management and the security of operational IT, and monitoring of these issues has increased.

Preventive measures are designed to reduce the risk of security breaches. We maintain a strong barrier against security violations by rolling out new tools such as multi-factor authentication, detection strategies and response plans. We also provide our employees with the tools necessary to identify significant attacks and we implement a rapid reporting and response system through mandatory and optional training and attack simulations (such as phishing or external penetration tests). In the fight against cybercrime, industrial espionage and attempted fraud, employee awareness and risk transparency are the key preventive measures for SGL Carbon.

Reactive measures in turn, are designed to ensure that SGL Carbon's detection rate and response capability remain at a high level and that resilience remains consistent during a cyberattack. To do this, we rely on comprehensive security and vulnerability scanners and a thorough event and incident management system at the central and regionally utilized endpoints of the IT infrastructure. In addition to automated detection mechanisms, our 24/7 information security service enables us to give a prompt systematic response to attack attempts.

Data protection

SGL Carbon collects and processes personal information in compliance with data protection laws and regulations and only to fulfill the respective purposes. Personal information must be processed in such a way that the rights of each data subject are safeguarded. To ensure the protection of personal information, SGL Carbon has established a Group-wide data protection organization with local data protection officers, delegates and managers.

The data protection officers of the national subsidiaries report directly to the local Managing Directors and to the Head of Global Data Protection, who reports directly to the CEO of SGL Carbon.

To provide employees with guidance on issues relating to the integrity and confidentiality of personal information, SGL Carbon has implemented Group-wide standards in the form of data protection guidelines and organizational directives. In addition, data protection management software was introduced in fiscal year 2022. The existing data protection training course was also moved onto the Group-wide internal learning platform (LMS) in 2022. This not only makes it easier to access the training course but also ensures that participation in the course can be reviewed and tracked. Particular attention was paid in 2022 to the conceptualization of a unified procedure for the deletion of personal data, Group-wide implementation of which will be continued in 2023.

In 2022, seven suspected data protection breaches were reported and logged by SGL Data Protection. After evaluation of the facts, none of the cases was determined to present a potential risk to the rights and liberties of the data subjects. Consequently, none of the cases had to be reported to the responsible data protection authority or to the people concerned. One request for erasure (Art. 17 General Data Protection Regulation, GDPR) was also fulfilled within the relevant deadline.

Sustainable financing

The reduction of environmental and climate damage, the promotion of social participation, and sustainable corporate management are fundamental worldwide corporate goals. In accordance with the EU action plan, these goals should be funded by directing capital flows more strongly toward sustainable investments and should take environmental and climate risks more fully into account. SGL Carbon contributes to these objectives through targeted investments. SGL Carbon is using both self-generated and external financing to ensure sustainable growth. For internal investment projects, an internal CO_2 price was set for the first time in the 2022 fiscal year and taken into account in investment decisions. Whereas ESG performance indicators were previously not directly included in external financing decisions, this will be reviewed consistently with future financing activities.

Transparency and reporting

Transparency, regular financial reporting and informing all stakeholders immediately in regard to material business transactions in accordance with the Market Abuse Regulation are a matter of course for SGL as a listed company, along with compliance with all legal requirements. For this reason, SGL Carbon regularly reports on the economic performance of the Group as a whole in the Annual Report, at the Annual General Meeting and in the quarterly releases and reports. SGL Carbon’s Annual Report and quarterly reports are prepared in accordance with the standards applicable to companies listed in the Prime Standard of the Frankfurt Stock Exchange. Details on reporting can be found in the Notes to the Consolidated Financial Statements in this Annual Report.

SGL Carbon reports once a year on our ESG ambitions, targets and progress in the CSR Report, which also serves as the Group's non-financial declaration. We also communicate regularly via various communication channels on ESG projects and measures that underline our environmental and social engagement. Another reporting component is the Communication on Progress that we issue in connection with our membership in the UN Global Compact.

SGL Carbon in the Capital Markets

The SGL Carbon share price outperformed the SDAX in 2022

The stock markets at the beginning of 2022 were still influenced by the low interest rate environment and the success in fighting the pandemic. On January 5, 2022, the German share index (DAX) reached its high for the year of 16,285 points, only marginally off its record high of 16,290 points achieved in November 2021. In addition, equity valuations, especially in the U.S. technology sector, were at elevated levels due to the previous bull market in 2021, which did not adequately reflect slowing economic growth and was thus vulnerable to a correction.

The start of the Russian war of aggression in Ukraine on February 24 led to a shock on the global financial markets accompanied by a significant increase in uncertainty on the markets. This particularly affected the raw materials and energy markets as well as the logistics sector. As a result of the start of the war, oil and gas supplies, especially in Europe, became more uncertain and deteriorated significantly. Just a few weeks after the start of the war, the price of Brent oil reached its high for the year of around 128 US dollars per barrel. The contract price for natural gas in Europe was even more volatile, as dependence on Russia was much greater here. The renewed increase in global supply chain problems caused by the war in Ukraine and higher factor costs, particularly for raw materials, energy and logistics, had an overall dampening effect on global economic growth. In this environment, the successes tied to control of the pandemic were all but erased.

In light of significantly higher prices worldwide, the central banks responsible for price stability came under massive pressure to act. The central banks – first the Fed in the USA, followed by the ECB in Europe – countered the rise in the inflation rate by raising interest rates. This led to a sharp increase in bond yields, so that bonds once again advanced to become an attractive alternative for capital investments compared with equities.

In this environment, the DAX reacted to the sharp decline in February with an initial recovery rally in March, which was, however, offset again by the adverse market environment in the following months. Overall, the DAX reached its low for the year of 11,863 points on September 28. Likewise, the dollar index (see commercial glossary) reached its highest level in 20 years on this day, at around 115 points. By the end of the year, the DAX had recovered by around 17% to close at 13,923.59 points.

Overall, the DAX closed the 2022 stock market down 12.4% on the closing price of the previous year. The SDAX, to which SGL Carbon's shares belong, showed a much sharper decline of 27.4% over the year. Although the SGL Carbon share also suffered a decline of 9.9%, it significantly outperformed its benchmark index.

Key figures for SGL Carbon SE shares	2022	2021
Number of shares at year-end	122,341,478	122,341,478
High (€)	8.07	10.78
Low (€)	4.59	3.76
Closing price at year-end (€)	6.93	7.69
Market capitalization at year-end (€m)	847.8	940.8
Average daily turnover in Xetra trading (number of shares)	223,916	389,371
Free float at year-end (%)	approx. 46	approx. 46
Dividend per share (€)	-	-

Declining development of SGL share price reflects geopolitical and macroeconomic environment

Right at the beginning of 2022, on January 4, the SGL Carbon share price marked its annual high of €7.91. Thereafter, the trend with declining prices continued, in line with the over-arching indices. The start of the Russian war of aggression in Ukraine on February 24, 2022, marked a first year low of €5.35. The overall high level of uncertainty on the capital markets led to further declines in SGL share prices, as well as in the overarching indices. After a market-driven interim recovery in the first weeks of March, the presentation of the 2021 annual results on March 24, 2022 led to a share price decline of around 8% due to the outlook for fiscal year 2022, which the capital market considers cautious. The cancellation of the leasehold at the Frankfurt-Griesheim site, which was announced in an ad hoc release on March 30, 2022, had no significant impact on the share price performance.

On April 14, 2022, we reported the upgrade of our credit rating by the Moody's agency and on May 11, 2022, the upgrade of our S&P rating. In both cases, the share price reacted slightly positively to this news. Between these, Q1 2022 results were slightly negatively received by the market on May 5, 2022. Overall, the share price reached its low for the year of €4.78 on May 9, 2022, also driven by the negative performance of the overarching indices.

Performance of the share

On June 7, 2022, we informed the capital market about our outlook increase for 2022 via an ad hoc announcement. In the wake of this, the share price reacted extremely positively and improved by around 20%.

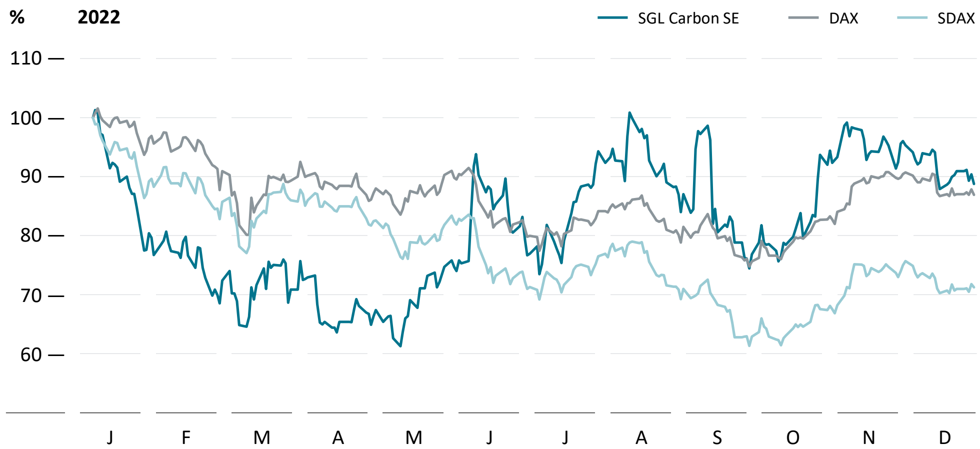
The results for the first half of 2022, published on August 4, 2022, had hardly any impact on the share price performance. On the other hand, the press release of August 10, 2022, in which we reported on the expansion of our capacities especially for our customers in the semiconductor industry (GS business unit) resulted in a nearly 10% increase in our share price.

The second forecast increase this year, which we announced on September 6, 2022, boosted our share price by around 15%. However, this share price increase was more than offset by the news announced on September 14, 2022 regarding the new issue of a convertible bond with a simultaneous buyback offer for the existing convertible bond.

The share price reacted positively to the results for the first nine months of 2022 published on November 3, 2022.

Despite high volatility during the year, the SGL Carbon share price performed significantly better than the overarching SDAX index, in which the share is listed, with a decline of 9.9%. The SDAX performed much worse, falling by 27.4% during the year. The relatively better performance of SGL Carbon shares reflects the Company's operational success and the resulting improvement in profitability.

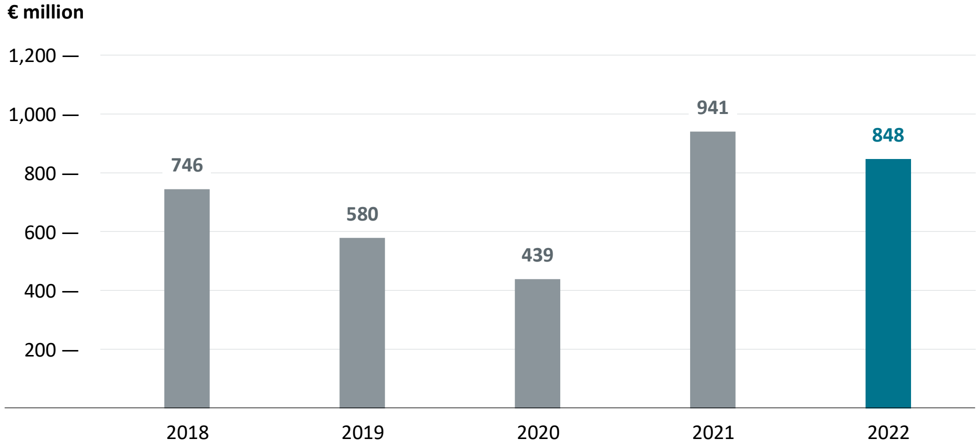
Relative performance of the share



Increase in market capitalization and ranking position enable inclusion in the SDAX

The market capitalization of SGL Carbon declined during 2022 in line with the development of the share price. After €940.8 million in the previous year, it amounted to €847.8 million at the end of the reporting year. According to the index ranking list calculation by Deutsche Börse AG, SGL Carbon SE ranked 149th with a free float market capitalization of €400.3 million as of year-end 2022, after coming in 163rd in the previous year. The relative strength of the share price in 2022 has improved the conditions for SGL Carbon SE shares to continue being listed in the SDAX. The number of shares outstanding has remained constant over the past year at 122,341,478.

Market capitalization



Stable shareholder base

SKion GmbH, Dr. h.c. Susanne Klatten's investment company, remains the company's largest shareholder with a shareholding of around 28.5%. In addition, based on the respective notifications of voting rights or other notifications, BMW AG and Volkswagen AG hold the following shareholdings subject to reporting obligations:

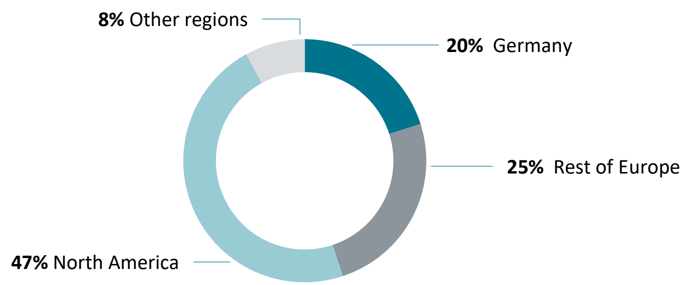
BMW AG	October 15, 2014 [1]	18.44%
Volkswagen AG	February 6, 2018 [2]	7.41%

[1] Date of the most recent voting rights announcement
[2] Other notification

Overall, these anchor investors hold approximately 54% of the share capital and therefore contribute to the stability of SGL Carbon. The relatively low free float of 46%, combined with rather low trading volumes, often leads to high price swings in both directions. In November/December 2022, the US investment bank Goldman Sachs reported voting rights of around 5% via several notifications that are likely to be attributable to a financial interest. The majority of the voting rights are derived from financial derivatives.

As per the February 2022 shareholder survey, institutional investors were geographically distributed as follows: around 20% of the shares are held by German investors, 25% in the rest of Europe and 47% in North America. Other regions such as Asia, Middle East and South America contribute 8% to the shareholder base.

Geographic distribution of institutional shareholders



The following table provides an overview of the shares held by the Board of Management and the Supervisory Board (reporting date: December 31, 2022)

Shares held by Board of Management and Supervisory Board	2022
Board of Management	
Dr. Torsten Derr	169,851
Thomas Dippold	75,800
Supervisory Board	
Dr. h.c. Susanne Klatten (hold via SKion)	34,927,270
Helmut Jodl	990
Markus Stettberger	1,006
Dieter Züllighofen	1,166
Total	**35,176,083**

Dividend development

Despite the positive development of SGL Carbon's sales revenue and earnings development, the company will not be able to pay a dividend in the 2022 fiscal year. With further growth, our company will work more profitably on a sustainable basis. Only then will it be possible to distribute a dividend.

2022 Annual General Meeting

For public health reasons, the Annual General Meeting of SGL Carbon SE was also held in 2022 as a virtual Annual General Meeting without the physical presence of the shareholders based on the legal regulations to combat the impacts of the pandemic.

The Annual General Meeting (AGM) was broadcast using a password-protected AGM internet service, which was used by approximately 350 shareholders and guests to view the Annual General Meeting live in 2022. In the run-up to the Annual General Meeting, shareholders and shareholder representatives had the opportunity to put forward questions to the company, which were answered by the Board of Management and Supervisory Board at the virtual Annual General Meeting.

The AGM internet service also allowed shareholders to issue or revoke a power of attorney, exercise their voting rights by postal vote or have their voting rights exercised in accordance with the instructions they had given through the voting rights representative appointed by the company and also object to a resolution of the Annual General Meeting.

Of the company’s share capital of €313,194,183.68, divided into 122,341,478 shares, a total of 77,252,656 shares were represented at the virtual Annual General Meeting, which corresponds to 63.15% of the registered share capital. All items on the agenda were approved with an overwhelming majority.

The speech given by the chairman of the Board of Management, Dr. Torsten Derr, was broadcast publicly on the SGL website.

The speech and all resolution results are available to shareholders and interested parties on the SGL website (at www.sglcarbon.com/en/investor-relations/annual-general-meeting/). The next Annual General Meeting of SGL Carbon SE will take place on May 9, 2023.

In-depth capital market communication

At the end of the reporting period, SGL Carbon shares were covered, analyzed and rated as follows by seven German and international financial analysts (previous year: seven): three analysts rated the stock Buy or Add, while four analysts rated the stock Hold/Neutral. The rating Underperform/Reduce was not assigned by any analyst (as of December 31, 2022).

A summary of the analysts who regularly cover SGL Carbon is available on SGL Carbon’s Investor Relations website under the “Share” menu item.

Analyst coverage (as of December 31, 2022)
Alphavalue
Berenberg
Deutsche Bank
HSBC
Kepler Cheuvreux
Landesbank Baden-Württemberg
Stifel

SGL Carbon provides all capital market participants with transparent, timely and comprehensive information on the Company’s business situation and future prospects. Due to the improving pandemic situation in 2022, a number of discussions with investors have been held in-person again, while others continue to be virtual. Despite the adverse environment, around 200 one-on-one meetings were held with analysts and investors in Germany and abroad. These discussions focused primarily on the impact of the war in Ukraine on SGL Carbon, especially with regard to the highly volatile energy, raw material and logistics prices. Potential supply chain issues represented another topic of interest. As a result, the impact of the COVID-19 pandemic was of little interest. The investors were also informed about the status of the company’s net debt and financing structure. An important topic was the capital market transaction carried out in September 2022 relating to the issue of a new convertible bond with a volume of €101.9 million and the simultaneous repurchase offer for the convertible bond with an outstanding volume of €126.3 million due in September 2023. An increasingly important topic in discussions with investors was the company’s sustainability strategy: ambitions and measures to improve ESG performance.

As usual, capital market conferences and roadshows were central instruments for intensive exchange with institutional investors. With the easing of the COVID-19 pandemic, conferences increasingly returned to an in-person format in 2022. In total, SGL Carbon took part in eight investor conferences in 2022. Quarterly reports and the conference calls held on the same day are further tools for providing capital market participants with comprehensive information in a timely manner. The conference calls will be broadcast live on SGL Carbon’s Investor Relations website and are also available as a recording.

The Investor Relations website offers a wide range of information, in particular for private investors and interested third parties. In addition to the financial reports, further documents such as presentations as well as press and ad hoc announcements are made available there. All reports on share transactions by the Board of Management and Supervisory Board as well as voting rights reports are also available online. Interested parties also have the option to be included on the mailing list for financial reports or press releases.

We look forward to hearing from you!

Key data of SGL Carbon SE shares

Trading venues	Xetra, Berlin, Düsseldorf, Frankfurt, Hamburg, Hannover, Munich, Stuttgart
German securities identification number (WKN)	723 530
International Securities Identification Number (ISIN)	DE 000 723 5301
Stock index	SDAX
Market segment	Prime Standard

Improved debt maturity structure

SGL Carbon has an improved financing structure at year-end 2022 with maturities in 2023, 2024 and 2027. The new issue of the convertible bond maturing in September 2027 with a simultaneous repurchase offer for the convertible bond to mature in September 2023 have optimized the maturity profile. Of the convertible bond maturing in September 2023, only a volume of €31.6 million is still outstanding. Furthermore, there is a corporate bond of which €240.0 million is still outstanding and matures in September 2024, as well as an undrawn syndicated credit line of €175.0 million, which matures in January 2024 as of the balance sheet date.

An overview of SGL Carbon SE bonds

The price trends of SGL Carbon's financing instruments were significantly less volatile last year than in previous years. In addition to the very good earnings situation in a difficult economic environment, this was also due to the significant improvement in the balance sheet structure with reduced net debt and an increase in the equity ratio. At the end of 2022, the two financial instruments, the outstanding shares of the convertible bond (nominal volume €31.6 million, interest rate 3.00% p.a., maturity on September 20, 2023) and the secured corporate bond (outstanding volume €240.0 million, interest rate 4.625% p.a., maturity on September 30, 2024), were traded close to their nominal value. The new convertible bond issued in September 2022 (nominal volume €101.9 million, interest rate 5.75% p.a., maturity on September 21, 2027) was quoted well above par at year-end 2022.

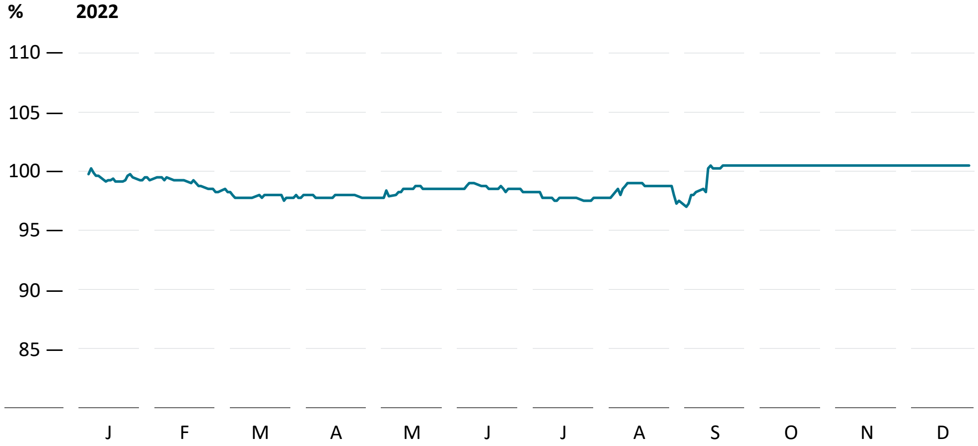
Corporate bond

WKN	ISIN	Coupon	Maturity date
A1X3PA	XS1945271952	4,625%	September 30, 2024

Convertible bonds

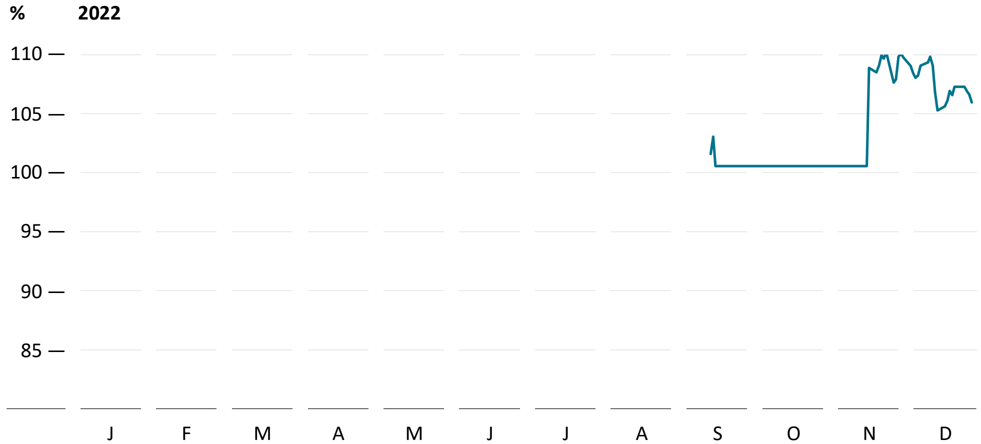
WKN	ISIN	Coupon	Maturity date
A2G8VX	DE000A2G8VX7	3,00%	September 20, 2023
A30VKB	DE000A30VKB5	5,75%	September 21, 2027

Performance of convertible bond (matures on September 20, 2023)



Performance of corporate bond (matures on September 30, 2024)

Performance of convertible bond (matures on September 21, 2027)



Group Management Report

Consolidated sales up by 12.8% to €1,135.9 million (Prior year: €1,007.0 million). Increase in sales driven in particular by orders from the automotive and semiconductor industries.

Improvement in the order situation and successful transformation led to a significant increase in adjusted EBITDA by 23.4% to €172.8 million (Prior year: €140.0 million). Increased raw material, energy and transport costs were more than offset by price increases and savings.

Free cash flow remained clearly positive due to operating performance at €67.8 million (prior year: €111.5 million). Equity ratio increased by 11.5 percentage points to 38.5% (previous year: 27.0%). Net debt significantly reduced to €170.8 million (previous year: €206.3 million). Refinancing of the 2018/23 convertible bond by issuing a new convertible bond. Extension of the maturity profile until September 2027.

In this Group Management Report, we provide detailed information about the business development and its framework conditions in the reporting year and explain in detail the net assets, financial position and results of operations. In addition, we provide an outlook on the probable development with its main opportunities and risks.

Group Fundamentals

Group business model

Business activity and company structure

SGL Carbon is a technology-based company and a global leader in its focus markets in the development and manufacture of materials and products made from special graphite, carbon fibers and composites. With its sophisticated and in some cases customized solutions, SGL Carbon serves many industries that are shaping future trends: mobility (especially electromobility), semiconductor technology, LED, solar and wind energy, as well as the battery industry and manufacturers of fuel cells. We also develop customer-oriented solutions for the chemical industry and numerous other industrial applications. We strive to grow with products and technologies that benefit society and reduce the impact on the environment.

SGL Carbon meets regional and industry-specific customer requirements with around 4,760 employees at 31 sites throughout Europe, North America and Asia.

SGL Carbon SE, based in Wiesbaden (Germany), is listed on the Frankfurt Stock Exchange. The shares are listed in the Prime Standard market segment of the German Stock Exchange. Together with its subsidiaries, SGL Carbon SE forms the management holding company SGL Carbon (a detailed overview of the shareholdings of SGL Carbon SE can be found in the Notes to the Consolidated Financial Statements under note 31).

The operative business of SGL Carbon is managed by four business units with their own responsibility for financial results: Graphite Solutions (GS), Process Technology (PT), Carbon Fibers (CF) and Composite Solutions (CS). Together with the central functions that are bundled in the Corporate reporting segment, the four operating business units make up the company's five reporting segments.

The Board of Management defines the Group's strategy and decides on financing and resource allocation. The globally active business units are responsible for the development, production and marketing of their products and solutions, while all service and administration activities are bundled in the central functions.

Our business units

Business unit Graphite Solutions (GS)

The Graphite Solutions (GS) business unit includes a wide range of graphite-based solutions and products. Tailor-made graphite components are manufactured, cleaned, impregnated and sometimes further refined with special coatings based on the needs of our customers. Key customers in the GS business unit come from the semiconductor, LED and solar industries, the battery and fuel cell industry, the automotive and transport segment, and various other industrial applications.

The focus here is on products with a high added value. Components made of specialty graphite, some with highly specialized coatings, play a critical role along the entire value chain of silicon and silicon carbide-based semiconductors, for example. The growth of single crystals requires heating elements made of graphite as well as hard and soft felts for heat insulation, while wafer carriers with silicon carbide coating enable the further processing of semiconductors. Silicon carbide semiconductor components in particular are increasingly in demand in growth fields such as electromobility and renewable energy infrastructure. Gas diffusion layers are essential parts of fuel cells – another key technology for modern energy infrastructure. Durable graphite contact materials are used in the latest wind turbines. GS offers solutions for the automotive industry and other processing industries with graphite-based bearing and pump components as well as sealing rings. Expanded graphites based on natural graphite are also used in a large number of industries. Furthermore, GS is one of the few European suppliers of graphite anode material for lithium-ion batteries, which are required for electric vehicles, among other things.

The main raw materials in the GS business unit are petroleum cokes and pitches. SGL Carbon obtains these raw materials primarily from suppliers with which the company has long-standing business relationships based on annual framework agreements. The energy requirements (electricity, natural gas) of the manufacturing processes are covered by long-term contracts with national and local energy supply companies.

sgl carbon

Graphite Solutions	Process Technology	Carbon Fibers	Composite Solutions
▪ Synthetic fine grain graphite blocks, expanded natural graphite ▪ Graphite specialities ▪ Graphite anode material ▪ Materials for fuel cells	▪ Prozess solutions ▪ Equipment for corrosive applications ▪ Components & assemblies ▪ Spare parts & services	▪ Precursor & acrylic fibers ▪ Carbon fibers ▪ Non-crimp & woven fabrics ▪ Pre-impregnated materials	▪ Composite parts (large & small series) ▪ Wet friction ▪ Insulation materials

Corporate Functions
Central functions & services

Process Technology (PT) business unit
The Process Technology (PT) business unit focuses on the construction and repair of large systems for industrial applications. In addition to individual components and equipment, PT also offers complete systems and engineering know-how: from hydrochloric acid synthesis to concentration and dilution systems for a wide variety of acids, to absorption and desorption systems. The main focus is on the design and manufacture of graphite heat exchangers, syntheses, columns and column internals as well as pumps and systems that are exposed to corrosive media. The chemical industry is therefore one of the business unit's most important customer groups. Their systems are also used in the pharmaceutical and food industries. In addition to the customer-specific production of individual components and systems, PT also offers an extensive after-sales portfolio. Local experts support customers during commissioning as well as with maintenance and repair throughout the entire life cycle.

Carbon Fibers (CF) business unit
The Carbon Fibers (CF) business unit focuses on the production of SGL's own carbon fibers and is thus the basis for all processing stages of composite applications. Carbon fibers are industrially manufactured fibers that are refined in such a way that they consist almost exclusively of carbon. They are microscopic and about eight times thinner than a human hair. In order to make them usable for various applications, 1,000 to 60,000 filaments are combined into a kind of thread.

Due to their unique properties, such as high tensile strength and high rigidity combined with low weight, they enable a wide range of innovative lightweight solutions for various industries and are increasingly being used as a substitute for classic materials such as glass fibers.

The Carbon Fibers business unit covers the entire value chain, starting with the polymerization of the main raw material through the production of carbon fibers to the manufacture of fabrics and pre-impregnated materials. The main raw material is acrylonitrile (ACN), which is initially processed into acrylic fibers, a polyacrylonitrile (PAN) precursor, and in further production processes into carbon fibers. The focus of the business unit is on the large-volume production of carbon fibers and fabrics, especially for the wind and automotive industries.

The value chain is supplemented by the joint venture Brembo SGL Carbon Ceramic Brakes, which is recognized using the equity method. The joint venture with the Italian Brembo S.p.A. develops and produces carbon-ceramic brake discs, especially in the market segment for luxury vehicles and sports cars.

Industrial applications of composites are diverse and are constantly evolving. For this reason, SGL experts, together with the sister business unit Composite Solutions, are continually developing processes and procedures to support customers in using fibers and materials for composites.

This means that SGL Carbon can offer their customers solutions from a single source along the entire value chain – from carbon fibers and materials to finished end products – in addition to expertise in series production.

Composite Solutions (CS) business unit

The Composite Solutions (CS) business unit bundles composite solutions based on carbon and glass fibers. For high-tech applications that require high strength and rigidity at a low weight, these solutions are practically invaluable. They also offer excellent thermal protection without sacrificing strength.

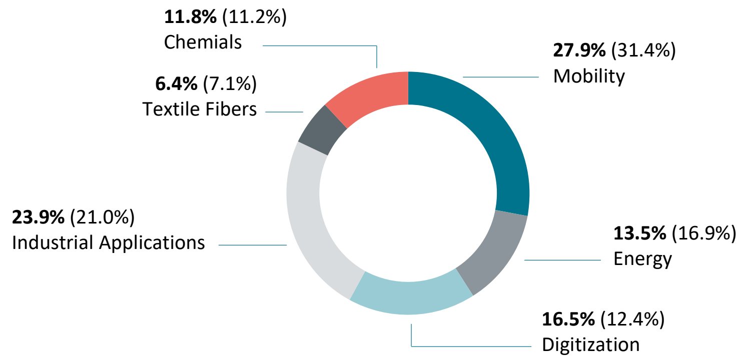
The focus of the CS business unit is the production of customer-specific components and tailor-made applications made of composite materials based on glass and carbon fibers, especially for the automotive industry.

Based on many years of experience, knowledge and competence from the areas of design & engineering up to fully automated series production, small to medium construction volumes can be custom-made. These are used in medical technology as well as large-volume automotive applications. The Composite Solutions business unit focuses in particular on battery housing applications and GRP leaf springs as well as on various types of carbon friction materials.

Major sales markets

The following graphic shows the main sales markets of SGL Carbon:

Sales by market segments 2022 (2021)



The Mobility market segment (Automotive & Transportation, Aerospace) remains the largest market segment in the Group, accounting for 27.9% of sales (previous year: 31.4%). The decline in sales is mainly due to the expiry of a contract with an automotive customer at the end of June 2022. The production capacities of the Carbon Fibers business unit required until then for this contract were almost compensated by orders from wind energy. With a share of sales of 23.9% (previous year: 21.0%), the market segment "Industrial Applications", which covers a wide range of applications in various industries, is the second largest area.

Due to the increase in sales of materials and products for the semiconductor industry, the share of sales to customers assigned to the Digitization market segment increased from 12.4% to 16.5% in the reporting period. By contrast, the share of sales in the "Energy" segment decreased, also against the backdrop of a change in capacity allocation in connection with the increased demand for products for the semiconductor industry.

The contribution to sales from customers in the chemical industry remained virtually constant at 11.8% (previous year: 11.2%). Textile Fibers remains the smallest market segment at 6.4% (previous year: 7.1%).

The development of the market segments reflects the increasing importance of sales to customers in the semiconductor industry. The sales shares by specific market segment of the four business units are presented in the segment reporting section.

Objectives and strategies

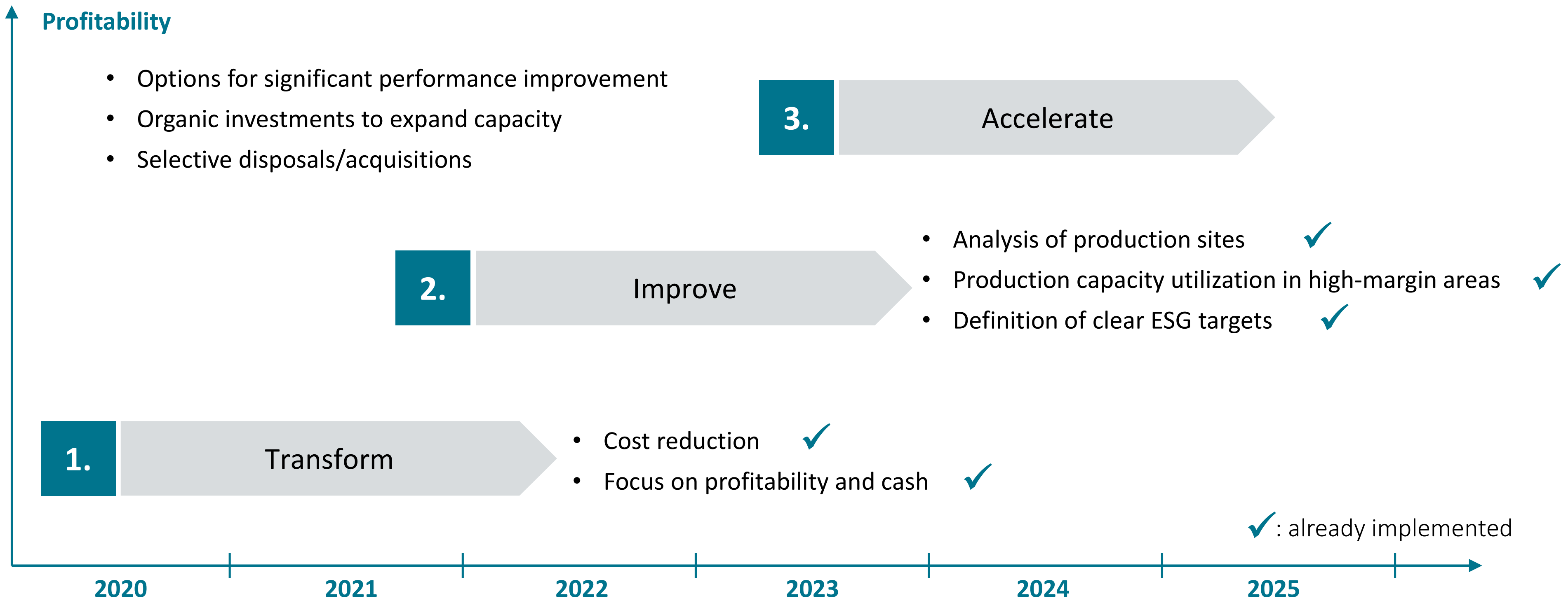
The long-term objective of SGL Carbon is to increase the enterprise value through sustainable, result-oriented growth. Generating the capital costs and sufficient financial capacity are necessary prerequisites for guaranteeing long-term entrepreneurial ability to act. SGL Carbon strives to create value for its various stakeholder groups, be it its employees, shareholders, business partners or the local communities in which the company operates.

In addition to financial capacity, the company contributes to environmental and climate protection as well as to social development. This includes responsibility for our employees, our supply chains, customer data and information security, as well as unconditional compliance with laws, regulations and standards. The Group strategy of SGL Carbon is aimed at achieving these objectives.

Corporate strategy

With its materials, products and services, SGL Carbon is active in markets that are helping shape the future trends of environmental and climate protection as well as digitization. We therefore focus on future markets that support these trends and offer corresponding growth opportunities: mobility (including electromobility and fuel cell vehicles), renewable energy industries (solar, wind energy) and the semiconductor industry. These are our most important markets. We will concentrate on them in the future and participate in their dynamism.

SGL Carbon has adopted a strategy that is being implemented step by step to safeguard the economic situation and to sustainably increase the value of the enterprise. We have already successfully reached the first milestones.



Transformation

At the end of 2020, the Board of Management of SGL Carbon approved an extensive transformation program with the objective of improving SGL Carbon's economic performance and creating the basis for future growth. In addition to a restructuring program to reduce costs and improve liquidity, the transformation focused in particular on measures to reorganize and simplify structures and processes.

Originally, the finalization of the transformation program was planned for the end of 2023. After the set targets were met significantly earlier than expected, the Board of Management decided to terminate the program at the end of 2022 and to initiate the next steps of SGL Carbon's growth path.

Improved performance through restructuring

As part of the restructuring, annual savings of more than €100 million were to be realized by 2023 (compared to the base year 2019). With savings of approx. €178 million as of December 31, 2022, this target was more than achieved. The restructuring and associated efficiency improvement of our processes and structures also include a socially responsible reduction of 500 jobs throughout the company and across all hierarchical levels. Costs – in particular severance payments and consulting costs – amounting to approx. €2 million were incurred in 2022 for the implementation of the savings measures.

Improved performance through reorganization

The transformation program also included the reorganization and streamlining of the structures and processes still in place in 2020. In order to meet the dynamic requirements of customers faster and in a more focused manner, the two existing business units were split into four business units responsible for financial results since January 1, 2021.

In the course of the transformation from 20 to ten departments, the central functions were consolidated in order to reduce costs and interfaces.

Corporate culture as a success factor

Parallel to the restructuring and reorganization, the “Formula Carbon” guideline was introduced at the beginning of 2021. The aim was to establish new working methods that prioritize efficiency and economic performance.

Additional measures were initiated in the 3rd quarter of 2022 to continue systematic development of the corporate culture. With the initiative to improve the performance culture of SGL, five basic values were defined by the company's top executives at the Global Leadership Conference:

- Integrity and honesty
- Respect and esteem
- Responsibility
- Trust
- Passion for success

The importance of these values for employees and the status of their implementation at SGL Carbon were determined in a Group-wide employee survey in November 2022. “The Voice“ survey was the starting point for further development of the performance culture at SGL. In the future, it will be used twice a year to determine the status of improvement. Further information on the “Performance Culture“ initiative can be found in the CSR Report (unaudited) in this Annual Report.

Improvement

In order to further improve the profitability of SGL Carbon, in the last two fiscal years all production sites worldwide were subjected to an efficiency and cost review. According to the analysis carried out, site-specific measures were defined in order to increase the performance of the individual sites. Every production site must operate economically in the future and contribute to the profitability of SGL Carbon.

In light of this, the site in Pune (India) was sold at the end of 2022. Pune mainly served the Process Technology (PT) business unit as a production and service center for local customers in India. PT will not completely withdraw from the Indian market but will continue to serve a large portion of international and local customers with expertise, products and services from other SGL sites. The closing of the transaction is expected to take place in the first half of 2023.

Furthermore, Composite Solutions (CS) operating business activities at the Gardena site (USA) were sold by way of an asset deal at the end of 2022. The closing transaction was on February 16, 2023.

Analysis of the sites also encompassed organic capacity expansion as well as a clear focus on the four business units' profitable and future-oriented products. For example, series production in Innkreis (Austria) was expanded and investments were made in the capacity expansion of materials and products for the semiconductor industry.

Improvement in the efficiency and performance of SGL Carbon is always in line with the company's ESG strategy (see also the current, unaudited CSR Report as part of the Annual Report). Through binding objectives and measures, we are anchoring sustainability even more firmly in our corporate strategy, processes, structures and new projects. Sustainable management, the development of products that protect the environment and climate, and ethically impeccable action are key success factors for further improving the economic performance of SGL Carbon.

Acceleration

At the end of the restructuring phase, based on the reorganization and the improved performance of the company, the third stage can begin. This involves increasing profitability and the associated company value. Investments are to be made in activities in which SGL Carbon is already established and has the relevant expertise, and which also provide future growth potential. The focus is on the organic expansion of production capacities. As it looks to develop individual product areas in the best possible way, the company will not exclude strategic and financial collaborations.

We aim to further expand our market position as a leading supplier and service provider, particularly in the areas of renewable energies (solar, wind), mobility – especially electromobility – and digitization (LED and semiconductors). In the process, we do not rule out close cooperation with external partners in areas with particularly attractive growth prospects and substantial investment requirements.

We will also be vigilant about the sustainability of our activities in our growth initiatives. The long-term objective is to further expand the share of materials and products that support the future trends of environmental and climate protection as well as digitization.

Corporate governance

SGL Carbon's corporate governance pursues the main objective of increasing the economic and sustainable performance and therefore the enterprise value of SGL Carbon.

Management and control

A description of the cooperation between the Board of Management and the Supervisory Board can be found in the Corporate Governance and Compliance Report (unaudited). The Board of Management determines the Group's strategic orientation. Fundamental business decisions of importance are made at two levels of management – the Board of Management and the heads of the business units. In addition, central functions support the Board of Management and provide Group-wide services for all business units and companies.

The Supervisory Board advises and monitors the Board of Management in managing the company.

Internal control system

SGL Carbon's internal control systems support the overarching corporate objective of a long-term and sustainable increase in company value. Significant management tools include monthly management reporting based on the annual plan, which covers both the actual development and the forecast development for the rest of the year. The target/actual deviation analyses and the monthly rolling forecast incorporate new findings on business development, including key assumptions. In addition to annual planning, we also do medium-term planning which covers a period of four years. Planning is done by the four business units and corporate functions under central guidelines on the most important assumptions. Corporate Controlling consolidates the operational planning and derives from it personnel, investment and financial plans for the Group. The budgeted figures, including target/actual comparisons and the current forecast, are regularly explained to the Supervisory Board.

In addition to monthly management reporting, the top management levels and commissioned steering groups control and monitor special investment projects, possible transactions and defined areas of responsibility such as personnel issues, occupational safety, compliance and environmental and climate protection.

Financial control key performance indicators

SGL Carbon uses the following key performance indicators to determine and monitor financial success:

In addition to sales, adjusted EBITDA (earnings before interest, taxes, depreciation and amortization, adjusted for one-off effects and non-recurring items) is the most important key performance indicator. By using it, we depict the sustainable cash-effective earning power of the business units and the company. We are also providing our earnings forecast for 2023 on the basis of adjusted EBITDA. The following effects are adjusted:

- Impairment losses (IAS 36) and amortization of purchase price allocations (IFRS 3) and assets held for sale (IFRS 5);
- Restructuring expenses;
- Proceeds from the sale of land and buildings;
- Income from insurance compensation, to the extent that this is not offset by corresponding expenses in the respective reporting period;
- Other significant one-off effects that do not reflect operational business development.

Furthermore, earnings before income taxes and net debt are important key performance indicators for the company. Free cash flow is used to manage the Group's liquidity and financial strength. The return on capital employed is measured by return on capital employed (ROCE). ROCE (return on capital employed) is defined as adjusted earnings before interest and taxes (adjusted EBIT) divided by average capital employed (total of goodwill, other intangible assets, property, plant and equipment, investments accounted for using the equity method and working capital). With ROCE of 11.3% in fiscal 2022, we have achieved our target of ⩾ 10%.

The variable remuneration of senior management (first three levels after the Board of Management) is based, among other things, on adjusted EBITDA (short-term incentive) and return on capital (ROCE) (long-term incentive). Other target variables for the short-term incentive (STI) include both individual personal targets for each manager and a Group-wide sustainability goal. In the 2022 fiscal year, this target was the achievement of a loss time injury rate of less than 2.5. Further information on the remuneration structure can be found in the remuneration report. This report has been formally and factually audited by KPMG AG Wirtschaftsprüfungsgesellschaft and will be available on the website at www.sglcarbon.com in the section "Investor Relations/Financial Reports" from March 23, 2023.

We supplement the most important financial key performance indicators with other indicators that provide us with information about the profitability and financial status of the Group.

Supplementary financial key performance indicators are the leverage ratio, as the ratio of net financial debt to adjusted EBITDA, as well as the equity ratio.

We have defined a leverage ratio of ⩽ 2.5 and an equity ratio of ⩾ 30% as medium-term targets and are striving for a significant improvement in the external credit rating. As of December 31, 2022 the targets for the leverage ratio (1.0) and the equity ratio (38.5%) were achieved. The external credit rating was B-/B3 at year-end and was raised by Moody's from B3 to B2 on February 6, 2023, but is still below the medium-term target value.

These financial management indicators are increasingly being supplemented by non-financial parameters.

Non-financial performance indicators

In addition to the financial key figures, the enterprise value of SGL Carbon is largely determined by non-financial performance indicators. The following non-financial performance indicators are playing an increasingly important role in the further successful development of the company:

- Occupational safety, in particular the frequency of accidents. The key indicator here is the lost time injury rate (LTI rate). The LTI rate measures lost-time injuries per million hours worked.

- Energy consumption and CO_2 emissions, as well as energy intensity as the ratio of energy consumption to economic output.

- Number of employees, including in particular diversity as measured by the proportion of women in senior management.

The health and safety of employees has top priority at SGL Carbon. As a responsible company, ensuring safe working conditions for our employees is an ethical obligation and a prerequisite for the company's performance. For this reason, a target figure for the variable remuneration of senior management (STI) was achievement of an LTI rate of < 2.5. With a value of 2.3 as of December 31, 2022, this target was achieved.

As an energy-intensive company at various locations worldwide, we strive to reduce our energy consumption and CO_2 emissions out of ecological and economic responsibility. SGL Carbon has therefore set itself targets for CO_2 reduction and developed a long-term roadmap to climate neutrality by 2038.

A motivated and well-trained workforce is the basis for the success of SGL Carbon. At the end of fiscal year 2022, the number of employees was 4,760, of which 43.1% worked in Germany and 56.9% abroad. The proportion of women in the top three management levels after the Board of Management was 20% as of December 31, 2022, and has thus already reached the target quota set for 2025. We intend to maintain this level in the coming years.

To improve the performance culture and thus employee satisfaction, a Group-wide employee survey was conducted and a performance culture index defined at the end of 2022. This will be improved through targeted measures and regularly reviewed by means of employee surveys.

In close consultation with the various stakeholder groups and based on legal requirements, SGL Carbon has developed a meaningful portfolio of non-financial key figures to make its sustainability progress measurable.

Non-financial Group report

Further information on the topics of sustainability, environmental and climate protection as well as other important ESG aspects can be found in the CSR report as part of this Annual Report. The CSR report also represents the separate non-financial Group report of SGL Carbon SE, which was subjected to a limited assurance engagement by KPMG AG Wirtschaftsprüfungsgesellschaft. This report will be available from March 23, 2023 on the website at www.sglcarbon.com in the “Company/Sustainability” section.

Research and development

Integration of research and development activities into the business units shows success

As of January 1, 2021, the activities of the central research and development department were fully integrated into the four business units. This further strengthens the proximity of development to the customer and focuses strategic research and development projects with more intensity on near-term market opportunities. Successes from this integration are explained in the following sections on the respective business units. Also in the 2022 fiscal year, the protection of expertise at SGL Carbon was increased with new patent applications.

The development activities of the business units derive directly from the strategic objectives of the product groups or business lines and are shaped by the market trends, customer requirements and market environment in each case.

Highlights from the business units (unaudited)

BU Graphite Solutions – focus on strategic growth topics

The development activities of the GS BU are aligned along the strategic growth areas in digitization, mobility and energy. A particular focus is on silicon carbide power semiconductors, which are used in all these areas: Components made of special graphite are crucial for their efficient production. The comprehensive product portfolio of BU GS was further developed based on semiconductor manufacturers' requirements regarding physical properties, chemical purity and homogeneity of the graphite materials. In addition, there are development projects in place to support the expansion of production capacities. This will enable the unit to meet the sharp rise in demand for graphite for manufacturing silicon carbide semiconductors. Graphite components with ceramic coatings are used for the processing of semiconductor chips. The innovative coating approaches introduced in 2022 help to increase yields and durability in semiconductor process technology.

Graphite anode material for lithium-ion batteries and gas diffusion layers in addition to bipolar plates as fuel cell components represent further development focuses for BU GS. Progress has been made in terms of both product properties and manufacturing processes.

Among other things, BU GS manufactures electrical contact materials in the Mechanical Solutions business unit. High-performance contact materials are being developed, in particular for the latest wind turbines, as part of an innovative project.

BU GS can now look back on a 50-year history in the area of graphite sealing materials. Sigraflex® seals represent the current standard in sealing technology. The innovative "iNXT" sealing plate with a novel surface treatment was successfully launched on the market in 2022.

In terms of sustainability, all BU GS product groups have development strands in common for the evaluation and sampling of alternative raw materials and for optimizing the efficiency of the manufacturing processes. These serve to ensure medium to long-term security of supply and resource-friendly production. Moreover, GS is running projects to promote a circular economy. This will further expand the use of by-products in our manufacturing processes, which already takes place to a considerable extent.

BU Process Technology – technology leader through development and innovation

The aim of all development activities in the PT business unit is differentiation from the competition through technological advantage. This is achieved through continuous new product developments and improvements, by optimizing costs, and through strategic partnerships with leading research institutions and companies from different industries. Key principles here include optimizing resource use, increasing energy efficiency and reducing emissions and waste streams.

For example, a research project is using artificial intelligence to develop basic principles for the optimized use of carbon materials in pressure vessel construction. This will enable pressure-bearing components made of carbon materials to be designed more efficiently and thus save resources.

BU Carbon Fibers – stronger focus on sustainability aspects

BU CF conducts various research activities on sustainable carbon fibers. In particular, the cooperation with the Chair for Carbon Composites at the Technical University of Munich in connection with the "Green Carbon" funding project was successfully completed. Bio-based acrylonitrile was used for the first time, and the corresponding carbon fiber was tested in the research consortium. BU CF is also evaluating additional approaches to sustainable carbon fiber.

BU Composite Solutions – future field e-mobility

The core activities of the business unit CS is with composite components for automotive applications in the mobility sector. With the switch to zero-emission drives, the automotive industry is currently undergoing the greatest transformation since its inception; completely new applications such as battery housings demand innovative solutions. Composite materials are often ideally suited for this. However, customer knowledge is still limited, especially when it comes to highly efficient large-scale production of composite components.

In order to be a technical leader and provide our customers with the support they need, we have closely aligned internal development at SGL Carbon with the needs of our customers. Although the previously mentioned battery housing applications are subject to stringent requirements in terms of impact and fire exposure, composite materials provide a particularly good solution. Our internally developed test benches for these load cases exceed current industry standards and have enabled us to develop materials and components at the highest level over the past year. This means we can already answer the most important customer questions and establish precisely defined development objectives in the inquiry phase of a project. We supplement our material expertise with component design know-how and simulation capabilities so that we can offer our customers solutions up to the finished product from a single source.

In the area of sustainable composites, fiber-reinforced composites with a reduced CO_2 footprint and improved recyclability, we consistently drove forward our development last year. An extensive screening program on sustainable raw materials in fibers, resins and auxiliaries was completed and materials were identified that can be used in future series applications. In addition, tests on reprocessing fiber composite components were performed with various partner companies in the recycling industry.

Sustainability forms the central plank for current and future development. All development activities are checked to see how they contribute to improving the sustainability of our products. The aim is to offer composite components with a significantly lower carbon footprint in accordance with our customers' sustainability objectives.

Industrial cooperation and research networks as the key to success (unaudited)

SGL Carbon continues to be an active member of the executive committees of the international scientific carbon societies.

As a co-founder of the Lithium-Ion Battery Competence Network (Kompetenznetzwerk Lithium-Ionen-Batterien, KLiB), SGL Carbon works together with BASF, Bosch, Daimler, BMW and other companies and institutes to develop the value chain for lithium-ion batteries in Europe, and appoints the chairman of the board of this committee.

SGL Carbon is an active member of Composites United e.V. This association of companies and research institutions covers the entire value chain of high-performance fiber composites in Germany, Austria and Switzerland.

In addition, SGL Carbon is a member of the Working Group on Carbon (Arbeitskreis Kohlenstoff, AKK) and is represented on its board. This is an independent interest association in both the German Ceramic Society and the European Carbon Association that aims to promote research in the field of carbon.

Economic Report

Overall economic and industry-specific underlying conditions

Economic conditions

Global inflation, Russia's war in Ukraine and a resurgence of COVID-19 in China have put pressure on the global economic activity in 2022. After a decline in growth forecasts in the first half of the year, the outlook improved slightly in the second half. Despite the prevailing challenges, the growth rate of the real gross domestic product (GDP) in the third quarter of 2022 was surprisingly strong in many economies, including the United States, the eurozone, and key emerging and developing economies. In many instances, the reasons for this development were specific to the respective countries. These include stronger-than-expected private consumption, higher investment combined with tight labor markets and higher-than-expected fiscal support.

Overall, the IMF (International Monetary Fund) expects global inflation to have peaked at 8.8% in 2022, as most central banks have taken appropriate measures to contain inflation. On the supply side, the elimination of supply chain problems and falling transport costs have reduced pressure on factor prices and enabled an upswing in previously affected sectors, such as the automotive industry. After an initial price explosion, energy markets in Europe have adjusted quicker than expected to the loss of gas volumes from Russia.

According to estimates by the IMF, the global economy grew by 3.4% in 2022. Development was slightly better than expected during 2022 both in industrialized countries (+2.7%) and in emerging and developing countries (+3.9%). The original outlook from January 2022 assumed global economic growth of +4.4%, followed by 3.6% in April 2022 and +3.2% July and October 2022.

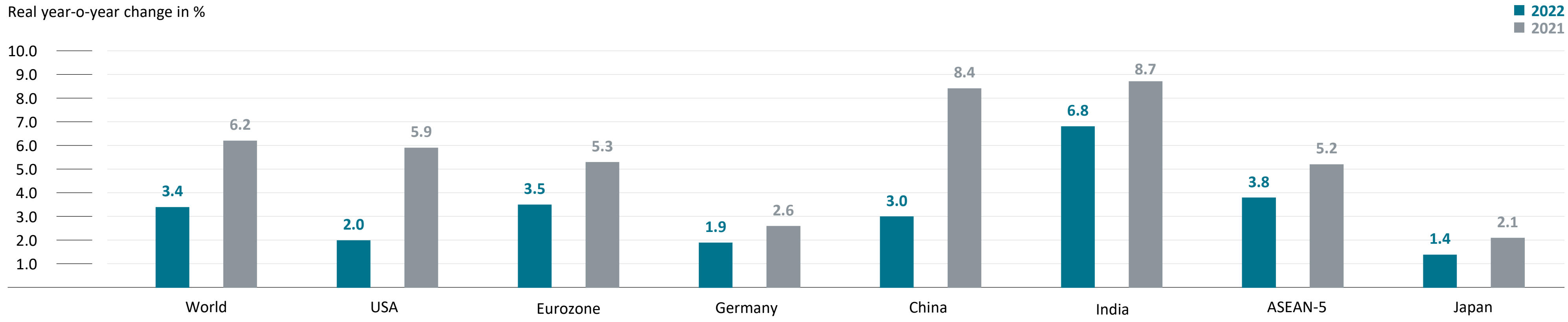
The outlook for economic growth in 2022 was noticeably gloomier in the USA. While +4.0% growth was expected in January 2022, this more than halved in the following quarters to +1.6% in the October forecast. A slight recovery was noted in the final quarter, resulting in +2.0% growth for 2022 in the January 2023 forecast. The IMF sees the reasons for this slight recovery to be the continued high propensity to consume among Americans, unemployment at a historic low and numerous job opportunities.

European economic growth in 2022 was more resilient than expected considering the economic impact of the war in Ukraine. In January 2022, the IMF still expected 3.9% growth. As a result of the Russian invasion of Ukraine and rising interest rates due to the ECB's anti-inflationary policy, growth expectations fell sharply in the first half-year to just 2.3% in the IMF's July forecast. With 3.5% growth recorded in January 2023, the eurozone economy turned out to be more resilient than originally expected. This resilience, as reflected in third quarter consumption and investment data, partly reflects government support of about 1.2% of European Union GDP for households and businesses affected by the energy crisis, as well as the dynamism of economies reopening after the coronavirus pandemic.

Inflation is around 10% or above in several eurozone countries. As a result, household budgets remain strained. The acceleration of interest rate hikes by the European Central Bank tightened financial conditions and cooled demand, especially in the real estate sector as well as in other sectors.

The rapid spread of COVID-19 in China dampened growth in 2022, but the recent reopening paved the way for a faster-than-expected recovery. Economic activity in China slowed in the fourth quarter due to several large COVID-19 outbreaks in Beijing and other densely populated areas. The outbreaks were accompanied by renewed closures until COVID-19 restrictions were eased in November and December 2022. However, the mood among consumers and businesses remained subdued at the end of 2022. China's downturn slowed the growth of world trade and the increase in international raw material prices. Due to these factors, the growth of the Chinese economy of 3.0% in 2022 remained far below the level of previous years.

Gross domestic product in 2022 (2021) at a glance



Source: IMF, World Economic Outlook (Update) January 2023

Development of important customer industries

Market segment mobility

Automotive industry: Supply chain bottlenecks largely resolved – a changeover to electromobility accelerated by geopolitical influences
The automotive industry continued to recover during 2022 from the impact of the microchip shortage. According to the industry experts at IHS Markit and Roland Berger, global production figures increased by around 7% to just under 81 million vehicles. Only the European market did not follow this trend, falling short of the previous year's production figures for the third year in a row at minus 6%.

After a promising start to 2022, the automotive market was hit by Russia's war of aggression in Ukraine. The resulting increases in energy costs, including the uncertainty of sufficient availability in Europe and particularly in Germany, were reflected throughout the industry in price increases, among other things. Due to inflation as well as rising interest rates, sales in the new vehicle segment are expected to decline in 2023.

In addition to increasing fossil fuel prices, the efforts of a global reduction of CO_2 emissions is a key factor influencing the automotive industry. Political efforts are therefore increasingly being made to tax conventional drives and the resulting CO_2 emissions and thus reduce them. This will continue to accelerate the changeover to alternative drive systems.

Sales of battery electric vehicles (BEVs) increased by 63% in the first half of 2022, according to industry expert Canalys. China leads the way with a total BEV market share of 26% of new registrations, followed by Europe with 20% and the USA with 6%. The upcoming market launch of additional vehicle models with alternative drive systems and their further technical development will also increase the share of BEV vehicles in new registrations and thus also in the global automotive market. All global vehicle manufacturers are electrifying their platforms and vehicles. In the short to medium term, the entire product range is expected to be equipped with alternative drive systems, with a few exceptions in the supercar segment.

The use of composites in lightweight construction, battery enclosures and fuel cell drives has been consolidated in 2022 and will become more established as a standard solution in the future, opening up further vehicle segments.

Market segment energy

Lithium-ion batteries: Booming demand for electromobility
Lithium-ion batteries (LIB) are key components for the growing electromobility in the automobile industry. They are also increasingly important for storing the electricity produced by renewable energy installations. The need as well as the demand for high-performance batteries for electric vehicles is high and therefore the automotive industry has now become the most important driver of this market, in terms of both volume and technological advancement. The industry forum InsideEVs states that approximately 7.8 million electric vehicles will have been sold globally in 2022, representing a sales increase of approximately 70% compared to the previous year.

SGL Carbon is a leading global supplier of synthetic graphite anode materials for lithium-ion batteries. The versatile in-house production process enables us to flexibly adapt our products to special application requirements.

Fuel cells: Attractive niche in the development stage
Fuel cells continue to gain importance as part of the global energy transition. The market research company MarketandMarkets (MaM) cites numerous factors for this, such as stringent global standards for greenhouse gas emissions, increasing research and development grants, the increasing demand for energy-efficient power generation, and the increasing demand for public and private fuel cell electric vehicles. MaM estimates global sales in the fuel cell market at approximately USD 2.9 billion for 2022. Stationary fuel cells for power generation are by far the most important area of application. End users are primarily in transportation, which includes fuel cell vehicles.

SGL Carbon develops and produces carbon-based products for polymer electrolyte membrane (PEM) fuel cells, including gas diffusion layers (GDL) and foils as separator plates for fuel cells and redox batteries (expanded graphite).

Wind industry: Expansion of wind energy in 2022 burdened by high material costs
The global transition from fossil to renewable energy is being fueled by two factors. First, the high prices of fossil fuels and electricity caused by the global energy crisis made renewable technologies more economically attractive. Second, the Russian invasion of Ukraine raised awareness that renewable energy leads to greater energy security. In addition, Europe's REPowerEU plan, the U.S. Inflation Reduction Act, and China's latest five-year plan and market reforms inspired the installation of additional plants for renewable energy generation in 2022 on the order of 350 to 400 GW, with nearly 90% of all new renewable energy plants coming from solar and wind power. The costs for renewable energy and carbon dioxide played only a marginal role, proving that in this energy crisis, the transition to renewable energy is the solution, not the problem. According to the IEA, renewable energy will transform the global electricity mix by 2027, becoming the largest power source.

Higher efficiency and capacity drive larger wind turbines with rotor blades over 100 meters long. Carbon fiber is needed for strength and stability. The profitability of turbine manufacturers has come under pressure due to the development of high material and energy costs, which led to a temporary fall in production, construction and installation of wind turbines in 2022.

Solar/Polysilicon: Energy crisis prompts increased expansion of renewable energy
The photovoltaics (PV) industry is the most important end market for polysilicon. A significant impulse for the expansion of renewable energies, and thus also for photovoltaics, took place in 2022 as a result of the war in Ukraine and the energy crisis it triggered. In addition, higher global fossil fuel prices have made solar and wind energy more competitive compared to other energy sources. A good 30% of the world's renewable power generation capacity is based on solar energy. The International Energy Agency (IEA) estimates that global photovoltaic installations increased by 23% in 2022 to approximately 1101 GW, and PV is expected to surpass coal to become the world's largest electricity generation capacity by 2027. It can therefore be assumed that the demand for polysilicon will remain high in the future to support the expansion of renewable energies.

With components made of special graphite, SGL Carbon offers solutions for the highly sensitive process of crystal growth in the manufacture of solar cells for the photovoltaics industry. These include heaters, crucibles and heat shields made of high-purity fine-grain graphite or carbon fiber-reinforced carbon, as well as insulation components made of graphite felts.

Market segment digitization

Semiconductors/polysilicon: Booming semiconductor demand drives investments for their production facilities to new record highs
The semiconductor industry is the second major processor of polysilicon, after photovoltaics. Expectations of a global recession, rising inflation and higher interest rates had a strong impact on PC demand (including notebooks) among both private consumers and business customers. Therefore, the demand in 2022 fell significantly, with a decline of 16.2% (2021: +9.9%), and it is assumed that PC demand among business customers is unlikely to grow again before 2024 [Gartner]. The global market for smartphones is also subject to subdued consumer demand due to rising inflation and consumer reluctance in light of economic uncertainties. In a recent publication based on preliminary data, the International Data Corporation (IDC) predicts a decline in smartphone sales of 11.3% for 2022. According to Gartner, global sales in 2022 in the semiconductor market increased by 1.1% (2021: +25.1%). The decline in sales growth was also marked in the semiconductor market by high inflation, rising interest rates, higher energy costs and the COVID-19 lockdown in China [Gartner]. The industry association SEMI estimates that sales of production systems and equipment for the semiconductor industry in 2022 exceeded the record level of the previous year by 5.9%. The growth is mainly due, among other things, to a current trend within the semiconductor industry toward silicon carbide semiconductors (SiC). These are used in applications such as electric vehicles, 5G communications and data centers. As these applications are growing substantially, the leading manufacturers started to expand their production capacities in 2022 and this trend is expected to continue for years [Tessolve].

With components made of specialty graphite, SGL Carbon offers solutions for the manufacture of semiconductors. Examples include graphite crucibles, heating elements and susceptors made of graphite, as well as silicon carbide-coated products and special graphite felts for thermal insulation.

LED: An energy-saving solution in traditional lighting applications
LEDs are durable, economical, ecologically beneficial and flat. They replace conventional technologies and enable a large number of innovative applications in lighting and electronics, in automotive engineering and in various industrial processes to medicine. In the largest LED segment, residential and commercial lighting applications, demand was subdued in the first half of 2022, according to TrendForce, driven by the economic outlook due to rising inflation, higher energy costs, the slowdown in the real estate market, and the impact of the pandemic. Fortunately, the declines were subsequently offset by the reopening of countries in Europe and North America following the return of the coronavirus pandemic, as well as the need for energy-saving solutions, particularly in Europe and Japan. TrendForce therefore assumes in its outlook that growth in the global LED lighting market will be around 0.5% in 2022. In the second largest segment, automotive applications, TrendForce expects that the penetration rate of LED headlights in conventional and electric vehicles will increase in 2022 (conventional from 60% to 72%, electric from 90% to 92%).

With components made of specialty graphite, SGL Carbon offers solutions for the manufacture of LEDs. Silicon carbide susceptors (rotating wafer carriers) made of graphite are crucial for quality.

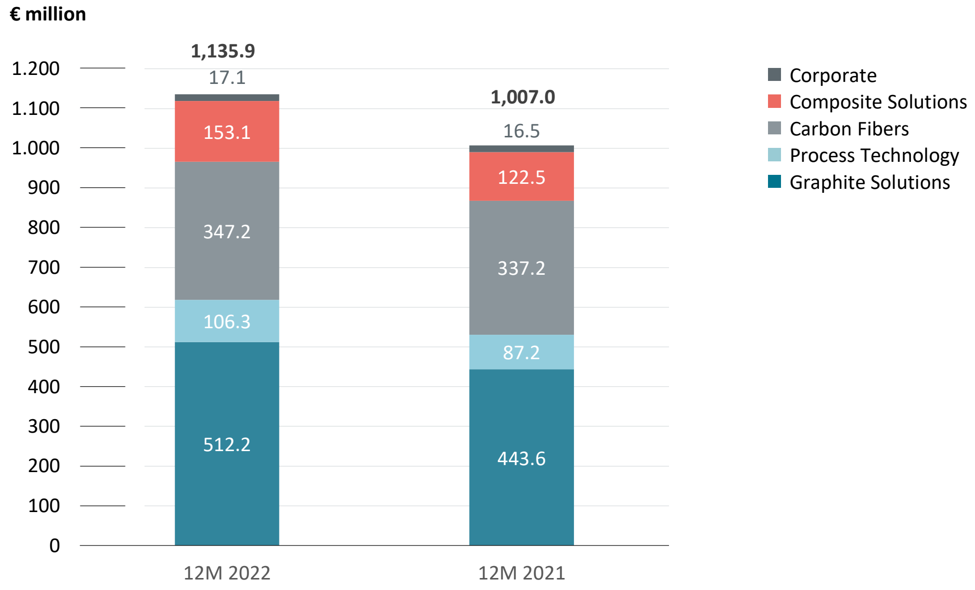
Market segment chemicals

Weakening of the chemical industry due to weaker global economic growth
Growth in the global chemical and pharmaceutical industry slowed significantly in 2022. The main reason for this is the decline in chemical production in Europe, which was particularly affected by increasing energy prices. Global demand for pharmaceuticals slowed after the COVID-19 vaccine boom in the previous year. The German Chemical Industry Association (VCI) estimates that the industry increased its global production by a total of 2.8% (2021: +9.7%). Excluding pharmaceuticals, growth was +2.1% (2021: +6.7%), mainly due to a 5.5% increase in production in China, by far the world's largest chemical producer. Regionally, North America and Asia stood out on the positive side in 2022 with production growth of +3.9% and +3.2%, respectively, while Western Europe lagged with a decline of -4.3%. The main reason for this development is Europe's heavy dependence on energy imports from Russia, especially for natural gas. In the USA, chemical production increased by 4.4%, largely driven by lower energy costs compared to other regions. Japan (-2.8%) also suffered from high energy prices. In Germany, the decline was -10.5%, and for petrochemicals and their derivatives it was as much as -15.3%.

SGL Carbon's business (Process Technology business unit), which focuses on capital investments at chemical plants, is typically late-cyclical and was able to benefit in 2022 due to catch-up effects related to the coronavirus pandemic.

Group business development

Group sales revenue development



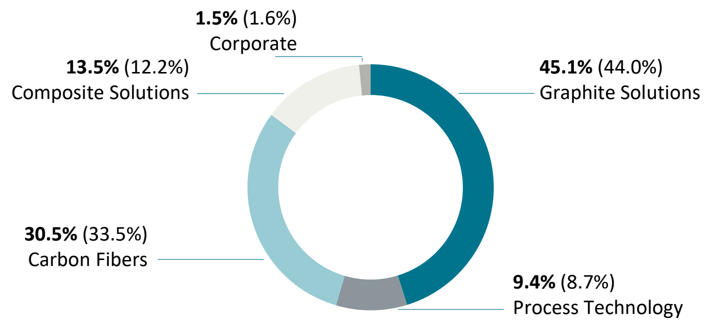
Sales revenue growth in all four business units

The sales revenue of SGL Carbon increased in the 2022 fiscal year by €128.9 million or 12.8% to €1,135.9 million (2021: €1,007.0 million). All operating business units contributed to this increase in sales. Adjusted for foreign exchange (currency translation effects), the increase was 9.5%. Currency translation effects result from the currency translation of foreign subsidiaries whose functional currency differs from the functional currency of the Group (euro).

The increase in sales is based on the one hand on price effects. Due to significantly higher costs for raw materials, energy as well as transport and logistics, price initiatives were successfully implemented in the 2022 fiscal year, thus passing on a large part of the cost increases to customers. On the other hand, increased demand for SGL Carbon materials and products led to a positive volume effect. Currency translation effects were positive throughout the fiscal year and resulted primarily from a stronger US dollar against the euro. This development was largely supported by the significant interest rate hikes by the US Federal Reserve (Fed), which began early on.

The largest share of consolidated sales revenue is attributable to the Graphite Solutions business unit with 45.1% (2021: 44.0%) and Carbon Fibers with 30.5% (2021: 33.5%). Composite Solutions and Process Technology contributed 13.5% (2021: 12.2%) and 9.4% (2021: 8.7%) respectively to consolidated sales revenue. Corporate sales revenue remained virtually unchanged at 1.5% (2021: 1.6%).

Sales by business unit 2022 (2021)



All four operating business units developed positively in the 2022 fiscal year and contributed to the increase in consolidated sales revenue totaling €128.9 million. The largest contribution to the increase in sales revenue was made by the Area Graphite Solutions business unit (GS) with +€68.6 million, followed by Composite Solutions with +€30.6 million. Process Technology contributed €19.1 million, Carbon Fibers (CF) €10.0 million and Corporate €0.6 million to the increase in sales revenue.

Looking at the sales development based on market segments of SGL Carbon, customer orders from the semiconductor industry (Digitalization market segment) and the significant recovery in the Industrial Applications segment in particular contributed to the sales revenue growth of SGL Carbon as a whole, with increases of €62.0 million (+49.6%) and €60.3 million (+28.5%), respectively. Sales to customers in the chemical industry also developed positively, increasing by €21.8 million (+19.4%). In the Mobility market segment, sales remained virtually unchanged (+0.2%) despite the scheduled expiry of a major contract with an automotive customer. Due to the change in the product mix, sales in the Energy market segment decreased by €17.6 million (-10.3%). A detailed presentation of the revenue performance of the individual business units can be found in the segment information in this Group management report.

Regional development of consolidated sales revenue: Europe remains the largest sales market

Europe was again the core focus of SGL Carbon's business with sales revenue of €530.7 million, representing 46.7% of the total (2021: 49.8%). Germany continued to be the largest single market with a share of €294.5 million, or 25.9% of the total (2021: 30.6%). With sales revenue of €329.2 million, Asia was again the second-largest region, with a slightly lower sales share of 29.0% (2021: 29.7%). Sales revenue in the USA region improved significantly to €213.8 million and increased to a share of 18.8% (2021: 15.6%).

Sales revenue by target region

€m	2022	Share	2021	Share	Change
Germany	294.5	25.9%	308.3	30.6%	- 4.5%
Europe excluding Germany	236.2	20.8%	193.0	19.2%	+ 22.4%
USA	213.8	18.8%	156.8	15.6%	+ 36.4%
China	181.1	16.0%	165.5	16.4%	+ 9.4%
Other Asia	148.1	13.0%	133.5	13.3%	+ 10.9%
Rest of world [1)]	62.2	5.5%	49.9	4.9%	+ 24.6%
Total	**1,135.9**	**100.0%**	**1,007.0**	**100.0%**	**+ 12.8%**

[1)] Latin America, Africa, Canada, Australia

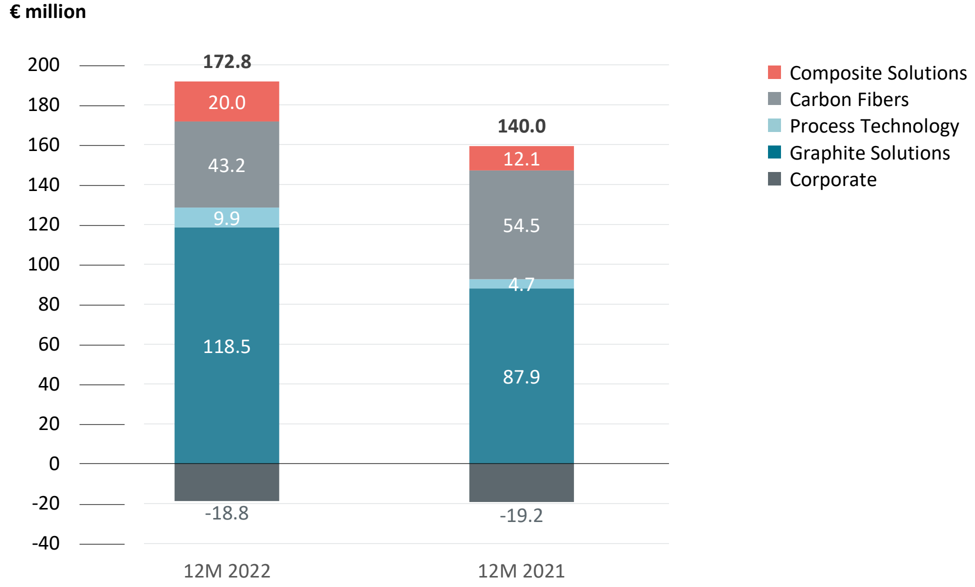
Financial performance of the Group

The earnings situation of SGL Carbon improved significantly in the 2022 fiscal year. As one of the key performance indicators, adjusted EBITDA increased compared to the previous year from €140.0 million to €172.8 million. The positive increase of €32.8 million (+23.4%) is based both on the increase in consolidated sales revenue and the associated higher capacity utilization, as well as on optimized product allocation. Added to this were the positive results of the transformation and the consistent continuation of strict cost management. By contrast, the significant higher purchase prices compared to the previous year for raw materials, energy, transport and logistics had a negative impact, most of which was passed on to customers through price increases. Accordingly, the adjusted EBITDA margin increased from 13.9% in the previous year to 15.2% in the reporting period.

In light of the challenging conditions due to the effects of the war in Ukraine and the COVID policy in China, but also the expiry of a high-margin contract with a major automotive manufacturer at the end of June 2022, the improvement in earnings in the 2022 fiscal year is all the more encouraging. While the earnings situation was still burdened by one-off costs for energy derivatives in the first quarter of 2022, the energy price hedges concluded ensured production capability in the Carbon Fibers (CF) business unit, particularly in the third quarter of 2022. Compared to numerous European competitors who had to curtail or completely shut down their production capacities due to high energy prices, CF was able to continue producing and supplying existing as well as new customers.

The Graphite Solutions (GS) business unit, with its focus on high-margin orders, also contributed to the improvement in SGL Carbon's earnings. In particular, the allocation and expansion of materials and products for the semiconductor industry contributed to the increase in profitability of GS. This was accompanied by the positive business development of the Process Technology and Composite Solutions business units, which also improved their margins compared to the previous year. A detailed presentation of the earnings situation in the business unit can be found in the results of operations of the reporting segments in this Group management report.

Earnings development - EBITDA adjusted



The trends presented are also reflected in the Group's consolidated income statement.

Income Statement (presentation adjusted)

€m	2022	2021	Change
Sales revenue	1,135.9	1,007.0	12.8%
Cost of sales	–875.3	–784.1	11.6%
Gross profit	**260.6**	**222.9**	**16.9%**
Selling expenses	–107.6	–95.1	13.1%
Research and development costs	–29.3	–31.0	–5.5%
General and administrative expenses	–41.2	–42.0	–1.9%
Other operating income/expense	11.3	7.9	43.0%
Result from investments accounted for At-Equity	18.2	17.0	7.1%
EBIT pre	**112.0**	**79.7**	**40.5%**
Non-recurring items and one-off effects	8.9	30.7	–71.0%
EBIT	**120.9**	**110.4**	**9.5%**
Financial result	–26.3	–28.3	–7.1%
Result from continuing operations before income taxes	**94.6**	**82.1**	**15.2%**
Income tax expense	31.3	–6.2	-
Non-controlling interests	–0.5	–0.5	0.0%
Consolidated net result - continuing operations	**125.4**	**75.4**	**66.3%**
Result from discontinued operations, net of income taxes	1.5	-	-
Consolidated net result (attributable to the shareholders of the parent company)	**126.9**	**75.4**	**68.3%**
Earnings per share, basic (in €)	1.04	0.62	67.7%
Earnings per share, continuing operations, basic (in €)	1.03	0.62	66.1%

Improved gross margin

The cost of sales increased at a lower rate than revenue growth (+12.8%), increasing by 11.6% to €875.3 million, resulting in an improvement in the gross margin from 22.1% to 22.9%. This was due in particular to improved utilization of production capacities combined with price increases and savings from the transformation program.

Selling, R&D and administrative expenses

With an increase of 13.1%, selling expenses rose slightly faster than sales revenue to €107.6 million (2021: €95.1 million). The increase in selling expenses compared to the previous year was primarily due to increased delivery volumes and higher transport and logistics costs, particularly in the second and third quarters of 2022. The war in Ukraine and the temporary lockdowns in China meant that transport routes were disrupted in some cases and the prices of delivery of goods were significantly higher.

By contrast, research and development costs decreased slightly by 5.5% to €29.3 million (2021: €31.0 million). This was due in particular to the integration of the previously centrally managed R&D activities into the operating business units, which was accompanied not only by an improved concentration of research activities on customer-oriented areas but also by a reduction in personnel and material costs in the R&D area.

The biggest cost effects from the transformation program were already realized in the previous year. Given the merging of central functions, general administrative expenses fell by 9.7% in 2021. In the 2022 fiscal year, general administrative expenses decreased again by 1.9% to €41.2 million. General administrative expenses also include the variable compensation components of the management level, the amount of which is based primarily on the positive earnings performance of the Company. The further reduction in administrative expenses reflects the continuation of strict cost management.

Other operating income and expenses

Other operating income and expenses that cannot be allocated to functional costs amounted to net income of €11.3 million in 2022 (2021: net income of €7.9). Foreign currency effects resulted in a loss of €0.5 million in 2022 (2021: income of €0.6 million). Conversely, income from public grants for projects of €6.4 million (2021: €6.8 million) and insurance payments of €3.6 million (2021: €3.2 million) were included in the reporting year.

Result from investments accounted for At-Equity

Due to the positive business development of our joint venture Brembo SGL (BSCCB), net income from investments accounted for At-Equity increased by 7.1% to €18.2 million in 2022 (2021: €17.0 million). Brembo SGL is one of the leading manufacturers of carbon ceramic brake discs, which are mainly used in sports and luxury vehicles.

One-off effects and non-recurring items

We use adjusted EBITDA and adjusted EBIT as our key earnings indicators. The key earnings figures are adjusted for the following effects:

- Effects of impairment (IAS 36), purchase price allocation (IFRS 3) and write-downs of assets held for sale (IFRS 5)
- Income / expenses from restructuring
- Proceeds from the sale of land and buildings
- Proceeds from insurance claims, except where offset by costs incurred in the reporting period
- Other material one-off effects that do not reflect the development of the business.

In the 2022 fiscal year, the Group recorded positive non-recurring items and one-off effects totaling €8.9 million (2021: €30.7 million).

This includes income from restructuring totaling €24.7 million (2021: €0.2 million), which is attributable to the agreement concluded in the first quarter of 2022 on the termination of the lease agreement relating to land not required for operations at the former Frankfurt-Griesheim site. In addition to the termination of the lease, the agreement also provides for clearing the site and dismantling the facilities. The termination agreement resulted in a total impact on income of €26.2 million in 2022 due to the reversal of provisions and liabilities and the mutual payment obligations. This resulted on the one hand from the reversal of provisions no longer required, including restoration obligations in the amount of €12.5 million, and on the other hand from a write-down of €1.9 million on the right to use the land. With the termination of the lease by entry in the land register, which took place at the end of October 2022, the remaining short-term lease liability of €15.6 million was derecognized in income in the fourth quarter of 2022 and a net payment of €1.0 million was made. In subsequent years, there will be further cash outflows for the dismantling of the facilities amounting to a maximum of around €6 million. In return, the previous burden from the ground lease of around €1 million per year until the end of the original term in 2066 will no longer apply. In addition, expenses from restructuring mainly include costs for personnel-related measures as part of the transformation program amounting to minus €1.5 million, resulting in total income from restructuring of €24.7 million (2021: €0.2 million).

The effects of purchase price allocations amounting to minus €5.7 million (2021: minus €10.2 million) relate to the amounts capitalized or recognized as liabilities from the acquisition of the SGL Composites companies.

The one-off effects totaled minus €10.1 million (2021: €40.7 million). In connection with the signing of the contracts for the sale of the SGL site in Pune (India) and the operating business in Gardena (USA), one-off effects of minus €2.9 million and minus €6.0 million, respectively, were incurred from the write-down of assets to the lower fair value, taking into account project costs. In addition, there were one-off effects in connection with pension obligations amounting to minus €5.5 million and other net one-off effects amounting to minus €1.4 million. Offsetting positive one-off effects of €5.7 million resulted from the derecognition through profit or loss of compensation payments received in previous years for dismantling and disposal costs in connection with the lease agreement at the Meitingen site terminated by Showa Denko, as the contract costs were lower than planned.

The overview below shows the influence of the one-off effects and non-recurring items on the determination of the key financial indicators.

	2022	2021
EBIT	**120.9**	**110.4**
-/+ Income / expenses from restructuring	–24.7	–0.2
+ Impairment and PPA-Effects	5.7	10.2
+/- one-off effects	10.1	–40.7
EBIT pre	**112.0**	**79.7**
+ Amortization/depreciation expense on other intangible assets and property, plant and equipment	60.8	60.3
EBITDA pre (= EBIT pre plus depreciation and amortization)	**172.8**	**140.0**

Adjusted EBIT further improved

In line with the positive development of adjusted EBITDA, with depreciation of property, plant and equipment and amortization of other intangible assets remaining virtually constant, adjusted EBIT improved by 40.5% to €112.0 million in the reporting period, compared with €79.7 million in the previous year.

Taking into account non-recurring items and one-off effects totaling plus €8.9 million (2021: plus €30.7 million), EBIT amounted to €120.9 million (2021: €110.4 million).

Financial result optimized

€m	2022	2021	Change
Interest income	0.9	0.8	12.5%
Interest expense on financial debt and other interest expenses	–17.9	–18.4	–2.7%
Imputed interest convertible bonds	–2.9	–3.0	–3.3%
Imputed interest financing lease	–1.4	–1.6	–12.5%
Interest expense on pensions	–3.0	–2.4	25.0%
Interest expense, net	**–24.3**	**–24.6**	**–1.2%**
Amortization of refinancing costs	–3.1	–2.9	6.9%
Foreign currency valuation of Group loans	–1.5	–0.7	>100%
Other financial income/expense	2.6	–0.1	-
Other financing result	**–2.0**	**–3.7**	**–45.9%**
Financial result	**–26.3**	**–28.3**	**–7.1%**

The net financial result in 2022 was minus €26.3 million, a slight improvement of 7.1% compared to the previous year (minus €28.3 million). This is attributable to an improvement in the other financing result from minus €3.7 million in the previous year to minus €2.0 million.

While interest income was essentially unchanged at €0.9 million (2021: €0.8 million), the interest expense decreased slightly to €17.9 million (2021: €18.4 million). Interest expenses include, in particular, interest on the corporate bond issued in April 2019 with an interest rate of 4.625% and the cash interest component (coupon) for the 2018/2023 convertible bond with an interest rate of 3.0% as well as the convertible bond 2022/2027 issued in September 2022 for €101.9 million with an interest coupon of 5.75%. The average cash interest rate in 2022 was 4.38% p.a. (2021: 3.9% p.a.).

The non-cash imputed interest cost on the convertible bonds is established by taking the difference between the below-market coupon and the comparable market interest rate at the time the convertible bonds were issued. The imputed interest on a capitalized property lease and on non-current provisions and liabilities also resulted in non-cash interest expenses of €1.4 million, which are reported separately in the net financial result (2021: €1.6 million). Due to higher discount rates, the interest expense on pensions in the 2022 fiscal year was €3.0 million, significantly higher than the previous year's expense of €2.4 million.

For further information, please refer to Note 24 to the Consolidated Financial Statements.

Overall, the other financing result was minus €2.0 million in the 2022 fiscal year (2021: minus €3.7 million). In addition to the non-cash expenses for amortizing the refinancing costs of €3.1 million (2021: €2.9 million), the "other financial result" includes currency effects on intra-Group loans and a positive earnings effect of €2.9 million from the repurchase of convertible bonds by the Company, reported under other financial income and expenses.

Group tax expense positive due to deferred taxes

For the financial year 2022, tax income totaled €31.3 million (previous year: €6.2 million tax expense), which corresponds to an increase of €37.5 million compared to the previous year. This development was mainly due to valuation adjustments on deferred tax assets amounting to €41.8 million, based on the good business development with correspondingly positive earnings prospects in the USA. At €11.4 million (previous year: €11.9 million), current tax expenses were slightly below the previous year's level and result from the positive operating earnings contributions of several Group companies.

For further information, please refer to Note 10 to the Consolidated Financial Statements.

Income attributable to non-controlling interests virtually unchanged

Non-controlling interests in the consolidated net result (minority interests) comprise the share of income attributable to minority shareholders. Minority interests in the SGL Carbon Group in the 2022 fiscal year related in particular to SGL Gelter and SGL A&R Immobiliengesellschaft in Lemwerder. At minus €0.5 million, the result attributable to non-controlling interests was unchanged compared to the previous year (2021: minus €0.5 million).

Discontinued operations

Earnings from discontinued operations after income taxes increased to €1.5 million (2021: €0.0 million). Earnings in the 2022 fiscal year were mainly due to the reversal of remaining provisions in connection with the sale of the former Aerostructures business unit, which was completed in 2015.

SGL Carbon generates a positive consolidated net result

Taking into account the non-controlling interests and the result from discontinued operation, SGL Carbon returned to a positive consolidated net result of €126.9 million in fiscal year 2022 (2021: €75.4 million). This is a clear sign that the transformation of the Company and the focus on growth markets with higher-margin business has not only led to a stabilization of the financial situation, but has also put SGL Carbon back on the path to profitable growth. Based on an average number of shares of 122.3 million, basic earnings per share for 2022 amounted to €1.04 (2021: €0.62). When calculating diluted earnings per share, the potential new shares to be created from the 2018/2023 convertible bond and the 2022/2027 convertible bond must be taken into account. Diluted earnings per share for the reporting year amounted to €1.02 (2021: €0.62).

Net result of SGL Carbon SE

SGL Carbon SE, the parent company of the SGL Group, reported net income of €241.8 million for the 2022 fiscal year (2021: €196.5 million) in accordance with the German Commercial Code. The net income for the year is mainly the result of reversals of impairment losses on financial assets amounting to €207.2 million due to the improved earnings situation of Group companies (2021: the intra-Group sale of an investment with income of €100.9 million). Offsetting effects resulted from impairment losses on financial assets amounting to €38.4 million at SGL Carbon SE and at its German subsidiaries. Despite the net income for the year, taking into account the accumulated loss carried forward from 2021 in the amount of €911.9 million, the total accumulated loss for 2022 was €670.1 million.

Financial performance of reporting segments

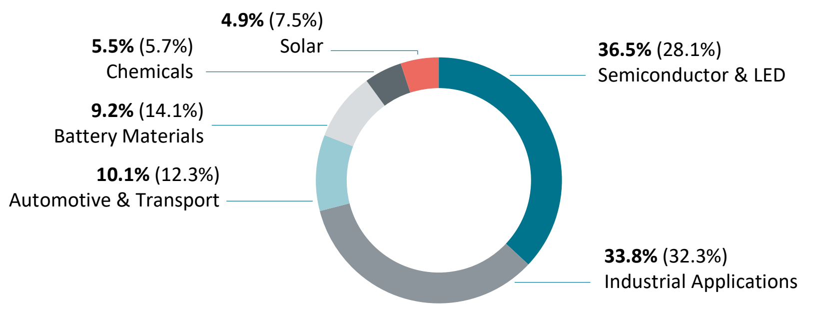
Reporting segment Graphite Solutions

€m	2022	2021	Change
Sales revenue	512.2	443.6	15.5%
EBITDA pre	118.5	87.9	34.8%
EBIT pre	88.9	58.8	51.2%
EBIT	86.0	68.7	25.2%
EBITDA pre margin	23.1%	19.8%	3.3%-points
Capital expenditures in intangible assets and property, plant and equipment	33.3	31.5	5.7%
Headcount (Year end)	2,527	2,444	3.4%

The largest business unit of SGL Carbon, "Graphite Solutions" (GS), improved its sales revenue and earnings figures in the reporting year. GS increased its sales revenue by 15.5% to €512.2 million compared to the previous year (2021: €443.6 million). The increase is due primarily to the development of the important Semiconductor & LED and Industrial Applications market segments. Compared to the previous year, revenue with customers in the semiconductor & LED industry increased by 49.6% and in the industrial applications sector by 21.0%. In particular, high customer demand for materials and components for the manufacture of high-performance silicon carbide semiconductors increased revenue in this market segment. Silicon carbide-based semiconductors are the next generation of semiconductors. They are more powerful, smaller, extremely efficient, and lose less energy. They are used mostly in the field of electromobility, in wind and solar energy, and wherever higher-performance semiconductors are required. For example, SiC semiconductors can significantly increase the range of an electric vehicle or shorten its charging time. The GS business unit also supplies important components essential for high-temperature processes for the manufacture of semiconductors.

Comparable components are also used in the solar industry. Since some of the production capacities were needed to supply the semiconductor industry, the share of sales of the Solar market segment decreased by 23.3% in the reporting period. The Semiconductor, Industrial Applications and Solar market segments account for around three-quarters of the GS business unit's sales revenue.

GS business unit sales revenue by market segment 2022 (2021)



In conjunction with the increase in revenue, adjusted EBITDA improved by 34.8% to €118.5 million (2021: +39.3% to €87.9 million). The adjusted EBITDA margin increased accordingly from 19.8% to 23.1%. There was a positive impact from both volume effects due to higher sales revenue and from margin effects related to the product and customer mix. In particular, higher sales to customers in the semiconductor industry should be considered here.

Adjusted EBITDA in the GS business unit was affected by price increases in raw materials and energy costs in the reporting year, as well as by temporary increases in personnel costs to cover peak capacity periods. However, the higher costs could be passed on to customers through successful pricing initiatives.

Adjusted EBITDA does not include non-recurring items and one-off effects of minus €2.9 million (2021: €9.9 million). These include in particular expenses from the restructuring of pension obligations (minus €2.5 million).

Capital expenditures in the GS business unit totaled €33.3 million in 2022, slightly above the previous year (2021: €31.5 million). Capital expenditures were primarily made in new systems and machines for our focus markets of semiconductors and battery materials. Construction also started on a new plant for the production of soft felt at the Meitingen site. Graphite felts are used as insulation materials in high-temperature processes, including in the semiconductor industry.

Reporting segment Process Technology

€m	2022	2021	Change
Sales revenue	106.3	87.2	21.9%
EBITDA pre	9.9	4.7	>100%
EBIT pre	8.2	2.8	>100%
EBIT	4.5	3.1	45.2%
EBITDA pre margin	9.3%	5.4%	3.9%-points
Capital expenditures in intangible assets and property, plant and equipment	1.0	0.4	>100%
Headcount (Year end)	517	531	–2.6%

In fiscal 2022, the Process Technology (PT) business unit benefited from the good order situation in recent months and increased its sales revenue by 21.9% to €106.3 million. The PT business unit's main customers are from the chemical industry, who already started to catch up on postponed orders from the peak of the coronavirus pandemic in 2021. From order entry to order delivery, PT can sometimes take several months, as components are developed and built individually and are tailored to the customer.

The positive development of PT is also reflected in the adjusted EBITDA. This more than doubled compared with the same period of the previous year, from €4.7 million to €9.9 million. Higher capacity utilization and the successful transfer of increased raw material costs led to an improvement in the adjusted EBITDA margin from 5.4% in 2021 to 9.3% in 2022. Energy costs play only a minor role in PT.

Adjusted EBITDA does not include non-recurring items and one-off effects of minus €3.7 million (2021: €0.3 million). These include in particular expenses related to the sale of the Pune site in India (€2.9 million). The contract for the sale of the site was signed at the end of 2022. Closing is expected in the first half of 2023. One-off impacts from the restructuring of pension obligations amounting to minus €0.8 million are also included.

Capital expenditures in the business unit totaled €1.0 million in fiscal 2022 (2021: €0.4 million). PT's capital intensity is significantly lower than that of the other business units because due to project-based contract manufacturing and the service business.

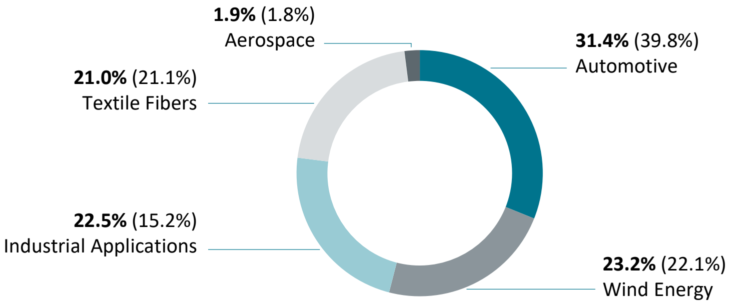
Reporting segment Carbon Fibers

€m	2022	2021	Change
Sales revenue	347.2	337.2	3.0%
EBITDA pre	43.2	54.5	–20.7%
EBIT pre	26.3	38.9	–32.4%
EBIT	21.3	30.9	–31.1%
EBITDA pre margin	12.4%	16.2%	–3.8%-points
Capital expenditures in intangible assets and property, plant and equipment	9.6	7.7	24.7%
Headcount (Year end)	1,131	1,108	2.1%

In the reporting year, sales revenue in the Carbon Fibers (CF) business unit increased by 3.0% to €347.2 million (2021: €337.2 million). The increase in sales is all the more gratifying, since CF had to cope with the planned expiration of a contract with an important automotive customer at the end of June 2022. These sales were offset by orders from customers in the wind industry and industrial applications. Accordingly, sales revenue from the wind industry increased by 8.2%, whereas sales revenue from automotive customers decreased by 18.8%. In contrast, sales revenue from customers in the Industrial Applications market segment increased by 51.9% to €78.1 million. This makes this the third largest market segment for CF, after the automotive and wind industries (€108.8 million and €80.7

million, respectively). Sales revenue of textile fibers remained almost unchanged at €73.0 million (2021: €71.3 million).

CF business unit sales revenue by market segment 2022 (2021)



Adjusted EBITDA in the CF business unit decreased by 20.7% compared to the previous year, to €43.2 million (2021: €54.5 million). This earnings performance is mainly due to the expiration of the high-margin automotive contract at the end of the first half of 2022. Although sales were offset by Wind Energy and Industrial Applications orders, these were at lower margins. In addition, a special effect from energy derivatives impacted CF earnings in the amount of €9.2 million in the first quarter of 2022. However, energy price hedging allowed the business unit to maintain its production capability throughout the fiscal year, thus mitigating the weakening of earnings. The BSCCB joint venture, which is accounted for using the equity method, contributed €16.3 million to the CF result (2021: €16.0 million).

Despite energy price hedging, the energy-intensive business unit was burdened by significantly higher energy, transport and logistics costs compared with the previous year. However, by successfully passing on these price increases to customers, the increased costs were almost completely offset.

Adjusted EBITDA does not include non-recurring items and one-off effects of €0.0 million (2021: €1.5 million), which mainly include restructuring measures (minus €0.3 million), expenses for the reorganization of pension obligations (minus €0.2 million), and income from asset disposals (plus €0.5 million). In addition, EBIT includes amortization of minus €5.0 million (previous year: minus €9.5 million) in relation to purchase price allocation.

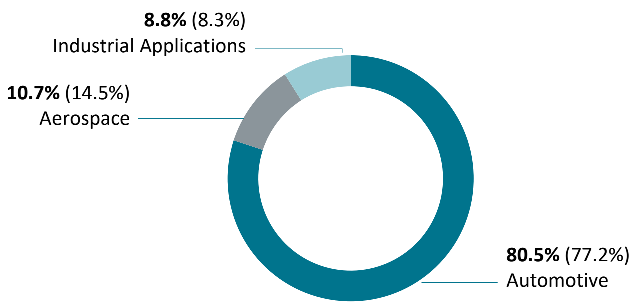
In the reporting year, the business unit's capital expenditures totaled €9.6 million, thus exceeding the previous year's level (2021: €7.7 million). This was mainly due to pure maintenance investments as well as the start of construction of a biomass facility at the Portugal plant.

Reporting segment Composite Solutions

€m	2022	2021	Change
Sales revenue	153.1	122.5	25.0%
EBITDA pre	20.0	12.1	65.3%
EBIT pre	14.1	4.8	>100%
EBIT	7.0	4.8	45.8%
EBITDA pre margin	13.1%	9.9%	3.2%-points
Capital expenditures in intangible assets and property, plant and equipment	5.9	8.2	–28.0%
Headcount (Year end)	454	416	9.1%

The Composite Solutions (CS) business unit continued its upward trend in fiscal year 2022, with sales revenue increasing by 25.0% to €153.1 million (2021: €122.5 million). The most important market segment for this business unit is the automotive industry, which accounts for just under 80% of its sales revenue. Increased orders from the automotive industry, such as for leaf springs and battery boxes for electric vehicles, contributed to the increase in sales revenue at CS. Overall, sales revenue from automotive industry customers increased by 30.3% to €123.3 million in fiscal year 2022 (2021: €94.6 million). Other market segments include the aerospace industry with a revenue share of 10.7% and other industrial applications with 8.8%.

CS business unit sales revenue by market segment 2022 (2021)



The CS business unit significantly improved its financial performance in line with the extremely positive business development. Adjusted EBITDA increased by 65.3% to €20.0 million, a disproportionately increase compared with the increase in sales (+25.0%). The successful implementation of pricing initiatives to pass on higher raw material and energy costs to customers contributed to the improvement in CS's earnings, as did strong sales growth in all product lines accompanied by increased capacity utilization. Added to this were positive effects from compensation payments received from automotive customers in the first half of 2022 for early project completions amounting to €3.7 million. The adjusted EBITDA margin improved accordingly from 9.9% to 13.1%.

Adjusted EBITDA does not include non-recurring items and one-off effects of minus €6.4 million (2021: €0.6 million). These include €0.4 million in expenses from the reorganization of pension obligations and from restructuring. One-off effects of €6.0 million were incurred in connection with the conclusion of a sales agreement regarding operational business activities at the Gardena site (USA); the closing took place on February 16, 2023. EBIT also includes amortization of minus €0.7 million in relation to purchase price allocation (2021: minus €0.6 million).

Capital expenditures in the CS business unit were down from the previous year at €5.9 million (2021: €8.2 million). Capital expenditures focused in particular on the expansion of the "Large Scale Solutions" product area at the Innkreis production site in Austria.

Reporting segment Corporate

€m	2022	2021	Change
Sales revenue	17.1	16.5	3.6%
EBITDA pre	–18.8	–19.2	–2.1%
EBIT pre	–25.5	–25.6	–0.4%
EBIT	2.1	2.9	–27.6%
Headcount (Year end)	131	181	–27.6%

The Corporate reporting segment reported sales revenue of €17.1 million in fiscal 2022, slightly above the previous year's level (2021: €16.5 million). The Corporate segment includes income from the rental of buildings and the provision of services to third parties.

Adjusted EBITDA improved slightly to minus €18.8 million (2021: minus €19.2 million) in line with continued strict cost management as part of the transformation. Contributing to this was a decrease in the number of employees in the Corporate area due to job cuts as part of the transformation program during the year; the integration of the previously central laboratory department at the Meitingen site into the operating business units also had an effect.

Adjusted EBITDA does not include non-recurring items and one-off effects of €27.6 million (2021: €28.5 million). It does include income from the termination of a lease to a plot of land not required for operations at the former Frankfurt-Griesheim site (€26.2 million) as well as compensation payments received for dismantling and disposal costs for the lease terminated by Showa Denko (€5.7 million). Also included are one-off effects from the restructuring of pension obligations (minus €1.9 million), from restructuring (minus €0.8 million), and other one-off effects totaling minus €1.6 million.

Corporate capital expenditures amounted to €3.1 million (2021: €2.2 million) and comprised maintenance investments as well as additionally acquired software licenses.

Financial position

Financial management

SGL Carbon's financial management is conducted centrally in order to control liquidity, interest rate and exchange rate risk as best as possible, to ensure compliance with financial covenants, to optimize borrowing costs and to take advantage of economies of scale. The activities of financial management essentially include cash and liquidity management, Group financing via bank and capital market products, financing activities and money supply for Group companies, customer credit management and the management of interest rate and currency risks.

The primary objective of financial management is to maintain the financial strength of SGL Carbon and ensure solvency at all times. Group Treasury — a centralized function at the management holding company SGL Carbon SE — controls the activities of financial management worldwide and is supported in its activities by employees in the subsidiaries.

Liquidity management

Operational liquidity management is coordinated and controlled centrally. Control is carried out in close cooperation with the national and international subsidiaries. To the extent that it is legally and economically possible, the majority of cash in freely convertible currencies is concentrated in the Group holding company, SGL Carbon SE, using global cash pooling structures and is used for intragroup liquidity balancing between the Group companies. The majority of internal trading and clearing processes are automated via the centrally managed in-house cash center and processed without the need of external bank accounts. Here, the Group holding company acts as a clearing center for participating Group companies. The number of companies participating in the central in-house cash center was 30 at the end of 2022 (2021: 30). Where permitted, the weekly payments of supplier invoices are also processed via the global in-house cash center, meaning the Group's global outflow of liquidity is managed centrally. In the 2022 fiscal year, an average of approximately 99% (2021: 99%) of global supplier payments were processed centrally.

In order to ensure that the standards achieved are maintained over the long term, SGL Carbon works with KPIs (key performance indicators), which are used to regularly measure and continuously optimize the results achieved in terms of the degree of standardization of payment transactions and the associated average costs.

In addition to annual financial planning — which usually extends over a period of five years — liquidity planning is carried out at short-term intervals of one day to one year. The combination of financial and liquidity planning, the free liquidity available, the unutilized credit line and other measures ensure that SGL Carbon has sufficient liquidity reserves at all times. As an additional element of liquidity management, the enterprise has concluded factoring agreements under which trade receivables are regularly sold to factoring partners. The enterprise can react flexibly to cash flow fluctuations during the year and meet all payment obligations in good time at all times.

Cash and cash equivalents are invested taking into account the provision of sufficient liquidity for cash flow fluctuations during the fiscal year and the financial stability and systemic importance of SGL Carbon's business partners. In addition, the performance and the success of cooperation with business partners over recent years are taken into account when investing funds.

Market price risks

When necessary, SGL Carbon uses both primary and derivative financial instruments to limit financial market price risks, in particular exchange rate and interest rate risks. Derivative financial instruments are only used to minimize and control financial risks. In terms of currency management, SGL Carbon concentrates on hedging the transaction risk from expected future operating cash flows. Here, the following key risk positions are considered:

- US dollar – euro
- Japanese yen – US-dollar
- Japanese yen – euro
- Euro – Polish zloty
- Chinese renminbi – euro
- Euro – British pound

Foreign currency forwards and, in some cases, standardized ("plain vanilla") option transactions are regularly used as hedging instruments to hedge against currency risks. Various currency hedging transactions were concluded in 2022 to hedge the FX risk for that fiscal year and the following year. Due to the use of exclusively fixed-interest financing instruments, there is currently no need for interest rate hedging. Therefore, no interest rate hedges were carried out in 2022. In individual cases, energy or raw material price derivatives are also concluded to hedge against price risks, as was done by one associate in 2022. Details on this and the impacts of hedging transactions can be found in Note 27 in the Notes to the Consolidated Financial Statements.

Debt financing analysis

Group financing is based on the strategic business plans of the operating business units and central Group planning. The financing of SGL Carbon consists primarily of the outstanding amount of the 2019/2024 corporate bond of €240.0 million (coupon: 4.625%, maturing in 09/2024), the 2022/2027 convertible bond of €101.9 million issued in 2022 (coupon: 5.75%, maturing in 09/2027), the remaining amount of €31.6 million of the 2018/2023 convertible bond (coupon: 3.0%, maturing in 09/2023) and various bilateral loans totaling €24.6 million, with in some cases have remaining terms until 2032. An unutilized credit line of €175.0 million maturing in January 2024 was also available as of the reporting date. In March 2023, the Company agreed with its banking partners on an early extension of its syndicated €175 million credit line, which was undrawn at the balance sheet date and matures in January 2024. The agreement with a continuing total volume of €175 million provides in detail for a credit line of €100 million for general corporate purposes and a further line of €75 million for the refinancing of capital market liabilities.

On September 21, 2022, SGL Carbon SE successfully placed non-subordinated and unsecured convertible bonds with a total nominal value of €101.9 million, maturing in September 2027. The conversion price was set at €8.3298, representing a 25% premium on the reference price of €6.6638. The fair value of the conversion rights (€17.0 million) was taken to the capital reserve upon the issue of the convertible bond and simultaneously deducted from the convertible bond liability. The coupon is 5.75% p.a., payable every half-year in arrears from March 21, 2023.

The proceeds from the convertible bond placement in September 2022 were used to buy back convertible bonds due in 2023 with a nominal value of €86.5 million, to lengthen the maturity profile and for general business purposes. Together with the €25.0 million buyback in the first half of 2022 and the €8.2 million buyback in October 2022, this meant that €31.6 million in convertible bonds due in 2023 remained in issue as of December 31, 2022. Given that their maturity is within one year, they are disclosed under current liabilities.

In addition, €10.0 million of the corporate bond was bought back in the fourth quarter of 2022. At the end of the 2022 fiscal year, the company had available credit lines for working capital and capital expenditure totaling €175.0 million (2021: €175.0 million). Cash and cash equivalents totaled €227.3 million as of December 31, 2022 (2021: €220.9 million).

Certain real estate, IT equipment and vehicles have been partially financed through leases. Details can be found in Note 24 in the Notes to the Consolidated Financial Statements.

SGL Carbon commissions the rating agencies Moody's and Standard & Poor's to create an issuer rating to support investors in their credit assessment.

The commissioned rating agencies have assigned the following Group ratings to SGL Carbon:

Rating agency	Rating	Date of rating
Moody's	B2 (outlook: stable)	February 2023
Standard & Poor's	B- (CreditWatch positive)	September 2022

These credit ratings from the rating agencies enable access to the capital market for potential issuances of capital market instruments.

Significant positive free cash flow

The cash flow statement shows the change in SGL Carbon's cash and cash equivalents in the reporting period. The cash inflows and outflows are classified as operating activities, investing activities and financing activities. Free cash flow is defined as cashflow from operating activities less cash flow from investing activities. Cash and cash equivalents as reported on the cash flow statement reflect the figure disclosed in the balance sheet.

Free cash flow declined to €67.8 million, compared to the previous year's figure of €111.5 million. Details are included in the consolidated cash flow statement in the consolidated financial statements.

Liquidity and capital resources

€m	2022	2021	Change
Cash flow from operating activities			
EBIT	120.9	110.4	9.5%
Non-recurring items and one-off effects	–8.9	–30.7	–71.0%
Depreciation/amortization expense	60.8	60.3	0.8%
Changes in working capital	–8.0	18.3	-
Income taxes paid	–12.5	–12.2	2.5%
Miscellaneous items	–57.9	–31.7	82.6%
Cash flow from operating activities	**94.4**	**114.4**	**–17.5%**
Cash flow from investing activities			
Payments to purchase intangible assets and property, plant and equipment	–52.9	–50.0	5.8%
Dividend payments and capital repayments from investments accounted for At-Equity	15.7	15.8	–0.6%
Proceeds from the sale of intangible assets and property, plant & equipment	10.6	31.3	–66.1%
Cash flow from investing activities	**–26.6**	**–2.9**	**>100%**
Free Cash flow	**67.8**	**111.5**	**–39.2%**
Cash flow from financing activities	–60.1	–33.9	77.3%
Effect of foreign exchange rate changes and other changes	–1.3	1.5	-
Cash and cash equivalents at beginning of year	220.9	141.8	55.8%
Cash and cash equivalents at end of year	**227.3**	**220.9**	**2.9%**
Net change in total cash and cash equivalents balance	**6.4**	**79.1**	**–91.9%**

Cash flow from operating activities of €94.4 million

In the 2022 fiscal year, the cash flow from operating activities was €94.4 million (2021: €114.4 million). This decline, which occurred in spite of improved operating performance, was due primarily to changes in net working capital, which increased by €8.0 million in contrast to an €18.3 million reduction in 2021. In addition, a payment of €11.0 million was made for settlement in connection with the termination of the lease in Frankfurt-Griesheim, which is included in miscellaneous items. The miscellaneous items also include adjustment for the non-cash income arising from the restructuring and the result from investments accounted for using the equity method. The taxes paid also rose slightly to €12.5 million on account of the improved earnings (2021: €12.2 million).

Cash flow from investing activities

Capital expenditure was €52.9 million for the 2022 fiscal year, above the level in 2021 (€50.0 million). This reflected the ongoing cautious investment policy and was substantially below the depreciation and amortization expense of €60.8 million (2021: €60.3 million). Further disclosures on capital expenditure are given in the “Capital expenditure, depreciation and amortization” section.

The cash proceeds from dividends from investments accounted for using the equity method were €15.7 million (2021: €15.8 million), at the previous year’s level due to the good financial performance of the BSCCB joint venture.

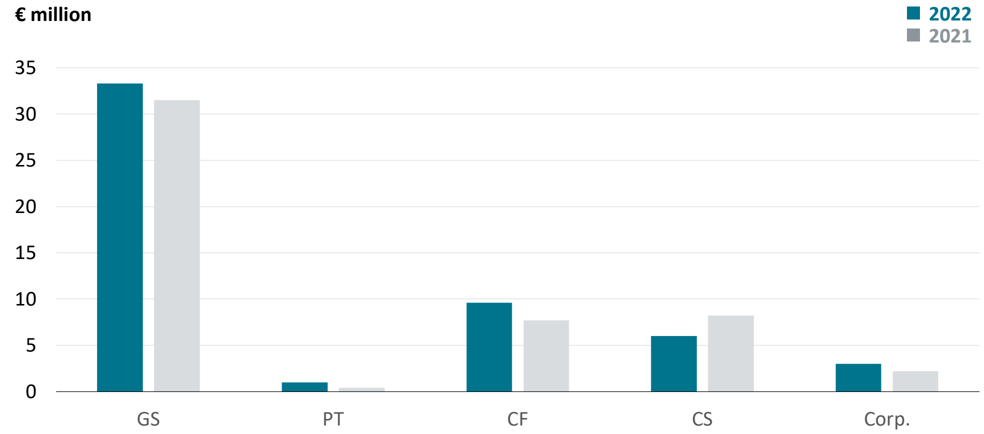
As well as the €11.0 million payment made for the settlement of contamination risks in Frankfurt-Griesheim, which is recorded in cash flow from operating activities, the termination and transfer of the lease to a real estate developer also gave rise to an inflow of €10.0 million, recorded as proceeds from the disposal of intangible assets and property, plant and equipment. In the 2021 fiscal year, this figure included in particular the proceeds of €30.6 million from the sale of two sites that were not required for operating purposes.

Due to the proceeds from sale of land and buildings in 2021, as well as the slight increase in capital expenditure, the net cash outflow from investing activities increased substantially from minus €2.9 million in 2021 to minus €26.6 million in 2022.

Capital expenditure, depreciation and amortization

€m	2022	2021
Capital expenditures in intangible assets and property, plant and equipment	–52.9	–50.0
Depreciation/amortization expense	60.8	60.3

Capital expenditure by business unit



The payments for capital expenditures in the 2022 fiscal year mainly related to the following projects:

- Extension of vertical integration in the manufacture of graphite anode material in Nowy Sacz (Poland)
- Replacement of a transformer in Morganton (USA)
- Capacity increase in St. Marys (USA)
- Extension of purification capacity for the semiconductor and solar industry in Shanghai (China)
- Construction of a biomass plant for steam production in Lavradio (Portugal)
- Capacity increase for the soft felt plant in Meitingen

Details of the capital expenditure can be found in the sections on the respective reporting segments.

Cash flow from financing activities

In the reporting year, the cash flow from financing activities was minus €60.1 million (2021: €33.9 million). In the 2022 fiscal year, the cash used to repay financial debt amounted to

€29.0 million (2021: €1.1 million). This comprised the early repurchase of €119.7 million of the 2018/2023 convertible bond, the buyback of €10.0 million of the corporate bond and the repayment of €6.2 million in bank loans (2021: €6.1 million), net proceeds of €101.9 million from the issue of the new 2022/2027 convertible bond and €5.0 million from a new bank loan. Interest paid of €18.6 million (2021: €19.5 million) was slightly lower than the previous year due to the lower gross debt, while payments on lease liabilities remained constant at €9.5 million (2021: €9.5 million).

Other financing activities included payments of €2.5 million in connection with the newly issued convertible bonds and dividend payments to non-controlling interests of fully consolidated subsidiaries in the amount of €0.5 million (2021: €3.1 million).

Cash and cash equivalents increased

The available cash and cash equivalents increased to €227.3 million at the end of the 2022 fiscal year (2021: €220.9 million), mainly due to the positive free cash flow.

Contractual payment obligations

The most important contractual payment obligations comprise the repayment of borrowings, purchase obligations and obligations from leasing agreements. At the end of 2021, the obligations from borrowings totaled a nominal €398.1 million (2021: €427.2 million). These essentially consist of the corporate bond issued in April 2019, of which €240.0 million remains outstanding (maturity 09/2024), the nominal amount of €31.6 million that remains outstanding to third parties in relation to the convertible bond issued in 2018, and the convertible bond with a nominal value of €101.9 million issued in 2022. The convertible bonds mature in September 2023 and September 2027 respectively, at which point they will either be repaid or, if the bondholders exercise their conversion rights, will lead to the creation of up to 14.7 million new bearer shares.

Financial trade obligations, derivative financial instruments, lease liabilities and other financial liabilities amounted to €186.3 million as of December 31, 2022 (2021: €160.9 million). Of this amount, a total of €31.9 million (2021: €32.0 million) had a remaining term of more than one year. Liabilities for income taxes and other liabilities amounted to €38.5 million at the end of 2022 (2021: €38.4 million). Further details can be found in Note 24 in the Notes to the Consolidated Financial Statements.

As of the reporting date, obligations for orders in connection with investment projects totaled €32.3 million (2021: €9.2 million).

Net assets

The following table shows selected key figures for the Group's net assets:

Overview of net assets

€m	Dec. 31, 22	Dec. 31, 21
Total assets	1,480.3	1,376.3
Equity attributable to the shareholders of the parent company	569.3	371.5
Equity ratio	38.5%	27.0%
Working Capital	345.3	341.2
Capital Employed	988.9	996.6
Return on capital employed (ROCE $_{\text{EBIT pre}}$)	11.3%	8.0%
Net financial debt	170.8	206.3
Leverage Ratio	1.0	1.5
Gearing	0.30	0.56

Balance sheet structure

€m	Dec. 31, 22	Dec. 31, 21	Change
ASSETS			
Non-current assets	693.0	666.6	4.0%
Current assets	776.0	709.7	9.3%
Assets held for sale	11.3	---	---
Total assets	**1,480.3**	**1,376.3**	**7.6%**
EQUITY AND LIABILITIES			
Equity attributable to the shareholders of the parent company	569.3	371.5	53.2%
Non-controlling interests	9.3	9.3	0.0%
Non-current liabilities	600.8	742.3	–19.1%
Current liabilities	298.1	253.2	17.7%
Liabilities in connection with assets held for sale	2.8	---	---
Total equity and liabilities	**1,480.3**	**1,376.3**	**7.6%**

Assets

Non-current assets increased slightly in the reporting year to €693.0 million (2021: €666.6 million). Significant changes resulted from the recognition of €41.8 million in deferred tax assets in the US and foreign exchange gains of €10.2 million, as well as the reduction of €11.9 million that resulted from the exit from a real estate lease in Frankfurt-Griesheim.

Capital expenditure of €52.9 million in the 2022 fiscal year was well below the level of depreciation on fixed assets (including amortization of the purchase price allocation) of €66.7 million, and therefore led to a decrease in fixed assets of €13.8 million (2021: decrease of €20.8 million) On the other hand, foreign currency translation, particularly due to the strong US dollar, increased non-current assets by €10.2 million (2021: €22.3 million). The carrying amount of investments accounted for at-equity increased by €6.2 million, as the negative measurement effect in relation to energy derivatives at an associate (recognized in OCI in 2021) ceased in 2022 (2021: reduction of €1.7 million). The reclassification of the Pune (India) and Gardena (US) sites to assets held for sale led to reductions of €2.4 million and €1.6 million, respectively, in non-current assets.

Current assets increased by €66.3 million to €776.0 million (2021: €709.7 million). Adjusted for currency translation effects, current assets increased by €65.3 million.

Working capital

€m	Dec. 31, 22	Dec. 31, 21	Change
Inventories	324.0	273.8	18.3%
Trade receivables and contract assets	182.4	182.6	–0.1%
Trade payables and contract liabilities	–161.1	–115.2	39.8%
Working capital	**345.3**	**341.2**	**1.2%**

Working capital as disclosed in the balance sheet rose by 1.2% or €4.1 million to €345.3 million as of December 31, 2022 (December 31, 2021: €341.2 million.). Due to the rising production volume, inventories in particular rose substantially by €50.2 million, thus contributing significantly to the increase in working capital. After adjusting for currency effects and changes in the scope of consolidation, inventories rose by €59.0 million. By contrast, trade receivables and contract assets were virtually unchanged, falling by €0.2 million or minus 0.1%; after adjusting for currency effects, the decrease was €3.5 million. The increase in working capital was diminished by the significant rise in customer advance payments within contract liabilities and the rise in trade payables, together totaling €45.9 million (2021: €37.6 million). After adjusting for the non-cash effects of currency translation and changes in the scope of consolidation, as well as the non-cash effects of IFRS 15, the effective increase in working capital was €8.0 million (2021: decrease of €18.3 million).

Cash and cash equivalents increased slightly by €6.4 million or 2.9% to €227.3 million (2021: €220.9 million). As a consequence of the impacts described above, total assets as of December 31, 2022, increased by €104.0 million or 7.6% to €1,480.3 million (2021: €1,376.3 million).

Equity and liabilities

Equity attributable to shareholders improved significantly by €197.8 million or 53.2% to €569.3 million as of December 31, 2022 (2021: €371.5 million). This increase is essentially based on the positive net result of €126.9 million. Other effects that increased equity related to the adjustment of pension provisions in Germany and the US of €46.1 million after tax effects (2021: €53.0 million), the fair value of the equity component calculated for the newly issued convertible bond of €17.0 million, an effect of minus €5.0 million from the repurchase of convertible bonds 2018/2023 recognized directly in equity and positive currency effects of €8.8 million (2021: €26.2 million), mainly due to the stronger US dollar, although this was offset by the weaker Chinese renminbi and British pound.

Overall, these effects significantly improved the equity ratio (excluding non-controlling interests) to 38.5% at the end of the reporting year (2021: 27.0%).

	Equity attributable to the shareholders of the parent company	Non-controlling interests	Total equity
December 31, 2021	**371.5**	**9.3**	**380.8**
Dividends	--	**–0.5**	**–0.5**
Equity component of the convertible bonds	12.0	0.0	12.0
Net result for the year	126.9	0.5	127.4
Other comprehensive income	58.9		58.9
Comprehensive income	**185.8**	**0.5**	**186.3**
December 31, 2022	**569.3**	**9.3**	**578.6**

Non-current liabilities decreased by €141.5 million to €600.8 million (2021: €742.3 million). The significant reduction in non-current liabilities was primarily due to the €49.4 million decline in convertible bonds, a €44.8 million reduction in pension provisions and the €29.3 million reduction due to the termination of the lease in Frankfurt-Griesheim.

The pension provisions, which are included in non-current liabilities, decreased significantly from €247.1 million at the end of 2021 to €202.3 million as of December 31, 2022, a significant decline of 18.1%. This was mainly due to the adjustment of the discount rates to reflect the higher long-term interest environment. The rate used for Germany was raised by 2.7 percentage points to 3.8%, while that for the US was raised by 2.1 percentage points to 5.1%. The overall reduction was €47.4 million. At the end of the third quarter, the pension scheme for all German-based employees was switched to a new, dynamic and flexible funded pension plan called "SGL Grundversorgung PLUS" (GV Plus) The introduction of GV Plus unified the previous company pension schemes for all personnel in Germany (for details, see Note 22 in the Notes to the Consolidated Financial Statements).

Following the repurchase in the 2022 fiscal year of €119.7 million in convertible bonds (maturing in 2023), a total of €31.6 million remained outstanding as of December 31, 2022 (2021: €151.3 million). Given that they mature within one year, they were reclassified to current liabilities. In addition, €10.0 million of the corporate bond was bought back in the fourth quarter of 2022.

The contractually agreed cancellation of the lease in Frankfurt-Griesheim led to a reduction of €29.3 million in other non-current provisions, of which €6.0 million was reclassified to current liabilities and €12.5 million was recognized as a one-off effect through profit or loss. The amount paid of €11.0 million was mostly offset by the proceeds of €10.0 million from the assignment of the lease to a real estate development company, such that the net cash outflow was only €1.0 million. The derecognition of the corresponding lease liability of €15.6 million was also recorded as a one-off effect in profit or loss, after deducting the excess carrying amount of €1.9 million on the asset side, was also recognized as a one-off effect through profit or loss.

Customer prepayments of €17.4 million received for the long-term financing of the order backlog in the GS business unit were disclosed for the first time as non-current contract liabilities in the 2022 fiscal year.

Current liabilities rose substantially by €44.9 million to €298.1 million at the end of the 2022 fiscal year (2021: €253.2 million), due to a €28.5 million increase in trade payables and contract liabilities and the reclassification of the €31.6 million liability in relation to the 2018/2023 convertible bond. By contrast, current provisions decreased by €11.0 million, mainly because of a €7.6 million reduction in provisions for variable remuneration.

The current portion of trade payables and contract liabilities rose to €143.7 million, a substantial rise of €28.5 million relative to the previous year (2021: €115.2 million). This was attributable to the expansion of the operating business. After adjusting for currency and consolidation effects of €1.5 million, the effective increase in trade payables and contract liabilities was €30.0 million.

Net financial debt

€m	Dec. 31, 2022	Dec. 31, 21	Change
Carrying amount of current and non-current financial liabilities	377.4	418.4	–9.8%
Remaining imputed interest for the convertible bond	17.0	4.8	>100%
Accrued refinancing cost	3.7	4.0	–7.5%
Total financial debt (nominal amount)	**398.1**	**427.2**	**–6.8%**
Cash and cash equivalents	**227.3**	**220.9**	**2.9%**
Net financial debt	**170.8**	**206.3**	**–17.2%**

At the close of 2022, financial debt totaled €398.1 million, with this figure made up as follows:

- Corporate bond 2019/2024 of €240.0 million
- Convertible bond 2018/2023 of €31.6 million
- Convertible bond 2022/2027 of €101.9 million
- Liabilities to banks of €24.6 million

For the reconciliation to the carrying amount of €377.4 million shown in the balance sheet, the net remaining imputed interest of the outstanding convertible bonds of minus €17.0 million (2021: minus €4.8 million) and the total refinancing costs of minus €3.7 million (2021: minus €4.0 million) must be taken into account. Financial debt are split by maturity in the consolidated balance sheet and reported accordingly under the items “Interest-bearing loans” and “Current portion of interest-bearing loans”. Changes in financial debt are explained in the section "Cash flow from financing activities".

Net financial debt fell by €35.5 million (-17.2%) to €170.8 million as of December 31, 2022. This reduction was due to the positive free cash flow of €67.8 million, less the interest paid of €18.6 million and lease payments of €9.5 million. Together with the €29.0 million net cash used from the repayment of debt and the other payments for financial activities of €3.0 million, as well as exchange rate differences of minus €1.3 million, this led to an increase in cash and cash equivalents of €6.4 million to €227.3 million.

The leverage ratio (net financial debt / adjusted EBITDA) was 1.0 at December 31, 2022 (2021: 1.5), having improved substantially due to higher profitability in combination with lower net financial debt. Gearing (net financial debt / equity attributable to shareholders of the parent company) was 0.30 at December 31, 2022 (2021: 0.56) and thus also reduced substantially.

Return on capital employed (ROCE)

€m	2022	2021
Capital Employed		
Intangible Assets incl. Goodwill	37.9	42.6
Property, plant and equipment	545.0	558.3
Investments accounted for At-Equity	60.7	54.5
Working capital	345.3	341.2
Capital employed as of 31.12. of the financial year	**988.9**	**996.6**
Capital employed as of 31.12. of the prior year	**996.6**	**999.7**
Average capital employed	**992.8**	**998.2**
ROCE $_{\text{EBIT pre}}$	11.3%	8.0%

The return on capital employed (ROCE $_{\text{adjusted EBIT}}$) increased significantly to 11.3% (2021: 8.0%). This was the result of improved performance in connection with a slight reduction in average capital employed.

Assets not recognized and off-balance sheet financing instruments

Various assets of SGL Carbon are not recorded on the balance sheet. Due to the application of IFRS 16, all material leased or rented assets have been recognized on the balance sheet since 2019. Since IFRS 16 was introduced, assets financed off-balance-sheet comprise leases for IT equipment, motor vehicles, photovoltaic systems and other property, plant and equipment that are of low value or are used only for a short period.

The volumes of these non-recognized assets and off-balance-sheet financing instruments have no material impact on the presentation of the net assets, financial position and results of operations. Details can be found in Note 25 in the Notes to the Consolidatd Financial Statements.

Unrecognized intangible assets also include the enterprise’s brand name and that of SGL Carbon’s products. In addition, SGL Carbon’s long-standing supplier and customer relationships are of considerable value. On the one hand, they stabilize the course of business and make the enterprise less dependent on short-term market fluctuations, and on the other hand, this intensive cooperation enables joint research and development projects in which the expertise and development capacities of the companies involved are bundled.

Funding status of pension obligations

As of December 31, 2022, the Group’s retirement benefit obligations amounted to €325.8 million compared to €392.9 million at the end of 2021. The funding status of the retirement benefit obligations (i.e., the difference between the present value of the retirement benefit obligations and the fair value of plan assets) was minus €199.7 million as of December 31, 2022, compared to minus €244.3 million as of December 31, 2021. The change was essentially due to the substantial increase in the pension interest rates in Germany and the US and the opposite effect of the reduction in fund assets due to decreases in market value. The actuarial losses from defined benefit plans, recognized in equity in retained earnings, increased by €46.1 million after taxes. Due to falling market values, the assets used to fund the retirement benefit obligations declined significantly from €148.7 million at the end of the previous year to €126.1 million as of December 31, 2022, despite the stronger US dollar exchange rate.

Further information on the impact on the balance sheet and income statement, and on pensions and similar obligations can be found in Note 22 in the Notes to the Consolidated Financial Statements.

Overall assessment of fiscal year 2022 by the Board of Management

Transformation successfully completed ahead of schedule and profitable growth continued

In fiscal year 2021, the focus was primarily on the transformation of SGL Carbon and the stabilization of the Company's balance sheet. The continued implementation of the measures initiated in the previous year laid the foundation for further improvement in the profitability of SGL Carbon in 2022. We successfully implemented the transformation program faster than expected and completed it early, at the end of 2022.

Cost savings of around €178 million as part of the transformation program made significant contribution to SGL Carbon's improved performance in the reporting year. Despite unforeseeable challenges such as Russia's war of aggression in Ukraine and the associated impact on the global economy, SGL Carbon succeeded in achieving significant operational, financial and strategic successes again in fiscal year 2022.

Operationally, in 2022 we focused on those market segments that show growth opportunities for the future, exhibit interesting margin profiles, and in which SGL Carbon already has an established market position. We will continue to expand our production capacities in these markets in the future. The focus markets are the semiconductor industry and in particular the rapidly growing field of silicon carbide-based semiconductors. Furthermore, we focus on mobility and on components for climate-friendly electric vehicles. We also supply materials and products for renewable forms of energy such as wind and solar power.

In fiscal year 2022, we increased our Group revenue by 12.8% to €1,135.9 million (2021: €1,007.0 million). All four business units contributed to the increase in revenue. Adjusted EBITDA, an important indicator of operating performance, increased at a faster rate than revenue, by 23.4% to €172.8 million (2021: €140.0 million). The improvement in earnings shows that we successfully passed on higher costs for raw materials, energy, and transport and logistics to our customers, which is also a sign of the quality of our products.

The further improvement in revenue and financial performance after 2021 reflects the resilience of our business model. Our diversified product and customer portfolio makes us less dependent on the development of individual markets. We are an important partner for our customers in industries that serve future trends: digitalization, climate-friendly mobility and the energy transition.

A key objective of the transformation was the stabilization of our balance sheet structure. As a result, we increased the equity ratio from 27.0% to 38.5%. Our net debt once again decreased significantly, from €206.3 million to €170.8 million. This means our leverage ratio was 1.0 (2021: 1.5), compared to 3.1 at the start of the transformation at the end of 2020. Our financial stability was also further strengthened by the early refinancing of the convertible bond from 2018, which will mature in 2023. The successful issue of the new convertible bond with a volume of €101.9 million and a term until 2027 also demonstrates the regained confidence of banks and capital market participants in SGL Carbon.

Original targets for the fiscal year exceeded

At the end of March 2022, we expected sales revenue to be at the prior-year level (€1,007.0 million) and adjusted EBITDA to be €110 – 130 million. This considered the possible impact of the Ukraine war on price developments, supply chains, transport and logistics, as well as the general conditions that prevailed at the beginning of 2022. Due to the good business performance in the first months of the reporting year, we raised our forecast for the year on June 7. Accordingly, at the beginning of June we expected sales revenue of €1.1 million and adjusted EBITDA of between €130 and €150 million.

Based on the special situation at the time, which included lower prices for acrylonitrile as the main raw material of the Carbon Fibers business unit and higher-than-expected customer demand for acrylic and carbon fibers, as well as consistently good production capacity utilization and capability, we again increased our forecast for the year on September 6, 2023. This assumed that general conditions would remain unchanged (sales revenue approx. €1.2 billion I adjusted EBITDA €170 –190 million). With sales revenue of €1,135.9 million and adjusted EBITDA of €172.8 million, we achieved our forecast for the year and significantly exceeded our original expectations for 2022, also due to the special situation in the Carbon Fibers business unit described above.

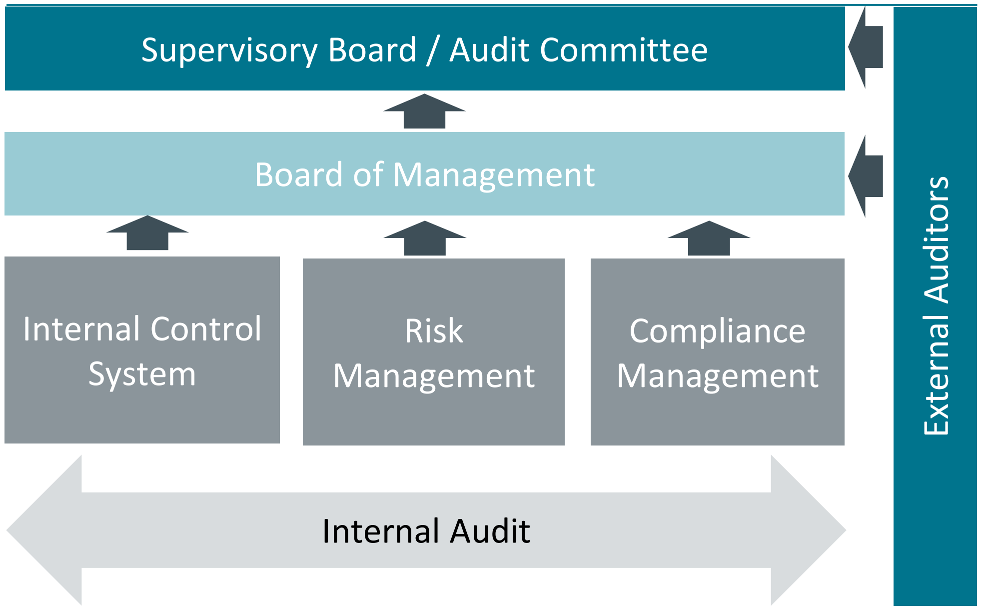
	Actual data 2021	Outlook for 2022 as published in the Annual Report 2021	Updated outlook for 2022	Actual data for fiscal year 2022
Sales revenue	€ 1,007.0 million	At prior year level	Approximately € 1.2 billion	€ 1,135.9 million
EBITDA pre	€ 140.0 million	€ 110 - 130 million	€ 170 - 190 million	€ 172.8 million
ROCE (EBIT pre)	8.0%	5% - 7%	10% - 12%	11.3%
Free cash flow	€ 111.5 million	Significant below prior year	Significant below prior year	€ 67.8 million

The financial development of SGL Carbon in 2022 shows that our reorientation has us on the right track. For fiscal 2023, we aim to preserve our improved financial performance and expand production capacities in our growth markets in order to continue improving our profitability in subsequent years.

Opportunities and Risks Report

Structural fundamentals

Corporate Governance Organization of SGL Carbon



In addition to the internal control system and compliance management, risk management is an integral component of corporate governance at SGL Carbon. The internal control system is designed to mitigate risks in the company's operating processes by implementing appropriate controls. The risk management system is used to identify and assess risks and opportunities and to respond appropriately to ensure that the company's objectives are achieved. The compliance management system deals with processes and measures to ensure compliance with legal requirements and internal policies. Both the risk management system and the internal control system of SGL Carbon are based on the currently valid COSO framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The compliance management system follows the international standard ISO 37301:21.

The involvement of the Internal Audit department as well as external auditors ensures process-independent monitoring of the governance systems.

The Board of Management of SGL Carbon is responsible for implementing suitable systems and monitoring them. Furthermore, the Supervisory Board monitors the effectiveness of the systems through the Audit Committee.

Risk Management System

Risk management strategy

SGL Carbon’s risk strategy is aimed at ensuring the company’s long-term continued existence as a going concern and attaining the planned financial targets and outlooks. In addition to the early identification of risks, opportunities for profitable growth should also be systematically recognized and used. Our aim is to avoid or limit risks through suitable control measures. Where possible and economically viable, risks should be transferred to third parties, for example by taking out insurance policies. Only viable risks are taken that are proportionate to the expected opportunities. One of the most important priorities is that the company has sufficient liquidity reserves available at all times.

The principles of risk management are anchored in a group-wide guideline and ensure the uniform implementation of the risk strategy. Therefore, the requirements for the early risk detection system in accordance with the German Stock Corporation Act [Aktiengesetz] have also been complied with. The management of non-financial risks is also integrated into the risk management system.

Risk management organization

At Group level, the chief financial officer is responsible for the adequacy and effectiveness of the risk management system. Organizationally, the Board of Management is supported by Group Controlling, which coordinates the risk management process at Group level. Group Controlling defines principles, processes, reporting channels and responsibilities, ensures that the group-wide risk management guidelines are up-to-date and continuously develops the risk management system. The primary responsibility for opportunities and risks lies with the heads of the business areas and central departments.

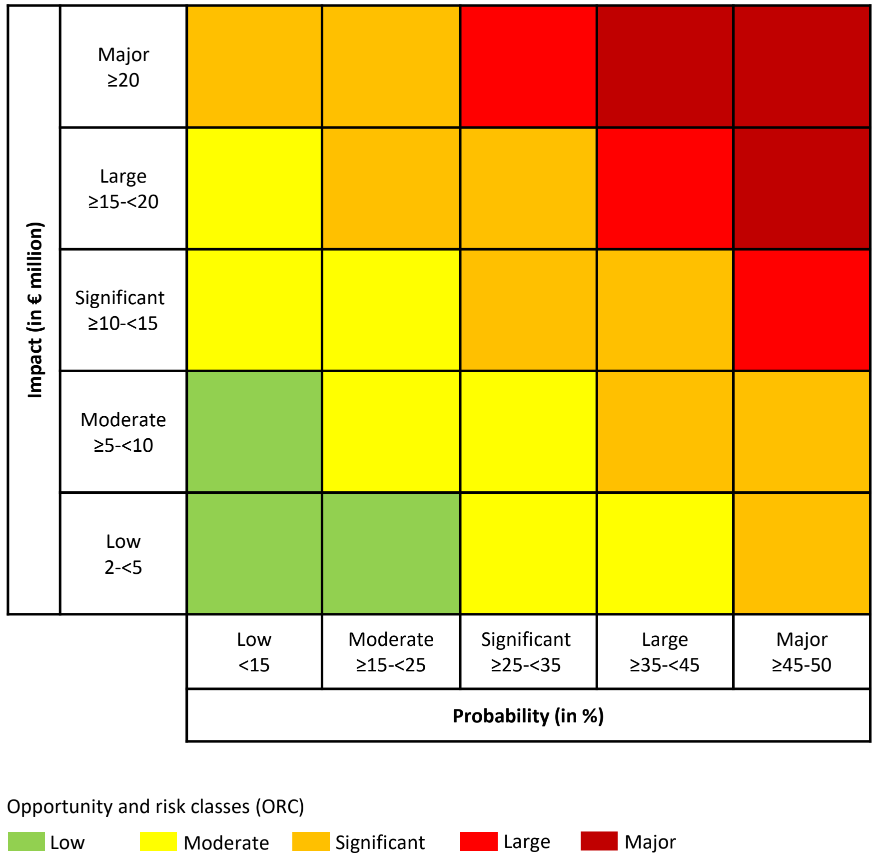
Risk management processes

The risk officers carry out a comprehensive risk inventory once a year as part of budget planning. This also includes risks from non-financial matters such as environmental, social and governance (ESG) issues. Individual risks exceeding defined value limits are systematically recognized and measured and then uniformly aggregated. The risk inventory covers the entire planning horizon of five years. Opportunities, on the other hand, are only recognized for the current year. Measures to counteract identified risks are also specified. The risk assessment is then updated on a quarterly basis. Material new risks or risks that threaten the company as a going concern are immediately reported to the Board of Management or Group Controlling via ad hoc reporting, regardless of the defined reporting intervals.

Opportunities and risks are measured uniformly according to the specifications of the Group's risk management. We consider risks to be any negative deviation from the budgeted results and opportunities to be positive deviations beyond the budgeted results.

The identified opportunities and risks are assessed based on the dimensions of impact and probability of occurrence. In addition to cash flow, EBIT is also targeted. The measurement always follows a net analysis after taking countermeasures into account. The classification is based on opportunity and risk classes (ORC). In the 2022 fiscal year, these were expanded from three to a total of five categories to allow a more precise differentiation of opportunities and risks: severe (over €20 million), high (€15–20 million), significant (€10–15 million), moderate (€5–10 million) and low (under €5 million).

Classification matrix



Group Controlling reports the aggregated risks to the entire Board of Management on a quarterly basis. The Supervisory Board is also regularly informed at meetings about the material risks within the Group. In this fiscal year, for the first time non-financial risks are also included as part of risk aggregation in the overall risk position and compared with the risk-bearing capacity.

Risk management monitoring

The risk management system is monitored by the Supervisory Board via the Audit Committee. Furthermore, in 2022 a voluntary external review of the risk management system was performed in accordance with Audit Standard 981 of the Institute of Public Auditors in Germany (IDW PS 981). The adequacy, implementation and effectiveness of the risk management system were confirmed. Moreover, improvement measures were initiated to implement findings from the audit.

Internal control system

Internal control system structure

The internal control system (ICS) includes the principles, processes and measures to ensure the effectiveness and profitability of business activities and the correctness of accounting in compliance with the relevant legal regulations. This also includes the protection of assets by preventing and uncovering damage to assets. Non-financial reporting was not yet a formal component of the global ICS in the past fiscal year. An expansion of the ICS to include non-financial reporting is planned for the coming fiscal year.

The establishment, maintenance and further development of the ICS is carried out by the central ICS department on behalf of the chief financial officer. The control design is determined on the basis of a risk assessment carried out at least once a year. Responsibility for the implementation and documentation of the control lies with the respective process owner. Risk and control documentation is based on uniform Group standards. Local ICS responsibles have been nominated in all of the main companies to act as local contacts for all ICS-related issues and support those responsible for processes and controls in their ICS tasks. The central IT department acts as a point of contact for all IT issues and designs the IT controls.

Accounting process and consolidation processes

The accounting processes and the preparation of the consolidated financial statements are the responsibility of the Group Accounting & Tax department, which reports directly to the chief financial officer.

The consolidated financial statements are based on the IFRS Accounting Manual which regulates the group-wide uniform application of the accounting and measurement principles in accordance with the International Financial Reporting Standards (IFRS) as adopted by the EU. Changes in accounting regulations are continuously monitored, their impact assessed and relevant changes in the financial organization communicated.

The consolidated financial statements are prepared using SAP-based consolidation software based on a uniform chart of accounts. Operational accounting is mainly carried out in three regional shared service centers. The responsibility for the completeness and correctness of the separate financial statements lies with the local finance managers in the respective countries or companies. The separate financial statement data is automatically loaded into the consolidation system via an interface. The data is validated by rules established in the system. In addition, Group Accounting checks the data for plausibility and correctness of content. Statements of completeness are obtained from the main companies on a quarterly basis to ensure the complete recognition of items subject to accounting and disclosure requirements. The principles of segregation of duties are consistently implemented in the accounting-relevant processes.

A Significant Contracts Policy ensures that material contracts are always reviewed by Group Accounting regarding their impact on the balance sheet. Furthermore, external specialists are consulted in the case of special topics.

Internal control system monitoring

The Audit Committee is regularly informed about the status of the ICS as part of its monitoring tasks. The effectiveness of the ICS is monitored via a continuous control self-assessment by the central ICS department. Internal Audit also includes selected internal controls in its audits and provides suggestions for improvement.

Furthermore, in 2022 a voluntary external review of the accounting-related ICS was performed in accordance with Audit Standard 982 of the Institute of Public Auditors in Germany (IDW PS 982). The adequacy, implementation and effectiveness of the ICS were confirmed. Moreover, improvement measures were initiated to implement recommendations from the audit.

The ICS has its limitations, regardless of how carefully the systems are designed. In particular, subjective judgments, faulty controls or other circumstances can limit the effectiveness and reliability of the ICS, so even the group-wide application of the systems used can only provide sufficient certainty with regard to the correct, complete and timely recognition of items in the consolidated financial statements.

Compliance management system

The compliance management system of SGL Carbon aims to reduce the risk of legal violations. The Chief Compliance Officer of the Group is responsible for the compliance management system. After the first external certification of SGL Carbon SE’s compliance management system pursuant to the requirements of the ISO 19600:2016 guideline in 2020, a transformation audit to the new ISO 37301:2021 was carried out in 2021, followed by the second surveillance audit in November 2022. The compliance management system was certified as having a high degree of maturity and integrity. Detailed information on the SGL compliance management system can be found in the Corporate Governance Declaration, the Corporate Governance and Compliance Report and in the separate Non-Financial Group Report (CSR Report) (all unaudited) that are part of this Annual Report.

Overall statement by the Board of Management on the governance systems

No facts have come to our attention that speak against the adequacy and effectiveness of the risk management system, the internal control system and the compliance management system in all material respects.

Material opportunity and risk areas

Risk factors that impact the business activities of SGL Carbon are reflected in the opportunities and risk areas presented below. If these areas also contain opportunities, they are explicitly stated. The risks stated here can occur individually or cumulatively. Additional risks that are not yet known, or risks that are currently classified as not material could also impair SGL Carbon’s business activities. Unless explicitly stated, the risks described below relate to all of the Group’s business units.

The opportunities and risks are divided into the following categories:

- Opportunities and risks from external conditions
- Opportunities and risks from operational activities
- Financial opportunities and risks
- Legal and non-financial opportunities and risks

The table shows the classification of SGL Carbon’s risks into the defined opportunity and risk classes and therefore reflects the possible impact on the development of the Group’s net assets, financial position and results of operations, should they occur. The statements relate to the 2023 fiscal year.

Categorie / Risk	Opportunity and risk class (ORC)
Opportunities and risks from external framework conditions	
Opportunities and risks of future macroeconomic development	Large
Opportunities and risks of price and volume development	Large
Opportunities and risks from operational activities	
Opportunities and risks of the energy markets	Major
Opportunities and risks of the raw material markets	Large
Risks from cyberattacks	Large
Risks in production	Significant
Risks from human resources	Significant
Financial opportunities and risks	
Impairment risks	Large
Financial position risks	Large
Opportunities and risks from exchange rate fluctuations	Moderate
Risks from pension plans	Low
Legal and non-financial opportunities and risks	
Legal risks and risks from divestments	Significant
Tax risks	Significant
Non-financial opportunities and risks	Significant

Changes compared with the previous year resulted in particular in the area of opportunities and risks from growth projects and from the implementation of the restructuring program. These opportunities and risks are no longer classified as material for the Group in the 2023 fiscal year. This revised assessment results from the successful business development in 2022 with high capacity utilization and a particular focus on growth markets such as semiconductors, renewable energies and e-mobility. The restructuring program was completed ahead of schedule at the end of 2022. The targeted objectives were not only achieved, but significantly exceeded.

Opportunities and risks from external conditions

Opportunities and risks of future macroeconomic development (ORC: high)
Considering the consequences of Russia's war in Ukraine, the sentiment in the EU economy has deteriorated significantly. The economic outlook remains subject to an extraordinary degree of uncertainty as Russia's war of aggression against Ukraine continues, which may cause further economic disruption. The biggest threat comes from adverse developments on the gas market and shortages in energy supply, especially in the winter of 2023/24. In addition to gas supply in the EU, shocks may also occur on other raw material markets, triggered by geopolitical tensions. Furthermore, the coronavirus pandemic remains a risk factor for the global economy and could exacerbate bottlenecks in the raw material supply chain.

As a result of high energy price pressure, a weaker external environment and more restrictive financing conditions, subdued economic activity is forecasted. According to the EU Commission's February 2023 outlook, inflation is expected to decline in 2023, but to remain high at 6.4% in the EU, mainly due to significantly higher wholesale prices for electricity and gas. Prolonged inflation and possible disorderly adjustments of global financial markets to the new high interest rate environment remain important risk factors.

The different factors may have a negative impact on our net assets, financial position and financial performance. On the contrary, if the overall economic trend turns out better than expected, this may also create opportunities for our business.

Opportunities and risks of price and volume development (ORC: high)
Price risks may result if high inflation persists and we are unable to pass on the increased factor costs to our customers as planned.

Volume risks exist mainly in the event of a recession in Europe, our largest sales market, which could reduce demand for our products. In the GS business unit, bottlenecks in the supply of raw materials in the silicon carbide semiconductor product segment could have a negative impact on sales volumes.

Opportunities and risks from operational activities

Opportunities and risks in the energy markets (ORC: severe)
Since the outbreak of the war in Ukraine, Germany in particular has been at risk of a shortage of gas supplies due to its heavy dependence on Russian energy imports. This could lead to major disruptions in production, especially at our domestic production sites. Countermeasures for the partial substitution of gas have been initiated or already implemented.

We counter the risk of rising energy prices primarily by concluding long-term energy contracts.

We continuously monitor the situation on the energy markets through an energy crisis unit set up specifically for this purpose. Appropriate contingency plans have been drawn up at the affected sites in the event of a shortage of gas supply. Countermeasures already introduced include a targeted energy procurement strategy to stabilize costs in the medium term as well as applying for state support for energy-intensive companies in various countries. We have also implemented energy price clauses in numerous customer contracts to protect our margin in the event of further increases in energy prices.

Opportunities and risks may also arise from government support measures to ease the burden on industrial companies as a result of the significant rise in energy costs. For example, the German government passed legislation on energy price brakes in December 2022. In our forecast, we assume that we meet the requirements to benefit from the electricity and gas price brakes. If SGL Carbon benefits from government aid programs to a greater or lesser extent than expected, this may have a temporary positive or negative impact on our financial position and results of operations.

Opportunities and risks of the raw material market (ORC: high)
We counteract the ongoing volatility on the raw material market with structured procurement concepts and the conclusion of medium- and long-term framework agreements. Appropriate strategic concepts are developed with the main suppliers on the basis of long-standing business relationships. A further increase in raw material and transport costs compared to the budget can have a negative impact on the future net assets, financial position and results of operations if not all cost increases can be passed on to customers. A lack of availability of individual raw materials can also have a negative impact on the economic development of SGL Carbon. Due to the Ukraine war, as well as the lingering impacts of the coronavirus pandemic, temporary supply chain disruptions may continue to occur.

In the GS business unit in particular, a bottleneck in the supply of raw materials in the important silicon carbide semiconductor product segment would have a significant impact.

In the CF business unit, the Textile Fibers market segment is characterized by price fluctuations for the raw material acrylonitrile. This results in opportunities and risks. SGL Carbon strives to reduce these risks through a targeted procurement strategy that includes alternative suppliers as well as the targeted utilization of price opportunities. However, political developments in important procurement regions in particular can have a negative impact on the supply security of individual raw materials that are difficult to substitute. In addition, the situation in the logistics sector remains tense. If alternative logistics routes or means of transport have to be chosen, this may lead to higher costs. This can temporarily have a negative impact on financial performance.

Risks from cyberattacks (ORC: high)
The general cyber threat situation has further intensified since the outbreak of the Ukraine war. A hacker attack on our IT systems could result in the loss of sensitive data and production downtimes. This could have a significant adverse effect on our ability to deliver and thus on our financial position and financial performance.

In order to take adequate account of the growing IT risks – and especially those posed by ransomware – SGL Carbon operates a risk-oriented information security management system (ISMS) based on the globally recognized ISO 27001:2017 standard and a dedicated IT risk management system pursuant to ISO 31000:2018 as part of a group-wide initiative. In 2021, SGL Carbon successfully continued the certification of specific areas of the company pursuant to the automotive safety standard TISAX and plans to expand this as per customer requirements. In addition, regular awareness-raising measures take place for our employees by simulating phishing attacks. We have also taken out cyber insurance to cover damages caused by cybercrime.

Risks in production (ORC: significant)
In order to be able to realize the profitability-oriented growth that SGL Carbon has set for itself, higher maintenance expenses than planned could arise due to the temporary high

plant utilization close to the capacity limit to ensure the availability of plants and avoid business interruptions.

Furthermore, delays in ramping up production or in customer qualification can lead to a delay in the realization of revenues.

In the CF business unit, a project at the Lavradio site in Portugal is the further industrialization of our own precursor – the feedstock for carbon fibers. If this does not materialize in full, it can have a negative impact on the expected increase in profitability.

A production standstill at one or more locations could lead to delivery problems with regard to quantity and quality, which may also result in compensation payments to customers. Interruptions to production could be caused, among other things, by large-scale power supply failures lasting several days or weeks (so-called blackouts) at individual or multiple sites. In addition, supply bottlenecks in SGL Carbon's supply chains can imply that avoiding production standstills could only be achieved with higher transport costs compared to the budget assumptions.

SGL Carbon also strives to optimize working capital relative to revenues. If this does not succeed as planned, this could negatively impact in particular the planned free cash flow.

Risks from human resources (ORC: significant)
Employees are a key pillar of the business success of SGL Carbon. The competition for highly qualified specialists and managers is intense and continues to grow, especially against the background of the demographic developments in many countries relevant to SGL Carbon. In order to achieve the strategic corporate objectives, SGL Carbon must be able to attract highly qualified personnel, further educate them in a targeted manner and retain them over the long term. To ensure our attractiveness as an employer we rely on regular employee surveys, flexible working time models and performance-related compensation. A talent program was initiated for the targeted promotion of highly qualified emerging talents. In addition, important key positions were identified and selected measures defined to retain critical knowledge carriers. To continuously cover the need for qualified experts, we also use a vast array of recruiting tools such as active sourcing and target-group specific job platforms.

Financial opportunities and risks

Impairment risks (ORC: high)
If the business units do not develop as planned and/or the interest rate used for the impairment test increases, there is a risk that assets may have to be written down.

Financial position risks (ORC: high)
SGL Carbon's sufficient financing is ensured for the coming fiscal year through the successful refinancing of the convertible bond in Q3 2022 with a term of five years. Should unexpected significant liquidity burdens arise, a further decline in the financing environment could lead to significantly increased financing costs. Similar risks exist if SGL Carbon's rating deteriorates.

As a countermeasure, a stringent group-wide cash management system with dedicated approval processes was implemented.

Opportunities and risks from exchange rate fluctuations (ORC: moderate)
The key financial figures are influenced by exchange rate fluctuations from SGL Carbon's global business activities. Potential impacts of exchange rate fluctuations can be reduced by natural hedging within the Group due to the global positioning of SGL Carbon. The transaction-related foreign currency risk is reduced by optimizing operational cash inflows and outflows in a foreign currency. The resulting foreign currency exposure is hedged using derivative financial instruments if the risks exceed certain materiality limits. Risk minimization is the overriding principle for all activities in connection with currency derivatives. In addition to the functional separation of trade, control and processing, also in this area regular risk analyses are carried out.

Besides transaction risks, there are translation risks arising from the translation of financial statement items denominated in local currency into the Group currency, the Euro. Translation risks are not hedged.

Risks from pension plans (ORC: low)
Retirement benefit obligations are subject to a multitude of valuation parameters. Changes in interest rates, longevity trends, salary increases and inflation rates in particular affect the amount of pension provisions. Besides fluctuations in equity, this can lead to changes in pension plan expenses. Financial risks, as well as opportunities, also arise from the

management of pension plan assets. If future rates of return are lower than expected, budget deficits may arise and additional payments into pension plans may be required.

In 2021, a lump-sum option was introduced for members of a German pension plan. This allows the beneficiaries to choose before the benefits start being paid out whether they prefer a payment as a one-time lump sum or in installments over ten years instead of a lifelong pension. The future probability of accepting the capital option was estimated as part of the measurement of the provision using empirical values from external databases. If the actual utilization of the capital option differs significantly from previous estimates, this may have an impact on the Group's financial position, as the disbursements will develop differently than budgeted in terms of timing and amount.

We counteract these risks through active central management and monitoring of all pension plans, including their external financing.

Legal and non-financial opportunities and risks

Legal risks and risks from divestments (ORC: significant)
In the event of legal disputes, SGL Carbon recognizes provisions based on the probability of occurrence and external legal opinions. Actual utilization may deviate from our own estimates and impact the consolidated net result.

Due to the international orientation of its business activity, SGL Carbon is also confronted with a wide variety of legal uncertainties. These include difficulties in enforcing contracts and outstanding claims in foreign legal systems, compliance with foreign trade law, international export and import restrictions and technology transfer law in various countries, as well as difficulties in global enforcement of patent protection for the Group's own products.

In the case of divested businesses, it is common for the seller to be liable for transactions that took place before the date of disposal. This harbors the risk of possible burdens on the net result for businesses that have already been disposed of.

Tax risks (ORC: significant)
SGL Carbon operates worldwide and is therefore subject to a wide range of national tax laws and regulations. Changes in tax law or in the taxation practices of individual countries in which SGL Carbon does business can lead to higher tax expenses and higher tax payments. We counter this with an ongoing analysis and evaluation of the tax environment. Although we assume that tax issues are always presented in accordance with the law, it cannot be ruled out that the tax authorities will come to different conclusions in individual cases. If corresponding risks are foreseeable, current tax liabilities for uncertain tax positions are recognized based on estimates. If the actual results deviate from the original estimate, this can impact the tax expense in the period in which the matter is finally decided.

Non-financial opportunities and risks (ORC: significant)

Environmental risks

As an energy-intensive industrial company, we need natural resources and create emissions in the manufacturing of our products. Our stakeholders' expectations for reducing our CO_2 emissions have recently increased considerably. Failure to meet our targets for limiting CO_2 emissions could result in a loss of customer orders, restricted access to financing instruments, and a loss of attractiveness as an employer. In addition, price increases in CO_2 certificates may have an impact on energy costs, such as gas prices, and thus may negatively impact SGL Carbon's earnings position. Stricter regulatory requirements could force us to make significantly higher investments in plant and machinery to meet decarbonization targets.

We have set ourselves clear objectives for reducing our own CO_2 emissions, for which we are increasingly relying on the use of renewable energies. In the 2021 fiscal year for example, a photovoltaic system was installed and put into service on the roof of the production building in Ort im Innkreis (Austria). Further projects are currently being planned or implemented. We are also monitoring regulatory developments relating to the emissions trading system (ETS).

Social risks

A corporate culture which encourages performance with shared values and code of conduct is an essential success factor for SGL Carbon and plays a key role in maintaining our competitiveness. In the past fiscal year, SGL Carbon's core values were developed and subsequently communicated in workshops. Moreover, an initial global employee survey was conducted to measure employee commitment and the extent to which our values are already being lived. The surveys will be repeated at regular intervals in the future for deriving targeted measures to promote a performance-oriented corporate culture.

As a technology-based company, we rely on highly trained specialists. The risk of not attracting enough qualified employees is increasing due to the growing shortage of skilled workers that we are seeing at many of our sites. We are countering this by providing targeted training and development for our employees to fill specialist and management positions primarily internally. For example, a learning platform was implemented in our central HR system, where courses and learning materials are made available. The principles for management training are also anchored in a global training policy. Furthermore, in 2022 several HR conferences were held with a particular focus on the identification and targeted development of talents and junior managers.

Governance risks

To prevent violations of legal regulations, compliance training courses are held regularly to raise employees' awareness of possible risks. Corresponding rules of conduct are also defined in compliance guidelines. Possible violations can be reported via an anonymous whistleblower system and are consistently pursued by the central compliance department.

Risks in the supply chain exist with regard to violations of human rights or environmental standards by our suppliers. To prevent this, we require our suppliers to comply with our Supplier Code of Conduct. Furthermore, we have a central tool in place to evaluate all relevant suppliers regarding compliance with social and environmental standards.

Data protection violations can result in heavy fines as well as loss of reputation. In addition to the European Union's General Data Protection Regulation, there are numerous national data protection regulations. To ensure compliance with them, we have defined relevant provisions in organizational instructions and provide regular training for our employees.

To prevent infringements of antitrust law, we have established an antitrust policy and a corresponding group-wide training concept which is implemented via our online learning platform.

In order to avoid risks associated with fraud in payment transactions, SGL Carbon relies on a consistent four-eyes principle. The employees involved in the process are regularly trained using examples such as “CFO fraud,” as a potential occurrence of fraud could cause major damage to the company.

Detailed information on the content of non-financial risks can also be found in the separate Non-Financial Group report (CSR Report).

Overall assessment by the Board of Management

We expect global growth to continue to weaken in 2023. Rising costs of living, a tightening of financial conditions in most regions and the Ukraine war are weighing heavily on the outlook. Global inflation is expected to remain at a high level, in particular due to a tight energy supply, which could dampen demand for energy-intensive products and thus have a negative impact on our business development. There are significant risks to our earnings if we are unable to pass on the majority of the increased factor costs to our customers as planned or if production stoppages occur due to bottlenecks in energy supplies.

There are also significant risks concerning liquidity. To expand our capacities in the growth areas, we need sufficient capital for investments. If interest rates continue to rise, this could increase financing costs more than planned in the long term. Furthermore, there are high risks from cyber attacks due to an overall increased threat situation since the outbreak of the Ukraine war. Despite all precautionary measures taken in IT security, production downtimes or the loss of sensitive data can occur.

Opportunities emerge from the continued focus on growth markets such as semiconductors, renewable energies and e-mobility. A settlement of the Ukraine conflict could cause energy prices and thus inflation rates to fall faster than planned, with positive impacts on market growth and margin development.

Based on the information currently available, we believe that no significant individual risks exist – neither now nor in the foreseeable future – that could jeopardize the company as a going concern. Even the cumulative consideration of the individual risks does not jeopardize the continued existence of SGL Carbon as a going concern. The risks of rising energy costs resulting from the effects of the war in Ukraine are particularly serious. However, we see good opportunities to further expand our leading market positions thanks to our regionally diversified positioning. Ultimately, however, residual risks (net risks) remain in all entrepreneurial activities and cannot be ruled out even by comprehensive risk management.

Outlook

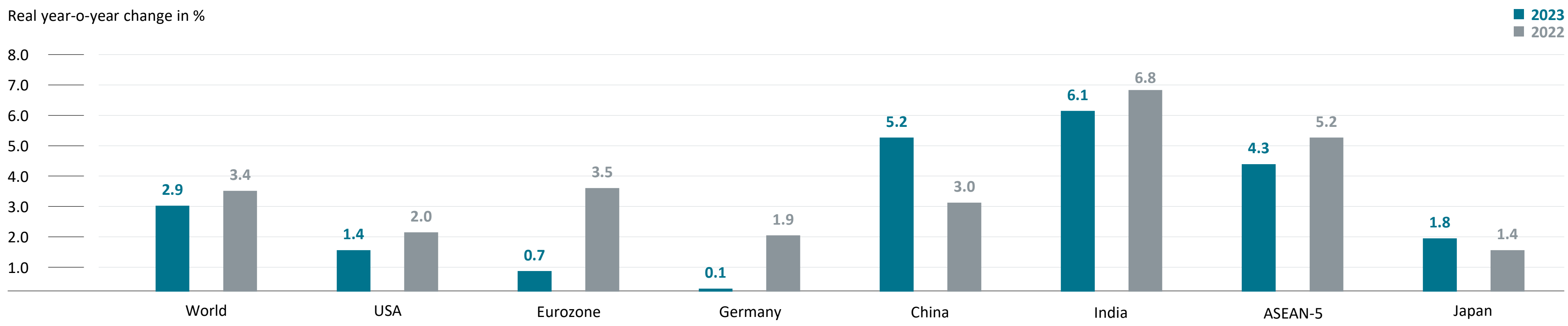
Overall economic trend

The latest World Economic Outlook, issued by the IMF in January 2023, projects that global growth will fall to 2.9% in 2023; this is a significant decline from the 3.4% achieved in 2022. Forecast global growth for 2023 is thus below the historical average of 3.8% for the period from 2000-2019. The low growth outlook for 2023 reflects the increase in central bank interest rates to combat inflation – particularly in developed economies – as well as the impact of the war in Ukraine. China's COVID policies also dampened worldwide growth in 2022. However, by lifting its zero-COVID strategy at the end of 2022 and reopening the country, China may have paved the way for a recovery that is faster than expected in 2023. Global inflation is expected to drop back from 8.8% in 2022 to 6.6% in 2023, which is still considerably above the pre-pandemic level of around 3.5% (2017-19).

A drastic decline in growth is predicted for the established industrial nations, from 2.7% in 2022 to 1.2% in 2023. The experts from the IMF assume that some 90% of these economies will see a reduction in growth in 2023. For emerging and developing countries, growth is expected to rise very slightly from 3.9% in 2022 to 4.0% in 2023. In about half these countries, growth is expected to be lower in 2023 than in 2022.

While global economic risks remain high, the IMF's predictions indicate that they have diminished in recent months. On the downside, severe COVID-19 outbreaks in China could slow down the recovery, Russia's war in Ukraine could escalate, and the tougher global borrowing terms could exacerbate the debt problems of certain countries. The financial markets could weaken in response to unfavorable inflation news, and further geopolitical fragmentation could hinder economic progress. Positive impulses could arise from the release of pent-up demand in numerous economies, or from a faster decline in inflation

Forecast gross domestic product in 2023 (2022) at a glance



Source: IMF, World Economic Outlook (Update) January 2023.

Global economy does not benefit from overcoming the pandemic – fear of inflation and the war in Ukraine become the determining factors

A decline in growth is predicted for the United States, from 2.0% in 2022 to 1.4% in 2023. The main reason for this is to be found in continuing interest rate hikes by the Federal Reserve (the US central bank) and tighter monetary policy. The IMF expects the Fed's interest rates to peak at around 5.1% over the course of the current year.

According to the IMF's predictions, growth in the eurozone will reach its low point of 0.7% in 2023, after 3.5% in the previous year. In its outlook of December 2022, the ECB forecasts a short, shallow recession in the eurozone. Since the economic consequences of the war in Ukraine persist and thereby increase the inflationary pressure, consumer and business confidence remains muted while real disposable incomes are shrinking. Furthermore, rising cost pressure could inhibit productivity. Fiscal measures are likely to mitigate the negative economic impact to some degree. In addition, the high volume of natural gas reserves as well as the ongoing efforts to reduce demand and to replace Russian gas with alternative sources could mean that it might not be necessary to curtail production in the eurozone during the projection period. However, the risks of interruptions to energy supplies are considered to be high, particularly for the winter of 2023-24. Over the medium term, as the energy market comes back into balance, it is expected that uncertainty will decline and real incomes will rise again. As a result, economic growth should recover, also supported by higher demand abroad and the elimination of the remaining supply bottlenecks, despite less favorable borrowing terms.

According to the German Bundesbank's December 2022 outlook, the German economy may shrink during the current six-month winter period, though a severe slump is not expected. The combination of additional gas imports, including liquid natural gas, with reduced consumption means that a gas shortage is unlikely to occur despite the halting of Russian supplies. Nevertheless, high energy prices are likely to lead to falling real disposable incomes and thus to reduced consumption by private households until mid-2023. High energy costs are also putting a strain on production, particularly in energy-intensive industries. Starting in the second half of 2023, the Bundesbank expects that the economy will gradually recover. This will mainly be due to rising demand abroad, decreasing price pressure from the energy markets and a falling inflation rate. In connection with a robust labor market and substantial salary increases, real household incomes and private consumption should increase again. For 2023 as a whole, the Bundesbank is forecasting negative growth of –0.5% in Germany. In its January outlook, the IMF predicts growth of +0.1%.

After growth in the Chinese economy, at 3.0% in 2022, lay below the global average for the first time in 40 years, the IMF predicts that growth will recover to 5.2% in 2023, principally as a result of the removal of the COVID-19 restrictions. India is also one of the countries whose growth rates remain above average. The IMF is forecasting growth of 6.1% in India for the 2023 calendar year.

Overall assessment of the Group’s anticipated performance by Company management

The Group outlook and the outlook for the business units are based on the economic development expectations for the individual regions as described above. In our planning, we have also assumed that the geopolitical situation will not continue to worsen and that there will not be a global resurgence of the coronavirus pandemic. Significant changes could have a negative effect on our business outlook and thus on our revenue and earnings forecast. We also expect to face ongoing strains from higher raw material and energy prices, as well as from salary increases. Our aim is to compensate for these factors through improved productivity, changes in the product mix and price adjustments. The anticipated performance of some parts of the business units also depends on major projects from our customers. Any development that deviates from the plan could have either positive or negative effects. Further information can be found in the Opportunities and Risks Report.

In fiscal year 2021, the transformation of SGL Carbon and the financial stabilization of the company remained at the top of the agenda. The implementation of the planned measures, the continuation of strict cost management and the substantial strengthening of the balance sheet laid the foundations for the further improvement of SGL Carbon's profitability in 2022. Despite unforeseen challenges and an unprecedented energy market situation, we succeeded in not only meeting but exceeding the income targets we set at the start of 2022.

Against the backdrop of a slowing economy in virtually all sectors, as well as rising costs for energy and salaries in particular, we assume that revenues and earnings will remain more or less steady in fiscal year 2023. We aim to achieve this by focusing on higher-margin growth markets such as the semiconductor industry, in particular the field of silicon carbide-based semiconductors, and through further price initiatives as we continue to maintain our strict management of costs.

Group performance

SGL Carbon's key performance indicators are sales revenue and adjusted EBITDA. These two KPIs are supplemented by free cash flow and return on capital employed (ROCE), which we regard as a long-term indicator of performance. The following overview shows the outlook for 2023 for the Group's key performance indicators:

Group financial targets

€m	Actual 2022	Outlook 2023[1)]
Sales revenue	1,135.9	At prior year level
EBITDA pre	172.8	160 - 180
Return on capital employed (ROCE $_{EBIT}$)	11.3%	10% –12%
Free cash flow	67.8	At prior year level

1) "Slight" indicates a variation of up to 10%; "significant" indicates a variation of more than 10%

For 2023, we expect to see continued high volatility in energy and raw material prices, as well as more substantial salary increases than in recent years. We therefore expect higher factor costs than in the previous year. In fiscal year 2022, we concluded energy price hedges that secured SGL Carbon's ability to maintain production. We have once again also secured a large part of our expected gas and electricity needs for the current fiscal year through price hedging transactions. In our planning, we have also assumed that there will be sufficient availability of electricity and gas in Europe, and in Germany in particular.

Our outlook implies that factor cost increases can be passed on at least partially to customers through pricing initiatives. In our revenue and earnings forecasts for fiscal 2023, we also included the full-year impact of the expiration of a supply contract with a major automobile manufacturer at the end of June 2022.

Based on the assumptions and developments set out above, we expect consolidated sales revenue for fiscal 2023 at the same level as for 2022, and an adjusted EBITDA of between €160 and €180 million. After depreciation and amortization, an adjusted EBIT of between €100 and €120 million is forecast. We also assume that full-year free cash flow for 2023 will be at the same level as in 2022. ROCE is expected to be between 10% and 12%.

Business trend in the reporting segments

Segment	KPI	Actual 2022	Outlook 2023[1)]
GS	Sales revenue	512.2	slight improvement
	EBITDA pre	118.5	significant improvement
PT	Sales revenue	106.3	slight improvement
	EBITDA pre	9.9	significant improvement
CF	Sales revenue	347.2	slight decline
	EBITDA pre	43.2	slight decline
CS	Sales revenue	153.1	constant
	EBITDA pre	20.0	substantial decline
Corporate	EBITDA pre	–18.8	constant

1) "Slight" indicates a variation of up to 10%; "significant" indicates a variation of more than 10%

Our four business units supply customers in a variety of market segments. Therefore, the sales revenue and earnings development of the individual business units may vary. For the Graphite Solutions (GS) business unit, we expect a further recovery in demand in 2023, particularly from our customers in the semiconductor industry. Higher demand for graphite products is also anticipated in the other GS market segments. Accordingly, we expect a slight increase in sales revenue for GS for 2023. Based on the high utilization of the production capacity, together with a shift in the product mix toward higher-margin products, we expect a significant improvement in both adjusted EBITDA and the adjusted EBITDA margin compared to 2022.

The majority of customers in the Process Technology (PT) segment come from the chemical industry, for which we expect relatively subdued development in 2023. However, due to the high order backlog at the start of the 2023 fiscal year, as well as our broad regional presence in Europe, North America and Asia, we anticipate a slight improvement in sales revenue and a significant improvement in earnings growth (adjusted EBITDA) in this business unit.

The biggest changes in fiscal year 2023 are expected in the Carbon Fibers (CF) business unit. For the first time, we will have to bear the full-year impact of the expiration of the supply contract with a major automotive manufacturer at the end of June, 2022. In this respect, we assume that the resultant decrease in sales revenue will not be fully compensated by sales revenue from other market segments, including those in the wind energy sector. We are therefore forecasting a slight fall in sales revenue for CF in fiscal year 2023. As the other, compensating customer orders do not have the same margin level as the expired automotive contract, we expect to see a corresponding slight decline in the business unit's adjusted EBITDA. Moreover, results in 2022 benefited from a positive market effect which is not expected to recur in 2023. In 2022, high energy prices forced some competitors to reduce or even shut down their production capacity, whereas the Group's energy price hedges enabled CF to maintain production all year long and thus supply customers without restrictions.

Based on the current order situation, we expect steady revenues for the Composite Solutions (CS) business unit. Adjusted EBITDA for CS was boosted in fiscal year 2022 by onetime project-related special payments of €3.7 million. As this effect will not recur, we expect adjusted EBITDA in 2023 to be substantially lower than in 2022.

Revenue for the non-operating Corporate business unit comprises rental income and revenue from services supplied to third parties, as well as material and personnel charges for the central administrative functions. For fiscal year 2023, we expect adjusted EBITDA to remain essentially constant relative to 2022.

Capital expenditures in line with depreciation and amortization, positive free cash flow

In the last two fiscal years, the maximum amount of capital expenditure was determined by the amount of depreciation and amortization. Due to the positive development in cash flow in the last two years, and also based on the growth opportunities in our focus markets, we expect capital expenditure in 2023 to be higher than in 2022. Our capital expenditures will focus on expanding the production capacity for specialty graphite components that are essential to the semiconductor industry. We will also invest in the development of systems that use renewable energy and in the replacement of gas with other energy sources.

The strategy of the operating business units determines the Group's financing needs. These are reviewed and adjusted annually based on the new plans. By maintaining our consistent cash management, we aim to achieve a positive free cash flow in fiscal 2023 at the same level as in 2022, despite an expected slight increase in working capital. We will also continue to adhere to the strategy of selling non-essential assets such as land, which could also have a positive impact on the Group's cash flow.

Dividend development

While the positive sales revenue and earnings development of the operating subsidiaries will impact the parent company SGL Carbon SE, in particular due to the accumulated losses generated over the last years totaling €670.1 million at SGL Carbon SE, it will be unable to distribute a dividend for the 2022 fiscal year. With further growth, our company will operate more profitably on a sustainable basis. Only then will it be possible to distribute a dividend.

Disclosures pursuant to Sections 289a and 315a HGB

The reporting required under Sections 289a and 315a HGB is covered in the following overview:

Composition of issued capital

As of December 31, 2022, the company had share capital of €313,194,183.68, divided into 122,341,478 no-par-value shares, with a pro rata amount of €2.56 per share of the share capital (see Note 21).

Restrictions affecting voting rights or the transfer of shares

The members of the company's Board of Management are obligated to hold a fixed number of shares in SGL Carbon SE for the duration of their tenure on the Board; the Chairman of the Board of Management in the amount of his fixed annual salary and the Chief Financial Officer in the amount of 85% of his fixed annual salary. There are no other restrictions on voting rights or the transfer of shares. However, mandatory legal requirements, in particular under Section 71b AktG, which excludes voting rights for the company's own shares, as well as the exclusion of voting rights in cases of conflicts of interest pursuant to Section 136 (1) AktG, are unaffected by this.

Direct or indirect participation in the capital

The company has been notified of a direct or indirect interest in the capital that exceeds 10% of the voting rights as follows: (i) by SKion GmbH, Bad Homburg, Germany, through notifications of voting rights or notifications of proprietary transactions with a participation of approximately 28.55% at the end of 2022, and (ii) by Bayerischen Motoren Werke Aktiengesellschaft (BMW AG), Munich, most recently by notification in connection with the capital increase in 2016 with a participation of approximately 18.26% at that time. The holding of voting rights of SKion GmbH is attributable to Ms. Dr. h.c. Susanne Klatten, Germany, who thereby indirectly holds approximately 28.55% of the voting rights in SGL Carbon SE as of the end of 2022.

Holders of shares with special rights

No shares with special rights that grant controlling authority have been issued.

Type of voting rights control in the case of employee shareholdings

There are no voting rights controls for employees who hold shares in the company's share capital.

Statutory provisions and provisions of the Articles of Incorporation relating to the appointment and removal of members of the Management Board and amendments to the Articles of Incorporation

The statutory provisions in Article 39 SE Regulation, Section 16 German SE Implementation Act [SE Ausführungsgesetz] and Sections 84, 85 AktG and Section 6 of the company's Articles of Incorporation apply to the appointment and dismissal of members of the Board of Management. In accordance with this, the members of the Board of Management are appointed and dismissed by the Supervisory Board. The members of the Board of Management are appointed for a maximum period of five years. Reappointments are permitted. The Supervisory Board may dismiss a member of the Board of Management if there is good cause for their dismissal. Good cause is, in particular, a gross violation of the duties of the Board of Management and a vote of no confidence by the Annual General Meeting. The Supervisory Board decides on appointments and dismissals at its own due discretion.

The Annual General Meeting makes decisions on changes to the Articles of Incorporation. Pursuant to Section 17 (4) Articles of Incorporation, such resolutions require a simple majority of the votes cast for the resolution, provided that at least half of the share capital is represented; this does not apply if a higher majority, including a higher capital majority, is required by law.

Authority of the Management Board to issue and buy back shares

The Board of Management is authorized, with the approval of the Supervisory Board, to issue new shares from authorized or conditional capital (see Article 3 Articles of Incorporation and also the Note 21).

Material agreements that are conditional on a change of control as a result of a takeover bid

As of December 31, 2022, the company had issued two convertible bonds that will mature in 2023 and 2027. Both convertible bonds entitle the bondholders in the event of a change of control to demand repayment of any outstanding bonds at par value (plus interest accrued up to that point) on a date to be determined by the company which shall be no less than 40 and no more than 60 calendar days after the publication of the change of control. In addition, it is also possible to convert the bonds into shares, in which case an improved conversion ratio for the bondholder is applied which is staggered in relation to the remaining term of the relevant convertible bond. Control is deemed to have changed for the purposes of the convertible bonds if one or more persons acquire control of the company, whereby control means direct or indirect ownership of more than 30% of the voting shares. In addition, the improved conversion ratio will apply to the convertible bonds in the case of a public takeover bid if the acceptance rate of the takeover bid at the end of the acceptance period exceeds the control threshold of 30% of the shares with voting rights, any minimum acceptance threshold of the bid that exceeds such at this point in time has been reached, and no further offer conditions remain unfulfilled (with the exception of conditions that may legally also occur after the acceptance period has expired).

The €250 million corporate bond issued by the company in 2019 maturing 2024 entitles investors to demand early redemption of their bonds against payment of 101% of the nominal amount (including any tax deduction from such early redemption amount) and interest accrued up to the redemption date if (a) a person (with the exception of Ms. Dr. h.c. Klatten, BMW AG and persons attributable to her) directly or indirectly acquires more than 35% of the voting shares in SGL Carbon SE, (b) all or almost all of the assets of SGL Carbon SE and its group companies are transferred to one person (with the exception of Ms. Dr. h.c. Klatten, BMW AG and persons attributable to her), or (c) the shares in SGL Carbon SE are no longer listed on the Frankfurt Stock Exchange or any other European regulated market.

Compensation agreements with the Board of Management and employees in the event of a takeover bid

No compensation agreements have been concluded with the Board of Management and employees in the event of a takeover bid.

Corporate Governance Declaration, Corporate Governance and Compliance Report (unaudited)

Declaration of conformity with the German Corporate Governance Code

The Board of Management and the Supervisory Board of a listed European corporation (Societas Europaea) with its registered office in Germany are required by Art. 9 (1) (c) (ii) SE Regulation in conjunction with Section 161 German Stock Corporation Act to declare at least once a year whether the German Corporate Governance Code (GCGC) has been and is being complied with. In addition, reasons must be specified as to which recommendations of the code have not been or are not being applied. Since 2002, the Board of Management and Supervisory Board of SGL Carbon SE have regularly issued and published declarations of compliance. Each declaration of conformity will be made available to the public on the company's website (www.sglcarbon.com, under "Company/Corporate Governance") for a period of five years. The most recent declaration of conformity was issued and published in September 2022:

The Board of Management and Supervisory Board of SGL Carbon SE declare that:

1. The most recent declaration of conformity of the company was issued on November 25, 2021. Since then, SGL Carbon SE has fully complied with the recommendations of the "Government Commission on the German Corporate Governance Code" in the version of December 16, 2019 (published on March 20, 2020, "Code 2019"), which were also published by the Federal Ministry of Justice and Consumer Protection in the official section of the Federal Gazette, since issuance of the last declaration of conformity on June 27, 2022, and that SGL Carbon SE will continue to fully comply with these recommendations in the future, with the exception of the following deviations:

   - With regard to recommendation B.3 of the Code 2019, according to which the initial appointment of Board of Management members should be for no more than three years. As part of its personnel repositioning in 2020, the company appointed two new Board of Management members for a term of five years each. This decision was made in the interest of ensuring a stable management structure with continuity of personnel in order to better deal with challenges pending for the company. In view of the qualifications of the candidates, the Supervisory Board also considered this change appropriate.
   - In regard to recommendation C. 10 (1) of the Code 2019, according to which the Chairperson of the Supervisory Board and the Chairperson of the Remuneration Committee should be independent of the company and the Board of Management: Both positions are held by Ms. Dr. h.c. Klatten, who is indirectly a major shareholder of the company. The company considers the manner in which the positions of Chairperson of the Supervisory Board and of the Personnel Committee are currently filled to be appropriate. Ms. Dr. h.c. Klatten is considered particularly suited for occupying both positions, and the company believes that the other shareholder representatives on the Supervisory Board, the majority of whom are independent, ensure that the board is sufficiently balanced.
     With regard to recommendation D.8 of the Code 2019, which states that the report of the Supervisory Board should specify how many meetings of the Supervisory Board and the committees were attended by the individual members in each case: As presented in the report of the Supervisory Board, the attendance rate at the meetings of the Supervisory Board and its committees has exceeded 90% in each case in recent years. For this reason, the company considers a consolidated presentation of the attendance rates to be sufficient, assuming the attendance rate does not drop significantly in the future.

2. The "Government Commission on the German Corporate Governance Code" submitted a new version of the German Corporate Governance Code on April 28, 2022 (published in the official part of the Federal Gazette on June 27, 2022, "Code"). SGL Carbon SE has been complying with the recommendations of the new version of the code starting with its publishing on June 27, 2022, and will continue to comply with them, with the exception of the following deviations:

- With regard to recommendation B.3 of the Code, according to which the initial appointment of Board of Management members should be for no more than three years. As part of its personnel repositioning in 2020, the company appointed two new Board of Management members for a term of five years each. This decision was made in the interest of ensuring a stable management structure with continuity of personnel in order to better deal with challenges pending for the company. In view of the qualifications of the candidates, the Supervisory Board also considered this change appropriate.
- In regard to recommendation C. 10 (1) of the Code, according to which the Chairperson of the Supervisory Board and the Chairperson of the Remuneration Committee should be independent of the company and the Board of Management: Both positions are held by Ms. Dr. h.c. Klatten, who is indirectly a major shareholder of the company. The company considers the manner in which the positions of Chairperson of the Supervisory Board and of the Personnel Committee are currently filled to be appropriate. Ms. Dr. h.c. Klatten is considered particularly suited for occupying both positions, and the company believes that the other shareholder representatives on the Supervisory Board, the majority of whom are independent, ensure that the board is sufficiently balanced.

In addition, SGL Carbon SE's Corporate Governance Principles largely comply with the non-mandatory suggestions of the German Corporate Governance Code.

Wiesbaden, September 7, 2022

Dr. h.c. Susanne Klatten (Chairperson of the Supervisory Board of SGL Carbon SE), signatory for the Supervisory Board

Dr. Torsten Derr (Chairperson of the Board of Management of SGL Carbon SE), signatory for the Board of Management

Composition and procedures of the Board of Management

The governance of SGL Carbon SE as a listed European company (SE) with its registered office in Germany is largely determined by Council Regulation EC No. 2157/2001 of October 8, 2001, the Statute of a European Company (SE Regulation), Germany's SE Implementation Act, the Agreement on the Involvement of Employees in SGL Carbon SE as well as the German Stock Corporation Act (AktG), the suggestions and recommendations of the German Corporate Governance Code and the Articles of Association of SGL Carbon SE.

SGL Carbon SE is subject to the dualistic system as per Art. 38 of the SE Regulation in conjunction with Section 5 of SGL Carbon SE's Articles of Association. The dualistic system is characterized by a separation of personnel between the management body (Board of Management) as the executive and management body and the supervisory body (Supervisory Board) as the monitoring body. The Board of Management and Supervisory Board of SGL Carbon SE work closely together for the benefit of the enterprise. Their shared goal is the sustained growth of the value of the company.

The Articles of Association specify that the Board of Management of SGL Carbon SE consist of several members; this number is determined by the Supervisory Board. As of December 31, 2022, the Board of Management consisted of two members and therefore no Board of Management committees were formed.

The Board of Management is responsible for managing SGL Carbon SE and the SGL Carbon Group in the interest of the company. The principle of overall responsibility applies, that is, the members of the Board of Management bear joint responsibility for management of the business; however, each member of the Board of Management is assigned responsibility for specific areas. More detailed information on the individual members of the Board of Management and their areas of responsibility can be found on the company's website (at www.sglcarbon.com under "Company/About us/Board of Management"). Certain matters determined by the full Board of Management shall both be dealt with by the full Board of Management and require its approval. The Chairperson of the Board of Management coordinates the work of the members of the Board of Management.

The Board of Management develops the corporate and Group strategy and ensures its implementation in consultation with the Supervisory Board. In addition to long-term economic targets, corporate strategy and planning also take appropriate account of environmental and social objectives. The duties of the Board of Management also include managing and monitoring the operating activities of the Company and establishment and supervision of an appropriate and effective control and risk management system. The Board of Management ensures compliance with legal provisions, official regulations and internal policies, and it works to ensure that these rules and regulations are also complied with by Group companies. The Board of Management prepares the company's interim financial reports, the financial statements of SGL Carbon SE, the consolidated financial statements, the management reports of SGL Carbon SE and the SGL Carbon Group and the separate non-financial report for the SGL Carbon Group.

The Board of Management informs the Supervisory Board regularly, promptly and comprehensively in regard to all issues relevant to the company and the Group, particularly including strategy, planning, business development, the risk situation, risk management and compliance. In this context, the Board of Management addresses instances in which the business situation deviates from the established plans and targets. When important events of material significance for the company occur, the Board of Management shall inform the Chairperson of the Supervisory Board without delay, and the Chairperson of the Supervisory Board shall subsequently inform the Supervisory Board and convene a Supervisory Board meeting if required.

The composition and procedures of the Supervisory Board and its committees

Supervisory Board

According to Section 8 (1) of the Articles of Association, the Supervisory Board of SGL Carbon SE consists of eight members, with half of them being shareholder representatives and the other half employee representatives. The shareholder members are appointed by the Annual General Meeting of SGL Carbon SE, and the employee representatives are appointed by the SE Works Council in accordance with the agreement of the company with the employees on co-determination in the company. The Supervisory Board elects a Chairperson of the Supervisory Board from among its members and a Vice-Chairperson from among the shareholder representatives and employee representatives. If resolutions are to be adopted by a simple majority, the Chairperson of the Supervisory Board will cast the tie-breaking vote in the event of a tie, and if the Chairperson does not participate in the adoption of the resolution, the Vice-Chairperson who has been appointed to the Supervisory Board as a shareholder representative will cast the tie-breaking vote. In addition, the Chairperson of the Supervisory Board coordinates the work of the Supervisory Board and represents the interests of the Supervisory Board to the outside world.

The Supervisory Board advises and monitors the Management Board in managing the company; this also includes advising and monitoring on sustainability issues. The Supervisory Board appoints and dismisses the members of the company's Board of Management, makes decisions regarding the remuneration system for Board of Management members and sets the individual remuneration for each member of the Board of Management. The remuneration system for the Board of Management and its approval by the Annual General Meeting is available on the company's website (www.sglcarbon.com, and available there under "Company/Corporate Governance"). At regular intervals, the Supervisory Board obtains reports from the Board of Management on the strategy, corporate planning, sales performance, profitability, business development, sustainability issues and the situation of the company, as well as on the internal control system, the risk management system and the compliance management system. It is directly involved in decisions that are of fundamental importance to SGL Carbon SE and the Group; these include the launch of new sectors or the discontinuation of existing ones and the issuance of bonds. Section 11 of the Articles of Association of SGL Carbon SE contains a catalog of transactions for which the Board of Management requires the approval of the Supervisory Board (the Articles of Association of SGL Carbon SE are available on the company's website (www.sglcarbon.com, under "Company/Corporate Governance")). Furthermore, under certain circumstances it is required under law that the Supervisory Board or the Audit Committee approve transactions with related parties in advance. The Supervisory Board is ultimately responsible for auditing the annual financial statements and management report of SGL Carbon SE, the consolidated financial statements and management report and the proposal for appropriation of unappropriated profits. The activities of the Supervisory Board in the 2022 fiscal year are explained in the "Report of the Supervisory Board" (see page 7).

The Supervisory Board has adopted rules of procedure which govern in particular the convening and preparation of the Supervisory Board's meetings and the passing of resolutions in addition to its duties and responsibilities. The Rules of Procedure are available on the company's website (www.sglcarbon.com, under "Company/Corporate Governance").

Targets of the Supervisory Board regarding its composition

In accordance with the requirements of the German Corporate Governance Code, the Supervisory Board adopted targets for its composition and drafted a skill set profile for the body as a whole. In accordance with the targets it has set for itself, the Supervisory Board is to have a composition that ensures that its membership as a whole possesses the knowledge, skills and professional experience required to properly perform the duties of the Supervisory Board. The age limit for members of the Supervisory Board is 72. As a rule, a member of the Supervisory Board shall also no longer be proposed as a candidate for the Supervisory Board once they have completed their third term of office on the Supervisory Board. This rule does not apply to terms of office based on a court appointment to the Supervisory Board. If a Supervisory Board member holds a material stake in the company within the meaning of the German Corporate Governance Code, controls a material shareholder of the company or acts as a representative of a material shareholder, there is a fundamental exception to the above-mentioned rule and no time restriction applies in this case. Each member of the Supervisory Board also ensures that they have sufficient time to perform their duties.

All members of the Supervisory Board must be able to properly perform their duties. To perform its duties properly, at least two Supervisory Board members should have expert knowledge in the field of accounting or auditing, including sustainability reporting (Financial Expert); currently, as proven by their education and career, this is the case for Ms. Neumann and Mr. Denoke – as a trained auditor and former partner of an auditing company, Ms. Neumann has the necessary knowledge and experience in the field of auditing as well as in the area of accounting, and Mr. Denoke, as a long-standing CFO of a large listed company, also has the necessary knowledge and experience in the application of accounting principles and internal control and risk management systems, along with knowledge and experience in the field of auditing. In addition, at least one member of the Supervisory Board must have considerable professional experience and industrial expertise in the SGL Carbon Group's sectors or key customer industries. Furthermore, each of the following areas should have at least one member who has extensive professional experience in the specified area: corporate management and corporate strategy, compliance and risk management, innovation expertise (including digitalization), executive development and human resources. In addition, members of the Supervisory Board should have knowledge of sustainability issues important to the company. The composition of the Supervisory Board should also reflect the international activities of the company; at least one member of the Supervisory Board should have special international knowledge and experience due to their national origin, education or professional activity.

The Supervisory Board shall always include a sufficient number of independent members. That is why at least half of the members of the Supervisory Board on the shareholder side should be independent; this is currently the case, as the Supervisory Board considers Ms. Neumann, Mr. Denoke and Mr. Eichler to be independent representatives, meaning that more than half of the shareholder representatives are independent. Regarding Mr. Eichler, who has been on the Supervisory Board since 2010, there were no circumstances in recent years in which there was a concrete conflict of interest in his activities on the Supervisory Board. In addition, there is no indication for the concern that his activities on the Supervisory Board could have been affected by the many years of working with the Supervisory Board members due to switching Supervisory Board positions within the company on various occasions during his tenure.

With regard to the appropriate participation of women on the Supervisory Board of the company, the legislation relevant for SGL Carbon SE also requires that the Supervisory Board of the company be composed of at least 30% women and at least 30% men.

The aforementioned targets of the Supervisory Board with regard to its composition and the skill set profile for the entire body are taken into account in proposals for the appointment of new Supervisory Board members, and efforts are made to fill gaps in the skill set profile. In its current composition, the positions on the Supervisory Board are fully filled in terms of the members' expertise, diversity and independence according to the targets and skill set profile of the Supervisory Board.

	Dr. h.c. Klatten	Denoke	Neumann	Eichler	Jodl	Stett-berger	Züllig-hofen	Cruz
Group Accounting		X	X					
SGL business units / customer industries	X	X	X	X	X	X	X	X
Strategy / Corporate Governance / M&A	X	X	X	X				
Compliance / Internal Audit and Risk Management		X	X	X				
Innovation / Digitization		X		X				
Human Resources / Management Development	X	X	X	X	X	X	X	
Sustainability themes	X		X	X				X
International business experience	X	X	X	X	X			

More detailed information on the individual members of the Supervisory Board, including the length of their membership on the board, can be found on the company's website (www.sglcarbon.com, under "Company/About us/Supervisory Board").

Rules in the event of possible conflicts of interest

It is necessary for Supervisory Board members to disclose conflicts of interest to the Chairperson of the Supervisory Board. This includes both specific conflicts of interest that arise as well as potential conflicts of interest that are sufficiently probable. If a Supervisory Board member has conflicts of interest that are material and not merely temporary, this will lead to termination of the mandate. The Supervisory Board or the Audit Committee approves transactions with related parties in accordance with the statutory requirements. In addition, the Audit Committee examines whether there were any indications of improper influence in transactions between SGL Carbon Group companies and Supervisory Board members, persons or companies related to them or shareholders with a stake in SGL Carbon SE of more than 5% of the voting rights. In the reporting period, no conflicts of interest were reported by members of the Supervisory Board or Board of Management that would be necessary to disclose to the Supervisory Board without delay. In the reporting period, there were also no consultancy or other service agreements between the members of the Supervisory Board and the company. Relationships to related parties are presented in Note 26 to the consolidated financial statements.

Committees of the Supervisory Board

The Supervisory Board has a total of three standing committees, which operate in accordance with the requirements of the German Corporate Governance Code, the German Stock Corporation Act, the company's Articles of Association and the Rules of Procedure for the Supervisory Board. These committees are

Personnel Committee

The Personnel Committee, chaired by Dr. h.c. Klatten, advises the Supervisory Board primarily on the arrangements that regulate the legal relationship between the company and its current and former Board of Management members. It reviews the remuneration of the Board of Management members and submits proposals to the full Supervisory Board for a final decision. The committee also prepares personnel decisions by the Supervisory Board by drafting proposals for the appointment of new and the dismissal of incumbent members of the Board of Management. Other members of the committee are Ms. Neumann and Mr. Jodl.

Nominating Committee

The task of the Nomination Committee is to prepare proposals for the Annual General Meeting election of shareholder representatives to the Supervisory Board. The committee chaired by Dr. h.c. Klatten includes all shareholder representatives of the Supervisory Board, that is, in addition to Dr. h.c. Klatten, Ms. Neumann, Mr. Denoke and Mr. Eichler.

Audit Committee

The Audit Committee consists of four members. The Chairperson of the Audit Committee is Mr. Denoke. The other members are Ms. Neumann, Mr. Stettberger and Mr. Züllighofen. The committee deals with matters that include audit of the accounting, monitoring of the accounting process, risk management, compliance and the internal control and audit system, as well as audit of the Group's transactions with related parties. In particular, it is responsible for the preliminary audit of the annual financial statements of SGL Carbon SE and SGL Carbon, the management report and Group management report (including the separate non-financial report) and the proposal for appropriation of earnings.

Another of the committee's areas of responsibility is the company's relationship with the auditor. In this context, the committee primarily prepares the Supervisory Board's proposal to the Annual General Meeting on the election of the auditor. It is of key importance here to ensure that the auditor is both qualified and independent. The committee also determines audit priorities with the auditor, discusses the audit strategy and audit planning with the auditor, agrees the audit fee, prepares the issuance of the audit engagement and reviews in advance the commissioning of non-audit services to be performed by the auditor.

In addition to these three permanent committees, the Supervisory Board may form temporary project-related committees as needed.

Efficiency review of the Supervisory Board

The Supervisory Board regularly assesses the effectiveness and efficiency of its work and the work of its committees. It conducted this self-assessment for the last time in late 2019. In an extensive questionnaire, the members of the Supervisory Board were able to provide their assessment of current practice and suggestions for optimization in regard to a variety of topics such as cooperation on the Supervisory Board and with the Board of Management, as well as on the work in the committees. The results were evaluated by a notary, processed anonymously and then discussed by the Supervisory Board. The members of the Supervisory Board rated the cooperation within the Supervisory Board as positive overall. In the same manner, an efficiency review was conducted in the Supervisory Board again in late 2022, which is currently being evaluated and is to be discussed at the Supervisory Board meeting in March 2023 by the Supervisory Board.

Governance practices

SGL Carbon Code of Conduct

The SGL Carbon Code of Conduct underscores the commitment of SGL Carbon and its employees to responsible, lawful conduct and reflects the Group's shared values, its corporate culture and the type of behavior it aspires to in its business. A key factor in SGL Carbon's lasting success as a company is its responsible and appropriate treatment of all parties with whom the company has business relationships, including employees, customers, shareholders, governmental authorities and the public. The Code of Conduct is intended to play a key role in building and maintaining trust among all stakeholders. It underscores the commitment of the company and its employees to compliance with applicable laws and providing employees with guidelines for responsible conduct. The SGL Carbon Code of Conduct is available on the company's website (www.sglcarbon.com, under "Company/Compliance/Code of Conduct").

SGL Carbon Corporate Governance Principles

The SGL Carbon Corporate Governance Principles summarize the relevant statutory provisions and the company's Articles of Association, as well as supplementary practices of SGL Carbon SE and the Group that were drafted and developed over the years. This statement of principles is intended to ensure responsible and transparent governance and control as well as to foster the trust of stakeholders, business partners and employees, as well as that of the public over the long term. The principles are reviewed at least once a year and updated to take changes in the law, recommendations and market opportunities into account. In addition to the Rules of Procedure for the Board of Management and Supervisory Board and the organizational principles of the SGL Carbon Group, the SGL Carbon Corporate Governance Principles also include the essential corporate guidelines relating to Group-wide corporate governance and compliance.

The above-mentioned SGL Carbon Code of Conduct, which underscores the commitment of the Group and its employees to compliance with the law and internal guidelines and which sets standards for lawful and ethical behavior, is fundamental to all of these documents. Using the Code of Conduct as a starting point, the company has also developed detailed corporate guidelines which apply in equal measure to SGL Carbon SE and the Group and which also form part of the SGL Carbon Corporate Governance Principles. These guidelines include

- a guideline on compliance with antitrust regulations
- a guideline on compliance with capital market regulations
- a whistleblower guideline
- a guideline on granting and accepting gifts and invitations (since November 2022 anti-corruption and bribery guideline)

- a guideline on the security of information and the underlying infrastructure of the company
- a guideline for defining the process structures for identifying and monitoring the core risks of the company and its business units and functions

Compliance as part of the management and corporate culture

At SGL Carbon, compliance is a key management task of the Board of Management. Management does not tolerate any violation of the Code of Conduct. The senior executives also foster a corporate culture in which issues relating to integrity can be openly addressed with one's supervisor, the compliance- officers and the Group Compliance department. Each employee bears personal responsibility for ensuring that their actions comply with SGL Carbon's Code of Conduct and the rules applicable in their area of work. Compliance must be present in the minds of managers and employees and form an integral part of daily business. Then compliance will also sustainably support the success of the company.

SGL Carbon has been rolling out and implementing a Compliance program throughout the Group for many years. The Board of Management has commissioned the Group Compliance department with managing this program worldwide. The department's task is to manage the necessary overarching organizational-, communication and control structures across all locations, to review them on a regular basis and to adjust them as required. The aim is for compliance to go beyond adherence to legal- requirements and structures and for it to be enshrined in the organization as part of value-based corporate management in the sense of an integrity management system in the organization. Over the past fiscal year, the external certification of SGL Carbon SE's compliance management system was subjected to a regular surveillance audit pursuant to the standard ISO 3730001:2021 (see the separate non-financial Group report/CSR report on page 43).

As part of their responsibilities for personnel and leadership, the management and senior executives of SGL Carbon assume an important role-model function here. For this reason, the topic of compliance regularly occupies a fixed place on the agenda of the annual Global Leadership Conference (GLC), at which awareness for the issue of compliance is repeatedly raised among executives at the highest levels of management. At the last GLC, compliance was discussed as part of the workshop held by Group Human Resources on the topic of values (see page 63). The workshop centered around establishing new company values. In the future, compliance will be represented by the value of integrity.

In addition to the compliance representatives of the business units and corporate functions (see separate non-financial Group report/CSR report on page 43), the SGL Carbon compliance organization- includes a network of regional and local compliance officers. All members of the network receive appropriate introductory training when they first assume their role. In addition, the Compliance Manual, which is available as a managed document in the Guidelines directory of SharePoint, describes the essential elements of the Compliance program and the role and responsibility of the Compliance Network. All relevant documents are also available to members on a dedicated SharePoint page. The compliance representatives of the business units and the corporate functions are members of the Compliance Committee, which meets twice a year. The Compliance Committee discusses and approves strategic compliance issues as well as changes to the existing Compliance program. An average of two to three conference calls are held each year to ensure that knowledge is transferred between the Compliance Network and Group Compliance. There are also face-to-face events every two years in the form of regional Compliance conferences in Europe, Asia and North America. The conference calls are used for ongoing exchange of information on the Compliance- program as well as discussion of current issues. The Compliance conferences serve the purpose in particular of further development of the Compliance program, taking into account location-specific needs, and are also used to train local representatives of the Compliance function. The three Compliance conferences for the regions Europe, North America and Asia were last conducted in 2021, due to pandemic as a virtual event, and are planned for 2023 as part of a regular rotation. The agenda of the next conferences will focus in particular on finalizing the Human Rights training program for production staff (see separate non-financial Group report/CSR report on page 39).

The local compliance representatives are the contact persons for employees at the locations for all matters relating to compliance and support for the Group Compliance department in the local implementation of the Compliance program.

The overriding goal in Compliance is to ensure that all employees are aware of and follow the applicable policies in order to reduce the risk of legal violations and prevent any resulting damage to SGL Carbon. For this reason, the Compliance guidelines are an integral part of the documents that are provided to each new employee. The local Compliance representatives report twice a year to Group Compliance in order to confirm that this process has been properly implemented. An acknowledgment of receipt shall also be placed in each employee's personnel file, documenting in writing that the employee has taken note of the rules contained in the Code of Conduct. This process is also part of an internal check within the framework of the Internal Control System. The Code of Conduct, the Anti-Corruption Guideline, the Guideline on Compliance with Antitrust Regulations, and the Whistleblower Guideline are available in a total of nine local languages. The guidelines are available for employees to download on SharePoint and the intranet. The intranet also provides employees with crucial information and modules of the SGL Compliance program, which can be accessed with just a few clicks.

Employees also take part in mandatory compliance training, which is conducted as classroom or e-learning training. Initial training is usually provided as online training (see separate non-financial Group report/CSR report on page 44).

SGL Carbon has been using a comprehensive global antitrust compliance program since 2001. A fundamental component of this program is mandatory training courses held on a regular basis, with the courses offered in the form of classroom- as well as e--learning -training. The target group for this mandatory training is all senior executives at the top three management levels in the Group, along with all employees in the areas of Purchasing, Sales and Marketing, employees in Human Resources and the Legal and Compliance department and members of the Compliance Network. All new employees in this target group receive the SGL Carbon Guideline on Compliance with Antitrust Regulations with their hiring documents or when they change functions, and they then need to participate in the mandatory online basic training. Refresher training is regularly provided to all employees in the target group in both classroom and online formats.

Preventative measures in the area of anti-corruption are also an essential part of the Compliance program (see separate non-financial Group report/CSR report “Anti-corruption and Bribery,” on page 45).

In 2015, SGL Carbon rolled out a Code of Conduct for suppliers and subcontractors (the Supplier Code of Conduct), according to which they must commit themselves to lawful, ethical and sustainable behavior (see separate non-financial Group report/CSR report “Responsibility in the Supply Chain,” page 46).

SGL Carbon promotes a company culture in which integrity issues can be addressed openly. For questions on appropriate ethical behavior of doubts regarding the adherence to rules and codes of conduct, SGL employees are explicitly encouraged to seek out advice. Furthermore, SGL employees are encouraged and have been asked to share possible compliance violations. For this reason, SGL Carbon has already been implementing a whistleblower system for many years (see separate non-financial Group report/CSR report “Compliance Management,” on page 43).

Additional compliance measures relate to capital market law and adherence to the corresponding Group guideline, which provides guidance on matters such as trading in securities of SGL Carbon SE for board members and employees as well as proper handling of potential insider information. The Ad-Hoc Committee has been in place for years, with members who represent various functions in the evaluation of relevant matters for their ad-hoc relevance. The objective of the committee is to ensure that potential insider information is handled in compliance with the law.

The existing Compliance- program on export controls and customs ensures that goods and technologies are exchanged and that services are used according to the relevant internal and external requirements (see separate non-financial Group report/CSR report “Responsibility in the Supply Chain,” page 46).

Within the scope of its regular audits in 2022, the Group Internal Audit department again reviewed the implementation of anti-corruption and anti-fraud management at individual subsidiaries. The focus here was on obtaining audit certainty as to whether the defined Compliance rules are being adhered to locally at the companies. The task also involved recognizing and uncovering individual rule violations. If the audits find that work processes need to be optimized or control measures need to be intensified, the relevant processes are updated.

An effective compliance management system includes regular risk assessments, which were carried out in 2021 and 2022 on a top-down basis with all members of the management committees of the business units and the corporate functions by way of structured risk assessment interviews (see separate non-financial Group report/CSR report “Responsibility in the Supply Chain,” page 46).

At its March meeting, the Audit Committee of the Supervisory Board dealt in detail with the Compliance Annual Report 2021.

Systematic risk management system

The SGL Carbon Group developed a risk management system at an early stage to address risks and opportunities in a responsible manner as part of good corporate governance. For further explanations in regard to the internal audit system and to the risk management system, please refer to the opportunities and risks report on pages 93-106.

Disclosures in accordance with the Act on Equal Participation of Men and Women in Executive Positions and disclosures on minimum percentages on the Supervisory Board

In accordance with the legislation on Equal Participation of Men and Women in Executive Positions in the Public and Private Sectors, the company has set targets for the percentage of women on the Board of Management and subsequent management levels and their implementation period. In December 2019, the Supervisory Board set a target of 0% for the percentage of women on the Board of Management of SGL Carbon SE by December 31, 2022, particularly in view of the size of the Board of Management with only two members (i.e., a target number of 0 female Supervisory Board members). The percentage of female members on the company's Board of Management as of December 31, 2021, was 0%, which was in line with the target figure. The Board of Management has in turn resolved a target for the percentage of women at the management level of SGL Carbon SE below the Board of Management of at least 20.83% by December 31, 2022. On December 31, 2022, the percentage of women was at 30.77% (four women). The target set was met here as well. It was not possible to set a quota for women for a second management level below the Board of Management at the company. This is due to the fact that there is only one relevant management level (with relevant personnel and management expertise) below the Board of Management at SGL Carbon SE, which is purely a Group parent company with a flat hierarchical structure.

With the completion of the reference period ending on December 31, 2022, target figures for the following period were ratified for the following period. The Supervisory Board has once again set the percentage of women for the SGL Carbon SE Management Board to a share of 0%, that is, a target figure of 0 female Supervisory Board members until December 31, 2025 (percentage of women at the time of ratifying the resolution: 0%). The Supervisory Board continues to consider this quota appropriate since the Management Board only consists of two members. A percentage of women of over 0% would result, given this size of the Supervisory Board, that for new appointments, gender would overly predetermine the choice between two possible candidates. When selecting suitable members of the Board of Management, the Supervisory Board will in principle take into account not only the professional and personal qualifications, which are the essential basic prerequisites for appointment, but also the professional diversity, international experience and gender diversity of the Board in the interest of a diverse composition of the body in the particular individual case. However, it is not intended on the part of the Supervisory Board to already determine this consideration to be made for a concrete field of applicants today in an abstract manner. To this end, it should also be pointed out that in the case of listed stock corporations subject to co-determination, the law only stipulates a mandatory minimum quota for management boards of a certain size, i.e., for a Supervisory Board with more than three members (Section 76 (3a) AktG). In addition, setting a higher percentage of women would force the Supervisory Board to either increase the size of the Management Board or indirectly force a decision today to end the mandate of one of the current Supervisory Board members or no longer continue it. Both are far-reaching decisions for which the Supervisory Board does not consider a premature determination to be in the interest of the company.

In addition, the Supervisory Board of the company has also ratified the target figure for the percentage of women at the executive level of SGL Carbon SE below the Board of Management with a quota of at least 30.77%, that is, four female managers, by December 31, 2025 (percentage of females at the time of ratification: 30.77%, that is, four female executives). It was not possible to set a quota for women for a second management level below the Board of Management at the company. This is due to the fact that there is only one relevant management level (with relevant personnel and management expertise) below the Board of Management at SGL Carbon SE, which is purely a Group parent company with a flat hierarchical structure.

In addition, the legislation on Equal Participation of Men and Women in Executive Positions requires that the Supervisory Board of SGL Carbon SE include at least 30% women and at least 30% men. The company fulfills these requirements with regard to the composition of the Supervisory Board, which had three female members (37.5%) and five male members in the reporting year.

Diversity concepts for company management

According to the company's Corporate Governance Principles, diversity must be taken into account in the composition of the Board of Management. This first refers to professional diversity, which is manifested in the existing structure of the company in that at least one of the members of the Board of Management has extensive experience in the operating business of the enterprise, in strategic governance and in the financial, controlling and reporting processes. Another crucial factor is that SGL Carbon's international nature is also reflected in its extensive professional experience in and with foreign countries. With regard to gender distribution, in view of the size of the company's Board of Management, which regularly consists of just two members, a far-reaching quota was neither deemed appropriate nor defined (see "Determinations in accordance with the Act on Equal Participation of Women and Men in Executive Positions and Disclosures on minimum percentages on the Supervisory Board" above). With regard to the age structure, we intend for the age limit for Board of Management members to be 65 years. When appointing new members, the Supervisory Board takes its bearings from this requirements profile, ensuring that the best candidate for a vacant position can be appointed in each case in the interest of the company. The current composition of the Board of Management meets the company's targets for appropriate appointments.

The company is looking to develop suitable candidates from within the ranks of the enterprise in order to fill any Board of Management vacancies that arise. This does not preclude the Supervisory Board from drawing on external candidates exclusively or additionally in the selection process, depending on the specific situation. To identify and develop employees with appropriate leadership potential in order to fill top management roles, the company has a systematic approach to management development that includes the following key elements: (i) early identification of suitable candidates from a variety of different disciplines, nationalities and genders; (ii) systematic development of senior executives through the assignment of tasks with increasing responsibility, preferably in a variety of different businesses and functions; (iii) regular and systematic review of individual suitability requirements for the target levels under consideration (relevant skill sets, professional experience and role-model function in terms of corporate culture). Using the skill set profile developed by the Supervisory Board as a benchmark, the company will identify candidates who may be included in the Supervisory Board's selection process. This is intended to make it possible for the Supervisory Board to ensure sufficient diversity in terms of professional training and experience, cultural background and diversity in the appointment of members to the Board of Management. Regardless of these criteria, the company is convinced that in the final analysis, only a holistic assessment of each individual can be the decisive factor for appointment to the Board of Management. When external candidates are involved, the company will regularly make an appropriate selection on the basis of the skill sets required for the Board of Management position by drawing on the assistance of qualified personnel consulting firms.

With regard to its own composition, the Supervisory Board of the company has defined a skill set profile and set detailed targets for itself in order to reflect various perspectives and backgrounds of experience on the Supervisory Board. The details of this diversity concept are described in this report above under "The composition and procedures of the Supervisory Board and its committees/Targets of the Supervisory Board regarding its composition." These targets are taken into account when new Supervisory Board members are proposed for appointment. In the current composition of the Supervisory Board, a Supervisory Board composition that is appropriate according to the above-mentioned targets is achieved.

Additional disclosures

Shareholders and the Annual General Meeting

The shareholders of SGL Carbon SE exercise their rights at the company's Annual General Meeting. At the Annual General Meeting, the shareholder representatives elect the Supervisory Board in particular, while also electing the auditor and passing the resolution on discharge of the Board of Management and the Supervisory Board. They also decide on appropriation of unappropriated profits, on capital measures and on the approval of intercompany agreements, as well as on the remuneration of the Supervisory Board and on amendments to the company's Articles of Association. The Annual General Meeting is convened once per year. Each share is granted one vote. Shareholders may regularly exercise their voting rights at the Annual General Meeting either in person or through a proxy of their choice or through a company-nominated proxy acting on their behalf. In accordance with the rules, voting instructions may be issued to the company's proxy both before and during the Annual General Meeting until the end of general debate. Shareholders also have the opportunity to cast their votes in writing by postal vote without authorizing a proxy.

Active and transparent communication for the shareholders of SGL Carbon SE

The primary objective of the Board of Management is to comprehensively report to all target groups and in particular to the shareholders while providing the same information at the same time to all of these parties. Regularly recurring events (such as the Annual General Meeting, [telephone-] conferences with analysts and investors) and reports or announcements (such as the Annual Report, interim reports, presentations at the Annual General Meeting, press releases and ad hoc announcements) are published on the company's website.

Remuneration system and remuneration report as per Section 162 of the German Stock Corporation Act (AktG)

The remuneration report on the most recent fiscal year as well as the auditor's report as per Section 162 AktG, the applicable remuneration system as per Section 87a (1 and 2) (1) AktG, and the most recent remuneration resolution as per Section 113 (3) AktG are made publicly available on the company's website at www.sglcarbon.com (available there under "Company/Corporate Governance"; www.sglcarbon.com/unternehmen/corporate-governance).

Disclosures on the auditor

The Frankfurt branch of KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, has been the auditor for SGL Carbon SE and the SGL Carbon SE Group since the 2017 fiscal year (January 1, 2017, to December 31, 2017). Mr. Michael Pritzer has been signing as the responsible auditor since the 2022 fiscal year. The appointment of KPMG AG Wirtschaftsprüfungsgesellschaft was preceded by a tender and selection process for the audit as per Art. 16 (3) of Regulation (EU) No. 537/2014 of the European Parliament and of the Council of April 16, 2014 (Audit Regulation).

Information on auditor's fees can be found in the Annual Report on page 179.

Based on the recommendation of its Audit Committee, the Supervisory Board will propose to the Annual General Meeting 2023 to appoint KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, as auditors of the company and the Group for the 2023 fiscal year (and also for audit services required for any review of financial information during the year).

Deductible for D&O- insurance

The company has taken out a directors'- and officers' liability insurance- (D&O- insurance) policy for members of the Board of Management and Supervisory Board with a deductible of 10% of the loss up to the amount of one and a half times the fixed annual remuneration of the member concerned.

Share transactions by the Board of Management and Supervisory Board

The members of the Board of Management and the Supervisory Board, as well as persons closely related to them, are required by the relevant capital market regulations to disclose proprietary transactions involving shares, debt instruments or certain other related financial instruments of SGL Carbon SE if the total value of these transactions exceeds a threshold value within a calendar year. Notifications are published on the company's website (www.sglcarbon.com, under "Investor Relations/Share/Managers' Transactions").

Wiesbaden, 22 March 2023

SGL Carbon SE

The Board of Management of
SGL Carbon SE

Dr. Torsten Derr **Thomas Dippold**

Consolidated Financial Statements

Consolidated Income Statement

For the period from January 1 to December 31

€m	Note	2022	2021
Sales revenue	**5, 28**	**1,135.9**	**1,007.0**
Cost of sales		–882.3	–796.7
Gross profit		**253.6**	**210.3**
Selling expenses		–107.6	–95.1
Research and development costs		–29.3	–31.0
General and administrative expenses		–41.2	–42.0
Other operating income	6	17.9	58.0
Other operating expenses	6	–15.4	–7.0
Result from investments accounted for At-Equity	7	18.2	17.0
Restructuring income	8	24.7	0.2
Operating profit		**120.9**	**110.4**
Interest income	9	0.9	0.8
Interest expense	9	–25.2	–25.4
Other financing result	9	–2.0	–3.7
Result from continuing operations before income taxes		**94.6**	**82.1**
Income tax expense	10	31.3	–6.2
Result from continuing operations		**125.9**	**75.9**
Result from discontinued operations, net of income taxes		1.5	-
Net result for the year		**127.4**	**75.9**
Thereof attributable to:			
Non-controlling interests		0.5	0.5
Consolidated net result (attributable to the shareholders of the parent company)		126.9	75.4
Earnings per share basic (in €)	11	1.04	0.62
Earnings per share, diluted (in €)	11	1.02	0.62
Earnings per share continuing operations, basic (in €)		1.03	0.62
Earnings per share continuing operations, diluted (in €)		1.01	0.62

Consolidated Statement of Comprehensive Income

For the period from January 1 to December 31

€m	Note	2022	2021
Net result for the year		**127.4**	**75.9**
Items that may be reclassified subsequently to profit or loss			
Share of investments accounted for At-Equity in other comprehensive income	7	3.3	–3.5
Cash flow hedges [1]	27	0.7	–0.2
Currency translation [2]		8.8	26.5
Items that will not be reclassified to profit and loss			
Actuarial gains/losses on pensions and similar obligations [3]	22	46.1	53.0
Other comprehensive income		**58.9**	**75.8**
Comprehensive income		**186.3**	**151.7**
Thereof attributable to:			
Non-controlling interests		0.5	0.8
Consolidated net result (attributable to the shareholders of the parent company)		185.8	150.9

1) Includes tax effects of minus €0.1 million (2021: €0.0 million)
2) Includes tax effects of €0.0 million (2021: €0.0 million)
3) Includes tax effects of minus 1.2 million (2021: minus €0.3 million)

Consolidated Balance Sheet

As of December 31

ASSETS €m	Note	Dec. 31, 22	Dec. 31, 21
Goodwill	12	23.0	22.1
Other intangible assets	12	14.9	20.5
Property, plant and equipment	13	545.0	558.3
Investments accounted for At-Equity	7	60.7	54.5
Other non-current assets	14	5.5	6.6
Deferred tax assets	19	43.9	4.6
Total non-current assets		**693.0**	**666.6**
Inventories	15	324.0	273.8
Trade receivables and contract assets	16	182.4	182.6
Other receivables and other assets	17	42.3	32.4
Cash and cash equivalents	18	227.3	220.9
Total current assets		**776.0**	**709.7**
Assets held for sale	**20**	**11.3**	-
Total assets		**1,480.3**	**1,376.3**

EQUITY AND LIABILITIES €m	Note	Dec. 31, 22	Dec. 31, 21
Issued capital	21	313.2	313.2
Capital reserves	21	1,053.5	1,041.5
Accumulated losses		–797.4	–983.2
Equity attributable to the shareholders of the parent company		**569.3**	**371.5**
Non-controlling interests		9.3	9.3
Total equity		**578.6**	**380.8**
Provisions for pensions and similar employee benefits	22	202.3	247.1
Other provisions	23	18.2	43.4
Interest-bearing loans	24	342.5	413.7
Contract liabilities	24	17.4	0.0
Other financial liabilities	24	14.5	32.0
Other liabilities	24	4.5	4.6
Deferred tax liabilities	19	1.4	1.5
Total non-current liabilities		**600.8**	**742.3**
Other provisions	23	74.8	85.8
Current portion of interest-bearing loans	24	34.9	4.7
Trade payables and contract liabilities	24	143.7	115.2
Other financial liabilities	24	10.7	13.7
Other liabilities	24	34.0	33.8
Total current liabilities		**298.1**	**253.2**
Liabilities in connection with assets held for sale	**20**	**2.8**	-
Total equity and liabilities		**1,480.3**	**1,376.3**

Consolidated Cash Flow Statement

For the period from January 1 to December 31

€m	Note	2022	2021
Cash flow from operating activities			
Result from continuing operations before income taxes		94.6	82.1
Adjustments to reconcile the result from continuing operations to cash flow from operating activities:			
Interest expense (net)		24.3	24.6
Change in value of contract assets (IFRS 15)		–5.4	3.7
Result from the disposal of property, plant and equipment		0.5	–19.6
Depreciation/amortization expense		66.7	70.8
Restructuring income	8	–24.7	–0.2
Result from investments accounted for At-Equity	7	–18.2	–17.0
Amortization of refinancing costs		3.1	2.9
Interests received		0.9	2.8
Income taxes paid	10	–12.5	–12.2
Changes in provisions, net		–26.1	–23.8
Changes in working capital			
Inventories		–59.0	–15.1
Trade receivables		3.5	–1.0
Trade payables and contract liabilities		47.5	34.4
Changes in other operating assets/liabilities		–0.8	–18.0
Cash flow from operating activities – continuing operations		**94.4**	**114.4**

€m	Note	2022	2021
Cash flow from investing activities			
Payments to purchase intangible assets and property, plant and equipment		–52.9	–50.0
Proceeds from the sale of intangible assets and property, plant and equipment		10.6	31.3
Dividend payments from investments accounted for At-Equity		15.7	15.8
Cash flow from investing activities		**–26.6**	**–2.9**
Cash flow from financing activities			
Proceeds from the issuance of financial liabilities		106.9	13.0
Repayment of financial liabilities		–135.9	–14.1
Changes in ownership interests in subsidiaries		0.0	–0.7
Redemption payments for lease liabilities		–9.5	–9.5
Payments in connection with financing activities		–2.5	0.0
Interest paid		–18.6	–19.5
Other financing activities		–0.5	–3.1
Cash flow from financing activities		**–60.1**	**–33.9**
Effect of foreign exchange rate changes		–1.3	1.5
Net change in cash and cash equivalents		**6.4**	**79.1**
Cash and cash equivalents at beginning of year		220.9	141.8
Cash and cash equivalents at end of year		**227.3**	**220.9**

Consolidated Statement of Changes in Equity

For the period from January 1 to December 31

	Equity attributable to the shareholders of the parent company									
				Accumulated losses						
				Accumulated other comprehensive income						
€m	Issued capital	Capital reserves	Accumulated profit/loss	Currency translation	Cash flow hedges (net)	Investments accounted for At-Equity	Accumulated losses	Equity attributable to the shareholders of the parent company	Non-controlling interests	Total equity
Balance at Jan. 1, 21	**313.2**	**1,041.6**	**–1,069.2**	**–64.9**	**0.0**		**–1,134.1**	**220.7**	**12.2**	**232.9**
Net result for the year			75.4				75.4	75.4	0.5	75.9
Other comprehensive income			53.0	26.2	–0.2	–3.5	75.5	75.5	0.3	75.8
Comprehensive income			**128.4**	**26.2**	**–0.2**	**–3.5**	**150.9**	**150.9**	**0.8**	**151.7**
Dividends							0.0	0.0	–3.1	–3.1
Equity component of convertible bond		–0.1						–0.1		–0.1
Other changes in equity							0.0	0.0	–0.6	–0.6
Balance at Dec. 31, 21	**313.2**	**1,041.5**	**–940.8**	**–38.7**	**–0.2**	**–3.5**	**–983.2**	**371.5**	**9.3**	**380.8**
Net result for the year			126.9				126.9	126.9	0.5	127.4
Other comprehensive income			46.1	8.8	0.7	3.3	58.9	58.9		58.9
Comprehensive income			**173.0**	**8.8**	**0.7**	**3.3**	**185.8**	**185.8**	**0.5**	**186.3**
Dividends									–0.5	–0.5
Equity component of convertible bonds [1]		12.0						12.0		12.0
Balance at Dec. 31, 22	**313.2**	**1,053.5**	**–767.8**	**–29.9**	**0.5**	**–0.2**	**–797.4**	**569.3**	**9.3**	**578.6**

[1] Effects in connection with the issuance of the convertible bond 2022/2027 in the amount of €17.0 million (after transaction costs) and the partial repurchase of the convertible bond 2018/2023 in the amount of minus €5.0 million

Notes to the Consolidated Financial Statements

1. General information

SGL Carbon SE (Commercial Register Number HRB 23960 Wiesbaden), together with its subsidiaries (the Company or SGL Carbon), is a global manufacturer of products and solutions based on carbon fibers and special graphites. The Company has its registered office in Wiesbaden, Germany. Its mailing address is: SGL Carbon SE, Söhnleinstrasse 8, 65201 Wiesbaden. SGL Carbon has prepared its consolidated financial statements in accordance with International Financial Reporting Standards (IFRS), as adopted by the European Union (EU) and the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB). These consolidated financial statements for the year ending December 31, 2022, were authorized for publication by the Board of Management on March 22, 2023.

The consolidated financial statements are generally prepared on the basis of historical cost unless stated otherwise in Note 2. The consolidated financial statements have been prepared in euros (€). The figures are presented in millions of euros (€ million), rounded to one decimal place, unless stated otherwise. Due to rounding, figures may not add up precisely to the totals provided.

2. Summary of material accounting policies

The consolidated financial statements are prepared according to the following consolidation, accounting and valuation principles. In certain cases, it is necessary to make estimates and assumptions that may affect the carrying amounts of assets and liabilities on the balance sheet and the amounts of expenses and income. These estimates and assumptions can change over time and may have a significant impact on the net assets, financial position and results of operations of SGL Carbon.

All estimates and assumptions are made to the best of our knowledge and belief and are continually reviewed to provide a true and fair view of financial position and financial performance, and results of operations of the Group, especially because of increasingly complex and uncertain macroeconomic and geopolitical environment facing SGL Carbon, including potential shortages or even failures in the supply of energy, particularly gas. Added to this, there is increasing volatility on the goods and financial markets – including share prices and exchange rates, due to rising interest rates and inflation rates – as well as increasing risks of a possible economic downturn. Actual amounts may differ from these estimates.

Estimates and judgments made by the Board of Management in the application of IFRS that have a significant impact on the consolidated financial statements are described below under this note (such as recognition of sales, impairment tests, deferred taxes, and provisions for pensions and similar employee benefits) and in more detail in particular under Notes 5, 8, 12, 19, 22 and 23.

Consolidation principles

The consolidated financial statements include SGL Carbon SE and its subsidiaries over which SGL Carbon exercises control. SGL Carbon controls a company to the extent that it has power over it. In addition, SGL Carbon is exposed or has rights to variable returns from its involvement with investees and has the ability to affect those returns through its power over the investee. As of December 31, 2022, 14 German (2021: 13) and 30 foreign subsidiaries (previous year: 30) were consolidated in addition to SGL Carbon SE. One jointly controlled company (previous year: one) and two associated companies (previous year: two) were accounted for At-Equity. The list of companies included in the consolidated financial statements and the total shareholdings are shown in the list of shareholdings in Note 31 in accordance with section 313(2) HGB.

Associates and joint ventures

Associates are companies in which SGL Carbon may exercise significant influence over operating and financial policies. Joint ventures are companies in which SGL Carbon and at least one other party exercise joint control. Joint control exists when decisions about material activities require unanimous consent of the parties sharing joint control. Interests in joint ventures and associates are included in the Group are accounted for At-Equity. SGL Carbon's share of post-acquisition profit or loss of the joint ventures or associates is recognized on the consolidated income statement, while its share of other comprehensive income and of changes in equity that has not been recognized in profit or loss is recognized directly in consolidated equity. The cumulative changes after the acquisition date increase or decrease the carrying amount of the investment in the joint ventures and associates. If the losses of a joint venture or associate attributable to SGL Carbon correspond to or exceed the value of the investment in that enterprise, there will be no further share of losses recognized on the balance sheet. The investment in an associate or joint venture is the carrying amount of the investment plus any non-current loans that are attributable to SGL Carbon's net investment in the associate or joint venture.

Foreign currency translation

Translation of items denominated in foreign currency

In the separate financial statements of the Group companies, all foreign currency receivables and payables are valued at the middle rates at the balance sheet date, regardless of whether they are hedged or not. Exchange rate differences resulting from the measurement of foreign currency positions are recognized on the income statement as other operating expenses and/or other operating income items. This does not include monetary items designated as part of a hedge of the Group's net investment in a foreign operation. These are recognized directly in equity (currency translation reserve) until disposal of the net investment; only on disposal is the cumulative amount reclassified to the income statement. Taxes resulting from the exchange differences of these monetary items are also recognized directly in equity.

Translation of financial statements in foreign currency

The financial statements of consolidated companies prepared in foreign currencies are translated in accordance with the functional currency concept (IAS 21) using the modified closing rate method. As all subsidiaries operate their business independently in financial, economic and organizational terms, the functional currency is identical to the respective local currency. Balance sheet items are consequently translated at the closing rate on the balance sheet date and income statement items at average rates for the year. Exchange differences arising from the translation are recognized as a separate component of equity until disposal of the foreign operation.

The exchange rates of the major currencies for SGL Carbon developed as follows:

Currencies		Middle rate at balance sheet date		Annual average rates	
1€ =	ISO-Code	Dec. 31, 22	Dec. 31, 21	2022	2021
US dollar	USD	1.0666	1.1326	1.0530	1.1827
Pound sterling	GBP	0.8869	0.8403	0.8528	0.8596
Polish zloty	PLN	4.6899	4.5994	4.6861	4.5652
Chinese yuan	CNY	7.4229	7.2197	7.0788	7.6282
Japanese yen	JPN	140.66	130.38	138.03	129.88

Sales revenue, contract assets, trade receivables and contract liabilities

Sales revenue is recognized when control of the goods has been transferred or the service has been rendered, that is, when the customer has the ability to direct the use of the transferred goods or services and substantially obtains all of the remaining benefits from them. The prerequisite for this is that a contract with enforceable rights and obligations exists and, among other things, it is probably that SGL will collect the consideration, taking into account the customer's creditworthiness. Sales revenue comprises the equivalent value that SGL Carbon expects to receive for the transfer of goods or the rendering of services. Sales revenue from contracts with customers corresponds to the transaction price. The transaction price only includes variable consideration if there is a high probability that there will not be a material reversal of sales revenue when the variable consideration actually occurs. Variable consideration may include, for example, volume discounts or credits in connection with bonus agreements. SGL Carbon agrees payment terms that are common industry practice. SGL Carbon receives advance payments from customers for the sale of individually manufactured products with a lead time for production of up to three years from the conclusion of the contract and receipt of payment. These contracts contain a significant financing component due to the time span between payment by the customer and its transfer, as well as the market interest rate. Therefore, the transaction price for these contracts is discounted at the implied interest rate in the contract (i.e., the rate at which the cash selling price of the products is discounted to the amount paid in advance). This interest rate corresponds to the interest rate that would have been used in a separate financing transaction between the Group and the customer at the beginning of the contract.

Warranty obligations provide assurance to the customer that the delivered goods comply with the contractually agreed specifications. Such obligations do not represent a separate performance obligation and are recognized as a provision in accordance with IAS 37.

Revenue from the sale of standard products is recognized when control is transferred to the acquirer, usually upon delivery of the goods. Invoices will be issued at this point in time.

Revenue from contracts with customer-specific products: In the case of order-related manufacturing where a contract work has to be delivered and the final product cannot be sold to (any) other customer (customer-specific asset with no alternative use), sales revenue is recognized over the manufacturing period using the percentage-of-completion method based on the ratio of costs already incurred to the estimated total costs as the costs incurred are in relation to the progress of SGL Carbon's performance in fulfilling the obligation. An expected loss from a contract is recognized immediately as an expense.

When recognizing revenue over a production period, the assessment of whether an asset is highly customized to a particular customer is of particular importance, as is the estimate of the consideration that SGL Carbon expects to receive. This estimate involves subjective assessments and the use of assumptions that are inherently characterized by uncertainty and subject to change.

Services are generally provided in connection with the sale of products and are recognized as soon as the service has been rendered. The amount of sales revenue from the provision of services plays a minor role compared with sales revenue from the transfer of goods.

Contract assets, contract liabilities and trade receivables
If one of the parties to a contract with a customer has fulfilled its contractual obligations, a contract asset or contract liability is recognized depending on the relationship between SGL Carbon's performance and the customer's payment. Contract assets result primarily from sales of goods where control is transferred to the customer before SGL Carbon has obtained an unconditional right to receive payment. Contract liabilities mainly result from advance payments received for products not yet delivered. Contract assets and contract liabilities are netted at contract level and reported as short-term, since they are incurred within the regular operating cycle. An exception are advance payments from customers for products with a production lead time of more than one year, which are reported under non-current liabilities. Receivables are recognized when the right to receive the consideration is no longer subject to any conditions. Valuation allowances for credit losses on contract assets and trade receivables are recognized in accordance with the accounting principles for financial assets measured at amortized cost.

For information on impairments on receivables from contracts with customers, please refer to Note 27 keyword “credit risks.”

Income and expenses

Cost of sales includes the cost of goods sold and services rendered as well as contract costs from customer-specific products. In addition to directly attributable direct costs, these also include attributable overhead expenses. The main components of the cost of sales are the cost of materials, personnel expenses and depreciation and amortization of property, plant and equipment and intangible assets. This item also includes expenses for warranties. Operating expenses are recognized in profit or loss when the service has been used or when expenses have been incurred. Research expenses are recognized immediately as an expense. Development costs are capitalized if the capitalization criteria of IAS 38 are met. Interest income and expenses are recognized on an accrual basis. Advertising and sales promotion expenses and other customer-related expenses are immediately recognized in profit or loss. Provisions for estimated expenses under statutory warranties are recognized as costs of sales when the sales revenue is recorded in the amount of the estimated usability based on past experience.

Government grants

Government grants are recognized when there is reasonable assurance that the grants will be received, and the entity will comply with the conditions attached to them. Grants related to income are presented as other operating income on a systematic basis over the period that the related expenses for which they are intended to compensate are recognized. Performance-based grants are reported separately under other operating income. Government grants for the acquisition or construction of property, plant and equipment reduce the costs of acquisition or conversion of the relevant assets.

Earnings per share

"Basic earnings per share" are calculated by dividing the share of net profit for the year attributable to shareholders of the parent company by the weighted average number of shares outstanding during the fiscal year. “Earnings per share, diluted” takes into account all potentially dilutive convertible bonds and share-based payment plans, assuming conversion or exercise.

Goodwill

Goodwill is not subject to amortization but is tested for impairment once a year or more frequently if there are indications of impairment. Goodwill is carried at cost less any accumulated impairment. Goodwill is tested for impairment at the level of a (group of) cash-generating unit(s), which at SGL Carbon is generally represented by a segment. At Graphite Solutions (GS), this is one level below the segment. The (group of) cash-generating unit(s) represents the lowest level at which goodwill is monitored for internal company management purposes. An impairment would arise if the carrying amount of the cash generating unit (CGU) to which goodwill is allocated is higher than its recoverable amount. For further information on the procedure for determining the recoverable amount, refer to the section “Impairment tests of property, plant and equipment and other intangible assets.”

Property, plant and equipment, other intangible assets and investment property

Tangible and other intangible assets used in the business for more than one year are recognized at cost less amortization and any impairments. This also implies to investment properties. These comprise property held by the company to earn rentals and/or for capital appreciation that are not used in production or for administrative purposes. Where depreciable property, plant and equipment consists of material identifiable components, each with a different useful life, these components are treated as separate units of account and depreciated over their respective useful lives.

Depreciation of property, plant and equipment is calculated using the straight-line method on the basis of the following useful lives, which are applied uniformly throughout the Group:

Property, plant and equipment – useful lives

Buildings	10 to 40 years
Plant and machinery	4 to 25 years
Other equipment	3 to 15 years
Office furniture and equipment	3 to 15 years

SGL Carbon amortizes other intangible assets with finite useful lives on a straight-line basis over their expected useful lives. The expected useful life for industrial property rights, software and similar rights is generally three to five years. For customer relationships and capitalized development costs, the useful life was between three and 12 years.

Leasing

A lease is a contract that conveys the right to use an asset (the leased asset) for an agreed period of time in exchange for payment.

As a lessee, SGL Carbon generally recognizes assets for the rights to use the leased assets and liabilities for the payment obligations entered into at present values for all leases on its balance sheet in accordance with IFRS 16. Lease liabilities include the following lease payments:

- Fixed payments, less any lease incentives payable by the lessor
- Variable payments linked to an index or interest rate
- The exercise price of a purchase option if it is reasonably certain that the option will be exercised.

Lease payments are discounted at the interest rate implicit in the lease, if that rate can be readily determined. Otherwise, discounting occurs at the incremental borrowing rate. SGL Carbon applies a single discount rate to a portfolio of leases with similar characteristics. Right-of-use assets are measured at cost comprising the lease liability plus any directly attributable costs. They are subsequently measured at amortized cost. Right-of-use assets are depreciated on a straight-line basis over the period of the contractual relationship.

Practical reliefs are used for low-value leased assets and for short-term leases (less than twelve months), and the payments are recognized as an expense on the income statement on a straight-line basis over the lease term. In the case of contracts containing both non-lease components and lease components, use is made of the option not to separate these components in the case of technical equipment and machinery. IFRS 16 is not applied to intercompany leases, and the periodic lease expense is recognized on the consolidated income statement.

If SGL Carbon concludes contracts as a lessor, these contracts are classified as finance leases in accordance with IFRS 16 if substantially all risks and rewards associated with ownership of the leased asset are transferred to the lessee. All other short-term rental and lease transactions are classified as operating leases in accordance with IFRS 16. If the Company enters into finance lease agreements as lessor, the lease installments payable to the lessee in the future are recognized as a lease receivable in the amount of the net investment value from the lease contract. These are measured on the basis of the simplified impairment model in accordance with IFRS 9. In the case of operating leases, the Company recognizes the leased asset as an asset at amortized cost included in property, plant and equipment. Lease installments received during the period are shown under sales revenue.

Impairment test of property, plant and equipment and other intangible assets

On each balance sheet date, an assessment is made as to whether there are any indications (trigger events) that intangible assets and property, plant and equipment are impaired. If such indications are identifiable, the recoverable amount of the relevant asset is determined and compared with the carrying amount to determine the scope of any impairment that may need to be recognized. The recoverable amount is the higher of fair value less costs to sell (net realizable value) and value in use, with the value in use first being determined by SGL Carbon. If this amount is higher than the carrying amount, the net realizable value will not be calculated. SGL Carbon determines these values using a generally accepted measurement model on the basis of discounted future cash flows; this corresponds to Level 3 of the fair value hierarchy of IFRS 13. If an asset does not generate cash flows that are largely independent of the cash flows from other assets, the impairment test is not conducted at the level of the individual asset but at the level of the CGU to which the asset belongs.

The cash flows are based on five-year plans for the individual CGUs that have been prepared using a bottom-up approach and that have been analyzed by the Board of Management of SGL Carbon and acknowledged by the Supervisory Board. The planning is based on internal expectations and assumptions that have been checked and verified against external data. The planning includes sales, revenue and cost planning, together with the associated forecasts of operating results and cash flows for each year and for each CGU. Sales revenues and earnings development are planned at product or product group level based on the expected market, economic and competitive developments over the next five years and aggregated on the CGU level. Cash flows beyond the planning period are extrapolated using individual growth rates (for impairment tests of goodwill) or limited to the duration of the expected remaining useful life of the primary production facilities (for impairment test of property, plant and equipment and other intangible assets).

Future cash flows are discounted to their present value using a discount rate that reflects current market expectations regarding interest rates and the specific risks related to the asset or CGU. Most material assumptions on which the determination of the recoverable amount is based include estimated cash flows (especially sales- and EBITDA-development), growth rates and the weighted average cost of capital as well as remaining useful lives of the primary production facilities. The forecast result is influenced by volatility on the capital markets, interest rate developments, fluctuations in exchange rates or expected economic developments. We assume in our planning that there will be sufficient availability of electricity and gas in Europe, and in Germany in particular. We also assume that possible factor cost increases can be passed on at least partially to customers through pricing initiatives. These assumptions and the underlying methodology may have a significant impact on the respective values and, ultimately, on the amount of any impairment applied to the asset.

As soon as there is any evidence that the reasons for the impairments recognized no longer exist, the need for a full or partial reversal of the impairment is assessed.

Financial instruments

A financial instrument as defined by IAS 32 is a contractually agreed right or obligation which results in an inflow or outflow of financial assets or the issuance of equity instruments. On the one hand, financial instruments include primary financial instruments such as trade receivables and payables, securities or financial receivables and borrowings and other financial liabilities; on the other hand, they also include derivative financial instruments used to hedge against risks arising from changes in exchange rates and interest rates.

Generally, financial instruments are initially recognized at their fair value upon initial measurement. Transaction costs directly attributable to the acquisition or issue of financial instruments are included in the initial measurement of the carrying amount. Under certain conditions, embedded derivatives are separated from the underlying instrument (financial instrument) and accounted for separately at fair value. A regular way purchase or sale of financial assets is recognized on the trade date. Subsequent measurement of financial instruments is based on the category to which they are allocated: financial assets and liabilities measured at amortized cost, financial assets measured at fair value through other comprehensive income and financial assets and liabilities measured at fair value through profit or loss. In accordance with the classification requirements of IFRS 9, SGL Carbon classifies financial assets and financial liabilities into the following classes:

Financial assets measured at amortized cost: Cash and cash equivalents, trade receivables and contract assets held under the “Held to collect contractual cash flows” business model, whose contractual cash flows solely represent principal and interest payments, are measured at amortized cost.

Financial liabilities measured at amortized cost: Financial liabilities, with the exception of derivatives, are measured at amortized cost using the effective interest method.

Financial assets measured at fair value through other comprehensive income: If the business model generally provides for the assets to be held but they are also sold and their cash flows consist exclusively of interest and principal payments, these assets are measured at fair value outside of profit or loss. SGL Carbon does not apply this measurement category.

Financial assets and financial liabilities measured at fair value through profit or loss: Financial assets that are solely payments of principal and interest, but that are not held within one of the two aforementioned business models, are recognized at fair value through profit or loss. This also includes trade receivables that are intended for sale based on a factoring agreement. These receivables are derecognized at fair value when they are sold. Alternatively, IFRS 9 allows equity instruments to be measured at fair value through other comprehensive income. On the individual case level, SGL Carbon does not currently apply this option to measure at fair value through other comprehensive income. Therefore, equity instruments such as securities are measured at fair value through profit or loss.

Financial assets are derecognized when the contractual rights to cash flows from the financial asset in question expire or terminate. Financial liabilities are derecognized when the liability has been repaid, that is, when all financial obligations specified in the agreement have been settled or definitively canceled or have expired. The difference between the carrying amount of the liability settled and the consideration paid is recognized in profit or loss.

Hybrid financial instruments

Financial instruments that contain both a liability and an equity component are recognized in various balance sheet items according to their nature. The financial instruments relevant in this context include convertible bonds. The fair value of conversion rights is already allocated to the capital reserves when a convertible bond is issued and is deducted from the bond liability at the same time. Fair values of conversion rights of bonds issued at below-market rates are determined using the capitalized difference from the interest-rate advantage. The interest expense of the debt component is calculated over the term of the bond from the market interest rate on the date of issue for a comparable bond without a conversion right. The difference between the interest calculated and the interest paid increases the carrying amount of the bond liability. The issuing costs of the convertible bond reduce the acquisition costs of the equity and debt components in direct proportion.

Derivative financial instruments

In accordance with IFRS 9, all derivative financial instruments are recognized at fair value on the balance sheet. Financial instruments are recognized on the balance sheet as soon as SGL Carbon becomes a contractual party to a financial instrument. Financial instruments are recognized on the trade date of the transaction. When a derivative contract is concluded, the Company determines whether it will be used as a hedge for future cash flows (a cash flow hedge). Cash flow hedges are used to hedge against fluctuations in future cash flows resulting from planned transactions that are highly probable to occur. The documentation of hedging relationships includes the objectives and strategy of risk management, the type of hedging relationship, the hedged risk, the description of the hedging instrument and the hedged item, as well as an assessment of the effectiveness criteria. Hedging relationships are regularly assessed to determine whether they were effective throughout the reporting period for which they were designated. Even though individual derivatives constitute a hedge from an economic perspective, they do not fulfill the hedge accounting criteria stipulated by IFRS 9. Changes in the fair value of derivatives are recognized as follows:

1. Cash flow hedge: Only the change in the fair value of the forward exchange transaction is designated as the hedging instrument in cash flow hedging relationships. This effective portion of changes in the fair value of derivatives used to hedge future cash flows is recognized outside profit and loss in accumulated other comprehensive income. The ineffective portion of the change in value of the hedging instrument is recognized in profit or loss. Since it is immaterial, the change in the fair value of cross currency basis spreads of the derivatives is not recognized separately. All amounts recognized in equity are subsequently reclassified to profit or loss if the hedged item also affects profit or loss.
2. Hedge of a net investment in a foreign operation: In the case of a hedge of a net investment in a foreign operation, the effective portion of gains and losses from changes in the value of the hedging instrument used is recognized in equity and outside profit or loss. The ineffective portion is recognized in profit or loss. Upon disposal of the investment, the changes in the fair value of the hedging instrument included in equity are recognized in profit or loss.
3. Standalone (no hedge relationship): Derivatives that do not qualify for hedge accounting are classified as held for trading and are recognized at fair value through profit or loss. Changes in fair value are therefore recognized on the income statement. If the trade date and the settlement date are not the same, the settlement date is used as the date for initial recognition.

See Note 27 for further information on financial instruments.

Impairment of financial assets

Loss allowances are recorded for expected credit losses which represent a forward-looking estimate of future credit losses and require material discretionary decisions. In general, a three-stage model must be followed for determination of expected credit losses and allocation of valuation allowances; this can be summarized as follows:

Stage 1: Upon recognition, all financial assets are assigned to Stage 1. A loss allowance is recognized in the amount of expected credit losses within the next 12 months.

Stage 2: When there is a material increase in the credit risk of a financial asset, but its credit quality is not impaired, it is transferred from Stage 1 to Stage 2. The recognized valuation allowances correspond to the lifetime expected credit losses in relation to the financial asset.

Stage 3: If a financial asset is credit-impaired or has already defaulted, it is transferred to Stage 3. The recognized loss allowance corresponds to the lifetime expected credit losses in relation to the financial asset. The effective interest income is calculated based on the net amount (gross amount less risk provisioning). Objective evidence indicating that a financial asset is credit-impaired includes being past due 45 days or more and additional information on material financial difficulties on the part of the debtor.

Cash and cash equivalents, along with time deposits, are allocated to Stage 1, since these are mainly only invested at banks and financial institutions with a low risk of default (investment grade rating: S&P AAA to BBB-).

SGL applies a simplified approach for trade receivables and contract assets that measures loss allowances based on lifetime expected credit losses.

Non-current assets held for sale

SGL Carbon classifies non-current assets or disposal groups as held for sale if their carrying amount is mainly realized through a sale transaction rather than continued use. Non-current assets held for sale and disposal groups are measured at the lower of their carrying amount and their fair value less costs to sell. Costs to sell are the incremental costs directly attributable to the disposal of an asset (disposal group), excluding finance costs and income tax expense. The determination of fair value less costs to sell is subject to estimates and assumptions that may involve uncertainty. The criteria for an asset or disposal group to be classified as held for sale are only met if the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition. Property, plant and equipment and intangible assets held for sale are not depreciated or amortized and are presented separately in the balance sheet as current items.

Inventories

Inventories are valued at purchase or production cost using the weighted average cost method. Where required, the lower net realizable value is recognized. Net realizable value is determined, taking into account the expected sale prices less costs of completion and selling expenses and other factors relevant to sales. In addition to directly attributable costs, costs of conversion also include appropriate portions of material and production overheads. Directly attributable costs mainly include costs for personnel, including retirement benefits, depreciation/amortization and directly attributable costs of material. Interest on borrowings is not capitalized. Impairment expenses are recognized as costs of sales.

Cash and cash equivalents

Cash and cash equivalents comprise all near-cash assets with a remaining term of less than three months at the time of acquisition. Cash and cash equivalents are measured at cost.

Income taxes

Tax positions are calculated taking into consideration the respective local tax laws, relevant court decisions and applicable tax authorities' views. Tax regulations can be complex and possibly subject to different interpretations of tax payers and local tax authorities. Different interpretations of existing or new tax laws as a result of tax reforms or other tax legislative procedures may result in additional tax payments for prior years and are taken into account based on management's considerations. IFRIC 23 clarifies the application of the recognition and measurement requirements of IAS 12 when there is uncertainty about the income tax treatment. For recognition and measurement, it is necessary to arrive at estimates and assumptions. To do this, decisions must be made regarding whether an estimate is created separately or together with other uncertainties, whether a probable or expected value is used for the uncertainty, and whether changes have occurred compared with the previous period, for example. The risk of detection is irrelevant for recognition of uncertain financial position items. The accounting is based on the assumption that the tax authorities are investigating the matter in question and that they have all the relevant information. There are no material effects on the consolidated financial statements of the Company.

In accordance with IAS 12, deferred tax assets and liabilities are determined for temporary differences between the tax base and their carrying amounts in the IFRS consolidated balance sheet as well as for tax loss carryforwards including unused tax depreciation, for interest not yet claimed for tax purposes and for unused tax credits. Deferred tax assets are recognized if, in the opinion of the Executive Board, it is more likely than not that sufficient taxable income will be available in the future to allow the deductible temporary differences and unused tax losses and interest carryforwards to be utilized. For this purpose, to the extent that there are insufficient deferred tax liabilities, forecasts of future taxable results are determined, based on the approved five-year planning calculation, which, among other things, also takes into account the impact of the expected geopolitical and economic environment on the business activities of SGL Carbon. As future business developments are uncertain and in part beyond the control of SGL Carbon, assumptions are required to estimate future taxable income and the timing of the realization of deferred tax assets. The uncertainty regarding future profits at SGL Carbon is accounted for by estimating the range of possible taxable profits. Uncertainty regarding future profits at SGL Carbon is accounted for by estimating the range of possible taxable profits and determining those amounts that are most likely to occur and therefore meet the "more likely than not" criterion. Estimates are adjusted in the period in which there is sufficient evidence for an adjustment. To the extent that the company or tax group shows recent losses under cumulative consideration, deferred taxes arising from temporary differences and tax loss carryforwards are recognized only to the extent that either sufficient taxable temporary differences are available or persuasive evidence exists that there will be availability of sufficient taxable profit against which the unused tax losses can be utilized. SGL Carbon limits the period under review to three years for each individual company, with the reporting year included in this period. The three-year period begins at SGL Carbon with the implementation of the far-reaching and sustainable restructuring and transformation program by the new management in the 2020 fiscal year. If the companies or a tax group have loss carryforwards, the reasons for the loss carryforwards in previous years are analyzed and examined to determine whether they are likely to recur in the future or were of a one-off nature. The change in deferred taxes on the balance sheet generally results in tax expenses and income. However, if items that result in a change in deferred taxes are recognized directly in a component of equity, the change in deferred taxes is also recognized directly in this component of equity.

Accumulated other comprehensive income and accrued profit/loss (Consolidated Statement of Changes in Equity)

In accordance with IFRS 9, unrealized gains or losses on financial derivatives used to hedge a future cash flow (cash flow hedges) or a net investment in a foreign operation are recognized in other comprehensive income under accumulated other comprehensive income, in addition to currency translation differences. In addition, actuarial gains and losses from defined benefit plans are also recognized directly in equity as accumulated profit/loss in the year in which they occur in the full amount. Accordingly, deferred taxes on the above items are also recognized in comprehensive income in the respective component of accumulated other comprehensive income.

Provisions for pensions and similar employee benefits

SGL Carbon maintains defined benefit plans in various countries based on the pensionable remuneration of employees according to their periods of service. These plans are funded in part through external pension funds and by contributions to a contractual trust agreement (CTA). Provisions for defined benefit plans are calculated using the projected unit credit method. The present value of the defined benefit obligation (DBO) is calculated with consideration for the expected future salary and pension trends. If the benefit entitlements are not covered by assets, the amount included in the “Provisions for pensions and similar employee benefits” item corresponds to the DBO. If the benefit entitlements are covered by assets, SGL Carbon offsets the fair value of the plan assets against the DBO and recognizes the net amount that was determined in “Provisions for pensions and similar benefits.” If the value of the assets exceeds the corresponding scope of the obligations (net assets value), an asset is recognized under other assets in the amount of the excess, if necessary after taking into account any asset ceiling.

The DBO is calculated on the reporting date using the maturity-equivalent interest rate for prime-rated corporate bonds. The assumptions used to calculate the DBO as of the previous year’s balance sheet date apply to the determination of current service cost and interest income and the interest expenses for the following fiscal year. The net interest income or expense for a fiscal year is generally calculated by multiplying the discount rate for the respective fiscal year by the net asset value or net liability on the balance sheet date of the previous fiscal year and is recognized in the financial result. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized directly in other comprehensive income in the period in which they occur, together with the attributable deferred taxes (accumulated profit/loss). The current service cost is classified as an operating expense. Negative past service cost due to a change in the pension plan and gains or losses from plan settlements are recognized immediately in profit or loss and allocated to other operating income or expenses.

If the information necessary for accounting for defined benefit plans is unavailable, obligations under defined benefit multi-employer plans are accounted for in the same way as obligations under defined contribution plans according to IAS 19.34. The obligations are determined by the amounts payable for the current period.

Some Group companies grant their employees defined contribution plans on the basis of statutory or contractual provisions, with payments being made to state or private pension insurance providers. With defined contribution plans, the employer does not enter into any obligations other than payment of contributions to an external pension provider. The amount of future pension benefits is based solely on the amount of contributions paid by the employer (and its employees, if applicable) to the external pension provider, including income from investment of these contributions. The amounts payable are expensed when the obligation to pay them arises and are reported as a component of operating expenses.

Actuarial valuations are based on material assumptions, including discount rates, expected salary and pension trends, acceptance rates of lump-sum options and disability and mortality rates. Due to changing market, economic and social conditions, the underlying assumptions may differ from what will actually happen.

Other provisions

Other provisions are recognized when there is an obligation to third parties due to past events, it is likely that an outflow of resources with economic utility will be required in order to settle the obligation, and the amount of the obligation can be measured with sufficient reliability. Non-current provisions are discounted at the risk-free interest rate (if applicable, negative). See Note 29 for a description of the accounting treatment and the recognition of provisions for obligations in conjunction with management and employee participation plans.

SGL Carbon recognizes expenses for provisions for product warranties in cost of sales at the time of revenue recognition. The amount of the provision is determined on a case-by-case basis. In the measurement of the provision, SGL Carbon takes into account both experience from actual warranty expenses previously incurred and technical information about product weaknesses discovered during the design and testing phase. Provisions for restructuring measures are recognized to the extent that a detailed and formal restructuring plan has been prepared and communicated to the affected parties. Provisions for anticipated losses from onerous contracts are recognized when the economic benefits expected to be received from the contract are less than the unavoidable costs of meeting the obligations under the contract. The amount and probability of provisions are based on management estimates. Significant estimates and assumptions are also made to determine provisions for asset retirement obligations and decommissioning activities.

3. Recently issued accounting pronouncements

SGL Carbon for the first time applied certain standards and amendments that are effective (unless otherwise stated) for fiscal years beginning on or after January 1, 2022. The Company has not prematurely applied any standards, interpretations or amendments that have been issued but are not yet effective.

The following new standards or amendments are effective for reporting periods beginning on or after January 1, 2022:

- Amendments to IAS 37: Onerous Contracts – Cost of Fulfilling a Contract
- Amendments to IFRS 3: Reference to the Conceptual Framework
- Amendments to IAS 16: Property, Plant and Equipment — Proceeds before Intended Use
- Amendment to IFRS 1: First-time Adoption by a Subsidiary
- Amendment to IFRS 9: Fees in the 10% present value test for derecognition of financial liabilities
- Amendment to IAS 41: Taxation in fair value measurements

These changes had no impact on the presentation of the financial statements.
In addition, further standards, interpretations and amendments to standards were published, such as IFRS 17 Insurance Contracts, amendments to IAS 1: Classification of Liabilities as Current or Non-current, amendments to IAS 8: Definition of Accounting Estimates, amendments to IAS 1 and IFRS Practice Statement 2: Disclosure of Accounting Policies, amendments to IAS 12: Deferred Taxes that relate to assets and liabilities arising from a single transaction, the application of which is not yet mandatory, SGL Carbon does not expect these to have any material impact on the consolidated financial statements.

4. Change in the scope of consolidation

In the 2022 fiscal year, SGL Carbon established the shelf companies SGL Battery Solutions GmbH, Meitingen, Germany, and SGL Battery Solutions Polska sp. z o.o., Nowy Sącz, Poland. SGL Carbon Holding S.A.S., Paris, France, ceased to exist as a result of an intragroup merger. These changes had no impact on the financial position and financial performance of SGL Carbon.

5. Sales revenue/functional costs

The breakdown of sales revenues by segment, region, customer industry and type of revenue recognition are presented in Note 28 in “Segment reporting.”

Selected disclosures on the total cost method are provided below:

€m	2022	2021
Wages and salaries (including bonus)	–279.1	–277.8
Social security contributions, post-employment and other employee benefit costs (thereof for pensions: minus €20.5 million: 2021: minus €8.2 million)	–76.5	–73.7
Personnel expenses	**–355.6**	**–351.5**

Personnel expenses in the current reporting year include expenses for restructuring measures amounting to €1.7 million (previous year: €6.3 million).

The employees held the following positions (average headcount):

Headcount	2022	2021
Production and auxiliary plants	3,641	3,516
Sales and marketing	337	348
Research and development	96	106
Administration, other functions	647	736
Total	**4,721**	**4,706**

The following table provides an overview of employee numbers by geographical region:

Headcount	2022	2021
Germany	2,056	2,135
Europe excluding Germany	1,357	1,311
North America	770	744
China	434	406
Rest of Asia	104	110
Total	**4,721**	**4,706**

Depreciation

Amortization and depreciation of intangible assets and property, plant and equipment totaled €66.7 million (previous year: €70.8 million). This includes amortization from the carryforward of the purchase price allocations of SGL Composites GmbH and SGL Composites Materials Germany GmbH, Meitingen, Germany (SGL Composites DE) and SGL Composites LLC (renamed SGL Carbon Fibers America LLC in January, 2023), Moses Lake, Washington (SGL Composites US), totaling €5.9 million (previous year €10.5 million). Amortization of intangible assets amounting to €7.5 million (previous year: €12.6 million) primarily relates to the scheduled amortization of the customer base from the purchase price allocation of SGL Composites DE. In 2022, a total of €59.2 million was depreciated in property, plant and equipment (previous year: €58.2 million).

Personnel expenses and amortization are included in all functional costs such as cost of sales, selling expenses, research and development costs and general and administrative expenses.

6. Other operating income/expense

Other operating income

€m	2022	2021
Grants received	6.4	6.8
Exchange-rate gains	4.6	3.5
Insurance compensations	3.6	3.2
Gains on the sale of intangible assets and property, plant and equipment	0.0	20.0
Reversal of provisions for jubilees	0.0	2.8
Income from amendments (including curtailments) and settlements of pension plans	-	18.1
Miscellaneous other operating income	3.3	3.6
Total	**17.9**	**58.0**

The grants received result from grants for the development and industrialization of innovative anode materials made of synthetic graphite for use in lithium-ion batteries in the context of the second European IPCEI (Important Project of Common European Interest) program/EUBatIn (European Battery Innovation). The Company received a corresponding funding notification of €42.9 million in 2020. The approved grants will partially reimburse SGL Carbon for the amortization and depreciation of investments as well as the operating expenses in conjunction with the funding project over the term extending until 2028.

The line item "Income from amendments (including curtailments) and settlements of pension plans" in the previous year included effects on earnings from restructuring of pension commitments recognized on the balance sheet. For additional details, see Note 22.

The line item "Gains on the sale of intangible assets and property, plant and equipment" in the previous year includes income from the sale of two properties not required for operations in Gardena, USA (€15.6 million) and Meitingen, Germany (€4.1 million).

Other operating expenses

€m	2022	2021
Impairment due to measurement of assets included in the disposal group at fair value, including transaction costs	–8.9	-
Exchange-rate losses	–5.1	–2.9
Losses on the sale of other intangible assets and property, plant and equipment	–0.5	–0.4
Other operating expenses	–0.9	–3.7
Total	**–15.4**	**–7.0**

Impairments include value adjustments and transaction costs from the sale of the operating business in Gardena (USA) for €6.0 million and from the sale of the investment in the fully consolidated company SGL CARBON INDIA Pvt. Ltd. for €2.9 million, both of which were signed in December 2022. Details can be found in Note 20.

The currency effects reported as other operating income and expenses result from measurement of receivables and liabilities not denominated in the respective functional currency at the closing rate.

In addition, other operating income and expenses include a large number of individual items of low value.

7. Investments accounted for At-Equity

Result from investments accounted for At-Equity

€m	2022	2021
Share in the net result of the year	18.2	17.0
Thereof joint ventures	*16.3*	*16.0*
Thereof associates	*1.9*	*1.0*
Result from investments accounted for At-Equity	**18.2**	**17.0**

€m	Dec. 31, 22	Dec. 31, 21
Interests in joint ventures	49.4	47.4
Interests in associates	11.3	7.1
Carrying amount	**60.7**	**54.5**

Joint ventures
In the reporting year, SGL Carbon held a stake in the joint venture Brembo SGL Carbon Ceramic Brakes S.p. A., Stezzano, Italy (BSCCB). BSCCB develops and produces carbon-ceramic brake discs especially for sports cars and luxury vehicles. The following tables summarize the results of operations and the financial position of BSCCB as reported in each of its own financial statements (taking into account IFRS 15 effects). The table also shows the reconciliation of the summarized financial information to the carrying amount of SGL Carbon’s stake in the BSCCB joint venture. SGL Carbon received dividend payments in the amount of €15.0 million from BSCCB in the reporting year (previous year: €15.0 million).

€m	2022	2021
Ownership interest	**50.0%**	**50.0%**
Income statement [1]		
Sales revenue	221.8	200.7
Operating profit	56.0	44.3
Interest income	0.1	0.0
Interest expense	–0.5	–0.4
Income tax expense	–12.4	–11.5
Net result for the year	32.6	31.9
Share of SGL Carbon in the net result of the year (50%)	**16.3**	**16.0**
Share of SGL Carbon in the changes of other equity (50%)	0.7	0.7
Total comprehensive income of the companies	17.0	16.7

[1] 100% values of the company

€m	Dec. 31, 22	Dec. 31, 21
Balance sheet [1]		
Non-current assets	64.3	60.2
Current assets	91.7	84.0
Thereof cash and cash equivalents	*27.6*	*25.5*
Non-current liabilities	19.2	22.0
Thereof financial debt	*11.8*	*12.8*
Current liabilities	45.3	34.6
Thereof financial debt	*2.3*	*2.1*
Net assets	**91.5**	**87.6**
Share of SGL Carbon in net assets (50%)	45.8	43.8
Goodwill/customer base	3.6	3.6
Carrying amount of material joint ventures	**49.4**	**47.4**

[1] 100% values of the company

Associates

€m	2022	2021
Associates		
Carrying amount of interests in associates Dec. 31	11.3	7.1
Share in the net result of the year/ comprehensive income	1.9	1.0
Share of SGL Carbon in change of other comprehensive income [1]	3.3	–3.5

[1] Relates to the share in the fair value of cash flow hedges (net of tax)

All associated companies have a fiscal year that corresponds to the calendar year, with the exception of MCC-SGL Precursor Co. Ltd., which uses a fiscal year ending March 31.

8. Restructuring income

€m	2022	2021
Income/Expenses for initiated restructuring measures	24.7	0.2
Total	**24.7**	**0.2**

On March 30, 2022, an agreement was concluded with Clariant Produkte (Deutschland) GmbH, as owner of the site, and a project company on the cancellation of a leasehold at the Frankfurt-Griesheim site that is not required for operations. In addition to the cancellation of the leasehold, the agreement also provides for the land to be cleared and the facilities to be dismantled. The SGL site in Frankfurt-Griesheim was shut down in 2016.

The termination agreement resulted in a reversal of provisions no longer required, including for restoration obligations in the amount of €12.5 million (see Note 23) and – with an offsetting effect – the loss of the right to use the land in the amount of €1.9 million.

With the termination of the leasehold by entry in the land register in October 2022, the remaining short-term lease liability of €15.6 million was derecognized in income.

Furthermore, restructuring expenses of €1.5 million were incurred in connection with the ongoing implementation of the global restructuring and transformation program initiated in 2020 (2021: €9.9 million, of which €6.3 million for personnel measures and €3.6 million for other restructuring expenses). The previous year's figure also included a positive effect of €10.1 million, mainly from the revaluation of the right-of-use asset for the land in Frankfurt-Griesheim.

9. Financial result

€m	2022	2021
Interest in other securities, other interest and similar income	**0.9**	**0.8**
Interest on financial liabilities and other interest expense [1]	–17.9	–18.4
Interest component of additions to provisions for pensions	–3.0	–2.4
Imputed interest convertible bond [1]	–2.9	–3.0
Imputed interest on lease liabilities and other financial liabilities [1]	–1.4	–1.6
Interest expense	**–25.2**	**–25.4**
Interest expense, net	**–24.3**	**–24.6**
Amortization of refinancing costs [1]	–3.1	–2.9
Foreign currency valuation of intercompany loans	–1.5	–0.7
Effect resulting from the early redemption of the convertible bond 2018/2023	2.9	-
Other financing expenses	–0.3	–0.1
Other financing result	**–2.0**	**–3.7**
Financial result	**–26.3**	**–28.3**

[1] Total interest expense from financial instruments: minus €25.3 million (2021: minus €25.3 million)

Interest expenses include, in particular, interest on the corporate bond with an interest rate of 4.625% and the cash interest component (coupon) for the convertible bond 2018/2023 with an interest rate of 3.0% and the convertible bond 2022/2027 issued in September 2022 for €101.9 million with an interest rate of 5.75%. The non-cash imputed interest on the convertible bonds is established by approximating the below-market coupon with the comparable market interest rate at the time the convertible bonds were issued.

10. Income tax expense

In fiscal year 2022, tax income of €31.3 million was generated, resulting in an effective tax rate of minus 33.09%. This tax income was attributable to a high positive valuation adjustment of deferred tax assets amounting to €41.8 million in the fourth quarter of 2022. The deferred tax income is mainly due to the reassessment of deferred tax assets on loss carryforwards (€24.7 million), interest carryforwards (€9.1 million) and temporary differences (€8.0 million) at the tax group in the USA. The latter result from deductible temporary differences on inventories (€0.9 million), receivables/other assets (€ 5.1 million), provisions for pensions and similar obligations (€1.7 million, previous year €1.2 million), other provisions (€1.1 million) and liabilities of €0.2 million, as well as taxable temporary differences on non-current assets amounting to minus €1.0 million. Since the start of the transformation in 2020, SGL Carbon has made significant progress on key core objectives, reflecting the strong business performance in the USA. It is assumed that the deferred tax assets are recoverable, as it is more likely than not that a sustained positive earnings forecast will be made in subsequent years. The positive revenue prospects are supported by the investments in sustainable business fields already initiated in previous years and systematically continued in the reporting year. Deferred taxes on loss carryforwards, interest carryforwards and temporary differences are measured on the basis of an impairment analysis and tax planning calculations for the tax group, which are based on corporate planning. Depending on the future earnings performance, the carrying amount of deferred tax assets for which SGL Carbon recognized negative valuation adjustments in prior years may continue to recover over time. This may lead to further positive valuation adjustments in the future (or, in the event of poor business performance, to negative valuation adjustments), with a corresponding impact on the effective tax rate.

The breakdown of income taxes between Germany and abroad is as follows:

€m	2022	2021
Current income taxes		
Germany	–0.9	–1.2
Other countries	–9.6	–6.2
Total	**–10.5**	**–7.4**
Deferred taxes		
Germany	0.0	0.0
Other countries	41.8	1.2
Total	**41.8**	**1.2**
Total sum	**31.3**	**–6.2**

A corporate income tax rate of 15%, a solidarity surcharge of 5.5% on corporate income tax and a trade tax rate of 14% were used to calculate deferred taxes for the domestic companies in 2022 and 2021. To calculate the deferred taxes, a total tax rate of 29.8% (previous year: 29.8%) was applied to the domestic companies. The country-specific tax rates were used to calculate the deferred taxes for the foreign companies¸ for example, for the USA a federal tax rate and a combined tax rate of 21% and 22.4%, respectively. Deferred tax assets and liabilities in Germany and abroad are measured at the tax rates that are expected to apply when the asset is realized or the liability is settled.

The actual tax expense includes taxes for previous years from domestic and foreign companies amounting to €0.9 million as income (previous year: minus €4.6 million as expense). Deferred taxes included tax income of €8.4 million (previous year: €0.5 million) in connection with the development of temporary differences and tax income of €33.4 million (previous year: €0.0 million) from the recognition of previously unrecognized deferred taxes on tax loss carryforwards and interest carryforwards.

Based on a tax rate of 29.8%, the following table reconciles the expected tax expense with the effective tax expense recognized:

€m	2022	2021
Result from continuing operations before income taxes	**94.6**	**82.1**
Expected tax expense/income at 29.8% (previous year: 29.8%)	**–28.2**	**–24.4**
Increase/decrease in income tax charge from:		
Income adjustments	–0.5	–4.1
Change in expected tax rate	1.6	–0.3
Changes in valuation allowances/recognition adjustments	50.6	12.0
Tax effect on investments accounted for At-Equity	5.4	5.1
Tax free income	0.2	–0.4
Tax rate changes	0.8	0.0
Tax from prior periods	0.2	4.9
Other	1.2	1.0
Effective tax income/expense	**31.3**	**–6.2**

The income adjustments primarily relate to non-deductible operating expenses. A reduction due to tax rates that differ mainly takes into account effects from withholding taxes and local taxes as well as taxation differences in Germany and abroad due to varying income tax rates. The changes in valuation allowances and recognition corrections take into account the change in unrecognized deferred tax assets based on an assessment of their future usability.

In the reporting year, the actual tax expense was reduced by €9.5 million (previous year: €8.5 million) due to the usability of previously unrecognized tax losses.

11. Earnings per share

Earnings per share are calculated by dividing the net profit attributable to SGL Carbon shareholders by the average number of shares outstanding in the reporting year. Diluted earnings per share are based on the assumption that outstanding debt instruments can be converted into shares (convertible bonds). The following table contains the calculation of earnings per share for fiscal years 2022 and 2021

Reconciliation between basic to diluted earnings per share

€m	Overall potentially dilutive financial instruments 2022	Dilutive financial instruments used for the calculation 2022	Share of net result attributable to the shareholders of the parent company 2022	Share of net result attributable to the shareholders of the parent company 2021
Numerator for basic earnings per share (share of net result attributable to the shareholders of the parent company)	**126.9**	**125.4**	**126.9**	**75.4**
plus: increase of the income by the interest costs of the convertible bonds	9.0	9.0	9.0	
Numerator for diluted earnings	**135.9**	**134.4**	**135.9**	**75.4**
Number of shares				
Denominator for basic earnings per share (weighted average number of shares)	**122,270,977**	**122,270,977**	**122,270,977**	**122,270,977**
Potentially dilutive securities (weighted average, in each case)				
Convertible bond 2018/2023 (see Note 24)	9,320,764	9,320,764	9,320,764	0
Convertible bond 2022/2027 (see Note 24)	2,044,450	2,044,450	2,044,450	
Stock Appreciation Rights (see Note 29)	501,840	0	0	0
Denominator for potentially diluted earnings per share	**134,138,031**	**133,636,191**	**133,636,191**	**122,270,977**
Thereof to be included for dilution (adjusted weighted average)		**133,636,191**	**133,636,191**	**122,270,977**
Basic earnings per share (€)		1.03	1.04	0.62
Diluted earnings per share (€)		1.01	1.02	0.62

12. Intangible assets

€m	Industrial rights, software and similar rights	Customer relationships	Capitalized development costs	Goodwill	Total
Historical costs					
Balance at Jan. 1, 22	72.4	52.7	17.6	67.2	209.9
Foreign currency translation	0.5	0.0	–0.1	0.4	0.8
Reclassifications	0.6	0.0	–0.2	0.0	0.4
Additions	1.7	0.0	0.0	0.0	1.7
Disposals	–1.9	–41.8	0.0	0.0	–43.7
Balance at Dec. 31, 22	**73.3**	**10.9**	**17.3**	**67.6**	**169.1**
Accumulated amortization					
Balance at Jan. 1, 22	63.3	42.9	16.0	45.1	167.3
Foreign currency translation	0.7	0.0	–0.1	–0.5	0.1
Additions	1.9	5.3	0.3	0.0	7.5
Disposals	–1.9	–41.8	0.0	0.0	–43.7
Balance at Dec. 31, 22	**64.0**	**6.4**	**16.2**	**44.6**	**131.2**
Net carrying amount at Dec. 31, 22	**9.3**	**4.5**	**1.1**	**23.0**	**37.9**
Historical costs					
Balance at Jan. 1, 21	70.4	52.7	18.4	65.8	207.3
Foreign currency translation	1.2	0.0	0.0	1.4	2.6
Reclassifications	0.1	0.0	0.0	0.0	0.1
Additions	0.7	0.0	0.0	0.0	0.7
Disposals	0.0	0.0	–0.8	0.0	–0.8
Balance at Dec. 31, 21	**72.4**	**52.7**	**17.6**	**67.2**	**209.9**
Accumulated amortization					
Balance at Jan. 1, 21	59.2	33.0	16.6	45.1	153.9
Foreign currency translation	0.7	0.0	0.0	0.0	0.7
Reclassifications	0.8	0.0	0.0	0.0	0.8
Additions	2.6	9.9	0.1	0.0	12.6
Disposals	0.0	0.0	–0.7	0.0	–0.7
Balance at Dec. 31, 21	**63.3**	**42.9**	**16.0**	**45.1**	**167.3**
Net carrying amount at Dec. 31, 21	**9.1**	**9.8**	**1.6**	**22.1**	**42.6**

Industrial protective rights, software rights and similar rights mainly comprise purchased and internally developed computer software.

The table below shows the key assumptions used in the impairment testing of CGUs to which goodwill has been allocated for determination of the values in use as of October 1:

€m	Recognized goodwill	Discount rate before tax	Average annual growth rate [2] (sales revenue/EBITDA)	Long-term growth rate
Oct. 1, 22				
Graphite Specialties [1]	22.8	11.3%	6%/6%	1.0%
Process Technology	1.9	11.1%	4%/10%	1.0%
Oct. 1, 21				
Graphite Specialties [1]	19.8	9.7%	8%/9%	1.0%
Process Technology	1.9	9.6%	5%/22%	1.0%

[1] Graphite Specialties is a CGU of GS
[2] Basis 2023-2027

SGL Carbon performed its mandatory annual impairment test as of October 1. As the recoverable amount determined on the basis of the value in use was estimated to be higher than their carrying amount, no impairment was identified for either of the CGUs with allocated goodwill.

The value in use is primarily determined by the terminal value, which is particularly sensitive to changes in the assumptions regarding the level of sales and EBITDA, the non-current growth rate and the discount rate. The discount factors reflect the current market assessment of the specific risks of each CGU and are based on the CGUs' weighted average cost of capital. The recoverable amount (value in use) of Graphite Specialties and Process Technology significantly exceeds their respective carrying amounts.

13. Property, plant and equipment

€m	Land, land rights and buildings	Plant and machinery	Office furniture and equipment	Assets under construction	Investment property	Total
Historical costs						
Balance at Jan. 1, 22	514.2	1,307.3	76.4	36.2	24.1	1,958.2
Foreign currency translation	8.2	13.6	0.2	–0.3	–0.1	21.6
Reclassifications	–6.5	14.0	0.6	–16.6	8.1	–0.4
Additions	1.3	10.9	1.2	37.8	0.0	51.2
Additions to right-of-use assets	1.5	0.4	1.2	0.0	0.0	3.1
Disposals	–32.3	–154.4	–10.2	–0.2	–18.6	–215.7
Balance at Dec. 31, 22	**486.4**	**1,191.8**	**69.4**	**56.9**	**13.5**	**1,818.0**
Accumulated depreciation						
Balance at Jan. 1, 22	307.6	1,018.3	66.6	0.8	6.6	1,399.9
Foreign currency translation	3.5	8.2	0.2	0.0	0.0	11.9
Reclassifications	0.0	–1.2	–0.1	0.0	1.3	0.0
Additions	13.9	39.7	4.8	0.8	0.0	59.2
Disposals	–29.8	–151.4	–10.1	0.0	–6.7	–198.0
Balance at Dec. 31, 22	**295.2**	**913.6**	**61.4**	**1.6**	**1.2**	**1,273.0**
Net carrying amount at Dec. 31, 22	**191.2**	**278.2**	**8.0**	**55.3**	**12.3**	**545.0**
Historical costs						
Balance at Jan. 1, 21	532.8	1,230.8	74.0	39.3	5.5	1,882.4
Foreign currency translation	15.5	35.0	0.9	1.6	0.0	53.0
Reclassifications	–14.5	30.3	0.5	–35.0	18.6	–0.1
Additions	1.8	14.6	2.5	30.4	0.0	49.3
Additions to right-of-use assets	2.5	8.3	0.8	0.0	0.0	11.6
Disposals	–23.9	–11.7	–2.3	–0.1	0.0	–38.0
Balance at Dec. 31, 21	**514.2**	**1,307.3**	**76.4**	**36.2**	**24.1**	**1,958.2**
Accumulated depreciation/reversal of impairment losses						
Balance at Jan. 1, 21	315.5	965.2	63.2	0.3	–0.1	1,344.1
Foreign currency translation	10.2	24.4	0.9	0.0	0.0	35.5
Reclassifications	–20.0	0.2	–0.1	0.5	18.6	–0.8
Additions	13.5	39.9	4.8	0.0	0.0	58.2
Reversal of impairment losses [1]	0.0	0.0	0.0	0.0	–11.9	–11.9
Disposals	–11.6	–11.4	–2.2	0.0	0.0	–25.2
Balance at Dec. 31, 21	**307.6**	**1,018.3**	**66.6**	**0.8**	**6.6**	**1,399.9**
Net carrying amount at Dec. 31, 21	**206.6**	**289.0**	**9.8**	**35.4**	**17.5**	**558.3**

[1] Refer to Note 8

In the reporting year, borrowing costs directly attributable to the construction or production of property, plant and equipment were capitalized in the amount of €1.2 million (previous year: €0.8 million), with application of an interest rate of 6.0% (previous year: 4.5%).

Due to the significant increase in capital costs in the fourth quarter of 2022 ("triggering event" according to IAS 36.12), as of December 31, 2022 the cash-generating unit Carbon Fibers was subjected to an impairment test in accordance with IAS 36; this did not result in a need for impairment. The value in use was determined using a pre-tax discount rate of 12.9%, an average annual growth rate for the years 2023-2027 in sales and EBITDA of 5.7% and 28%, respectively, and a long-term growth rate of 1%. If the assumptions change, there is a risk of a value adjustment.

Leases

Leases are presented in accordance with the explanations given in Note 2, "Summary of material accounting policies," in the “Leasing” section.

Leases as lessee

SGL Carbon has entered into lease agreements for a variety of rights equivalent to real property as well as for buildings, technical equipment, machinery, furniture and office equipment which the Company uses in its operations. Lease agreements for real estate generally have terms of between 1 and 15 years. For technical equipment and machinery as well as for furniture and office equipment, the term is usually between 3 and 10 years. SGL Carbon leases IT equipment with contractual terms of between 1 and 3 years, and in some cases the terms extend up to 5 years. These leases are generally either short-term and/or based on objects of low value. SGL Carbon has decided not to recognize either right-of-use assets or lease liabilities for these leases. Information on leases for which SGL Carbon is the lessee is presented below.

Right-of-use assets
The following table shows the carrying amounts of the recognized right-of-use asset and the changes during the reporting period and the previous year:

€m	Land, land rights and buildings	Plant and machinery	Office furniture and equipment	Total
Balance at Jan. 1, 22	9.8	11.2	1.7	22.7
Additions to right-of-use assets	1.5	0.4	1.2	3.1
Depreciation	–3.7	–2.1	–1.3	–7.1
Disposal of right-of-use assets	–0.5	0.0	0.0	–0.5
Reclassifications	0.6	0.0	0.0	0.6
Foreign currency translation	–0.1	–0.3	0.0	–0.4
Balance at Dec. 31, 22	**7.6**	**9.2**	**1.6**	**18.4**

€m	Land, land rights and buildings	Plant and machinery	Office furniture and equipment	Total
Balance at Jan. 1, 21	12.8	5.5	2.4	20.7
Additions to right-of-use assets	2.5	8.3	0.7	11.5
Depreciation	–3.6	–2.0	–1.3	–6.9
Disposal of right-of-use assets	–2.1	–0.8	–0.1	–3.0
Foreign currency translation	0.2	0.2	0.0	0.4
Balance at Dec. 31, 21	**9.8**	**11.2**	**1.7**	**22.7**

The maturity analysis of lease liabilities is presented in Note 24.

Amounts recognized on the income statement:

Lease agreements in accordance with IFRS 16

€m	2022	2021
Income from subleases of right-of-use assets	0.5	0.5
Expenses for short-term leases	–2.2	–2.5
Expenses for leases for low value assets	–2.7	–2.8
Depreciation of right-of-use assets	–7.1	–6.9
Interest expenses from lease liabilities	–1.4	–0.7

SGL Carbon's cash outflows for leases totaled €14.4 million in 2022 (2021: €14.8 million). In addition, the company reported non-cash additions to right-of-use assets and lease liabilities of €3.1 million in 2022 (previous year: €11.5 million).

Leases as lessor

From the lessor's perspective, all leases are classified as operating leases. This does not include a sublease, which SGL Carbon has classified as a finance lease due to the matching terms of the master lease and the sublease: This lease is recognized as a lease receivable in the amount of the net investment. Both the master lease and the sublease expired at the end of 2022.

Investment property

The land and buildings of former business units held by SGL Carbon as investment property are pooled in real estate companies in the USA and Germany. With the sale of the business activities at the Gardena site (USA), the local SGL Carbon company will remain the owner of the land and buildings in Gardena and will lease them to the purchaser of the business activities for a contractually fixed period of a maximum of three years. During this period, the purchaser of the business activities is obliged to relocate the divested business activities to another site. SGL Carbon has classified these leases as operating leases, because not all of the risks and rewards associated with ownership have been transferred. The fair values of the land and the land value of the land held for construction purposes were determined on the basis of a market analysis and an external expert opinion and total €63 million (previous year: €12.2 million excluding the Gardena site).

In fiscal year 2022, rental income from this land in Germany totaled €0.0 million (previous year: €0.3 million). Rental income at the Gardena site (USA) will only be generated after completion of the sale of the business activities in February 2023. Expenses of €0.1 million (previous year: €0.6 million) were incurred. The lease receivable under the lease to be received after the balance sheet date amounts to €0.0 million (previous year: €0.2 million) and is due in less than one year.

In the previous year, an impairment loss of €11.9 million for a leasehold in Frankfurt-Griesheim (a former production site) was reversed due to a change in the estimate used to determine the recoverable amount. This was due to the first-time conclusion of an extended lease for a portion of the land and a simultaneous decrease in ancillary costs following the takeover of the site by a new site operator. The leasehold was terminated in 2022; for further details, see Note 8.

The fair values disclosed correspond to level 3 of the fair value hierarchy of IFRS 13.

14. Other non-current assets

This item mainly includes financial assets in the form of securities held at international subsidiaries to cover pension entitlements, but which do not meet the definition of plan assets according to IAS 19.8 and are therefore not deducted from the present value of the defined benefit obligation (see Note 22).

15. Inventories

€m	Dec. 31, 22	Dec. 31, 21
Raw materials and supplies	99.7	95.9
Work in progress	150.6	121.7
Finished goods and merchandise	73.7	56.2
Total	**324.0**	**273.8**

Cost of sales in fiscal 2022 included consumption of inventories amounting to €787.1 million (previous year: €717.8 million), which was recognized as an expense. The total amount of inventories recognized at net realizable value as of December 31, 2022, amounts to €33.6 million (previous year: €26.0 million). Write-downs on inventories of €0.4 million (previous year: €5.7 million) increased the total cost of sales recognized. Reversals of write-downs of €3.0 million (previous year: €1.7 million) due to sales reduced the cost of sales.

16. Trade receivables and contract assets

€m	Dec. 31, 22	Dec. 31, 21
From customers	111.3	115.3
From investments accounted for At-Equity	3.6	3.6
Trade receivables	**114.9**	**118.9**
Contract assets	67.5	63.7
Trade receivables and contract assets	**182.4**	**182.6**

Additional information on the extent of credit risks included in trade accounts receivable and contract assets is provided in Note 27 under “Credit risks.”

17. Other receivables and other assets

€m	Dec. 31, 22	Dec. 31, 21
Other tax claims	13.8	9.2
Advance payments for leases and insurance premiums	7.1	6.3
Prepayments to pension funds	4.9	1.2
Income tax assets	4.2	3.0
Other receivables due from suppliers	3.9	3.1
Positive fair values of financial instruments [1]	2.4	1.3
Receivables due from employees	0.7	0.6
Other receivables due from investments accounted for At-Equity	0.1	0.0
Lease receivable	0.0	0.5
Other assets	5.2	7.2
Other receivables and other assets	**42.3**	**32.4**

[1] Total financial assets: €2.4 million (2021: €1.3 million)

18. Cash and cash equivalents

Cash and cash equivalents of €227.3 million (previous year: €220.9 million) include cash at banks and cash on hand. Also included are time deposits of €90.0 million (previous year: €109.4 million) with a remaining term of up to three months, calculated from the acquisition date.

19. Deferred taxes

As of December 31, 2022, there are unrecognized domestic loss carryforwards of €483.1 million (previous year: €466.0 million) for corporate income tax, €353.7 million (previous year: €334.5 million) for trade tax, and €52.5 million (previous year: €45.9 million) for interest carryforwards. In addition, there are unrecognized foreign loss carryforwards, mainly in the USA, for federal income tax purposes in the amount of USD 322.3 million (previous year: USD 485.5 million) and in the United Kingdom in the amount of GBP 113.9 million (previous year: GBP 114.6 million GBP). In addition, as of December 31, 2022, there are unrecognized interest carryforwards and capital losses in the United States totaling USD 16.2 million (previous year: USD 67.7 million). Under current legislation, the loss carry-forwards in Germany and the United Kingdom can be carried forward indefinitely. In the United States, loss carryforwards that arose on or before December 31, 2017, will expire starting in 2029. For losses incurred in tax years ending after December 31, 2017, the loss can be carried forward indefinitely.

Deferred tax assets have not been recognized for the following items as of December 31, 2022 and December 31, 2021, as their utilization is subject to uncertainty:

€m	Dec. 31, 22	Dec. 31, 21
From recognition and measurement differences	739.5	848.0
From tax loss carry forwards and tax credits	1,595.6	1,705.9
Total	**2,335.1**	**2,553.9**

Deferred tax assets are offset against deferred tax liabilities if they relate to income taxes levied by the same taxation authority and there is a legal right of set-off of a current tax asset against an actual tax liability that is current. On the consolidated statement of financial position, no distinction is made between current and non-current deferred tax assets and liabilities.

Deferred tax assets and liabilities are recognized either in profit or loss or directly in equity, depending on the underlying circumstances. The items recognized directly in equity are shown in the "Consolidated statement of comprehensive income."

Development of deferred taxes:

€m	Dec. 31, 22	Dec. 31, 21
Balance sheet recognition of deferred taxes	42.5	3.1
Difference compared to previous year	39.4	1.2
thereof:		
through profit and loss	41.8	1.2
Offset against other comprehensive income	–1.3	–0.3
Currency differences	–1.1	0.3

Development of deferred taxes on loss carryforwards:

€m	Dec. 31, 22	Dec. 31, 21
Deferred taxes on loss carryforwards before valuation allowances:	320.2	318.8
Difference compared to previous year	1.4	15.8
thereof:		
Usage/Addition	–1.5	0.7
Currency differences	2.9	15.1

The (gross) deferred tax assets and liabilities relate to loss carryforwards and differences between IFRS and the tax basis as follows.

€m	Deferred tax assets Dec. 31, 22	Deferred tax liabilities Dec. 31, 22	Deferred tax assets Dec. 31, 21	Deferred tax liabilities Dec. 31, 21
Non-current assets	159.5	27.1	157.5	33.3
Inventories	12.3	0.2	10.3	0.4
Receivables/other assets	8.9	11.5	3.9	11.2
Provisions for pensions and similar employee benefits	100.9	66.7	120.5	67.5
Other provisions	4.9	1.0	15.2	0.6
Liabilities/other liabilities	39.2	38.1	19.1	5.4
From tax loss carry forwards, interest carry forwards and tax credits	320.2	-	318.8	-
Gross amount	**646.0**	**144.6**	**645.3**	**118.4**
Valuation allowances	–458.9	0.0	–523.8	0.0
Netting	–143.2	–143.2	–116.9	–116.9
Carrying amount	**43.9**	**1.4**	**4.6**	**1.5**

SGL Carbon recognizes in equity the cumulative deferred tax effects on items recognized outside profit or loss totaling €44.7 million gross (previous year: €46.0 million gross), primarily from pension provisions. SGL Carbon has not recognized deferred tax liabilities for accumulated profits of subsidiaries, as these profits are to be reinvested indefinitely.

20. Assets held for sale/liabilities associated with assets held for sale

As part of a portfolio adjustment, in December 2022 SGL Carbon signed an agreement to sell all shares in the fully consolidated SGL CARBON INDIA Pvt. Ltd, India. Approximately 60% of the assets and liabilities were allocated to the Graphite Solutions (GS) business unit and 40% to the Process Technology (PT) business unit and were classified as assets/liabilities held for sale respectively as of December 31, 2022. The planned sale already resulted in an impairment loss of €2.5 million and transaction costs of €0.4 million in the 2022 fiscal year, which were recognized under other operating expenses.

Furthermore, the business (operating) activities of SGL COMPOSITES INC, USA (Gardena site) were classified as assets held for sale. A corresponding asset sale agreement was concluded in December 2022. These business activities were allocated to the Composite Solutions (CS) business unit. Land and buildings will remain with SGL Carbon and will be leased to the purchaser for a maximum period of 3 years. The planned sale already resulted in an impairment loss of €3.4 million and transaction costs of €2.6 million in the 2022 fiscal year, which were recognized under other operating expenses.

SGL CARBON INDIA and the business activities of SGL COMPOSITES (Gardena site) are each classified as a disposal group held for sale. The planned disposals have been completed (Gardena) or are expected to be completed (SGL Carbon India) within the first half year of 2023.

The carrying amounts of the main groups of assets and liabilities total (after consideration of impairment losses):

€m	Dec. 31, 22
Property, plant and equipment	0.1
Inventories	2.1
Trade receivables and contract assets	8.8
Other receivables and other assets	0.3
Assets held for sale	**11.3**
Other provisions	0.5
Trade payables and contract liabilities	2.1
Other liabilities	0.2
Liabilities in connection with assets held for sale	**2.8**

21. Equity

Issued capital

As of December 31, 2022, the issued capital of the parent company SGL Carbon SE amounted to €313,194,183.68 (previous year: €313,194,183.68) and was divided into 122,341,478 (2021: 122,341,478) no-par value ordinary shares, each with a notional value of €2.56. The shares are traded on various markets in Germany (including Frankfurt am Main).

Authorized capital

Pursuant to Section 3 (6) of the Articles of Association, the Board of Management is authorized to increase the share capital, with the approval of the Supervisory Board, by up to a total of €31,319,040.00 by issuing new no-par value shares on one or more occasions (Authorized Capital 2019). The Authorized Capital 2019 was created by the Annual General Meeting of May 10, 2019 and can be exercised until May 9, 2024. In principle, the shareholders will be entitled to preemptive subscription rights if the Authorized Capital 2019 is utilized. However, preemptive rights can or must be disapplied for fractional amounts, for the benefit of holders of bonds with warrants, conversion rights or mandatory conversion issued or to be issued, shares issued in return for contributions in kind to acquire companies, parts of companies or investments in companies, and, with the approval of the Supervisory Board, when issuing shares up to 10% of the issued share capital in the event of a capital increase against cash contributions.

Conditional capital

The Annual General Meeting has approved conditional capital increases in recent years to service the share-based management incentive plans (see also Note 29) and to service convertible bonds (see also Note 24).

Conditional capital as of December 31, 2022

Articles of association	Date of resolution	€/Number of shares	Capital increase via:	Disapplication of pre-emptive rights/execution of the capital increase
Section 3 (9)	May 17, 2017	€ 31,319,040.00.00 =12,234,000 shares	Servicing the convertible bond, issued 2018	Share capital increase will be executed if participants make use of their subscription rights.
Section 3 (10)	May 10, 2019	€ 31,319,040.00.00 =12,234,000 shares	Servicing the convertible bond, issued 2022	Share capital increase will be executed if participants make use of their subscription rights.
Section 3 (12)	April 29, 2009	€ 4,875,517.44 = 1,904,499 shares	SAR-Plan 1) 2010-2014	Share capital increase will be executed if participants make use of their subscription rights.

1)SAR Plan = Stock Appreciation Rights Plan, see Note 29

Changes in share capital

Number of shares	2022	2021
Balance at January 1,	122,341,478	122,341,478
Balance at December 31,	**122,341,478**	**122,341,478**

As of December 31, 2022, 70,501 (2021: 70,501) treasury shares were held at a carrying amount of €180,482.56 (previous year: €180,482.56).

Disclosures on capital management

The Group’s capital management involves the interest of shareholders, employees and other stakeholders. The aim is to ensure the long-term going concern of the Company and to achieve a return on capital employed that is in line with market expectations.

Capital management includes both equity and debt components. Key financial indicators that SGL Carbon has set itself as a medium-term target include net financial debt, the leverage ratio, the equity ratio and return on capital employed. Net financial debt is defined as interest-bearing loans at their nominal value less cash, cash equivalents and time deposits. The leverage ratio is the ratio of net financial debt to adjusted EBITDA. Return on capital employed (ROCE) is the ratio of adjusted EBIT to the average amount of capital employed.

The key capital management figures developed as follows:

€m	Dec. 31, 22	Dec. 31, 21
Net financial debt	170.8	206.3
Equity attributable to the shareholders of the parent company	569.3	371.5
ROCE $_{\text{EBIT pre}}$	11.3%	8.0%
Equity ratio	38.5%	27.0%
Leverage ratio	1.00	1.50

Net financial debt developed as follows:

€m	Dec. 31, 22	Dec. 31, 21
Carrying amount of current and non-current financial liabilities	377.4	418.4
Remaining imputed interest for the convertible bonds	17.0	4.8
Accrued refinancing cost	3.7	4.0
Total financial debt (nominal amount)	**398.1**	**427.2**
Cash and cash equivalents	227.3	220.9
Net financial debt	**170.8**	**206.3**

SGL Carbon aims to achieve a leverage ratio of ≤ 2.5, an equity ratio of ≥ 30% and a return on capital employed of ≥ 10%. These goals were met as of December 31, 2022, and will continue to be met.

In its dealings with lenders and bondholders, SGL Carbon has an obligation to comply with certain covenants with respect to its lenders and bondholders, such as the company's ability to service the debt. Adherence to these covenants is monitored continuously. Financial risks are continuously monitored and controlled using certain key performance indicators and regular internal reports. This includes, among other things, the internal financing framework for subsidiaries and its utilization, monitoring the hedged currency exposure, the change of actual cash flows, the change in the market value of the derivatives portfolio and the maintaining and utilization of guaranteed credit lines.

SGL Carbon commissions the rating agencies Moody's and Standard & Poor's (S&P) to create an issuer rating that supports investors in their credit assessment. As of December 31, 2022, the commissioned rating agencies assigned the following Group ratings to SGL Carbon:

Rating agency	Rating	Date of the rating
Moody's	B3 (Outlook: stable)	April 2022
Standard & Poor's	B- (CreditWatch Positive)	September 2022

SGL Carbon is seeking a substantial improvement of its external credit rating over the medium term.

Change of control-agreement

As of December 31, 2022, the Company had two convertible bonds outstanding, maturing in 2023 and 2027. Both convertible bonds entitle the bondholders in the event of a change of control to demand repayment of any outstanding bonds at par value (plus interest accrued up to that point) on a date to be determined by the company which shall be no less than 40 and no more than 60 calendar days after the date on which the change of control is made known. The bonds may also be converted into shares, in which case the bondholders will receive an improved conversion ratio, which will vary depending on the time remaining until the bonds mature. Control is deemed to have changed for the purposes of the convertible bonds (both issues) if one or more persons acquire control of the company, whereby control means direct or indirect ownership of more than 30% of the voting shares. In addition, the improved conversion ratio will apply to the convertible bonds (both issues) in the case of a public takeover bid if the acceptance rate of the takeover bid at the end of the acceptance period exceeds the control threshold of 30% of the shares with voting rights, any minimum acceptance threshold of the bid that exceeds such at this point in time has been reached, and no further offer conditions remain unfulfilled (with the exception of conditions that may legally also occur after the acceptance period has expired).

The €250 million corporate bond issued by the company maturing 2024 entitles investors to demand early redemption of their bonds against payment of 101% of the nominal amount (including any tax deduction from such early redemption amount) and interest accrued up to the redemption date if (a) a person (with the exception of Dr. h.c. Klatten, BMW AG and persons attributable to them) directly or indirectly acquires more than 35% of the voting shares in SGL Carbon SE, (b) all or almost all of the assets of SGL Carbon SE and its group companies are transferred to one person (with the exception of Dr. h.c. Klatten, BMW AG and persons attributable to them), or (c) the shares in SGL Carbon SE are no longer listed on the Frankfurt Stock Exchange or any other European regulated market.

Other

Under IFRS, the assessment of whether or not an obligation exists to prepare consolidated financial statements must also be performed at the level of the potential subsidiary. IFRS 10 requires all enterprises to assess whether or not they are required to prepare consolidated accounts on the basis of a single model, the control concept, regardless of whether control is founded on corporate law, contractual provisions or the economic substance of the arrangement. The concept therefore also applies to parent-subsidiary relationships that are based on voting rights or derive from contractual agreements (please also refer to Note 2, "Consolidation principles"). On the basis of these principles, SGL Carbon regularly assesses whether SGL Carbon SE is controlled by another parent company. SGL Carbon currently has no information that indicates that SGL Carbon SE is a subsidiary of any of its shareholders. SGL Carbon also has no indication that voting rights are exercised jointly or in concert by any shareholders. SGL Carbon SE therefore prepares consolidated financial statements as the ultimate parent company of the SGL Carbon Group.

SGL Carbon SE, as the parent company of SGL Carbon, reported net income for 2022 of €241.9 million in accordance with the German Commercial Code (HGB). Taking into account the loss brought forward of minus €911.9 million, the accumulated loss totaled €670.1 million. In accordance with the German Stock Corporation Act, dividends may only be paid out of the accumulated net profit reported by SGL Carbon SE in its annual financial statements prepared pursuant to the provisions of the German Commercial Code.

22. Provisions for pensions and similar employee benefits

The employees of SGL Carbon worldwide benefit from various arrangements that provide retirement- benefits for employees and their surviving dependents. These benefits are granted in accordance with the specific situations in the various countries. Some of the arrangements are linked to the level of employee remuneration, whereas others are based on fixed amounts linked to an employee’s salary bracket and position within the company hierarchy. Some arrangements also provide for future increases linked to inflation.

During a pension project carried out in 2021, all the Group's pension plans were reviewed and company pension benefits were moved to a new basis that was sustainable for the Group over the long term. In 2022, all employees in Germany, irrespective of their hiring date, were granted equal status with respect to the accrual of future pension rights through the transfer of the existing plans for cover up to the contribution ceiling to a uniform system called SGL Grundversorgung Plus (GV Plus).

Plan descriptions

For employees who joined on or before March 31, 2009 SGL Carbon previously provided company pension benefits via the Hoechst Group VVaG Pension Fund (Penka I). The amount of their benefits was determined by the conversion of their annual employee contributions into pension credits (for a lifelong retirement pension). Employee contributions were based on the pensionable gross salary of the beneficiary, up to the amount of the contribution ceiling for the statutory pension insurance plan. SGL Carbon does not have sufficient information on these pension plans to account for them as defined-benefit plans, as the plan is a multi-employer plan and the plan assets cannot be separately attributed to the participating enterprises. The pension fund benefits are funded based on the actuarial equivalence principle [Bedarfsdeckungsverfahren]. Accordingly, the employer contributions may fluctuate depending on the investment returns of the fund. Based on the legally prescribed actuarial calculation for 2021, the obligations of the pension fund are fully funded. For 2022, it has been assumed that the pension obligations continue to be funded by the corresponding assets. Should the multi-employer plan find itself in a situation where the plan's liabilities exceed its assets, this can be remedied by either increasing employer contributions to the plan or reducing benefits to beneficiaries. In the event of a reduction in benefits, it must be checked whether this would create a contribution obligation for the employer. If the pension plan is wound up, the remaining funds will be divided among the plan members. If there are no more plan members, the remaining funds would be transferred to social organizations. Effective September 30, 2022, SGL Carbon agreed at company level to cease granting Penka I pension entitlements in relation to seniority-based annual increases that had not yet vested. As of October 1, 2022, SGL Carbon therefore suspended its membership in Penka I. Suspended (i.e. dormant) membership does not constitute full withdrawal from Penka I, as the vested rights of active members and the rights of former members and pensioners continue to be funded and administered by Penka I. As a dormant member, SGL Carbon is no longer obliged to make member or employer contributions to Penka I. SGL Carbon paid contributions of €5.2 million (2021: €5.6 million) to Penka I during the reporting year up to September 30. As of October 1, 2022, company pension benefits are provided in accordance with GV Plus. To enable employees to reach a level of benefits equal to Penka I, it can be necessary in some cases to pay an initial, supplementary employer-funded contribution for the employee to GV Plus.

Employees in Germany joining on or after April 1, 2009 made pension contributions to Altersversorgung Plus (AV Plus). The employee contributed 2.0% of pensionable gross pay to AVplus by way of a salary deduction, while the employer contributed twice that amount in the form of a direct pension commitment, which was covered by assets in a contractual trust arrangement (CTA). Employees could contribute an additional amount of 1.0% to the pension fund, in which case the employer's matching -direct pension commitment was equal to 100% of the employee's additional contribution. The employee's entitlement to benefits from the pension fund vested immediately upon payment of the employee contributions. The employer's direct pension commitment is subject to a guaranteed minimum return of 2.25% p.a. When a benefit becomes payable, the lump-sum or pension is based on the higher of the guaranteed minimum return or the current individual value of the assets. Effective September 30, 2022, SGL Carbon agreed at company level to cease granting AV Plus pension entitlements in respect of seniority-based annual increases that had not yet vested. Pension rights arising from contributions up to and including that date remain in force. As of October 1, 2022, company pension benefits are provided in accordance with GV Plus.

Under GV Plus, all employees receive an employer-funded basic allowance, equal to 1% of eligible income up to the contribution ceiling, which is invested in investment funds. Employees can convert up to 4% of their eligible income into contributions. For as long as the employee makes these personal contributions, SGL Carbon pays a monthly employer's contribution in addition to the basic allowance. If the employee's personal contribution is 1%, the SGL contribution will be equal to 4% of eligible income up to the contribution ceiling. This rises to 5% if the employee's personal contribution is 2%. If the employee makes a personal contribution of more than 2% of eligible income, no further contribution or other benefit is payable by the company. SGL's contributions are thus equal to a maximum of 5% of the employee's eligible income up to the contribution ceiling, provided that the employee makes the relevant personal contribution. The contributions made by SGL and the employees are transferred to a contractual trust arrangement (CTA) and invested in stocks (investment funds). On retirement, SGL Carbon grants either the market value of the fund units or, if higher, the sum of the contributions paid (protection of nominal value). On retirement, employees (or their surviving dependents) can choose between a lump-sum payment or a payment in 10 or 15 annual installments.

Direct pension awards for income above the contribution ceiling for the German public insurance scheme, which were previously made under the defined-benefit pension scheme for senior executives, were terminated for active members as of December 31, 2014 and replaced by a defined contribution scheme (ZV Plus). The entitlements earned by the participants have been frozen and will not be subject to indexation until benefits commence. Even if employees may no longer earn entitlements from legacy commitments, the Company is still exposed to actuarial risks such as longevity and pension indexation. At the end of 2021, beneficiaries of legacy commitments were given the option of converting their entitlements into a lump-sum. This enabled active and former employees (or their surviving spouses) to receive a capital sum either as a one-time payment or in 10 yearly installments, instead of a retirement or survivor's pension. The probability of utilization for the different payout options was derived from the empirical acceptance rates for comparable cases.

Under ZV Plus, the Company grants contributions based on a set percentage of pensionable income. The contributions are subject to a minimum rate of return, which is the maximum rate for life insurance policies plus one percentage point (1.25% p.a.). In addition, the amounts are contributed as assets to a contractual trust arrangement (CTA). When a benefit becomes payable, the lump sum or pension is based on the higher of the guaranteed minimum return or the current individual value of the assets.

The assets covering the pension rights under AV Plus, GV Plus and ZV Plus are invested via a third-party investment firm as follows.

in % at Dec. 31, 22 (Dec. 31, 21)	AV-Plus	GV-Plus	ZV-Plus
Asian equity fund	1.5% (1.0%)	5.2%	1.0% (0.5%)
European small cap equities fund	2.2% (1.6%)	7.4%	7.1% (7.8%)
European equities fund	31.3% (35.9%)	12.3%	13.7% (14.6%)
International equities fund	10.1% (7.1%)	29.3%	39.4% (40.3%)
European fixed-income fund	54.9% (54.4%)	45.8%	38.8% (36.8%)

Senior management is also able to contribute short- and/or long-term incentives into ZV Plus.

SGL Carbon has also agreed at company level to harmonize pension adjustments, such that ongoing pension payments under the old pension schemes are adjusted annually by 1% in line with Section 16(3)(1) of the Occupational Pensions Improvement Act (BetrAVG) The mandatory duty to perform an adjustment review pursuant to Section 16(1) BetrAVG, whereby the employer must review every three years whether an adjustment to ongoing occupational pension payments is required, thus lapses.

The North American subsidiaries have pension plans that are mainly covered by pension funds. These plans are subject to the legal and regulatory framework of the US Employee Retirement Income Security Act (ERISA). In accordance with this framework, defined benefit plans have to ensure a minimum funding level in order to avoid restrictions on benefit payments. The direct pension commitment for the defined benefit pension scheme was closed for active employees as of December 31, 2021. The entitlements earned by the participants have been frozen and will not be subject to indexation until benefits commence. The effective funding ratio for the US pension plan as of December 31, 2022 was 100% (2021: 99.8%).

In addition, post-employment healthcare plans and an additional pension plan for senior managers, both of which are unfunded, exist in the US.

In the US pension fund, plan assets are invested solely for the purpose of providing future pension benefits to the beneficiaries, thereby minimizing the asset management costs. SGL Carbon regularly reviews the expected return on the plan assets of the North American funded pension plan. As part of this review, independent actuaries determine a range for expected long-term returns on total plan assets. For the purpose of determining the net interest, plan assets are valued using the discount rate at the end of the previous year.

The effective rate of return on plan assets in the US in 2022 was –23.5% (2021: 8.6%), below the expected return based on the discount rate of 3.0% as of December 31, 2022.

SGL Carbon's investment policy is geared more heavily toward fixed income bonds and cash than more speculative investments in equities and participating interests. Plan assets were invested as follows as of December 31:

in %	Dec. 31, 22	Dec. 31, 21
Fixed-interest securities	85.3%	78.4%
Equities and interest in companies	7.8%	7.3%
Real estate	4.3%	9.1%
Hedge funds	1.6%	3.9%
Bank deposits	1.0%	1.3%

The future benefit obligations in relation to healthcare plans are calculated using actuarial methods based on prudent estimates of the relevant parameters. The calculation parameters may be influenced to a significant degree by the assumptions with respect to cost increases in the healthcare sector. Trend assumptions in relation to healthcare were as follows:

Health care trend rated - medical	Dec. 31, 22	Dec. 31, 21
Trend for next year	5.6%	5.9%
Ultimate trend	4.5%	4.5%
Year ultimate trend reached	2027	2027
Health care trand rates - prescription drugs		
Trend for next year	6.1%	6.6%
Ultimate trend	4.5%	4.5%
Year ultimate trend reached	2027	2027

At the end of the 2022 fiscal year, an increase (decrease) of 1 percentage- point in the assumed growth rate for healthcare costs would have led to an increase (decrease) in the present value of the defined benefit obligation of €0.2 million (€0.0 million) and an increase (decrease) in the service cost and interest cost of €0.2 million (€0.0 million).

Actuarial assumptions

In addition to biometric assumptions and the current long-term market interest rate, assumptions regarding future salary- and pension increases are also taken into account. The following parameters are used in Germany and the US, the most significant countries:

	German plans		US plans	
	2022	2021	2022	2021
Discount rate as of Dec. 31	3.80%	1.10%	5.09%	3.01%
Projected pension increase as of Dec. 31	2.25%	1.25%		
Expected return on plan assets in fiscal year	3.80%	1.10%	5.09%	3.01%
Probability of acceptance of capital option	55%	55%		-
Duration (years)	11.7	12.9	13.0	16.0

The disability tables used in Germany were SGL-specific tables, with a disability trend based on the Heubeck 2018G mortality tables.

Sensitivity analyses

A change of half a percentage point in any of the above assumptions (+/- 5 percentage points for the lump sum option) would increase or decrease the DBO as follows:

	Change in DBO			
in million €	Dec. 31, 22		Dec. 31, 21	
	Increase	Decrease	Increase	Decrease
Discount rate (+/- 0.5%-pts)	–15.6	17.2	–22.6	26.2
Projected pension increase (+/- 0.5%-pts)	9.7	–8.9	13.1	–12.1
Probability of acceptance of capital option (+/- 5%-pts)	–1.3	1.3	–1.6	1.6

The sensitivities reflect the change in the DBO caused by changed assumptions only, with all other assumptions remaining the same.

Change in defined benefit plans

The change in pension obligations relating to direct commitments and post-employment healthcare obligations, the change in plan assets and the funding status of the pension plans are described in the table below.

The funded status for 2022 was as follows:

€m	Germany 2022	USA 2022	Other 2022	Total 2022
Present value of the defined benefit obligation at beginning of year	287.3	94.8	10.9	393.0
Service cost	4.7	0.2	0.6	5.5
Interest cost	3.1	2.9	0.1	6.1
Actuarial gains (–)/losses (+)	–51.3	–24.1	–0.8	–76.2
thereof: experience adjustments	–56.2	–24.1	–0.8	–81.1
thereof: change in actuarial assumptions	4.9	0.0	0.0	4.9
Past service cost due to plan amendments (including curtailments)	5.4	0.0	0.0	5.4
Benefits paid	–10.4	–3.9	–1.4	–15.7
Other changes	1.6	0.2	0.0	1.8
Currency differences	0.0	5.9	0.1	6.0
Present value of the defined benefit obligation at end of year [1]	**240.4**	**76.0**	**9.5**	**325.9**
Fair value of plan assets at beginning of year	68.1	74.3	6.3	148.7
Reclassification	0.4	0.0	0.0	0.4
Actual return on plan assets	–7.1	–18.3	0.1	–25.3
Employer contributions	6.2	1.7	0.0	7.9
Contributions of the beneficiaries	1.6	0.2	0.0	1.8
Benefits paid	–5.0	–3.9	–1.2	–10.1
Currency differences	0.0	4.8	0.0	4.8
Fair value of plan assets at end of year [2]	**64.2**	**58.8**	**5.2**	**128.2**
Funded status as of Dec. 31	**176.2**	**17.2**	**4.3**	**197.7**
Reclassifications/Adjustments due to asset ceiling (IAS 19.64)	2.0	0.0	0.0	2.0
Amount recognized	**178.2**	**17.2**	**4.3**	**199.7**
Termination benefits	0.0	0.4	2.2	2.6
Provisions for pensions and similar employee benefits	**178.2**	**17.6**	**6.5**	**202.3**

[1] Of which €4.8 million relate to post-retirement health care benefits
[2] This item also includes assets of €5.2 million to cover pension entitlements recognized as other non-current assets

The funded status for 2021 was as follows:

€m	Germany 2021	USA 2021	Other 2021	Total 2021
Present value of the defined benefit obligation at beginning of year	343.3	115.2	11.3	469.8
Service cost	4.8	3.1	0.3	8.2
Interest cost	2.0	3.0	0.1	5.1
Actuarial gains (–)/losses (+)	–37.4	–5.4	–1.1	–43.9
Past service cost due to plan amendments (including curtailments)	–15.8	–1.6	0.0	–17.4
Plan settlements	0.0	0.7	0.0	0.7
Benefits paid	–9.8	–4.9	–1.3	–16.0
Settlement payments	0.0	–25.0	0.0	–25.0
Other changes	0.2	0.1	1.6	1.9
Currency differences	0.0	9.6	0.0	9.6
Present value of the defined benefit obligation at end of year [1)]	**287.3**	**94.8**	**10.9**	**393.0**
Fair value of plan assets at beginning of year	61.4	70.3	1.5	133.2
Actual return on plan assets	4.5	6.6	0.0	11.1
Employer contributions	3.7	20.3	5.3	29.3
Contributions of the beneficiaries	0.2	0.1	0.0	0.3
Benefits paid	–1.7	–4.9	–0.5	–7.1
Settlement payments	0.0	–25.0	0.0	–25.0
Currency differences	0.0	6.9	0.0	6.9
Fair value of plan assets at end of year [2)]	**68.1**	**74.3**	**6.3**	**148.7**
Funded status as of Dec. 31	**219.2**	**20.5**	**4.6**	**244.3**
Amount recognized	**219.2**	**20.5**	**4.6**	**244.3**
Termination benefits	0.0	0.4	2.4	2.8
Provisions for pensions and similar employee benefits	**219.2**	**20.9**	**7.0**	**247.1**

[1)] Includes €5.7 million for healthcare
[2)] An additional €5.6 million of assets held to cover pension rights is disclosed under other non-current assets

The consolidated statement of comprehensive income includes the following amounts:

€m	Germany 2022	USA 2022	Other 2022	Total 2022	Total 2021
Actuarial gains (+)/losses (–) from pensions [1]	49.3	24.1	0.8	74.2	43.9
Actuarial gains (+)/losses (–) on other long-term benefits	0.5	-	-	0.5	0.0
Actual return on plan assets	–7.1	–18.3	0.1	–25.3	11.1
Less expected return on plan assets	–0.7	–2.4	0.0	–3.1	–2.7
Currency effects	0.0	0.4	–0.1	0.3	0.3
Share of investments accounted for At-Equity in other comprehensive income	0.7	0.0	0.0	0.7	0.7
Gains (+)/losses (–) for the reporting year (gross) recognized in equity	**42.7**	**3.8**	**0.8**	**47.3**	**53.3**
Tax effect	–12.4	–0.8	0.2	–13.0	–15.0
Valuation allowances on deferred taxes	12.4	0.8	–1.4	11.8	14.7
Gains (+)/losses (–) for the reporting year (net) recognized in equity	**42.7**	**3.8**	**–0.4**	**46.1**	**53.0**

[1] Thereof adjustments due to asset ceiling in accordance with IAS 19.64 of minus €2.0 million

The cumulative amount of actuarial losses recognized in equity (accumulated results) was €168.4 million net (2021: €214.5 million).

In fiscal year 2022, the following developments affected the defined benefit obligation: an actuarial gain of €93.6 million resulting from the increase of the discount factor for pension plans (2021: actuarial gain of €33.0 million) and an actuarial loss of €12.5 million from the raising of the projected pension increase for the German plans from 1.25% to 2.25% (2021: actuarial gain of €8.6 million due to the reduction in the projected pension increase from 1.5% to 1.25%), as well as a reduction of €4.9 million (2021: reduction of €0.3 million) due to experience adjustments resulting from the differences between actuarial assumptions and actual outcomes. Pension provisions with a maturity of less than one year amounted to €21.0 million (2021: €14.9 million).

SGL Carbon has pension and healthcare obligations of €97.9 million (2021: €120.8 million) in relation to funded pension plans. Pension obligations under unfunded pension plans were €228.0 million (2021: €272.1 million). The actual return on plan assets totaled minus €25.2 million in 2022 (2021: €11.1 million).

To cover the pension obligations to members of the Board of Management, the Company has entered into pension liability insurance arrangements with three large insurance companies. As of December 31, 2022, the asset values included in the pension provisions totaled €25.3 million (2021: €29.4 million). The expected return corresponds to the discount rate for the pension obligations. In fiscal year 2022, contractually agreed pension payments of €0.4 million were made to the pension liability insurance arrangements (2021: €0.0 million). The benefits under the insurance arrangements have been pledged to the relevant members of the Board of Management. The pension expense for active members of the Board of Management is detailed in Note 26.

The breakdown of pension expenses for 2022 and 2021 is as follows:

€m	Germany 2022	USA 2022	Other 2022	Total 2022	Total 2021
Current service costs	4.7	0.2	0.6	5.5	8.2
Past service cost due to plan amendments (including curtailments)	5.4	0.0	0.0	5.4	–17.4
Expenses from plan settlements	-	-	-	-	0.7
Service cost	**10.1**	**0.2**	**0.6**	**10.9**	**–8.5**
Interest cost	3.1	2.9	0.1	6.1	5.1
Expected return on plan assets	–0.7	–2.4		–3.1	–2.7
Net interest expense	**2.4**	**0.5**	**0.1**	**3.0**	**2.4**
Pension expenses for defined benefit plans	**12.5**	**0.7**	**0.7**	**13.9**	**–6.1**
Pension expenses for defined contribution plans	5.2	2.2	2.1	9.5	9.3
Pension expenses	**17.7**	**2.9**	**2.8**	**23.4**	**3.3**

SGL Carbon's contributions to the state plans amounted to a total of €19.0 million in 2022 (2021: €17.9 million). Employer contributions to plan assets and pension liability insurance arrangements for 2023 are estimated at €4.7 million (2021 actual figure: €6.9 million). As of December 31, 2022, the anticipated future pension benefit payments by SGL Carbon to its former employees or their surviving dependents were as follows:

Pension payments to employees

Year	€m
2022	15.6
Due 2023	21.0
Due 2024	19.0
Due 2025	17.9
Due 2026	19.9
Due 2027	20.9
Due 2028 - 2032	106.6

23. Other provisions

€m	Taxes	Personnel	Warranties, price reductions and guarantees	Restructuring	Other	Total
Balance at Jan. 1, 22	1.7	51.8	6.3	46.9	22.5	129.2
Utilizations	–0.6	–30.6	–2.2	–20.5	–11.1	–65.0
Releases	–0.2	–0.5	–0.5	–12.5	–0.3	–14.0
Additions	1.2	29.6	2.8	1.5	7.6	42.7
Other changes/exchange differences	0.0	0.4	0.0	–0.4	0.1	0.1
Balance at Dec. 31, 22	**2.1**	**50.7**	**6.4**	**15.0**	**18.8**	**93.0**
thereof with a maturity of up to one year	*2.1*	*35.1*	*6.3*	*13.6*	*17.7*	*74.8*
thereof with a maturity of more than one year	*0.0*	*15.6*	*0.1*	*1.4*	*1.1*	*18.2*

Provisions for personnel expenses mainly comprise provisions for variable compensation of €31.0 million (2021: €32.7 million), provisions for anniversary benefits of €1.8 million (2021: €2.2 million) and provisions for outstanding vacation and accumulated time credits of €9.1 million (2021: €8.8 million).

Provisions for warranties, price reductions and guarantees include provisions for price reduction risks, including bonuses, volume discounts and other reductions in price.

Restructuring provisions have fallen by €31.9 million to €15.0 million, mainly as a result of an agreement to cancel the leasehold on real estate at the former Frankfurt-Griesheim site that was not needed for operating purposes. In 2022, provisions of €11.0 million that were accrued as restructuring in previous years for renovation and similar obligations were therefore utilized and €12.5 million was released to profit or loss (see Note 8). Restructuring provisions disclosed as at the balance sheet date comprise the remaining renovation costs for Frankfurt-Griesheim and one other site (€10.1 million in total) as well as personnel-related obligations arising due to the restructuring and transformation program.

24. Liabilities

€m	Dec. 31, 22	Remaining term to maturity > 1 year	Dec. 31, 21	Remaining term to maturity > 1 year
Interest-bearing loans				
Corporate bond	240.0	240.0	250.0	250.0
Nominal value of convertible bond	*133.5*	*101.9*	*151.3*	*151.3*
Less IFRS equity component	*–17.0*	*–16.6*	*–4.8*	*–4.8*
Convertible bonds	116.5	85.3	146.5	146.5
Bank loans, overdrafts and other financial liabilities	24.6	20.8	25.9	21.2
Refinancing costs	–3.7	–3.6	–4.0	–4.0
	377.4	**342.5**	**418.4**	**413.7**
Trade payables and contract liabilities	**161.1**	**17.4**	**115.2**	**0.0**
Other financial liabilities				
Derivative financial instruments	0.4	0.0	0.3	0.0
Lease liabilities	19.9	14.5	40.9	32.0
Miscellaneous other financial liabilities	4.9	0.0	4.5	0.0
	25.2	**14.5**	**45.7**	**32.0**
Income tax liabilities	7.2	0.0	10.5	0.0
Miscellaneous other liabilities	31.3	4.5	27.9	4.6
Other liabilities	**63.7**	**19.0**	**84.1**	**36.6**
Total	**602.2**	**378.9**	**617.7**	**450.3**

Interest-bearing loans

Corporate bond

SGL Carbon SE issued a senior secured corporate bond in April 2019. The bond had a nominal value on issue of €250.0 million and was issued in denominations of €100,000. The coupon is 4.625%, payable semiannually.

The bond had an original term of five years and five months and matures in September 2024. It is repayable at 100% of the nominal value. The terms of the bond provide for normal market covenants in relation to selected financial indicators and financial restrictions. The corporate bond is admitted to trading on the Open Market of the Frankfurt Stock Exchange.

In 2022, the company repurchased corporate bonds with a nominal value of €10.0 million ahead of maturity.

On December 31, 2022, the market value of the listed corporate bond was €239.8 million and the outstanding nominal value was €240.0 million (2021: market value €254.9 million; outstanding nominal €250.0 million).

Convertible bonds

In September 2022, SGL Carbon completed the placement of a non-subordinated unsecured convertible bond (the "2022/2027 convertible bond") with a total nominal value of €101.9 million, maturing in September 2027. The conversion price was set at €8.3298, representing a 25% premium on the reference price of €6.6638. The coupon is 5.75% p.a., payable semiannually in arrears from March 21, 2023. The bond is repayable at 100% of the nominal amount. The convertible bond is issued in denominations of €100,000 per partial bond. Based on the current conversion price, full conversion would result in the issue of 12.2 million shares. The proceeds of the newly placed bond were used to buy back part of the existing 2018/2023 convertible bond and to lengthen the maturity profile. The fair value of the conversion rights (€17.4 million before transaction costs) was recognized in the capital reserve upon issue and deducted from the bond liability.

In September 2018, SGL Carbon SE issued an unsecured, unsubordinated convertible bond. The total nominal amount of the convertible bond upon issue was €159.3 million. As of December 31, 2022 convertible bonds of €31.6 million remained outstanding. As repayment was due within one year (final maturity: September 2023), this amount was disclosed under current liabilities. The bond was issued in denominations of €100,000. The coupon is 3.00%, payable semiannually. It is repayable at 100% of the outstanding nominal amount. The terms of the convertible bond provide for protection against dilution for investors. This ensures that the conversion price is automatically adjusted, particularly in the event of a rights issue or if dividends are paid by the Company. The adjusted conversion price reflects the dilutive effect per share. The initial conversion price was set at €13.0220, representing a premium of 30% on the reference price of €10.0169.

Based on the current conversion price, full conversion of the outstanding amounts of both convertible bonds would result in the issue of 14.7 million shares. The fair value of the conversion rights was recognized in capital reserves upon issue and deducted from the bond liability.

The conversion price of the convertible bonds changed as follows:

€	Conversion price as of Dec. 31, 22	Original conversion price per share	Change
Convertible bond 2018/2023	13.02	13.02	0.00
Convertible bond 2022/2027	8.33	8.33	0.00

Summary of convertible bonds

€m	Volume of issue	Outstanding volume	Carrying amount as of Dec. 31, 22	Market price [1] Dec. 31, 22	Coupon % p.a.	Issue price
Convertible bond 2018/2023	159.3	31.6	31.1	30.7	3.000%	100.0%
Convertible bond 2022/2027	101.9	101.9	83.4	108.0	5.750%	100.0%

[1] Corresponds to level 1 of the fair value hierarchy of IFRS 13

Please see Note 2 “Hybrid financial instruments” for a description of the accounting treatment for convertible bonds and their separation into an equity- component and a debt component.

The weighted cash-effective average interest rate for financial liabilities based on their nominal amounts was 4.38% p.a. in 2022 (2021: 3.9% p.a.). Including the non-cash imputed interest cost on the convertible bonds, the weighted average effective interest rate was 5.20% p.a. in 2022 (2021: 4.5% p.a.). As of the balance sheet date, bank loans, overdrafts and other financial liabilities amounted to €24.6 million (2021: €25.9 million). As in the previous year, these bore interest at fixed rates and were secured by land charges.

Syndicated credit facility

The Company also has a syndicated credit facility totaling €175.0 million to be used for general corporate purposes. It has equal ranking with the corporate bond and was not utilized as of the reporting date. The facility is agreed with SGL Carbon's core banks. As at the balance sheet date, it was due to expire in January 2024. The syndicated credit line is available to SGL Carbon SE and SGL Carbon LLC as borrowers and can be drawn down in euros or US dollars.

The agreed credit margin varies depending on the Company’s leverage ratio. The terms of the facility include financial covenants in respect of certain financial indicators and other financial restrictions.

Trade payables and contract liabilities

Trade payables and contract liabilities totaled €161.1 million as of December 31, 2022 (2021: €115.2 million). As in 2021, they were primarily due to unrelated third parties. Of the total, €143.7 million was due for payment within one year. Trade payables include contract liabilities of €62.1 million (2021: €30.1 million). These concern prepayments received from customers on contracts for which revenue is essentially recognized over a set period of time.

Other liabilities

As of December 31, 2022, other financial liabilities include lease liabilities of €19.9 million (2021: €40.9 million).

Miscellaneous other financial liabilities include in particular accrued interest of €4.9 million (2021: €4.5 million) on the convertible bond and the corporate bond.

Miscellaneous other liabilities totaled €31.3 million as of December 31, 2022 (2021: €27.9 million) and mainly included payroll and church tax liabilities of €7.8 million (2021: €8.3

million), social security liabilities of €0.1 million (2021: €0.1 million), other tax liabilities of €6.8 million (2021: €6.6 million) and deferred income of €10.5 million (2021: €6.3 million).

The table below shows all contractually agreed payments for the repayment of principal and payment of interest on recognized financial liabilities, including derivative financial instruments, as of December 31, 2022.

€m	2023	2024	2025	2026	2027	More than five years
Non-derivative financial liabilities						
Corporate bond	11.1	248.3				
Convertible bond 2018/2023	32.2					
Convertible bond 2022/2027	5.9	5.9	5.9	5.9	106.1	
Liabilities due to banks	5.0	4.1	3.4	3.3	2.6	8.5
Lease liabilities	5.9	4.3	3.0	2.4	1.1	3.2
Trade payables	99.0					
Miscellaneous other financial liabilities	4.9					
Derivative financial liabilities	0.4					
Total	**164.4**	**262.6**	**12.3**	**11.6**	**109.8**	**11.7**

Significant changes relative to the figures for 2021 resulted from the issue of the 2022/2027 convertible bond.

Financial liabilities were determined using undiscounted contractual cash flows for future fiscal years.

The table below shows the development of liabilities from financing activities:

€m	Balance at Jan. 1, 22	Additions	Repayments	Effect of foreign exchange rate changes	Releases	Imputed interest/ amortisation	Balance at Dec. 31, 22
Corporate bond	250.0		–10.0				240.0
Convertible bond 2018/2023	151.3		–119.7				31.6
Convertible bond 2022/2027		101.9					101.9
Bank loans, overdrafts and other financial liabilities	25.9	5.0	–6.2	–0.1			24.6
Interest-bearing loans (nominal amount)	**427.2**	**106.9**	**–135.9**	**–0.1**	**0.0**	**0.0**	**398.1**
Remaining imputed interest for the convertible bond	–4.8	–17.4	5.2		–2.9	2.9	–17.0
Refinancing costs	–4.0	–2.5	–0.3			3.1	–3.7
Interest-bearing loans (carrying amount)	**418.4**	**87.0**	**–131.0**	**–0.1**	**–2.9**	**6.0**	**377.4**
Lease liabilities	40.9	3.1	–9.5	–0.4	–15.6	1.4	19.9
Total liabilities from financing activities	**459.3**	**90.1**	**–140.5**	**–0.5**	**–18.5**	**7.4**	**397.3**

25. Contingent liabilities and other financial obligations

Other financial obligations in connection with purchase orders for approved capital expenditure on property, plant and equipment amounted to €32.4 million as of December 31, 2022 (2021: €9.2 million). Some of these capital expenditure projects extend beyond one year. The main investment projects are explained in the Group management report in the section on the financial position, under "Capital expenditure, depreciation and amortization." Furthermore, there were purchase obligations for services in the amount of €9.4 million as of December 31, 2022 (2021: €5.4 million). Contingent liabilities of €10.0 million (2021: €10.0 million) in respect of equity-accounted investments or other guarantee obligations existed vis-à-vis Fisigen S.A. (Portugal). These are not considered likely to result in obligations.

SGL Carbon secures the raw materials and energy required for production through procurement contracts with key suppliers. These agreements are normally for one year, include minimum quantities to be purchased by SGL Carbon, and are fulfilled by physical delivery. The prices for the supplies are based on a base price that is adjusted for variable components.

A number of agreements to provide collateral have also been signed with lenders in conjunction with the financial debt and credit lines. These agreements are restricted to share pledge agreements and/or corporate guarantees for a selected number of Group companies. The shares of the following companies serve as collateral: SGL Carbon GmbH, SGL Carbon Beteiligung GmbH, SGL Technologies GmbH, SGL Composites Materials Germany GmbH, SGL Composites LLC (renamed SGL Carbon Fibers America LLC in January 2023), SGL Composites GmbH, SGL Graphite Solutions Polska sp. z o.o., SGL Battery Solutions Polska sp. z o.o. and SGL Carbon LLC. Of the liabilities to banks, a total of €24.6 million (2021: €25.9 million) was secured by a land charge as of December 31, 2022.

Various lawsuits, court proceedings and legal claims are either pending or may be initiated in the future. This includes legal action arising in connection with alleged defects in SGL Carbon products, product warranties and environmental protection issues. Tax risks may also arise as a result of the SGL Carbon group structure. Litigation is subject to considerable uncertainty; the outcome of individual cases cannot be predicted with any certainty. There is a reasonable probability that individual cases could be decided against SGL Carbon. Identifiable risks have been adequately covered by recognizing appropriate provisions. SGL Carbon is not exposed to any material lawsuits or legal disputes other than those for which a provision has been made. SGL therefore expects no material contingent liabilities at the present time.

26. Related party transactions

Joint ventures and associates

SKion GmbH, Bad Homburg, Germany, holds a share of approximately 28.55% in SGL Carbon SE according to notifications pursuant to the German Securities Trading Act (WpHG). No transactions for the sale of goods or services were conducted with SKion GmbH. SKion GmbH holds SGL Carbon corporate bonds with a nominal value of €25 million. SKion's holding of €30 million nominal in 2018/2023 convertible bonds was repurchased by SGL Carbon in September 2022 at market conditions.

In fiscal years 2022 and 2021, SGL Carbon maintained business relations within its normal course of business with a number of joint ventures and associates, related to sales of products and services and the reinvoicing of general and administrative expenses. The transactions took place at market conditions. Collateral is reported under other financial obligations; see Note 25. Please refer to Note 7 for information on joint ventures and associates.

The table below shows the volume of transactions with related companies:

2022

	Sales of goods	Sales of services	Purchases of goods	Purchases of services	Receivables as of Dec. 31	Loans as of Dec. 31	Liabilities as of Dec. 31
Joint ventures	21.6	10.2	0.0	0.0	3.7	0.0	–6.7
Associates	0.0	0.1	84.6	0.0	0.0	0.0	–3.4
Total	**21.6**	**10.3**	**84.6**	**0.0**	**3.7**	**0.0**	**–10.0**

2021

	Sales of goods	Sales of services	Purchases of goods	Purchases of services	Receivables as of Dec. 31	Loans as of Dec. 31	Liabilities as of Dec. 31
Joint ventures	20.1	14.7	0.0	0.0	3.6	0.0	–0.1
Associates	0.1	0.4	73.3	1.0	0.0	0.0	–4.0
Total	**20.2**	**15.1**	**73.3**	**1.0**	**3.6**	**0.0**	**–4.1**

Related persons

Related persons include the members of the Board of Management and the Supervisory Board.

Remuneration of the Board of Management
Remuneration of the members of the Board of Management in office during the fiscal year comprised:

€m	2022	2021
Fixed remuneration	1.1	1.1
Fringe benefits	0.1	0.1
Compensation for disadvantages/minimum bonus	0.0	0.5
Total fixed remuneration	**1.2**	**1.6**
One-year variable remuneration	1.4	1.5
Multi-year variable remuneration	1.2	1.2
Total variable remuneration	**2.6**	**2.7**
Total remuneration	**3.8**	**4.3**

Board of Management remuneration includes salaries, in-kind benefits and contributions to a defined contribution retirement plan.

The DBO of the pension commitments to active members as of December 31, 2022, was €0.9 million (2021: €0.5 million), service cost amounted to €0.4 million (previous year: €0.4 million)

As of December 31, 2022, net amounts of €1.4 million were outstanding to members of the Board of Management (2021: €1.5 million). These consist of provisions for annual bonuses.

The LTI plans granted in the fiscal year and still running for the fiscal year for the active and former members of the Executive Board are shown in the following table:

Tranche	Allocation value in € at Dec. 31, 21	Grant in € in 2022	Number of PSU at grant
LTI 2019-2022	1,400,000		195,258
LTI 2020-2023	1,765,823		382,212
LTI 2021-2024	1,190,000		314,815
LTI 2022-2025		1,190,000	153,945
Total	**4,355,823.0**	**1,190,000**	**1,046,230**

For further information on PSUs, please refer to Note 29.

Former Board of Management members and their surviving dependents received total compensation within the meaning of Section 285 No. 9b HGB in the amount of €2.5 million (2021: €2.5 million). As of December 31, 2022, pension provisions (DBO) for former Board of Management members amounted to €52.2 million (2021: €63.5 million), of which €25.6 million (2021: €30.0 million) is covered by reinsurance policies.

The remuneration of the members of the Supervisory Board comprised basic remuneration plus additional remuneration for committee work and totaled €0.6 million (2021: €0.6 million), including attendance fees.

In addition, employee representatives on the Supervisory Board received remuneration of €379 thousand (2021: €350 thousand) within the framework of their employment contracts.

No members of the Board of Management or the Supervisory Board received any loans or advances from SGL Carbon.

27. Additional disclosures on financial instruments

The following table shows the reconciliation of balance sheet items to the classes and measurement categories of financial instruments:

€m	Measurement category under IFRS 9	Carrying amount as of Dec. 31, 22	Carrying amount as of Dec. 31, 21
Financial assets			
Cash and cash equivalents	1)	227.3	220.9
Trade receivables	1)	114.9	105.8
Trade receivables	2)	0.0	13.1
Marketable securities and similar investments	2)	5.2	5.6
Other financial assets	1)	0.0	0.0
Derivative financial assets			
Derivatives without hedging relationship	3)	1.5	1.3
Derivatives with a hedging relationship	n.a.	0.9	0.0
Financial liabilities			
Corporate bond	4)	240.0	250.0
Convertible bonds	4)	116.5	146.5
Bank loans, overdrafts and other financial liabilities	4)	24.6	25.9
Refinancing costs	4)	–3.7	–4.0
Lease liabilities	n.a.	19.9	40.9
Trade payables	4)	99.0	85.1
Miscellaneous other financial liabilities	4)	4.9	4.5
Derivative financial liabilities			
Derivatives without hedging relationship	5)	0.1	0.1
Derivatives with a hedging relationship	n.a.	0.3	0.2
Thereof aggregated by measurement category in accordance with IFRS 9			
1) Financial assets measured at amortized costs		342.2	326.7
2) Financial assets measured at fair value through profit and loss		5.2	18.7
3) Other financial assets measured at fair value through profit and loss		1.5	1.3
4) Financial liabilities measured at amortized costs		481.3	508.0
5) Financial liabilities measured at fair value through profit and loss		0.1	0.1

n.a.= not applicable

The carrying amounts for cash and cash equivalents, trade receivables and trade payables are approximately equivalent to their fair value, given the short residual maturities of these items.

The fair value of trade receivables intended for sale under a factoring agreement is the nominal value less the factoring fee. This measurement is based on unobservable market inputs and is therefore allocated to fair value hierarchy level 3. SGL Carbon uses the market price in an active market as the fair value of marketable securities and similar investments. If no such market price exists, the fair value is determined using observable market data.

Please refer to Note 24 for disclosures on the market value of the corporate bonds and convertible bonds as of the balance sheet date.

Forward exchange contracts are measured on the basis of benchmark rates, taking account of forward premiums and discounts.

SGL Carbon calculates the fair value of liabilities to banks, other financial liabilities and liabilities from finance leases by discounting the estimated future cash flows using the market interest rates for similar financial liabilities with comparable residual maturities. The fair values largely correspond to the carrying amounts.

As of December 31, 2022 and 2021, derivative financial assets included currency forwards as well as embedded derivatives for the contractually agreed early repayment options regarding the corporate bond. The embedded derivatives are measured using a generally accepted option pricing model.

Netting

SGL Carbon enters into global netting agreements for derivative financial instruments. No potential impacts arose as a result of these netting agreements in either 2022 or 2021, i.e. the gross amounts of currency forwards disclosed in the balance sheet are equal to the potential net amounts.

The table below shows the breakdown of the assets and liabilities measured at fair value into the three levels of the fair value hierarchy as of December 31, 2022 and 2021:

	Dec. 31, 22			
	Level 1	Level 2	Level 3	Total
Marketable securities and similar investments	5.2			5.2
Trade receivables			0.0	0.0
Derivative financial assets		2.4		2.4
Derivative financial liabilities		0.4		0.4

	Dec. 31, 21			
	Level 1	Level 2	Level 3	Total
Marketable securities and similar investments	5.6			5.6
Trade receivables			13.1	13.1
Derivative financial assets		1.3		1.3
Derivative financial liabilities		0.3		0.3

The table below shows the changes in level 3 trade receivables in the 2022 and 2021 reporting periods:

€m	2022	2021
Balance at Jan. 1	13.1	3.2
Disposals/additions	–13.1	9.9
Gains/Losses recognized in profit and loss	0.0	0.0
Balance at Dec. 31	**0.0**	**13.1**

Net gains or losses on financial instruments by IFRS 9 measurement category were as follows:

Net gain/losses by measurement category

€m	2022	2021
Financial assets measured at amortized costs	0.7	3.1
Financial assets measured at fair value through profit and loss	0.8	–0.3
Other financial assets and financial liabilities measured as fair value through profit and loss	–6.3	0.4
Financial liabilities measured at amortized cost	2.9	–0.2

Net gains/losses for the “financial assets measured at amortized cost” measurement category mainly include impairments of trade receivables, reversals of loss allowances/ cash receipts in respect of trade receivables previously written off, together with exchange gains/losses from foreign currency translation.

Net gains/losses for the “financial assets at fair value through profit or loss” measurement category primarily include results from the mark-to-market valuation. Net gains/losses for the “other financial assets and financial liabilities at fair value through profit or loss” measurement category mainly arise from the mark-to-market valuation of derivative currency instruments to which hedge accounting is not applied or was discontinued when the hedged operating item was recognized profit or loss. In economic terms, the derivative financial assets and liabilities are always based on a hedged item.

The net gains or losses on “financial liabilities measured at amortized cost” include gains or losses on foreign currency translation and (in 2022) the impact on profit or loss of the partial repurchase of the 2018/2023 convertible bond.

Interest income and expenses are not included in net gains and losses, as they are already recognized as described in Note 9. For changes in impairments of trade receivables and contract assets, please refer to Note 27 “Credit risk”.

Financial instrument risks, financial risk management and hedging transactions

SGL Carbon monitors financial risk (liquidity risk, credit risk and market price risk) using tested control and management instruments. Group reporting enables the central Group Treasury function to record, analyze, measure and control financial risks on a regular basis. These activities include all relevant Group companies.

Liquidity risk

Liquidity risk is the risk that an entity might have difficulty in meeting payment obligations in connection with its financial liabilities. In order to ensure SGL Carbon’s solvency and financial flexibility at all times, SGL Carbon carries out regular liquidity planning for day-to-day operations at frequent intervals. This is done in addition to financial planning, which normally covers five years. To ensure financial stability, SGL Carbon has endeavored to put in place a balanced financing structure based on a combination of various financing components (including capital market instruments, bank loans and factoring).

In fiscal year 2022, the volume of receivables sold totaled €21.3 million (2021: €16.4 million)

As of December 31, 2022, the Company had cash and cash equivalents totaling €227.3 million (2021: €220.9 million). This amount represents a sufficient liquidity reserve for fiscal year 2023. Please refer to Note 24 for information on the maturity of financial liabilities.

Credit risk (counterparty default risk)

Credit risk (counterparty default risk) arises if customers do not meet their contractual obligations to pay the agreed purchase price or do not do so on time.

By granting customers credit terms, the Company is exposed to normal market credit risks. For trade receivables and other financial assets, the maximum credit risk is equal to the carrying amount as of the balance sheet date. There were no significant individual defaults on customer receivables in the past year.

SGL Carbon has a credit management organization to manage customer credit risks. On the basis of a global guideline, the credit management organization initiates and supports all key processes, and it initiates and supports credit risk management action where required. After analyzing the individual and country risks, SGL Carbon insists - either in whole or in part - on cash in advance, documentary credits, letters of credit or guarantees in connection with certain customer transactions.

SGL Carbon also has trade credit insurance in place that covers most of the trade receivables due from customers. In the event of default, the financial loss is reduced by claims paid under the credit insurance policy and, in exceptional cases, by the bank or Group guarantees furnished by the customer. The compensation paid by the insurer is usually 90% of the loss and thus provides for a deductible of 10%. When determining valuation allowances on receivables, existing cover commitments under the trade credit insurance are taken into account. In order to determine the credit risk, the credit management processes seek to evaluate the individual customer risks, taking into account the customer's balance sheet figures, payment experience and external credit rating. On the basis of this evaluation, counterparty risks are classified as low, medium or high.

The default risk for trade receivables and contract assets is broken down by risk class as of December 31, 2022 and 2021 as follows (in €m):

Risk classes	Equivalent to S&P Rating	Gross carrying amount as of Dec. 31, 22	Gross carrying amount as of Dec. 31, 21
Low risk	AAA to AA-	53.2	56.4
Medium risk	A+ to BBB-	117.2	95.7
High risk	BB+ to C	18.4	23.4
Total		**188.8**	**175.5**

The loss allowances for trade receivables and contract assets are determined using a simplified approach (see the loss allowance matrix below) since they do not contain any significant financing component. In this context, the customer receivables are classified according to the above credit risk classes (low, medium, and high risk) and the related past due status. A default on a receivable is deemed to have occurred when the contractually agreed cash flows are past due by more than 90 days or when the customer's credit quality has deteriorated to such an extent that payment can no longer be expected. The items are derecognized if it can no longer be reasonably expected that any statutory collection measures will be successful. Historical loss rates are complemented with forward-looking estimates (such as country ratings), if necessary.

With respect to loss allowances for cash and cash equivalents and term deposits (liquidity), SGL Carbon assumes that credit risk has not increased significantly. Cash and cash equivalents of €227.3 million are mainly held at banks and financial institutions with a high credit rating (S&P investment grade, i.e. AAA to BBB-). The loss allowance for cash and cash equivalents is calculated based on 12-month expected losses and therefore reflects the short maturities. Loss allowances of €0.1 million were recognized for cash and cash equivalents as of December 31 in both 2022 and 2021.

The following table provides information on default risk and expected credit losses in relation to trade receivables and contract assets as of December 31, 2022 and 2021:

Dec. 31, 22 in € million	Gross carrying amount	Loss rate (weighted average)	Impairment losses	Restricted credit rating
Not overdue	167.5	0.6%	1.0	No
1- 29 days overdue	11.7	1.7%	0.2	No
30- 60 days overdue	2.7	7.4%	0.2	Yes
61- 90 days overdue	1.3	23.1%	0.3	Yes
more than 90 days overdue	5.6	83.9%	4.7	Yes
Total	**188.8**		**6.4**	

Dec. 31, 21 in €m	Gross carrying amount	Loss rate (weighted average)	Impairment losses	Restricted credit rating
Not overdue	154.8	0.5%	0.8	No
1- 29 days overdue	12.1	2.5%	0.3	No
30- 60 days overdue	2.1	9.5%	0.2	Yes
61- 90 days overdue	1.6	18.8%	0.3	Yes
more than 90 days overdue	4.9	89.8%	4.4	Yes
Total	**175.5**		**6.0**	

The table below shows the development of loss allowances on trade receivables and contract assets:

in million €	2022	2021
Balance at Jan. 01	**6.0**	**6.0**
Additions	0.8	0.2
Reversals	–0.3	–0.1
Utilizations	–0.1	–0.1
Balance at Dec. 31	**6.4**	**6.0**

No loss allowances were recorded for contract assets in either 2022 or 2021.

Market price risks

As an international enterprise, SGL Carbon is exposed to market price risks arising in particular from changes in currency rates, interest rates and other market prices. These risks may result in fluctuations of earnings, equity and cash flows. The objective of risk management is to eliminate or limit these risks through appropriate measures, primarily through the use of derivative financial instruments. The use of derivative financial instruments is subject to rigorous controls based on internal policies. Derivative financial instruments are exclusively used to minimize or pass off financial risk, not for speculative purposes.

Currency risk

Due to the international nature of its operations, SGL Carbon is exposed to foreign currency risk. A currency risk exists when fair values or future payments vary due to changes in foreign exchange rates. It arises when transactions are denominated in a currency other than the functional currency of the Group company concerned. In order to minimize such foreign currency risks, the Company endeavors to minimize currency risks by achieving a balance between receipts and payments in non-functional currencies, i.e. a so-called natural hedge.

Currency hedges are entered into for the remaining net foreign currency positions (those that are not naturally hedged). In accordance with its internal hedging policy, SGL Carbon hedges up to 80% of these net foreign currency positions, as and when required, over a time horizon of up to of two years. In terms of volume, the most significant currency risk from the operating business results from potential movements in the euro/US dollar exchange rate. As of the balance sheet date, the company was hedged at an average rate of EUR/USD 1.0573. Hedges were also entered into with the Chinese yuan and British pound, at average rates of EUR/CNY 7.2893 and EUR/GBP 0.8678 respectively.

Due to the hedges in place, SGL Carbon was not exposed to any material currency-related cash flow risks in its operating business as of the balance sheet date.

The residual term of the derivative financial instruments used to hedge currency risks as of the balance sheet date is currently one year at most.

Derivative financial instruments in hedge accounting

SGL Carbon generally uses currency forwards to hedge its future net currency exposures. The derivatives used are accounted for as cash flow hedges (hedge accounting). The hedged transactions are highly probable future revenues or purchases in foreign currency. Hedges designated as cash flow hedges (recorded in the hedging reserve in equity) amounted to a total of €0.6 million as of December 31, 2022 (2021: minus €0.2 million). As of December 31, 2022, the ineffective components of the derivative financial instruments designated as cash flow hedges resulted in net income of €0.0 million (2021: €0.0 million).

The effectiveness of any designated hedges is determined prospectively using the critical terms match method in accordance with IFRS 9. Under this effectiveness test method for hedging relationships, some important parameters (the “critical terms”) are reviewed in order to check the matching of hedged items to hedging instruments. Where there is a match, an economic hedging relationship exists between the hedged item and the hedging transaction; therefore the hedging relationship is deemed effective. Ineffectiveness may occur due to an unexpected discontinuation of the hedged items, a mismatch in timing between the hedged item and hedging transaction, or a default by the counterparty.

Qualitative effectiveness tests are performed retrospectively using the dollar offset method with hypothetical derivatives for the hedged items.

The table below shows the nominal amounts, the carrying amounts as of December 31, 2022 and the gains and losses from designated foreign currency derivatives in fiscal year 2022. The nominal amount is the functional currency equivalent of the foreign currency amounts bought or sold with external counterparties.

	Nominal amounts			Carrying amounts				
€m	Purchase Dec. 31, 22	Sale Dec. 31, 22	Total Dec. 31, 22	Total Dec. 31, 22	Balance sheet disclosure of hedging instruments	Gains and losses recognized in other comprehensive income	Gains/losses transferred from equity (cash flow hedge) to profit and loss [1]	Disclosure of the reclassified amount in profit and loss
Forward contracts	15.0	57.0	72.0	0.6	other receivables / financial liabilities	0.8	2.7	Sales revenues/ cost of sales
Thereof:								
USD		24.1	24.1	0.4				
CNY		32.9	32.9	0.6				
PLN				–0.4				
GBP	15.0		15.0					
Other			0.0					

The table below is a reconciliation of the accumulated other comprehensive income from cash flow hedges:

€m	Cash flow hedge 2022	Cash flow hedge 2021
Balance at January 1	**–0.2**	**0.0**
Changes of the year recognized in equity	–1.9	–0.2
Reclassifications from equity to profit and loss because the transaction originally hedged occured	2.7	0.0
Balance at December 31	**0.6**	**–0.2**

In fiscal year 2022, hedging gains totaling €6.1 million (2021: €10.5 million) were recognized in other comprehensive income (currency translation reserve) for the hedging of net investments in foreign operations. No gains/losses were reclassified from the currency translation reserve to profit or loss in the year under review or in the previous year.

IFRS 7 requires sensitivity analyses to be performed to illustrate the currency risk relating to financial instruments. The analyses show the effects of hypothetical changes in relevant risk parameters on profit or loss and equity.

The analyses include all primary financial instruments used by SGL Carbon in its operating activities. Specifically, these include cash and cash equivalents of €25.2 million (2021: €15.0 million), trade receivables of €72.3 million (2021: €58.6 million) and trade payables of €47.6 million (2021: €39.9 million). Foreign currency effects from internal lending activities, whether recognized in profit or loss or directly in equity, are also included. It is assumed that the portfolio as of the reporting date is representative of the corresponding reporting period. All financial instruments not denominated in the functional currency of the relevant SGL subsidiary are therefore generally considered to be exposed to currency risk. Changes in exchange rates result in changes in fair value and impact either net profit or the hedging reserve, as well as SGL Carbon's total equity.

The following table provides a comparison between the amounts reported as of December 31, 2022 and December 31, 2021. The analysis is based on a hypothetical 10% increase in the value of the euro or the US dollar against all other currencies on the balance sheet date.

EUR	Hypothetical exchange rate		Change in fair value/equity		Thereof: change in net profit/loss		Thereof: change in hedging reserve	
€m	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21
USD	1.1733	1.2459	–8.5	–12.5	–0.4	–2.6	–8.1	–9.9
PLN	5.1589	5.0593	–0.3	–0.1	–0.3	–0.1	0.0	0.0
GBP	0.9756	0.9243	2.2	–2.3	2.6	–0.4	–0.4	–1.9
JPN	154.7260	143.4180	–0.8	–0.9	–0.8	–0.9	0.0	0.0
Other	-	-	0.5	–0.6	0.0	–0.4	0.5	–0.2

USD	Hypothetical exchange rate		Change in fair value/equity		Thereof: change in net profit/loss		Thereof: change in hedging reserve	
US$m	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21	Dec. 31, 22	Dec. 31, 21
EUR	1.0313	0.9712	10.5	14.0	1.1	2.5	9.4	11.5
CNY	7.6553	7.0119	–0.2	–0.1	–0.2	–0.1	0.0	0.0
JPN	145.0647	126.6272	0.5	0.3	0.5	0.3	0.0	0.0
Other		-	0.1	0.2	0.1	0.2	0.0	0.0

The approximate effect on SGL Carbon's equity, net profit and hedging reserve of a hypothetical 10% devaluation of the euro or the US dollar against all other currencies would be a reversal of the positive and negative signs shown above, with the amounts themselves remaining approximately the same.

Interest rate risk

Interest rate risk is the risk that the fair values of or future cash flows from existing or future financial liabilities may fluctuate due to changes in market interest rates.

No interest rate risk existed as a result of variable-interest financing instruments as of December 31, 2022 or 2021. As of the balance sheet date, SGL Carbon had financial liabilities with a principal amount of €398.1 million (2021: €427.2 million). These all bear interest at a fixed rate and are therefore not subject to interest rate risk.

Cash and cash equivalents totaled €227.3 million (2021: €220.9 million). An increase in interest rates of 100 basis points would lead to a theoretical increase of €2.3 million in income from cash and cash equivalents (2021: €2.2 million).

28. Segment reporting

Segment reporting corresponds to the internal organizational and reporting structure. Operations are managed by the four business units, which are also the reporting segments.

Based on established specialty graphites, the GS (Graphite Solutions) business unit supplies customer-specific solutions for traditional and structurally growing customer industries from 14 plants in Europe, America and Asia. Customized graphite components are offered based on a differentiated product portfolio. Growth drivers include the semiconductor and LED market and industrial applications.

The PT (Process Technology) business unit focuses on the construction and repair of plants and equipment for the chemicals industry. The focus here is on the design and manufacture of graphite heat exchangers and syntheses that are exposed to corrosive media.

The CF (Carbon Fibers) business unit pools the manufacturing activities for carbon fibers and carbon fiber semi-finished products. The business unit includes the carbon fiber plants in Moses Lake (US) and Muir of Ord (UK) and the plant in Lavradio (Portugal), which manufactures precursors for carbon fibers and textile fibers. The focus of the business unit is on the comparatively large-volume production of carbon fibers, especially for the wind and automotive industries. The business unit controls the entire value chain, starting with the polymerization of the main raw material, acrylonitrile, through the production of carbon fibers to the manufacture of fabrics. Brembo SGL, an equity-accounted joint venture for the production of carbon-ceramic brake discs, is linked to CF both via the supply chain and in terms of technology and is therefore also assigned to this business unit.

The focus of the CS (Composite Solutions) business unit is the production of customer-specific components and tailor-made applications made of composite materials based on glass and carbon fibers, especially for the automotive industry. The business unit focuses primarily on battery housing applications and GRP leaf springs as well as on various types of carbon friction materials. Manufacturing is carried out at two sites each in Austria and the USA.

The reporting segments presented below are derived directly from the business units. In addition to the four operational reporting segments, there is a fifth reporting segment, Corporate, which comprises head office functions.

EBITDA adjusted for one-off impacts and non-recurring items (“EBITDA pre”) is used as the central operating KPI for the business units. EBITDA pre is earnings before interest and taxes (EBIT) before depreciation, amortization, impairment losses and impairment reversals on property, plant and equipment and intangible assets, excluding non-recurring items and one-off effects. Non-recurring items and one-off effects can include gains or losses on the sale of land and buildings, expenses and income from restructuring, insurance receipts and other items that are not directly related to the operating earnings of the business units.

External sales revenue relates almost exclusively to revenue from the supply of products. Trading or other sales revenue is only generated to a small extent. Intersegment transfer prices are set at standard market conditions. The functions of the “Corporate” business unit include providing services to the other segments.

Capital expenditure and depreciation and amortization relate to intangible assets (excluding goodwill) and property, plant and equipment. The consolidation adjustments relate to the elimination of intersegment sales of products and services.

Interest income and financing expenses are not allocated by segment, as this type of activity is performed by the central treasury department, which manages the Group's liquidity.

Current tax, deferred taxes and certain financial assets and liabilities are also not allocated to the individual segments, as they are managed at Group level.

Selected information on the segments of SGL Carbon is provided below:

€m	Graphite Solutions	Process Technology	Carbon Fibers	Composite Solutions	Corporate	Consolidation	SGL Carbon
2022							
External sales revenue	512.2	106.3	347.2	153.1	17.1		1,135.9
Intersegment sales revenue	5.7	1.8	13.8	0.5	31.9	–53.7	0.0
Total sales revenue	**517.9**	**108.1**	**361.0**	**153.6**	**49.0**	**–53.7**	**1,135.9**
Timing of revenue recognition							
Products transferred at point in time	468.6	82.2	344.8	139.0	10.1	0.0	1,044.7
Products and services transferred over time	43.6	24.1	2.4	14.1	7.0		91.2
Total sales revenue	**512.2**	**106.3**	**347.2**	**153.1**	**17.1**	**0.0**	**1,135.9**
Sales revenue by customer industry							
Mobility	51.9		115.4	139.6	9.8	0.0	316.7
Energy	72.3		80.7			0.0	153.0
Industrial Applications	173.1		78.1	13.5	7.3	0.0	272.0
Chemicals	28.0	106.3				0.0	134.3
Digitization	186.9					0.0	186.9
Textile Fibers			73.0			0.0	73.0
Total sales revenue	**512.2**	**106.3**	**347.2**	**153.1**	**17.1**	**0.0**	**1,135.9**
EBITDA pre	118.5	9.9	43.2	20.0	–18.8	0.0	172.8
Amortization/depreciation on intangible assets and property, plant and equipment	29.6	1.7	16.9	5.9	6.7	0.0	60.8
EBIT pre	88.9	8.2	26.3	14.1	–25.5		112.0
One-off effects/Non-recurring items	–2.9	–3.7	–5.0	–7.1	27.6	0.0	8.9
EBIT	86.0	4.5	21.3	7.0	2.1	0.0	120.9
Capital expenditure [1)]	33.3	1.0	9.6	5.9	3.1	0.0	52.9
Working capital (Dec. 31) [2)]	209.2	15.7	119.4	32.6	–31.5	0.0	345.4
Capital employed (Dec. 31) [3)]	480.7	27.2	338.2	89.4	53.4	0.0	988.9
Cash generation [4)]	73.5	18.2	29.4	7.1	–22.7	0.0	105.5
Result from investments accounted for At-Equity			18.2			0.0	18.2
Sales of investments accounted for At-Equity [5)]			306.3			0.0	306.3

€m 2021	Graphite Solutions	Process Technology	Carbon Fibers	Composite Solutions	Corporate	Consolidation	SGL Carbon
External sales revenue	443.6	87.2	337.2	122.5	16.5		1,007.0
Intersegment sales revenue	5.3	1.4	9.2	0.8	34.9	–51.6	0.0
Total sales revenue	**448.9**	**88.6**	**346.4**	**123.3**	**51.4**	**–51.6**	**1,007.0**
Timing of revenue recognition							
Products transferred at point in time	406.8	68.4	331.6	109.6	16.5	0.0	932.9
Products and services transferred over time	36.8	18.8	5.6	12.9	0.0	0.0	74.1
Total sales revenue	**443.6**	**87.2**	**337.2**	**122.5**	**16.5**	**0.0**	**1,007.0**
Sales revenue by customer industry							
Mobility	54.4		139.9	112.4	9.3	0.0	316.0
Energy	96.0		74.6			0.0	170.6
Industrial Applications	143.0		51.4	10.1	7.2	0.0	211.7
Chemicals	25.3	87.2				0.0	112.5
Digitization	124.9					0.0	124.9
Textile Fibers			71.3			0.0	71.3
Total sales revenue	**443.6**	**87.2**	**337.2**	**122.5**	**16.5**	**0.0**	**1,007.0**
EBITDA pre	87.9	4.7	54.5	12.1	–19.2	0.0	140.0
Amortization/depreciation on intangible assets and property, plant and equipment	29.1	1.9	15.6	7.3	6.4	0.0	60.3
EBIT pre	58.8	2.8	38.9	4.8	–25.6		79.7
One-off effects/Non-recurring items	9.9	0.3	–8.0	0.0	28.5	0.0	30.7
EBIT	68.7	3.1	30.9	4.8	2.9	0.0	110.4
Capital expenditure [1)]	31.5	0.4	7.7	8.2	2.2	0.0	50.0
Working capital (Dec. 31) [2)]	197.7	26.5	115.1	34.4	–32.5	0.0	341.2
Capital employed (Dec. 31) [3)]	461.6	38.3	332.8	100.3	63.6	0.0	996.6
Cash generation [4)]	61.8	7.3	46.5	5.2	–20.3	0.0	100.5
Result from investments accounted for At-Equity			17.0			0.0	17.0
Sales of investments accounted for At-Equity [5)]			282.3			0.0	282.3

[1)] Defined as the sum of capital expenditure in other intangible assets and property, plant and equipment
[2)] Defined as sum of inventories and trade receivables and contract asset less trade payables and contract liabilities
[3)] Defined as the sum of goodwill, other intangible assets, property, plant and equipment, investments accounted for At-Equity and working capital
[4)] Defined at total of EBITDA pre plus change in working capital minus capital expenditure
[5)] Aggregated, non-consolidated 100% values with third parties

One-off effects/non-recurring items include expenses of minus €5.5 million in relation to the restructuring of pension obligations (2021: €18.1 million), total impairments, including transaction costs, of minus €8.9 million from the planned disposals of the SGL sites in India and the operating business in Gardena, USA (2021: income of €19.7 million from real estate sales), expenses of minus €5.7 million from the depreciation of the purchase price allocations for the SGL Composites companies (2021: minus €10.2 million), restructuring income of €24.7 million (2021: €0.2 million), positive one-off effects of €5.7 million from compensation payments received in previous years for restoration and waste disposal costs in relation to the canceled lease agreement at the Meitingen site, which were taken to income as the associated costs had proved to the lower than planned, and a net expense of minus €1.4 million from other material one-off effects (2021: €2.9 million).

Sales revenue with one customer of the CF reporting segment accounted for approximately €83 million of the Group's total sales revenues (2021: €114 million).

The following table presents selected items by geographic region:

€m	Germany	Europe excluding Germany	USA	China	Rest of Asia	Other [2)]	SGL Carbon
2022							
Sales revenue (by destination)	294.5	236.2	213.8	181.1	148.1	62.2	1,135.9
Sales revenue (by company headquarters)	423.3	330.5	289.8	73.1	19.2		1,135.9
Capital expenditure	17.2	20.2	10.7	4.6	0.2		52.9
Non-current assets [1)]	215.2	187.8	188.5	25.1	4.2		620.8
2021							
Sales revenue (by destination)	308.3	193.0	156.8	165.5	133.5	49.9	1,007.0
Sales revenue (by company headquarters)	417.2	286.9	231.8	55.4	15.7		1,007.0
Capital expenditure	17.3	18.5	9.2	5.0			50.0
Non-current assets [1)]	241.9	175.0	184.5	25.0	7.2		633.6

[1)] Non-current assets comprise other intangible assets, property, plant and equipment, investments accounted for At-Equity and other non-current assets (excluding financial assets)
[2)] In particular Middle-/South America, Canada and Africa

29. Management and employee participation programs

SGL Carbon currently has three management and employee participation programs, comprising two active plans (Short-Term Incentive Plan and Long-Term Incentive Plan) and the Stock Appreciation Rights Plan, which is being phased out.

Short-Term Incentive Plan ("STI")

Non-tariff employees, as well as employees classified in one of the four internal SGL management groups (MG1-MG4), receive an annual bonus based primarily on the achievement of short-term corporate and business unit targets. The reference value is the amount of the individual's fixed remuneration.

The aim is to incentivize all managers on the basis of the Company’s short-term success, thereby giving individuals a strong incentive to contribute to the positive development of the business.

In 2022, the maximum potential bonus a manager could achieve was based on the targets for SGL Carbon as a whole and for the manager’s business unit. The targets were based on EBITDA pre and accident frequency at Group level, and EBITDA pre at the individual business unit level. For employees in management groups MG1-MG3, a personal target component was also agreed with effect from fiscal year 2022. As of 2022, payment of the STI for managers in management groups MG1-MG3 is also contingent on positive free cash flow and positive net profit (after payment of the bonus).

The bonus is paid in March or April in the year after it is earned. The amount of the STI for the management levels is within a defined corridor (expressed as a percentage of basic salary) and reflects an appropriate contribution to the success of the enterprise.

MG	Threshold	Target	Stretch
MG1	0%	40%	70.00%
MG2	0%	30%	52.50%
MG3	0%	25%	43.75%
MG4/AT	0%	12%	24.00%

The three target categories have identical weightings for the three senior management groups. In order for entitlement to a bonus to arise, the “threshold” (0%) must be exceeded. A "stretch" was also set (175% for MG1-MG3, 200% for MG4/non-tariff), which represents the maximum achievable bonus entitlement.

As part of the global transformation program, the collectively agreed bonus program was reviewed and the corresponding general works agreement was terminated by the employer as of December 31, 2021. Tariff employees at the German sites were also entitled to a bonus for 2021. This was dependent on the business results and was paid out in spring 2022. Tariff employees ceased to be entitled to a bonus as of January 1, 2022.

Long-Term Incentive Plan (“LTI”)

The Long-Term Incentive Plan for senior management, i.e. the members of management groups MG1-MG3 (“SGL Performance Share Plan” or “PSP”), is the basis for a uniform scheme with a long-term incentive effect and a balanced risk/reward profile, under which remuneration is granted in the form of virtual shares (“Performance Share Units” or “PSUs”). Adjusted LTI plan terms were agreed with senior management in 2021, following the review of the approach to senior management incentivization. Since then, senior managers who are promoted to MG3 or join the company from outside no longer participate in the Long-Term Incentive Plan.

The internal assessment basis for the long-term remuneration component is in principle SGL Carbon’s return on capital employed (ROCE). Prior to the start of individual PSP plan tranches, the Board of Management of SGL Carbon SE may decide to use the ROCE for individual SGL Carbon business units or one or more other performance indicators as the basis for the tranche in question, either in place of or in addition to Group ROCE. The long-term remuneration component also depends on the performance of the SGL Carbon SE share price at the end of the performance period.

The PSP is a cash-settled long-term incentive plan. It does not grant a right to receive actual SGL Carbon SE shares and payouts depend on the degree of target achievement. The objective of granting PSUs is to retain senior management and to motivate them to ensure SGL Carbon’s long-term success. In addition, the share price feature is intended to align the interests of senior management with the interests of shareholders in SGL Carbon’s long-term value growth.

Based on an allocation value in euros to be determined by the Board of Management of SGL Carbon SE as well as the average opening share price for the last 20 trading days prior to commencement of the performance period, each participant is allocated a preliminary number of Performance Share Units (“number of allocated PSUs”) at the beginning of the performance period. This number is then recalculated after the end of the performance period based on the actual degree of target achievement (the result of this performance-based adjustment is the “final number of PSUs”). The payout amount is calculated by multiplying the final number of PSUs by the average closing share price for the final 20 trading days of the performance period.

As part of the revision of management incentives (MG1-MG3), the potential payout for newly granted LTI plan tranches was reduced from 200% to 120% from 2022. The existing plan tranches, including the relevant targets, are presented below as of December 31, 2022:

Tranche	Allocation value [1]	Price [2]	PSU [3]	ROCE-Performance	Fair value [4]
	€m	€	Number	in%	€m
LTI 2019-2022	4.8	7.17	532,577	0	0.0
LTI 2020-2023	4.7	4.62	792,001	124	7.0
LTI 2021-2024	4.7	3.78	969,603	150	7.3
LTI 2022-2025	3.7	7.73	470,808	100	3.4

[1] Corresponds to the value at grant date
[2] Fair value at grant date
[3] Outstanding at Dec. 31, 22
[4] PSU-number weighted with the performance and the average share price of 7.15€, calculated on the basis of the last 20 trading days prior to Dec. 31, 22

Target indicators ROCE	Minimum	Target	Maximum
Plan 2019-2022	6.2%	8.7%	10.7%
Plan 2020-2023	4.0%	7.0%	9.0%
Plan 2021-2024	5.0%	7.8%	9.0%
Plan 2022-2025	10.0%	11.3%	-

The provisions for the existing LTI plans for the selected executives as of December 31, 2022 amounted to a total of €10.4 million (2021: €6.1 million). In fiscal year 2022, €4.5 million (2021: €5.5 million) was recognized as an expense.

Stock Appreciation Rights Plan (SAR Plan)

The 2010 SAR Plan came into effect on January 1, 2010. The SARs could be issued at any time during the period until the end of 2014. A maximum of 2,100,000 new shares are to be used to service the SAR Plan from 2010 onward.

SARs entitle the participants to receive variable remuneration from the Company equivalent to the difference (appreciation in price) between the SGL Carbon SE share price on the grant date (base price) and on the SAR exercise date (exercise price), plus any dividends paid by the Company during this period, plus the value of subscription rights. They also entitle the participants to purchase at the exercise price the number of SGL Carbon SE shares whose market value corresponds to the appreciation in price. Each SAR entitles the participant to receive that fraction of a new SGL Carbon SE share that is calculated by dividing the appreciation in price by the issue price.

SARs have a term of up to ten years and may only be exercised during defined periods (exercise windows). The SARs expire if they are not exercised within their term (total of 352,320 units in 2022 and 278,220 units in 2021).

At the end of the reporting year, a total of 501,840 SARs remained outstanding. The range of exercise prices was €27.84–€29.90. No SARs were exercised in 2022. The weighted average term to maturity for the SAR plan is 0.5 years.

30. Audit fees and services provided by the auditors

The fees for audit services of KPMG AG Wirtschaftsprüfungsgesellschaft mainly related to the audit of the consolidated financial statements and parent company financial statements of SGL Carbon SE. Other assurance activities in 2022 mainly concerned the review of the Group first half year report, the audit of the non-financial Group report 2021, the EMIR review pursuant to Section 20, German Securities Trading Act (WpHG), certification of the internal control system and risk management system in accordance with IDW PS 982/981, the audit of the remuneration report in accordance with IDW PS 490 and the audit of aid applications under the so-called "Carbon Leakage Regulation" (BECV) issued pursuant to the German Fuel Emissions Trading Regulation (BEHV).

€m	2022	2021
Audit fees	0.8	0.7
Other assurance services	0.5	0.1
Other services	0.0	0.0
Total	**1.3**	**0.8**

31. List of shareholdings of SGL Carbon according to Section 313 [2] of the German Commercial Code [HGB]

A.	Consolidated Companies		Interest in %	held via
a)	**Germany**			
1	SGL Carbon SE	Wiesbaden		
2	SGL CARBON GmbH [1)]	Meitingen	100	1
3	SGL Fuel Cell Components GmbH [1)]	Meitingen	100	1
4	SGL Battery Solutions GmbH	Meitingen	100	1
5	Dr. Schnabel GmbH [1)]	Limburg	100	2
6	SGL CARBON Beteiligung GmbH [1)]	Wiesbaden	100	1
7	SGL TECHNOLOGIES GmbH [1)]	Meitingen	100	1
8	SGL epo GmbH [1)]	Willich	100	7
9	SGL TECHNOLOGIES Composites Holding GmbH [1)]	Meitingen	100	7
10	SGL TECHNOLOGIES Zweite Beteiligung GmbH	Meitingen	100	7
11	SGL/A&R Immobiliengesellschaft Lemwerder mbH	Lemwerder	51	7
12	SGL/A&R Services Lemwerder GmbH	Lemwerder	100	11
13	SGL/A&R Real Estate Lemwerder GmbH & Co. KG	Lemwerder	100	12
14	SGL Carbon Asset GmbH [1)]	Meitingen	100	6
15	SGL Composites Materials Germany GmbH [1)]	Meitingen	100	7

[1)] Exemption in accordance with section 264 (3) of the German Commercial Code (HGB)

A.	Consolidated Companies		Interest in %	held via
b)	**Other countries**			
16	SGL GELTER S.A.	Madrid, Spain	64.0	2
17	SGL CARBON S.p.A. in liquidazione (i.L.)	Milan, Italy	99.8	14
18	SGL Graphite Verdello S.r.l.	Verdello, Italy	100	2
19	SGL CARBON do Brasil Ltda.	Diadema, Brazil	100	2
20	SGL Composites GmbH	Ried im Innkreis, Austria	100	9
21	SGL CARBON FIBERS LTD.	Muir of Ord, United Kingdom	100	7
22	SGL Composites S.A.	Lavradio, Portugal	100	7
23	SGL BUSINESS SERVICES, UNIPESSOAL, LDA	Lavradio, Portugal	100	2
24	SGL Carbon Holdings B.V.	Rotterdam, Netherlands	100	6
25	SGL GRAPHITE SOLUTIONS POLSKA sp. z o.o.	Nowy Sącz, Poland	100	24
26	SGL Battery Solutions Polska sp. z o.o.	Nowy Sącz, Poland	100	25
27	SGL CARBON S.A.S.	Passy (Chedde), France	100	1
28	SGL CARBON Technic S.A.S.	Saint-Martin d'Heres, France	100	1
29	SGL CARBON Ltd.	Alcester, United Kingdom	100	1
30	SGL CARBON LLC	Charlotte, NC, USA	100	6
31	SGL Technologies LLC	Charlotte, NC, USA	100	30
32	SGL COMPOSITES INC.	Gardena, CA, USA	100	31
33	SGL TECHNIC LLC	Valencia, CA, USA	100	30

A.	Consolidated Companies		Interest in %	held via
b)	**Other countries**			
34	SGL CARBON TECHNIC LLC	Strongsville, OH, USA	100	30
35	SGL Carbon Fibers America LLC (formerly SGL Composites LLC)	Moses Lake, WA, USA	100	31
36	SGL CARBON INDIA Pvt. Ltd.	Maharashtra, India	100	1
37	SGL CARBON Far East Ltd.	Shanghai, China	100	1
38	SGL CARBON Japan Ltd.	Tokyo, Japan	100	1
39	SGL CARBON Korea Ltd.	Seoul, South Korea	100	1
40	SGL CARBON ASIA-PACIFIC SDN BHD	Kuala Lumpur, Malaysia	100	1
41	SGL Quanhai High-Tech Materials (Shanxi) Co. Ltd.	Yangquan, China	89.1	6
42	SGL PROCESS TECHNOLOGY PTE. LTD.	Singapore	100	1
43	SGL CARBON Graphite Technic Co. Ltd.	Shanghai, China	100	42
44	SGL Carbon Technic Japan Ltd.	Yamanashi, Japan	100	42
45	SGL Graphite Solutions Taiwan Ltd.	Taipei City, Taiwan	100	2

B.	Equity investments over 20%			
	Other countries			
46	Brembo SGL Carbon Ceramic Brakes S.p.A.	Stezzano, Italy	50.0	1
47	MCC-SGL Precursor Co. Ltd.	Tokyo, Japan	33.3	7
48	Fisigen S.A.	Lisbon, Portugal	49.0	22

32. Declaration of conformity with the German Corporate Governance Code

The annual declaration of conformity with the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG) was issued by the Board of Management and Supervisory Board of SGL Carbon SE on September 7, 2022 and has been published on the SGL Carbon SE website.

33. Subsequent events

SGL Carbon has agreed an early extension of its €175 million syndicated credit facility, which was due to mature in January 2024. The facility was undrawn at the balance sheet date. The agreement maintains the total volume of the facility at €175 million, subdivided into a credit line of €100 million for general business use and a second line of €75 million for the refinancing of capital market liabilities. Both credit lines are secured and run until 2026. The company has also included sustainability components (ESG linkage) in the credit lines.

The company has informed holders of the convertible bond maturing in September 2023 that it will exercise the right conferred on it by the bond terms to redeem all outstanding bonds at par value plus accrued interest. The remaining outstanding bonds have a nominal value of €31.6 million, out of an original issue of €159.3 million. The redemption notice was issued on February 28, 2023, and will result in full repayment of the outstanding bonds, including accrued interest, on March 31, 2023.

On February 6, 2023, the rating agency Moody's increased SGL Carbon SE's Corporate Family Rating and the rating of the corporate bond (maturing September 2024) from B3 to B2. The outlook continues to be rated as stable.

Wiesbaden, March 22, 2023

SGL Carbon SE
The Board of Management of SGL Carbon SE

Dr. Torsten Derr **Thomas Dippold**

Additional Information

Independent Auditor's Report

To SGL Carbon SE, Wiesbaden

Report on the Audit of the Consolidated Financial Statements and of the Group Management Report

Opinions

We have audited the consolidated financial statements of SGL Carbon SE, Wiesbaden and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2022, and the consolidated statement of profit and loss, the consolidated statement of other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2022, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of SGL Carbon SE for the financial year from 1 January to 31 December 2022. In accordance with German legal requirements, we have not audited the content of those components of the group management report specified in the "Other Information" section of our auditor's report.

The Group management report contains cross-references marked as unaudited that are not required by law. We have not audited the content of these cross-references or the information to which they refer in accordance with German legal requirements.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2022, and of its financial performance for the financial year from 1 January to 31 December 2022, and

- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the group management report does not cover the content of those components of the group management report specified in the "Other Information" section of the auditor's report.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and the EU Audit Regulation No 537/2014 (referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW).Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2)(f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Recognition of deferred tax assets of the US tax group

For the accounting and valuation principles applied, please refer to the notes to the consolidated financial statements, note 2. Information on deferred tax assets and liabilities can be found in note 19.

THE FINANCIAL STATEMENT RISK

Deferred tax assets in the amount of EUR 43.9 million are presented in the consolidated financial statements of SGL Carbon SE as at 31 December 2022 of which EUR 41.3 million relate to the US tax group.

For the recognition of deferred tax assets, management assesses to what extent it is probable that current deferred tax assets can be utilised in subsequent reporting periods. Utilising these deferred tax assets requires that sufficient taxable income is generated in future periods. If there is reasonable doubt about the future usability of the deferred tax assets determined, these are not recognised, or deferred tax assets already recognised are written down.

The recognition of deferred tax assets greatly depends on the estimates and assumptions of management about the operating performance of country units and the Group's tax planning and therefore is subject to considerable uncertainty. Moreover, utilising deferred tax assets also depends on the respective tax environment.

In financial year 2022, the Group recognised deferred tax assets for unused tax loss carryforwards, interest carryforwards as well as temporary differences in the amount of EUR 41.3 million, attributable to prior years, which were considered recoverable for the first time. These deferred tax assets for tax loss carryforwards, interest carryforwards as well as temporary differences were not recognised in prior years due to insufficient taxable temporary differences and the loss history of the US tax group entities concerned. In the current financial year as well as in the two previous financial years, the US tax group entities concerned have achieved tax profits on a cumulative basis. According to management's assessments, the financial performance of the US tax group entities concerned has improved sustainably, so that it is now possible to recognise deferred tax assets for previously unrecognised tax loss carryforwards, interest carryforwards as well as temporary differences.

There is the risk for the consolidated financial statements that Group's estimates are not appropriate and that the deferred tax assets recognised are not recoverable.

OUR AUDIT APPROACH

We involved our tax specialists as well as our US-American tax specialists in the audit to assess tax matters of the US tax group. First, we critically reviewed the temporary differences between the IFRS carrying amounts and the respective tax base. Furthermore, we reconciled the interest- and tax loss carryforwards to the tax assessments and the tax calculations for the current financial year, and also assessed off-balance sheet adjustments.

We tested the deferred tax assets for impairment on the basis of internal forecasts prepared by the Company on the future tax income situation, and critically reviewed the underlying assumptions. In this regard, we especially compared the projected future taxable income of the US tax group to the Group planning prepared by management and adopted by the supervisory board and checked this information for consistency. The appropriateness of the projections was assessed using external market assessments. We also confirmed the accuracy of the Company's previous forecasts by comparing the budgets of previous financial years with actual earnings realised and by analysing deviations.

SGL Carbon SE's assessment as to the sustained improvement of the financial performance of the US tax group entities using interest- and tax loss carryforwards was explained to us by management. In this context, we verified the performance of measures to improve earnings and analysed the factors leading to an improvement in earnings and assessed the sustainability of taxable profit.

OUR OBSERVATIONS

Overall, the assumptions underlying the recognition of deferred tax assets are appropriate.

Other Information
Management and/or the Supervisory Board are/is responsible for the other information. The other information comprises the following components of the group management report, whose content was not audited:

- the separate group non-financial report expected to be made available to us after the date of this audit opinion and referred to in the group management report
- the corporate governance statement included in section Corporate Governance Declaration, Corporate Governance- and Compliance-Report of the group management report, and
- information extraneous to management reports and marked as unaudited.

The other information also includes the remaining parts of the annual report.

The other information does not include the consolidated financial statements, the group management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report
Management is responsible for the preparation of consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, management is responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report
Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of

future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) [and supplementary compliance with the ISAs] will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by management in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the actions taken or safeguards applied to eliminate independence threats.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other Legal and Regulatory Requirements

Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the electronic file „SGLCarbon_2022-12-31-de.zip" [SHA256-Hashwert: 3101e34441295dcf6e3477e612ded34456522dde9cd403d3eb76e3187200acef] made available and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained in these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file made available, identified above and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 January to 31 December 2022 contained in the "Report on the Audit of the Consolidated Financial Statements and the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the file made available and identified above in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB (IDW AsS 410 (06.2022)). Our responsibility in accordance therewith is further described below. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The Company's management is responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the group management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the company's management is responsible for such internal control that they have considered necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB for the electronic reporting format.

The supervisory board is responsible for overseeing the process of preparing the ESEF documents as part of the financial reporting process.

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgement and maintain professional scepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.

- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e. whether the file made available containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, on the technical specification for this electronic file.
- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, as amended as at the reporting date, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further Information pursuant to Article 10 of the EU Audit Regulation
We were elected as group auditor at the annual general meeting on 17 May 2022. We were engaged by the supervisory board on 1 December 2022. We have been the group auditor of SGL Carbon SE without interruption since financial year 2017.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

Other matter – Use of the Auditor's Report

Our auditor´s report must always be read together with the audited consolidated financial statements and the audited group management report as well as the examined ESEF documents. The consolidated financial statements and group management report converted to the ESEF format – including the versions to be entered in the company register – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the examined ESEF documents made available in electronic form.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Michael Pritzer.

Munich, 22 March 2023

KPMG AG

Wirtschaftsprüfungsgesellschaft

[Original German version signed by:]

Pritzer	Becker
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group Management Report includes a fair review of the development and performance of the business and the position of the group, together with a description of the material opportunities and risks associated with the expected development of the Group.

Wiesbaden, March 22, 2023

SGL Carbon SE
The Board of Management of SGL Carbon SE

Dr. Torsten Derr Thomas Dippold

Corporate Bodies

Board of Management

(Status: December 31, 2022)

Dr. Torsten Derr

Chairman/Chief Executive Officer of SGL Carbon SE

Responsible for:

Human Resources & Management Development
Legal, Compliance & Internal Audit
Corporate Development / Strategy / Transformation Process
Corporate Communications
Sustainability & ESG
Purchasing
Production Technology Safety Environment (PTSE)
Global Engineering & Construction
BU Graphite Solutions
BU Composite Solutions
BU Carbon Fibers
BU Process Technology

Internal board memberships:
Brembo SGL Carbon Ceramic Brakes S.p. A., Stezzano, Italy [1)]

Thomas Dippold

Chief Financial Officer of SGL Carbon SE

Responsible for:

Group Accounting
Group Controlling
Group Treasury
Financial Reporting
Group Taxes
Risk Management
Legal, Compliance, and Internal Audit
Investor Relations
Information Technology, Information Security & Digitization
BU Graphite Solutions
BU Composite Solutions
BU Carbon Fibers
BU Process Technology

Internal board memberships:
SGL CARBON LLC, Charlotte, USA
SGL Process Technology Pte. Ltd., Singapore

[1)] Shareholder Committee
With memberships outside Germany, the respective country is mentioned

Supervisory Board

(Status: December 31, 2022

Dr. h.c. Susanne Klatten

Chairwoman of the Supervisory Board of SGL Carbon SE
Chairwoman of the Personnel and Nomination Committee

Entrepreneur

Board memberships pursuant to Sec. 125 (1) 5 AktG:
ALTANA AG, Wesel
BMW AG, Munich
UnternehmerTUM GmbH, Munich [1)]
SprinD GmbH, Leipzig

Georg Denoke

Deputy Chairman of the Supervisory Board of SGL Carbon SE
Chairman of the Audit Committee

Managing director and CEO of ATON GmbH, Munich

Board memberships pursuant to Sec. 125 (1) 5 AktG:
EDAG Engineering Group AG, Arbon, Switzerland [2)]

Helmut Jodl

Deputy Chairman of the Supervisory Board of SGL Carbon SE
Chairman of the Works Council (full-time), SGL CARBON GmbH
Chairman of the SE-Works Council

Ana Cristina Ferreira Cruz

Head of Integrated Management System
SGL COMPOSITES, S.A., Lavradio, Portugal

Edwin Eichler

Consultant

Board memberships pursuant to Sec. 125 (1) 5 AktG:
SMS Group GmbH, Duesseldorf [1)]
Käfer SE & Co KG, Bremen [3)]

Ingeborg Neumann

Managing partner of Peppermint Holding GmbH, Berlin

Board memberships pursuant to Sec. 125 (1) 5 AktG:
FUCHS PETROLUB SE, Mannheim
BERLINER WASSERBETRIEBE AöR, Berlin

Markus Stettberger

Deputy Chairman of the Works Council (full-time), SGL CARBON GmbH, Meitingen
Deputy Chairman of the SE-Works Council

Dieter Züllighofen

Chairman of the Works Council (full-time)
SGL CARBON GmbH, Bonn

[1)] Chairwoman/Chairman of the supervisory board
[2)] Chairman of the administrative board
[3)] Member of the administrative board
With memberships outside Germany, the respective country is mentioned

Glossary

Commercial Glossary

Associated companies
Associated companies are entities in which significant influence can be exercised over their operating and financial policies and which are not subsidiaries, joint ventures or joint operations. In general, this applies to companies in which SGL has an investment of between 20% and 50%.

At-Equity method
Method used in the consolidated financial statements for measuring and accounting for investments in which the SGL Carbon has joint control in, or significant influence over. Under the equity method, investments of this kind are initially recognized at cost. In subsequent years, these investments then change in line with their profit or loss contribution.

Bond
Collective term for interest-bearing debt instruments with contractually fixed repayment terms. Bonds are issued either by governments or companies and sold through financial institutions and provide long term external financing.

Cash flow
An economic measure for the inflow and outflow of cash funds representing the net inflow from sales activity and other cur-rent activities in a period. In a cash flow statement, the change in cash and cash equivalents is broken down by operating activity, investing activity and financing activity.

Cashflow-Hedge
A hedge of a recognized asset or of future, highly likely (foreign currency) transactions. The change in value of the hedging instrument is recognized directly in equity.

Cash Generation
EBIT adjusted plus amortization/depreciation on intangible assets and property, plant & equipment plus change in working capital less capital expenditure.

Capital employed
The sum of Goodwill, other intangible assets, property, plant & equipment and working capital.

Capital expenditures (capex)
Capex is defined as additions to other intangible assets and property, plant and equipment excluding additions from acquisitions and right-of-use assets arising from leases.

Convertible bond
A corporate bond that includes a share option. Under the option, the bond can be exchanged (converted) for shares in the company subject to certain preconditions. The exchange is possible within a specific period at a fixed price. The conversion price normally exceeds the share price on the date of the bond issue.

Corporate Governance
The German Corporate Governance Code is the primary legislation governing the management and monitoring of German publicly traded companies and comprises international standards for adequate and responsible corporate management.

CSR (Corporate Social Responsibility)
Refers to the social responsibility of companies for the impact of their activities on society and the environment and measures derived from this. Also known as sustainability concerns, which are explained in detail in the CSR Report.

Declaration of conformity
Declaration of conformity by the Board of Management and Supervisory Board of compliance with the German Corporate Governance Code pursuant to section 161 German Stock Corporation Act (AktG).

Deferred taxes
Assets and liabilities arising from the different treatment of transactions for financial and tax reporting purposes.

Distributable accumulated profits/accumulated losses
Result of SGL Carbon SE as reported in its German GAAP financial statements based on calculation pursuant to the German Commercial Code (HGB).

Dollar index
The dollar index represents the ratio of six currencies compared with the US dollar. The euro is taken into account with the trade volume from twelve EU countries and makes up the most important component in the index with a share of 57.6%. The other currencies are the Japanese yen (13.6%), the British pound (11.9%), the Canadian dollar (9.1%), the Swedish krona (4.2%) and the Swiss franc (3.6%). The strength or weakness of the US dollar can be seen from the course of the dollar index. A rising index means an appreciation of the US dollar against the currencies in the currency basket.

DSO (Days Sales Outstanding)
Trade account receivables divided by sales revenue, times 360 (A low figure indicates that the company collects its outstanding receivables quickly).

Earnings per share (EPS)
The figure of EPS is calculated by dividing the net result of the year attributable to SGL Carbon SE shareholders by the weighted average number of outstanding shares for the financial year.

EBIT
Earnings before interest and taxes. EBIT is an important key performance indicator for assessing the operational profitability of companies.

EBIT-margin
EBIT pre to sales revenue, also known as return on sales.

EBIT pre (adjusted)
EBIT pre for non-recurring items and one-off effects. Unlike EBIT, this indicator eliminates non-recurring items to establish a better baseline for forecasts. Non-recurring items mainly include restructuring costs and effects from purchase price allocation. Examples of one-off effects are land sales, insurance compensation, reversal of certain provisions.

EBITDA
Earnings before interest, taxes, depreciation and amortization. In the case of EBITDA, the focus is rather more on cash earnings potential.

EBITDA pre (adjusted)
EBITDA pre for non-recurring items and one-off effects. In contrast to EBITDA, this indicator eliminates special items so that operating performance can be better compared over several periods. See "EBIT pre (adjusted)" for definition of non-recurring items and one-off effects.

Equity ratio
The shareholders’ equity as a proportion of total assets. The higher the equity ratio, the more independent a company is from external providers of capital. The equity ratio is also an indicator of the creditworthiness and robustness of a company.

EURIBOR
Euro InterBank Offered Rate (EURIBOR) is an interest rate at which euro interbank term deposits are offered

ESG
Sustainability aspects based on environmental concerns (environmental, social and governance concerns).

Derivative financial instruments
Forward contracts whose value is derived from another existing (primary) market value. An example of a derivative is a currency option, in which the premium largely depends on the option price, the maturity of the option and the volatility of this currency.

Free cash flow
The balance of cash flow from operating activities and cash flow from investing activities. Free cash flow therefore reflects the amount available to the company, for example, for debt repayment or distribution of dividends.

Free float
The total number of shares not owned by major investors (e.g. the parent company). Free float shares are distributed among a large number of shareholders and can therefore be bought and sold by many people. The number of free float shares therefore also normally provides an indication of the liquidity of the shares.

Functional costs
Functional costs include cost of sales, R&D expenses, selling expenses and general and administration expenses.

Gearing
The ratio of net financial debt to equity. Gearing is a key performance indicator reflecting financial strength and illustrates the dependency of a company on third-party lenders. The higher the figure, the greater the theoretical dependency.

Goodwill
The excess of cost of an acquisition over the fair value of the acquired entity at the time of acquisition.

Global Reporting Initiative (GRI)
An initiative that publishes the GRI Standards. These contain specifications and indicators for sustainability reporting. The GRI Standards are internationally established as a framework for voluntary sustainability reporting.

Gross profit
Sales revenue less cost of sales.

Hedging
Strategy to limit or eliminate price risks. Hedging is standard practice in capital markets and is used by market players to offset risks.

International Financial Reporting Standards (IFRS), formerly International Accounting Standards (IAS)
Uniform accounting standards to enhance comparability of financial data. According to European Union regulation, publicly traded companies are required to prepare their consolidated financial statements in accordance with these rules.

Joint venture
A contractual agreement whereby two or more parties undertake an economic activity that is subject to joint control.

Joint operation
A joint arrangement whereby the parties that have joint control of the arrangement have rights of the assets, and obligation for the liabilities, relating to the arrangements.

Leverage Ratio
Net financial debt to EBITDA pre. Key figure that compares debt to operating earnings before interest, taxes, depreciation and amortization. Due to the cash earnings potential of EBITDA, this key figure is often used by banks for granting loans.

Market capitalization
Key performance indicator providing information on the stock market value of a listed company. It is calculated by multiplying the number of shares by the current share price.

Net Financial Debt
Interest-bearing loans (nominal) less cash and cash equivalents less time deposits.

Non-recurring items and one-off effects
Non-recurring items mainly include restructuring costs and effects from the purchase price allocation. In contrast to non-recurring items, one-off effects do reflect a period of time. They include, among other things, the sale of real estate, insurance compensation and the reversal of certain provisions.

Operating EBIT
EBIT before non-recurring items and one-off effects. In contrast to EBIT, this parameter eliminates non-recurring effects in order to establish a better baseline for forecasts.

Rating
Internationally recognized criteria for assessing the creditworthiness of a debtor or company. Ratings are determined by specialist agencies using standardized procedures.

Return on sales
Ratio of EBIT pre to sales revenue. Return on sales (ROS) provides information on a company's operating profit as a percentage of sales revenue in the period under review. A high return on sales indicates a high level of profitability.

ROCE (Return on capital employed)
The ratio of EBIT pre to capital employed. This key performance indicator provides information on the return on average capital employed by a company over a specific period.

Syndicated loan
A loan offered by a syndicate consisting of several core industries; the loan's overall risk (e. g. resulting from credit quality or capital lock-up) is spread across the financial institutions involved.

UN Global Compact
World's largest initiative for responsible corporate governance. Member companies commit to implementing ten universal principles and regularly documenting their progress. These include human rights, labor standards, the environment and corruption prevention.

Weighted average cost of capital (WACC)
An average representing the expected return on all of a company's securities. Each source of capital, such as stocks, bonds and other debt, is assigned a required rate of return, and then these required rates of return are weighted in proportion to the share each source of capital contributes to the company's capital structure. The resulting rate is what the firm would use as a minimum for evaluating a capital project or investment.

Working Capital
Inventories plus trade receivables and contract assets minus trade payables and contract liabilities. This figure describes the current assets employed by a company in the short-term. The lower the working capital, the better the liquidity position of a company.

Technical Glossary

Coarse grain graphite
The grain size lies between 1 mm and up to approx. 20 mm. Key material property is the high resistance to thermal shock. Typical product examples are graphite electrodes for steel scrap recycling, cathodes for aluminum electrolysis and furnace linings for crude steel.

Fine grain graphite
Specialty graphite with a fine grain structure and a grain size of between 1 mm and few µm, with which the required material strengths can be achieved. Fine grain graphites have a broad spectrum of applications in the semiconductor, mechanical engineering, metallurgical, industrial furnace construction, medical and analysis technology industries (isostatic graphite).

Fuel cell
A fuel cell is an electrochemical cell that convert chemical energy of a continuously supplied fuel (e.g. hydrogen, methanol) and an oxidizing agent (e.g. oxygen) into electrical energy. Gas diffusion layers (GDL), which ensure homogenous gas distribution on the electrode, are an important component of a fuel cell. This component often consists of a special paper that is based on short-cut carbon fibers.

GHG Protocol
The GHG Protocol distinguishes greenhouse gas emissions into three categories according to their origin:
Scope 1 includes all emissions that result from energy consumption directly within the company, such as the consumption of natural gas or heating oil.
Scope 2 covers all indirect emissions resulting from the generation of energy that the company purchases from external sources, such as electricity and district heating.
Scope 3 applies to all other emissions that arise in the course of corporate value creation. This includes both indirect emissions within the company itself (e.g., from business travel, commuting) and emissions from upstream value creation (e.g., purchasing, logistics) as well as emissions from the downstream value chain (e.g., at the customer).

Isostatic graphite
Special fine grain graphite for specific applications. Its name is derived from the method of production (isostatically pressed; in a chamber of water subjected to equal pressure from every side). The main features of isostatic graphite are strength, density and isotropic structure. It is therefore used in all applications where the mechanical properties of conventional graphite are inadequate.

Lithium-ion battery
Rechargeable battery with high energy and performance density. The cathode is made from a lithium compound, the anode from carbon or graphite. During the charging process, the lithium ions in the cathodes migrate to the carbon lattice of the anode material (intercalation). During discharging, the lithium ions from the intercalation migrate back to the cathode. Lithium-ion batteries are the standard batteries for mobile applications today. The anode material often consists of synthetic graphite (GAM: graphite anode material).

Natural graphite
A natural mineral. It is extracted from both surface and underground mining. High purity (> 99%) is achieved by purification processes (flotation, thermal and chemical purification). Natural graphite possesses the nearly ideal crystalline structure of graphite. Its use as a lubricant is well known. The largest natural graphite amounts are used for fire proof applications. Small amounts are also included in the recipe for fine grain graphites. Inclusion of acids produces graphite salts, which are converted to expanded graphite in a thermal process.

PAN-Precursor
Synthetic fiber made from polyacrylonitrile (PAN). PAN precursor is the raw material used in the production of carbon fibers.

Petroleum coke
Is a mass volume by-product of the oil refining process and is used as one of the raw materials for the production of synthetic graphite.

REACH (regulation for chemicals)
REACH stands for Registration, Evaluation, Authorization and Restriction of Chemicals.

Wide-bandgap semiconductor
Materials whose band gap is at the upper end of the range of semiconductors (3 eV to over 4 eV). Traditional silicon-based semiconductors have a band gap of 1.1 eV. Examples of wide-bandgap semiconductor materials are GaN, SiC. Such materials are distinguished from traditional semiconductors by advantages such as processing higher voltages, operating at higher temperatures, processing higher frequencies and greater reliability. They are therefore suitable for applications in power electronics, low-noise amplifiers and for high-frequency and microwave amplifiers.

List of Acronyms

A AktG
German Stock Corporation Act (Aktiengesetz)

C CFRP
Carbon Fiber Reinforced Plastic

D DAX
German Stock Index (large caps)

DCGK
German Corporate Governance Code

E EBIT
Earnings before Interest and Taxes

EBITDA
Earnings before Interest, Taxes, Depreciation and Amortization

EHSA
Environment, Health & Safety Affairs

EPS
Earnings per Share

H HGB
German Commercial Code

I IAS
International Accounting Standards

IASB
International Accounting Standards Board

IFRIC
International Financial Reporting Interpretations Committee

IFRS
International Financial Reporting Standards

IT
Information technology

L LTCI
Long-Term Cash Incentive

LTI
Long-Term Incentive

M MDAX
MidCap DAX

P PSU
Performance Share Units

R REACH
Registration, Evaluation, Authorization and Restriction of Chemicals

ROCE
Return on Capital Employed

S SAR
Stock Appreciation Rights

SDAX
SmallCap DAX

SE
Societas Europae – (Share) corporate according to European law

STI
Short-Term Incentive

U UmwG
German Transformation Act

V VorstAG
Act on Appropriateness of Management Board Remuneration

W WpHG
German Securities Trading Act

Financial Calendar

March 23, 2023

- Publication of the 2022 Annual Report
- Year-end press conference (conference call)
- Conference call for analysts and investors

May 5, 2023

- Report on the first quarter 2023
- Conference call for analysts and investors

May 9, 2023

- Annual General Meeting (virtual)

August 3, 2023

- Report on the first half of 2023
- Conference call for analysts and investors

November 2, 2023

- Report on the first nine months 2023
- Conference call for analysts and investors

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Production Credits

Published by
SGL Carbon SE
Head Office
Söhnleinstrasse 8
65201 Wiesbaden/Germany

Concept and Design of Cover
SGL Carbon / unbolt Wiesbaden

Inhouse produced with *firesys*

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Hanne Engwald

Chairwoman of the Supervisory Board
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Five-year Financial Summary

€m	Footnote	2022	2021	2020	2019	2018
Financial performance						
Sales revenue		1,135.9	1,007.0	919.4	1,086.7	1,047.5
thereof outside Germany		*74%*	*69%*	*69%*	*69%*	*66%*
thereof in Germany		*26%*	*31%*	*31%*	*31%*	*34%*
EBITDApre	1)	172.8	140.0	92.8	120.0	127.2
Operating profit/loss (EBIT)		120.9	110.4	(93.7)	(34.3)	80.9
Result from continuing operations before income taxes		94.6	82.1	(123.1)	(73.2)	51.3
Consolidated net result (attributable to the shareholders of the parent company)		126.9	75.4	(132.2)	(90.0)	41.3
EBITDApre margin	2)	15.2%	13.9%	10.1%	11.0%	12.1%
Return on capital employed (ROCE $_{\text{EBIT pre}}$)	3)	11.3%	8.0%	1.8%	3.9%	5.4%
Earnings per share, basic (in €)		1.04	0.62	(1.08)	(0.74)	0.34
Net assets						
Equity attributable to the shareholders of the parent company		569.3	371.5	220.7	418.6	531.6
Total assets		1,480.3	1,376.3	1,258.8	1,504.8	1,585.1
Net financial debt		170.8	206.3	286.5	288.5	242.2
Equity ratio	4)	38.5%	27.0%	17.5%	27.8%	33.5%
Leverage Ratio	5)	1.0	1.5	3.1	2.4	1.9
Headcount	6)	4,760	4,680	4,837	5,127	5,031
Financial position						
Capital expenditures in intangible assets and property, plant and equipment		52.9	50.0	55.8	95.1	78.1
Depreciation/amortization expense		60.8	60.3	73.3	71.6	62.6
Working capital		345.3	341.2	351.8	406.8	419.1
Free cash flow	7) 8)	67.8	111.5	93.9	(17.3)	(58.5)

1) Before one-off effects/non-recurring items of €8.9 million in 2022, €30.7 million in 2021, minus €113.2 million in 2020, minus €82.7 million in 2019 and €16.3 million in 2018
2) EBITDApre to sales revenue
3) EBITpre to average capital employed (total of goodwill, other intangible assets, property, plant and equipment, investments accounted for At-Equity and net working capital)
4) Equity attributable to the shareholders of the parent company to total assets
5) Net debt to EBITDA pre
6) Including employees with fixed-term contracts
7) Cash flow from operating activities (continued operations) minus cash flow from investing activities (continued operations)
8) Till 2019 interest payments included in free cash flow

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