+GF+

TCFD Report

Going forward and shaping the future

TCFD Report

GF aligns its reporting with the requirements of the Task Force on Climate-related Financial Disclosures (TCFD), reflecting the growing importance of these disclosures among investors and businesses. GF has committed to disclosing its climate-related financial reporting annually and aligned its enterprise risk management process with the recommendations of the TCFD. In 2022, we further improved our TCFD-aligned risk assessment, adding a financial quantification to material climate-related risks and opportunities.

For more information on the TCFD, visit www.fsb-tcfd.org

This report presents the 11 disclosures recommended by the TCFD in the sections governance, strategy, risk management, and metrics and targets. For more detailed information, please follow the links provided as they refer to GF's existing disclosures in its annual and sustainability reports, including its response to the 2022 climate change questionnaire of CDP, formerly known as the Carbon Disclosure Project.

Governance

1.1 Describe the board's oversight of climate-related risks and opportunities

GF believes sustainability is a topic of critical importance. GF therefore formed a Sustainability Committee in 2020 to support the Board of Directors in strengthening the company's focus on environmental, social and governance (ESG) topics. The Sustainability Committee is part of the Nomination Committee. The Charter of the Nomination and Sustainability Committee defines that regular meetings are held at least twice a year. In 2022, the committee met three times to discuss, among others, climate-related issues. The Sustainability Committee's agenda explicitly refers to eight GF sustainability goals for 2025, which include climate change. Climate change has been discussed at every meeting since the committee's founding. GF's overall progress is monitored against a predefined timeline and the 2021–2025 strategy cycle.

An essential role of the Sustainability Committee is to ensure that executive remuneration is linked to ESG targets and aligns with the eight goals of the GF Sustainability Framework 2025. Accordingly, each Executive Committee member has the company-wide CO_2e target as a remuneration incentive. GF also defined the target to implement the TCFD's recommendations and publish the company's first TCFD report in March 2022, which was included in its Annual Report 2021.

The Executive Committee has direct oversight over the progress made towards strategic goals and targets, including those that are climate related. In addition, the committee conducts performance reviews on a regular basis (two to four times a year) and at its management meetings with each division. These reviews enable the committee to take the necessary strategic and operational actions to ensure that target achievement remains on track.

Sustainability remained a strategic topic in 2022. For the roll-out of the Sustainability Framework 2025, GF established the Corporate Sustainability Council (CSC) at the Executive Committee level. The CSC coordinates and oversees all activities relating to sustainability. It is headed by the CSC Chairperson, advises the committee, and consists of the CEO, CFO, divisional presidents, corporate and divisional sustainability teams, and other members of GF's top management. The CSC's key responsibilities include tracking and reporting the progress and measures of the framework; supporting the committee on decisions on cross-divisional, strategic sustainability projects and initiatives; coordinating and supervising sustainability projects and initiatives and reporting on their progress to the Executive Committee. The CSC meets at least biannually.

For more information, see:

- Sustainability Report 2022: Sustainability governance
- Corporate Governance Report 2022
- CDP Climate Change, Questionnaire 2022, Georg Fischer, C1.1a/C1.1b/C1.2/C1.2a

1.2 Describe management's role in assessing and managing risks and opportunities

GF has a clear governance structure in place to assess and manage risks related to sustainability. As already mentioned, GF formed the Sustainability Committee in 2020 and the Corporate Sustainability Council in 2021. Their roles and responsibilities are described above.

The wider GF sustainability organization includes Corporate Sustainability, which is led by the Head of Corporate Sustainability, who reports to the CFO. The department oversees strategic, cross-functional sustainability projects and initiatives globally, and is responsible for sustainability reporting as well as dialogue with external stakeholders, such as ESG rating agencies. The Head of Corporate Sustainability participates in Sustainability Committee meetings.

Corporate Sustainability works closely with the three divisions' sustainability teams to ensure they track the progress of the divisions' facilities and business units toward their respective 2025 sustainability targets. The department is responsible for raising the organization's awareness of sustainability and thus of climate-related risks.

The sustainability teams evaluate their division's sustainability performance on a quarterly basis and present their findings to their respective management teams. The following aspects are reviewed: the achievement of sustainability targets and the implementation status of agreed-on actions, the monitoring of the sustainability performance of business partners, and the development and marketing of products and solutions offering sustainability benefits to GF customers.

The divisions define a set of measures each year to achieve GF's sustainability targets. Each divisional sustainability manager is responsible for ensuring that the individual facilities define and implement measures to meet their respective targets, for compiling an aggregated overview for their division to track progress, and for coordinating with Corporate Sustainability on status, experience-sharing across divisions and, where needed, for escalation.

Target achievement – including the achievement of sustainability-related targets, such as the reduction of greenhouse gas emissions – is incentivized at various levels. For example, individual targets are defined for Executive Committee members as well as for the corporate and divisional sustainability teams.

The Board of Directors is represented by Nomination and Sustainability Committee (NSC).

The NSC strategically consults and oversees the GF sustainability program. In addition it aligns in close collaboration with the Executive Committee the compensation targets and releases the annual sustainability report.

The Corporate Sustainability Council assists the Executive Committee in strategic cross-divisional decisions and steers the rollout of Sustainability Framework 2025. It monitors and reports progress of GF's targets.

The Executive Committee drives the implementation and update of the Sustainability program, prepared in consultation with the Board of Directors.

The Corporate and divisional Sustainability teams manages and coordinates the operative sustainability measures following GF's material topics. They connect local actions with strategic goals to ensure alignment across the company and external stakeholder requests.

For more information, see:

- Sustainability Report 2022: Sustainability governance
- Corporate Governance Report 2022
- CDP Climate Change, Questionnaire 2022, Georg Fischer, C1.2a

Strategy

2.1 Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term

GF has identified hazards in categories relevant to its business model and in the context of climate-related risks and opportunities. These risks include both acute and chronic physical risks, transition risks and opportunities.

Physical risks include tropical cyclones, sea level rise, river flooding, precipitation, fire, drought and heat. For more information, please refer to the in-depth analysis and conclusions drawn from this report.

Transition risks include GHG prices, the security of energy and processes, regulations and taxes, litigation, consumer preferences, the availability of capital, the energy transition and raw materials. More information is available in section 3.1. and the in-depth analysis of financial quantification.

Opportunities include transportation, production and distribution processes, recycling, low-emissions energy sources, the carbon market, growing consumer demand, the diversification of business activities, availability of capital and substitutes for existing resources. More information is available in section 3.1.

For more information, see:

- CDP Climate Change, Questionnaire 2022, Georg Fischer, C2.2a/C2.3a/C2.4a

2.2 Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

The GF product portfolio includes many solutions that help customers mitigate their climate impacts. All three GF divisions have significant opportunities because changing consumer preferences and growing investor focus require their product portfolios to become more energy-efficient and sustainable. GF provides its customers with sustainable products and enters new markets with increased demand for sustainable alternatives.

Across its diverse product portfolio and operations, GF procures the majority of its raw materials, goods and services locally. This approach aims to ensure that the company's raw material deliveries reduce the impact of intercontinental distribution networks, while recognizing the consequences of these activities and the effect that a changing climate may have on the supply chain. In addition, GF's manufacturing facilities are in close proximity to their customers and strive to continually optimize their logistics footprints. Examples include GF's two new factories in China – namely, GF Piping Systems in Yangzhou and GF Casting Solutions in Shenyang. GF heavily relies on the timely delivery of raw materials, goods and services. Acute physical risks, such as heavy rain, wildfires or floods, can lead to the destruction of key infrastructure, thereby impeding transportation and potentially resulting in product supply shortages.

The GF Code for Business Partners, which defines strict environmental, social and compliance standards, is mandatory for suppliers to all three GF divisions.

GF is committed to delivering solutions that help customers mitigate their contribution to climate change and enhance their resilience and adaptation to it. GF also emphasizes innovation and R&D, and therefore invests in R&D to create innovative new products and solutions that provide customers with environmental, climate and social benefits during the products' use phase. In 2022, GF's overall R&D expenses were at CHF 120 million.

For more information, see:

- CDP Climate Change, Questionnaire Georg Fischer, C3.3/C3.4
- Sustainability Report 2022: Product portfolio
- GF website: Value chain

2.3 Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

The resilience of GF's future strategy is affected by the transition to a low-carbon economy, which presents both opportunities and risks. GF has therefore analyzed a range of climate scenarios that show possible outcomes under different climatic conditions. To project a scenario aligned with the Paris Agreement's goal of limiting global warming to 2°C or a lower scenario, the International Energy Agency's (IEA's) Sustainable Development Scenario was used. At the time of GF's assessment, this was the IEA's best and most recent well-below-2-degree scenario. GF's assessment analyzes various factors that could impact GF's future business strategy and its ability to achieve long-term profitability.

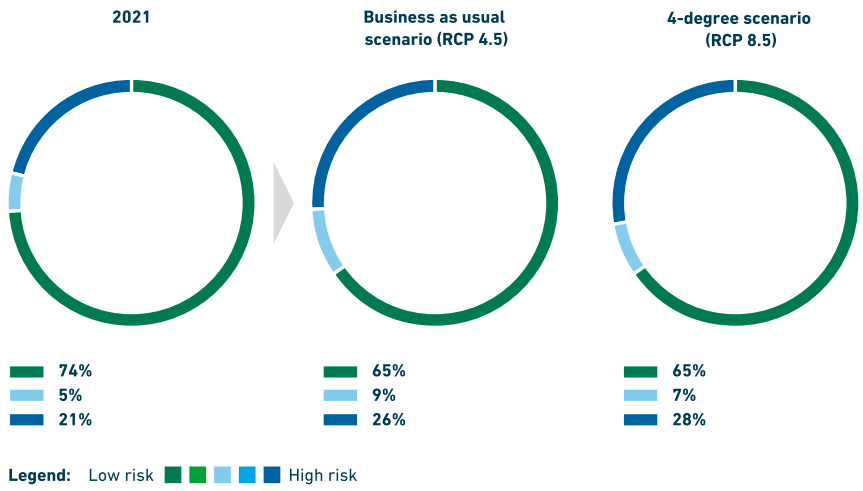
Furthermore, to assess GF's exposure to physical risks, the Intergovernmental Panel on Climate Change's (IPCC's) representative concentration pathways (RCP) were used in a business-as-usual scenario (RCP 4.5) and a 4°C scenario (RCP 8.5) by 2050. In the analysis, 2050 was used as a reference year in line with the Paris Agreement's 2050 target for net-zero emissions. The Sustainability Committee made a conscious decision not to use climate scenarios that go beyond 2050.

In-depth analysis: Physical climate risks

This climate risk analysis was prepared using the Climate Change Edition of reinsurer Munich Re's Location Risk Intelligence software. It found that physical risks such as tropical cyclones and sea level rise are immaterial to GF's operations, whereas river flooding and precipitation posed a high risk to some operations. The percentages below refer to the proportion of GF's global production facilities that are exposed to a specific risk category.

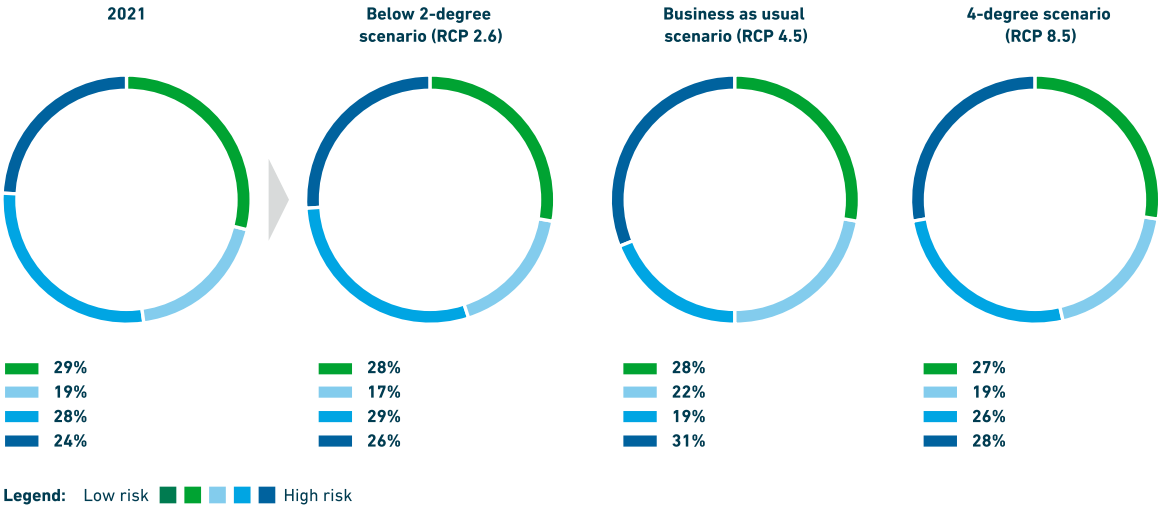
Undefended River Flood

Undefended river flood describes the risk of flooding in areas where no flood protection systems or defense structures (such as dams) are in place. Under a 4°C scenario in 2050, the share of high-risk flood sites increases from 21% in 2021 to 28%. River flood is a particularly strong hazard in the majority of Chinese sites of all divisions.



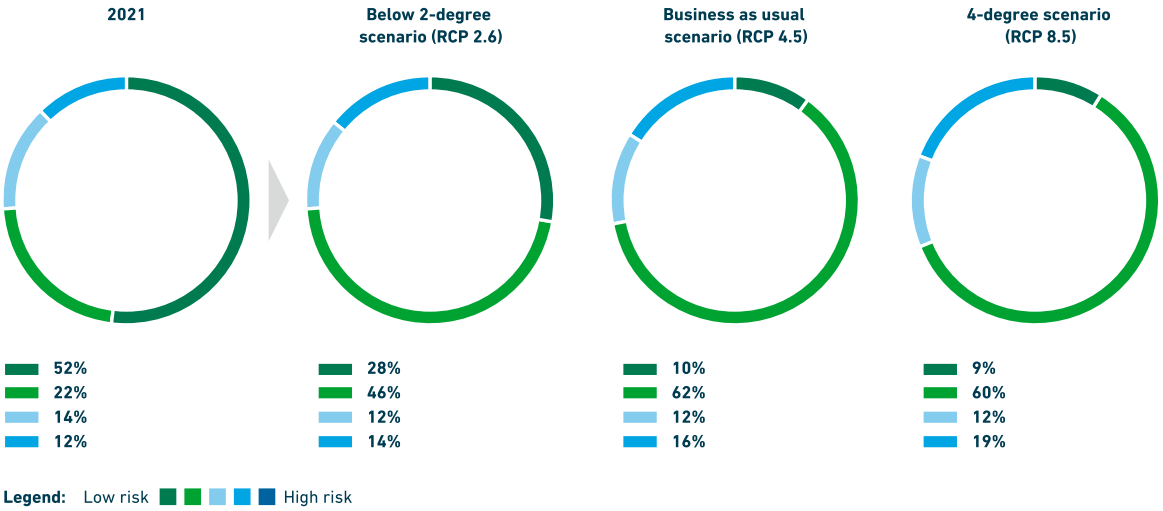
Precipitation Stress Index

Due to global warming and rising ocean temperatures, air contains more moisture, which leads to an increase in heavy precipitation events. Heavy rainfall increases the risk of floods, which often lead to the destruction of infrastructure. The share of high-risk sites for heavy rain increases from 24% in 2021 to 28% in 2050 under a 4°C scenario, with a strong impact projected on sites in China, Switzerland and the United States.



Fire Weather Stress Index

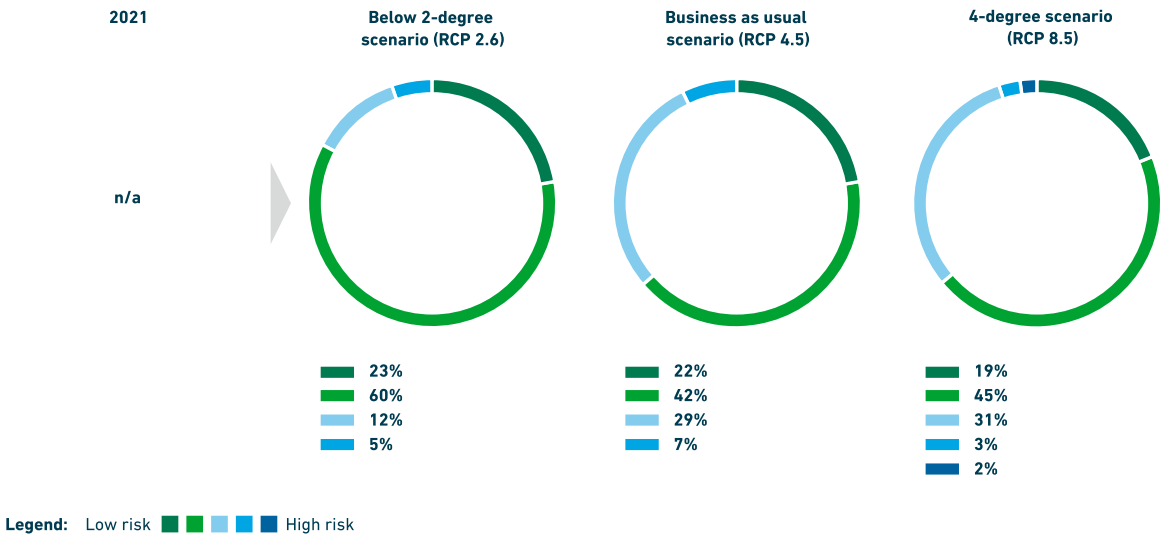
Wildfires are destructive hazards that can occur naturally or be caused by humans. Fires destroy vegetation and lead to the destruction of infrastructure and economic resources. No GF sites fall into the high-risk category, but the share of medium-to-high risk sites at GF increases from 12% in 2021 to 19% in 2050 under a 4°C scenario. All other sites face only minor hazards.



Drought Stress Index

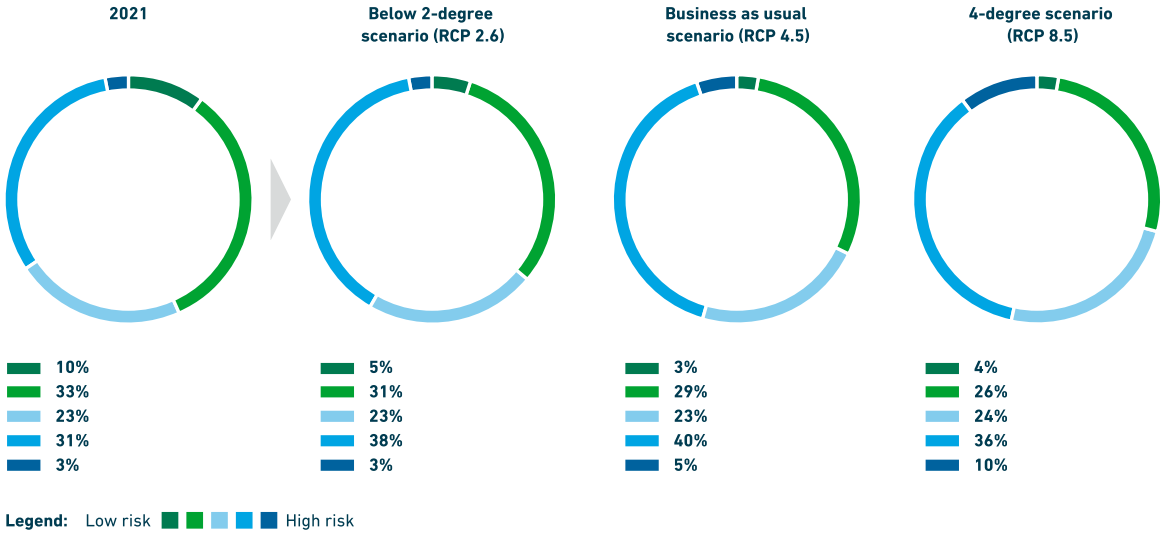
Increasing temperatures combined with changes in precipitation patterns could cause drier weather conditions and more frequent and intense droughts that have severe economic, environmental and social impacts. Bakersfield, CA

(US) was identified as the only high-risk site for drought, but the number of medium-risk sites increases from 12% in 2021 to 31% in 2050 under a 4°C scenario.



Heat Stress Index

Global warming leads to increasing temperatures and more intense and frequent heatwaves. Heat stress affects humans, infrastructure and ecosystems. In 2021, only 3% of GF sites are in the high-risk range, but this increases to 10% in 2050 under a 4°C scenario. GF's projections show heat stress is of particular significance for Chinese sites in all divisions.



Risk management

3.1 Describe the organization's processes for identifying and assessing climate-related risks

Risks identified at GF are based on a biannual risk mapping analysis and assessed for their likelihood of occurrence and potential impacts. Where possible and appropriate, the consequences of the identified risks are quantitatively evaluated, taking into consideration the frequency of consequences and any mitigation measures already implemented (alternatively, a qualitative assessment of the risk exposure is applied). As a result, the risk consequences are classified in terms of their potential financial cost to the business:

- minor (less than CHF 10 million)
- major (between CHF 10 million and CHF 50 million)
- critical (between CHF 50 million and CHF 150 million)
- catastrophic (more than CHF 150 million)

To also account for financial impacts arising from climate-related opportunities, the same classification has been applied, but with different labels: minor, major, large, and extreme. GF determines the potential overall impact of identified risks by combining their likelihood of occurrence with their potential financial cost and factoring in any other relevant concerns, such as reputational damage or legal impacts. Material impacts are evaluated based on a tiered system of threshold values, depending on the risk scope. Risks at the corporate, divisional and facility level have different sets of thresholds, since facilities vary in size.

In general, GF considers an impact to be substantive, if:

- a catastrophic risk is possible, probable or likely
- a critical risk is probable or likely
- a major risk is likely

In 2021, GF conducted a workshop attended by experts from all three divisions, Corporate Risk Management and Corporate Sustainability. Its purpose was to define the main climate-related risks and opportunities and assess their possible impacts. The workshop considered impacts on GF's business activities that could result from the physical effects of climate change and transition risks such as political, technological, market and reputational developments. It also identified relevant climate-related opportunities resulting from resource efficiencies, energy sources, products and services, and market demands.

For more information, see:

+ CDP Climate Change, Questionnaire 2022, Georg Fischer, C2.1b/C2.2

In-depth analysis: Quantification of transitory risks and opportunities

In 2022, GF's material transitory risks and opportunities were financially quantified and classified as described above. This enables the company to prioritize defined climate-related risks and opportunities and compare their impact with that of other risk categories.

The security of the energy supply and energy prices are two risks deemed to have a major to critical financial impact. Some of GF's business is energy intensive, and energy costs are therefore critical. Although energy price fluctuations are normal, sustained higher prices would challenge GF's competitiveness. Analyses of historical energy prices, such as the IEA's Energy Prices Data Explorer, do not indicate any clear price trends. In 2022, for example, Europe experienced an unprecedented energy crisis due to Russia's war of aggression against Ukraine. The war's repercussions have caused energy prices to increase by more than 100%. An increase of just 25% would result in about CHF 17 million in additional costs for GF and thus constitute a critical financial impact.

The automotive industry is currently shifting to more sustainable forms of mobility, by transitioning from internal combustion engines (ICEs) to electric and other alternative drivetrains like fuel cells. For GF´s Casting Solutions division, this will lead to a shift in demand of automotive customers. If consumers embrace alternative forms of mobility, products for ICE-powered vehicles will most likely decline, whereas new components for electric drivetrains are increasingly in demand. GF quantified these changes using different scenarios for the period 2021 to 2030, which are based on governments' e-mobility targets or a net-zero world.

However, most of GF's automotive products are independent to the drivetrain and hence not effected by the change in customer demand. The shift to e-mobility creates an increased business opportunity from contributing to the automotive industry's low-emission products, specifically products that propel the growth of e-mobility. GF Casting Solutions long-term expertise on lightweight design and functional integration strongly supports automotive customers towards sustainable mobility.

Financial quantification of risks and opportunities is GF's preferred approach. For some impacts, however, much less data is available, and the assumptions regarding them are highly uncertain. In these cases, GF adopts a qualitative approach. One example is the opportunity to diversify business activities, such as entering or expanding GF's position in markets for sustainable products. These include e-mobility, lightweight products, carbon blades and hydrogen products.

Hydrogen is seen as a key energy carrier that is supporting the energy transition worldwide. GF Piping Systems is constantly innovating its solutions to support this growing industry along the entire hydrogen value chain, from production and storage to distribution and use. Its hydrogen expertise is founded on decades of experience in gas supply, industrial water treatment and the general transport of substances in multiple industrial applications. While the growth of hydrogen presents numerous and promising opportunities, the pace of growth is still uncertain. It is therefore currently not possible to quantify these opportunities.

Transition risk	Impact on GF	Significance for GF	Financial impact
GHG price	Increasing energy and electricity usage costs decrease GF's competitiveness.	The potential costs of GF's carbon-neutral transition are being considered due to the diverse locations of production sites and operating in different regulatory markets.	Major
Security of energy supply and prices	Fluctuations in energy prices and abrupt and unexpected shifts in energy costs	Some of GF's business is energy-intensive and consequently energy costs are critical. Although energy price fluctuations are normal, sustained higher prices might challenge GF's competitiveness.	Minor-major
Regulations and taxes	Regulations on limits for GHG emissions and/or higher taxes on energy sources such as non-renewable electricity or fuels	Energy efficiency standards are already commonplace in all countries where GF has operations. However, it is anticipated that standards will continue to become stricter in the future.	Minor
Litigation	Involvement in litigations may result in higher costs and reputational damage.	GF can be involved in litigation at times, especially through its production sites. Climate-related litigation is expected to increase, thus increasing GF's risk exposure.	Rather minor
Consumer preferences	Changes in demand, especially in products considered "unsustainable"	As a B2B manufacturer, GF's demand originates from changing demand in various markets, such as currently observed in the automotive industry's transition from internal combustion engines to e-mobility.	Major
Reduced capital availability	Due to the requirements of the EU taxonomy, the availability of capital is becoming increasingly dependent on a company's climate performance.	The GF product portfolio will be screened for eligibility for the EU taxonomy to indicate its contribution to the six environmental objectives, identify the share of turnover contributing to socially or environmentally beneficial activities and how much of GF's operating expenses are devoted to it.	Minor
Energy transition	Research and development expenditures in new and alternative low-carbon technologies	One-quarter of GF's business is energy-intensive and requires a variety of energy sources to function. Switching to renewable energy will amount to a CAPEX investment of over CHF 52 million over the next five years to transition to lower-carbon energy sources.	Critical
Raw materials	Fluctuations in raw material prices as well as abrupt and unexpected shifts in raw material costs lead to unreliable supply chains.	As a manufacturer, shifts in raw materials are a high risk for GF that can impact supply chain stability. The increasing costs and scarcity of some raw materials may pose a risk to all three GF divisions.	Rather minor
Low-emissions sources of energy	Additional costs for buying renewable electricity	In 2022, renewable energy met 31% of GF's total energy consumption. Substituting electricity from fossil fuels with renewable sources will be a high priority for GF in the coming years, which in turn will increase operating costs.	Minor

Opportunity	Impact on GF	Significance for GF	Financial impact
Modes of transportation	Reduction of fuel consumption by replacing fleets with more fuel-efficient vehicles and using fuel-efficient modes of transport	As a manufacturer, GF depends on reliable transportation. GF launched an e-mobility policy in 2021 to transition its car fleet to an electrified fleet while also utilizing subsidies in selected markets.	Minor
Production and distribution processes	Efficiency gains in production processes and logistics	As a manufacturer using heavy machinery for production, there are many opportunities for efficiency gains across all divisions. For example, GF identified several opportunities to make its production capacity more energy-efficient by replacing extruders and molding machines with more economical units.	Major
Recycling	Purchase of alternative materials or reuse of existing materials	GF is currently embarking on a circular economy program that identifies products reusing materials from other processes, such as bio-based PVC. The program is currently being trialed in projects in the UK.	Rather minor
Low-emissions energy sources	Switching to renewable electricity and energy sources	Low-emissions energy sources and renewable electricity lead to reduced exposure in fossil fuel markets.	Minor-major
Carbon market	Participation in carbon market reduces exposure to GHG emissions.	Participation in carbon markets can reduce CO_2emissions and generate income when CO_2emissions are decreased.	Major-large
Consumer preferences	Attracting and retaining customers with preferences for low-emission products while gaining a competitive advantage.	Stronger demand for GF's sustainable products reflects consumers' low-emission preferences and leads to a more competitive market position, such as GF's hydrogen shipping project in the Netherlands or its lightweight components for the automotive industry.	Major to extreme
Ability to diversify business activities	Establishing a foothold and expanding GF's position in future-oriented markets for sustainable products	The development of new products and services leads to a diversification of the GF product portfolio and attracts new customer segments. Increasing demands for e-mobility products/lightweight products, new turbines and carbon blades diversify the GF product portfolio.	Rather large
Capital availability	Demands from investors in line with the EU taxonomy increase investment in companies with sustainable products.	The relevance of the EU taxonomy is expected to increase in the future. GF believes EU taxonomy-aligned products will increase investment attractiveness and lead to increased capital availability.	Minor-major
Resource substitutes or diversification	Increased supply chain reliability and the ability to maintain operation in various conditions	The diversification of GF's energy supply and the decentralization of its power generation increase supply chain reliability and improve flexibility in cases of natural disasters.	Rather major

3.2 Describe the organization's processes for managing climate-related risks

GF employs various tools to manage internal and external risks, including those directly related to climate change. For example, Thomson Reuters Accelus, an enterprise risk management (ERM) tool, is used at the corporate and facility/asset level and along the value chain to assess specific upstream and downstream risks. The assessment encompasses the systematic identification, evaluation and reporting of strategic, operational, financial, social, environmental and climate-related risks as well as the maintenance of commensurate insurance coverage.

GF also identifies climate-related risks, particularly physical risks, using the aforementioned Munich Re tool. In addition, Corporate Sustainability at GF conducts independent research in collaboration with consulting firms.

For more information, see:

+ CDP Climate Change, Questionnaire Georg Fischer, C2.2

3.3 Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management

Climate-related risks are integrated into GF's risk management system via its combined ERM process. The clear organization of climate activities and governance roles ensures that GF works efficiently and improves continually. In the future, GF plans to further align its on-site risk management process to the TCFD risk management process in order to adopt a single approach for all risk categories. This consolidation will ensure the complete integration of climate-related risks and opportunities into GF's ERM system.

Metrics and targets

4.1 Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process

GF believes it must take great care to avoid potentially adverse environmental impacts and has identified "climate and energy" as one of its most relevant material topics. GF therefore intends to reduce its GHG emissions across the value chain and decrease energy consumption throughout its global operations. In practical terms, this means improving energy efficiency, promoting the use of renewable energy sources, evaluating measures to self-generate renewable energy on-site and procuring renewable energy certificates.

In addition, GF assessed the environmental impact of its direct operations and found that waste generated during production is one of the largest components of its environmental footprint. Although the majority of GF's waste is non-hazardous, the company has a responsibility to minimize both hazardous and non-hazardous waste. GF therefore continually monitors waste-related KPIs and strives to implement circular economy principles wherever possible, including finding new and effective ways to reuse and recycle materials.

From a manufacturing perspective, GF's water consumption has a smaller impact on its environmental footprint than GHG emissions and waste generation, as most of its processes are not water intensive. Nonetheless, GF's latest materiality analysis indicated that sustainably managing its water footprint is a growing priority for its stakeholders and customers.

In 2022, GF continued its quarterly sustainability reporting (internally only) and, since October 2021, it has included specific references to its progress in reducing its CO_2e footprint. GF's quarterly reporting focuses on approximately 37 production sites responsible for over 90% of total CO_2e emissions (scope 1 and 2).

For more information, see:

+ Sustainability Report 2022: Environmental performance indicators

4.2 Disclose scope 1, scope 2, and, if appropriate, scope 3 greenhouse gas (GHG) emissions, and their related risks

In 1'000 tonnes of CO_2e emissions	2022	2021
Total CO_2e emissions (market-based approach)	1'802	1'975
Scope 1 (fuel-related energy consumption)	82	84
Scope 2 market-based (electricity and district heating from site-specific energy mix)	153	189
Scope 2 location-based (electricity and district heating from country grid)	272	293
Scope 3* total	1'567	1'702
Purchased goods and services	1'001	1'176
Energy and fuel-related activities	59	55
Upstream transportation and distribution	46	43
Business travel	4	2
Employee commuting	19	17
Downstream transportation and distribution	35	32
Processing of sold products	17	16
Use phase of sold products	373	349
End-of-life treatment of sold products	13	12

* Four scope 3 categories deemed to be irrelevant to GF are excluded: leased assets (both upstream and downstream), franchises and investments.

Scope 3 emissions data were calculated using a combination of methods for each category as prescribed by the GHG Protocol. Primary supplier data (if available) were used for those categories that contribute most to emissions, whereas secondary data were used for those activities that contribute least to emissions. For "purchased goods and services," supplier-specific data based on GHG inventory sources for raw materials were obtained. For the "use phase of sold products," activity data were used based on the electricity consumed during operating hours for each type of machine.

For more information, see:

✚ Sustainability Report 2022: Environmental performance indicators

4.3 Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets

In October 2021, the GF Nomination and Sustainability Committee (NSC) approved a more ambitious science-based target aligned with the 1.5°C warming scenario. This target was validated by the Science Based Targets Initiative (SBTi) in 2022. This decision aligns GF's ambition level with the latest climate science and the IPCC's recommendation.

By 2026, GF commits to reducing its scope 1 and 2 GHG emissions by 30% in absolute terms. The company also commits to reducing its scope 3 GHG emissions from purchased goods and services and from the use of sold products by 34.6% per tonne of processed material by 2030. Both targets are relative to 2019. These targets are fully aligned with the Paris Agreement to limit global warming to 1.5°C.

GF will reduce its scope 3 emissions by working closely with its suppliers to implement dedicated CO_2e reduction measures and transition its energy portfolio to renewable energy. GF's product portfolio offers clear advantages to customers, as it provides numerous sustainable products that can help them reduce their CO_2e footprint. In addition, GF has set a target for its product portfolio to generate 70% of sales with social and environmental benefits by 2025, compared with 58% in 2020. For GF Piping Systems, this target includes replacing raw materials with bio-based alternatives, deploying automated flow solutions to reduce non-revenue water and maintaining leakage-free piping systems for the safe transport of water, gases and chemicals. GF Casting Solutions' focus remains on manufacturing lightweight mobility and energy components. For GF Machining Solutions, milling and electrical discharge machining (EDM) will become even more energy-efficient, and it will employ laser technology to replace hazardous chemical etching.

In 2022, energy-efficiency measures were identified for all production sites and typically involved replacing or retrofitting equipment in cases where it is possible to achieve energy reductions of up to 20%. Other measures include upgrading heating, cooling, and compressed air systems, insulating equipment, and reducing the energy consumption of buildings and production sites. GF has also placed significant focus on installing solar panels on its sites. Initial estimates indicate that this will yield energy savings that correspond to a reduction of roughly 2% to 5% in scope 2 CO_2e emissions.

GF is currently also evaluating the implications of the SBTi's Net Zero Standard of 28 October 2021, to assess the options and roadmap for setting a net-zero target.

For more information, see:

+ Sustainability Report 2022: Climate and energy
+ GF website