Integrated Report 2022

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Nippon Carbon Co., Ltd.

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To our stakeholders

“A company with dreams and technologies to realize a world of love and science”

Since its founding in 1915, Nippon Carbon has led the times as a pioneer in the carbon industrial field. Acting under the management philosophy of “A company with dreams and technologies to realize a world of love and science,” the Company was the first in Japan to succeed in mass-producing artificial graphite electrodes for steelmaking, carbon fibers, and silicon carbide fibers, while contributing to harmony between people and the environment, to the building of a prosperous society, and to the creation of the future.

While the Nippon Carbon Croup’s products themselves may not be readily visible, they have earned a high reputation among customers as “super materials” in a variety of applications in the industrial world, including lithium-ion battery anode materials and manufacturing materials for solar cells and semiconductors.

Regardless of the recent COVID-19 pandemic and geopolitical risks have brought uncertainty to economic trends, we are now entering a period of transformation, as seen in the acceleration of initiatives aimed at DX and carbon neutrality. Based on the experience and know-how in the field of carbon and graphite that we have built up for over a century, we anticipated the ever-changing business environment at the global level and in order to evolve into a Group that can sustainably grow into the future, we formulated our new Mid-term Management Policy “BREAKTHROUGH 2024.” With this, we have made a start in heading toward the next generation.

As we work to improve our profitability through business development focused on growth markets, the entire workforce of the Nippon Carbon Group will undertake reforms aimed at improving our corporate constitution to be lasting and strong.

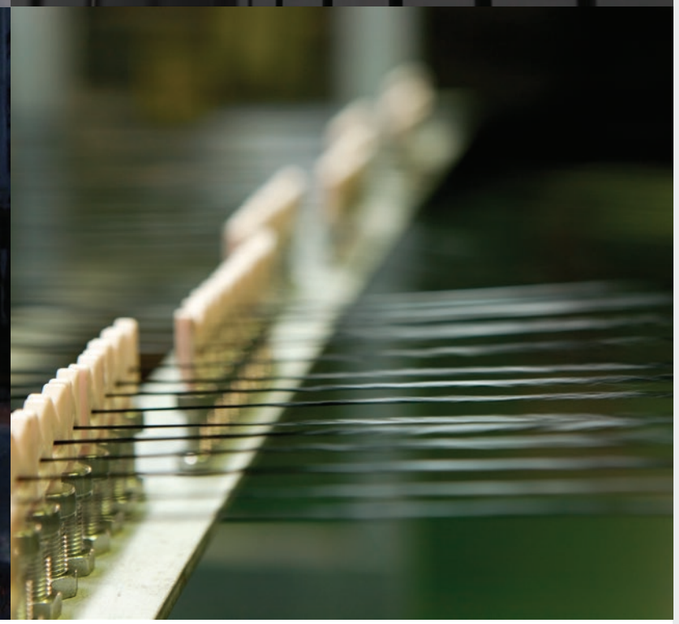
We aim to bring together our collective strengths to meet the expectations of our stakeholders. I would like to ask for your support and cooperation in our efforts.

Nippon Carbon Co., Ltd.
Representative Director, CEO

Takafumi Miyashita







Editorial Policy

From fiscal 2022, the Nippon Carbon Group publishes the Integrated Report to communicate to stakeholders our efforts to achieve our management philosophy of "A company with dreams and technologies to realize a world of love and science."

As we continue accelerating our efforts to achieve our management philosophy, we will enhance the content of this report to make it ever more useful in informing our stakeholders.

Date of issue

November 2022

Reporting period

Fiscal 2021 (January 2021 to December 2021)

Guidelines used as reference

- Ministry of Economy, Trade and Industry
  "Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation (Guidance for Collaborative Value Creation)"
- Global Reporting Initiative
  "GRI Sustainability Reporting Standards"
- Ministry of the Environment
  "Environmental Reporting Guidelines"

Scope

This report contains financial information and ESG-related information concerning Nippon Carbon Co., Ltd. and its affiliated companies. The scope of reporting for items of limited scope is as noted.

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For the most recent information on Nippon Carbon Co., Ltd., please visit the Company's website.
https://www.carbon.co.jp/english/

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Takafumi Miyashita,
Representative Director, CEO

Introduction

This year marks the 107th year since the founding of Nippon Carbon in 1915. For over a century, we have led the times as a pioneer in the carbon industrial field and have contributed to the creation of a prosperous society, as seen in our becoming the first company in Japan to successfully mass-produce carbon fiber, silicon carbide fiber, and artificial graphite electrodes for steelmaking.

In 1980, on the 65th anniversary of our founding, we established our management philosophy: "A company with dreams and technologies to realize a world of love and science." I always felt that this philosophy truly represents our situation today. The concept of using the scientific capability to solve the global environmental problems that have come into focus in recent years is contained in this philosophy.

Artificial graphite electrodes, our core product, are used in melting steel scrap in electric steelmaking furnaces, which aids the recycling of steel resources. Other products, such as our anode material for electric vehicle lithium-ion batteries and silicon carbide fiber that achieves weight reduction and improved fuel efficiency in aircraft engines, also contribute to carbon neutrality and to DX in a wide range of fields. It is my sense that conditions in the world have just caught up with the management philosophy that our Company established 42 years ago.

Through our business activities, we will continue contributing to the creation of a recycling-oriented society.

The external environment

Despite continuing instability amid the COVID-19 pandemic, conflicts between the United States and China, high crude oil prices, the yen depreciation, and other factors, markets gradually moved toward recovery.

As in the previous year, the economic environment of Japan and the world in fiscal 2021 was strongly impacted by the temporary stagnation of production activities due to the pandemic and semiconductor shortages.

Under pressure to transform our business activities, we were forced to implement thorough infection control measures, including the full-scale adoption of telework and the encouragement of staggered commuting hours. We do not have much experience with having transformation forced upon us from the outside, rather than enacting change ourselves from within. How to respond to this was a major issue for us. Even in this situation, we succeeded in a smooth introduction of telework, and work is proceeding without difficulty. This experience has had the positive aspect of allowing us to confirm the potential for new styles of work.

Geopolitical risks, including the prolonged conflict between the United States and China, have had major impacts on supply chains. The global economy also remains unstable under rising costs of raw materials, resources, and energy.

At the same time, the yen gradually depreciated toward the end of 2021. This had a negative impact on raw material imports but a positive effect on product exports, which account for about half of our sales. On balance, the Nippon Carbon Group was not significantly affected by exchange rate fluctuations.

Moreover, amid a temporary shortage of semiconductors, our sales of related products turned upward as semiconductor manufacturers made decisions to increase production.

Looking back on fiscal 2021

During the fiscal year, both sales and profit increased as recovery took hold in the market environment.

Although the effects of the COVID-19 pandemic are subsiding as vaccination becomes widespread, I feel that a number of problems had impacts on the economy. However, I believe that during the year we were able to confirm that the Nippon Carbon Group's products are necessary for the direction that society wants. Day by day, there are increasing demands placed on products that meet the needs of the times, such as our artificial graphite electrodes that are indispensable in steel recycling, our lithium-ion battery anode materials that are increasingly demanded for use in electric vehicle power sources, and our carbon fiber molded thermal insulating materials used in the semiconductor manufacturing equipment that is vital to the advancement of DX. I believe that these products begun solidly connecting to sales and profit.

As a result, net sales in fiscal 2021 increased 17.8% from the previous consolidated fiscal year to ¥31,578 million (an increase of 20.6% year on year to ¥19,770 million on a non-consolidated basis). Ordinary profit increased 23.6% from the previous consolidated fiscal year to ¥4,434 million (an increase of 53.4% to ¥3,094 million on a non-consolidated basis). Profit attributable to owners of parent increased 50.7% from the previous consolidated fiscal year to ¥2,729 million (an increase of 54.4% to ¥2,103 million on a non-consolidated basis).

An issue that we face now is the creation of the next products that will serve as pillars of our business. I used to work in sales of carbon fiber products. Initially, it was about one-tenth of the current sales, but over the next 20 to 30 years, the products grew to become a mainstay alongside artificial graphite electrodes. I believe that what we must do now is develop and nurture the products that are suited to become our next pillars.

President's Greetings

In terms of Mid-term Management Policy

We will advance business structural reforms and will develop alongside new markets as a corporate Group that provides the carbon materials essential to the growth markets of carbon neutrality and DX.

In fiscal 2022, we launched our new BREAKTHROUGH 2024 Mid-term Management Policy. Economic trends remain uncertain under factors including the protracted COVID-19 pandemic and geopolitical risks. At the same time, the present can be seen as the start of an era of great change, as seen in the acceleration throughout society of initiatives aimed at carbon neutrality and DX.

All of us in the Nippon Carbon Group will work as one to undertake further reforms aimed at improvements for a lasting and strong corporate constitution, while working to further enhance profitability through business development focused on growth markets.

In the new Mid-term Management Policy, we set "Business structural reform" and "Improvement of corporate constitution" as core target toward great achievements of Nippon Carbon group and we will challenge to aggressive target with breaking the status quo.

In terms of "Business structure reform," we will develop strategies suited to our business portfolio focusing on growing market aiming to ensure stable earnings.

Our concrete strategies toward this end are (1) Maintenance of top share and further expansion in the global market of carbon fiber products at the global market of high temperature furnace, (2) Strengthening global competitiveness of artificial graphite electrode and anode materials for lithium-ion battery by reducing production costs, (3) Creation of new businesses, (4) Increase profitability of specialty carbon business, and (5) Business development of silicon carbide continuous fiber to meet global demand.

Of these, as I noted earlier, we have high hopes for (3) Creation of new businesses. Artificial graphite electrodes have long been our core product, with no other product of ours able to come close. Five years taking off as President, I have worked to break away from this highly risky "one-legged batting stance" by which our business is dictated by sales of a single product.

The reorganization of our business portfolio, including the creation of new businesses, and the reform of our business structure are major objectives of our Mid-term Management Policy. Looking ahead, we aim to lessen the sales ratio of artificial graphite electrodes.

To do this, we are actively investing in capital. With regard to carbon fiber products in particular, we have focused on capital investments under a goal of becoming number one in the world. We have installed several large vacuum heat treatment furnaces at our Shiga Plant, which I believe has brought us very close to achieving that goal. While the Shiga Plant will serve as the primary production base for our carbon fiber products, we are considering investing in facilities expansion at our Shirakawa Plant, which produces a portion of the products.

Another core product is our lithium-ion battery anode materials, which are used in areas including electric vehicles. We would like to increase the sales of this product, but the raw materials are imported from China and the business faces difficulties. Amid the large-scale proliferation of electric vehicles that is now taking place, we will make efforts in this business so as not to miss the opportunity.

In keeping with these movements, we will adopt a more aggressive course for artificial graphite electrodes as well. Our approach until now has been a passive stance of waiting, but we will further build on our existing manufacturing technologies to take a more clearly aggressive stance.

Currently, Companies in China and elsewhere overseas are catching up in quality. In response, we will improve our technology so that Japanese products remain ahead of the curve, and will develop and sell even higher quality products. Representing our present level of quality with the value 100, if we do not raise the level to 120 or 130, our competitiveness will decline, ultimately leading to lower sales prices. To prevent this, we will solidly raise our quality.

The entire Company will work as one in this way to enhance our profitability and corporate value and to satisfy all of our stakeholders.

To improve our corporate constitution, we will continue securing and developing human resources, promoting diversity, and enhancing our organizational strength.

In terms of "Improvement of corporate constitution," we will continue securing and developing human resources and will promote diversity to enhance our organizational strength. We will also advance work style reforms such as telework, now the so-called "new normal," and will review the functions of our headquarters and other business sites to effect improvements aimed at a lasting and strong corporate constitution.

Among these, we have been actively undertaking the securing and development of human resources for some time, particularly the appointment of women to higher positions. Women make up over 30% of general employees at our headquarters. The heads of the planning section and the human resources section, both key components of this initiative, are also women. We offer substantial maternity leave, childcare leave, and other programs to create an environment that facilitates active roles for women. We have also institutionalized parental leave for male employees, and are drawing up plans to set up childcare centers in our headquarters, plants, and offices.

In the area of human resource development, we are enhancing our education and training for employees. We believe that actively entrusting young employees with job responsibilities is a more effective training method, and hold high expectations for the growth and active participation of these young employees.

In the area of work style reforms under the "new normal," we are continuing the telework and staggered work hours programs that we established as measures to combat COVID-19. As we had begun preparations for telework even before the pandemic, we were able to smoothly transition to telework as the pandemic took hold.

We will continue to tackle topics in work style reform, including doing away with postings that separate employees from family and adopting programs that have yielded results at other companies. At manufacturing sites such as plants where support for telework is difficult, we will examine what environments we should create to enhance motivation.

In response to an employee survey concerning telework, however, many employees commented that

President's Greetings

communication was difficult in light of work efficiency, and expressed a desire to return to the workplace. Rather than focusing solely on telework, we need to consider allowing options that let all employees select individually efficient ways of working.

We will advance ESG management, as we aim to achieve a sustainable society and enhance our corporate value.

As indicated in our Mid-term Management Policy, the Nippon Carbon Group will advance ESG management with a mind to "Environment," "Social" and "Governance" to realize sustainable society and improve corporate value.

In the areas of Environment and Society, following our environmental philosophy of "Nippon Carbon pursues technologies in harmony with the environment and aims at realizing a society that allows affluent, fruitful lives," we will engage in business activities with maximum consideration given to the environment.

As I have noted, the Nippon Carbon Group's products contribute to solving environmental problems in business fields including steel recycling, solar power generation, and electric vehicles. However, the production of our products is inevitably accompanied by the generation of carbon dioxide. How we can strike a practical balance between these facts is a challenge to be tackled. What is certain, though, is that the achievement of the SDGs and the creation of an environment that is gentle to the earth are not possible without our products, which reminds us anew of the weight of the mission entrusted to us.

We have already begun researching and developing technologies and products for the fixation of carbon dioxide, as a way by which we can contribute to solving environmental problems. We hope to achieve the reduction of carbon dioxide through our products themselves and through initiatives aimed at carbon neutrality.

Because our plants are sited in relatively urban areas, we will examine plans that include greening our plant grounds and installing solar panels.

In the area of Governance, based on the approach of our management philosophy, we will work to enhance our corporate governance under the belief that it is important to energize management through quick and resolute decision-making, to ensure transparency and fairness in decision-making, and to make effective use of our management resources, from a perspective of achieving sustainable growth and enhancing our long-term corporate value.

While our Company is not a large one, we are confident that we are implementing corporate governance at the level of large companies, and we have put adequate systems in place to tackle governance.

In closing

Nippon Carbon is one of Japan's few "100-year companies." We now look ahead to the next 100 years. I believe that our current task is to lay the foundations for our next 100 years while making solid contributions to society.

Key initiatives related to this include our current BREAKTHROUGH 2024 Mid-term Management Policy and the optimization of our business portfolio.

My major goals as President are to lay a solid foundation for a company over the next 5 to 10 years, and to nurture and develop the Company into one that can unquestionably make contributions to society.

Once we have solidified that foundation, I believe that we will need to consider a long-term management plan that lays a vision for our Company 20 to 30 years from now while also peering a century into the future.

While our scale is not that of a large company, the work that each of us performs calls for a huge sense of responsibility. I am very proud that we are able to engage in our work day by day with the understanding and the realization that the activities of our Company benefit society.

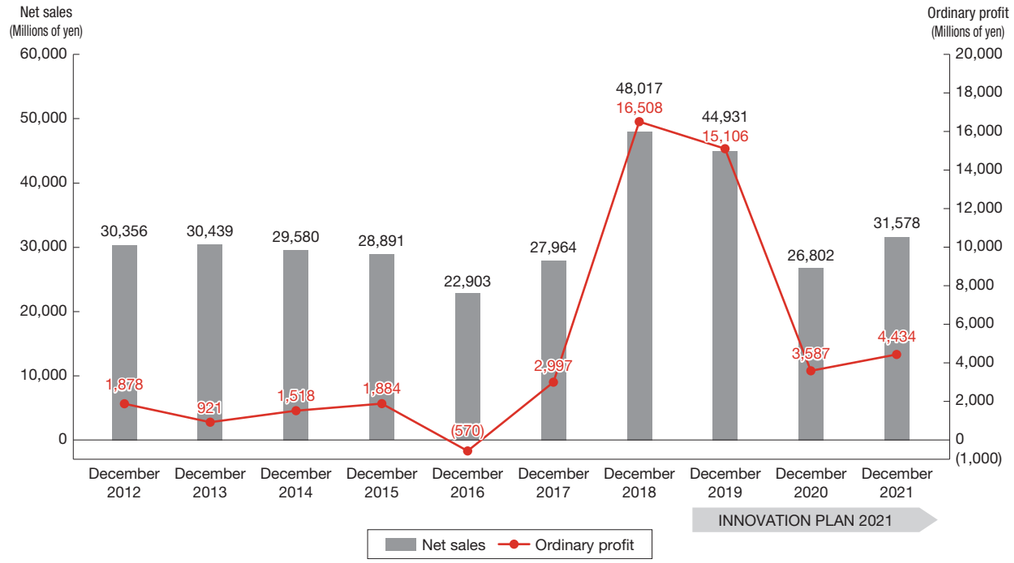
In recent years, the business environment surrounding the Nippon Carbon Group has continued to undergo global-scale major transformations at a speed that is undeniably accelerating. To make a break from our old corporate constitution, anticipate changes in the business environment, and embark on an evolution into a Group that can grow sustainably over the next 100 years, we will tackle reforms.

With a spirit of challenge and a passion for carbon as a dream material that harbors unknown potential, we will continue to provide products and related services that offer new value, will strive to continuously strengthen our corporate governance to ensure soundness and efficiency in our management, and will contribute to harmony between people and the environment, the building of a prosperous society, and the creation of the future.

I ask all of our stakeholders for their continued support in these efforts.

Mid-term Management Policy

Looking back on the previous Mid-term Management Policy



The Nippon Carbon Group has formulated 3-years' Mid-term Management Policy "INNOVATION 2021" started FY2019 and worked on "Reformation of business portfolio" and "Reinforcement of business base" as core target to establish "Stable and profitable business base under any economic situation."

In FY2019, we established local subsidiary in China and formed global business base include Europe and United States.

We reported record high profits in FY2019 due to high demand of artificial graphite electrode. In FY2020, our performance declined due to global economic stagnation with COVID-19 pandemic. However, sales of fine carbon products increased with recovery of semiconductor industry in FY2021 and our performance improved.

We were able to make profit continuously with reformation of business portfolio during 3 years of INNOVATION 2021.

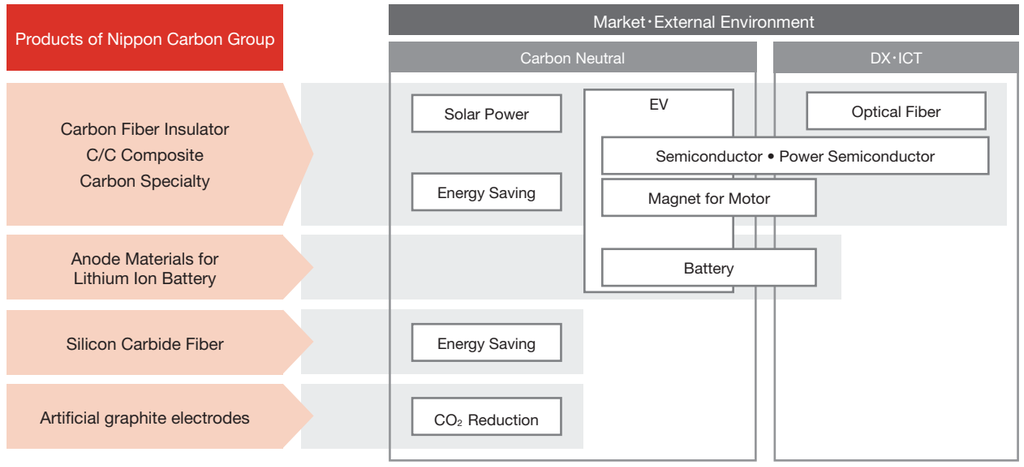
Mid-term Management Policy (FY2022 – FY2024)

Based on progress of the previous Management Policy, we have formulated new Mid-term Management Policy "BREAKTHROUGH 2024" directing toward to the era of Carbon Neutral and Digital Transformation.

In the new Mid-term Management Policy, we set "Business structural reform" and "Improvement of corporate constitution" as core target toward great achievements of Nippon Carbon group and we will challenge to aggressive target with breaking the status quo. In order to respond to the mandate from all stakeholders, we will aim to enhance profitability and corporate value with efforts of all Nippon Carbon Group.

External Environment and Products of Nippon Carbon Group

Nippon Carbon Group will contribute to realize Carbon Neutral and DX Society through supplying carbon materials for manufacturing solar power device, semiconductor and energy saving at various industries as show below.



Nippon Carbon Group Policy

1. Business structural reform

We will develop strategy focusing on growing market related to carbon neutral and digital transformation aiming to ensure stable earnings.

(1) Maintaining top share and further expansion of carbon fiber products at the global market of high temperature furnace
- Focusing on growing industries and executing sales promotion
- Development of global market for C/C composite
- Aggressive investment of management resources

(2) Strengthening global competitiveness of artificial graphite electrode and anode materials for lithium-ion battery by reducing production costs
- Cost reduction by thorough review of production process

(3) Creation of new business
- Development of new products focusing on growing market

(4) Increase profitability of specialty carbon business
- Obtaining growth demand mainly at semiconductor industry and cost reduction

(5) Business development of silicon carbide fiber to meet global demand
- Establishment of flexible production system to meet market conditions

2. Improvement of corporate constitution

We will aim to enhance organizational strength through securing and training of human resources and execution of diversified promotion. We will advance work style reform as new normal tele-working and review function of our business locations to realize sustainable and strong corporate constitution.

(1) Securing and training of human resources
(2) Work style reform for new normal era

3. ESG management

We will advance ESG management with a mind to "Environment," "Social" and "Governance" to realize sustainable society and improve corporate value.

The History of Nippon Carbon

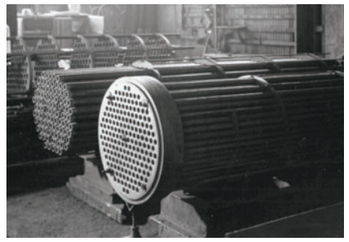
Founded in 1915, Nippon Carbon is the oldest carbon manufacturer in Japan. Our Company boasts a long history and tradition. Beginning with the successful commercialization of Japan's first artificial graphite electrodes, we have consistently developed new carbon products and new materials, contributing to society as a comprehensive manufacturer of carbon products.

Founding of Nippon Carbon and promotion of domestic production

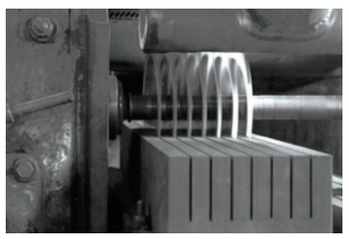
1915 Establishment of Nippon Carbon
Establishment of headquarters and plant in Yokohama, and start of manufacturing of natural graphite electrodes

1934 Increased production of artificial graphite electrodes
Establishment of the Toyama Plant and start of manufacturing of artificial graphite electrodes to meet rapid increase in demand

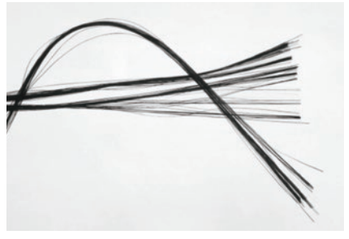
1927 Successful manufacturing of artificial graphite electrodes
Successful manufacturing of Japan's first 6-inch to 12-inch artificial graphite electrodes



1949 Commercialization of impervious graphite
Start of production of "RESBON" impervious graphite for chemical plants; start of operation of first domestically produced hydrochloric acid absorption tower

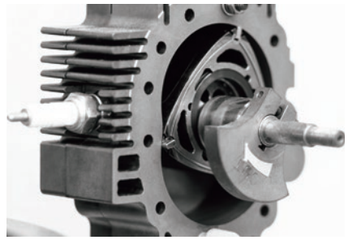


1930 Successful manufacturing of artificial graphite electrolytic plates
Start of manufacturing of Japan's first artificial graphite electrolytic plates



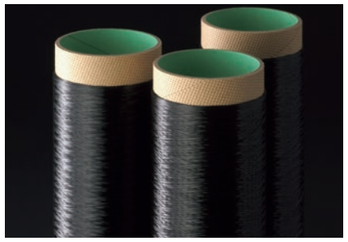
1962 Commercialization of carbon fiber
Successful commercialization of low-strength PAN-based carbon fiber, a first in Japan

Rapid growth and endeavors toward new technologies



1966 Commercialization of apex seals
Development of aluminum-carbon composite material to overcome the wear known as "devil's nail marks" in rotary engine housings

1974 Commercialization of flexible graphite sealing material
Commercialization of "NICAFILM" graphite sealing material that combines the properties of graphite with flexibility



1981 Launch of plant for mass production of silicon carbide fiber
Completion and launch of world's first plant for mass production of "Nicalon" silicon carbide fiber

1985 Receipt of Deming Application Prize
Receipt of Deming Application Prize, the world's highest award for quality control

1985 Mass production of carbon fiber thermal insulating material
Start of mass production of carbon fiber thermal insulating material

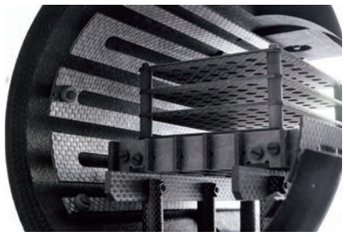
1986 Successful launch of the first H-I rocket
Successful launch of the H-I rocket, which used carbon fiber thermal insulating material in the rocket nozzle

Business expansion and improvement of corporate constitution

1988 Commercialization of C/C composite
Start of mass production of "CCM" C/C composite

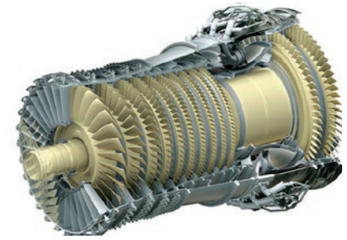
1996 Commercialization of lithium-ion battery anode materials
Start of mass production of lithium-ion battery anode materials at Toyama Plant

2003 Start of integrated production of special carbon materials
Establishment of Nippon Techno-Carbon Co.,Ltd. as a joint venture with the current NIPPON STEEL Chemical & Material Co., Ltd.; start of integrated production of special carbon materials



2003–2011 Increase in production capacity for carbon fiber thermal insulating materials and C/C composites
Roughly five-fold increase in production capacity for carbon fiber thermal insulating materials and C/C composites (compared to 2003)

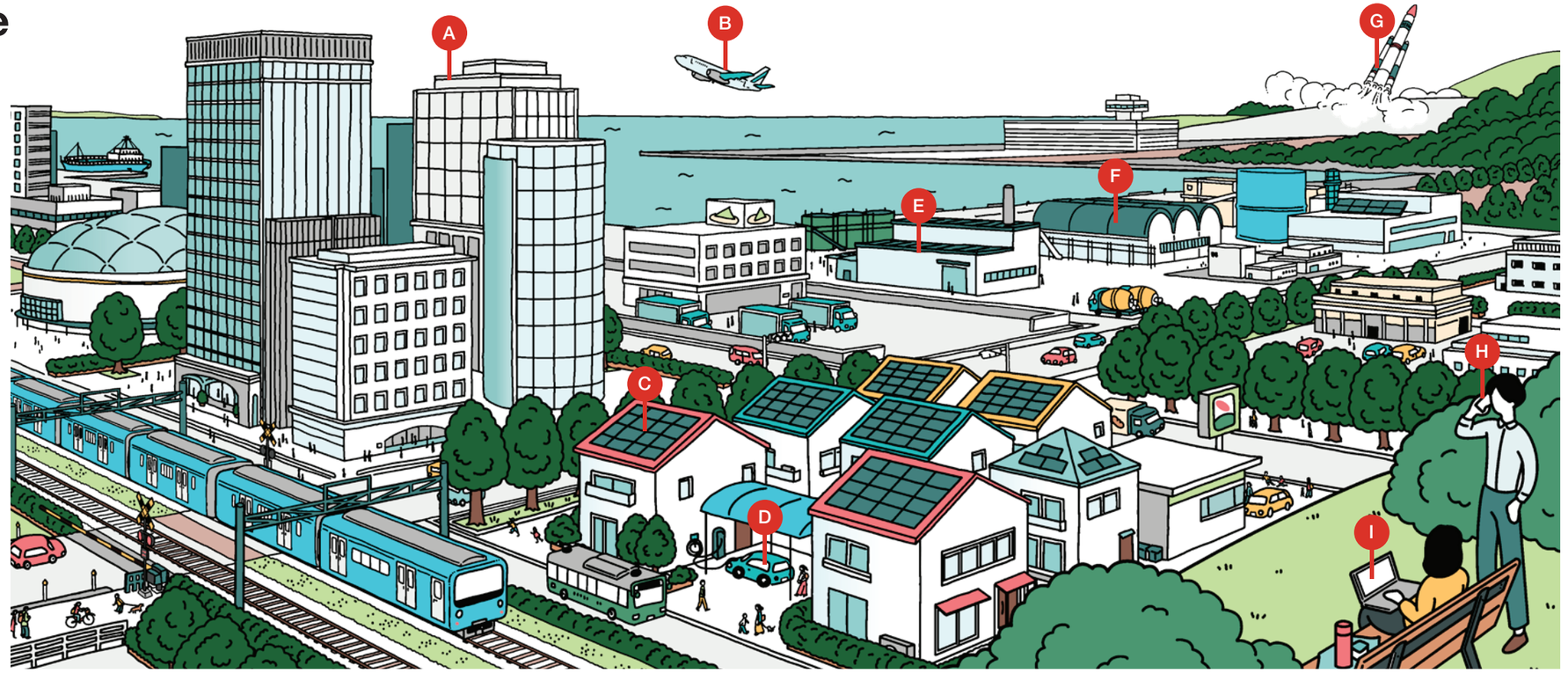
2006 Commercialization of carbon short fiber thermal insulating material
Commercialization of thermal insulating materials made from short carbon fibers, a first in Japan



2012 Increased production of silicon carbide
Establishment of NGS Advanced Fibers Co., Ltd., a joint venture with General Electric Company and Safran S.A., to increase production of "Nicalon" silicon carbide fiber

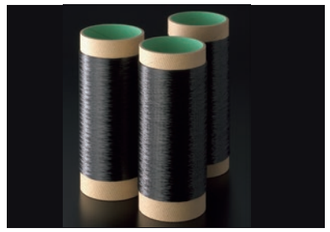
Nippon Carbon Is Here

While the Nippon Carbon Group's products may not be readily visible around us, they find use in many industrial applications as "super materials."



A Steel frames for buildings and structures

Artificial graphite electrodes are used in steelmaking processes for recycling steel scrap. Recycled steel is used in the steel frames of buildings, structures, and bridges, alongside many other applications.

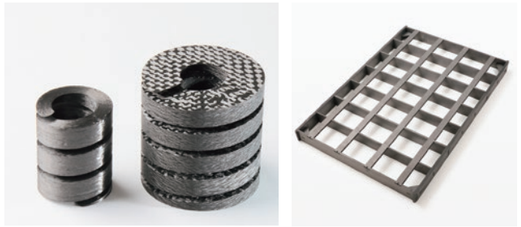


B Aircraft engine parts

Nicalon silicon carbide fiber is stable even in high-temperature atmosphere of hundreds of degrees above 1,000°C. Composite materials made from this fiber and ceramics are used in aircraft engine parts, contributing to improved fuel efficiency.

C Solar cells

Solar cells are created from thinly sliced silicon crystals. Creating these crystals requires melting silicon at approximately 1500°C, a process in which carbon is often used for its high heat resistance.



D Manufacturing processes for automotive parts

Key parts in automobiles are subjected to quenching or other heat treatment to improve durability and wear resistance. Carbon does not undergo thermal deformation even in high-temperature environments, leading to its use in a variety of materials in heat treatment processes for automotive parts.

E Equipment components for the chemical industry

In addition to resistance to chemical corrosion, carbon has excellent thermal conductivity. For this reason, it is used as a component in heat exchangers, where it ensures safety and peace of mind in plants that handle hazardous chemicals.

F Plant equipment components

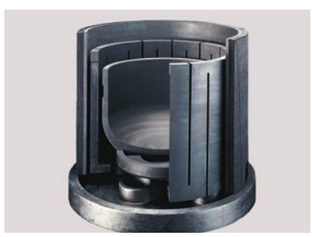
Carbon features outstanding self-lubricating properties, wear resistance, and heat resistance. Due to these properties, carbon is used in bearings, sealing materials, and packing in components for the parts of pumps and compressors used in plants.

G Heat-resistant rocket components

Carbon woven fabric boasts heat resistance and high flexibility. Due to these properties, the fabric is used as a thermal insulating component in the nozzles of satellite launch rockets.

H Batteries for smartphones, electric vehicles, etc.

Lithium-ion batteries (LiBs) are used in smartphones and electric vehicles. The charging and discharging of LiBs take place via the absorption and release of lithium ions in anode (negative electrode) material made with carbon powder. Anode materials have become one of the most indispensable materials in the improvement of battery quality.



I PC semiconductors

Equipment for manufacturing the silicon used in semiconductors requires materials characterized by high heat resistance and few impurities. As the only material that satisfies these requirements, carbon is used in the components of the equipment.

Value Creation Process

The Nippon Carbon Group is a pioneer in the carbon industrial field. With a spirit of challenge and a passion for carbon, we will provide products and related services that offer new value, will evolve into a Group able to grow sustainably, and will contribute to harmony between people and the environment, the building of a prosperous society, and the creation of the future.

INPUT (Strengths)	BUSINESS (Description of business)	OUTPUT (The products we provide)	OUTCOME (The value we provide)

External environment

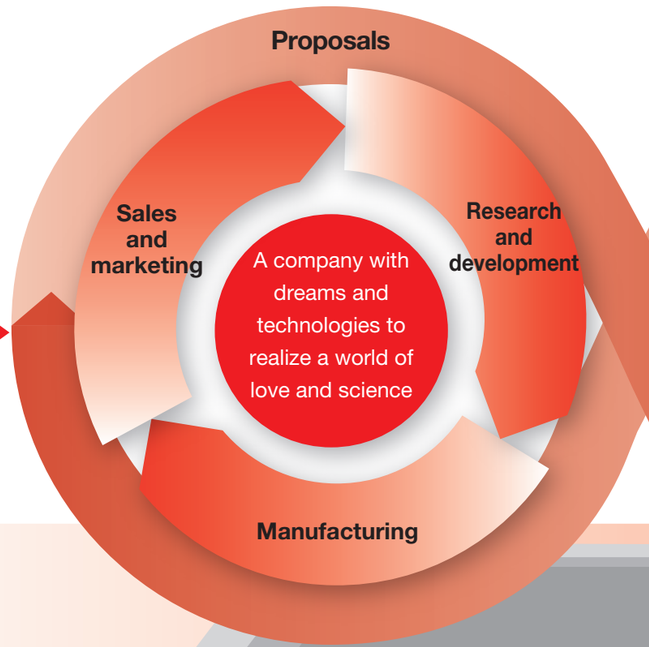
Megatrends
- Declining birthrate and aging population
- Advance of DX and digitalization
- Living with/after COVID-19
- Changes in work styles and lifestyles

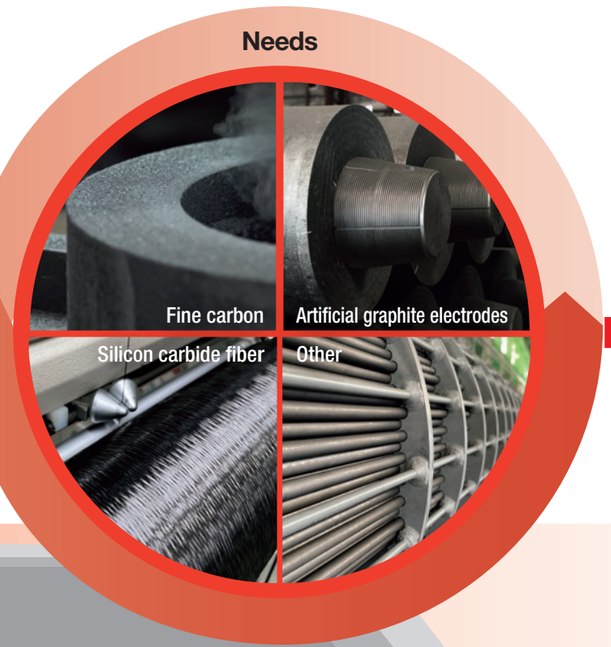
Industry issues
- Growing decarbonization movement
- Growing demands for energy saving and use of renewable energy
- Intensifying competition

Social issues
- Contagious disease epidemics
- Progression of climate change
- Increase in natural disasters
- Economic upheavals and economic stagnation
- International conflicts

Nippon Carbon's sources of value

- Technological and development capabilities
- Commitment to strict quality
- Environmentally considerate product family
- Outstanding human resources





ESG initiatives that support business
- Initiatives for Society p. 29
- Initiatives for the Environment p. 33
- Corporate Governance p. 35
- Compliance p. 41
- Risk Management p. 43

Materiality (important issues)

Mid-term Management Policy (BREAKTHROUGH 2024)

Provision of economic value

Net sales	¥31,578 million
Operating profit	¥3,706 million
EPS	¥247.00
Equity ratio	61.9%
ROE	6.1%
Dividend payout ratio	105.1%

Provision of social value
- Social contribution through the provision of products and services
- Enhancement of satisfaction of all stakeholders
- Support for employee training and capacity development
- Work style reform under the "new normal," improvement of efficiency at activity bases
- Creation of new businesses and enhancement of technological capabilities
- Consideration of the global environment

Materiality

We find ourselves now in a period of change, as seen in the acceleration of initiatives aimed at carbon neutrality and DX. Working through the process outlined below, the Nippon Carbon Group has identified the materiality (i.e., the priority issues) that we need to tackle to achieve our management philosophy of "A company with dreams and technologies to realize a world of love and science." We will continue actively working to solve social issues and bring about a sustainable society.

The process of identifying materiality

Understanding social issues and social change

We analyzed changes in the business environment and social circumstances surrounding the Nippon Carbon Group, and made use of guidelines and evaluation metrics related to the SDGs and ESG to identify keywords related to social issues and social change.

Selection of candidates for materiality

Keeping our management philosophy, Mid-term Management Policy, various guidelines, ESG investment evaluation metrics, and other key matters foremost in mind, we scrutinized the 200 or so keywords that we had identified. We then grouped the keywords by theme and selected 24 materiality candidates.

Evaluation of candidates for materiality

Aided by advice from external experts, we evaluated the materiality candidates on our list. We took a medium- to long-term perspective to perform evaluation along two axes: importance to the Nippon Carbon Group and importance to stakeholders.

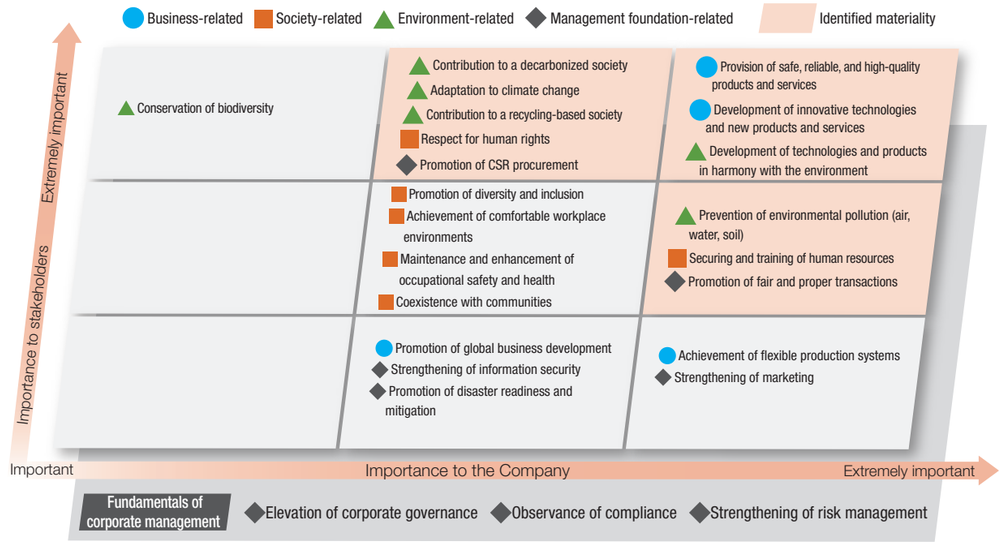
The materiality matrix and consideration of priorities

Based on the evaluation results, we formulated a materiality matrix. In formulating the matrix, project members with knowledge of the business and the work of the Nippon Carbon Group held repeated discussions on materiality candidates and the results of evaluation.

Identification of materiality by top management

The top management of the Company confirmed the materiality candidates and the materiality matrix, examining the content of these. Following discussions of the appropriateness of the materiality matrix, including the process for selection and evaluation of the materiality candidates, we finally identified 11 materiality.

Materiality matrix



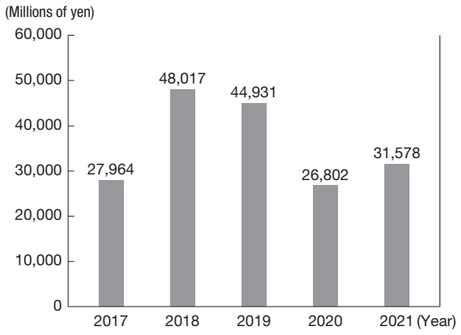
Details of the identified materiality

For the identified materiality, we summarized our efforts to address them and the expected effects of those efforts.

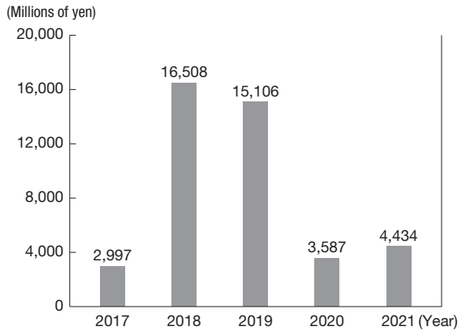
Materiality	Content of initiatives	Effects expected from the initiative
Provision of safe, reliable, and high-quality products and services	●Continuous improvement and maintenance of management systems, reconstruction of production systems, and implementation of quality improvements	●Expansion of share and increase in sales through the enhancement of customer satisfaction
Development of innovative technologies and new products and services	●Development and promotion of new technologies, including the extension of existing technologies into other applications and the creation of new products in markets in which we have strengths	●Expansion of share, sales growth, and business diversification ●Expansion of employment in local communities and returns to shareholders
Development of technologies and products in harmony with the environment	●Provision of products that contribute to reducing environmental impact, including artificial graphite electrodes, fine carbon, and silicon carbide fiber	●Expansion of share, sales growth, and business diversification through development of new products ●Contribution to customers' efforts to reduce environmental impacts
Prevention of environmental pollution (air, water, soil)	●Maintenance and improvement of environmental management system (EMS) ●Development and renewal of environmental equipment (for treatment of waste gases and wastewater, etc.) and environmental education for employees	●Enhancement of competitiveness for environmentally considerate products and business ●Enhancement of efficiency through the renewal and introduction of environment-related equipment and systems
Adaptation to climate change	●Implementation of measures (formulation and review of BCP, implementation of drills, etc.) to combat natural disasters (typhoons, torrential rains, floods, etc.) at headquarters, branches, plants, etc.	●Stabilization of production structure, maintenance and securing of supply chain ●Maintenance of stable supply of products and services
Contribution to a decarbonized society	●Promotion of energy saving, reduction of waste, etc. in manufacturing processes at plants	●Enhancement of competitiveness for environmentally considerate products and business ●Conservation of the global environment and reduction of impacts
Contribution to a recycling-based society	●Development and provision of recycling-related products, including artificial graphite electrodes	●Achievement of energy saving and improvement of recycling efficiency in the steelmaking industry
Securing and training of human resources	●Implementation of personnel rotation for enhancement of employee skills and revitalization of organizations ●Personnel transfers that take our self-reporting system into account, and career advancement based on these	●Enhancement of our human resource retention rate (decrease in turnover rate) ●Enhancement of productivity, quality of products and services, etc.
Respect for human rights	●Achievement of healthy workplace environments that respect human rights and are free of discrimination, based on the "Nippon Carbon Human Rights Policy"	●Reduction of human rights risks in the value chain ●Securing of stable business activities and product supply, and maintenance of corporate value
Promotion of CSR procurement	●Promotion of procurement based on our "Basic Policy on Ethics and Compliance," "Nippon Carbon Code of Conduct," and "Environmental Policy," and communication of our procurement policy to suppliers	●Reduction of ESG-related risks in the supply chain ●Promotion of activities for the reduction of environmental impacts and enhancement of awareness, including by business partners
Promotion of fair and proper transactions	●Observance of relevant laws and regulations, practice of compliant business transactions, and implementation of in-house education	●Building of long-term, stable business relationships ●Reduction of risks including fines, lawsuits, and compensation for damage

Financial and Non-Financial Highlights

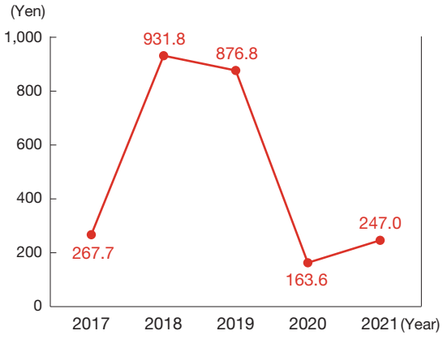
Net sales



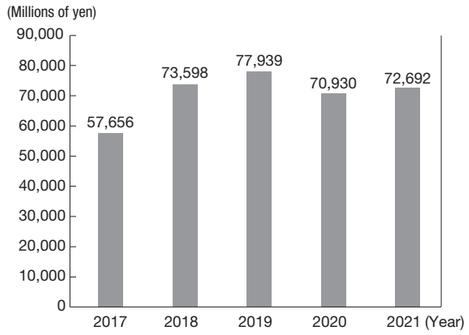
Ordinary profit



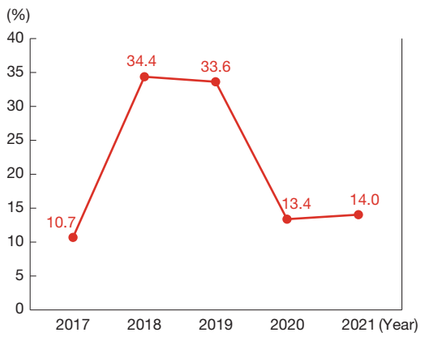
Earnings per share



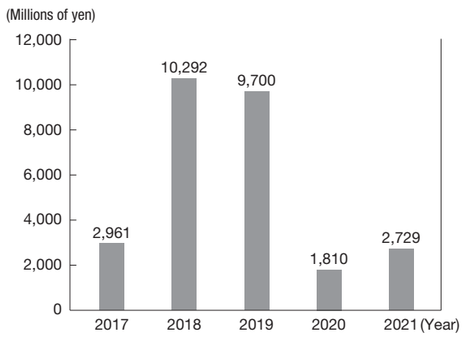
Total assets



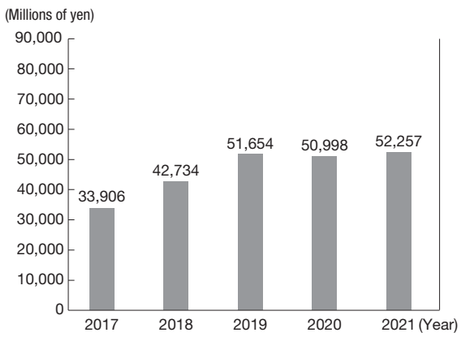
Return on sales



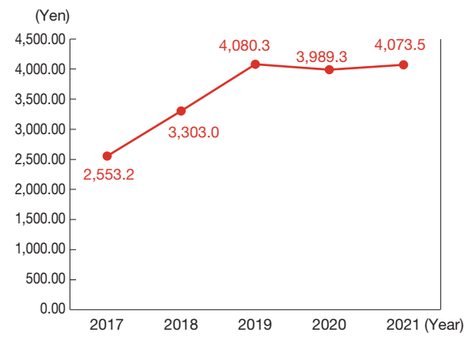
Profit attributable to owners of parent



Net assets

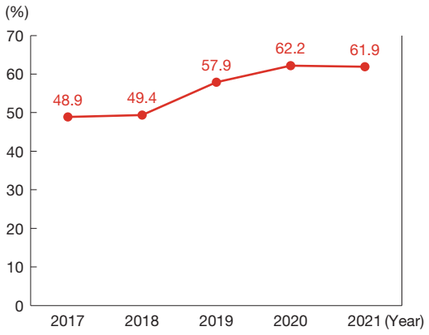


Net assets per share

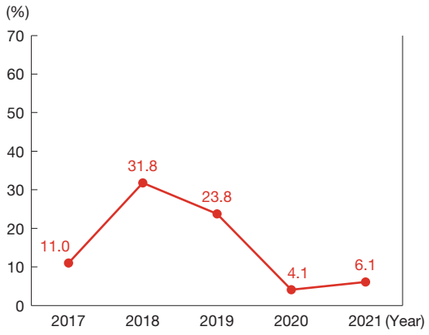


Financial and Non-Financial Highlights

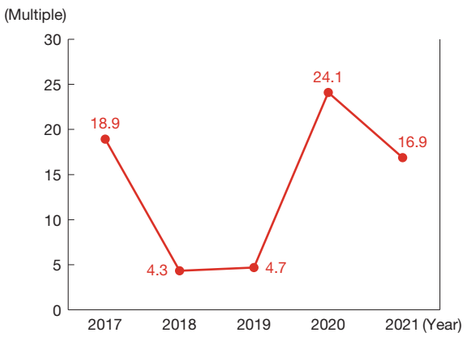
Equity ratio



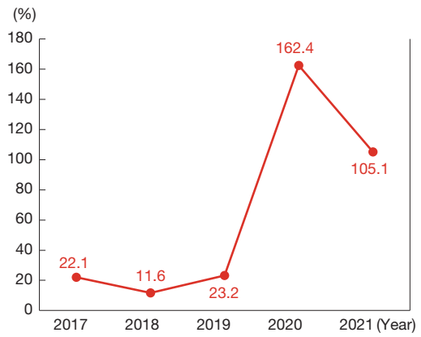
Return on equity



Price-earnings ratio (PER)

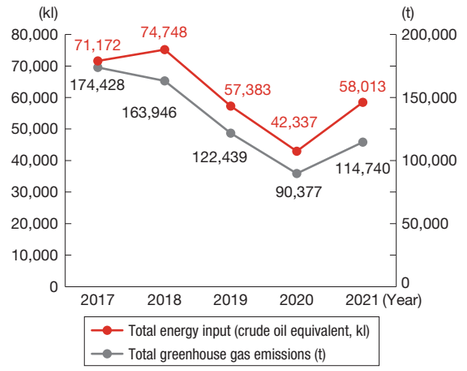


Dividend payout ratio



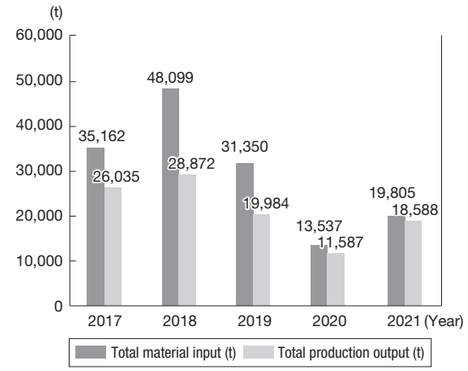
* Nippon Carbon Co., Ltd. (non-consolidated).

Total energy input (crude oil equivalent) / Total greenhouse gas emissions



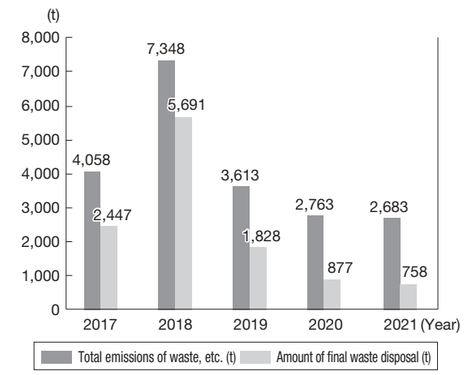
* The targeted scope is all production sites, headquarters, branches, and laboratories of the Nippon Carbon Group (excluding Nippon Kornmeyer Carbon Group GmbH).

Total material input / Total production output



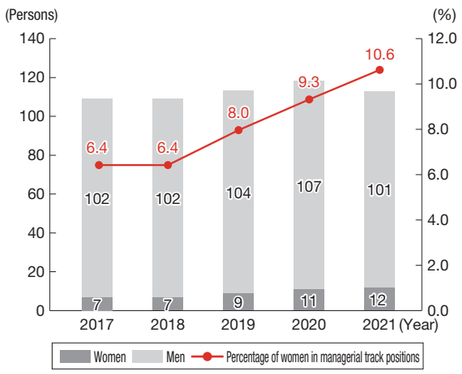
* The targeted scope is all production sites and laboratories of the Nippon Carbon Group (excluding Nippon Kornmeyer Carbon Group GmbH).

Total emissions of waste, etc. / Amount of final waste disposal



* The targeted scope is all production sites and laboratories of the Nippon Carbon Group (excluding Nippon Kornmeyer Carbon Group GmbH).

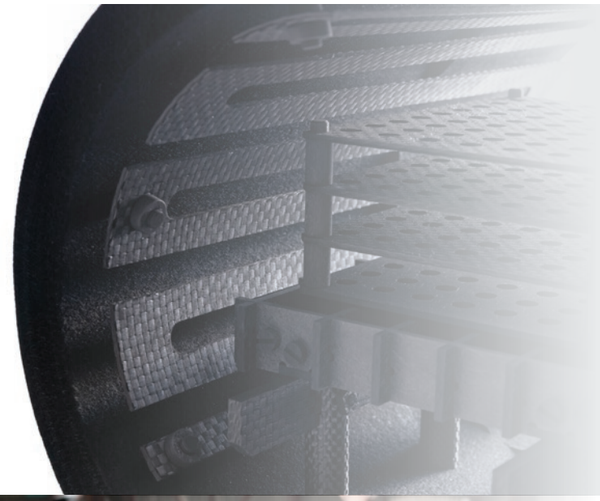
Change in the number of women in managerial track positions



* Nippon Carbon Co., Ltd. (non-consolidated).

Business Outline

As a groundbreaking presence in Japan's carbon industry, the Nippon Carbon Group has created a wide variety of carbon products that leverage the outstanding properties of carbon. The Nippon Carbon Group's products support development in wide range of fields, from the key industrial fields of electric power, machinery, and metallurgy to the cutting-edge fields of semiconductors, aeronautics, and space.



Carbon product business

Fine carbon products

Our main fine carbon products are carbon fiber thermal insulating materials, special carbon materials, and C/C composites. Carbon's extremely high heat resistance and excellent chemical stability makes it an indispensable material in many industries, including the semiconductor, solar cell, Optical Fiber, LED, ceramic, and metal heat treatment industries. Demand for carbon is growing in advanced industrial fields such as SiC power semiconductors.

Business overview

Stagnant economic activity picked up in stages in 2021, and demand recovered in wide range of fields. In semiconductor-related markets in particular, demand increased under increases in production and capital investment from the previous fiscal year. As a result, sales and profit increased from the previous consolidated fiscal year despite negative factors, including increased raw material prices.

Business outlook

Amid the proliferation of IoT, AI, and 5G, we expect continued high demand from semiconductor-related markets. Demand from the magnet, SiC power semiconductor, and other industries is also expected to grow amid the shifts toward electric automobiles and solar power generation aimed at achieving carbon neutrality. We are actively undertaking capital investment to meet this demand.

Carbon product business

Artificial graphite electrodes

Artificial graphite electrodes are used as electrodes in electric furnaces that melt and recycle steel scrap. This contributes to the creation of a recycling-oriented society. The furnaces also emit less CO_2 than blast furnaces, contributing to the reduction of CO_2.

Business overview

In 2020, Japan's crude steel production declined significantly as the COVID-19 pandemic took hold, causing demand for artificial graphite electrodes also to fall sharply. While sales prices declined in 2021, demand for artificial graphite electrodes recovered to nearly the pre-pandemic level, and sales and profit increased from the previous consolidated fiscal year.

Business outlook

Electric furnace steelmaking emits only a quarter of the CO_2 emissions of blast furnace steelmaking. In Japan and overseas, production is shifting from blast furnaces to electric furnaces in the pursuit of a carbon-neutral society, and demand for artificial graphite electrodes is expected to grow.

Carbon product business

Lithium-ion battery anode material

Lithium-ion batteries charge and discharge through the occlusion and release of lithium ions by graphite powder. Lithium-ion batteries are used in electric vehicles, mobile phones, and other applications for their energy density, which outstrips that of other types of battery.

Business overview

In 2021, the automobile industry was forced to reduce production due to factors including semiconductor shortages, and lithium-ion battery demand also decreased. However, through the start of business dealings with new anode material customers, we maintained strong sales. As a result, sales and profit increased from the previous consolidated fiscal year.

Business outlook

The lithium-ion battery market is expected to expand, primarily in areas of automotive applications. However, price competition with Chinese anode material manufacturers is expected to intensify, potentially causing prices to decline and profitability to deteriorate.

Silicon carbide product business

Silicon carbide fiber

Nicalon silicon carbide fiber combines the high strength and elastic modulus of ceramics and stability in high-temperature atmospheres with the flexible form of fibers. The use of Nicalon as a composite material together with ceramic and metal yields properties not achievable with existing materials. In aircraft engine parts, Nicalon composite materials enable not only reduced weight but also significantly enhanced durability and fuel efficiency.

Business overview

The market environment for the aircraft industry worsened under the pandemic-related worldwide travel restrictions that continued from the previous fiscal year. This restricted the production of aircraft engines that use silicon carbide fiber; accordingly, silicon carbide fiber net sales and profit decreased from the previous consolidated fiscal year.

Business outlook

While travel restrictions and border measures have been relaxed in many countries and signs of recovery in aircraft demand have appeared, the impacts of the pandemic on the aircraft industry remain uncertain.

Other businesses

Industrial equipment

Our RESBON impermeable graphite is made through the impregnation of artificial graphite with a special synthetic resin to create a material that combines the outstanding corrosion resistance and high thermal conductivity of artificial graphite with high airtightness. Many chemical plants use heat exchangers made with RESBON for its resistance to chemical corrosion.

Business overview

Demand for heat exchangers was firm under planned capital investments in the chemical industry and other basic industries. At the same time, production of general industrial equipment stagnated due to semiconductor shortages, and our sales and profit decreased from the previous consolidated fiscal year.

Business outlook

Demand for industrial equipment is expected to remain firm, without major fluctuations.

Research and development

Nippon Carbon is always tackling the challenge of developing new carbon products and materials. Utilizing our unique technologies, we engage in the research and development of products that meet diversifying market needs.
Applications for carbon are steadily expanding against a backdrop of environmental issues and energy saving. Given this environment, we are actively developing and advancing new technologies, including the extension of existing technologies into other applications and the creation of new products in markets in which we have strengths.

Research and development structure

Our laboratories shoulder the innovation functions that support sustainable growth for our existing products and that continue to create new business domains. With our laboratories at the center, we share information with universities and other research institutes, national and regional government bodies, and private sector companies, while coordinating among our workplaces' technical departments to advance proprietary technological development.

Research and development activities

The research and development activities are centered on carbon products related to our businesses. With our research focusing on industries related to energy saving and the electrification of automobiles, we conduct development of new products aimed at achieving the carbon-neutral society of the future.
To meet the diverse needs of our customers, we are also developing new technologies that lead to higher performance and reduced costs in existing products.
Our research and development expenses in fiscal 2021 were ¥368 million.

Initiatives for Society

We will achieve a company in which all employees can fully demonstrate their abilities and can engage in work with pride and motivation.

Respect for human rights

Human Rights Policy

With the understanding that our business activities may have direct or indirect impacts on human rights, we established the “Nippon Carbon Human Rights Policy” to clearly communicate our stance of respecting the human rights of all people involved in our business. Under this policy, we engage in initiatives that work toward respect for human rights.

1. Fundamental concepts

We support and respect international norms concerning human rights, including the International Bill of Human Rights and the International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work. We engage in business activities in accordance with the United Nations Guiding Principles on Business and Human Rights. Specifically, we strive for respect for basic human rights; the prohibition of discrimination, harassment, and violence on the basis of race, nationality, gender, religion, creed, etc.; the promotion of diversity; the prohibition of child labor and forced labor (including human trafficking); the prohibition of unreasonable restrictions on movement; respect for freedom of association and collective bargaining rights in accordance with local laws and regulations; payment of wages equal to or above statutory wages to employees; prevention of overwork and provision of appropriate days off; the securing of occupational safety and health; the prevention of occupational accidents; and the protection of privacy.

2. Scope of application

The policy applies to all officers and employees of the Company. We also encourage our business partners to strive toward respect for human rights.

3. Human rights due diligence

We work to construct and implement human rights due diligence mechanisms for the purpose of identifying adverse impacts on human rights. If it becomes clear that our activities have caused or contributed to an adverse impact on human rights, we will work to prevent or mitigate those impacts.

4. Awareness-building activities

We will conduct continuous awareness-building activities to deepen our officers’ and employees’ understanding of international norms regarding human rights, and to enable them to respond appropriately to related issues.

5. Dialogue with stakeholders

Through our website and other means, we will communicate information to stakeholders about the human rights initiatives. In our initiatives, we will make use of the human rights-related expertise of outside experts and will engage in dialogues with employees, suppliers, and other stakeholders whose human rights currently are or could be affected by our business activities.

6. Compliance with applicable laws and regulations, etc.

We will comply with national and regional laws and regulations that apply to our business activities. When contradictions exist between internationally recognized human rights and national laws and regulations, we will seek ways to respect international principles of human rights.

Securing and training of human resources

Approach to human resource development

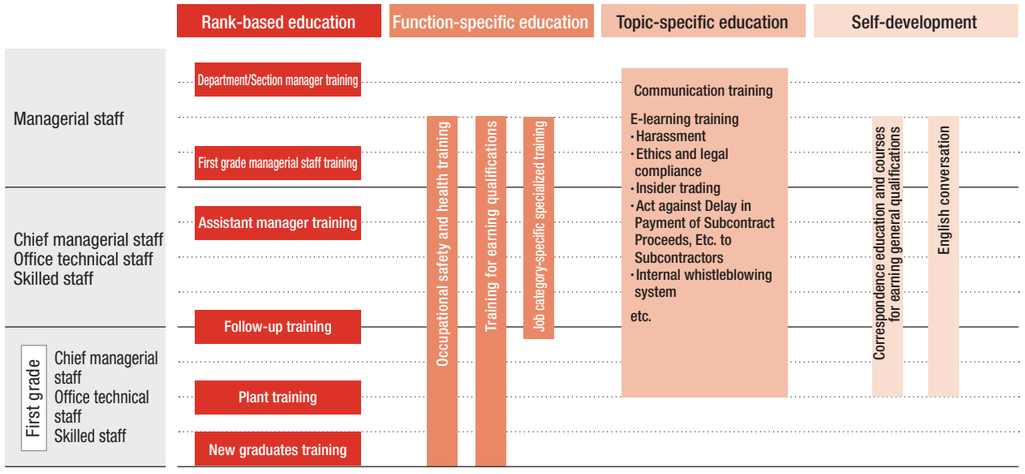
We employ diverse human resources regardless of gender, nationality, and other characteristics. Our aim is to develop human resources who set high personal goals and work with enthusiasm, even when faced with difficulties, to persevere in achieving those goals.

We promote communication that transcends organizations and generations and work to foster a corporate culture in which people can freely express their thoughts. We connect these actions to the energizing of our corporate activities and the achievement of our corporate goals.

Education programs

Our Company offers wide-ranging rank-based training programs that span new graduates training to senior managerial staff training, matched to age and position. In addition to education programs for acquiring licenses and national qualifications required for job positions, in line with the current business environment we have introduced topic-specific education programs to develop human resources capable of responding to anticipated future situations and a program that allows employees to undergo outside training in line with personal wishes.

Education programs



Rank-based education

This education program is tailored to the roles demanded of employees and our vision for them, at every management level.

Examples:
New graduates training, first grade managerial staff training, senior managerial staff training

Job position-specific education

This is an education program for acquiring licenses and national qualifications required for job positions, qualifications needed for plant operation, etc.

Example:
Pollution control and prevention manager

Topic-specific education

This training is offered repeatedly in response to changing times, societal demands, issues in company management, etc.

Self-development

This program allows employees to undergo outside education in line with personal wishes.

Example:
Language training

Promotion of diversity and inclusion

Approach to diversity and inclusion

To build a business structure capable of flexibly and speedily adapting to the rapidly changing market environment, we actively and continuously recruit and appoint diverse human resources that include women, foreign nationals, and mid-career hires with varied work backgrounds. We are also developing workplace environments that allow all employees to utilize their capabilities and distinctiveness to the utmost. Our selection criteria for managerial staff do not distinguish on the basis of gender or new graduates versus mid-career hires.

Active participation by women

In order to double the current number of women in managerial staff positions by 2030, we are making every effort to recruit female managerial track employees who are candidates for managerial staff positions.

Support for work-life balance

We established our General Employer Action Plan to address matters related to employees’ work and childcare, as follows. Specifically, we have set and are working to meet targets for improving the percentage of men taking leave for childcare and for relaxing restrictions on the number of times that childcare leave is allowed.

Action Plan based on the Act on Advancement of Measures to Support Raising Next-Generation Children

1. Period of plan

Two years from June 1, 2021 to May 31, 2023

2. Content

Target 1 Improving the percentage of men taking leave for childcare

➡ 10% or more of male employees with children below elementary school age

Measures

- July 2021: Creation of a pamphlet with information on the program; distribution to employees

Target 2 Relaxation of restrictions on number of times childcare leave can be taken

➡ Design of program that exceeds legal requirements

Measures

- From June 2021: Investigation of in-house needs; start of examination of program expansion
- From March 2022: Discussions with labor union
- From March 2023: Introduction of program
- From April 2023: Dissemination of information to employees through in-house newsletter and briefing sessions

Achievement of comfortable workplace environments

Approach to work style reform (work style innovation, etc.)

Our Company is advancing work style reforms such as telework, now the so-called “new normal,” and will review the functions of its headquarters and other work sites to effect improvements aimed at a lasting and strong corporate constitution. We are also making efforts to enhance employee benefits, leaves, and training programs with the aim of raising work efficiency and creating a stress-free environment within the Company. We are actively promoting the use of maternity, childcare, and long-term care leaves, as well as return to work after gaps. We will strive to achieve workplace environments that consider work-life balance so that all employees can play active roles and grow, unbound by preconceptions and constraints.

Building a foundation for comfortable workplaces

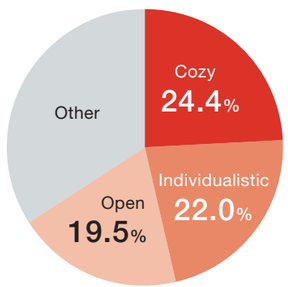
To create workplaces that facilitate work, we have established leave programs as follows.

Leave programs

- Annual paid leave: Acquisition rate: 61.1%; average number of days taken: 11.9 days (Fiscal 2021 results)
- Childcare leave: 7 persons (over the past 5 years)
- Long-term care leave: 1 person (over the past 5 years)

In response to an in-house questionnaire concerning the workplace atmosphere, the top three descriptions were “cozy,” “individualistic,” and “open.”

How would you describe the workplace atmosphere in one word?



Programs to support balancing childcare/ long-term care with work

Nippon Carbon makes efforts to support employees who balance work with childcare or long-term care. Almost all female employees who experience childbirth take prenatal and postnatal maternity leave, and childcare leave afterward. We also support childcare by men, based on the action plan we put into motion in June 2021 to promote childcare leave for male employees. We also introduced a flextime program and reduced working hours for employees who provide childcare or long-term care.

Maintenance and enhancement of occupational safety and health

Occupational safety and health management policy

We aim to ensure the safety and health of employees at our workplaces through the promotion of comprehensive measures for the prevention of occupational accidents. We established a Central Safety and Health Committee that seeks to create comfortable workplace environments. Every year, this committee conducts surveys and deliberates on matters such as company-wide fiscal year policy regarding occupational safety and health, prevention of accidents and illness, and widening occupational safety and health awareness.

Fiscal 2021 Central Safety and Health Committee Policy

1. Enhancement of safety awareness

(1) Strengthening, tracking, and raising awareness of safety-first initiatives
(2) Reliable creation and storage of records related to occupational safety and health activities
(3) Strengthening of safety education
- Strengthening and tracking of safety education at the time of new hires and transfers
- Education and securing of the safety of workplace equipment and tasks by employees

2. Strengthening of proactive safety activities

(1) Strengthening of hazard prediction activities
- Enforcement of pre-work hazard prediction activities
- 3S initiatives

(2) Instillation of risk assessments
- Strengthened tracking of measures taken after past accidents and near-accidents, and prevention of such measures becoming formalities
- Initiatives for the sharing of information about hazardous locations and actions

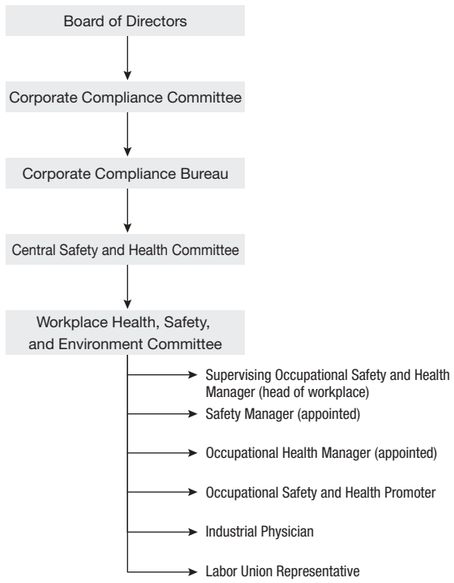
3. Promotion of health and hygiene management

(1) Tracking of health checkup results and enforcement of secondary checkups
(2) Initiatives aimed at comfortable workplace environments
- Initiatives for the assessment and management of appropriate working hours
- Initiatives to combat harassment
- Initiatives to combat contagious diseases

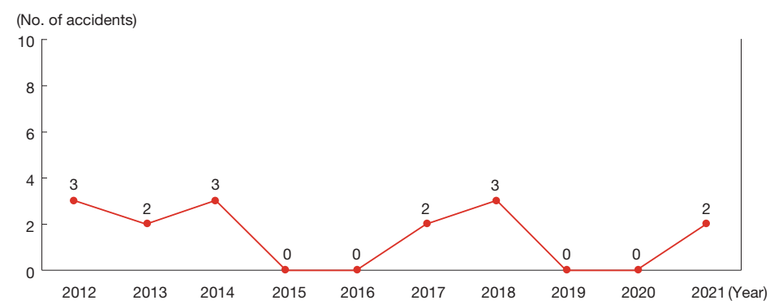
Occupational safety and health management structure

In order to systematize our organizations that carry out occupational safety and health activities and to implement efficient organizational management, we have established a Central Safety and Health Committee chaired by the President or by an Executive Officer.

Occupational safety and health management structure



Changes in number of occupational accidents



* Nippon Carbon Co., Ltd. (non-consolidated) (leave from work of 4 days or longer).

Central Safety and Health Committee

The Central Safety and Health Committee enacts comprehensive measures for the prevention of occupational accidents and the creation of comfortable workplace environments.

Occupational safety and health activities

As one of the activities of the Central Safety and Health Committee, we conduct study sessions on laws, regulations, and everyday management related to occupational safety and health for managerial and other staff. For young and inexperienced employees in particular, we use the New Occupational Safety and Health Guidebook, created independently by the Central Safety and Health Committee, as a part of our efforts to prevent occupational accidents.

To prevent COVID-19 contagion, we continue implementing initiatives that lead to enhanced awareness of hygiene.

Occupational safety and health management measures

Our Company engages in activities based on the Central Safety and Health Committee Policy. Working primarily through individual plants’ Central Safety and Health Committees, we create and implement action plans that cover how each policy measure will be put into operation.

Our Central Safety and Health Committee also conducts safety audits of the implementation status of safety management systems and safety activities at plants. When occupational safety and health activities are found to be inadequate, we enact management measures that require the ongoing submission of improvement plans and training records.

Occupational safety and health activities at plants

Based on our Central Safety and Health Policy, our plants establish Plant Occupational Health, Safety, and Environmental Management Regulations that specify the content and methods of operation of activities with consideration of the living environment of local communities, the assurance of employees’ safety and health, and the prevention of industrial accidents. Plant Health, Safety, and Environment Committees, chaired by plant managers, meet monthly to report and deliberate on occupational safety and health matters. The results of these meetings are communicated throughout the plants.

Initiatives for the Environment

We fully realize that the Company operates in an industry that consumes a lot of energy and resources and is not able to survive without co-existence and co-prosperity with the surrounding areas. In order to hand over the home of all humankind, in other words, the Earth, to the next generations, the Environmental Philosophy has been established and environmental management activities are encouraged.

Environmental Philosophy

Nippon Carbon pursues technologies in harmony with the environment and aims at realizing a society that allows affluent, fruitful lives.

Environmental Policy

Based on the Environmental Philosophy, we define the Environmental Policy that acts as the driving force to maintain and improve environmental performance by constructing and modifying the environmental administration system, and thus develops its activities.

Enhancement and strengthening of environmental management structure

The organization to conduct environmental conservation activities is systematized for maintenance and improvement of the Environmental Management System so that eco-friendly corporate activities are deployed.

Compliance with environment-related laws and regulations

Laws, regulations, ordinances, regional agreements, and other rules related to the environment are complied with to prevent pollution and destruction of the natural environment.

Promotion of environmental education and social contribution activities

In order to raise environmental awareness, all employees are educated about environmental management and they also participate in environmental conservation activities, aiming at coexistence with the local community for protection of the environment in the area and for improvement in communication.

Encouragement of environmental conservation activities

We aim to prevent air, river, and soil contamination and pollution in the form of odor and noise, and to reduce volumes of industrial waste.

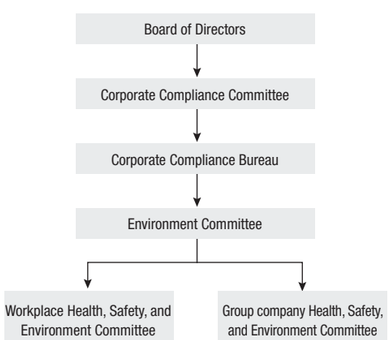
Promotion of efficient use of resources and energy

The amount of resources and energy to use is reduced.

Environmental management structure

Based on our Environmental Philosophy, we make efforts to maintain and improve environmental performance by constructing and modifying the environmental administration system, and thus develops its activities. We have constructed organizations with clearly defined roles, responsibilities, and authorizations based on the ISO 14001 international standard for environmental management systems, and engage in efficient operation of the organizations. The Environment Committee is convened at least once a year. The plant general manager of each plant participates in the meeting to review the appropriateness and effectiveness of work sites' environmental management systems and to follows up activities to control global warming.

Environmental management structure



Development of technologies and products in harmony with the environment

Fine carbon

The Nippon Carbon Group's fine carbon finds wide use in manufacturing processes for solar power generation, LEDs, semiconductors, electric vehicle parts, and other indispensable inputs for the achievement of a carbon-neutral society. Fine carbon demand from cutting-edge fields is expected to further increase. We continuously engage in the development of new materials for energy saving, drawing on the many years of experience. Through the supply of fine carbon, the Nippon Carbon Group is contributing to the creation of a carbon-neutral society.

Artificial graphite electrodes

Artificial graphite electrodes are used as electrodes in electric furnaces that melt and recycle steel scrap. Through this reuse, electric furnace-based steelmaking contributes to the creation of a recycling-oriented society. The furnaces also produce only a quarter of the CO_2 emissions of blast furnaces, contributing to the reduction of CO_2. In Japan and overseas, production is shifting from blast furnaces to electric furnaces. Through the supply of artificial graphite electrodes, the Nippon Carbon Group will contribute to the creation of a sustainable society.

Silicon carbide fiber

Nicalon silicon carbide fiber is a ceramic fiber that maintains outstanding strength and elasticity even in atmospheres hundreds of degrees above 1,000°C. Composite materials made from Nicalon and ceramics are used in aircraft engines, contributing to 15% improvement in fuel efficiency.

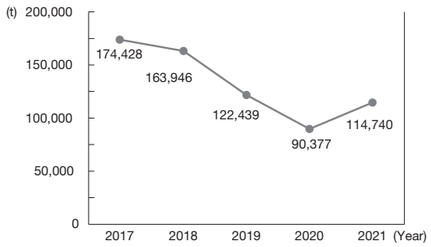
The International Civil Aviation Organization has adopted a 2% annual average fuel efficiency improvement between 2020 and 2050 as a global reduction target. Nicalon silicon carbide fiber is an indispensable material in achieving this target.

Contribution to a decarbonized society

Emissions of greenhouse gases are generally proportional to energy inputs. Our Company has set targets for energy intensity and works to improve our energy efficiency.

We will continue to improve production processes and introduce highly energy-efficient equipment, with a 1% annual reduction in energy intensity as our reduction target.

Greenhouse gas emissions

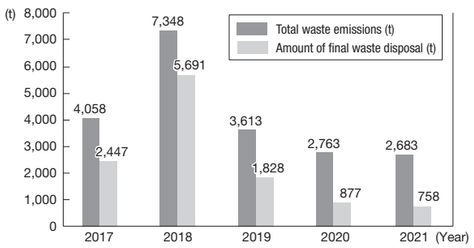


* The targeted scope is all production sites, headquarters, branches, and laboratories of the Nippon Carbon Group (excluding Nippon Kornmeyer Carbon Group GmbH).

Contribution to a recycling-based society

Every plant sets target values for waste intensity and works to reduce waste. 5R activities include recycling of carbon materials generated in production, reuse initiatives, conversion of waste tar into fuel, and other activities that lead to a recycling-oriented society.

Amount of final waste disposal



* The targeted scope is all production sites and laboratories of the Nippon Carbon Group (excluding Nippon Kornmeyer Carbon Group GmbH).

We use water resources primarily for cooling heat treatment furnaces such as firing furnaces and graphite furnaces. We continue undertaking initiatives to effectively minimize water input, through means such as the use of circulation equipment. We also control emissions concentration and water pollution load, which are regulated items under the Water Pollution Prevention Act, to keep these well below the regulatory values.

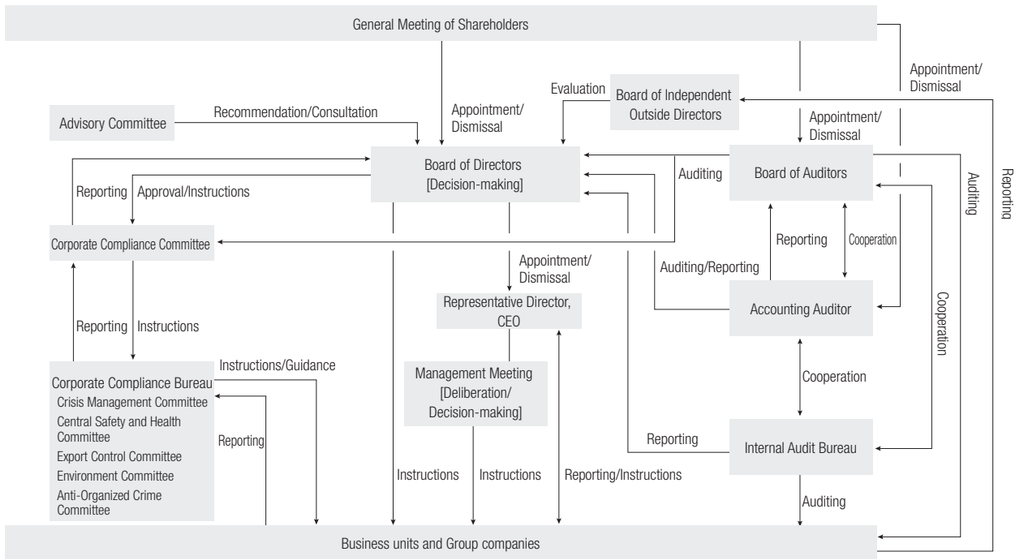
Corporate Governance

The Nippon Carbon Group aims to achieve its Management Philosophy and recognizes that sustainable growth and enhancement of its corporate value will lead to the maximization of stakeholder interests. Toward this end, we are working to strengthen our corporate governance to ensure transparency and fairness in our management.

Corporate governance structure

The Nippon Carbon Group will continually work to enhance our corporate governance. From a perspective of stakeholder interests, sustainable growth of the Company, and enhancement of our corporate value, we view ensuring transparency and fairness in decision-making and increasing management vitality through quick and resolute decision-making as central to corporate governance. We are making efforts to strengthen our corporate governance in line with the following basic policies.

(1) Respect the rights of shareholders and secure their equal treatment.
(2) Consider the interests of stakeholders including shareholders and cooperate appropriately with the stakeholders.
(3) Properly disclose the Company's information and ensure transparency.
(4) Make the Board of Directors' supervision function for business execution effective.
(5) Through the realization of the Management Philosophy, aim to increase sustainable corporate value and engage in constructive dialogue with shareholders and investors that have investment policies that align with the Management Philosophy.



Overview of organizations

Board of Directors

The Board of Directors consists of Directors who possess skills pertaining to management, global business, legal affairs, and other matters, with half of said Directors appointed as Independent Outside Directors.

The Board of Directors determines basic management policy, receives reports on important matters, and executes the duties of the Board of Directors.

We evaluate the effectiveness of the Board of Directors once a year, confirming and improving its effectiveness through the PDCA cycle.

Management Conference

Management conference is composed primarily of Directors, Auditors, and Executive Officers. It deliberates and issues resolutions on proposals for discussion, following policies decided by the Board of Directors. By delegating wide-ranging authority to the Management Committee, we have established a structure that enables prompt decision-making.

Board of Auditors

Our structure is that of a company with a Board of Auditors, which in principle meets once a month. The audit by the Auditors is conducted by three members with one full-time Auditor and two part-time Auditors (two outside) and is held based on the audit policy and audit plan formulated at the Board of Auditors. Therefore, Board of Auditors play roles in strengthening our auditing structure from an independent standpoint.

Auditors conduct an audit of the legality and validity of Directors' decision-making and execution of the duties mainly by attending meetings of the Board of Directors and other important meetings, hearing opinions from Directors and viewing important approved documents.

Advisory Committee

The Advisory Committee aims to ensure the objectiveness and transparency of the process of determining the amounts of remuneration to Directors as well as of appointing and dismissing Directors. The Advisory Committee consists of a majority of Independent Outside Directors to ensure its independence.

Accounting audits, Accounting Auditor

Deloitte Touche Tohmatsu LLC has been appointed as Accounting Auditor and conducts an accounting audit.

Corporate Compliance Committee

Viewing thorough compliance with ethics and laws as a basic principle of management, Nippon Carbon strictly complies with all laws, regulations, and rules. In order to engage in sincere and fair corporate activities without violation of social norms, we have established the "Basic Policy on Ethics and Compliance" and the "Nippon Carbon Code of Conduct." Primarily through the Corporate Compliance Committee, we work to establish ethical and legal compliance throughout the Group. In addition to legal compliance, we have established structures to enforce risk management and to enhance transparency for shareholders, business partners, communities, and other stakeholders.

Internal Audit Bureau

The Internal Audit Bureau that directly reports to the top management has been established to enhance the internal audit system of the Nippon Carbon Group. The Internal Audit Bureau draws up an annual audit plan, and in accordance with the plan, conducts an internal audit of the appropriateness of the business process and the reliability of financial reporting at each organization within the Group. The Internal Audit Bureau conveys audit results to departments subject to auditing, checks improvement status, and reports the results of follow-up audits to the Board of Directors. The Internal Audit Bureau strives to achieve an effective audit by cooperating with Accounting Auditor as necessary as well as regularly providing an audit report to and exchanging information with the Board of Auditors.

List of Officers

Representative Director and Chairman

Yoshiji Motohashi

Apr. 1972	Joined the Company
Oct. 2008	Corporate Officer and Plant Manager, Shiga Plant, Production Engineering Department
Mar. 2009	Director and Plant Manager, Shiga Plant, Production Engineering Department
Jan. 2011	Managing Director and Plant Manager, Toyama Plant, Production Engineering Department
Jan. 2013	Managing Director; Senior General Manager, Production Engineering Department; and General Manager, Production Engineering Division
Feb. 2014	Senior Vice President and Representative Director; Senior General Manager, Production Engineering Department; and General Manager, Production Engineering Division
Mar. 2015	Senior Vice President and Representative Director; Senior General Manager, Production Engineering Department; General Manager, Production Engineering Division; and Senior General Manager, Development Department
Jan. 2017	Representative Director, Chairman (to present)

Representative Director and CEO

Takafumi Miyashita

Jun. 1992	Joined the Company
Jan. 2011	Corporate Officer; General Manager, FC Sales Division I, Sales Department; and Branch Manager, Osaka Branch
Nov. 2011	Corporate Officer; General Manager, FC Sales Division I and General Manager, FC Sales Division II, Sales Department; and Branch Manager, Osaka Branch
Jan. 2012	Corporate Officer; Assistant Senior General Manager, Sales Department; General Manager, FC Sales Division I; and General Manager, FC Sales Division II
Mar. 2012	Director; Assistant Senior General Manager, Sales Department; General Manager, FC Sales Division I; and General Manager, FC Sales Division II
Jan. 2013	Director; Senior General Manager, Sales Department; General Manager, FC Sales Division I; and General Manager, FC Sales Division II
Sep. 2013	Director; Senior General Manager, Sales Department; and General Manager, FC Sales Division I
Jan. 2015	Managing Director; Senior General Manager, Sales Department; and General Manager, FC Sales Division
Jan. 2016	Senior Managing Director and Senior General Manager, Sales and Corporate Planning Department
Jan. 2017	Representative Director, CEO (to present)

Outside Director

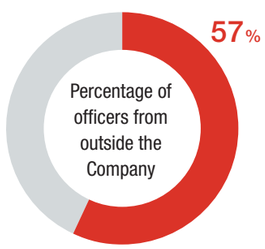
Takeo Kato

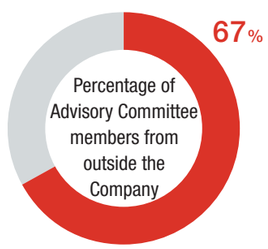
Apr. 1975	Joined ULVAC, Inc. (formerly Japan Vacuum Engineering Co., Ltd.)
Sep. 2006	Director of ULVAC, Inc.
Sep. 2013	President and Chief Executive Officer of ULVAC TOHOKU, Inc.
Sep. 2018	Advisor of ULVAC, Inc
Mar. 2020	Outside Director (to present)

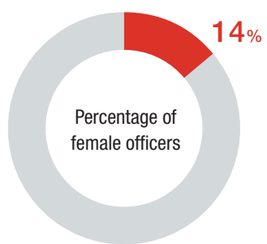
Outside Director

Yuriko Katayama

Oct. 2000	Admitted as attorney (Japan)
Apr. 2005	Admitted as attorney (State of New York, USA)
Sep. 2009	Established Takahashi & Katayama
Apr. 2010	Officer Attorney, Office of International Affairs, Japan Federation of Bar Associations
Sep. 2020	Director, Office of International Affairs, Japan Federation of Bar Associations (to Dec. 2022)
Mar. 2022	Outside Director (to present)







Auditor

Atsushi Miyazaki

Apr. 1982	Joined the Company
Apr. 2015	General Manager of FC Sales Division
Jan. 2017	Executive Officer, General Manager of FC Sales Division
Jan. 2020	Counselor, General Manager of FC Sales Division
Mar. 2020	Auditor (to present)

Outside Auditor

Mitsuo Sasaki

Sep. 1980	Admitted as Certified Public Accountant
Sep. 1984	Admitted as Certified Tax Accountant
Oct. 1984	Established Sasaki Mitsuo Certified Public Accountant Office
Mar. 2015	Outside Auditor (to present)

Outside Auditor

Yoshikazu Tanaka

Apr. 1971	Joined the Company
Mar. 2006	Director
Mar. 2009	Retired as Director
Mar. 2022	Outside Auditor (to present)

Director Skill Matrix

Name		Director				Auditor		
		Representative Director, Chairman Yoshiji Motohashi	Representative Director, CEO Takafumi Miyashita	Director Takeo Kato	Director Yuriko Katayama	Auditor Atsushi Miyazaki	Auditor Mitsuo Sasaki	Auditor Yoshikazu Tanaka
Capabilities possessed by the Director	Corporate management	●	●	●				
	Business planning		●	●				
	Global business		●		●			
	Legal affairs and governance				●			
	Sales and marketing		●					
	Manufacturing and technology	●		●				
	Research and development	●						
Other information	Independent officer			●	●		●	●
	Advisory Committee	●		●	●			
	Rate of attendance at Board of Directors meetings (FY2021)	17/17	17/17	17/17	—	17/17	16/17	—
	Rate of attendance at Board of Auditors meetings (FY2021)					19/19	19/19	—
	Number of shares held (hundreds)	78	21	—	—	4	4	—
	Term of office	From 2017/1	From 2017/1	From 2020/3	From 2022/3	From 2020/3	From 2015/3	From 2022/3

Evaluation of the effectiveness of the Board of Directors

Overview

The Company analyzes and evaluates the effectiveness of the Board of Directors, utilizing such analysis and evaluation to improve the future operation of the Board of Directors with the aim of increasing sustainable growth and long-term corporate value. As one of the measures, the Company provides an evaluation and feedback questionnaire to each Director and Auditor about the operation of the Board of Directors and other topics once or more a year in principle.

Evaluation process

In FY2021, to ensure the anonymity of the questionnaire results and the objectiveness of the evaluation and analysis, the Company delegated the collection and analysis of the questionnaire to a third-party institution and conducted the questionnaire and self-evaluation in the manner described below.

(1) Evaluation period: From January 2021 to December 2021
(2) Response period: From January 14, 2022 to January 24, 2022
(3) Respondents: Seven Directors and Auditors in total
(4) Overview: Evaluation for each question (on a five-point scale) and additional comments

Questionnaire items

(1) Roles and functions of the Board of Directors
(2) Composition and size of the Board of Directors
(3) Operation of the Board of Directors
(4) Cooperation with audit organizations
(5) Relationship with Outside Directors
(6) Relationship with shareholders and investors

Each question has an additional comment space, calling for a wide range of opinions.

Evaluation

Based on the questionnaire results, the Company has analyzed the effectiveness of the Board of Directors and judged that it is mostly ensured.

In particular, the Company recognizes that the proceedings of the meetings of the Board of Directors and its cooperation with audit organizations are its strengths.

On the other hand, issues identified to further enhance the effectiveness of the Board of Directors are described below.

(1) Expansion of discussion to ensure the diversity of the Board of Directors
(2) Expansion of discussion about the allocation of management resources

Based on this evaluation, the Company will work on expanding opportunities to discuss the composition and diversity of the Board of Directors, personnel strategy, and business portfolio management, with the focus on the increasing importance of risk management.

Remuneration for officers

Basic policy

The Company has established a Policy for Determining Remuneration for Directors.

Composition of remuneration

Remuneration for officers consists of basic remuneration based on position, bonuses linked to performance, and stock remuneration linked to stock price.

We introduced a performance-linked stock remuneration system in 2017 to further clarify the connection between Directors' remuneration and the Company's performance and stock price, as well as to enhance a mindset of contribution to the enhancement of medium- to long-term business performance and increased corporate value. The system seeks to do so by having Directors share the risk of stock price declines with shareholders, as well as benefit from rises in stock price.

The validity of the remuneration calculated for officers is examined by the Advisory Committee. Amounts are decided by the Board of Directors or the Board of Auditors following consultation with the Advisory Committee.

Remuneration for Auditors

In light of their duties, Auditors are paid only a fixed basic remuneration and fixed bonuses.

Messages from Outside Directors

Outside Director

Takeo Kato

Advice on enhancement of corporate value and monitoring of management

I recognize that providing counsel regarding the enhancement of corporate value from an objective standpoint and monitoring management from the perspective of governance are the roles of an Outside Director. I strive to strike a balance between the two.

Enhancing corporate value requires strengthening of profitability that is unaffected by market conditions, market growth potential, and other aspects of the environment. I believe that in the manufacturing industry in particular, improvement of yields and work efficiency is necessary for strengthening profitability. Toward that end, we have to abandon the idea that our current production methods and production structure are fine. When I make inspection visits to production plants, I always try to provide advice and suggestions based on the objective viewpoint and experiences that I have gained in the manufacturing industry, although in a different sector. I hope that this provides an opportunity for employees to have insights, to think, and to act. I also recognize that the strengthening of governance is directly connected to the enhancement of corporate value. I will do my utmost to utilize my management experience and knowledge to satisfy the Company's stakeholders.

Outside Director

Yuriko Katayama

Paying attention to initiatives for the global environment and diversity

I was appointed as an Outside Director in March 2022. Outside Directors are expected to monitor management and voice the views from an outside perspective. The Company's Board of Directors is in an atmosphere that encourages exchanging candid questions and thought while maintaining a sense of tension.

The BREAKTHROUGH 2024 Mid-term Management Policy calls for three pillars: (1) business structural reforms with an awareness of carbon neutrality and DX, (2) improvement aimed at a lasting and strong corporate constitution, and (3) promotion of ESG management. All of these are supported by the strong demands of the time. Among them, carbon neutrality and the environment are globally expected to tackle with as important issues of corporate social responsibility. I will pay a special attention to how the Company addresses these matters in its management. As the first female Outside Director in the Company, I also pay heed to diversity initiatives.

I will monitor the Company's management and corporate governance, actively speak out on items of concern, and contribute to the enhancement of corporate value as an Outside Director.

Compliance

Our Company makes ethics and legal compliance a basic principle of management. We have formulated and implement the “Basic Policy on Ethics and Compliance” and the “Nippon Carbon Code of Conduct” to ensure sincere and fair corporate activities and to create a company that is trusted by business partners, shareholders, communities, and other stakeholders.

Basic Policy on Ethics and Compliance

1. We will contribute to society through the provision of outstanding products and services.

- As a pioneer in Japan’s carbon industrial field and as a leading company, we recognize our social responsibilities and will engage in sound corporate activities.
- By making every effort to develop carbon and peripheral technologies that hold infinite possibilities, we will do our utmost to contribute to society by providing world-class products and services tailored to the needs of the market.

2. We will observe laws and other social norms and will engage in fair and sound corporate activities.

- We will engage in corporate activities on the basis of laws, social norms, and social sensibilities.
- We will practice fair and sincere corporate activities based on principles of self-responsibility.
- We will engage in corporate activities that conform to the rules of international society and will aim for further development as a global company.
- We will take a resolute stance against any individuals or groups that adversely affect the social order and sound corporate activities.
- When a conflict exists between interests and ethics, we will always favor ethics.
- We will not engage in fraudulent accounting practices or false reporting.

3. We will respect the character and individuality of our employees and will achieve comfortable and rewarding workplace environments.

- We will value the autonomy and creativity of every employee and will foster a corporate culture that makes use of these qualities in our corporate activities.
- We will protect the safety of workplaces and the health of employees, will respect human rights, and will ensure sound workplace environments free of discrimination.

4. We will respect the standpoints of stakeholders.

- We will strive to maintain sound and positive relationships with a wide-ranging areas of society, including customers, business partners, employees, and shareholders.

5. We will strive to be a good corporate citizen that contributes to society.

- We will closely coordinate and cooperate with local communities so that we can play a role in community development.
- In today’s age of globalization, we will respect the world’s differing cultural traditions and customs.

6. We will contribute to the conservation of the global environment and the creation of a prosperous and livable society.

- We recognize that we receive the resources required in our business activities and many other benefits from the Earth, and that we bear a duty to leave the global environment in a better state.
- We will tackle the challenge of creating a more prosperous society for future generations.

Nippon Carbon Code of Conduct (Overview)

Compliance with laws, regulations, and rules	Matters concerning the maintenance and promotion of fair and free competition	
	Matters concerning the exclusion of anti-social forces	
	Sound relationships with politics and government (particularly civil servants)	
	Matters concerning disclosure of information	
Promotion of business activities	Matters concerning safety and the provision of outstanding products and services	Matters concerning production Matters concerning sales Matters concerning research and development Matters concerning product safety
	Matters concerning sound and positive relationships with business partners and other parties	Relationships with sales partners Relationships with suppliers Relationships with affiliated companies and partner companies Relationships with government agencies, local government bodies, and other public organizations
	Matters concerning the protection of intellectual property rights	Handling of trade secrets belonging to the Company Handling of the intellectual property rights of other companies
Relationships between the Company and its employees	Matters concerning the character and individuality of employees	
	Matters concerning respect for privacy	
	Matters concerning respect for human rights and the prohibition of discriminatory treatment	
	Achievement of safe and healthy workplace environments	Eradication of occupational accidents
	Matters concerning awareness of everyday information management	
	Matters concerning respect for company property	
	Matters concerning the prohibition of acts in conflict of interest	
Relationships between the Company and society	Our responsibility to local communities	
	Matters concerning conservation of the global environment	
Matters concerning violations of the Standards of Conduct		

Ethics and legal compliance structure

We established the Corporate Compliance Committee, which is composed of Directors and Auditors and is chaired by the President. The committee works to solve and make improvements to varied issues related to compliance, and is building a structure to reflect this in our everyday corporate activities.

We have further placed a Corporate Compliance Bureau directly under the committee. In addition to conducting supervision and management that cuts across all departments, this office has set up direct points of contact for consultations, investigates irregular matters, implements corrective measures, and checks the status of compliance.

Ethics and legal compliance structure

Whistleblowing system

In order to take appropriate actions in response to reports and requests for consultation regarding internal and external whistleblowing involving the public interest, and to promptly correct improper acts and promote compliance, we set up a consultation and reporting helpline within the Company. The privacy of persons making reports or requesting consultation is respected, and no personnel-related or other unfavorable treatment is meted out to these persons.

System mechanisms spanning consultations to remedies

Risk Management

As the risks surrounding our business become ever more diverse and complex, the Nippon Carbon Group is working to build a management structure capable of responding to risks.

The Nippon Carbon Group comprehensively identifies risks envisioned in the course of carrying out our business, evaluates each risk's degree of impact on the Nippon Carbon Group and the possibility of its materialization, and identifies major risks. We further enact measures to control the possibility of identified major risks materializing and to minimize impact when risks do materialize. We also monitor the progress and effectiveness of risk countermeasures, and undertake reviews and improvements related to countermeasures. During the fiscal year, we undertook risk assessments under the following risk management cycle.

Risk management cycle

Risk assessment	Risk countermeasure	Monitoring	Review and improvement
Identification of risks ▼ Evaluation of risks ▼ Selection of major risks	Implementation of measures to combat major risks	Monitoring of the progress and effectiveness of risk countermeasures	Review and improvement of risk countermeasures

Risk assessment flow

Identification of risks	Identification of envisioned risks and creation of a risk list (draft)
▼	
Workshops	Evaluation of risks' degree of impact and probability of materialization, based on the risk list (draft)
▼	
Hearings with officers	Hearings with officers about the validity of the risk map and candidate major risks, from a management perspective
▼	
Creation of a risk map	Creation of a risk map, based on the content of the hearings with officers
▼	
Selection of major risks	Selection of significant risks that should be a focus of management, based on the content of the hearings with officers

Overview of major risks and status of countermeasures

Major risks	Overview of risks	Risk countermeasures
Difficulties in the sourcing of specific raw materials	Risk of inability by the Company to provide materials to customers due to the discontinuation of manufacturing of specific raw materials	• Diversification of raw material suppliers • Collection of information on countries and companies where sourcing is performed • Selection of alternative raw materials • Securing of inventory in line with degree of importance
Fire and explosion	Risk of a major fire or explosion at a plant resulting in suspension of production due to damage to buildings, destruction of production equipment, injury or death to employees, etc.	• Formulation of facility maintenance plans and promotion of self-maintenance • Formulation of emergency response manuals and implementation of drills
Quality falsification/ Quality defects	Risk of the occurrence of falsification of quality inspection results or delivery of products that do not meet quality standards, etc., resulting in a loss of corporate credibility and termination of transactions	• Formulation of quality control manuals • Implementation of internal audits • Thorough management of data related to quality control
Revision and strengthening of laws, regulations, etc.	Risk of restrictions on manufacture and sales of products due to revisions to and strengthening of laws and regulations	• Proper collection of information on laws and regulations
Outbreaks of contagion/ disease	Risk of employees being unable to go to work due to outbreaks, and suspension of production	• Operation of the Crisis Management Committee • Implementation of telework and staggered working hours • Online meetings • Formulation of a response manual for outbreaks of contagion
Recruitment difficulties, delays in human resource development, and outflow of human resources	Risk of inability to proceed with recruitment of talented human resources according to expectations due to recruitment difficulties, risk of medium- to long-term human resource development not progressing according to plans, and risk of hindrances to work due to increased turnover rate, etc.	• Rank-based and topic-specific training • Regular interviews with employees
Earthquakes, tsunamis	Risk of a massive earthquake occurring in a region where our workplaces or production sites are located, resulting in suspension of production due to damage to buildings, damage to production equipment, injury or death to employees, etc.	• Operation of the Crisis Management Committee • Securing of emergency power supplies • Operation of safety confirmation rules and safety confirmation system • Decentralization of production sites
Cyberattacks	Risk of losing the trust of customers and the public due to cyberattack-based leaks of confidential information on customers and the Company	• Construction of defenses against unauthorized access, backup of data, and other safety measures implemented at appropriate and rational levels • Cautions to employees regarding handling of targeted email attacks, etc. • Formulation of security policy

Response to climate change

Based on our recognition that the Nippon Carbon Group is part of an industry that consumes large quantities of energy and resources, we have identified “Contribution to a decarbonized society,” “Contribution to a resource recycling-based society,” and “Adaptation to climate change” as a materiality (i.e., priority issues), and are advancing initiatives to minimize climate change risks. We have also set “Development of technologies and products in harmony with the environment” as a materiality, in the aim of the achievement of a sustainable society.

As an initiative to achieve this, the Nippon Carbon Group conducts scenario analyses based on the framework of recommendations from the Task Force on Climate-related Financial Disclosure. We evaluate the impacts of the risks and opportunities that climate change will have on our business activities, and consider countermeasures.

Governance and risk management

The Nippon Carbon Group conducts scenario analyses of the risks and opportunities that climate change will bring, and evaluates their degree of impact on the Group.

When scenario analysis evaluates risks and opportunities as presenting a high degree of impact, we incorporate these into our risk management cycle and, acting under top management, examine and implement countermeasures and monitor their effectiveness.

Strategy

To analyze the impacts of climate change on our business activities, we conducted a scenario analysis related to climate change. The scenario analysis identified the risks and opportunities expected in 2030 under two scenarios: one in which decarbonization is achieved (under-2°C scenario) and one in which climate change progresses (4°C scenario). We then evaluated the degrees of impact on the Nippon Carbon Group.

In the under-2°C scenario, transition risks that are expected to have major impacts include carbon pricing, equipment upgrade expenses to comply with environmental regulations, and increased costs of oil- and coal-derived raw materials and fuels.

Physical risks expected to have major impacts in the 4°C scenario include increased damage to plants due to typhoons, heavy rains, flooding, and storm surges.

The main expected opportunities include increased demand for Nippon Carbon Group products that contribute to decarbonization (solar cell and EV-related fine carbon products, artificial graphite electrodes, lithium-ion battery anode materials, silicon carbide fiber, etc.).

Overview of scenarios

	Overview	Reference
Under-2°C scenario	Scenario in which atmospheric temperature rise is constrained to less than 2°C from the pre-industrial level. To achieve sustainable development goals, including those of the Paris Agreement, strict laws and regulations are introduced and large-scale investments in environment-related technologies are made.	International Energy Agency (IEA) Sustainable Development Scenario (SDS), etc.
4°C scenario	Scenario in which atmospheric temperature rises 4°C or more from the pre-industrial level. The introduction of environment-related laws and regulations is delayed and floods, storm surges, and other weather anomalies increase as greenhouse gas emissions go uncontrolled.	United Nations Intergovernmental Panel on Climate Change (IPCC) RCP8.5, etc.)

Major climate change-related risks and opportunities

Classification		Risk/Opportunity	Impact on business	Degree of impact (2030)
Under-2°C scenario	Risks	Incomplete/delayed response to climate change	• Risk of withdrawal of investment and decline in stock price due to criticism by investors, etc. over the use of fossil fuels and insufficient information disclosure	Medium
		Increase in costs due to carbon pricing	• Risk of increased financial burden due to carbon pricing and other tightening of GHG emission regulations	Large
		Increase in costs due to changes in manufacturing processes to comply with environmental regulations	• Risk of increased costs or work burdens associated with equipment upgrades and manufacturing process improvements	Medium
		Increased energy costs	• Risk of increased energy costs due to factors including soaring fuel prices, increased rate of renewable energy usage, and increased renewable energy surcharges	Large
		Increased logistics costs	• Risk of increased logistics costs due to soaring prices of gasoline, etc.	Medium
		Soaring raw material prices	• Risk of soaring prices of crude oil, coal, and other raw materials, increasing financial burden	Large
		Emergence of innovative technologies (related to decarbonization)	• Possibility of slowdown in sales relative to market growth due to competition • Risk of reduced demand for silicon melting furnace-related products due to the mainstreaming of next-generation solar cells	Large
	Opportunities	Increased demand for energy-saving- and renewable energy-related products	• Possibility of growing demand for silicon melting furnace-related products associated with growing demand for solar cells • Possibility of growing demand for silicon carbide fiber, which contributes to enhanced fuel efficiency in aircraft engines	Large
		Increased demand for artificial graphite electrodes	• Possibility of growing demand for artificial graphite electrodes associated with increasing demand for electric furnaces	Large
		Increased demand for EV-related products	• Possibility of growing demand for fine carbon products for semiconductors, magnets, etc. and for lithium-ion battery anode materials associated with increased demand for EVs	Large
		Positive evaluation by investors, etc. of leading response	• Possibility of rise in stock price due to positive evaluation by investors, etc. of the Company’s leading responses to climate change	Medium
4°C scenario	Risks	Heavy rains, flooding, and other weather anomalies	• Risk of damage from flooding, storms, etc. in plants, etc., affecting operations	Medium

Metrics and targets

The Nippon Carbon Group is advancing initiatives to reduce GHG emissions, under the goal set out by the Japanese government of achieving carbon neutrality by 2050. As GHG emissions are roughly proportional to energy input amounts, we are examining and monitoring measures to reduce GHG emissions with energy intensity as a metric. As a component of our risk management initiatives, we also set and manage metrics and targets related to measures for individual risks and opportunities, and aim to disclose information in the future.

* See p. 34 for detailed data on our GHG emissions.

Financial Information

Long-term financial results (consolidated results)

For the year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating results											
Net sales	(Millions of yen)	30,356	30,439	29,580	28,891	22,903	27,964	48,017	44,931	26,802	**31,578**
Operating profit	(Millions of yen)	1,708	705	1,409	2,063	(663)	2,569	16,404	14,827	3,015	**3,706**
Ordinary profit	(Millions of yen)	1,878	921	1,518	1,884	(570)	2,997	16,508	15,106	3,587	**4,434**
Profit attributable to owners of parent	(Millions of yen)	425	694	802	1,076	(5,413)	2,961	10,292	9,700	1,810	**2,729**
Cash flows from operating activities	(Millions of yen)	852	2,624	4,319	3,827	2,370	3,876	12,633	4,792	3,853	**7,551**
Cash flows from investing activities	(Millions of yen)	(2,593)	(899)	(825)	(526)	(6,136)	(1,498)	(2,051)	(3,693)	(4,716)	**(608)**
Cash flows from financing activities	(Millions of yen)	(2,213)	(2,236)	(1,362)	(740)	3,501	(1,349)	(2,418)	(2,996)	(2,389)	**(3,762)**
Cash and cash equivalents at end of period	(Millions of yen)	6,422	5,914	8,048	10,685	10,408	11,441	19,602	17,707	14,455	**17,720**
Research and development expenses	(Millions of yen)	320	276	283	240	295	341	368	418	406	**368**
Depreciation	(Millions of yen)	3,362	2,860	2,667	1,980	2,342	1,570	1,529	1,847	2,193	**2,385**
Capital expenditure	(Millions of yen)	1,316	1,091	940	5,018	3,678	1,468	2,713	4,456	3,572	**1,812**
Financial status											
Total assets	(Millions of yen)	57,786	56,391	57,114	59,043	53,895	57,656	73,598	77,939	70,930	**72,692**
Equity capital	(Millions of yen)	30,211	31,017	31,509	31,477	25,438	28,196	36,539	45,140	44,146	**44,987**
Net assets	(Millions of yen)	35,166	36,103	36,690	36,617	30,810	33,906	42,734	51,654	50,998	**52,257**
Interest-bearing debt *1	(Millions of yen)	12,218	10,742	10,049	10,945	14,938	14,394	13,248	12,027	11,987	**10,567**
Per-share											
Profit *2	(yen/share)	3.74	6.11	7.06	9.51	(48.81)	267.71	931.89	876.81	163.64	**247.00**
Net assets *2	(yen/share)	265.70	272.81	277.29	283.82	229.37	2,553.20	3,303.04	4,080.33	3,989.30	**4,073.56**
Dividends *2	(yen/share)	5.00	5.00	5.00	5.00	5.00	50.00	100.00	200.00	200.00	**200.00**
Financial indicators											
Return on assets (ROA)	(%)	3.1	1.6	2.7	3.2	(1.0)	5.4	25.1	19.9	4.8	**6.2**
Return on equity (ROE)	(%)	1.4	2.3	2.6	3.4	(19.0)	11.0	31.8	23.8	4.1	**6.1**
Return on sales (ROS)	(%)	6.2	3.0	5.1	6.5	(2.5)	10.7	34.4	33.6	13.4	**14.0**
Equity ratio	(%)	52.3	55.0	55.2	53.3	47.2	48.9	49.4	57.9	62.2	**61.9**
Share price at end of term	(yen/share)	178	198	229	306	227	5,070	4,025	4,105	3,945	**4,170**
Dividend payout ratio *3	(%)	95.24	118.48	91.07	53.19	(9.60)	22.05	11.58	23.20	162.44	**105.08**
Price-earnings ratio (PER)	(multiple)	47.59	32.41	32.44	32.18	(4.65)	18.94	4.32	4.68	24.11	**16.88**

*1 Figure indicates balance of borrowings.
*2 A 10-for-1 share consolidation was implemented effective July 1, 2017.
*3 Nippon Carbon Co., Ltd. (non-consolidated).

Number of employees

For the year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Consolidated	(persons)	547	530	537	574	591	614	679	664	663	**648**
Non-consolidated	(persons)	157	145	143	147	148	169	154	180	182	**175**

Consolidated balance sheets

(Millions of yen)

	As of December 31, 2020	As of December 31, 2021
Assets		
Current assets		
Cash and deposits	14,600	**17,865**
Notes and accounts receivable - trade	9,228	**11,592**
Merchandise and finished goods	9,366	**7,896**
Work in process	4,524	**4,595**
Raw materials and supplies	3,469	**2,886**
Income taxes receivable	1,350	**—**
Other	509	**585**
Allowance for doubtful accounts	(20)	**(22)**
Total current assets	43,028	**45,399**
Non-current assets		
Property, plant and equipment		
Buildings and structures, net	7,420	**7,177**
Machinery and equipment, net	7,737	**8,195**
Vehicles, tools, furniture and fixtures, net	483	**464**
Land	3,524	**3,544**
Construction in progress	968	**132**
Total property, plant and equipment	20,135	**19,515**
Intangible assets	198	**264**
Investments and other assets		
Investment securities	5,026	**5,172**
Deferred tax assets	334	**378**
Other	2,209	**1,964**
Allowance for doubtful accounts	(2)	**(2)**
Total investments and other assets	7,567	**7,513**
Total non-current assets	27,902	**27,292**
Total assets	70,930	**72,692**

(Millions of yen)

	As of December 31, 2020	As of December 31, 2021
Liabilities		
Current liabilities		
Notes and accounts payable - trade	3,321	**3,900**
Short-term borrowings	9,425	**9,180**
Accrued expenses	587	**516**
Income taxes payable	466	**1,038**
Provision for bonuses	146	**208**
Provision for bonuses for directors (and other officers)	43	**59**
Provision for loss on orders received	13	**—**
Provision for plant relocation related expense	159	**—**
Other	1,418	**2,123**
Total current liabilities	15,580	**17,027**
Non-current liabilities		
Long-term borrowings	2,562	**1,387**
Deferred tax liabilities	422	**633**
Retirement benefit liability	771	**776**
Provision for retirement benefits for directors (and other officers)	52	**55**
Provision for share awards for directors (and other officers)	70	**89**
Provision for environmental measures	28	**28**
Asset retirement obligations	62	**62**
Other	380	**373**
Total non-current liabilities	4,351	**3,407**
Total liabilities	19,931	**20,434**
Net assets		
Shareholders' equity		
Share capital	7,402	**7,402**
Capital surplus	7,857	**7,857**
Retained earnings	29,287	**29,805**
Treasury shares	(1,913)	**(2,011)**
Total shareholders' equity	42,634	**43,054**
Accumulated other comprehensive income		
Valuation difference on available-for-sale securities	1,542	**1,868**
Foreign currency translation adjustment	53	**124**
Remeasurements of defined benefits plans	(84)	**(59)**
Total accumulated other comprehensive income	1,511	**1,932**
Non-controlling interests	6,852	**7,270**
Total net assets	50,998	**52,257**
Total liabilities and net assets	70,930	**72,692**

Consolidated statements of income

(Millions of yen)

	Fiscal year ended December 31, 2020	Fiscal year ended December 31, 2021
Net sales	26,802	**31,578**
Cost of sales	19,673	**23,539**
Gross profit	7,129	**8,038**
Selling, general and administrative expenses	4,113	**4,332**
Operating profit	3,015	**3,706**
Non-operating income		
Interest income	1	**4**
Dividend income	119	**99**
Foreign exchange gains	31	**146**
Share of profit of entities accounted for using equity method	—	**42**
Subsidy income	2	**2**
Compensation income	150	**366**
Insurance claim income	796	**208**
Other	72	**221**
Total non-operating income	1,174	**1,092**
Non-operating expenses		
Interest expenses	68	**61**
Loss on retirement of non-current assets	181	**20**
Share of loss of entities accounted for using equity method	113	**—**
Depreciation of inactive non-current assets	148	**149**
Loss on disaster	48	**59**
Other	42	**72**
Total non-operating expenses	602	**363**
Ordinary profit	3,587	**4,434**
Extraordinary income		
Gain on sales of investment securities	62	**179**
Total extraordinary income	62	**179**
Extraordinary losses		
Loss on fire	249	**97**
Plant relocation related expense	139	**84**
Total extraordinary losses	389	**182**
Profit before income taxes	3,260	**4,431**
Income taxes - current	797	**1,362**
Income taxes - deferred	182	**7**
Total income taxes	980	**1,370**
Profit	2,280	**3,060**
Profit attributable to non-controlling interests	469	**331**
Profit attributable to owners of parent	1,810	**2,729**

Consolidated statements of cash flows

(Millions of yen)

	Fiscal year ended December 31, 2020	Fiscal year ended December 31, 2021
Cash flows from operating activities		
Profit before income taxes	3,260	**4,431**
Depreciation	2,193	**2,385**
Increase (decrease) in retirement benefit liability	(12)	**29**
Increase (decrease) in provision for retirement benefits for directors (and other officers)	9	**2**
Increase (decrease) in provision for plant relocation related expense	(158)	**(159)**
Interest and dividend income	(119)	**(103)**
Insurance claim income	(796)	**(208)**
Compensation income	(150)	**(366)**
Interest expenses	68	**61**
Share of loss (profit) of entities accounted for using equity method	113	**(42)**
Loss (gain) on sales of investment securities	(62)	**(179)**
Loss on fire	249	**97**
Loss on retirement of non-current assets	181	**20**
Decrease (increase) in trade receivables	4,786	**(2,302)**
Decrease (increase) in inventories	849	**2,050**
Increase (decrease) in trade payables	(2,500)	**535**
Increase (decrease) in accrued expenses	(627)	**(71)**
Increase (decrease) in accounts payable - other	(85)	**(19)**
Decrease (increase) in accounts receivable - other	53	**(90)**
Other, net	(750)	**362**
Subtotal	6,500	**6,434**
Interest and dividends received	120	**103**
Interest paid	(68)	**(59)**
Income taxes refund	21	**1,340**
Income taxes paid	(3,667)	**(842)**
Proceeds from insurance income	796	**208**
Proceeds from compensation	150	**366**
Net cash provided by (used in) operating activities	3,853	**7,551**
Cash flows from investing activities		
Purchase of property, plant and equipment	(4,763)	**(1,528)**
Purchase of intangible assets	(110)	**(117)**
Purchase of investment securities	(5)	**(6)**
Proceeds from sales of investment securities	163	**544**
Decrease (increase) in time deposits	—	**500**
Other, net	(0)	**—**
Net cash provided by (used in) investing activities	(4,716)	**(608)**
Cash flows from financing activities		
Net increase (decrease) in short-term borrowings	1,000	**(250)**
Proceeds from long-term borrowings	200	**100**
Repayments of long-term borrowings	(1,240)	**(1,270)**
Net decrease (increase) in treasury shares	(2)	**(98)**
Dividends paid	(2,214)	**(2,206)**
Dividends paid to non-controlling interests	(132)	**(37)**
Net cash provided by (used in) financing activities	(2,389)	**(3,762)**
Effect of exchange rate change on cash and cash equivalents	1	**84**
Net increase (decrease) in cash and cash equivalents	(3,251)	**3,264**
Cash and cash equivalents at beginning of period	17,707	**14,455**
Cash and cash equivalents at end of period	14,455	**17,720**

Corporate Information

Nippon Carbon

- Headquarters
- Osaka Branch
- Nagoya Office
- Nippon Carbon Korea Liaison office
- Toyama Plant
- Shiga Plant
- Shirakawa Plant
- Laboratory

Affiliated companies (domestic)

- Nippon Techno-Carbon Co.,Ltd.
- NTC Machining Co., Ltd.
- Nippon Carbon Engineering Co., Ltd.
- NGS Advanced Fibers Co., Ltd.
- Nikka-en Co., Ltd.
- Toho Tanso Kogyo Co., Ltd.

Affiliated companies (overseas)

- Central Carbon Co., Ltd.
- Nippon Carbon Shanghai Co.,Ltd.
- Nippon Carbon Europe GmbH
- NIPPON CARBON OF AMERICA,LLC
- Nippon Kornmeyer Carbon Group GmbH

Corporate profile

(As of June 30, 2022)

Company name	Nippon Carbon Co., Ltd.
Founded	December 20, 1915
Capital	7,402 million yen
Fiscal year end	December 31
Address of headquarters	1-10-7 Hatchobori, Chuo-ku, Tokyo 104-0032　TEL. 03-6891-3730
Website	https://www.carbon.co.jp/english/

Stock information

(As of June 30, 2022)

Securities code	5302
Total number of authorized shares	40,000,000
Total number of issued shares (common shares)	11,832,504
Number of shareholders	17,061
Stock exchange	Tokyo Stock Exchange Prime Market
Share unit number	100 shares
Shareholders register	Mizuho Trust & Banking Co., Ltd.
Inquiries	Mizuho Trust & Banking Co., Ltd., Transfer Agent Department 2-8-4 Izumi, Suginami-ku, Tokyo 168-8507　TEL. 0120-288-324 (toll-free)

Major shareholders

Name	Number of shares held (hundred shares)	Shareholding ratio (%)
The Master Trust Bank of Japan, Ltd. (trust account)	15,270	13.75
Custody Bank of Japan, Ltd. (trust account)	8,640	7.78
Mizuho Bank, Ltd.	5,517	4.97
Nippon Life Insurance Company	3,790	3.41
Nippon Carbon Kyoei Shareholding Association	1,401	1.26
JP MORGAN CHASE BANK 385781	1,142	1.03
STATE STREET BANK WEST CLIENT - TREATY 505234	1,016	0.92
Sumitomo Mitsui Banking Corporation	995	0.90
STATE STREET BANK AND TRUST COMPANY 505019	869	0.78
SSBTC CLIENT OMNIBUS ACCOUNT	775	0.70

Notes: 1. Shareholding ratio is calculated after deducting the number of treasury shares (727,800 shares) from the number of issued shares.
2. In addition to the above, 60,900 of shares of the Company are held by the Board Benefit Trust (BBT).

Distribution of shareholders