
Teijin Group and SDGs



Handbook

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What Are the SDGs?

The SDGs, short for Sustainable Development Goals, are described in the 2030 Agenda for Sustainable Development adopted at the United Nations summit in September 2015. They are global goals to be achieved by 2030.

The SDGs cover a wide range of social issues and needs from a long-term perspective. As guidelines for resolving social issues with a view to opening up the prospect of a brighter future for the entire world, 17 Sustainable Development Goals (SDGs) were announced. The SDGs include “End poverty in all its forms everywhere,” “Ensure sustainable consumption and production patterns,” and “Take urgent action to combat cli-

mate change and its impacts.”

The 17 SDGs reflect not only the views of the United Nations and national governments but also the results of an online survey covering over 10 million people, and “no one left behind” is a key policy informing the SDGs. Moreover, the SDG stakeholders are all-encompassing, including not only humankind but also the global environment. Therefore, the SDGs cannot be achieved solely by conventional aid provided by developed countries to developing countries. The entire world, developed and developing countries alike, is urged to commit to achieving the SDGs.

SUSTAINABLE DEVELOPMENT GOALS



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|--------|--|---------|---|
| Goal 1 | No Poverty | Goal 10 | Reducing Inequality |
| Goal 2 | Zero Hunger | Goal 11 | Sustainable Cities and Communities |
| Goal 3 | Good Health and Well-being | Goal 12 | Responsible Consumption and Production |
| Goal 4 | Quality Education | Goal 13 | Climate Action |
| Goal 5 | Gender Equality | Goal 14 | Life Below Water |
| Goal 6 | Clean Water and Sanitation | Goal 15 | Life On Land |
| Goal 7 | Affordable and Clean Energy | Goal 16 | Peace, Justice, and Strong Institutions |
| Goal 8 | Decent Work and Economic Growth | Goal 17 | Partnerships for the Goals |
| Goal 9 | Industry, Innovation, and Infrastructure | | |

Historical background of the SDGs

As the 20th century drew to a close, the unintended consequences of the pursuit of economic growth, such as climate change and widening economic disparities, came into sharper focus. The global population is expected to exceed nine billion in 2050. In view of the Earth’s resource constraints, accomplishment of the SDGs is a precondition for the growing number of human beings to enjoy co-prosperity.

1987 Brundtland Report

Report published by the World Commission on Environment and Development (WCED) established by the UN advocating “sustainable development.”

1992 Earth Summit

A highly influential conference on environmental issues and sustainable development held in Brazil with the participation of 172 UN member states.

2000 Millennium Development Goals (MDGs) adopted

These initiatives with a 2015 deadline superseded by the SDGs emphasized eradication of poverty and seven other goals to be achieved through developed countries’ support of developing countries.

2006 Principles for Responsible Investment (PRI)

A financial initiative launched by the UN Secretary-General advocating the incorporation of environmental, social and governance (ESG) factors into institutional investors’ decision-making.

September 2015 SDGs adopted

The SDGs—17 SDGs and 169 associated targets—were adopted as common goals to be tackled by international society.

December 2015 Paris Agreement

Agreement reached by the 21st Session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP21) on climate change mitigation measures from 2020 onward.

What Is Sustainable Development?

Advocated in a report titled “Our Common Future” published by the Brundtland Commission, this concept is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Why Do Companies Address SDGs?

The Millennium Development Goals (MDGs), superseded by the SDGs, achieved success in certain areas, such as poverty reduction, as the MDGs focused on support of poor countries by international institutions and developed countries. However, the problems of developed countries and issues, such as threats to peace, remained. Reflecting on this mixed outcome, the SDGs recognize that not only all the countries but also companies have key roles to play in resolving the issues on which achievement of the SDGs is predicated. This is a crucially important characteristic of the SDGs. In recent years, many companies have incorporated the SDGs in their management strategies and view the SDGs as business opportunities.

These moves have occurred in the context of diffusion of ESG investing*. By incorporating the SDGs in their business activities, companies can create shared value with society and their corporate value will also be enhanced. Such development is desirable for companies, investors, and society.



Three Benefits of Addressing the SDGs

Contributing to achievement of the SDGs through business is a social contribution quite different from the conventional donation-based contribution pursued in relation to CSR. By implementing the SDGs, which are sometimes referred to as a "treasure trove" of opportunities, companies will enjoy the following benefits.

Benefit 1 Innovation will be spurred.

Considering new business from the perspective of social issues will enhance motivation to pursue technological innovation and new businesses.

Benefit 2 Communication is universal.

The SDG logos are universal, making it possible for companies to simply and powerfully communicate their initiatives to customers and other stakeholders whatever their language.

Benefit 3 Partnerships will take root.

The SDGs urge engagement in partnerships to enable swift responses to diversifying social issues.

*What Is ESG Investing?

Investing in companies with an emphasis on environmental, social, and governance factors. The UN advocated the Principles of Responsible Investment (PRI) in 2006, and the number of signatories to the PRI is increasing around the world.

SDGs in Numbers

[Target year]	[Market opportunity]	[Employment to be created]	[Funding demand (mainly private-sector funding)]
2030	Approx. USD 12 trillion	380 million people	Approx. USD 5~7 trillion

Steps to Implement the SDGs



The figure presents the five steps of SDG implementation explained in the SDG Compass. For any company implementing the SDGs, it is crucially important to ensure that all its employees understand the SDGs. The first step is to familiarize yourself with the SDGs, take ownership and make SDGs relevant to you, and commit to your task.

Teijin Group's Implementation Status

- Step ② Identifying materiality [See the next page.](#)
- Step ③ Setting medium- to long-term targets [Announced in the Medium-Term Management Plan 2020-2022](#)
- Step ④ Formulating and implementing the medium- to long-term management plan toward sustainable growth
- Step ⑤ Disclosure [Integrated Report, Website: https://www.teijin.com/csr/](https://www.teijin.com/csr/)

Efforts toward developing a sustainable world

Based on the following action policies, the Teijin Group contributes to the development of a sustainable world by providing value to solve social issues through three solutions: (1) environmental value solutions; (2) safety, security and disaster mitigation solutions; and (3) demographic change and increased health consciousness solutions.

SDGs approach policy

To realize a sustainable world, our focus will be on people, to provide innovative solutions to enhance the quality of life, while minimizing the impacts of our activities on the environment and society.

For the earth
Environmental value solutions
 Provide products and services that contribute to global environmental goals such as prevention of climate change and achievement of a circular economy.

For society
Safety, security and disaster mitigation solutions
 Provide products and services that protect lives and livelihoods from various risks such as disasters and accidents.

For people
Demographic change and increased health consciousness solutions
 Provide products and services that support healthy and comfortable living for people of all ages.

SUSTAINABLE DEVELOPMENT GOALS



Materiality of the Teijin Group

Materiality is social issues that we prioritize in our actions to realize our long-term vision of being a company that supports the society of the future. In the Medium-Term Management Plan 2020-2022, based on global social issues and the goals set forth in the SDGs, we have organized risks and opportunities that our company faces and identified five material issues to be addressed as management issues from fiscal 2020 onward.

- Climate Change mitigation and adaptation
- Achievement of a circular economy
- Safety and security of people and local communities
- Realization of healthy and comfortable living for people
- Further strengthening of sustainable management basis

Lightness Will Drive the Eco-friendly Cars of the Future

Stronger Lighter Vehicles Thanks to Composites

Social issues

Ongoing global warming
Depletion of fossil fuels



Teijin's solutions

Development of new materials for
next-generation eco-friendly cars
Reduction of CO₂ emissions

Environmental protection, including mitigation of global warming and curtailment of consumption of fossil fuels, is a pressing global issue. The automotive industry, long synonymous with the development of gasoline-fueled vehicles, is urged to develop vehicles with reduced CO₂ emissions and higher fuel efficiency. Weight reduction of the vehicle body will play a key role in this regard. To achieve excellent environmental performance without compromising vehicle safety, development of new materials is indispensable. Teijin intends to overcome obstacles facing next-generation eco-friendly cars by offering composite materials in which various fibers and resins are combined.

By combining reinforced fibers, such as carbon fiber and glass fiber, with thermoplastic

resins, such as nylon and polycarbonate resin, or with thermosetting resins, such as vinyl ester and epoxy resin, properties suitable for diverse applications can be achieved. Furthermore, utilizing the design technology for maximizing the strength of composites, Teijin intends to address cost issues.

In terms of environmental friendliness, the use of composite materials made of thermoplastic resins improves productivity, thereby contributing to the reduction of CO₂ emissions during manufacturing. The shapes of these composite materials are easy to modify after molding, allowing reuse and reform, leading to reduction in environmental impacts throughout the product lifecycle, including after use.



Application for GM's new vehicles

In May 2019, General Motors (GM) selected Teijin's Sereebo carbon fiber reinforced thermoplastic (CFRTP) for use in selected pickup truck applications. This is the world's first use of CFRTP for structural parts in a high-volume production vehicle.

Lighter vehicle with greatly improved fuel efficiency

In 2011 Teijin manufactured a concept car seating four. Weighing only 47kg, the body frame is so light that two adults can lift it.



Local and Visible, New Recycling Format

Material Recycling Based on Local Production for Local Consumption

Social issues

Plastic waste
Inefficiency in society



Teijin's solutions

Contribution to achievement of a circular economy

As marine plastic waste has become a serious problem, various organizations have started recycling plastics. However, PET bottles and other recyclable resources discharged by non-households, such as stadiums, theme parks, event venues, and offices, are not fully utilized yet. Focusing on simple visible ways of utilizing these resources by leveraging its cultivated recycling technology and product development capabilities as a textile manufacturer, Teijin conceived of a material recycling scheme based on local production for local consumption. Waste discharged will be recycled as products for use where the waste was discharged.

Large amounts of recyclable resources are discharged wherever crowds gather, such as

at stadiums, theme parks, shopping malls, and other large-scale facilities, as well as at popular events of every kind. Teijin proposes recycling PET bottles and other recyclable resources into products for use at such facilities and events.

For example, Teijin applied its concept at the Hanshin Koshien Stadium. Polyester cups for beer sold at the stadium and other used plastic cups discharged are recovered and recycled into merchandise such as goods used by fans to cheer on their team. This initiative has been well received as it can be used to raise the environmental awareness of youngsters visiting the stadium. Teijin will continue efforts to contribute to the global environment from its distinctive perspective as a textile manufacturer.

Recycling Scheme Based on Local Production for Local Consumption

Teijin's original technology enables recycling of recovered items.

Stadiums, theme parks, event venues, offices, etc.



- Benefits to companies introducing this scheme**
- Publicity of environmental initiatives
 - Waste reduction by separation and recovery of resources
 - Reduction of waste disposal cost
 - Raising environmental awareness of employees and customers
 - Strengthening of relationships with municipalities
 - Waste reduction by separation and recovery of resources
 - Raising environmental awareness of employees and customers

Combination of lightness and insulation against heat

Supporting the Safety of Firefighters with Flameproof Solutions

Social issues

Mitigation of fire damage and
protection of lives



Teijin's solutions

Safe and easy-to-move-
around-in firefighting gear

Have you ever thought about the safety of firefighters? As the numbers of high-rise condominiums and reinforced concrete houses continue to increase, firefighters have to enter more and more buildings to fight fires at their source. Whenever highly dangerous and severe fires occur, firefighting gear protects firefighters from roaring flames and blazing heat. Firefighting gear needs to have excellent insulation against heat and flame-retardant properties to protect firefighters from harm. Teijin's materials help keep firefighters safe.

Fabrics made using the meta-aramid fiber Teijinconex, which features heat resistance to over 400°C (752°F) and excellent flame-retardant qualities, are widely used in firefighting gear. Teijin uses PLIFF (Protect Life From Fire), a burn evaluation system based on international standards. Through experiments using instrumented

mannequins, Teijin can accurately verify the degree of burn damage, and strives to develop protective clothing capable of enduring intense fire conditions.

To enable effective firefighting, it is important to consider the comfort of firefighters in addition to their safety. By combining Teijin's high tensile strength para-aramid fibers, Technora and Twaron, Teijin has developed thinner and lighter material for firefighting gear, without compromising fabric strength or comfort. Thanks to the combination of lightness and insulation against heat, the physical burden of gear is reduced and firefighters can move more freely.

Teijin's protective clothing using aramid fibers is highly regarded not only in Japan but also around the world.

Teijinconex fabric



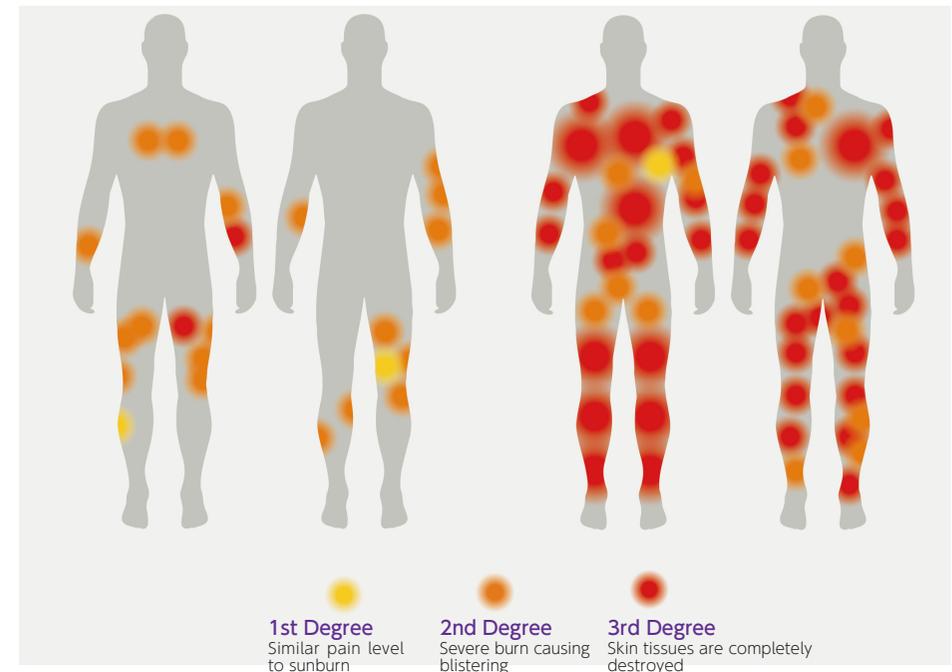
[Features]

- Strong and durable
- Light and soft
- Excellent flame resistance
- Resistance to long-term heat exposure
- Ideal for textile applications



Xfire DENIM

Denim-like aramid fiber fabric
Utilizing Teijinconex, Teijin's textile technology has realized denim-like texture favored by firefighters.



PLIFF burn evaluation system using instrumented mannequins

With this innovative burn evaluation system developed by Teijin, development and distribution of burns are visualized and quantified through analysis of data of combustion experiments transmitted from sensors embedded in mannequins.

Supporting patients in the community

VitalLink Patient Information Sharing System Supports Comprehensive Community Healthcare

Social issues

Population aging
Dispersed patient information
(limit of comprehensive community healthcare)

Teijin's solutions

Provision of a patient information sharing system Realization of the optimal care for patients at home

To lead healthy fulfilling lives in the communities to which they have long been accustomed is what seniors typically desire. Therefore, the importance of comprehensive community care for seniors, encompassing residences, medical care, nursing care, preventative care, and living assistance, is on the rise. Teijin Pharma began sales of VitalLink, a patient information sharing system, in 2015. By inputting vital signs of patients at home—body temperature, pulse, blood pressure and blood oxygen saturation levels, and so on measured by measuring devices—into mobile devices, such as smartphones, this system allows information to be shared in real time among healthcare professionals, including physicians, nurses, care managers, and care workers.

Use of this system enables efficient sharing of patient information, which is crucially important

for realizing comprehensive community healthcare. In addition, sharing of patient information in real time among relevant professionals will help realize the optimal care of patients at home, such as early detection of acute aggravation and support of patients' self-care.

Municipalities eager to promote comprehensive community care and medical associations are introducing VitalLink. For example, in Hyogo Prefecture, the prefectural government and the Hyogo Prefecture Medical Association are collaborating in a project to establish a prefectural network for healthcare at home. In 2017 the Hyogo Prefecture Medical Association selected Teijin Pharma's VitalLink as the ICT platform for multidisciplinary collaboration, prompting regional medical associations in Hyogo Prefecture to use VitalLink. The take-up of VitalLink is gaining traction nationwide.

VitalLink, a patient healthcare information sharing system



Take Ownership and Make SDGs Relevant to You

With the aim of achieving sustainable development of business and society, the Teijin Group is addressing the SDGs throughout the value chain from procurement of raw materials to disposal of products. The Teijin Group's value chain depicted below includes the business processes in which you are involved as a person working at a Teijin Group company. As explained above, the SDGs, all of which are designed to resolve social issues, create various business opportunities. Not only technological innovation but also reviewing existing business processes can contribute to the achievement of the SDGs. Let's participate wholeheartedly in the Teijin Group's SDG initiatives in our daily work.

Value Chain and Initiatives for the SDGs

- Corporate governance
- Diversity & Inclusion



- Environmental value solutions



- Safety, security and disaster mitigation solutions



- Demographic change and increased health consciousness solutions



Increasing positive impact



Minimizing negative impact

- CSR procurement



- Corporate ethics and compliance
- Reduction of environmental impacts
- Product liability/Quality assurance
- Security, disaster prevention and occupational safety activities

- Information security and personal information protection



- Principal initiatives concerning materiality of the Teijin Group

*Prepared by the Teijin Group, referring to the SDG Compass

