Sustainability report 2025

Pioneering sustainability

September 9, 2026

TEIJIN CARBON

Table of contents

General overview

ESRS2 3

Message from the president 4
Business model and value chain 5
Corporate governance 11
Business model and value chain of CFBU 13
Sustainability management 15

Environment

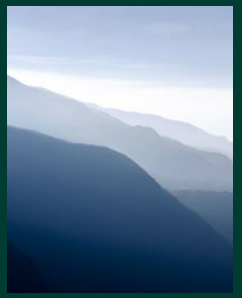
ESRS E1, E2, E5 and S1 16

Policy 17
Plan ESRS E5 18
Circular economy ESRS E1 22
Energy management ESRS E2 23
Pollution ESRS E5 24
Life cycle assessments of products 25

Social responsibility

ESRS S1 26

Policy 27
Plan 27



Governance (Business practice)

28

Policy 29
Plan 31
Corporate culture ESRS S1 31
Corruption and bribery ESRS S1 32
Management of relationships with suppliers ESRS S1 33
Support of customers 33
Networks 34

Attachments

35

Reference documents and external sources 36
Sustainability indices and networks ESRS S1 37
Abbreviations 38
Table of non-financial KPI 39

This sustainability report is prepared on the basis of the structure and the content of the European Sustainability Reporting Standards (ESRS). The references are given according to Commission Delegated Regulation (EU) 2023/2772 of July 31, 2023 (see page 38 for categories)

General overview

> **As industries accelerate their sustainability transformation, we see advanced materials playing an increasingly decisive role in enabling measurable progress.**

Message from the president

The Teijin Group continues to transform its portfolio by anticipating social needs and issues as well as aims for the realization of healthy and comfortable living for people. Lightweight and high-performance materials are a fundamental enabler in several industry segments to reinforce these transformations towards sustainability.

The Carbon Fiber Business Unit (CFBU) is one of Teijin's strategic fields for sustainable solutions. Especially the well-established global network contributes to these approaches:

- Close and regional collaborations with international customers and working groups are emphasized.
- The CFBU provides sites at all main geographical points of the world near to customers and supply chains.
- Supply chains are critically analyzed to ensure sustainable procurement and reduction of risks.
- Innovative, lightweight products are developed and industrialized to support sustainability progress throughout entire supply chains.

These performance advantages play a key role in reducing environmental impact across the entire product lifecycle. Key progress in the sourcing and production of carbon fiber products in 2025 has been achieved, such as:

- Installation of a new nitrogen plant in 2025 with severely improved efficiency.
- Usage of renewable electricity at TCE: Certificates of renewable electricity purchased from Baltic countries or Italy are equal to 50 % of the electricity to be used at TCE thus reducing the corresponding emissions.
- Improved production parameters in regard of energy-savings and CO_2-efficiency have been integrated into daily operations while maintaining high health, safety and environment standards.
- Continued development and industrialization of Tenax Next™ products.
- External transparency is emphasized with ISCC PLUS-certification, EcoVadis-scoring and CDP-report of the Teijin Group.

All these achievements have been implemented to meet the societal expectations and fulfill the specifications of customers. We appreciate the continuous exchange with all stakeholders regarding their demands, new ideas and cooperation.

Tetsuya Ito
General Manager

General overview

ESRS2

Business model and value chain

High-performance carbon fiber materials are a key enabler of sustainable transformation, enabling lighter, more efficient and longer-lasting solutions across industries. Teijin is one of the world's leading manufacturers of high-performance carbon fiber products, offering innovative solutions for aerospace, automotive, engineering, sporting goods and a wide range of other industries. Further innovations have resulted in Teijin expanding the product range, with carbon fiber semi-finished products that improve the process chain – from carbon fiber to part – while reducing production times and waste.

General overview

Tenax™ filament yarn

Tenax™ filament yarn is a high-performance carbon fiber product that significantly enhances and strengthens the properties of thermoset and thermoplastic composites. With a high tensile strength and tensile modulus, Tenax™ filament yarn is ideally suited for many processes, such as prepregging, filament winding, pultrusion, weaving and braiding.

Tenax™ short fibers

Tenax™ short fibers are a high-tech product, significantly enhancing properties in thermoset and thermoplastic applications. Tenax™ short fibers are carbon fibers with excellent mechanical, electrical or thermal properties or higher heat distortion and are therefore an ideal solution thanks to their easy-to-handle bundle sizes and modifications that allow the usage in high-temperature thermoplastics.

Tenax™ thermoplastics

Thermoplastics are polymers that can be softened or melted when heated to a given temperature. When combined with rapid production processes, Tenax™ thermoplastics allow fast processing, low scrap rates as well as high mechanical performance, chemical resistance and recyclability. Teijin currently offers three types of Tenax™ thermoplastics: thermoplastic unidirectional (TPUD), thermoplastic consolidated laminate (TPCL) and thermoplastic woven fabric (TPWF).

General overview

Tenax™ thermosets

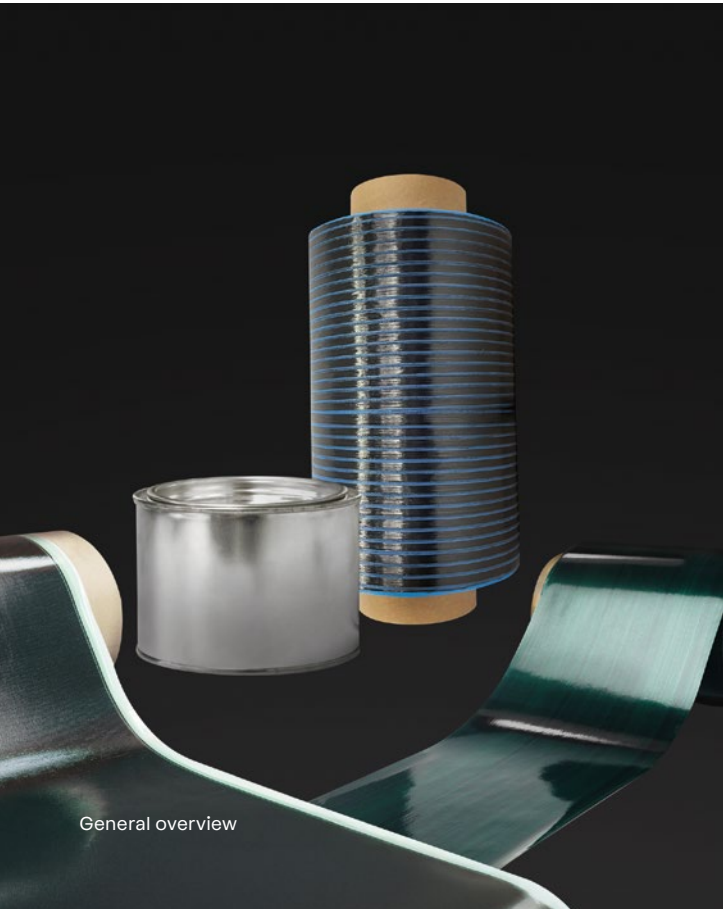
Tenax™ thermosets provide high mechanical performance, chemical resistance and temperature resistance in a wide range of applications. Teijin's Tenax™ thermoset prepreg systems (conventional, rapid cure and high temperature) are available with Tenax™ carbon fibers and aramid fibers and with other standard fibers, including glass and quartz. Additionally, Teijin Carbon offers infusion resins, adhesives, fillers and resin films.

Tenax™ dry reinforcements

The Tenax™ dry reinforcements range of products provides a cost-competitive solution for a wide range of applications. They are compatible with epoxy resins available on the market and can be combined as a package solution with Tenax™ thermoset resins (RTM and rapid cure). The product range includes Tenax™ dry reinforcement non-crimp fabric (DRNF), Tenax™ dry reinforcement woven fabric (DRWF) and Tenax™ dry reinforcement braided fabric (DRBF).

Pyromex™ oxidized PAN fiber

Pyromex™ is an oxidized polyacrylonitrile (PAN) fiber with non-flammable and non-melting characteristics that is widely used in welding blankets, fleece insulation and carbon brake applications. As Pyromex™ is produced without additional bromine or halide compounds, it is ideal for flame-resistance requirements while meeting environmental regulations.



General overview

Tenax Next™

The Tenax Next™ portfolio is designed to enable customers to reduce emissions without compromising material performance or requiring redesign or requalification of existing manufacturing processes. In this way, it supports the transition toward more sustainable production while maintaining industrial efficiency and reliability.

These new products are developed and supplied with the well-known quality standard as given by EN ISO 9001 (Quality Management), EN 9100 (Quality Management Systems - Requirements for Aviation, Space and Defense Organizations) and National Aerospace and Defense Contractors Accreditation Program (Nadcap).

Tenax Next™ HTS45 E23 24K 1600tex

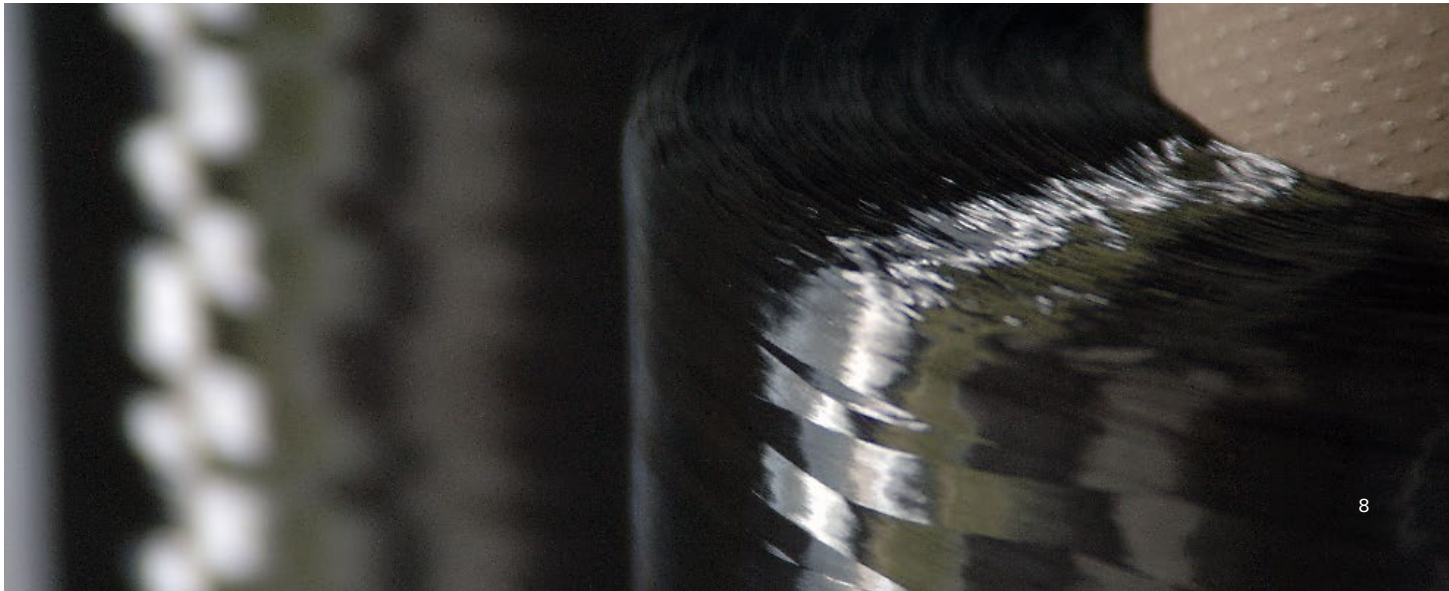
Tenax Next™ represents a significant step forward in eco-conscious material science, enabling a potential of up to 35 % reduction in CO_2 emissions compared to conventional carbon fiber solutions. Featuring circular feedstocks with a reduced carbon footprint, the materials within this product line maintain the strength, durability and processing performance for which Tenax™ products are known.

Based on the well-established HTS (high tenacity) fiber type, Tenax Next™ HTS45 24K combines excellent processability with proven performance in industrial and aerospace applications. With a tensile strength of over 4800 MPa and a modulus of 240 GPa, it provides a high-performance alternative with a significantly reduced environmental footprint.

As part of Teijin Carbon's broader sustainability strategy, this material contributes to customers' Scope 3 emissions reduction targets while maintaining established processing reliability. From now on, Teijin Carbon produces carbon fiber filament yarn using renewable energy — with the option to integrate sustainable raw materials. In addition, advanced process technologies are continuously implemented to further reduce environmental impacts.

To ensure the integrity and transparency of sustainability claims, Teijin Carbon has established its carbon fiber production and supply system based on ISCC PLUS certification. This system enables the sourcing of certified sustainable building blocks for PAN production — including circular or bio-based acrylonitrile — and allows for the gradual increase of certified material content across the portfolio.

The material is designed as a drop-in solution, enabling integration into existing high-volume production environments without additional qualification efforts.



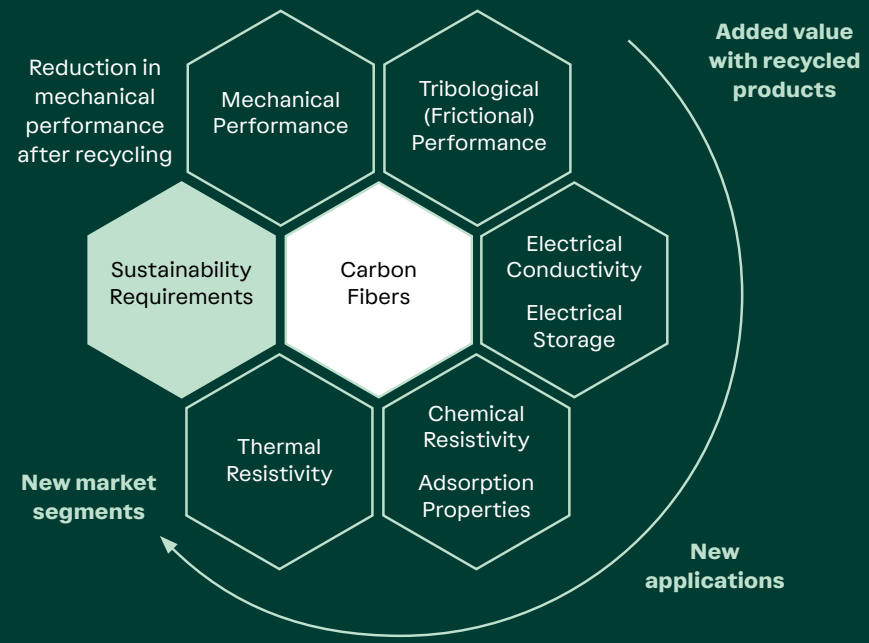
General overview

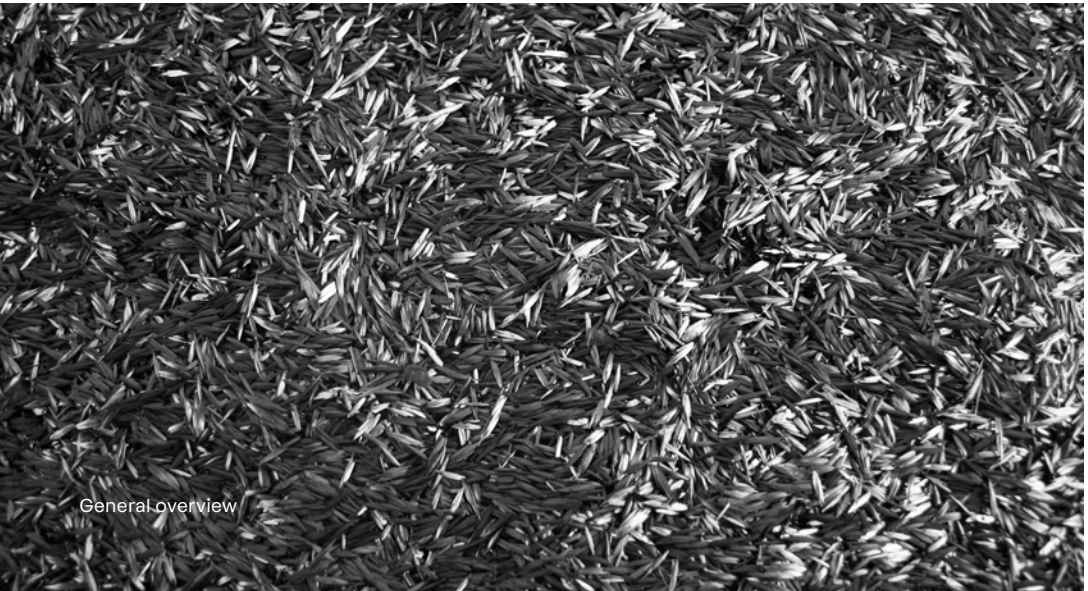
Tenax Next™ R2S P513 6mm

Tenax Next™ products provide a combination of a reduced carbon footprint (i.e. less emissions), an increased material circularity and other added-values for the customer. These additional properties are not only mechanical performance, but also other physical benefits (e.g. tribological, electrical, chemical or thermal resistant advantages) for further applications.

Circular short carbon fibers are suitable for numerous applications across various industries, including sporting goods, electronics and automotive. Typical applications range from footwear components and consumer electronics to automotive structures and industrial parts, demonstrating the versatility and scalability of circular carbon fiber solutions. These requirements are particularly relevant for industrial applications, where materials must deliver consistent performance under real operating conditions while supporting measurable ESG progress.

Tenax Next™ R2S P513 6mm short carbon fiber is manufactured from repurposed loose fiber materials. By using production byproducts, valuable resources are conserved while maintaining the high performance required for demanding applications.





General overview

This solution is both technologically robust and ecologically forward-looking, supporting circular material flows and reducing dependence on virgin raw materials. It represents an important step toward more resource-efficient and sustainable production systems.

Transparency and traceability
Tenax Next™ R2S P513 6mm also marks a milestone with the introduction of Teijin Carbon's first Digital Product Passport (DPP). The DPP, accessible via QR code, ensures transparency and traceability throughout the entire product lifecycle, providing detailed information on material origin, composition and sustainability attributes.

This level of transparency supports increasing regulatory requirements and enables customers to integrate verified material data into their own sustainability reporting and compliance processes. The concept of the digital product passport is rooted in the European Green Deal and the Circular Economy Action Plan of the European Union. Both initiatives define the product passport as a key tool for fostering a climate-friendly and resource-efficient economy.

Benefits across the value chain
Tenax Next™ R2S P513 6mm offers targeted advantages across multiple user groups:

- Manufacturers of fiber-reinforced products benefit from combining high performance with improved sustainability. Full traceability enables transparent communication of lifecycle impacts, providing a competitive advantage in environmentally conscious markets.
- Compounders benefit from a stable and predictable supply of raw materials, reducing procurement risks while strengthening their sustainability profile.
- Component manufacturers and mould makers benefit from stable material properties and enhanced traceability, enabling reliable production planning and consistent quality assurance. The reduced CO_2 footprint also supports compliance with increasing environmental requirements.

In addition, the availability of verified and traceable material data supports procurement and sustainability teams in meeting growing regulatory and reporting requirements.

New Development: Tenax Next™ R3S F/D-C21A200L
A new development is the thermoformable non-woven R3S F/D-C21A200L which is made out of reclaimed carbon fibers in combination with flame-retardant polycarbonate to enable rapid thermoforming and automated press moulding. This material combines short cycle times, high stiffness and flame-retardant performance for high-volume lightweight structures. This material is currently being evaluated by an European aerospace seat manufacturer, including full FST testing according to FAR/CS 25.853 requirements.

General overview

Corporate governance

In preparation for mandatory CSRD reporting, Teijin conducted a **double materiality assessment** to better understand and prioritize issues important to the market and business requirements and its stakeholders as well as compliance to upcoming legislation (e.g. European directives). The aim is to assess both the significant (actual and potential) impacts an organization has on the environment or society, and vice-versa the (actual and potential) impact that society and the environment have on the organization. Both are applied in their own right without ignoring their interactions. The approach is subdivided into different steps:

Step 1 Understand the context and objectives
Step 2 Develop a long list of sustainability topics
Step 3 Assess impact materiality of topics
Step 4 Assess financial materiality of topics
Step 5 Validate results

The materiality assessment helps Teijin to identify focus areas to align with its strategy and report in accordance with reporting regulations.

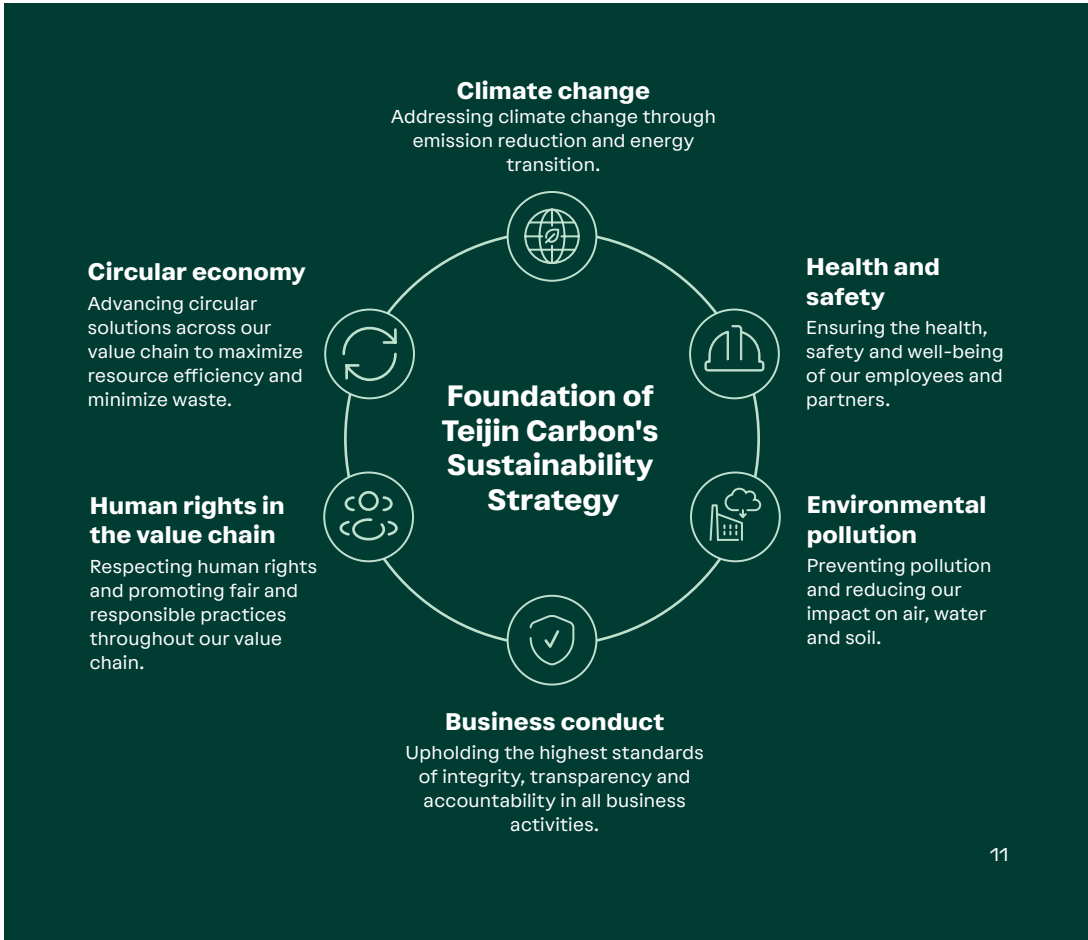
Financial materiality: A sustainability topic is material from a financial perspective if it triggers financial effects on organizations. This means that it generates risks or opportunities that influence or are likely to influence the future cash flows. Therefore, it also influences the enterprise value of the organization in the short, medium or long-term though not captured by financial reporting at the reporting date.

Impact materiality: A sustainability topic or information is material from an impact perspective if the organization is connected to actual or potential significant impacts on people or the environment and is related to the sustainable topic over the short, medium or long-term.

In a final validation workshop with Teijin's leadership, the following points are validated:
- The double materiality results (incl. both the impact and financial materiality) and high/ low materiality topics
- The consolidation of selected material topics
- The final version of the visualisation

As a result, Teijin considers the following topics to be material for the CSRD report: climate, achieving a circular economy, business conduct, corporate ethics and compliance, human rights in the value chain, health and safety, employee working conditions, an equal and inclusive work environment and environmental pollution.

In addition to the customer and market requirements, the compliance with national and European legislation is well analysed and continuously checked with a regularly updated legislation register (see chapter IV, 17).



General overview

Purpose of Teijin

Our Purpose, **"Pioneering solutions together for a healthy planet"**, represents the meaning of our existence (Akimoto Uchikawa, President and CEO, Teijin Limited). During a Teijin workshop the thoughts and feelings of the employees were gathered:

Pioneering
"Pioneering" reflects the great pride in having always been a pioneer over its 100+ year history, being action-oriented, foresighted and producing innovations, as well as our strong commitment to inherit that entrepreneurial spirit going forward.

Solutions
"Solutions" suggests Teijin's intention that the company goes beyond just products and services and addresses social issues by drawing on its scientific capabilities.

Together
"Together" embodies the attitude of respecting each other's differences and diversity, encouraging employees to collaborate and work with external partners to co-create value.

Healthy planet
Lastly, "healthy planet" clearly indicates that we are a corporate group that wishes for both the health of the planet itself and the health of all living beings that inhabit it.

In transforming our business portfolio based on our purpose, Teijin has identified three key industry sectors to focus on going forward: Mobility, Infrastructure & Industrial and Healthcare.

General overview

Business model and value chain of CFBU

Increasingly, customers expect verified data, measurable sustainability progress and reliable supply chains when selecting advanced materials. These expectations shape how Teijin Carbon develops, produces and delivers high-performance carbon fiber solutions. Teijin Carbon's approach is aligned with the Teijin Group's Customer-Centric Business Model, which focuses on delivering integrated solutions that address specific customer challenges and create measurable value.

Teijin Carbon operates as an engineering-driven materials partner, combining aerospace-grade material science, certified production capabilities and globally compliant supply chains. The company's business model is built on delivering performance outcomes, such as structural strength, durability, lightweighting and processing reliability rather than standardized material codes.

Rather than supplying standalone materials, the Carbon Fiber Business Unit contributes to integrated solutions that improve system-level performance, efficiency and sustainability. As part of the Teijin Group, the Carbon Fiber Business Unit (CFBU) integrates fiber production, conversion technologies and material system expertise across the full value chain. This holistic approach includes:

- development and production of carbon fibers
- conversion into semi-finished materials such as prepregs, thermoplastics and reinforcements
- integration into customer-specific material systems and applications

Close collaboration with Original Equipment Manufacturers, engineers and technical decision-makers ensures that material solutions are aligned with real application requirements, manufacturing constraints and sustainability targets. This approach enables customers to implement advanced composite solutions efficiently and reliably in demanding environments.

Market focus and application domains

In 2025, Teijin Carbon's business development was increasingly shaped by two key application domains: Aerospace and Industrial markets. These segments are linked by a common technological foundation, but differ in terms of requirements, production volumes and decision criteria.

Aerospace

The aerospace sector remains the technological backbone of Teijin Carbon's business. Carbon fiber materials are used in mission-critical structures where performance, reliability and certification are essential. This includes both established aerospace programs and the growing space segment. Key material requirements include:

- high stiffness and dimensional stability under extreme thermal conditions
- resistance to fatigue, vibration and mechanical stress
- predictable and certified performance over long service lifetimes

Beyond traditional aerospace applications, these capabilities are increasingly transferred to emerging domains such as satellite constellations, launch systems and next-generation air mobility. In these areas, additional focus is placed on scalability, weight reduction and compatibility with high-rate manufacturing.

General overview

Industrial applications

Industrial markets represent a growing field for scalable and cost-efficient composite solutions. In contrast to aerospace, the focus lies on robust processing, economic viability and integration into established manufacturing environments. Typical material requirements include:

- reliable mechanical performance under real operating conditions
- corrosion resistance and durability in harsh environments
- compatibility with high-volume production processes

Carbon fiber reinforced materials are increasingly used to enable lightweight and durable solutions in applications such as:

- energy systems
  (e.g. wind turbine structures requiring stiffness and long-term stability)
- transportation and mobility systems
  (e.g. pressure vessels for hydrogen storage with high mechanical strength requirements)
- industrial equipment and infrastructure
  (requiring chemical resistance, durability and long service life)

Material performance as a value driver

Across all application domains, carbon fiber composites provide a unique combination of material properties that directly influence system performance and lifecycle efficiency:

- **Mechanical performance:**
  high strength and stiffness at low weight enable lightweight structures and improved efficiency
- **Durability:**
  resistance to fatigue, corrosion and environmental impact extends service life and reduces maintenance
- **Thermal and chemical stability:**
  ensures functionality in demanding environments
- **Design flexibility:**
  enables complex geometries and integrated structures with reduced part counts

General overview

Sustainability management

Teijin Carbon manages sustainability through a dedicated international team that coordinates all environmental, social and governance activities across the Carbon Fibers Business Unit. The team operates within a global framework and ensures alignment with Teijin Group sustainability goals and evolving regulatory requirements.

The Sustainability Management Team includes:

Hirofumi Munetsugu
h.munetsugu@teijin.co.jp

Dr. Markus Schneider
m.schneider@teijincarbon.com

Ichiro Aoki
i.aoki@teijin.co.jp

Dr. Julian Lowe
j.lowe@teijincarbon.com

Frauke Freitag
f.freitag@teijincarbon.com

The team meets regularly and reports quarterly to the Global Management Steering Committee. It oversees strategy implementation, monitors progress and ensures consistency across regions and functions.

Environment

Environment

ESRS E1, E2, E5 and S1

Policy

According to the purpose, "Pioneering solutions together for a healthy planet", Teijin Group works on an environmental policy. Main aspects are: compliance with environmental laws and regulations, reduction of greenhouse gas (GHG), reduction of pollutants and hazardous substances, efficient usage of resources and energy as well as responsible water stewardship.

Basic stance

- Build a company-wide system that can respond flexibly and immediately to the risks arising from uncertainty by reading the changes in an increasingly complex and diversified society.
- Actively engage in dialogue with various rights holders, respond appropriately to social demands and implement opportunities discovery together with our business.

Activity Policies

1. To ensure the safety of all global employees, eliminate accidents and reduce the impact of disasters, we will steadily promote and thoroughly implement measures together with our business.
2. Together with our business units, we investigate the uncertainty surrounding the business, grasp it in a timely manner, extract the risks that occur, prioritize them and build a system that can respond immediately.
3. To promote sound business practices, we clearly define compliance requirements and work with our business units and employees to put them into practice.
4. We visualize the burden on the global environment, plan measures to reduce the burden together with our business and steadily promote them.

Environment

Plan

This policy is transferred into targets for key performance indicators (KPIs) related to the environment.

Metrics			Targets		Progress*2
KPI aimed at capturing business opportunities	Climate change	Avoided CO_2 emissions	FY2030 **Total CO_2 emissions < avoided CO_2 emissions**	CO_2 reductions in downstream supply chain due to use of product	**5 % increase compared with the previous year**
KPIs aimed at strengthening the business platform*1		Group CO_2 emissions	FY2030 **30 % reduction**	Aggregate target	**20 % reduction compared with FY2018**
			FY2050 **Achieve net zero emissions**	Shift to renewable energy use for power sources and clean energy use for heat sources	
		Supply chain CO_2 emissions	FY2030 **15 % reduction**	GHG emissions in Scope 3 Category 1	**9 % reduction compared with FY2018**
	Circular economy	Water	FY2030 **30 % improvement**	Freshwater intake volume per sales unit	**21 % improvement compared with FY2018**
		Waste	FY2030 **20 % improvement**	Landfill waste volume per sales unit	**1 % improvement compared with FY2018**
	Safety and security	Hazardous substances	FY2030 **20 % improvement**	Hazardous chemical substance emissions per sales unit	**40 % improvement compared with FY2018**

*1 All KPIs aimed at strengthening the business platform are target values set with FY2018 as the base year.

*2 For climate change indicators, calculations for both the current and base fiscal years exclude Teijin Automotive Technologies NA Holdings Corp. (TAT-NA), whereas for other indicators, calculations for both years include TAT-NA.

Environment

In addition, the following actions are targeted:

Achievement of an Zero-accident, disaster and pollution plan is targeted with enhanced fundamentals of ESH activities, such as:

1. Improve sensitivity for potential risk in daily operation and promote ESH activity
   - Promote widespread understanding and thorough implementation of “making safety our first priority” and “not leaving unsafe behaviors and unsafe situations unaddressed.
   - ensure the safety for “Walking-Working Surfaces”
   - improve ability by sharing activity information and working together
   - promote and improve chemical safety in the workplace
   - promote equipment management with condition-based maintenance
2. Accident prevention for “Caught by Rotating equipment”, thoroughly implement of procedure, any equipment, any time
3. Activate disaster prevention activities to place importance on man-made fire and natural disasters (e.g. earthquake, Tsunami, Tornado, flood, storm (Typhoon, Hurricane))

Actively work on Environmental Issues

1. Promote countermeasure and manage progress for CO_2 emission reduction
2. Reduce hazardous chemical substance emissions, both in total volume and per unit of production (Acrylonitrile / Waste material / Freshwater usage)
3. Contribution to environmental activity in the community

Work to maintain and improve healthy working conditions

- Promote work on mental health
- Promote suitable measures according to changing work style

These targets are well in accordance with Standard ISO 45001 – Occupational Health and Safety Management System. Several sites of the Carbon Fibers Business Units regularly achieve this certification.

Carbon-disclosure project

These achievements are annually reported in the Carbon-disclosure project (CDP), which is a global non-profit environmental disclosure system for companies, capital markets, cities, states and regions to manage their environmental impacts. In the year 2025, the Teijin Group received an A-scoring in climate change and a B-scoring in water security.

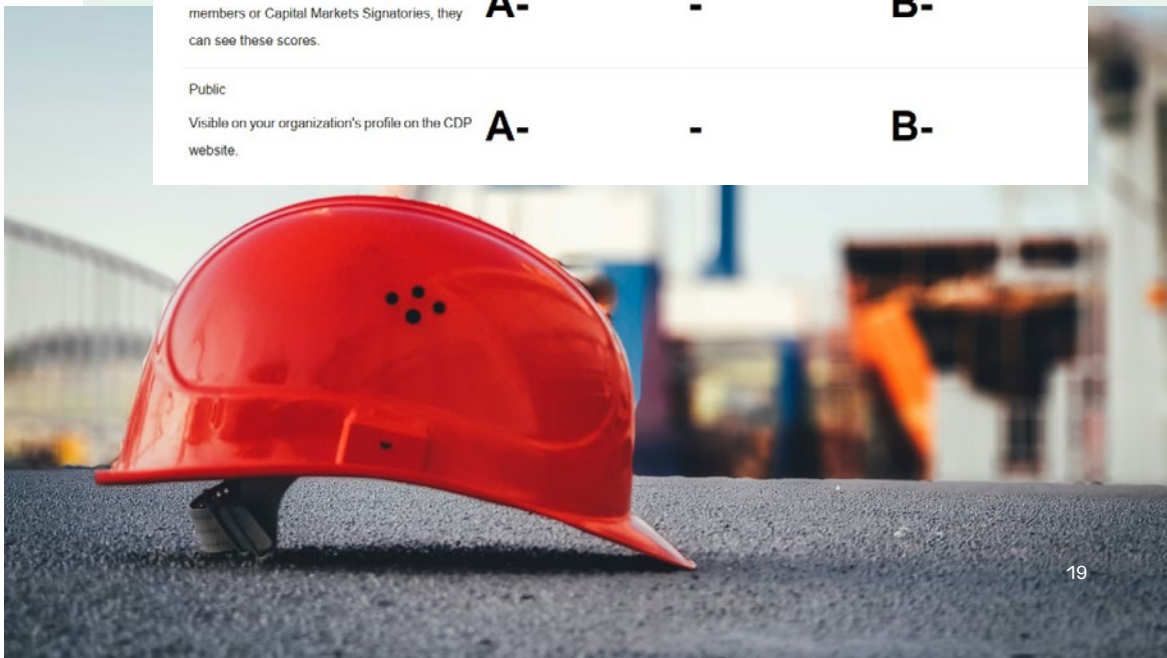
www.teijin.com/csr/evaluation_initiative

Scores

TEIJIN LIMITED
2025

Overall scores

Score visibility	Climate change	Forests	Water security
Private If you were requested by any Supply Chain members or Capital Markets Signatories, they can see these scores.	A-	-	B-
Public Visible on your organization's profile on the CDP website.	A-	-	B-



Environment

Integrated value chain

Teijin Carbon's value chain spans from raw material sourcing to the delivery of application-ready composite solutions. The integration of multiple stages enables quality control, traceability and continuous optimization:

- Raw material and precursor sourcing, including options for certified and sustainable feedstocks
- Carbon fiber production, with a focus on process stability, energy efficiency and product consistency
- Material conversion, including prepregs, thermoplastic systems and reinforcement formats
- Application support, enabling customers to integrate materials into their specific design and manufacturing processes

This integrated approach ensures consistent quality, supports compliance with regulatory requirements and enables the provision of verified sustainability data. It reflects the combination of technologies, materials and services, together with close collaboration with customers to co-develop application-specific solutions.

At the same time, it allows Teijin Carbon to respond to increasing customer demand for transparency, certification credibility and resilient supply chains — particularly in aerospace, space and high-performance industrial applications. This development is embedded in the Teijin Group's broader business portfolio transformation, focusing on strengthening core markets and enhancing long-term profitability.

To schedule upcoming technical developments, a roadmap serves as a guiding framework for both internal and external stakeholders and outlines priorities and implementation steps up to 2030 (see next page).

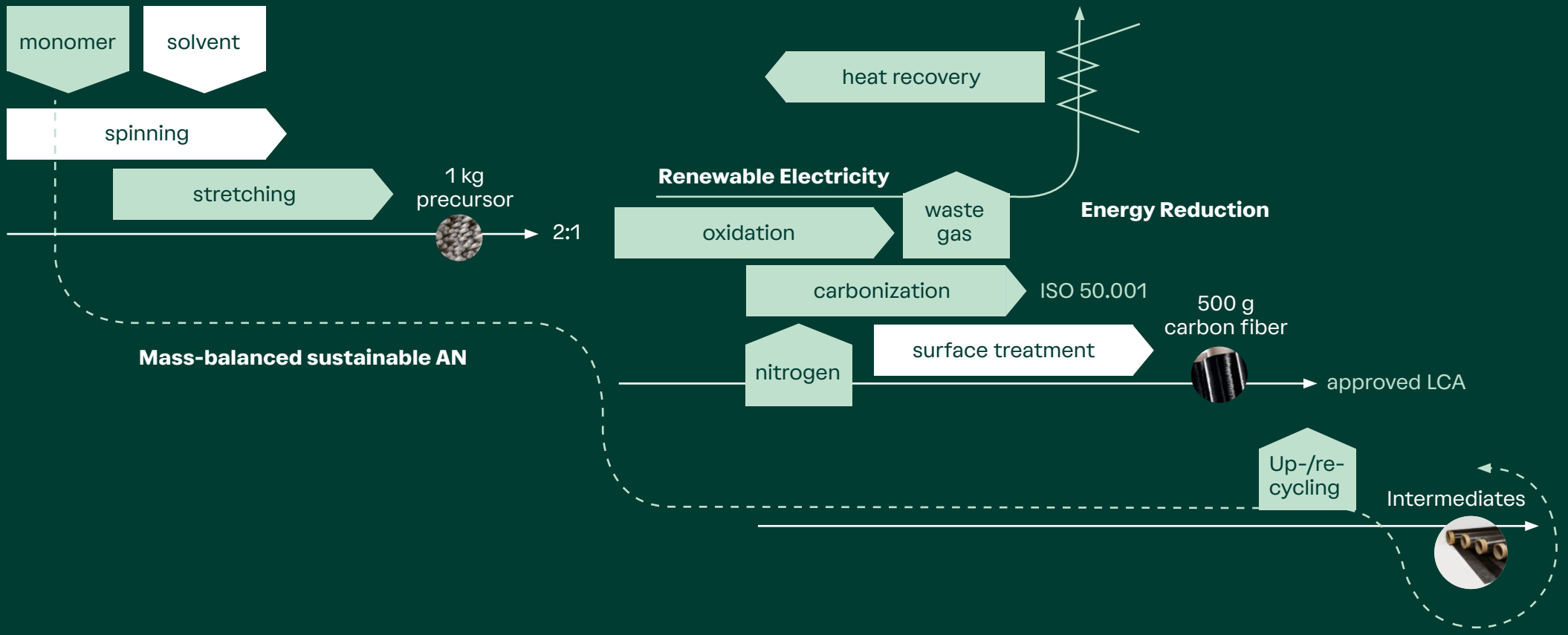
The plan is based on a systematic evaluation of energy demand and greenhouse gas emissions across all stages of carbon fiber production. Key action areas include:

- Use of sustainable polyacrylonitrile (PAN) sourced from renewable, non-fossil raw materials as monomer
- Use of renewable electricity for carbon fiber production
- Energy efficiency improvements across precursor and fiber manufacturing processes (e.g. improved waste gas treatment)
- Development of recycling solutions to complement the existing product portfolio
- Screening and selection of sustainable suppliers (e.g. polymers, resins, logistics)

These measures ensure that sustainability is not only managed internally, but also creates measurable value for our customers and partners.

Environment

Roadmap until 2030: 30 % reduction in CO_2-emissions



Environment

Circular economy

ESRS E5

The production of carbon fibers and downstream products is based on a fully integrated supply chain within the CFBU. This complete production of virgin products over serval steps provides the chance for improved material circularity.

Traceability

Virgin materials are produced with full traceability as given e.g. by the DIN EN 9100 (Quality Management Systems - Requirements for Aviation, Space and Defence Organizations). Accordingly, all by-products and other waste streams are fully known and traced in the internal quality management system. Based on this information a certification of all material streams according to ISCC-PLUS or Global Recycled Standard (GRS) is possible.

Purity of feedstock

The standard production of CFBU products follows highest quality standards. As a result, side materials also remain within known production parameters and are never mixed with foreign objects or other contaminants.

Consistency

The side materials are collected separately for all production lots and virgin material types. This systematic separation provides mono-fraction raw materials for upcycling or recycling. As for instance, 5 µm filaments from Tenax IMS65 E23 24K 830tex are never mixed with 7 µm filaments from Tenax HTA40 E13 3K 200tex.

Supply chain

Since these side materials are already in the company, the logistical requirements are reduced and, moreover, the supply of sufficient feedstock is guaranteed.

Quality

These materials follow identical procedures in all quality aspects as virgin materials, thus ensuring a high-quality standard and long term liability of the supplier.

Environment

Energy management

ESRS E1

The production of precursor and carbon fibers – mainly the sustainable treatment of the waste gases – are energy intensive. TCE is certified according to DIN EN ISO 50001 (energy management standard) since the year 2012 and regularly re-audited. This standard asks for annual energy reduction actions and decreased greenhouse gas emissions which are quantified and checked regularly. Moreover, emission targets for Scope 1, 2, and 3 are defined for the entire CFBU for each fiscal year. During the year, so-called non-financial KPIs are reported quarterly and reviewed against the initial targets (see appendix).

The highlights of energy reduction at TCE in 2025 are:

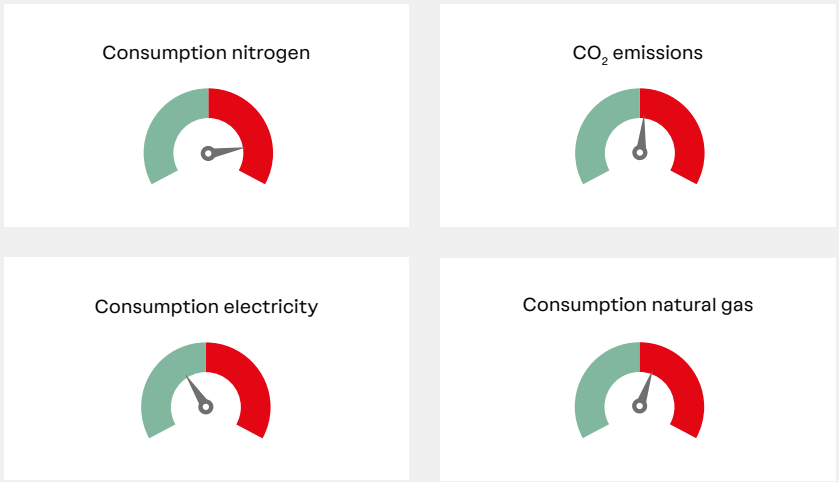
Online energy dashboard
Displays the main energy performance indicators (EnPI) to show the progress of energy reduction and reduced greenhouse gas emission – especially to internal stakeholders.

New efficient nitrogen plant at TCE
Nitrogen is essential for the carbonization furnaces of the carbon fiber production. Due to the enormous size of theses furnaces of four production lines in Oberbruch, a massive amount of nitrogen is constantly needed. Besides, the high-quality consistency of Tenax carbon fibers is only achieved with an extreme pure nitrogen. The new nitrogen line provides all these characteristics with a severely reduced demand of energy.

Optimized process parameters
The production of carbon fibers has to follow given process data sheets for each product to ensure consistent quality as agreed with the end-user. However, the start-up and shut-down of big mass production is mainly defined by health, safety and environmental aspects. While keeping these conditions, the start-up and shut-down procedures are severely improved in regard of reduced CO_2-emissions.

Usage of renewable electricity at TCE
Certificates of renewable electricity are purchased from Baltic countries or Italy equal to 50 % of the electricity to be used at TCE, reducing the corresponding emissions.

Online energy dashboard



The new nitrogen plant at TCE

Environment

Pollution

ESRS E2

The production of carbon fibers is based on two steps: firstly, the polymerisation of acrylonitrile (AN) and secondly, the carbonization of poly-acrylonitrile (PAN)-precursor to carbon fibers. Due to the high amount of carbon atoms in the carbon fibers (more than 95 %), all other chemical elements of PAN are extracted. Around 47 % of the raw materials are transferred into waste gas which consists mainly of HCN, NH_3, CO, CO_2, H_2O and NOX.

These waste gases are either cleaned in a regenerative thermal oxidation (RTO) or a thermal oxidizer. The RTO is constructed out of ceramic elements which keep the temperature from waste gas and thus a minimum of additional energy is needed. The thermal oxidizer is driven by natural gas and cleans all toxic parts in the waste gas. The waste heat of the TNV is used to run other parts of the carbon fiber production process and even external buildings.

The combination of RTO and TNV enables a minimal energy demand and meets the legislative requirements which are given by the governments (e.g. Technical Guideline for Air Quality Control in Germany). Several sensors are placed in the chimney and other points of emissions to control and ensure the given maximal limits (e.g. Federal Emission Control Act in Germany).

The usage of water is also optimized between compliance of the local legislation and health, safety and environmental aspects as well as minimal usage of resources. The water for cooling purposes is reused as washing water in other parts of the production. Finally, this water is cleaned in the nearby chemical-biological wastewater treatment plant. All given legislative requirements (e.g. amount and chemical composition) are ensured at all times. Finally, the handling of byproducts and waste are important part of the environmental concept. The production of carbon fiber is based on individual lots and thus start-up and shut-down materials are inevitable. Besides, off-specification materials and broken filaments cannot be totally avoided. Nevertheless, most of these fibrous materials are either upcycled to other products (e.g. short fibers) or sold to partner companies with other use cases. The actual waste is currently reduced to packaging materials, used thermal oil, processing oil after shelf-life and isolation materials as well as commercial waste similar to household waste.

All main production sites of the CFBU are regularly certified according to the Standard ISO 14001 (Environmental Management System). This standard provides an externally approved framework to encompass various aspects, from resource usage and waste management to monitoring environmental performance and involving stakeholders in environmental commitments.

Environment

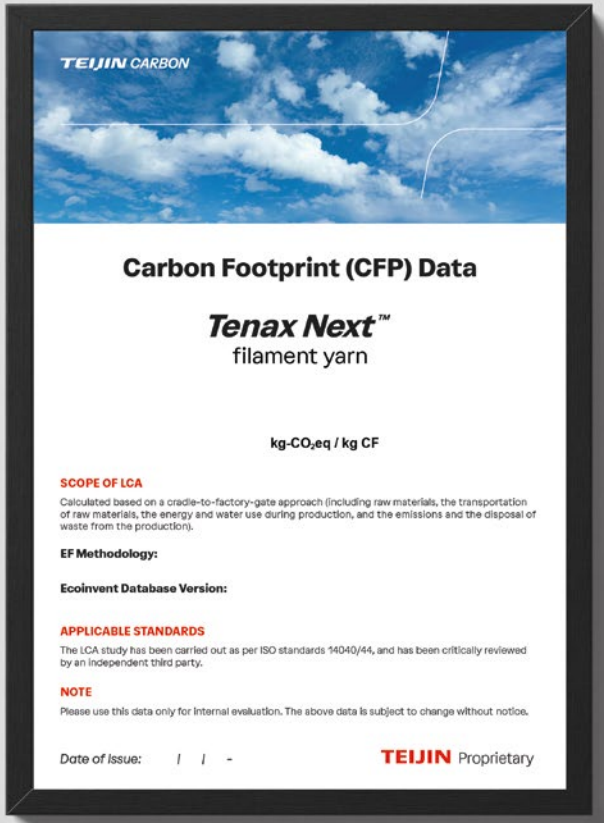
Life cycle assessments of products

ESRS E5

To quantify the impact of these measures, the CFBU conducts life cycle assessments (LCA) for various carbon fibers and downstream formats (acc. to DIN EN ISO 14040 and DIN EN ISO 14044). These LCA analyse all environmental aspects along the product life cycle — from raw materials and production to use and end-of-life — and allow us to calculate the environmental benefits of targeted sustainability measures at product level. These data-driven insights provide the foundation for measurable and transparent sustainability performance, supporting both internal decision-making and customer reporting requirements.

All previously analysed data of the energy management and the assessed pollution are qualified input for the product specific LCA. Since the amount of material in the carbon production process changes significantly between the different carbon fiber types from 3K (200 tex equal to 200 g/1000 m) to 48K (3200 tex equal to 3200 g/1000 m), these LCA-calculations have to be done for every product.

Currently, LCA-calculations are available for 52 % of all carbon fiber products in the portfolio. They are cross-checked and approved by an external auditor (quantis.com). The product specific carbon footprints are exchanged with external stakeholders under non-disclosure agreements.



Social responsibility

Social responsibility

ESRS S1

Policy

As part of the Teijin Group, the Carbon Fibers Business Unit is committed to a fundamental principle of respect for human rights.

Human Rights Policy
www.teijin.com/csr/social/human_rights.html

We work to create an environment in which our diverse workforce are the driving force behind the realization of our business strategy. We are committed to respecting the dignity and rights of every human being not only where we have direct influence, but also where we have indirect influence on external partners.

Our basic principles, how we ensure and monitor them, and what measures we take are described in the Teijin Group Human Rights Policy. Building on this, our Code of Conduct sets forth the rules of conduct for every employee.

As part of the Teijin Group, we are committed to work in accordance with the United Nations (UN) Guiding Principles on Business and Human Rights (hereafter 'UNGPs') adopted in 2011 and the standards of the International Labour Organization (ILO). These principles include supporting and respecting the 'effective abolition of child labor', the 'elimination of all forms of forced or compulsory labor', the 'elimination of discrimination in respect of employment and occupation', the 'freedom of association and the effective recognition of the right to collective bargaining in respect of employment and occupation' and the 'creation of a safe and healthy working environment' as core labor standards of the International Labour Organization.

Plan

In accordance with these international standards as well as European and German legislation and local agreements with the co-determination bodies, rules are in place at TCE to ensure occupational health and safety. We apply the chemical industry's industry-wide collective agreement, which, based on collective bargaining, guarantees fair wages well above the minimum wage level. Targets are annually updated in ESH program, such as measures to avoid any harm or risks to anybody inside and outside of Teijin Carbon. Identifiable risks are continuously quantified and reduced in accordance with the Standard ISO 45001 (Occupational Health and Safety Management System). The high standards of Germany's jointly funded social security system ensure that our workforce is protected in the event of illness, the need for long-term care, unemployment and old age. We supplement this coverage with company-funded plans for additional long-term care insurance and company pension.

We are committed to enable family-friendly work arrangements. All employees who are not directly involved in production work under flexible work arrangements. Hybrid work models provide even greater flexibility for the majority of these employees.

In 2025, 90 % of our employees participated in training sessions on "Combating Harassment" as part of our annual "Ethics Months." Contact persons are available to address cases of discrimination and harassment, answer questions about inclusion and handle violations of compliance regulations. Processes are defined to ensure that we fulfill our responsibilities.

In addition to the legally required training and medical check-ups, we promote the health and safety of our employees by offering company sports programs and vaccinations. This is also in line with our global Health Management Policy.

With our spare cents campaign, in which employees donate the remainder of their salary, we support alternating social projects in our local neighbourhood every year.

Governance (business practice)

Governance (business practice)

Policy

As a member of the Teijin Group, Teijin Carbon operates within a governance framework that is fully aligned with the Group's corporate purpose: **"Pioneering solutions together for a healthy planet."** This purpose provides strategic guidance across the organization and serves as the foundation for business decisions, portfolio development and daily operations. It reflects Teijin's commitment to generating sustainable long-term value by addressing global and societal challenges through innovative materials, technologies and services.

Teijin Limited has established a governance structure that promotes transparency, accountability and effective oversight while maintaining the flexibility required for timely and efficient decision-making. In June 2025, the Group adopted a governance model as a Company with an Audit & Supervisory Committee, further enhancing the Board's supervisory capabilities and improving the efficiency and quality of management decisions. While operational authority has increasingly been delegated to executive management, the Board of Directors remains responsible for defining strategic priorities, overseeing risk management and safeguarding long-term corporate value.

The governance framework is closely connected to the Group's ongoing transformation of its business portfolio and operating model. Teijin is progressively implementing a Customer-Centric Business Model, focusing on delivering customer value through the integrated use of technologies, materials and services. This approach is based on close collaboration with customers and is supported by strengthened management functions, including dedicated leadership for technology, sustainability and digital transformation. Teijin's governance practices are guided by a set of core values, including integrity, respect for human rights, diversity, ethical conduct and full compliance with applicable laws and regulations. These principles are embedded throughout the organization through corporate policies, codes of conduct and regular training programs, ensuring consistent standards across all business units and regions.

The Group also places strong emphasis on stakeholder engagement. Continuous dialogue with customers, employees, suppliers, investors and other relevant stakeholders provides valuable insights that are systematically incorporated into governance processes, strategic decision-making and business planning. This supports continuous improvement, resilience and sustainable growth.

Governance (business practice)

Furthermore, Teijin ensures compliance with both national and international regulatory requirements through structured legislative monitoring and legal compliance processes. This procedure includes, among others:

- EU Deforestation Regulation (EUDR)
- EU Directive on Empowering Consumers for the Green Transition (EmpCo)
- EU Packaging and Packaging Waste Regulation (PPWR)
- REACH Regulation
- Requirements relevant to EcoVadis assessments and other sustainability-related compliance obligations

Overall, Teijin's governance framework creates a robust foundation for balancing business performance, sustainability goals and stakeholder expectations. It supports the responsible, transparent and effective management of the Group's transformation and long-term growth strategy.

REACH Compliance and chemical substance management

Teijin Carbon continuously monitors developments related to the European **REACH Regulation (EC) No. 1907/2006** and other relevant chemical regulatory requirements. As part of the global Teijin Group, the management of chemical substances is primarily coordinated at the international level. Within this framework, European regulatory requirements are regularly evaluated, relevant substance information is exchanged throughout the supply chain and opportunities for further alignment with regulatory expectations are continuously assessed.

Teijin Carbon aims to continuously improve transparency regarding the substances used in its products and processes, identify regulatory risks at an early stage and support customer requirements in the European market to the greatest extent possible. As part of its Environmental, Health and Safety (EHS) management system, raw materials, auxiliary materials and chemical substances are evaluated with regard to applicable regulatory requirements. The Carbon Fibers Business Unit follows a risk-based approach to minimize potential environmental and safety risks and to promote the responsible management of chemical substances throughout the value chain.

In addition, Teijin Carbon works closely with suppliers, customers and internal experts to provide relevant substance information and further enhance transparency within the supply chain. Sustainability and compliance criteria form an integral part of supplier management processes and support the ongoing assessment of regulatory obligations. Through this approach, Teijin Carbon strengthens product safety, supports compliance with customer requirements and continuously develops its processes to meet the increasing regulatory expectations of international markets.

Governance (business practice)

Plan

Teijin Carbon applies a structured risk management process to identify, assess, monitor and mitigate risks that may affect business continuity, compliance, operational performance and sustainability objectives.

The process is managed through the integrated management system **ConSense**, which serves as the central platform for documenting, evaluating and tracking risks and related mitigation measures. Risk management follows a defined annual cycle in which risks are systematically reviewed, reassessed and updated by the responsible process owners and management functions.

Risks are evaluated based on their likelihood of occurrence and potential impact, taking into account existing controls and mitigation measures. The assessment covers strategic, operational, environmental, regulatory, supply chain, product quality, occupational health and safety, information security and sustainability-related risks.

The results are regularly reviewed by management through audits or sustainability assessments such as EcoVadis and incorporated into business planning, compliance activities and continuous improvement initiatives. This structured approach enables Teijin Carbon to respond proactively to emerging risks, strengthen resilience and support sustainable long-term business performance.

Corporate culture

ESRS S1

Integrity, responsibility and respect form the foundation of Teijin Carbon's corporate culture. Employees are expected to act in accordance with the Teijin Group Code of Conduct (www.teijin.com/about/conduct_code) as well as TCE Code of Conduct and to uphold the highest standards of ethical business behavior in all business activities.

The company promotes an open and transparent working environment in which employees are encouraged to raise questions, seek guidance and report concerns without fear of retaliation. Compliance topics are regularly communicated through training, awareness campaigns, leadership engagement and Ethics Awareness Month activities.

Our culture is guided by:

- Ethical business conduct
- Respect for human rights
- Diversity and inclusion
- Accountability and transparency
- Continuous improvement
- Sustainable decision-making

Management actively promotes these values and serves as a role model through the "Tone from the Top" approach, reinforcing a culture where compliance and sustainability are considered essential elements of business success.

Governance (business practice)

Corruption and bribery

ESRS S1

Integrity and ethical business conduct are fundamental principles of Teijin Carbon's corporate culture. The prevention of corruption and bribery is primarily governed by the Teijin Group Code of Conduct as well as TCE Brand Code of Conduct, which establishes mandatory standards of behavior for all employees and management worldwide. The Code of Conduct requires compliance with all applicable laws and regulations and clearly prohibits bribery, corruption, fraud, conflicts of interest, inappropriate gifts or hospitality, insider trading, money laundering and any other form of unethical business practice.

To ensure consistent implementation across the organization, the requirements of the Code of Conduct are supported by regular compliance training, awareness campaigns and dedicated Ethics Awareness Month activities. Employees are expected to actively uphold these principles in their daily work and contribute to a culture of transparency, accountability and mutual respect. Management reinforces these expectations through a strong "Tone from the Top" approach and by leading by example.

Compliance with the Code of Conduct is monitored through internal audits, management reviews and established reporting channels, including whistleblower mechanisms that enable employees to raise concerns without fear of retaliation. Business partners and suppliers are expected to adhere to equivalent ethical standards, supporting the Teijin Group's commitment to responsible and sustainable business practices throughout the value chain. Through this comprehensive framework, Teijin Carbon seeks to prevent corruption risks, strengthen stakeholder trust and safeguard the long-term integrity of its business activities.

Teijin commits to:

- Respecting fair trade
- Ensuring accurate and transparent reporting and documentation
- Providing timely and fair disclosure
- Protecting intellectual property, personal data and confidential information
- Supporting whistle-blowing mechanisms
- Complying with security export controls

Teijin strictly prohibits:

- Anticompetitive behavior (e.g. cartels)
- Corruption and bribery
- Insider trading and market manipulation
- Money laundering and the financing of terrorism
- Any dealings with antisocial forces

Governance (business practice)

Management of relationships with suppliers

ESRS S1

The Supply Chain Management significantly supports the corporate sustainable strategy. Especially the responsible usage of resources, selection of responsible suppliers and full transparency of the total supply chain as well as risk reduction are key objectives of the procurement policy.

To realise these ambitions, all relevant social and environmental clauses are part of the updated supplier contracts. In addition, main suppliers are regularly visited on-site to audit the quality, environmental as well as social aspects. These results are reported and presented in the yearly Management Review.

Members of the purchase department are regularly trained on sustainable requirements. They update all relevant processes and procurement policies (e.g. General Terms and Conditions, specifications, supplier contracts).

Another key focus is the digitalization of material flow to minimise excess stock and waste. By optimizing transport routes and usage of efficient logistics solutions, the CFBU actively reduce CO_2 emissions (Scope 3).

At the same time, we promote the consolidation of shipments and the use of sustainable packaging concepts (see also European Packaging and Packaging Waste Regulation 2025/40 - PPWR).

All efforts within the supply chain are screened and scored via the global EcoVadis-standard for measuring and understanding sustainability performance across the entire supply chain.

Support of customers

Carbon fibers are classified as “articles” according to regulation (EC) No 1907/2006 [REACH] Article 3(3). This means that safety data sheets are not required for this product, as requested by REACH Article 31. Nevertheless, a so-called “Product Information on Safe Handling” is created in line with REACH Annex II/Regulation (EU) 2020/878 to explain how to use the product safely and carefully.

Main information are given such as:

- identification of the article and of the company,
- hazard identifications,
- composition (information of ingredients),
- first aid measures,
- firefighting measures,
- accidental release measures,
- handling and storage,
- exposure controls/personal protection,
- physical and chemical properties,
- stability and reactivity,
- toxicological information,
- ecological information,
- disposal considerations,
- transport information,
- regulatory information

This information is worked out specifically for each product and is sent to the customer with every shipment.

Governance (business practice)

Networks

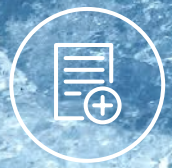
Collaboration across industries is essential to scale sustainable solutions and accelerate the transition to a low-impact economy. Sustainable innovation does not happen in isolation. It is the result of joint efforts across company borders, disciplines and regions. That is why active collaboration with other stakeholders is key to turning our vision of a sustainable future into reality. Whether in technology-driven industry associations, regional clusters, research initiatives or policy-oriented platforms: We actively engage to shape knowledge, learn from others and further develop our solutions through open exchange. This reflects our guiding principle: “Pioneering solutions together for a healthy planet”.

Our key network activities include:

Industry and material associations

- Japan Carbon Fiber Manufacturers Association
- Composite United e. V.
- Carbon Concrete Composites e. V.
- EuCIA – The European Composites Industry Association
- Carbon Fiber Europe (sectorial alliance of EuCIA)
- German Aerospace Industries Association (BDLI)
- SAMPE – Society for the Advancement of Material and Process Engineering
- CARBOCON GmbH
- Initiative Energy Efficient – Network of Germany Research, innovation, and future technologies
- Circular Valley®
- National Composites Centre (UK)
- NanoMikroWerkstoffePhotonik.NRW
- Institution of Mechanical Engineers (IMechE)
- German Institute for Standardization (DIN)
- Fraunhofer-Institut für Angewandte Polymerforschung IAP
- Strategic Innovation Promotion Program (SIP) and K-Program of the Japanese government Policy, employers' and business associations
- Employers’ Association of the Chemical Industry
- Industry Association of the Chemical Sector in North Rhine-Westphalia (VCI NRW)
- Chamber of Commerce and Industry (IHK)
- Japanese Chamber of Commerce Düsseldorf
- Japan Business Council in Europe

Through these partnerships, we strengthen our innovation capabilities, unlock new sustainability potential and help shape the framework conditions for climate-friendly high-performance materials – today and in the future.



Attachments

Attachments

Reference documents and external sources

The following documents and external sources provide further context and validation for the data presented in this report. They reflect Teijin Carbon's commitment to transparency, certified management systems and active engagement in global sustainability frameworks and networks.

Certificates

All valid certificates can be found on our website in the Downloads section of teijincarbon.com.

- ISO 45001 (Occupational Health and Safety)
- ISO 50001 (Energy Management)
- ISO 14001 (Environmental Management System)
- ISCC PLUS (Mass Balance & Circular Economy)

Reporting and publications

- EcoVadis-Scoring
- CDP Climate Report
  https://www.teijin.com/csr/materiality
- DEHSt Report (German Emissions Trading Authority)
  https://nehs-register.dehst.de/coreweb/info/reporting/compliance/list.action
- Pollutant Release and Transfer Register (PRTR) of TCE
  https://app.thru.de/details/653545/karte
- Annual report to the competent authority pursuant to Section 31 of the Federal Immission Control Act (BImSchG) containing a summary of the results of emissions monitoring
- Submission of the emissions declaration in accordance with Section 11 of the Federal Immission Control Ordinance (BImSchV) every four years via the federal government's online portal
  https://industry.eea.europa.eu/industrial-emissions/industrial-site?siteInspireId=https://registry.gdi-de.org/id/de.nw.inspire.pf.bube-eureg/arb-2021-370016-300-0376178SITE&siteName=Teijin%20Carbon%20Europe%20GmbH&siteReportingYear=2024&activeTab=environmental-information&lat=6632392&lng=682859)
- Annual Report in accordance with Section 5.3.3.5 of TA-Luft (Technical Guidelines for Air Quality Control) on the Analysis and Evaluation of Measurement Results from Continuous Emissions Monitoring System for Hydrogen Cyanide (HCN)

Selected press releases related to sustainability

- Teijin Carbon unveils Tenax Next™: A sustainable revolution in carbon fibers
  https://www.teijincarbon.com/blog/blog-detail/teijin-carbon-unveils-tenax-nexttm-a-sustainable-revolution-in-carbon-fibers/
- Teijin Carbon takes next step towards the future of sustainable materials with launch of Tenax Next™ HTS45 E23 24K at JEC World 2025
  https://www.teijincarbon.com/blog/blog-detail/teijin-carbon-takes-next-step-towards-the-future-of-sustainable-materials-with-launch-of-tenax-nexttm-hts45-e23-24k-at-jec-world-2025/
- Pioneering Sustainability: Teijin Carbon showcases new eco-friendly Tenax Next™ R2S P513 6mm short carbon fiber at JEC World 2025
  https://www.teijincarbon.com/blog/blog-detail/teijin-carbon-takes-next-step-towards-the-future-of-sustainable-materials-with-launch-of-tenax-nexttm-hts45-e23-24k-at-jec-world-2025/
- Teijin announces availability of DPP-compliant products aligned with Europe's ESPR Environmental Regulation
  https://www.teijin.com/news/2025/04/10/20250410_01.pdf
- Pioneering Sustainability: Teijin Carbon published its first sustainability report
  https://www.teijincarbon.com/blog/blog-detail/pioneering-sustainability-teijin-carbon-published-its-first-sustainability-report/
- Teijin Carbon Europe receives EcoVadis Silver – an important step on our sustainability journey
  https://www.teijincarbon.com/blog/blog-detail/teijin-carbon-europe-receives-ecovadis-silver-an-important-step-on-our-sustainability-journey/

Attachments

Sustainability indices and networks

ESRS S1

The Teijin Group is actively engaged in various internationally recognized sustainability indices, rating frameworks and networks:

- **Dow Jones Sustainability Indices (DJSI)**
  Included in global and regional indices based on ESG performance
- **FTSE4Good & FTSE Blossom Japan Index**
  Member of both indices for responsible investment
- **MSCI ESG Ratings**
  Rated AAA; included in MSCI ESG Leaders and Japan Empowering Women Index (WIN)
- **S&P/JPX Carbon Efficient Index**
  Listed based on carbon disclosure and performance
- **UN Global Compact**
  Participant since 2011, annual submission of Communication on Progress (CoP)
- **Science Based Targets initiative (SBTi)**
  Climate targets validated as aligned with the Paris Agreement
- **Task Force on Climate-related Financial Disclosures (TCFD)**
  Reporting aligned with TCFD recommendations
- **Japan Climate Initiative (JCI)**
  Supporter of climate neutrality and renewable energy transition
- **GX League (Japan's Green Transformation platform)**
  Corporate member promoting green growth
- **UNICEF's Children's Rights in Sport Principles**
  Official supporter since 2019. For further details, see:
  www.teijin.com/csr/evaluation_initiative

Attachments

Abbreviations

AN	acrylonitrile
APAC	Asia – Pacific
CDP	Carbon Disclosure Project
CF	Carbon fiber
CFBU	Carbon Fibers Business Unit of Teijin Group
CFP	Carbon footprint
DMA	Double Materiality Assessment
DPP	Digital Product Passport
EF	Environmental footprint
EMEA	Europe, the Middle East and Africa
ESH	Environment, Safety and Health
ILO	International Labour Organization
ISCC	International Sustainability and Carbon Certification
ISO	International Organization for Standardization
JPY	Japanese Yen
KPI	Key Performance Indicator
LCA	Life Cycle Assessment
LTI	Lost Time Injury
OPF	Oxidized Polyacrylonitrile Fiber (Pyromex™)
PAN	polyacrylonitrile
QR-code	Quick Response-code
RMC	Renegade Materials Corporation
SBTi	Science Based Targets initiative
TCA	Teijin Carbon America
TCA - GWD	Teijin Carbon America, Greenwood
TCA - RWD	Teijin Carbon America, Rockwood
TCE	Teijin Carbon Europe
TCJ	Teijin Carbon Japan
TCV	Teijin Carbon Vietnam
TRM	Total Risk Management

The European Sustainability Reporting Standards (ESRS) provide a set of standard chapters which have to be answered according to an analysis of the materiality for each company:

ESRS 1	General requirements
ESRS 1	General disclosures

Environment

ESRS E1	Climate change
ESRS E2	Pollution
ESRS E3	Water and marine resources
ESRS E4	Biodiversity and ecosystems
ESRS E5	Resource use and circular economy

Social

ESRS S1	Own workforce
ESRS S2	Workers in the value chain
ESRS S3	Affected communities
ESRS S4	Consumers and endusers

Governance

ESRS G1	Business conduct

TEIJIN CARBON