TAIYO NIPPON SANSO

Sustainable Growth:
The Road Ahead

Integrated Report 2017

Year Ended March 31, 2017

Philosophy

“Market-driven collaborative innovation: Improving the future through gases”

Guiding Principles

Progressive, united in creativity, forward looking

We pledge to listen to the views of stakeholders and to contribute—through both our gas technologies and collaboration with partners in other industries—to the creation of a spiritually and materially wealthy society.

Slogan

The Gas Professionals

Striving tirelessly to fulfill our potential as industrial gas professionals and as the global leader in this field in terms of both market position and expertise.

Corporate Symbol

Taiyo Nippon Sanso’s corporate logo represents the seamless integration of state-of-the-art technology and nature, as well as the Company’s business domain, founded on its advanced technologies for controlling oxygen, nitrogen, argon and other gases. The logo also evokes the Company’s resolve to achieve growth through superior quality and transparency and to ensure a future that is clean, safe and healthy.

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Editorial Policy

Effective from fiscal year 2017, Taiyo Nippon Sanso has combined its Annual Report and its Environmental and Social Responsibility Report into a single integrated report. The purpose of this report is to provide financial information such as that related to corporate strategies and operations, and nonfinancial information, including that related to environmental protection, social contribution initiatives and corporate governance, with the aim of giving readers an accurate overall picture of Taiyo Nippon Sanso Corporation and the companies of the Taiyo Nippon Sanso Group.

Scope of Reporting

In principle, this report covers the activities of Taiyo Nippon Sanso and its Group companies. For some nonfinancial information, however, the scope is limited to the domestic activities of Taiyo Nippon Sanso. Accordingly, entities covered by individual graphs are specified in notes. To the extent possible, information is for the entire global Taiyo Nippon Sanso Group.

Period Covered

Data in this report is for fiscal year 2017, ended March 31, 2017, although some activities from fiscal year 2018 and future tasks and goals are also featured.

Disclosure Format

The integrated report aims to provide information of particular importance to stakeholders. Other nonfinancial information can be found on the corporate website.

Guidelines Used

The report was prepared in accordance with *Environmental Reporting Guidelines (2012 Edition)*, published by Japan's Ministry of the Environment, and *Sustainability Reporting Guidelines (2006)*, published by the Global Reporting Initiative (GRI).

The Taiyo Nippon Sanso Group's Relations with Stakeholders*

*Stakeholders are individuals, groups and organizations, such as those indicated in this chart, that have an interest in, and can be affected by the actions of, Taiyo Nippon Sanso.

Value Creation Process

In line with our philosophy, "Market-driven collaborative innovation: Improving the future through gases," we continue to allocate a variety of management resources to grow our operations, which are currently divided into six segments. By applying our state-of-the-art gas technologies, we will continue working to support the businesses of customers in different industries, contribute to the realization of a sustainable society and increase our corporate value.

Allocation of Management Resources

- Natural capital
- Manufactured capital
- Intellectual capital
- Social capital
- Human capital
- Financial capital

Philosophy

"Market-driven collaborative innovation: Improving the future through gases"

Long-Term Vision

TAIYO NIPPON SANSO
The Gas Professionals

Taiyo Nippon Sanso's Businesses

Plant and Engineering
We are a leading global manufacturer of air separation units.

Industrial Gases
We provide stable supplies of industrial gases to customers in Japan and overseas, thereby helping to support the efforts of customers in a diverse range of industries.

Electronics-Related Products
We provide cutting-edge solutions to leaders in the electronics industry.

Other Businesses (Housewares)
We respond to society's calls for modern lifestyles that contribute to sustainability.

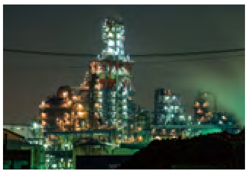
Medical
We supply a variety of crucial medical equipment for use in hospitals and home healthcare. We also provide products for diagnostics and medical care.

Liquid Petroleum Gas (LPG)
We provide environment-friendly clean energy that is a familiar presence in daily life.

Corporate Governance

Principal Industrial Sectors We Serve

Energy
Rechargeable batteries, renewable energy, solar cells, other alternative energy choices



Chemicals
Petrochemicals, chemical industry (biorefineries), rubber, plastics, organic materials

Life Sciences
Healthcare, pharmaceuticals, biotechnology

Fabrication
Manufacturing (processing and assembly of materials in automobile manufacturing, shipbuilding and bridge construction and other areas) and processing (surface coating of metal, ceramics and functional materials, among others)

Materials
Steel, nonferrous metals, glass, ceramics, cement, paper, other materials

Agriculture
Farming, fisheries, forestry, other primary industries

Food
Food production, food processing

Contribution to Sustainability

- Creation of new energies
- Environmental protection
- Efficient use of resources
- A safe and secure society
- Industrial and technological advances
- Healthy lifestyles
- Improved QOL
- Realization of more sophisticated medical treatments, early detection of illnesses
- Food safety and quality

Ortus Stage 2

In fiscal year 2018, we embarked on a new, four-year medium-term management plan, Ortus Stage 2, the second step in our drive to attain our long-term vision. Guided by our new “Total TNSC” concept, the entire Taiyo Nippon Sanso Group will implement a variety of measures designed to achieve the targets set forth under Ortus Stage 2 with the aim of ensuring sustainable growth.

Yujiro Ichihara

President and CEO

Total TNSC

Notes: 1. “Ortus” is a Latin word meaning “beginning” or “birth.”
2. The “Total TNSC” concept calls for optimizing the entire Taiyo Nippon Sanso Group by augmenting collaboration among Group companies.

Formulating Ortus Stage 2

Medium-Term Financial Targets

(Billions of yen)

Years ended/ending March 31	2017 (Actual)	2021 (Projection)
Revenue	¥581.5	**¥800.0**
Core operating income	54.7	**76.0**
Core operating income margin	9.4%	**9.5%**
Overseas revenue ratio	40.8%	**45.0%**
ROCE	8.4%	**9.0%**

Investment Plan

Net cash provided by operating activities over four years ¥325.0 billion

Investment plan (four years)
¥340.0 billion

- Strategic investments: 70%
- Ordinary investments: 30%

Basic Policies

Reinforce operating foundation
- Reinforce safety, quality and compliance efforts
- Advance R&D strategy
- Strengthen corporate functions

Implement growth strategies
- Expand domestic gas business
- Promote globalization

Core Strategies

Transformation

Maximize Group power by augmenting collaboration
- Strengthen collaboration in sales and marketing functions
- Integrate engineering functions
- Consolidate production and logistics management
- Promote shared services

Innovation

Promote innovation by capitalizing on external resources and IoT
- Innovation in R&D
- Innovation in engineering
- Innovation in sales approaches
- Innovation in production and logistics

Globalization

Enhance governance
- Strengthen the functions of the Global Operations Division
- Reinforce the functions of regional holding companies

Growth strategies
- Broaden business areas
- Promote “Total Electronics”

M&A

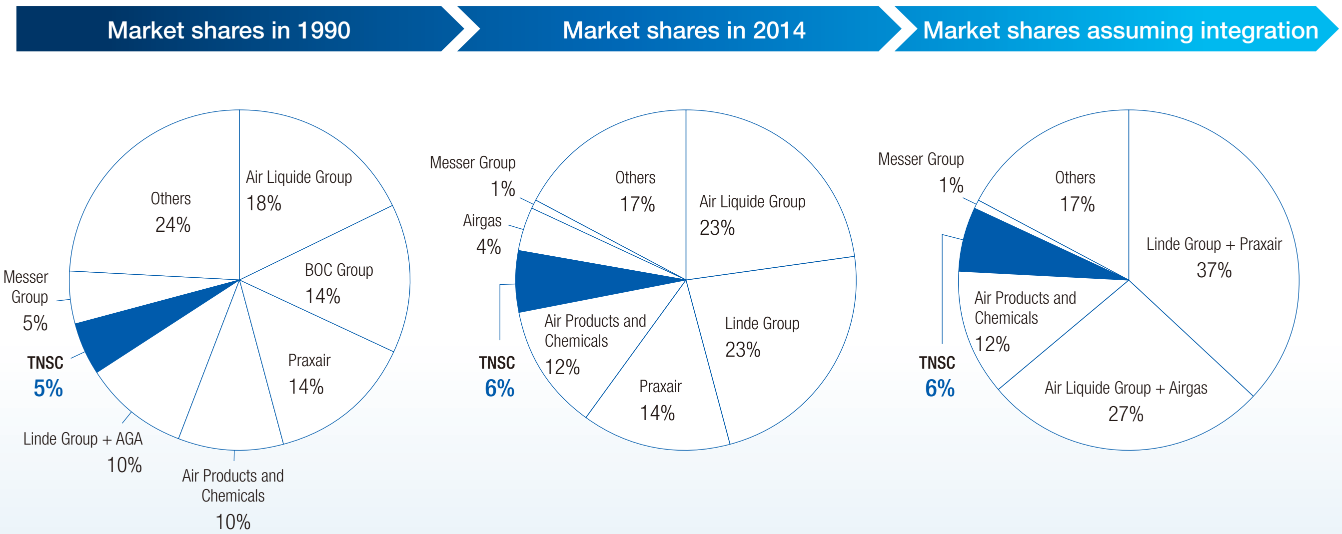
Seek promising M&A opportunities to ensure sustainability and accelerate growth
- Expand business reach and strengthen operational density
- Acquire new products, technologies and supply chains
- Expand medical business

Background to the Formulation of Ortus Stage 2 and Perception of the Operating Environment

Taiyo Nippon Sanso continues to operate in a challenging environment. In Japan, market growth is expected to remain slow, with demand for industrial gases over the medium term not expected to return to levels reached prior to the economic downturn triggered by the collapse of Lehman Brothers. Overseas, growth in Asian economies is expected to continue driving markets for industrial gases, with demand for electronics applications in the People's Republic of China (PRC), in particular, expected to boost demand for specialty gases. Demand in the United States, the world's largest market for industrial gases, remains firm, led by demand from domestic customers, and it is expected to continue growing in the years ahead.

Competition in the global industrial gas market has also continued to intensify. In 1990, a substantial number of companies fought for market presence, including Air Liquide S.A., the BOC Group plc, Praxair, Inc., Air Products and Chemicals, Inc. and the Linde Group. Since then, the market has undergone a steady process of consolidation, reducing the number of key players. In 2006, the BOC Group was acquired by the Linde Group. In 2016, industry leader the Air Liquide Group acquired Airgas, Inc., a leading U.S. industrial gas producer. In 2017, the Linde Group, then the world's second-largest producer, signed a business combination agreement to merge with number three producer Praxair. This will result in the market being dominated by two giants, the Air Liquide Group and the Linde Group, soon to also encompass Praxair. Going forward, the rapid execution of strategies will be indispensable if we are to capitalize on the growth of the global market and compete successfully with the industry's major global players.

The Changing Face of the Global Industrial Gas Market



Source: *Gas Diorama*
Notes: 1. The market share shown for TNSC in 1990 is the combined shares of predecessors Nippon Sanso, Taiyo Sanso and Toyo Sanso.
2. The impact of the integration of the Linde Group and Praxair and of the Air Liquide Group and Airgas is reflected. Market shares assuming integration is the simple sum of shares of the respective companies in 2014 and does not take into account the impact of the sale of assets on market share.

Positioning of Ortus Stage 2 in Our Long-Term Vision

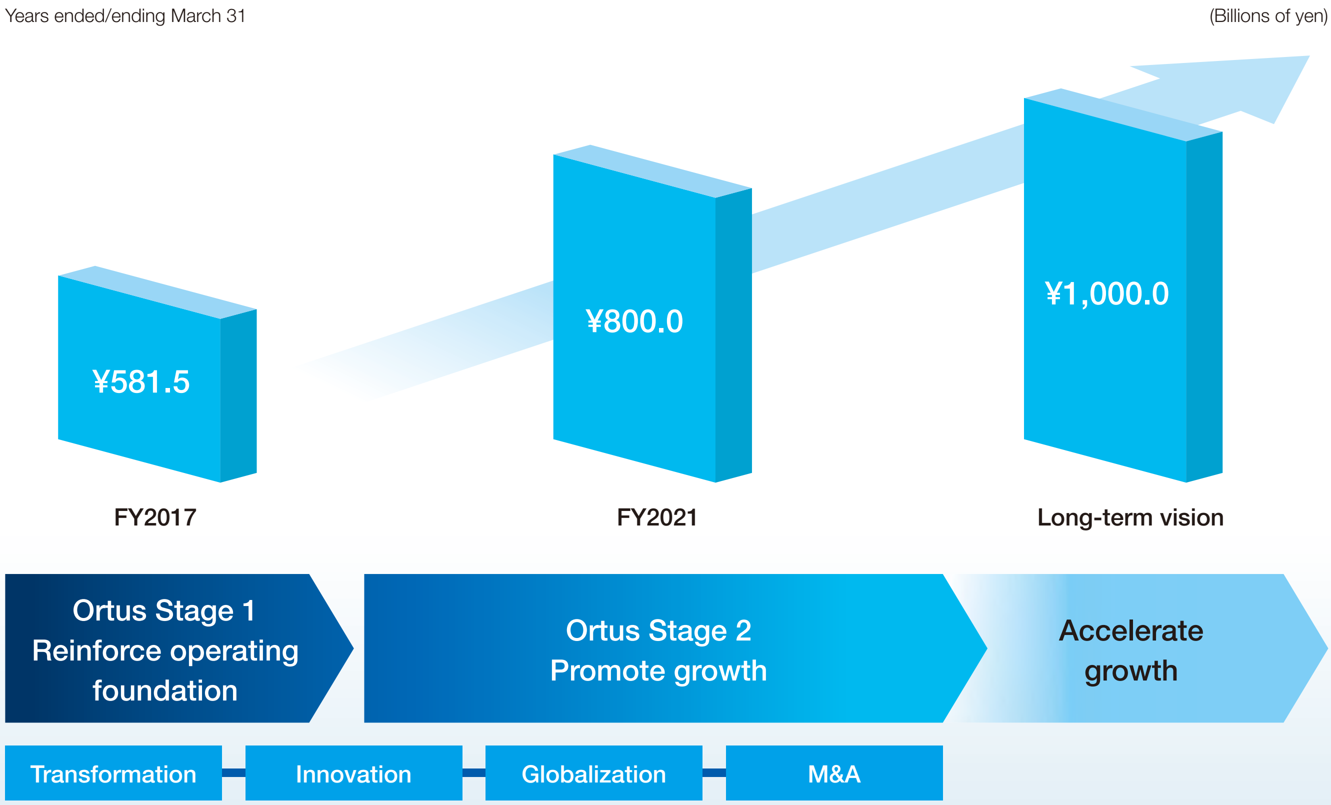
Our long-term vision calls for consolidated revenue of ¥1 trillion, an operating margin of 10%, a return on capital employed (ROCE) of at least 10% and an overseas revenue ratio of 50% or higher. As its name implies, Ortus Stage 1, which guided our efforts from fiscal year 2014 to fiscal year 2017, was positioned as the first stage in our drive to attain these targets. The plan, the overarching goal of which was to reinforce our operating foundation, set forth four core strategic policies, summarized simply as "transformation," "innovation," "globalization" and "M&A." In fiscal year 2017, we achieved consolidated revenue of ¥581.5 billion.

With the realignment of the global industrial gas industry and emergence of an oligopoly, securing a position as a major player will depend on sharpening our global competitive edge while at the same time expanding our operations. Recognizing this, we will work to achieve our ¥1 trillion consolidated revenue target as swiftly as possible.

Under Ortus Stage 2, the second stage of our push to realize our long-term vision, we will continue to implement measures in line with the four strategic policies of Ortus Stage 1. Having positioned the four years of the plan as a period for promoting growth, we will seek to harvest the benefits of seeds planted under Ortus Stage 1. We have set a target of ¥800 billion for consolidated revenue in fiscal year 2021.

Ortus Stage 2

As the realignment of the global industrial gas industry progresses, we will continue working to enhance global competitiveness with the aim of ensuring a robust market position.



Basic Policies and Goals of Ortus Stage 2

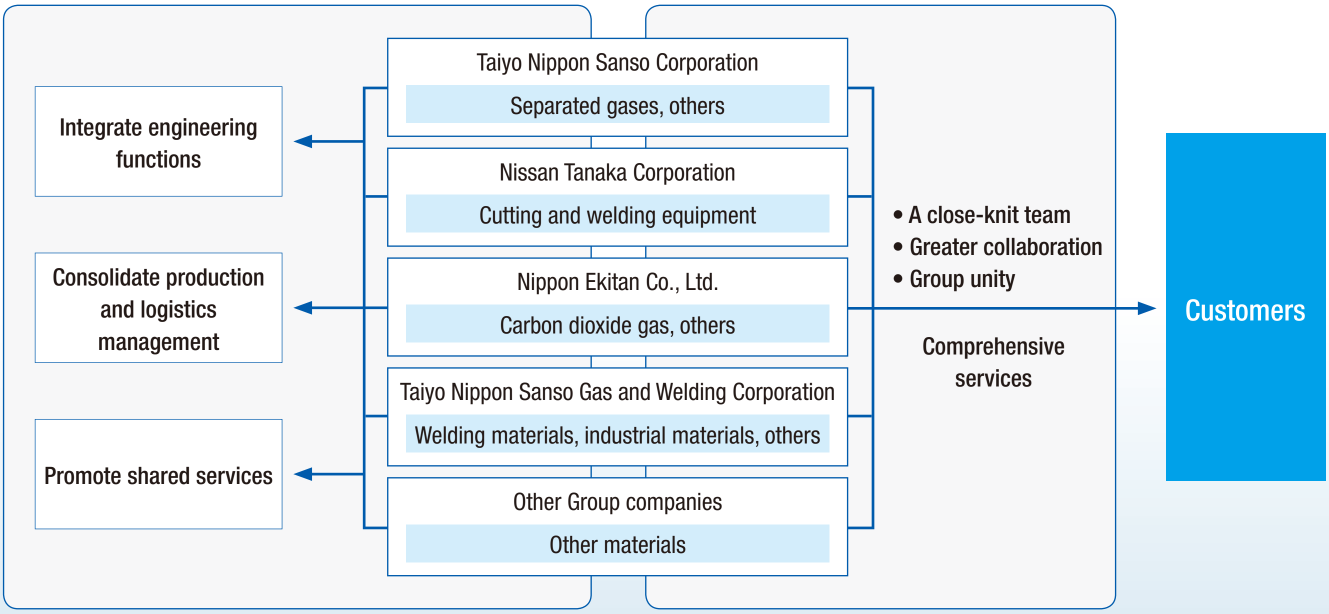
Our new medium-term management plan outlines five basic policies. Ortus Stage 2's biggest departure from its predecessor is the positioning of our domestic businesses. In addition to a basic policy of expanding our domestic gas business, the plan defines a clear strategy for implementing this policy. Under Ortus Stage 1, we focused on a strategic policy of transformation, that is, on structural reforms, with the aim of reinforcing our operating foundation in Japan, but we did not seek to broaden the scale of our operations. However, given the scale and pace of change in the market today, we recognize that unless we push for expansion our position will weaken. Accordingly, under Ortus Stage 2 we will work to ensure business continuity in Japan by promoting the decisive expansion of our domestic gas business.

In Japan, the key concept underpinning our growth strategies is "Total TNSC." This concept calls for maximizing the power of the Taiyo Nippon Sanso Group by strengthening collaboration among Group companies to further cement our leading position in the domestic market. Accordingly, we will strengthen collaboration among sales and marketing functions under the Total TNSC banner with the aim of creating a solid configuration that facilitates comprehensive gas services, fortifying our ability to provide services to customers as a single cohesive entity. We will also work to integrate engineering functions, consolidate production and logistics management, and promote shared services. In addition, we will seek to expand domestic gas-related businesses, including gas equipment.

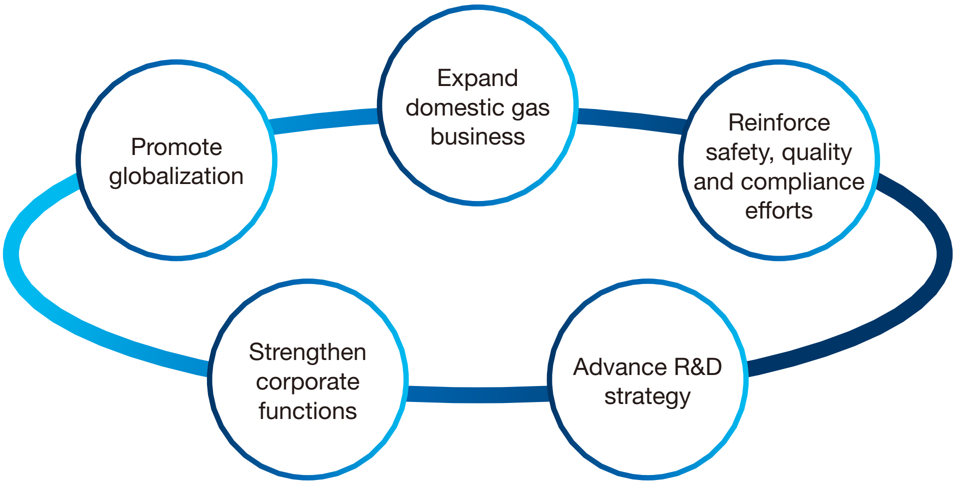
Another basic policy of Ortus Stage 2 is to promote globalization by advancing growth strategies in the United States, Asia and Oceania, among others. Maintaining the strategic policy set forth in Ortus Stage 1, we will continue to explore entry into new markets to expand our business area.

In addition to expanding our domestic and overseas businesses, we will emphasize the reinforcement of our operating foundation. Ortus Stage 2 also outlines a policy of reinforcing safety, quality and compliance efforts, acknowledging the importance of these concerns to business continuity and to our performance as a producer of industrial gases. Under Ortus Stage 1, we pursued strategies for growing our global businesses, facilitating the steady expansion of our Group network. Ortus Stage 2 acknowledges the importance of creating a global governance system and reinforcing our safety, quality and compliance framework.

Maximizing Group Power by Augmenting Collaboration



Basic Policies of Ortus Stage 2



Guided by a policy of advancing our R&D strategy, we will continue to implement a variety of initiatives. Under Ortus Stage 1, we recorded substantial achievements in such areas as hydrogen stations and stable isotope Water-^{18}O. We recognize that advancing technological innovation to broaden our product portfolio and bolster revenue is crucial for us as a manufacturer. Accordingly, we will continue to advance the targeted allocation of essential management resources, as well as to promote open innovation, thereby gaining access to external technologies that complement our own core technologies.

The fifth basic policy of Ortus Stage 2 is to strengthen our corporate functions. To this end, we will implement a variety of human resources, information and finance strategies and seek to provide stronger support to all Group companies.

Ensuring Sustainable Growth

Under Ortus Stage 1, we succeeded in achieving substantial improvements in our consolidated operating results. Underscoring the success of our efforts, our full-term dividend per share rose from ¥13.00 per share for fiscal year 2015 to ¥16.00 per share for fiscal year 2016 and ¥20.00 per share for fiscal year 2017. Recognizing the provision of fair returns to shareholders as a key management responsibility, we will continue to place a high priority on stable dividends while at the same time ensuring that our dividend policy is commensurate with our consolidated operating results.

As explained, one of the core policies of Ortus Stage 2 is to reinforce our safety, quality and compliance efforts, which we view as a key aspect of our efforts to reinforce our operating foundation. As a provider of industrial gases, we have a responsibility to ensure safe and stable supplies of gases. It is absolutely critical that supplies are not interrupted. We thus place a high priority on managing and minimizing technological risks associated with security, product quality and safety, the environment and intellectual property.

The Mitsubishi Chemical Holdings Group is implementing a diverse range of initiatives in line with its KAITEKI concept, which describes “a sustainable condition which is comfortable for people, society and the earth.” As a member of the group, we will continue taking steps in line with this concept. In line with our philosophy, which outlines our fundamental goal of “improving the future through gases,” we will also continue leveraging our gas technologies to contribute to the creation of a spiritually and materially wealthy society and the progress of the industry. In all of our efforts, we look forward to the ongoing support and guidance of our stakeholders.

Special Feature 1

Food-Related Gas Technologies That Help Reduce Food Loss and CO_2 Emissions

Demand is growing for food-related technologies that offer solutions to such key global issues as food waste and global warming. Against this backdrop, in 2017 we launched Bistranza, a new brand for applications developed for food-related gas technologies. We will continue to promote the development of new technologies and expand their use in an increasingly diverse range of fields.

The Bistranza Brand: Applications for Food-Related Gas Technologies

According to the United Nations' Food and Agriculture Organization (FAO), approximately 1.3 billion tonnes of food produced globally are wasted annually—sufficient to feed the close to 1.0 billion people worldwide suffering from chronic malnutrition. Japan has been singled out as a major offender. According to the Consumer Affairs Agency's White Paper on Consumer Affairs 2016, food loss, i.e., food that was still edible, accounts for approximately 6.42 million metric tonnes of the 28.01 million metric tonnes of food-derived waste generated by the country. This is approximately double the total amount of the 3.2 million tonnes of food aid provided annually worldwide (World Food Programme, 2014). As this indicates, food waste is an issue of concern to all developed countries.

In addition to the issue of food loss, changing dietary habits and lifestyles in recent years have continued to fuel a trend towards eating alone and an attendant preference for quality over quantity. This has stimulated a growing emphasis on gas packaging and rapid refrigeration and freezing technologies for food products. Against this backdrop, in 2017 we launched Bistranza, a new brand for gas-related products for the food industry. The brand name—a combination of "bistro" and "*esperanza*" (Spanish for "hope")—was coined to convey the idea of gas technology applications that bring new hope to the food industry.

Extending the Shelf Life of Food with Gas Packaging

Our history in the development of technologies for the food industry dates back to 1962, when we began conducting research in the area of continuous freezing equipment. We subsequently entered into a technological tie-up with a company based in the United States, then considered the world leader in food refrigeration and freezing, as well as pursued our own independent research. We also expanded our focus to include equipment for freezing bakery goods, Japanese sweets, high-end seafood, and other processed food products, developing a diverse range of technologies designed to,

Bistranza Gas Equipment and Services for the Food Industry

Liquid nitrogen freezer

Bistranza FZ

The origin of our food product freezing technology, Bistranza FZ rapidly freezes food to a temperature of –120°C. In addition to facilitating the high-quality freezing of food, the unit also allows the adjustment of temperature settings. A pioneer in the world of freezers for specialty foods, Bistranza FZ is the first unit capable of freezing fried rice so that it remains fluffy, rather than in a clump, and can also be used to freeze processed meat, seafood and other specialty food products. In recent years, Bistranza FZ has also been used for ready-prepared Japanese New Year's dishes, boxed lunches, sweets and seasonal foodstuffs.

among others, improve the quality and extend the shelf life of, as well as increase production efficiency for, frozen food products.

Bistranza represents the outcome of efforts to reinforce our position in the market for gas technologies for food products by revamping technologies cultivated over the years. The brand focuses on gas packaging and liquid nitrogen freezers.

Gas packaging technologies are used to substitute the atmospheric air inside food packages with gases or gas mixtures. Inserting gases such as nitrogen, carbon dioxide gas, oxygen and helium into the package slows down the process of decay by inhibiting the growth of microbes, thereby keeping perishables, ready-prepared foods and other products fresh an estimated 1.5 to 3.0 times longer. This not only helps reduce the disposal of food that has expired but also facilitates the automation of packaging, as well as reducing the frequency of markdowns and display reorganizations, thereby helping to lower costs. Less food waste also means less energy needed for disposal, while a decrease in the frequency of deliveries also contributes to reduced CO_2 emissions. Accordingly, the use of gas packaging is rising quickly, particularly by convenience store chains and supermarkets.

Food trays made with gas barrier film developed by Mitsubishi Chemicals Corporation, also a Mitsubishi Chemical Holdings Group company, are chosen by some companies that use gas packaging and we supply the gases they use. Our gas packaging solutions business thus also leverages Group synergies.

Improving the Safety and Security of Food Supplies

Demand for liquid nitrogen freezers continues to rise sharply. The revision in October 2016 of the Montreal Protocol on Substances that Deplete the Ozone Layer brought an agreement among global signatories regarding regulating the use of chlorofluorocarbons, which have a particularly high global warming potential (GWP). Accordingly, there is a chance that refrigerators and freezers using chlorofluorocarbons or chlorofluorocarbon substitutes as refrigerants will be prohibited in the future. This is expected to bolster demand for liquid nitrogen freezers, which do not require catalysts, to replace conventional equipment employing mechanical cooling.

As their name implies, liquid nitrogen freezers use nitrogen in its liquid phase (–196°C). In addition to rapid freezing, liquid nitrogen freezers inhibit the breakdown of cell membranes. Liquid nitrogen freezing is particularly suited to the rapid chilling of cooked foods, offering significant advantages over mechanical freezing. We are currently conducting R&D to further enhance the benefits of liquid nitrogen freezers by, for example, replacing mesh belts, which are currently standard, with steel belts, and realizing new chilling methods that reduce uneven temperature distribution in frozen products.

Hisao Shibuya
Manager, Strategic Sales Team, Planning & Strategic Sales Section, Gas Businesses Division

Looking ahead, we will continue to cultivate applications in areas where demand is expected to increase. At the same time, we will also take steps to ensure our ability to provide stable supplies of gases to the more than 50,000 food processing facilities across Japan.

"The key to our competitiveness is our nationwide gas production and supply capacity, which is among the largest in the industry," says Hisao Shibuya of the Gas Businesses Division. "Going forward, we will continue working to strengthen relations with our official dealers across Japan. We will also reinforce our supply configuration for food additive gases by establishing five regional Bistranza filling stations (Tohoku, Kita-Kanto, Chubu, Kansai and Chugoku–Shikoku). In addition, we plan to partner with leading local companies to market Bistranza-brand products in key overseas markets, notably in Southeast Asia and Oceania."

Our technologies for the food industry go beyond those for gas packaging and freezing. By leveraging these technologies, we aim to diversify into other fields. We see our technologies for equipment and materials used in inland aquaculture, that is, the farming of aquatic animals at noncoastal locations, as offering particular promise. For example, we have high hopes for our oxygen enrichment technologies, which facilitate high-density cultivation, the rapid culture and growth of farmed fish and reduced wastewater discharges, thereby maximizing finite marine resources. We will also continue to advance the development of new technologies with the aim of helping to resolve various food-related issues, thereby contributing to the improved safety and security of food supplies, a goal shared by people everywhere.

Gas packaging technology
Bistranza MAP

Bistranza MAP uses the gases or gas mixtures tailored to the food product to be packaged. Gas packaging extends shelf life, helping to reduce food waste and CO_2 emissions, among others. By streamlining packaging processes, gas packaging also facilitates labor savings and cost reductions.

Granular freezing system
Bistranza IQF*

A liquid nitrogen freezer for freezing liquid materials into granules, Bistranza IQF is used for the granular freezing of acidophilus, ice cream and cultures. In addition to food packaging, Bistranza IQF is also used in the pharmaceuticals industry.

*Individual quick freezing

Ice cream freezer
Bistranza ICE

Used on commercial ice cream production lines, Bistranza ICE uses liquid nitrogen in a variety of specialized processes, including the application of chocolate coatings and the hardening of surfaces.

Home Healthcare Services: Medical and Lifestyle Support Services for a Super-Aged Society

Japan's coming super-aged society is driving demand for a better system of home healthcare. We are taking steps to enhance our home healthcare services, which center on home oxygen therapy. By ensuring the provision of safe, easy-to-use products and services, we will continue working to contribute to improved quality of life for patients across the country.

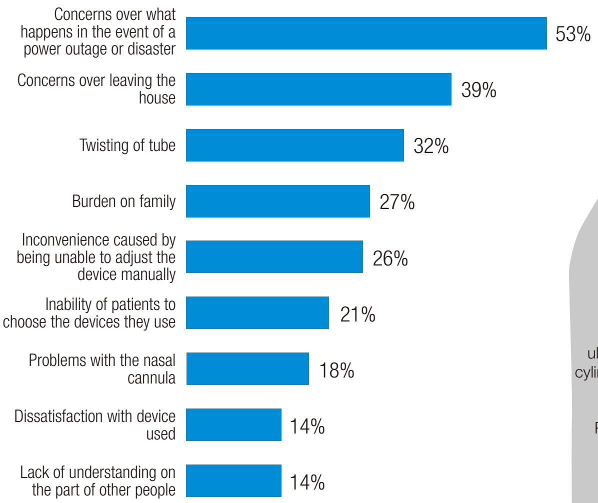
Establishing a Better System of Home Healthcare

By 2025, the percentage of Japan's population over 65 years of age is forecasted to exceed 30%. The Ministry of Health, Labour and Welfare (MHLW) is promoting a variety of efforts aimed at enabling seniors to continue living their lives securely in familiar surroundings, containing increases in healthcare costs associated with long-term care. Of particular note, the ministry is taking steps to create a holistic system that shifts the focus of healthcare for seniors from medical facilities to community- and home-based care.

We provide medical gases and equipment to a variety of customers, from major hospitals to private homes. Our home healthcare business encompasses the development, sale and rental of equipment for home healthcare, principally for home oxygen therapy (HOT). We also extend support in the form of around-the-clock services, including installation, collection and maintenance, which we provide through a nationwide network of sales offices.

HOT is a medical treatment involving the provision of high-concentration oxygen using oxygen concentrators, cylinders and other devices in non-hospital settings. Used primarily in the management of chronic obstructive pulmonary disease (COPD), a cause of chronic respiratory insufficiency, HOT is also used in the treatment of a variety of other conditions, including interstitial pneumonia and advanced lung cancer. The use of HOT has expanded significantly since it was first approved for coverage under Japan's national health insurance program in 1985, with an estimated 160,000 patients currently receiving this therapy. In addition to enabling patients to better balance the demands of everyday life with treatment, there is also strong evidence of additional medical

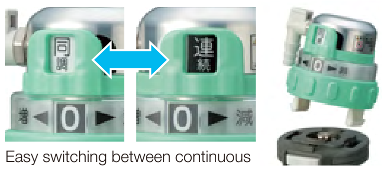
Patient Concerns Regarding HOT Revealed in Data from the Japanese Respiratory Society



Source: "Concerns and Complaints from Patients Using HOT (Multiple Selections Possible)," White Paper on Home Respiratory Care, The Japanese Respiratory Society, 2013 (Analysis of COPD user survey results by illness)

Touch One Duo/Touch One Solo

This regulator, which allows oxygen to be delivered efficiently, is lightweight, compact and offers one-touch attachment/detachment.



Easy switching between continuous and regulated modes

One-touch attachment/detachment

Ultracompact portable oxygen cylinder

This compact oxygen cylinder, which weighs 0.99 kg, can be carried about easily in many situations, expanding the scope of activities possible for patients. A convenient dedicated shoulder strap leaves both hands free.

The result is a lightweight, compact and easy-to-operate oxygen cylinder and regulator that together weigh approximately 1.4 kg.

benefits, including prolonged survival, improved mobility and a reduction in the frequency of hospitalization. In addition to systems for use when patients are at home or out, there is a need for systems that can be used in a variety of everyday situations, including at school and work, as well as when travelling. Moreover, because they are operated by patients or family members, HOT systems must be easy to use to ensure safety and peace of mind.

Carefully Tailored Product Development: Prioritizing the Patient's Perspective

We promote product development with the aim of addressing the diverse needs of HOT patients, with an emphasis on user-friendliness. For example, when HOT patients leave the house they can transport oxygen cylinders easily using a dedicated cart, but this is shunned by more than a few patients for a variety of reasons, including the weight of portable cylinders and the attention they attract. In response to concerns such as these, we upended conventional ideas of oxygen cylinders by developing an ultracompact portable model that can be carried with only a shoulder strap, thus leaving both hands free in an entirely inconspicuous fashion. Integrating the cylinder valve with a built-in oxygen regulator allows oxygen to be delivered efficiently when breathed in, thereby making cylinders last longer. In addition, we extended the continuous usage time and reduced the weight of the unit by combining it with a lightweight conserver. In response to complaints regarding cannulae, the flexible tubes fitted into patients' nostrils to enable breathing in of oxygen, we developed a cannula that employs a spiral configuration for a portion of the tube and can be extended only when pulled. This addresses the inconvenience associated with cannulae which are too long or too short for patients' preferences.

Another common concern among patients relying on HOT is that because oxygen concentrators are powered by electricity, supplies can be lost if the power goes out. To relieve such concerns, we developed a concentrator that automatically switches to supply from an oxygen cylinder in the event of a power outage or malfunction, as well as a model that includes a back-up battery as a standard feature.

Masahiro Minami
Manager, Home Care Team,
Sales Department,
Bio Medical Section,
Medical Division

"We survey patients, conduct field tests and repeatedly improve and enhance devices to better reflect the patient's perspective as we work toward commercialization," recalls Masahiro Minami of the Medical Division. "In addition, we make sure that product features are properly understood by medical professionals by organizing study sessions and demonstrations across the country."

Bolstered by the endorsement of the MHLW, the number of home healthcare patients in Japan continues to increase. The scope of home healthcare is also expanding beyond HOT to include a variety of other services. Our lineup of medical equipment today encompasses a wide range of devices, including ventilators, infusion pumps and continuous positive airway pressure (CPAP) devices for sleep apnea syndrome (SAS), and we recognize that the importance of this business will continue to grow. "Home healthcare service providers must also offer around-the-clock maintenance and emergency back-up services in the event of a disaster," says Mr. Minami. "We will continue working to reinforce our service framework, particularly our emergency back-up services." With an increasing number of patients now able to choose HOT, we will also continue to promote the development of easy-to-use devices that can be used free of worry and to enhance our supply configuration.

HOT-Related Products

Oxygen concentrators

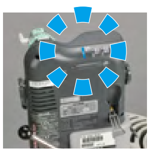
Oxygen concentrators are devices that deliver highly concentrated oxygen to patients. Because they are powered by electricity, oxygen concentrators are primarily used in the home.

Oxywell Portable
This new and even smaller concentrator includes a back-up battery as a standard feature and can thus be taken out of the house.

Oxywell 5A
This concentrator automatically switches to supply from an oxygen cylinder in the event of a power outage or malfunction.

Liquid oxygen devices

These devices gasify liquid oxygen and supply it to patients as highly concentrated oxygen. Because there is no external power source, operation is not affected by power outages. They can also be used as portable units and refilled from a bulk storage reservoir.



A light indicates the start and finish of refilling.

Remaining volume can be confirmed visually.

Hotaru
This model features a new lever that facilitates one-handed refilling. The compact body enables it to be taken out of the house.

Accessories for portable cylinders

Nasal cannulae are narrow tubes used to deliver oxygen, one end of which is placed in the patient's nostrils and the other connected to the cylinder.

Oxygen flow checker
A flow checker for portable oxygen cylinders that indicates when filling is taking place, relieving patient concerns.

Nissei Nasal Cannula OX-01 (spiral type)
This cannula employs a spiral configuration for a portion of the tube and thus extends only if pulled, which prevents ear chafing and dragging.

Gas Business in Japan

As Japan's leading manufacturer of industrial gases, with a market share of approximately 40%, we provide stable supplies of gases to customers in diverse industries, including manufacturers of steel, chemicals, transportation equipment and electronics. We primarily use two delivery formats, namely, on-site plants (air separation units built on or adjacent to customers' production facilities), from which we supply separated gases directly via pipeline, and tanker trucks, which enable us to supply liquid gases in bulk via a nationwide network of production and sales locations. We have also created an official dealer system, the Taiyo Nippon Sanso Major Club, with the aim of responding accurately and effectively to the needs of end users across Japan, further reinforcing our robust supply chain, which encompasses both production and sales.

In addition to industrial gases, we extend a wide range of peripheral products through the companies of the Taiyo Nippon Sanso Group, which include Nippon Ekitan Corporation, Japan's leading supplier of carbon dioxide gas and dry ice, Nissan Tanaka Corporation, a manufacturer of cutting and other equipment, and Taiyo Nippon Sanso Gas and Welding Corporation, which provides welding materials, among others.

Fiscal Year 2017 in Brief

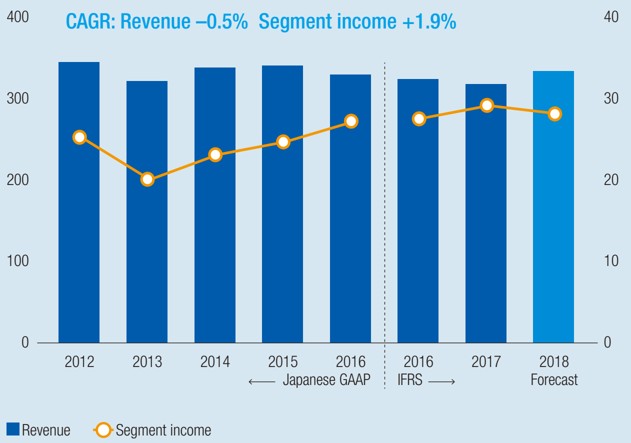
Revenue: –2.0% from fiscal year 2016	
On-site gases	Revenue was down, as sales prices declined in tandem with energy prices
Gas equipment	A downward rebound in sales of hydrogen stations, robust in the previous fiscal year, pushed revenue down
Electronics materials gases	Revenue increased, reflecting higher demand for use in the manufacture of LCs and semiconductors
LPG	Falling energy prices hindered sales prices, pushing revenue down
Segment income: +5.7% from fiscal year 2016	
Electronics materials gases	Brisk revenue bolstered income
Costs	Lower costs, a consequence of falling crude oil prices, had a positive impact

Growth Strategies

With demand increasing for nitrogen for certain applications, including electronics components for export, we anticipate moderate growth in overall demand for industrial gases in Japan. With a significant increase in the market for industrial gases unlikely, our focus going forward will be on consolidating our number one market position by expanding our gas and gas-related businesses, as well as by maximizing Group synergies.

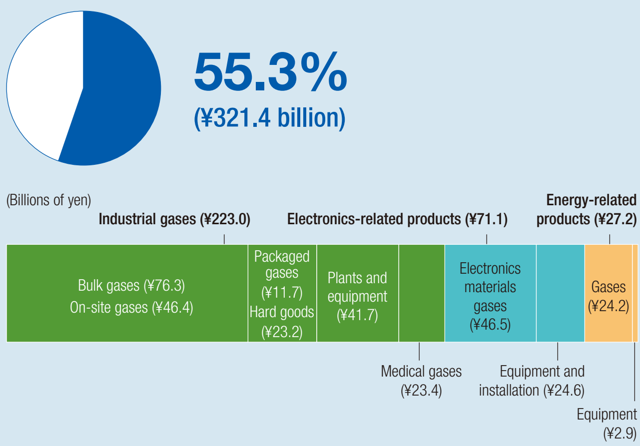
Revenue and Segment Income

(Billions of yen)



Percentage of Revenue

(Fiscal year 2017)



In line with the Total TNSC concept, we will work to enhance customer service through close collaboration with Taiyo Nippon Sanso Group companies providing carbon dioxide gas, welding equipment, welding materials and other products, with the aim of offering comprehensive gas solutions. In gas-related businesses, we have broadened our operations to provide the full scope of electronics-related products, including nitrogen supply, electronics materials gases, and equipment and installation. Looking ahead, we will continue to transform other gas-related businesses to create additional major pillars of our operations. We will also actively seek M&A opportunities that promise to yield synergies that will further strengthen our market presence and expand the borders of our business.

Ortus Stage 2 sets forth a strategy for transforming our medical business into a core business. To this end, we positioned products for cutting-edge medical care (stable isotopes and products for the biotechnology field), respiratory therapy and home healthcare, as key areas of focus and will work eagerly to expand this business through M&As and by promoting the development of innovative products.

In the energy field, we will work to expand sales of LPG by promoting fuel conversions and expand commercial rights through M&As, as well as to enhance our lineup of energy products other than LPG.

Ensuring Stable Supplies of Carbon Dioxide Gas

In Japan, sources of raw materials for carbon dioxide gas have dwindled, owing to a decline in the availability of fuel oil attributable to falling operating rates at petroleum refineries, as well as to the termination of ammonia production by a number of manufacturers. As a result, we have been forced to transport such materials over long distances and obtain them from overseas sources. In response, we are taking steps to ensure stable supplies of these materials in all regions. In the Chugoku–Shikoku region, for example, we are installing carbon dioxide gas production equipment at Nippon Ekitan's Mizushima Plant, while in the Chubu region we plan to expand production capacity at Chita Tansan Co., Ltd., our principal regional production base. Through such efforts, we are working to enhance our domestic sales and supply network and ensure sustainable growth for our carbon dioxide gas business.

Nippon Ekitan's Production Bases

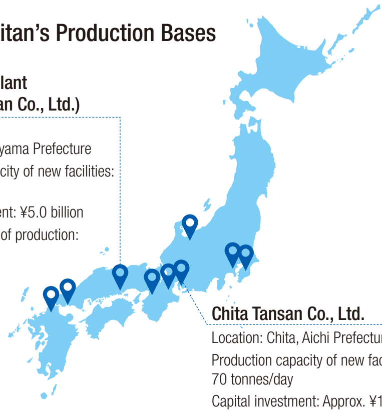
Mizushima Plant (Nippon Ekitan Co., Ltd.)

Location:
Mizushima, Okayama Prefecture

Production capacity of new facilities:
250 tonnes/day

Capital investment: ¥5.0 billion

Scheduled start of production:
October 2017



Chita Tansan Co., Ltd.

Location: Chita, Aichi Prefecture

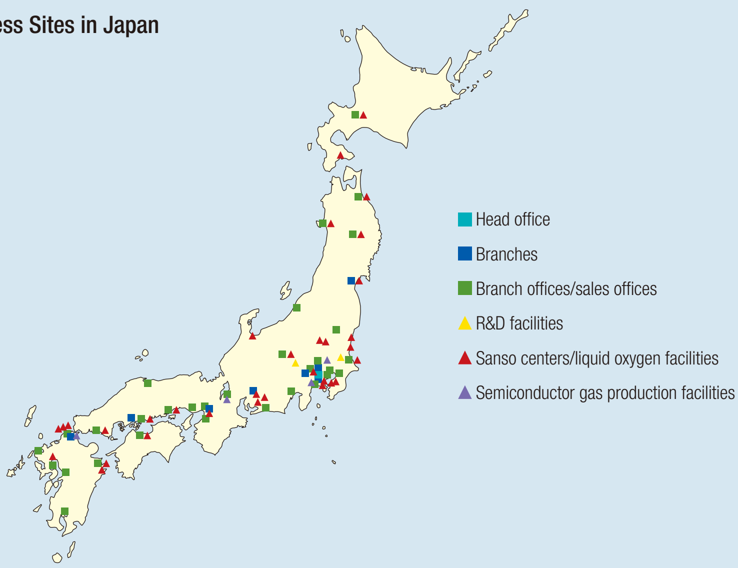
Production capacity of new facilities:
70 tonnes/day

Capital investment: Approx. ¥1.2 billion

Scheduled start of production: December 2018

Note: Production figures include production under contract and from facilities in which Taiyo Nippon Sanso has invested.

Business Sites in Japan



K.K. JFE SANSO CENTER

Gas Business in the United States

We first established operations in the United States in the 1980s. Initial efforts to broaden our presence, which began in 2004, focused on the southern states and emphasized reinforcing our operations through an ambitious M&A program and capital investments. These and later efforts facilitated the establishment of a robust operating foundation that includes California, which boasts the largest economy of any state, as well as Texas and Louisiana, leaders in petroleum development and production. In 2016, we acquired a portion of the Air Liquide Group's U.S. operations, a move that substantially strengthened our operating foundation in the south and enabled us to build an industrial gas supply network that encompasses the southern, eastern and Midwestern states, establishing us as a major national player.

Our U.S. operations center on the supply of liquefied gases, which are transported as bulk gases to the customer's site by tanker truck, and packaged gases, which are filled into cylinders and other containers for customers requiring smaller volumes. We also offer an extensive lineup of original hard goods, including welding equipment, which we sell together with packaged gases, for which we are number three in terms of market share. In recent years, we have further diversified our product lineup through the acquisition of acetylene and carbon dioxide gas producers and are currently the largest supplier of acetylene and second-largest supplier of dry ice.

Fiscal Year 2017 in Brief

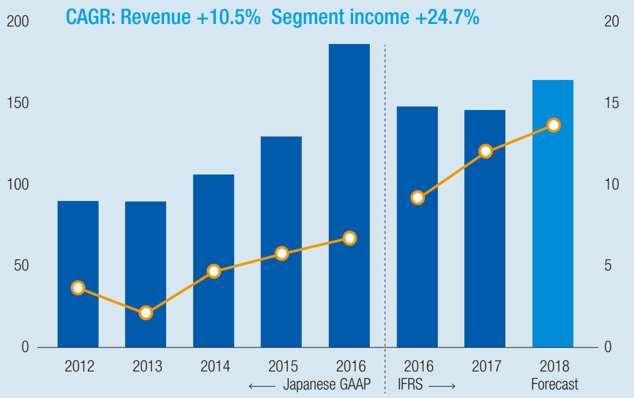
Revenue: –1.5% from fiscal year 2016		↘
Bulk gases	Revenue was robust, thanks to brisk sales of carbon dioxide gas for use in food and beverage products	↗
Hard goods	A decline in sales for petroleum development and production pushed revenue down	↘
Impact of acquisition	Revenue was bolstered by the acquisition of business from the Air Liquide Group in fiscal year 2016	↗
Currency translation effects	Revenue declined, hampered by a strong yen	↘
Segment income: +30.7% from fiscal year 2016		↗
Bulk gases	Brisk sales of carbon dioxide gas pushed income up	↗
Impact of acquisition	Income increased, owing to the acquisition of business from the Air Liquide Group in fiscal year 2016	↗
Currency translation effects	Yen appreciation had a negative impact	↘

Growth Strategies

In the United States, the world's largest industrial gases market, gentle economic growth is expected to bring an attendant increase in demand for industrial gases. Having positioned our U.S. operations as a key growth engine, we will continue to promote active capital investment and M&As.

Revenue and Segment Income

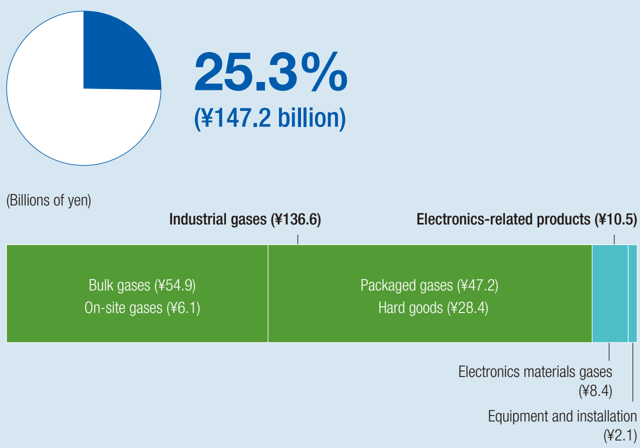
(Billions of yen)



Note: In fiscal year 2016, a change in accounting period by Matheson Tri-Gas, Inc., resulted in the inclusion of 15 months of results for the company.

Percentage of Revenue

(Fiscal year 2017)



Our U.S. M&A strategy is two-pronged. We start by acquiring gas distributors in new areas. Once we have secured a market position, we install air separation units and commence sales of products through our local sales channels. Through multiple subsequent acquisitions and/or investments, we will continue to increase the density of our operations, helping us reduce costs associated with production, purchasing and transport, thereby enhancing the competitiveness of both our bulk and packaged gas businesses. The cumulative success of this strategy, together with a key acquisition in September 2016, have allowed us to build a potent production network that extends across the continental United States.

Our medium- to long-term strategic priority in the United States is to expand our on-site gas business, which provides stable earnings. Proposing new large-scale on-site projects requires an effective backup supply configuration. Our robust nationwide production network thus positions us well to build a steady stream of new on-site units in various locations, including the south and the Midwest.

We will also focus on maximizing synergies between our existing operations and the operations acquired from the Air Liquide Group in September 2016. We will integrate the acquired plants into our centralized management system to optimize production and transport. We will also gradually shift to internal procurement of source gases for packaged gases, which we currently purchase from outside suppliers. Over the medium to long term, we will seek to acquire distributors in the eastern states and the Midwest, as we have done in the south, and establish on-site plants to facilitate the vertical integration of our operations.

Expanding Our On-Site Business

Since winning a major on-site order in Louisiana from Sasol Chemicals (USA) in August 2014, we have received orders in various locations across the country. In the on-site business, we sign long-term contracts to supply gases directly to customers' facilities by pipeline, which facilitates stable earnings and at the same time enables us to produce liquefied gases, which we supply to other local users. Our U.S. subsidiary Matheson Tri-Gas, Inc., has established a dedicated team to further expand this business, which is taking decisive steps to secure new on-site orders. The team is capitalizing on both the technological prowess of our plant engineering department and our robust local sales capabilities to further expand this business.

On-Site Gas Business Model

Air separation unit

Long-term contracts ensure stable earnings

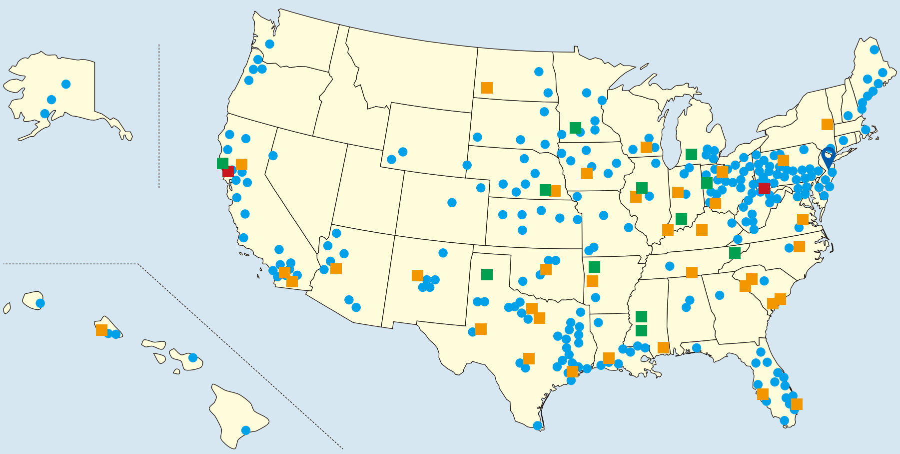
Supplied by pipeline → On-site gas users

Reasonably priced bulk and packaged gases are supplied to local users

Transported by tanker truck → Bulk gas users

Supplied in cylinders → Packaged gas users

Business Sites in the United States



Corporate headquarters
Air separation units
Carbon dioxide gas production facilities
Nitrous oxide production facilities
Filling stations and distribution facilities

Matheson Tri-Gas' plant in Vernon, California

Gas Business in Asia and Oceania

Our operations in Asia and Oceania center on the supply of industrial gases to customers in Southeast Asia, China, India and Australia and of electronics-related products to customers in China, Taiwan and South Korea.

We entered the Singaporean market in the early 1980s by establishing National Oxygen Pte. Ltd. and have expanded our operations there in the years since. In 2012, we acquired Leeden Limited, a provider of welding equipment and other products with an extensive region-wide network. In 2014, we merged Leeden with National Oxygen, thereby strengthening our operations in Singapore and Malaysia.

We have also established a presence in the Philippines and Vietnam, where we are currently the top producer of liquefied gases in terms of production capacity, and continue to seek promising investment opportunities in both countries that will position us to capitalize effectively on economic growth. Further expanding our geographic reach, we established locations in Indonesia in 2014, Australia in 2015 and Myanmar in 2016.

In the area of electronics-related products, we are a leading supplier of electronics materials gases to customers in China, Taiwan and South Korea. We have also expanded our focus to include the provision of exhaust gas abatement systems, high-purity gas refining equipment and installation services.

Fiscal Year 2017 in Brief

Revenue: –3.9% from fiscal year 2016	
Industrial gases	Revenue rose, reflecting strong results in the Philippines and Vietnam
Impact of acquisition	Acquisitions in Thailand and Australia pushed revenue up
Currency translation effects	Yen appreciation had a negative impact

Segment income: +71.6% from fiscal year 2016	
Bulk gases	Income rose, bolstered by robust revenue
Impact of acquisition	Acquisitions in Thailand and Australia pushed income up
Impairment loss	The absence of an impairment loss reported in Singapore in the previous fiscal year had a positive impact
Currency translation effects	Yen appreciation had a negative impact

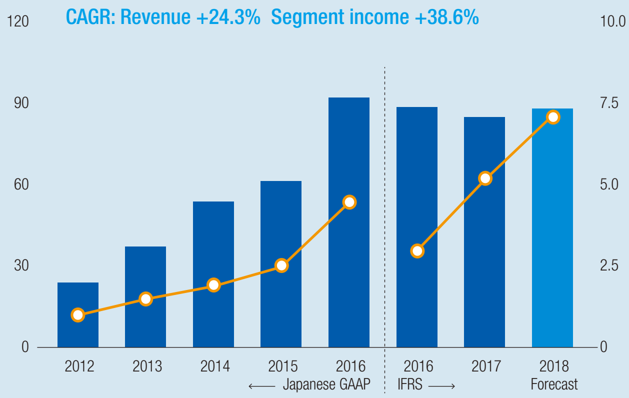
Growth Strategies

Emerging economies in Asia are expected to remain the driving force behind global economic growth. In the Philippines and Vietnam, demand for industrial gases is burgeoning, particularly for use in the manufacture of electronics components, and is likely to grow further. In China, demand for electronics-related products is expected to increase.

We will continue to promote active investment in Asia and Oceania, a key growth strategy of Ortus Stage 1, to fortify

Revenue and Segment Income

(Billions of yen)

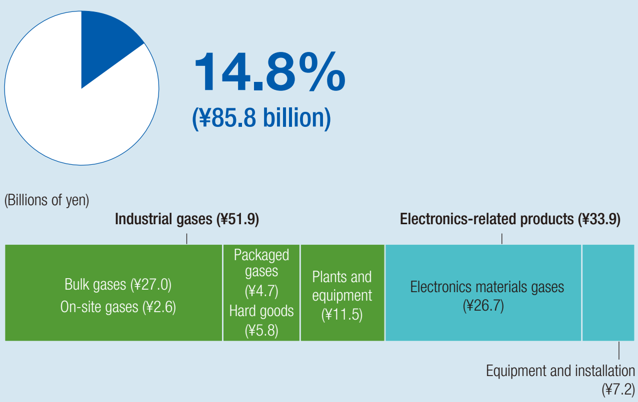


Revenue   Segment income

Note: In fiscal year 2016, a change in accounting period by certain subsidiaries resulted in the inclusion of 15 months of results for these companies.

Percentage of Revenue

(Fiscal year 2017)



profitability in individual geographic areas and expand the geographical scope of our operations. At the same time, we will improve the capabilities of our regional headquarters in Shanghai and Singapore with the aim of reinforcing governance and Group capabilities.

In Southeast Asia, we will install air separation units in areas where we currently have operations. We will also seek advantageous M&A opportunities and take steps to strengthen our business foundation for strategically important products such as carbon dioxide gas and specialty gases. Having set up operations in Myanmar in 2016, we will step up efforts to expand into other markets with latent growth potential where we have yet to establish a presence.

Guided by the concept of “Total Electronics,” we will endeavor to respond flexibly to the increasing global operations of key customers, notably semiconductor and display manufacturers, by creating a global strategic customer management function in China (Shanghai), where capital investment is concentrated, that will promote a unified Group business strategy. We will also build a new electronics materials gas production facility in China.

In India, which continues to see exceptional economic growth, we will consider making capital investments to meet rising demand, as well expanding into neighboring markets. We will also work to expand the scale of our operations in Australia, where we established a presence in 2015, as well as to increase synergies between the two companies we acquired in the country to further reinforce our operating foundation.

Establishing Operations in Myanmar

In 2016, we entered the Myanmar market with the establishment of an operating company in the country’s Thilawa Special Economic Zone. To date, manufacturers in Myanmar have had to depend on bulk gases imported from other countries. We will seek to swiftly cement the position of our bulk gases business in the country, as well as to lock in rising demand for industrial gases, by building air separation units across the country. Our initial focus will be on fortifying our operating foundation in Yangon with a view to expanding into Mandalay and Dawei.

Business Sites in Asia and Oceania

Production facility at the corporate headquarters of Renegade Gas Pty Ltd. (New South Wales, Australia)

Thermos and Other Businesses

Our Thermos business dates back to 1978, when predecessor Nippon Sanso Corporation, seeking to diversify into new businesses in which it could leverage its existing technologies, developed a stainless steel high vacuum insulated bottle. In 1989, Nippon Sanso acquired the Thermos business of a U.S. firm and commenced sales of Thermos-brand stainless steel vacuum insulated bottles. In the years since, the Thermos Group, headed by Thermos K.K., has introduced sports-use vacuum insulated beverage bottles, portable vacuum insulated mugs and other popular products, which have driven steady growth. In 2014, Thermos acquired alfi GmbH, a manufacturer of vacuum-insulated bottles and containers based in Germany, thereby reinforcing its European sales network and further enhancing its product lineup.

The Thermos Group is noted for its excellent product development capabilities, with approximately 30% of its annual production accounted for by newly released products, and it continues to launch a steady stream of attractive new products, stimulating market growth. From a production configuration encompassing facilities in Malaysia, China and the Philippines, the Thermos Group currently sells products in more than 120 countries worldwide, including Japan, the United States and China.

Fiscal Year 2017 in Brief

Revenue: –1.9% from fiscal year 2016		↘
Market environment	Conditions flagged, owing to a lull in inbound demand	↘
Sales	Sales of new products were brisk	↗
Segment income: +11.3% from fiscal year 2016		↗
Japan	Yen appreciation pushed down import prices	↗
Affiliated companies	Results at overseas affiliates in China and elsewhere were healthy	↗

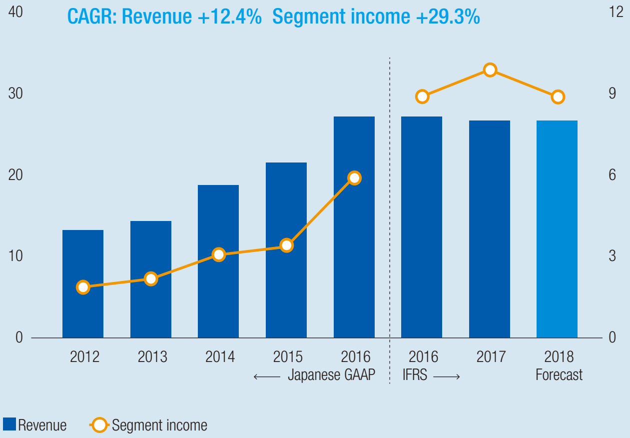
Growth Strategies

With inbound demand stabilizing, competition for sales in Japan is expected to escalate as market growth dulls. Although the volume of sales in China is not expected to decline significantly, competition for overseas sales is likely to intensify as shipments of low-priced products from overseas manufacturers to the United States and Europe result in the emergence of competitors to Thermos-brand offerings.

Our growth strategies for the Thermos business center on maximizing the power of the Thermos brand, promoting area marketing and reinforcing production capacity. A brand with a proud history, the original Thermos was founded in 1904 in Germany. Going forward, we will continue to maximize

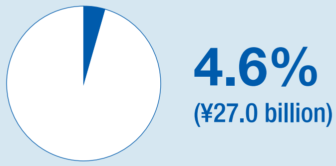
Revenue and Segment Income

(Billions of yen)

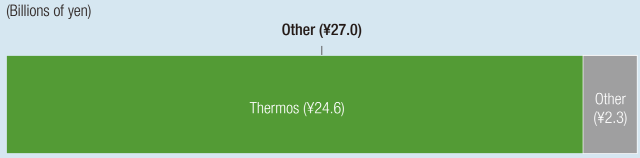


Percentage of Revenue

(Fiscal year 2017)



(Billions of yen)



Thermos’ outstanding brand recognition and solid reputation for quality, which is backed by rigorous quality control. Efforts to promote area marketing will continue to emphasize tailoring our marketing initiatives to conditions and customs in different parts of the world. We will also work to further expand our production capabilities, which in April 2016 were bolstered by the start of operations at a new production facility in the Philippines.

In Japan, we will focus on developing products for new applications. To date, the Thermos lineup has focused on products designed for carrying about, including sports-use vacuum insulated beverage bottles and portable vacuum insulated mugs. Looking ahead, we intend to create an entirely new product category by using Thermos technology to develop tableware and other everyday items that deliver greater convenience. We will also promote the development of products tailored to specific markets, including vacuum insulated beverage bottles for mountain climbing and for cycling.

In addition to expanding our product lineup, we will take steps to enhance our sales channels, which include directly operated brick-and-mortar shops and the Thermos on-line store. We will also work to incorporate information gained through directly operated shops, which enable us to communicate directly with customers, into the development of new products.

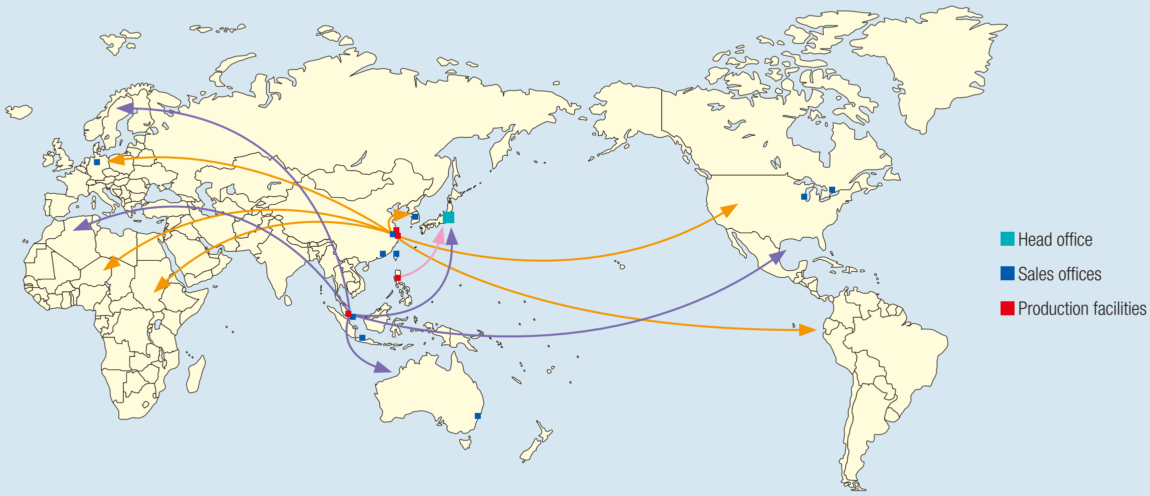
Leveraging Synergies with alfi

Since acquiring alfi GmbH, a well-known German manufacturer of vacuum-insulated bottles and containers, in 2014, Thermos has sought to promote the sharing of sales networks and to leverage synergies in the area of product development. February 2017 brought the launch of new products combining Thermos’ outstanding stainless steel processing technologies and alfi’s exquisite design capabilities. The two companies will continue to capitalize on their respective capabilities to further expand the lineup of jointly developed products.

Coral stainless steel vacuum insulated tumblers

Juwel stainless steel vacuum insulated carafe

The Thermos Group’s Global Network



Corporate Governance

Basic Philosophy

From the perspective of ensuring sustainable growth for the Taiyo Nippon Sanso Group and increasing corporate value over the long term, and taking into account the positions of shareholders, customers, employees and local communities, we strive to guarantee the transparency and fairness of management. We believe that the essence of corporate governance is ensuring the effective use of available management resources while bolstering the strength of management through prompt and decisive decision making. Accordingly, we continue to promote efforts to enhance our corporate governance capabilities in line with the following five basic beliefs.

(1) We will respect shareholder rights and ensure equality.
(2) We will consider the benefits of shareholders and other stakeholders, and work appropriately in partnership with those stakeholders.
(3) We will ensure transparency by releasing appropriate corporate information at appropriate times.
(4) By separating supervisory and executive functions, we will improve effectiveness of the board of directors' supervisory function over the company's business executions.
(5) We will engage in constructive dialogue with shareholders in order to contribute to the sustainable growth of the group and the medium- to long-term improvement of corporate value.

(Excerpted from Taiyo Nippon Sanso's Principles of Corporate Governance)

Initiatives to Improve Corporate Governance

Date	Area	Initiative
June 2015	Composition of the Board of Directors	Revised Articles of Incorporation to reduce the maximum number of directors on the Board of Directors from 20 to 15 to accelerate decision making Reduced number of directors on the Board of Directors from 16 to 11 Appointed two independent outside directors
June 2015–July 2015	Compliance	Established the position of Chief Compliance Officer (CCO) with the aim of ensuring the effectiveness of compliance Established the Corporate Audit Office to assist the efforts of the CCO
October 2015	Other	Formulated principles of corporate governance Formulated disclosure policy
June 2016	Committees	Established the Advisory Committee on Appointments and Remuneration, consisting of the chairman of the Board of Directors, the president (CEO) and independent outside directors, to improve the transparency and objectivity of procedures for appointing and determining remuneration for directors
June 2016	Remuneration for directors	Introduced performance-linked bonuses tied to degree of achievement of medium-term business plan targets as an incentive with the goal of driving medium-term growth
July 2017	Committees	Established the Information Management Committee to create an appropriate framework for the joint management of information among pertinent departments

Management Structure

We have adopted an internal auditing system and clarified accountability on a fiscal year basis by setting the term of office for our directors at one year. In fiscal year 2017, our Board of Directors met 13 times to discuss important matters and hear reports on the status of business activities. We have also established the Advisory Committee on Appointments and Remuneration, a discretionary committee under the Board of Directors consisting of the chairman of the Board of Directors, the president (CEO) and independent outside directors. The Board of Directors consults with the Advisory Committee on Appointments and Remuneration to select candidates for the position of director, Audit & Supervisory Board member and executive officer and candidates to succeed the president (CEO), as well as regarding revisions to the internal regulations governing the Board of Directors, thereby ensuring the transparency and objectivity of decision making. In addition, we have established a Management Committee, which meets as necessary, helping to facilitate swift management decisions.

Auditing Structure

To ensure adequate monitoring capabilities, our Audit & Supervisory Board comprises four auditors, three of whom satisfy the requirements of outside auditors. One of the three outside auditors, who is currently in his second term, attended all 13 meetings of the Board of Directors in fiscal year 2017, while the two new outside auditors attended 11 of the 13 meetings. Audit & Supervisory Board members met with the independent auditors 10 times in fiscal year 2017 and accompanied the independent accountants on their periodic site audits. This enables them to keep abreast of the implementation status and to exchange opinions with the independent accountants on key aspects of the auditing process and on the assessment of internal control risks associated with auditing. Audit & Supervisory Board members are also briefed on essential aspects of audits and the assessment of risks associated with internal control by the internal auditing body, as well as by the Technical Audit Office on annual safety plans and their implementation. They also oversee management appropriateness and efficiency.

Remuneration for Directors

In fiscal year 2017, remuneration for 11 directors totaled ¥479 million, while that for seven auditors totaled ¥104 million (including remuneration for one director and three auditors who retired during the period). Remuneration for directors consists of basic remuneration and performance-linked bonuses (medium- and short-term). Medium-term performance-linked bonuses are tied to degree of achievement of medium-term business plan targets, while short-term performance-linked bonuses are tied to year-on-year improvements in consolidated operating results.

Internal Control System

In line with Japan's Companies Act, we have established a system for ensuring appropriate business practices and are reinforcing internal control by clarifying decision-making authority and business practices, among others. We have also established the Compliance, Risk Assessment, Technological Risk Management and Information Management committees with the aim of reinforcing compliance and ensuring the effectiveness of our internal control system.

Compliance Committee

Recognizing that we must act in accordance with the norms and ethics expected of us as a member of society, we work continuously to earn trust by responding in good faith to social imperatives with the aim of ensuring sustainable growth for the Taiyo Nippon Sanso Group and increasing corporate value. To this end, we continue working to enhance and reinforce our compliance capabilities. In addition to formulating the Taiyo Nippon Sanso Code of Business Conduct, which sets forth standards to guide the conduct of all Group employees, we have established the Compliance Committee, which is chaired by the CCO and meets twice annually to hear reports on the status of compliance within the Group and the progress of efforts to address previously detected issues. The committee also briefs the Management Committee and the Board of Directors on its activities. Going forward, the committee will continue to be responsible for appointing the CCO, while regional headquarters will be responsible for establishing regional CCOs, and for creating a framework for global communication that will help Group companies overseas fortify their compliance frameworks.

Risk Assessment Committee

Risks faced by the Taiyo Nippon Sanso Group include, but are not limited to, fluctuations in electric power rates, the price of crude oil and other resources, foreign exchange and interest rate swings, product defects, changing demand trends and moves by customers to shift production offshore. The Risk Assessment Committee, which is chaired by the individual responsible for Groupwide internal control management, spearheads risk management for the entire Group. In addition to assessing risks identified as likely to affect our performance in terms of frequency and quantitative impact, the committee reports on accidents at production facilities, product defects and other risks that have manifested as actual issues. Should it determine that risks remain for which management systems do not yet exist, the committee pinpoints the departments responsible and implements appropriate countermeasures. The committee also reports on its activities to the Management Committee and the Board of Directors.

Technological Risk Management Committee

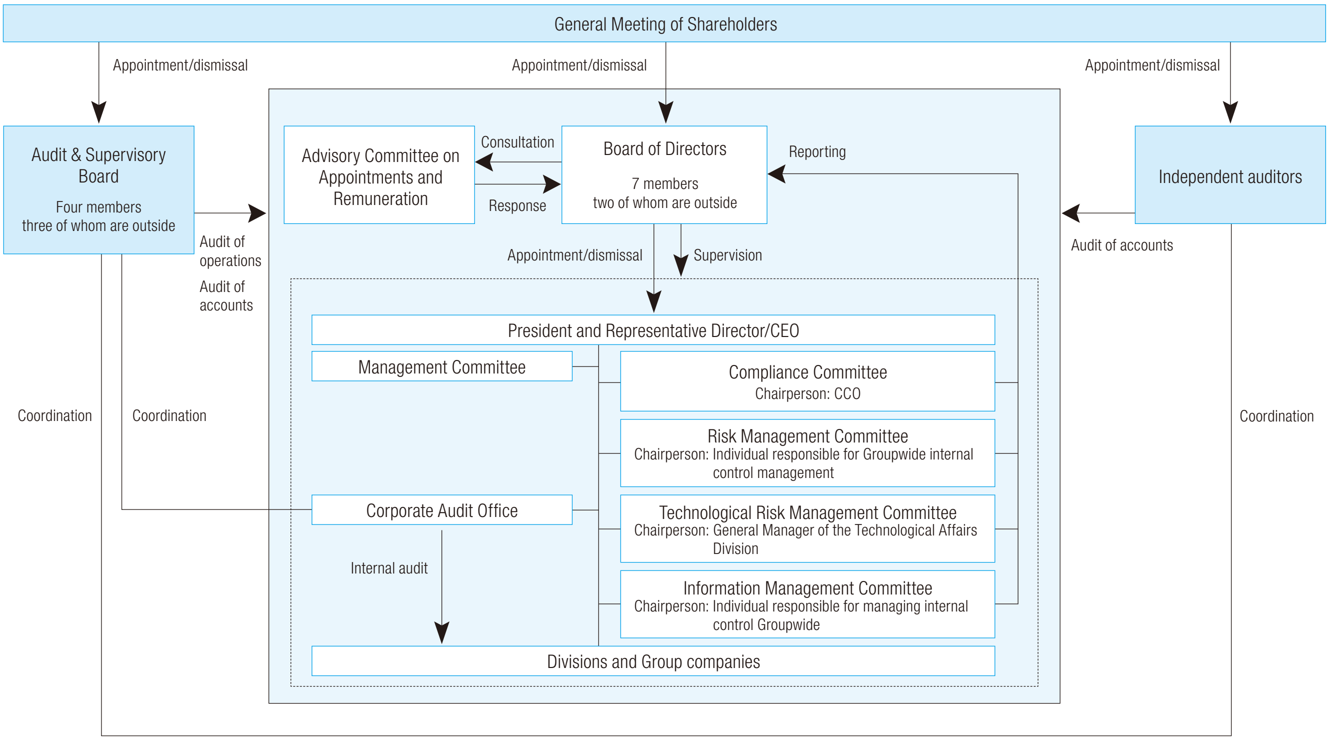
We place a high priority on the reduction of risks related to security, product quality and safety, the environment and intellectual property, and we have established the Technological Risk Management Committee to prevent such risks from manifesting into actual issues. The committee, which is chaired by the general manager of the Technological Affairs Division, has established dedicated teams to manage risks in different categories. The committee meets twice annually to ensure an accurate grasp of latent risks and reports to the Board of Directors on these meetings, as well as on efforts to address such risks.

Each February, the Technological Risk Management Committee holds the Technological Risk Management Conference, which is chaired by the president. The conference is responsible for making decisions regarding the coordination of risk management for the Group as a whole, as well as for annual technological risk management policies and priority issues.

Information Management Committee

To ensure the appropriate management of critical personal, technological, business and accounts-related information, pertinent departments have cooperated to establish the Information Management Committee. The committee, which is chaired by the individual responsible for managing internal control Groupwide, has created a framework that facilitates management tailored to different types of information and oversees the implementation of measures to ensure the security of information systems, provides education and training on procedures for managing information, and determines policies for responding in the event of major incidents pertaining to information management. The committee reports on its activities to the Board of Directors.

Auditing and Risk Management Structure



President's Basic Policy on Technological Risk Management

To fulfill the responsibilities implied in our corporate slogan, "The Gas Professionals," we recognize that we have an obligation to ensure stringent compliance with pertinent laws and regulations and to prioritize the management of key technological risks, i.e., risks related to security, product quality, product safety, the environment and intellectual property. Accordingly, we have formulated the President's Basic Policy on Technological Risk Management.

We will continue taking steps to minimize such risks and to enhance customer satisfaction across all areas of our operations. These include ensuring the President's Basic Policy on Technological Risk Management is fully understood and applied by every Taiyo Nippon Sanso Group employee, as well as formulating and implementing a Groupwide technological risk management system and effective business continuity planning (BCP) to guarantee critical operations are maintained in the event of a disruption caused by an earthquake or other major disaster. At the same time, we will work to contribute to greater public safety and environmental preservation, thereby earning the trust of society at large, ensuring the sound growth of our businesses and building greater corporate value.

Safety:	Implement decisive, practical measures to ensure the safety of our operations, in line with our belief that selling gas is commensurate with selling safety and peace of mind.
Product quality:	Accurately grasp the increasingly sophisticated and diverse customer needs and social imperatives and respond by ensuring optimum product quality.
Product safety:	Minimize safety risks at all stages of the product life cycle to ensure the safety and security of the products we supply.
Environment:	Take steps to reduce the negative impact of our operations on the global environment and to prevent pollution.
Intellectual property:	Obtain and make use of intellectual property rights as necessary to preclude competition with other companies.

(As of June 27, 2014)

Members of the Board of Directors, Members of the Audit & Supervisory Board and Executive Officers

(As of June 20, 2017)

Members of the Board of Directors

Member of the Board, Chairman
Shotaro Yoshimura

Member of the Board, Vice Chairman
Kunishi Hazama

Representative Director, President and Chief Executive Officer
Yujiro Ichihara

Member of the Board, Senior Managing Executive Officer and Chief Sustainability Officer
Shigeru Amada

Member of the Board
Akio Yamada*

Member of the Board
Mitsuhiro Katsumaru*

Member of the Board
Shushichi Yoshimura

Members of the Audit & Supervisory Board

Kazunari Higuchi**
Kinji Mizunoe
Naoya Fujimori**
Akihiro Hashimoto**

*Outside Director
**Outside Auditor

Executive Officers

Managing Executive Officers

Yuki Hajikano
Jun Ishikawa

Senior Executive Officers

Masahiro Sakamoto
Hiroyuki Tanizawa
Norikazu Ishikawa
Hirohisa Yanagida
Masahiro Uehara
Haruhiko Yasuga
Kenji Nagata

Executive Officers

Masahisa Kanzaki
Kunihiro Kobayashi
Nobuaki Kobayashi
Masami Myobatake
Yasuhiko Kawano
Yuki Endo
Toshikazu Kurishita
Satoshi Wataru
Tsutomu Moroishi
Toyoyuki Sato
Yasushi Nagaoka
Masaharu Takagi
Toru Yanagawa
Daiji Nakajima
Masanobu Narita
Yoshifumi Koide

Working with Stakeholders

Recognizing that our longevity and future prosperity depend on our ability to earn the trust of society as a whole, we have established a framework for fulfilling our responsibilities to stakeholders and are implementing a variety of initiatives aimed at maintaining a strong corporate culture.

Health Management Declaration: Supporting and Motivating Employees

On April 1, 2017, we announced the Taiyo Nippon Sanso Health Management Declaration, the stated goal of which is to create a work environment that supports and motivates employees. This move reflects our belief that workplaces conducive to professional and personal fulfillment help to bolster job satisfaction, which in turn is directly related to our ability to increase corporate value. Looking ahead, we will roll out various wellness initiatives in three categories.

Categories	Key Themes
Healthy people (Promoting healthy individuals)	• Encourage healthy lifestyles • Improve health awareness
Healthy workplaces (Promoting healthy workplaces)	• Reform working styles • Promote measures to prevent occupational accidents that consider human factors • Create secure, healthy workplaces
Healthy families and communities (Promoting healthy families and valuing ties with the community)	• Bolster awareness of family health

Taiyo Nippon Sanso's Health Management Declaration

Creating a work environment that supports and motivates employees

We look for three key qualities in our employees, namely, health, integrity and resourcefulness. With the aim of giving form to the first of these, health, and recognizing that employee health is the driving force behind everything we do, we hereby declare our commitment to promoting sound corporate management and helping realize a spiritually affluent society through the creation of a health-first corporate culture.

Recognizing the health and wellness of all of our employees as a crucial corporate asset, we will also strive to realize secure and pleasant workplaces.

We also understand that the health and wellness of each individual employee and of his or her family is a critical motivating factor for employees in both their professional and private lives. Accordingly, we encourage employees to be proactive in maintaining their own health and ask for their active participation in the creation of a health-first corporate culture.

April 1, 2017
Yujiro Ichihara, President and CEO,
Taiyo Nippon Sanso Corporation

Chemistry Lab Lesson for Children Held in Vietnam

In November 2016, affiliate Vietnam Japan Gas Joint Stock Company conducted a chemistry lab lesson for children at the Japan Vietnam Festival 2016 in HCMC. This was the first time the company participated in the festival, which was held in Ho Chi Minh City and welcomed more than 150,000 visitors. The lab lesson provided a fun and informative opportunity for a substantial number of children to participate in hands-on experiments using liquid nitrogen and learn about industrial gases. Looking ahead, we will continue to promote the staging of chemistry lab lessons using liquid nitrogen in Japan as well as overseas.

Nippon Sanso Memorial Museum Earns Chemistry Heritage Accreditation from the Chemical Society of Japan

Nippon Sanso Memorial Museum, located within the Yamanashi Laboratory, recently earned Chemistry Heritage accreditation from the Chemical Society of Japan. The museum is a recreation of the production facility from which we operated at the time of our establishment and exhibits a variety of gas production equipment that represents the history of Taiyo Nippon Sanso, including a complete gas production unit in its original condition and the first liquid gas production unit built in Japan.

The Japan Vietnam Festival 2016 in HCMC provided an opportunity to increase recognition among local residents

Air separation unit housed in a wooden barrel (built in 1911)

Taiyo Nippon Sanso Major Club Official Dealer System

In April 2005, we launched an official dealer system, dubbed the Taiyo Nippon Sanso Major Club, with the aim of responding accurately and effectively to the needs of end users across Japan. In addition to providing official dealers ("partner companies") with competitive products, we leverage our position to provide a wide range of services, including domestic and overseas sales support, technical assistance and management consultation.

The Taiyo Nippon Sanso Major Club—comprising the core Partners' Club and two functional subgroups, the LP Gas Club and the Medical Club—boasts a robust national network that is instrumental in ensuring our products are delivered safely and reliably to end users. For each of the constituent clubs, we offer seminars and training sessions on operational safety and other themes. Partner companies also promote a variety of ongoing independent skill-building initiatives aimed at enhancing customer satisfaction and improving their own performance as responsible corporate citizens. Going forward, we will continue working to reinforce customer satisfaction and enhance our reputation in society as an organization worthy of trust through ongoing initiatives in collaboration with Taiyo Nippon Sanso Major Club partners.

Organization of the Taiyo Nippon Sanso Major Club

MAJOR CLUB Logo

LP Gas Club (Functional subgroup) — Partners' Club* — Medical Club (Functional subgroup)

Inaugurated: April 1, 2005		Chairperson:	President and CEO of Taiyo Nippon Sanso
Number of participating official dealers: 288 (as of June 2017)		Secretariat:	Gas Business Division, Taiyo Nippon Sanso

*The Partners' Club is divided into seven regional blocks: Tohoku, Kita-Kanto, Chubu, Kansai, Chugoku–Shikoku and Kyushu

The *Major Club Magazine* enables us to communicate with Major Club members

Fostering Global Business Skills Among Employees through the Overseas Trainee Program

In response to needs arising from our increasing global expansion, in fiscal year 2017 we launched the Overseas Trainee Program. By giving employees from Japan the opportunity to live and undergo practical training overseas, the program seeks to provide them with the capabilities necessary to function equally well in business settings whether they are in Japan or overseas, including effective communication, an understanding of other cultures and networking skills. The duration of the program, which targets new and mid-level employees, is nine months. In the first year, six employees were dispatched to Group bases in Singapore, Malaysia, Vietnam, the Philippines and China (Shanghai). In July 2017, a debriefing session was held to hear from participants regarding achievements and personal growth and to discuss future targets and initiatives. We expect participation to prove beneficial to these individuals in the years ahead and look forward to their future endeavors.

The human resources policy of our current medium-term business plan, Ortus Stage 2, calls for human resource development that will accommodate further globalization. We will continue to promote the Overseas Trainee Program as an integral component of this policy.

Debriefing session for the first participants in our Overseas Trainee Program

Facility Tour Held for Technical High School Students

In November 2016, we held a facility tour and industrial safety workshop at the Keihin Factory for students of Kanagawa Prefectural Mukainooka Technical High School in Kawasaki. We will continue to promote facility tours and other initiatives aimed at increasing familiarity with industrial gases, as well as at providing information on potential careers.

Facility tours encourage understanding of Taiyo Nippon Sanso and industrial gases

Environmental Protection Initiatives

In addition to ensuring a solid grasp of the environmental impact of the Taiyo Nippon Sanso Group's business activities, we promote a broad range of initiatives aimed at helping to mitigate global warming, the central theme of our environmental protection efforts. Of particular note, we are taking steps to reduce energy consumed per unit of production at gas production facilities, promoting energy-saving measures at various sites, and striving to increase the efficiency of transport by tanker truck.

Electric power used here represented 99.8% of total electric power consumed.

Electric power 5,196 million kWh

Other energy 884,000 GJ

Resources/materials

Chemical substances 334 tonnes

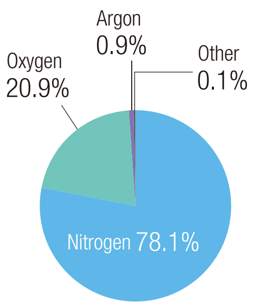
Water 12,070,000 m^3

REUSE

We recycled and reused water and curbed resource consumption.

INPUT

Raw material



Atmospheric air consists of oxygen, nitrogen, argon and other gases.

Atmospheric air is the raw material used to produce industrial gases.

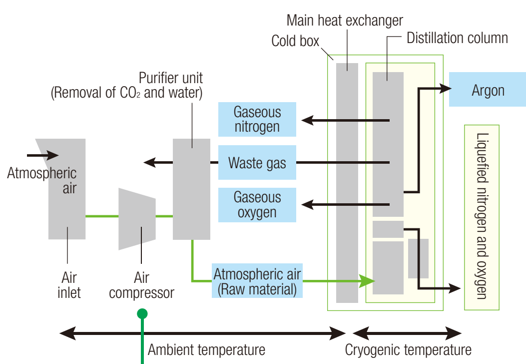
Development and production

Environmental impact of oxygen, nitrogen and argon production

Air separation units produce oxygen, nitrogen and argon simultaneously by separating atmospheric air into its constituent gases. Air is first compressed, which uses a considerable amount of energy. The use of electric power for this purpose represents the Taiyo Nippon Sanso Group's single most significant environmental impact.

Compressed air is cooled almost to the point where the gases liquefy, after which it is ready for the distillation column, where it is separated into gas and liquid components using a thermal distillation process. Nitrogen, which has a low boiling point, concentrates in the gas and is withdrawn from the top of the column, while oxygen, which has a higher boiling point, concentrates in the liquid and is withdrawn from the bottom section. Argon, which has an intermediate boiling point, is withdrawn from the middle of the column.

Air Separation Unit: Simplified Process Flow



Electric power used to compress atmospheric air accounts for most of the electric power used by the Taiyo Nippon Sanso Group.

OUTPUT

Greenhouse gas emissions 3,723,000 tonnes CO_2

Calculated in tonnes of CO_2

Emissions due to the use of electric power	3,669,000 tonnes CO_2
Emissions due to the use of other energy	52,000 tonnes CO_2
Emissions of greenhouse gases other than CO_2	2,000 tonnes CO_2

Chemical substances discharged 36.0 tonnes

Water discharged 4,020,000 m^3 (Estimate)

Industrial waste discharged 2,708 tonnes

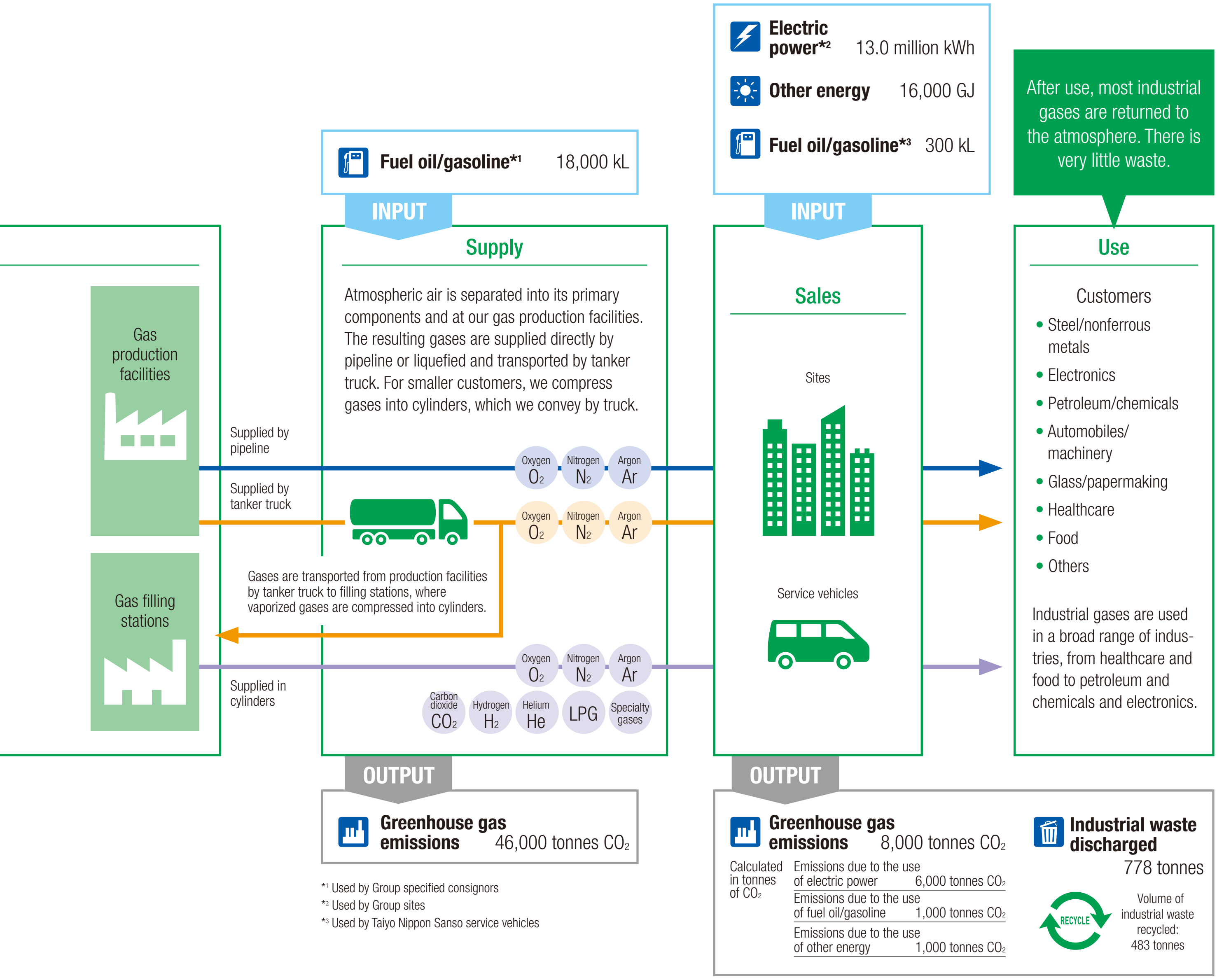
RECYCLE

Volume of industrial waste recycled: 1,444 tonnes

Initiatives Aimed at Helping to Mitigate Global Warming

Challenges and targets	Principal initiatives	Progress as of fiscal year 2017	Relevant companies/ departments/sites
Challenge: Lower energy consumption at gas production facilities Target: Reduce energy consumed per unit of production	• Develop and install energy-efficient air separation units • Replace air separation unit components with new high-efficiency versions • Optimize facility operations to better reflect demand volume	Down 1.7% (from fiscal year 2006)	Gas production facilities belonging to and gas production companies managed by Taiyo Nippon Sanso
Challenge: Promote energy-saving measures at various sites Target: Reduce electricity consumed (1%+ annual reduction over the medium to long term)	• Cut unnecessary electric power consumption by OA and lighting equipment • Replace air conditioning, OA, lighting, shared and other equipment with energy-efficient new models • Implement no overtime days and Cool Biz (liberal summer dress code to reduce use of air conditioning)	Up 2.0% (from fiscal year 2016)	All Taiyo Nippon Sanso sites (excluding gas production facilities)
Challenge: Increase the efficiency of transport by tanker truck Target: Reduce fuel used in the transport of products	• Optimize shipping routes • Rethink delivery intervals • Promote the weighing of cargo in the presence of the customer • Introduce new-model tanker trucks • Reinforce green driving training	Down 30.8% (from fiscal year 1991)	Group and subcontracted logistics companies

Scope of data: Taiyo Nippon Sanso sites and affiliates in Japan.

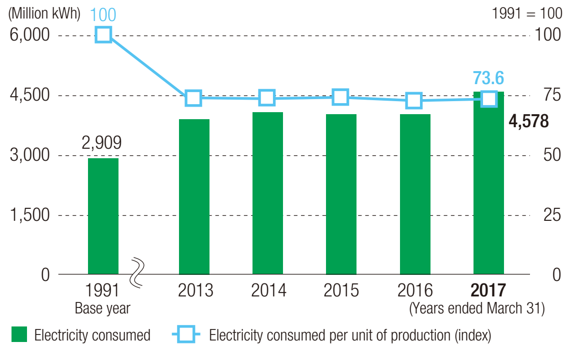


*1 Used by Group specified consignors
*2 Used by Group sites
*3 Used by Taiyo Nippon Sanso service vehicles

Reducing Energy Consumption at Gas Production Facilities

We have established an Energy Saving Working Group as a subsection of our Environmental Management Committee to guide our ongoing efforts to reduce energy consumption per unit of production. In fiscal year 2017, energy consumption per unit of production at these facilities was down 1.7% from fiscal year 2006, the base year used for this measurement. Moreover, these facilities' consumption of electricity, which accounts for approximately 98% of the energy they use, was down 26.4% from fiscal year 1991. Principal initiatives undertaken by gas production facilities to reduce energy consumption include the development and installation of energy-efficient air separation units, the replacement of air separation unit components with new high-efficiency versions, and the optimization of facility operations to better reflect demand volume.

Consumption of Electricity and Consumption of Electricity per Unit of Production by Gas Production Facilities



Scope of data: Gas production facilities belonging to and gas production companies managed by Taiyo Nippon Sanso

Six-Year Summary

Taiyo Nippon Sanso Corporation and Consolidated Subsidiaries

(Millions of yen)

	IFRS	IFRS	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP	Japanese GAAP
Years ended/as of March 31	2017	2016	2016	2015	2014	2013	2012
Financial indicators							
Revenue	¥581,586	¥594,421	¥641,516	¥559,373	¥522,746	¥468,387	¥477,451
Operating income	53,664	48,925	43,362	35,297	31,489	24,884	31,067
Net income (loss) attributable to owners of the parent	34,740	29,030	25,845	20,764	20,194	(2,071)	21,200
Selling, general and administrative expenses/ revenue	28.4%	27.1%	28.4%	26.7%	26.4%	26.8%	26.3%
Return on equity	10.3%	9.1%	8.2%	7.0%	8.4%	(1.0)%	10.8%
Return on capital employed	8.4%	8.1%	7.4%	6.2%	6.2%	5.5%	7.0%
Capital expenditures	43,796	52,657	53,611	35,201	32,532	31,715	31,452
Investment and loans	102,034	25,507	32,941	5,710	35,749	5,672	8,035
Depreciation and amortization	40,048	39,696	44,864	35,568	33,507	29,400	30,471
Amortization of goodwill	—	—	7,352	4,959	3,668	2,719	2,472
Research and development expenses	3,323	3,238	3,348	3,430	3,170	3,177	3,458
Interest-bearing debt	359,528	266,215	274,424	266,276	278,063	253,424	241,121
Net interest-bearing debt	304,308	215,492	223,638	212,855	219,727	228,681	206,524
Net debt-to-equity (times)	0.87	0.67	0.71	0.67	0.80	1.12	1.03
Total equity attributable to owners of the parent	351,576	320,457	337,974	341,207	298,475	224,253	219,611
Total assets	924,281	787,505	783,248	782,357	731,677	615,820	607,024
Amounts of per share of common stock:							
Net income (loss)	80.28	67.08	59.72	47.98	49.42	(5.25)	53.33
Cash dividends	20.00	16.00	16.00	13.00	12.00	12.00	12.00
Dividends payout ratio	24.9%	23.9%	26.8%	27.1%	24.3%	—	22.5%
Price earnings ratio (times)	16.22	15.92	17.88	34.16	16.43	(121.52)	10.95

Years ended March 31	2017	2016		2015	2014	2013	2012
Non-financial indicators							
Number of directors	10	11		17	15	15	15
Number of outside directors	2	2		0	1	1	1
Outside directors as a percentage of total number of directors	20.0%	18.2%		0.0%	6.7%	6.7%	6.7%
Number of employees	15,860	14,107	14,127	13,142	12,955	11,468	11,588
Number of overseas employees	10,033	8,332	8,332	7,395	6,977	5,848	5,894
Overseas employees as a percentage of total number of employees	63.3%	59.1%	59.0%	56.3%	53.9%	51.0%	50.9%
CO_2 emissions (thousands of tonnes)*1	3,777	3,401		3,512	3,359	3,153	2,864
Energy consumption (thousands of GJ)*1	51,479	45,504		45,736	46,186	43,922	42,890
Composition:							
Electric power (millions of kWh)	5,209	4,607		4,611	4,630	4,400	4,296
Other energy (thousands of GJ)	901	790		963	1,234	1,193	1,135
Patent portfolio*2							
Patents owned in Japan	701	689		684	636	590	542
Patents owned overseas	328	295		300	293	272	272

*1 CO_2 emissions and energy consumption figures are for Taiyo Nippon Sanso sites and affiliated companies in Japan.
*2 Patent information for each year is for Taiyo Nippon Sanso and is as of December 31 of the previous year.

Management's Analysis of Operating Results and Financial Position

Operating Results

In fiscal year 2017, ended March 31, 2017, consolidated revenue declined 2.2% from fiscal year 2016, to ¥581,586 million. Cost of sales decreased 5.4%, to ¥365,578 million, equivalent to 62.9% of revenue, down 2.2 percentage points from the previous fiscal year. Selling, general and administrative expenses rose 2.4%, to ¥165,071 million, and were equivalent to 28.4% of revenue, up 1.3 percentage points from fiscal year 2016. As a consequence, operating income advanced 9.7%, to ¥53,664 million, and the operating margin improved 1.0 percentage point, to 9.2%. Core operating income—operating income excluding gains or losses associated with nonrecurring factors such as withdrawals from or the scaling down of businesses—amounted to ¥54,736 million, an increase of 15.3%, or ¥7,280 million.

These factors underpinned a 19.7% increase in net income attributable to owners of the parent, to ¥34,740 million. Basic earnings per share rose ¥13.20, to ¥80.28, while return on capital employed (ROCE) edged up 0.3 percentage point, to 8.4%.

At the general meeting of shareholders held on June 20, 2017, shareholders approved a proposal to pay a year-end dividend of ¥11.00 per share, up ¥2.00, bringing cash dividends for the period, comprising interim and year-end dividends, to ¥20.00 per share. This represented a payout ratio of 24.9%.

Capital expenditures, on a final acceptance basis, totaled ¥43,796 million, a decline of ¥8,861 million. Depreciation and amortization rose ¥352 million, to ¥40,048 million. Research and development expenses increased ¥85 million, to ¥3,323 million, equivalent to approximately 0.6% of revenue.

Results by Segment

Gas Business in Japan

In the area of industrial gases, sales of our core products, air separated gases (oxygen, nitrogen and argon) were down, owing to declines in unit sales prices for gases supplied directly via pipeline to customers in the steel and chemicals industries. In the area of gas equipment, sales of hydrogen stations, which had been robust in the previous period, fell sharply, although sales of air separation units rose steadily, thanks to higher demand. Among electronics-related products, sales of electronics materials gases rose sharply, reflecting an increase in demand. In the energy field, revenue from sales of LPG dropped substantially, owing to falling import prices. For these and other reasons, revenue to external customers decreased 2.0%, to ¥321,416 million, while segment income increased 5.7%, to ¥29,450 million.

Gas Business in the United States

In the area of industrial gases, sales of bulk gases increased substantially, bolstered by higher shipments of carbon dioxide gas, as well as by the consolidation in September 2016 of a company acquired from the Air Liquide Group. In contrast, sales of hard goods declined. In electronics-related products, sales of electronics materials gases decreased. Owing to the continued appreciation of the yen, currency translation effects had a ¥14,200 million negative impact on segment sales. These and other factors led to a 1.5% decline in revenue to external customers, to ¥147,274 million. Nonetheless, segment income climbed 30.7%, to ¥12,074 million.

Gas Business in Asia and Oceania

In the area of industrial gases, sales increased steadily in the Philippines and Vietnam, but decreased in Singapore and Malaysia. Sales of industrial gases also benefited from the consolidation of Air Products Industry Co., Ltd. in Thailand in May 2015 and Renegade Gas Pty Ltd and Supagas Holdings Pty Ltd in Australia in July 2015 and December 2016, respectively. In the area of electronics-related products, sales of electronics materials gases and gas equipment edged up in Taiwan, China and South Korea. Currency translation effects had a ¥9,100 million negative impact on revenue to external customers, which decreased 3.9%, to ¥85,875 million. In contrast, segment income soared 71.6%, to ¥5,165 million, owing to the absence of impairment losses on gas production facilities in Singapore reported in the previous fiscal year.

Thermos and Other Businesses

Despite a slight decline in demand from tourists visiting Japan, sales of Thermos products were on a par with the previous fiscal year thanks to brisk sales of new products. As a consequence, revenue to external customers slipped 1.9%, to ¥27,018 million, while segment income increased 11.3%, to ¥10,017 million.

Financial Position

Total assets as of March 31, 2017, amounted to ¥924,281 million, an increase of 17.4%, or ¥136,776 million. The appreciation of the yen, which was ¥0.49 higher against the U.S. dollar on March 31, 2017, than on the same day a year earlier, had a negative impact of approximately ¥5,000 million. Total current assets rose 3.9%, or ¥10,095 million, to ¥268,132 million, owing to increases in operating receivables and cash and cash equivalents. Non-current assets increased 23.9%, or ¥126,680 million, to ¥656,149 million, owing to increases in goodwill and property, plant and equipment.

Current liabilities declined 1.5%, or ¥3,351 million, to ¥213,602 million, reflecting a decrease in corporate bonds and borrowings. Non-current liabilities jumped 47.9%, or ¥108,130 million, to ¥333,816 million, a consequence of an increase in corporate bonds and borrowings. The current ratio was 126%, up 7.0 percentage points.

Total equity was up 9.3%, or ¥31,996 million, to ¥376,862 million. Contributing factors included an increase in net income and a decrease in retained earnings paid as dividends. As a consequence, total equity attributable to owners of the parent as a percentage of total liabilities and net assets slipped 2.7 percentage points, to 38.0%. Total equity attributable to owners of the parent per share was ¥812.40, an increase of ¥71.92.

Cash Flows

Net cash provided by operating activities in fiscal year 2017 amounted to ¥74,596 million, ¥1,249 million higher than in the previous fiscal year, despite an increase in notes and accounts receivable—trade, as both income before income taxes and depreciation and amortization were up.

Net cash used in investing activities, at ¥147,082 million, was up ¥72,830 million. The principal factor behind this result was payments for transfer of business.

Net cash provided by financing activities amounted to ¥80,777 million, compared with ¥2,385 million used in such activities in fiscal year 2016. Contributing factors included proceeds from long-term borrowings of ¥122,212 million and proceeds from issue of corporate bonds of ¥30,000 million.

Operating, investing and financing activities thus resulted in balance of cash and cash equivalents at term-end of ¥52,857 million, up ¥3,641 million from ¥49,216 million in the previous fiscal year.

Business Risks

Management Policy- and Business-Related Risks

Capital Investment

The Company maintains large-scale gas supply facilities for major customers and needs to spend heavily to build, maintain and upgrade these facilities. Accordingly, interest rate trends could have a material impact on the Company's business performance.

Manufacturing Costs

Electricity is the major component of the cost of manufacturing such core products as oxygen, nitrogen and argon. Accordingly, a sharp increase in the price of crude oil could result in a substantial increase in electricity charges, which the Company may be unable to reflect in the pricing of its products.

Overseas Factors

The Company maintains operations overseas, particularly in the United States and Asia. Political and economic changes in countries where the Company has operations may have an adverse impact on its business performance.

Technological and Safety Factors

Technological Development

The Company actively promotes technological development activities aimed at facilitating future business expansion. However, the creation of new products and technologies entails various risks.

Intellectual Property

The Company's business depends on proprietary technological development. The Company endeavors to obtain intellectual property rights as necessary for its proprietary technologies. However, there are no guarantees that its technologies are completely protected.

Product Defects

The Company sells high-pressure gas-related products, including toxic and flammable gases used in semiconductor fabrication. While the Company strives to ensure the effective management of related risks, it cannot guarantee that all of its products are free of defects.

Financial Risks and Other Factors

Foreign Exchange Risk

The Company exports products for sale outside of Japan. The Company strives to hedge foreign exchange risks by entering into forward exchange contracts and other derivative transactions. However, the Company may not be able to respond to sudden fluctuations in currency rates, which therefore may have an adverse impact on its business performance.

Retirement Benefit Liabilities

A sudden deterioration in retirement plan returns resulting in an increase in retirement benefit costs may have an adverse impact on the Company's business performance.

Natural Disasters and Contingencies

The occurrence of earthquakes or other natural disasters in areas where the Company has manufacturing facilities may damage those facilities. In particular, damage to the Company's large-scale manufacturing facilities may lead to a significant decline in production capacity and incur major recovery costs. Such factors may adversely affect the Company's business performance. Major accidents occurring as a result of contingencies, including those attributable to human factors, may also adversely affect the Company's business performance.

Legal Issues

Unanticipated changes to existing laws and the introduction of new laws—particularly in countries overseas where the Company maintains operations—may adversely affect the Company's business performance. Revisions to environmental laws that result in a tightening of restrictions may result in an increase in costs to ensure compliance, which may also adversely affect the Company's business performance. Because the Company does business both in Japan and overseas, there is a risk that it may become involved in legal disputes or be the subject of investigations and/or legal action by relevant authorities in the markets in which it operates. Such legal and regulatory action may adversely affect the Company's operations, business performance, financial condition, reputation and reliability.

Medium-Term Business Plan

The Company's ability to meet the targets of its medium-term business plan may be adversely affected by a number of factors, including changes in the operating environment.

Capital Alliance with Mitsubishi Chemical Holdings

Mitsubishi Chemical Holdings Corporation owns a 50.57% stake in the Company. With the aim of further strengthening the capital alliance, established on May 13, 2014, and enhancing corporate value, the two companies have agreed that Mitsubishi Chemical Holdings will maintain its stake in the Company at the current level. Accordingly, the Company does not at present anticipate any increase or decrease in the percentage of its shares held by Mitsubishi Chemical Holdings. However, there is still a chance that the capital alliance between the two companies will change. Any such change has the potential to significantly affect the Company's financial condition and business performance.

Consolidated Financial Statements

Taiyo Nippon Sanso Corporation and Consolidated Subsidiaries

Consolidated Statements of Financial Position

(Millions of Yen)

	Notes	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Assets				
Current assets				
Cash and cash equivalents	6	¥ 52,857	¥ 49,216	¥ 52,769
Trade receivables	7	149,979	145,850	151,702
Inventories	8	51,935	51,859	47,579
Other financial assets	13	5,533	5,755	5,533
Other current assets	14	7,826	5,354	7,080
Total current assets		268,132	258,036	264,664
Non-current assets				
Property, plant and equipment	9	379,553	331,906	316,335
Goodwill	10	123,602	81,179	68,789
Intangible assets	10	51,305	22,827	25,907
Investments accounted for using the equity method	12	22,958	20,870	20,793
Other financial assets	13	65,178	60,823	72,596
Retirement benefit asset	19	8,443	6,499	8,891
Other non-current assets	14	709	694	643
Deferred tax assets	28	4,399	4,667	4,238
Total non-current assets		656,149	529,468	518,196
Total assets		¥924,281	¥787,505	¥782,860

See notes to consolidated financial statements.

(Millions of Yen)

	Notes	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Liabilities and equity				
Liabilities				
Current liabilities				
Trade payables	15	¥ 73,046	¥ 72,743	¥ 76,896
Bonds and borrowings	16	88,720	94,127	64,689
Income taxes payable		6,289	8,192	7,107
Other financial liabilities	17	30,152	28,270	25,489
Provisions	20	534	718	389
Other current liabilities	21	14,858	12,899	14,425
Total current liabilities		213,602	216,953	188,997
Non-current liabilities				
Bonds and borrowings	16	263,833	165,174	189,141
Other financial liabilities	17	5,622	7,130	6,152
Retirement benefit liability	19	4,216	4,515	4,281
Provisions	20	5,859	594	1,026
Other non-current liabilities	21	13,783	12,413	8,464
Deferred tax liabilities	28	40,501	35,857	39,761
Total non-current liabilities		333,816	225,685	248,827
Total liabilities		547,419	442,639	437,824
Equity				
Share capital	22	37,344	37,344	37,344
Capital surplus	22	52,988	55,545	55,955
Treasury shares	22	(250)	(244)	(232)
Retained earnings	22	261,717	232,877	211,247
Other components of equity	22	(224)	(5,066)	16,724
Total equity attributable to owners of parent		351,576	320,457	321,040
Non-controlling interests		25,286	24,409	23,995
Total equity		376,862	344,866	345,035
Total liabilities and equity		¥924,281	¥787,505	¥782,860

Consolidated Statements of Profit or Loss

(Millions of Yen)

	Notes	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Revenue	4	¥ 581,586	¥ 594,421
Cost of sales		(365,578)	(386,621)
Gross profit		216,007	207,800
Selling, general and administrative expenses		(165,071)	(161,169)
Other operating income	26	2,571	4,448
Other operating expenses	26	(2,241)	(4,680)
Share of profit of investments accounted for using the equity method	12	2,397	2,526
Operating profit		53,664	48,925
Financial income	27	1,429	1,316
Financial costs	27	(4,918)	(3,665)
Profit before income taxes		50,176	46,575
Income taxes	28	(13,963)	(16,069)
Profit		¥ 36,212	¥ 30,506
Profit attributable to:			
Owners of parent		¥ 34,740	¥ 29,030
Non-controlling interests		1,472	1,475
Earnings per share			
Basic earnings per share (yen)	29	¥80.28	¥67.08

See notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income

(Millions of Yen)

	Notes	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Profit		¥ 36,212	¥ 30,506
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Financial assets measured at fair value through other comprehensive income	24	5,534	(7,058)
Remeasurements of defined benefit plans	24	1,563	(1,806)
Share of other comprehensive income of investments accounted for using the equity method	24	12	(37)
Total of items that will not be reclassified to profit or loss		7,109	(8,902)
Items that may be reclassified subsequently to profit or loss			
Exchange differences on translation of foreign operations	24	(787)	(14,810)
Effective portion of net change in fair value of cash flow hedges	24	268	333
Share of other comprehensive income of investments accounted for using the equity method	24	(995)	(1,043)
Total of items that may be reclassified subsequently to profit or loss		(1,514)	(15,520)
Total other comprehensive income		5,594	(24,422)
Comprehensive income		¥ 41,807	¥ 6,083
Comprehensive income attributable to:			
Owners of parent		¥ 40,733	¥ 5,743
Non-controlling interests		1,074	339

See notes to consolidated financial statements.

Consolidated Statements of Changes in Equity

(Millions of Yen)

	Notes	Share capital	Capital surplus	Treasury shares	Retained earnings
		FYE2017 (April 1, 2016 to March 31, 2017)			
Balance at April 1, 2016		¥37,344	¥55,545	¥(244)	¥232,877
Profit		—	—	—	34,740
Other comprehensive income	24	—	—	—	—
Comprehensive income		—	—	—	34,740
Purchase of treasury shares	22	—	—	(6)	—
Disposal of treasury shares	22	—	(0)	0	—
Dividends	23	—	—	—	(7,792)
Changes in ownership interest in subsidiaries		—	(2,557)	—	—
Transfer from other components of equity to retained earnings		—	—	—	1,150
Change in scope of consolidation		—	—	—	741
Other changes		—	—	—	—
Total transactions with owners		—	(2,557)	(5)	(5,900)
Balance at March 31, 2017		¥37,344	¥52,988	¥(250)	¥261,717

	Notes	Other components of equity							
		Foreign currency translation adjustments	Effective portion of net change in fair value of cash flow hedges	Financial assets measured at fair value through other comprehensive income	Remeasurements of defined benefit plans	Total	Total equity attributable to owners of parent	Non-controlling interests	Total equity
Balance at April 1, 2016		¥(14,840)	¥(332)	¥10,107	¥ —	¥(5,066)	¥320,457	¥24,409	¥344,866
Profit		—	—	—	—	—	34,740	1,472	36,212
Other comprehensive income	24	(1,294)	268	5,479	1,539	5,992	5,992	(397)	5,594
Comprehensive income		(1,294)	268	5,479	1,539	5,992	40,733	1,074	41,807
Purchase of treasury shares	22	—	—	—	—	—	(6)	—	(6)
Disposal of treasury shares	22	—	—	—	—	—	0	—	0
Dividends	23	—	—	—	—	—	(7,792)	(963)	(8,755)
Changes in ownership interest in subsidiaries		—	—	—	—	—	(2,557)	262	(2,294)
Transfer from other components of equity to retained earnings		—	—	389	(1,539)	(1,150)	—	—	—
Change in scope of consolidation		—	—	—	—	—	741	606	1,347
Other changes		—	—	—	—	—	—	(102)	(102)
Total transactions with owners		—	—	389	(1,539)	(1,150)	(9,614)	(197)	(9,811)
Balance at March 31, 2017		¥(16,135)	¥ (64)	¥15,975	¥ —	¥ (224)	¥351,576	¥25,286	¥376,862

(Millions of Yen)

	Notes	Share capital	Capital surplus	Treasury shares	Retained earnings
		FYE2016 (April 1, 2015 to March 31, 2016)			
Balance at April 1, 2015		¥37,344	¥55,955	¥(232)	¥211,247
Profit		—	—	—	29,030
Other comprehensive income	24	—	—	—	—
Comprehensive income		—	—	—	29,030
Purchase of treasury shares	22	—	—	(11)	—
Disposal of treasury shares	22	—	0	0	—
Dividends	23	—	—	—	(6,060)
Changes in ownership interest in subsidiaries		—	(410)	—	—
Business combinations or business divestitures		—	—	—	—
Transfer from other components of equity to retained earnings		—	—	—	(1,509)
Change in scope of consolidation		—	—	—	169
Other changes		—	—	—	—
Total transactions with owners		—	(410)	(11)	(7,400)
Balance at March 31, 2016		¥37,344	¥55,545	¥(244)	¥232,877

	Notes	Other components of equity							
		Foreign currency translation adjustments	Effective portion of net change in fair value of cash flow hedges	Financial assets measured at fair value through other comprehensive income	Remeasurements of defined benefit plans	Total	Total equity attributable to owners of parent	Non-controlling interests	Total equity
Balance at April 1, 2015		¥ —	¥(666)	¥17,390	¥ —	¥ 16,724	¥321,040	¥23,995	¥345,035
Profit		—	—	—	—	—	29,030	1,475	30,506
Other comprehensive income	24	(14,840)	333	(7,021)	(1,758)	(23,286)	(23,286)	(1,136)	(24,422)
Comprehensive income		(14,840)	333	(7,021)	(1,758)	(23,286)	5,743	339	6,083
Purchase of treasury shares	22	—	—	—	—	—	(11)	—	(11)
Disposal of treasury shares	22	—	—	—	—	—	0	—	0
Dividends	23	—	—	—	—	—	(6,060)	(650)	(6,711)
Changes in ownership interest in subsidiaries		—	—	—	—	—	(410)	(791)	(1,201)
Business combinations or business divestitures		—	—	—	—	—	—	1,571	1,571
Transfer from other components of equity to retained earnings		—	—	(248)	1,758	1,509	—	—	—
Change in scope of consolidation		—	—	—	—	—	169	483	653
Other changes		—	—	(13)	—	(13)	(13)	(539)	(552)
Total transactions with owners		—	—	(262)	1,758	1,495	(6,326)	73	(6,253)
Balance at March 31, 2016		¥(14,840)	¥(332)	¥10,107	¥ —	¥ (5,066)	¥320,457	¥24,409	¥344,866

See notes to consolidated financial statements.

Consolidated Statements of Cash Flows

(Millions of Yen)

	Notes	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Cash flows from operating activities			
Profit before income taxes		¥ 50,176	¥ 46,575
Depreciation and amortization		40,048	39,696
Impairment losses		231	1,731
Gain on step acquisition		—	(1,813)
Interest and dividend income		(1,271)	(1,316)
Interest expenses		4,484	3,661
Share of (profit) loss of investments accounted for using the equity method		(2,397)	(2,526)
(Gains) losses on sale of property, plant and equipment and intangible assets		(727)	794
(Increase) decrease in trade receivables		(2,818)	7,632
(Increase) decrease in inventories		232	(3,884)
Increase (decrease) in trade payables		(770)	(4,951)
(Increase) decrease in retirement benefit asset		112	(217)
Increase (decrease) in retirement benefit liability		1,855	(404)
Other		2,335	3,728
Subtotal		91,490	88,705
Interest received		273	193
Dividends received		2,650	3,391
Interest paid		(4,493)	(3,689)
Income taxes paid		(15,325)	(15,253)
Net cash provided by operating activities		74,596	73,347
Cash flows from investing activities			
Purchase of property, plant and equipment		(41,442)	(51,537)
Proceeds from sales of property, plant and equipment		2,459	955
Purchase of investments		(2,944)	(1,060)
Proceeds from sales and redemption of investments		4,630	1,373
Payments for acquisition of subsidiaries		(20,020)	(19,685)
Payments for acquisition of business		(77,775)	—
Other	5	(11,989)	(4,297)
Net cash used in investing activities		(147,082)	(74,252)
Cash flows from financing activities			
Net increase (decrease) in short-term borrowings		434	9,663
Proceeds from long-term borrowings		122,212	39,104
Repayments of long-term borrowings		(48,839)	(40,231)
Proceeds from issuance of bonds		30,000	—
Redemption of bonds		(10,000)	—
Purchases of investments in subsidiaries not resulting in change in scope of consolidation		(1,279)	(2,224)
Dividends paid	23	(7,792)	(6,060)
Dividends paid to non-controlling interests		(963)	(650)
Other		(2,994)	(1,986)
Net cash provided by (used in) financing activities		80,777	(2,385)
Effect of exchange rate changes on cash and cash equivalents		(5,404)	(569)
Net increase (decrease) in cash and cash equivalents		2,886	(3,860)
Balance of cash and cash equivalents at beginning of fiscal year		49,216	52,769
Increase (decrease) in cash and cash equivalents resulting from change of scope of consolidation		727	307
Increase in cash and cash equivalents resulting from merger		27	—
Balance of cash and cash equivalents at end of fiscal year	6	¥ 52,857	¥ 49,216

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

Taiyo Nippon Sanso Corporation and Consolidated Subsidiaries

1. Reporting Entity

Taiyo Nippon Sanso Corporation (the "Company") is a company located in Japan and is listed on the First Section of the Tokyo Stock Exchange. The registered address of the Company's head office is disclosed on its website (http://www.tn-sanso.co.jp/en). The consolidated financial statements of the Company and its subsidiaries (collectively, the "TNSC Group") comprise interests in the TNSC Group, its associates and joint arrangements, with March 31 as the end of the fiscal year. The TNSC Group conducts gas businesses in Japan and overseas, mainly for customers in the steel, chemical, and electronics industries. In addition, the TNSC Group manufactures and sells housewares such as stainless steel vacuum bottles, and conducts real-estate rental and other businesses. Details are described in Note "4. Segment Information."

The Company's parent is Mitsubishi Chemical Holdings Corporation.

2. Basis of Preparation

(1) Conformity with IFRS

The consolidated financial statements of the TNSC Group have been prepared in compliance with International Financial Reporting Standards (IFRS) published by the International Accounting Standards Board. Since the Company meets the requirements of a "Specified Company Applying Designated IFRS" prescribed under Article 1-2 of the Japanese Ordinance on Terminology, Forms, and Preparation Methods of Consolidated Financial Statements, the Company has adopted the provisions of Article 93 of said ordinance.

The TNSC Group has adopted IFRS for the first time for the fiscal year beginning on April 1, 2016, and the transition date to IFRS (the "Transition Date") is April 1, 2015. The impacts of the transition to IFRS on the financial position, operating results and cash flows of the TNSC Group as of the Transition Date and for the comparative fiscal years are described in Note "36. First-time Adoption."

(2) Approval of financial statements

The TNSC Group's consolidated financial statements were approved by Yujiro Ichihara, President and CEO of the Company, on June 21, 2017.

(3) Basis of measurement

The TNSC Group's consolidated financial statements were prepared on a historical cost basis, except for certain assets and liabilities including financial instruments measured at fair value as described in Note "3. Significant Accounting Policies."

(4) Presentation currency

The TNSC Group's consolidated financial statements are presented in Japanese yen, which is the functional currency of the Company, and amounts are rounded down to the nearest million yen.

(5) Use of judgments, estimates and assumptions

In preparing the TNSC Group's consolidated financial statements in accordance with IFRS, management is required to make judgments, estimates and assumptions that affect the application of accounting policies and reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. The impacts of changes in accounting estimates are recognized in the accounting period in which the estimates are changed and in future accounting periods affected.

Major information on accounting judgments, estimates and assumptions that may have significant impacts on the TNSC Group's consolidated financial statements is as follows:

- Impairment of non-financial assets ("11. Impairment Losses")
- Recoverability of deferred tax assets ("28. Income Taxes")
- Measurement of defined benefit obligations ("19. Post-employment Benefits")
- Fair value of financial instruments ("30. Financial Instruments")
- Contingent liabilities ("34. Contingent Liabilities")

(6) Early adoption of new accounting standards

The TNSC Group has early adopted IFRS 9 "Financial Instruments" from the Transition Date.

(7) New accounting standards and interpretations that are not yet applied

Regarding the major accounting standards and interpretations issued before the approval date of the consolidated financial statements, the accounting standards and interpretations that are not yet applied as of March 31, 2017 because the application is not mandatory are as follows.

The impact of the application on the TNSC Group's consolidated financial statements is under evaluation and cannot be estimated at present.

Accounting standards and interpretations		Timing of mandatory application (Effective fiscal year beginning on or after)	Effective fiscal year of the TNSC Group	Outline of newly established/revised standards and interpretations
IFRS 15	Revenue from Contracts with Customers	January 1, 2018	Fiscal year ending March 31, 2019	This standard revised the existing accounting treatments and disclosure requirements on revenue recognition. Specifically, the standard requires entities to recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the compensation to which the entities expect to be entitled in exchange for such goods and services.
IFRS 16	Leases	January 1, 2019	Fiscal year ending March 31, 2020	This standard revised the existing accounting standard and disclosure requirements on lease transactions. Specifically, the standard introduces a single model, and for all leases with a term of more than 12 months, the standard in principle requires a lessee to reflect the right-of-use of its assets and an obligation to make lease payments on the financial statements.

3. Significant Accounting Policies

(1) Basis of consolidation

1) Subsidiaries

Subsidiaries refer to companies controlled by the TNSC Group. The TNSC Group judges that it controls a company if the TNSC Group has the exposure or rights to variable returns arising from its involvement in the investee and has the ability to influence such returns due to power over the investee.

In preparing the consolidated financial statements, the financial statements of each Group company prepared at the same closing date based on the unified accounting policies of the TNSC Group are used. If accounting policies applied by a subsidiary are different from the accounting policies applied by the TNSC Group, adjustments are made to the financial statements of such subsidiary as necessary.

Consolidation of subsidiaries begins on the date when the TNSC Group acquires control over the subsidiaries until the date when the control over the subsidiaries is lost.

Transactions between consolidated companies, as well as the balance of receivables and payables and unrealized gains and losses arising from such transactions, are eliminated in preparing the consolidated financial statements.

If there is a change in interests in consolidated subsidiaries without involving a loss of control, it is accounted for as an equity transaction. The difference between the adjustment amount of the non-controlling interest and the fair value of the consideration is recognized directly in equity as equity attributable to owners of the parent.

In the event of a loss of control, the TNSC Group measures and recognizes the remaining investment at fair value on the date when the control has been lost. Gains and losses arising from the loss of control are recognized in profit or loss.

Non-controlling interests in consolidated subsidiaries' net assets are identified separately from the TNSC Group's interests. Comprehensive income of consolidated subsidiaries is attributable to owners of the parent and non-controlling interests, even if this results in the non-controlling interests having a deficit balances.

2) Associates

Associates refer to companies over which the TNSC Group has a significant influence on their financial and operating policies but does not have control or joint control.

The TNSC Group accounts for investments in associates using the equity method.

Investments in associates under the equity method are recognized at cost at the time of acquisition and recorded in the consolidated statements of financial position after adjusting the TNSC Group's interests in changes in net assets of the associates after acquisition.

The consolidated statements of profit or loss reflect the TNSC Group's interests in the performance of associates. If there is a change in the amount recognized in other comprehensive income of associates, the TNSC Group's interests in such change are recognized in other comprehensive income.

Adjustments are made to consolidated financial statements in order to eliminate the TNSC Group's interests in unrealized gains and losses arising from transactions between the TNSC Group and associates.

Financial statements of associates are prepared for the same reporting period as the TNSC Group. Adjustments are made to make accounting policies of the associates consistent with the TNSC Group's accounting policies.

In the event of loss of significant influence over associates, the TNSC Group measures and recognizes the remaining investment at fair value on the date when significant influence is lost. Gains and losses arising from the loss of significant influence are recognized in profit or loss.

3) Joint arrangements

Joint arrangements refer to arrangements that require the unanimous consent of the parties sharing control over decision-making on relevant activities.

A joint venture (jointly controlled entity) refers to a joint agreement where parties with joint control over the arrangement have the right to the net assets of such arrangement.

If the TNSC Group has a share in a joint venture, the TNSC Group accounts for such share using the equity method.

A joint operation (jointly controlled business) refers to a business in which parties with joint control substantially have the right to assets and the obligation to liabilities related to joint arrangements.

If the TNSC Group has a share in a joint operation, the TNSC Group recognizes the investment concerning such joint operation only at the equivalent amount of the TNSC Group's interests in the assets, liabilities, income and expenses arising from jointly-controlled operating activities. Transactions between the TNSC Group companies, as well as the balance of receivables and payables and unrealized gains and losses arising from such transactions are eliminated.

The TNSC Group has more than 50% of voting rights of Sakai Gas Center, Inc. The TNSC Group judges that said company qualifies as a joint operation.

(2) Business combinations

Business combinations are accounted for using the acquisition method.

If the initial accounting for business combinations has not been completed by the end of the period in which the business combinations occurred, they are accounted for at a provisional amount for the items for which the accounting is incomplete. The provisional amount is adjusted during the measurement period, which is within one year from the acquisition date.

The consideration transferred in a business combination is calculated as the sum of acquisition-date fair values of assets transferred by the acquirer, liabilities incurred by the acquirer to former owners of the acquiree, and equity interests issued by the acquirer.

Non-controlling interests in the acquiree are measured for each business combination either at fair value or at the amount equivalent to the non-controlling interest in proportion to the fair value of identifiable net assets of the acquiree.

Acquisition-related costs incurred in connection with business combinations are recognized as expenses for the period in which such costs were incurred.

When the TNSC Group acquires a business, it classifies and designates assets to be acquired and liabilities to be assumed based on contract terms, economic conditions and related conditions at the acquisition date. In addition, identifiable assets acquired and liabilities assumed are in principle measured at fair value on the acquisition date.

If a business combination is achieved in stages, the interest held before acquiring the control of the acquiree is revalued at fair value at the acquisition date, and the difference is recognized in profit or loss. The amount of the interest in the acquiree that was recorded in other comprehensive income before the acquisition date is accounted for in the same manner as in the case where the acquirer disposed of its interests.

Goodwill is measured as the amount of the aggregate amount of the consideration transferred and the amount recognized as non-controlling interests exceeding the net of identifiable assets acquired and liabilities assumed.

If the aggregate amount recognized as the consideration transferred and non-controlling interests is less than the net of identifiable assets acquired and liabilities assumed, the difference is recognized in profit or loss.

After initial recognition, goodwill acquired through a business combination is not amortized but is recorded at the amount initially recognized less the accumulated impairment loss. In addition, impairment tests are performed each year and whenever there is an indication of impairment.

(3) Foreign currency translation

The consolidated financial statements of the TNSC Group are presented in Japanese yen, the functional currency of the Company. In addition, each company within the TNSC Group designates its own functional currency, and transactions of each company are measured in its functional currency.

Transactions denominated in a foreign currency are translated into functional currencies at the spot exchange rate at the transaction date or at a rate similar thereto.

Monetary assets and liabilities denominated in a foreign currency are translated into functional currencies at the spot exchange rate at the end of the reporting period. Translation differences arising from such translation and settlement are recognized in profit or loss. However, financial assets measured through other comprehensive income and translation differences arising from cash flow hedges are recognized in other comprehensive income.

The assets and liabilities of foreign operations are translated into Japanese yen at the spot exchange rate at the end of the reporting period, and the income and expenses of foreign operations are translated into Japanese yen at the spot exchange rate at the transaction date or at a rate similar thereto. The translation differences are recognized in other comprehensive income.

If a foreign operation is disposed of, the cumulative translation differences related to such operation are recognized in profit or loss for the period in which the disposal occurs.

(4) Financial instruments

1) Financial assets (excluding derivatives)

(i) Initial recognition and measurement

The TNSC Group initially recognizes trade receivables at the date when they are incurred. All other financial assets are initially recognized at the transaction date when the TNSC Group becomes a contractual party to such financial assets.

The TNSC Group classifies its financial assets into (a) financial assets measured at amortized cost and (b) financial assets measured at fair value through other comprehensive income. The classification is determined at the time of initial recognition of the financial assets.

(a) Financial assets measured at amortized cost

Debt financial assets are classified as financial assets measured at amortized cost if both of the following criteria are met:

- Financial assets are held based on a business model with an objective of holding financial assets to recover contractual cash flows.
- Contractual terms of financial assets give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding on a specified date.

Financial assets measured at amortized cost are measured at fair value plus transaction costs directly attributable to the acquisition of such financial assets.

(b) Financial assets measured at fair value through other comprehensive income

Debt financial assets are classified as financial assets measured at fair value through other comprehensive income if both of the following criteria are met:

- Financial assets are held based on a business model with an objective of collecting contractual cash flows and selling financial assets.
- Contractual terms of financial assets give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding on a specified date.

Equity financial assets are designated as financial assets measured at fair value through other comprehensive income, and such designation is applied on an ongoing basis.

Financial assets measured at fair value through other comprehensive income are measured at fair value plus transaction costs directly attributable to the acquisition of such financial assets.

(ii) Subsequent measurement

After initial recognition, financial assets are measured according to their classification as follows:

(a) Financial assets measured at amortized cost

Financial assets measured at amortized cost are measured at amortized cost using the effective interest method.

(b) Financial assets measured at fair value through other comprehensive income

Financial assets other than financial assets measured at amortized cost are measured at fair value.

For financial assets measured at fair value through other comprehensive income, changes in fair value are recognized in other comprehensive income. If they are derecognized or their fair value significantly declines, they are transferred to retained earnings.

(iii) Derecognition

The TNSC Group derecognizes financial assets only if contractual rights to cash flows arising from the financial assets cease to exist, or if the financial assets are transferred and substantially all the risks and rewards have been transferred.

If the TNSC Group does not transfer or retain substantially all the risks or rewards but continues to control the financial assets transferred, recognition of such financial assets is continued to the extent to which the TNSC Group has a continuing involvement, and in that case, related liabilities are also recognized.

(iv) Impairment

The TNSC Group recognizes impairment of financial assets based on whether there is a significant increase in credit risk from the time of initial recognition in financial assets or financial asset groups measured at amortized cost at the end of each reporting period.

For financial assets or financial asset groups measured at amortized cost, expected credit losses for 12 months are recognized as allowance for doubtful accounts, if credit risk has not significantly increased from the time of initial recognition. However, for trade receivables, expected credit losses over the remaining period are recognized.

If there is a significant increase in credit risk from the time of initial recognition, expected credit losses over the remaining period are recognized as allowance for doubtful accounts.

Whether or not the credit risk has significantly increased is judged based on a change in the default risk. In judging whether there is any change in the default risk, overdue (past-due information) is mostly considered.

In addition, expected credit losses are measured based on the discounted present value of the difference between the amount receivable on a contract basis and the amount expected to be received based on past credit losses, etc.

2) Financial liabilities (excluding derivatives)

(i) Initial recognition and measurement

The TNSC Group classifies its financial liabilities into (a) financial liabilities measured at amortized cost and (b) financial liabilities measured at fair value through profit or loss. The classification is determined at initial recognition of the financial liabilities. All financial liabilities are initially measured at fair value. However, financial liabilities measured at amortized cost are measured at fair value less transaction costs directly attributable to such financial liabilities.

(ii) Subsequent measurement

After initial recognition, financial liabilities are measured according to their classification as follows:

(a) Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost are measured at amortized cost using the effective interest method after initial recognition. Amortization by the effective interest method and gains and losses from derecognition are recognized in profit or loss.

(b) Financial liabilities measured at fair value through profit or loss

For financial liabilities measured at fair value through profit or loss, the portion related to changes in the TNSC Group's credit risk from changes in fair value and interest expenses is recognized in other comprehensive income after initial recognition, and the remaining amount is recognized in profit or loss.

(iii) Derecognition

The TNSC Group derecognizes financial liabilities in cases of the performance, exemption or expiration of the obligation of financial liabilities, the exchange occurs under substantially different terms, or when there has been a substantial modification of the terms.

3) Offset of financial instruments

Financial assets and financial liabilities are offset only if there is a current enforceable legal right to offset the recognized amounts, and if there is an intention to settle at a net amount or realize the assets and settle the liabilities simultaneously. They are then recorded at a net amount in the consolidated statements of financial position.

4) Derivatives and hedge accounting

The TNSC Group uses derivatives such as forward exchange contracts, interest rate swap contracts and currency swap contracts to hedge currency risks and interest rate risks. These derivatives are initially measured at fair value at the time when the contracts were entered and remeasured at fair value thereafter.

Fair value changes of derivatives are recognized in profit or loss. However, the effective portion of cash flow hedges is recognized in other comprehensive income.

At inception of the hedge, the TNSC Group formally designates and documents the hedging relationships to which hedge accounting is applied and the risk management objective and strategy for undertaking the hedge. Such documentation includes specific hedging instruments, hedged items or transactions, the nature of the risk being hedged, and how the TNSC Group will assess effectiveness of the hedging instruments in fair value changes when offsetting the exposure to changes in fair value or cash flows of the hedged items attributable to the hedged risks. The TNSC Group evaluates whether or not derivatives used for hedging transactions are effective for offsetting changes in fair value or cash flows of the hedged items at inception of the hedge and on an ongoing basis. Specifically, the TNSC Group determined that a hedge is effective in the case where the economic relationship between the hedged item and the hedging instruments results in an offset.

Hedges that meet strict criteria for hedge accounting are classified and accounted for under IFRS 9 as follows.

(i) Fair value hedges

Fair value changes in derivatives are recognized in profit or loss. For fair value changes in the hedged items attributable to the risks to be hedged, the carrying amount of the hedged items is adjusted and recognized as profit or loss.

(ii) Cash flow hedges

The effective portion of gain or loss on the hedging instruments is recognized as other comprehensive income, and the ineffective portion is immediately recognized in profit or loss.

The amount related to the hedging instruments recorded in other comprehensive income is transferred to profit or loss when hedged transactions affect profit or loss. If the hedged item results in the recognition of non-financial assets or non-financial liabilities, the amount recognized in other comprehensive income is treated as an adjustment of the initial carrying amount of the non-financial assets or non-financial liabilities.

If forecasted transactions are no longer expected to occur, the cumulative gain or loss previously recognized as equity through other comprehensive income is transferred to profit or loss.

If the hedging instrument is terminated or exercised without expiration, sale or exchange or renewal to another hedging instrument, or if it no longer qualifies for hedge accounting due to events such as a change in risk management objective, the cumulative gain or loss previously recognized in equity through other comprehensive income is continuously recorded in equity until the forecasted transaction occurs, or is no longer expected to occur.

5) Fair value of financial instruments

The fair value of financial instruments traded in active financial markets as of the end of the reporting period refers to quoted prices in markets or dealer prices.

The fair value of financial instruments for which active markets do not exist is calculated by referring to appropriate valuation techniques or prices provided by counterparty financial institutions.

(5) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, deposits that can be withdrawn at any time, and short-term investments with a maturity of three months or less from the acquisition date that are readily convertible into cash and subject to an insignificant risk of changes in value.

(6) Inventories

The cost of inventories includes costs of purchase, costs of conversion, and all other costs incurred in bringing the inventories to their present location and condition.

Inventories are measured at the lower of cost and net realizable value. The weighted average method is principally used to calculate the cost. In addition, the net realizable value is calculated at the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

(7) Property, plant and equipment

The TNSC Group adopts the cost model for measurement of property, plant and equipment.

Property, plant and equipment are presented at cost less accumulated depreciation and accumulated impairment losses.

The cost includes the costs directly attributable to the acquisition of the assets, the costs of their dismantlement, removal or restoration, and the borrowing costs that meet the recognition criteria.

All property, plant and equipment other than land are depreciated so that the depreciable amount, which is cost less the residual value at the end of the fiscal year, is allocated on a systematic basis using the straight-line method.

Estimated useful lives of major property, plant and equipment are as follows:

Buildings and structures:	3 to 50 years
Machinery and vehicles:	3 to 20 years
Tools, furniture and fixtures:	2 to 25 years

(8) Intangible assets

The TNSC Group adopts the cost model for measurement of intangible assets.

Intangible assets are presented at cost less accumulated amortization and accumulated impairment losses.

Intangible assets acquired separately are initially measured at cost. The cost of intangible assets acquired through business combinations is measured at fair value as of the acquisition date. For internally generated intangible assets, except for development costs that qualify for capitalization, all expenditures are recognized as expenses for the periods when they are incurred.

Intangible assets with finite useful lives are amortized over their estimated useful lives using the straight-line method. Impairment tests are performed whenever there is an indication of impairment. Estimated useful lives and method of amortization of intangible assets with finite useful lives are reviewed at the end of each reporting period, and if there is any change, it is applied prospectively as a change in accounting estimates.

Estimated useful lives of major intangible assets are as follows:

Customer-related intangible assets:	5 to 20 years

Intangible assets with indefinite useful lives and intangible assets not available for use are not amortized. Impairment tests are performed separately or by a cash-generating unit whenever there is an indication of impairment.

(9) Leases

Lease contracts are classified as finance leases if the risks and rewards incidental to ownership of the lease assets are substantially transferred to the TNSC Group. Otherwise, they are classified as operating leases.

For finance lease transactions, lease assets and lease liabilities are recorded in the consolidated statements of financial position at the lower of the fair value of the leased property and the present value of the minimum lease payment calculated at the inception date of the lease. In addition, lease payments are allocated to financial expenses and repayment of lease liabilities under the interest method, and such financial expenses are recognized in profit or loss. Lease assets are depreciated using the straight-line method over the shorter of their estimated useful lives or the lease term.

For operating lease transactions, lease payments are recognized as expenses using the straight-line method over the lease term. In addition, variable lease payments are recognized as expenses for the period when they are incurred.

Whether or not a contract is a lease or whether or not a lease is included in a contract is determined according to the substance of the contract, even if it is not in the legal form of a lease.

(10) Impairment of assets

1) Impairment of non-financial assets

The TNSC Group assesses at the end of each reporting period whether there is any indication that an asset may be impaired. If any such indication exists, and if assets need to be annually tested for impairment, the TNSC Group estimates the recoverable amount of the asset. The recoverable amount of the asset is the higher of an asset's fair value less costs of disposal and its value in use. If the recoverable amount of each asset cannot be estimated, the recoverable amount of a cash-generating unit or a group of cash-generating units to which the asset belongs is estimated. If the carrying amount of a cash-generating unit or a group of cash-generating units exceeds the recoverable amount, impairment loss of the asset is recognized and write-downs of the asset are recorded up to the recoverable amount. In measuring the value in use, the discounted present value of expected future cash flows is calculated using the pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. The business plan used to estimate future cash flows is in principle limited to five years. Future cash flows beyond the projected period of the business plan are calculated based on the long-term average growth rate according to individual circumstances.

In calculating fair value less costs of disposal, an appropriate valuation model is used supported by indices of fair value available.

Goodwill is allocated to individual cash-generating units, or groups of cash-generating units, that are expected to benefit from the synergies of a business combination after the acquisition date.

Goodwill or intangible assets with indefinite useful lives, and intangible assets not available for use are tested for impairment annually or whenever there is an indication of impairment.

2) Reversal of an impairment loss

For assets other than goodwill, impairment losses recognized in the previous fiscal years are assessed at the end of the reporting period as to whether or not there is any indication of possibility of a decrease or extinguishment of loss, due to factors such as a change in the assumption used in calculating the recoverable amount. If such indication exists, the recoverable amount of such assets, cash-generating units or groups of cash-generating units is estimated. If such recoverable amount exceeds the carrying amount of such assets, cash-generating units or groups of cash-generating units, the impairment loss is reversed up to the lower of the recoverable amount calculated and the carrying amount less the accumulated depreciation if the impairment loss was not recognized in previous fiscal years. The reversal of impairment loss is recognized in profit or loss.

For goodwill, impairment loss is not reversed.

(11) Assets held for sale and discontinued operations

Non-current assets (or disposal groups) are classified as "assets held for sale" if their carrying amount is expected to be recovered principally through a sale transaction rather than through continuing use. The above requirements only apply if the sale is highly probable within one year and such assets (or disposal groups) are available for immediate sale in their present condition. Non-current assets (or disposal groups) classified as assets held for sale are measured at the lower of their carrying amount and fair value less costs to sell.

Property, plant and equipment and intangible assets classified as assets held for sale are not depreciated or amortized.

Discontinued operations include a component of an entity that has already been disposed of or classified as assets held for sale, and they are recognized if they constitute one operation of the TNSC Group and if there is a plan to dispose of one of the operations.

(12) Borrowing costs

For assets that necessarily take a substantial period of time to prepare for intended use or sale, borrowing costs directly attributable to acquisition, construction or production of such assets are capitalized as part of the cost of such assets. Other borrowing costs are recognized as an expense for the period when they are incurred.

(13) Retirement benefits

The TNSC Group provides defined benefit plans and defined contribution plans as retirement benefit plans for employees.

The TNSC Group separately calculates the present value of the defined benefit obligations, related current service costs and past service costs for each plan using the projected unit credit method.

The discount rate is calculated based on market yields at the end of the reporting period on high quality corporate bonds.

Liabilities or assets related to the defined benefit plans are calculated by deducting the fair value of plan assets from the present value of defined benefit obligations.

Remeasurements of liabilities or assets relating to the defined benefit plans are all recognized in other comprehensive income for the period when they are incurred, and immediately reflected in retained earnings. In addition, past service costs are expensed for the period when they are incurred.

Expenses related to defined contribution plans are recognized as expenses for the period when they are incurred.

(14) Provisions

A provision is recognized when the TNSC Group has a present obligation (legal or constructive) as a result of a past event, when it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and when a reliable estimate can be made of the amount of the obligation.

The TNSC Group measures the provisions at the present value of expenditures expected to be required to settle the obligation, when the effect of the time value of money is material. In calculating the present value, the TNSC Group uses a pre-tax discount rate that reflects current market assessments of the time value of money and those risks specific to the liability.

(15) Equity

1) Ordinary shares

The issue price of ordinary shares is recorded in share capital and capital surplus.

2) Treasury shares

When the TNSC Group purchases treasury shares, the consideration paid is recognized as a deduction from equity.

When the TNSC Group disposes of treasury shares, the difference between the carrying amount and the consideration at the time of disposal is recognized in capital surplus.

(16) Revenue

1) Revenue recognition

Revenue is recognized to the extent that it is probable that economic benefits will flow to the TNSC Group and the amounts can be measured reliably. In addition, revenue is measured at the fair value of consideration received after deducting trade discounts, rebates, value added taxes, etc. or consideration receivable.

2) Sale of goods

Revenue arising from the sale of goods is recognized when the TNSC Group has transferred to the buyer the significant risks and rewards of ownership, when the TNSC Group retains neither effective control over the goods sold nor continuing managerial involvement to the degree usually associated with ownership, when the amount of revenue can be measured reliably, when it is probable that the economic benefits associated with the transaction will flow to the TNSC Group, and when the costs incurred or to be incurred in respect of the transaction can be measured reliably.

3) Construction contracts

If the outcome of construction contracts can be reliably estimated, the revenue related to the construction contracts is recognized in proportion to the stage of completion of construction contracts at the end of the reporting period. If the outcome of construction contracts cannot be reliably estimated, the revenue related to construction contracts is recognized only to the extent that contract costs incurred are expected to be recoverable. If the total contract cost is likely to exceed the total revenue related to construction contracts, such excess is immediately recognized as an expense.

4) Rendering of services

For rendering of services, revenue is recognized by reference to the stage of completion of the transaction, in principle when the estimate of the outcome can be measured reliably. If the estimate cannot be made, the costs incurred are recognized as expenses for the period when they are incurred, and the revenue is recognized only to the extent that the costs incurred are expected to be recoverable.

5) Dividends

For dividends, income is recognized when shareholders' rights to receive payment are established.

(17) Government grants

A government grant is recognized at fair value when there is reasonable assurance that the TNSC Group will comply with any conditions attached to the grant and the grant will be received.

Government grants are recognized in profit or loss on a systematic basis over the periods in which the TNSC Group recognizes expenses for the related costs for which the grants are intended to compensate.

Government grants related to assets are recorded by deducting the amount of such grants from the cost of the assets.

(18) Income taxes

Current taxes for the current and prior periods are calculated at the amount expected to be paid to (recovered from) taxation authorities. The rates and laws used to calculate the tax amount are those that have been enacted or substantively enacted at the end of the reporting period.

Deferred taxes are recorded as the difference between the tax bases and the carrying amounts of assets and liabilities at the end of the reporting period (temporary difference) using the asset and liability method.

Deferred tax liabilities are in principle recognized for all taxable temporary differences. Deferred tax assets are recognized for deductible temporary differences, unused tax losses and unused tax credits to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized.

However, there are exceptions in which deferred tax assets and liabilities are not recorded for the following temporary differences:

- Arising from initial recognition of goodwill
- Arising from initial recognition of an asset or liability in a transaction other than a business combination which does not affect either the accounting income or the taxable profit (or loss) at the time of the transaction
- For deductible temporary differences associated with investments in subsidiaries and associates, and interests in joint arrangements, when it is probable that the reversal will not occur in the foreseeable future, or it is less probable that taxable profit will be available against which the deductible temporary differences can be utilized
- For taxable temporary differences associated with investments in subsidiaries and associates, and interests in joint arrangements, when the TNSC Group is able to control the timing of the reversal of the temporary differences and it is probable that the reversal will not occur in the foreseeable future

The carrying amount of deferred tax assets and liabilities (including unrecognized deferred tax assets) is reviewed at the end of each reporting period. Deferred tax assets and liabilities are calculated at the tax rates that are expected to apply to the period when the assets are realized or liabilities are settled, based on tax rates that have been enacted or substantively enacted at the end of the reporting period.

(19) Earnings per share

The amount of basic earnings per share is calculated by dividing net income attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding after adjusting for treasury shares during the period. The amount of diluted earnings per share is calculated by adjusting the effects of all dilutive potential ordinary shares with dilutive effects.

4. Segment Information

(1) Overview of reportable segments

The reportable segments of the TNSC Group are those for which discrete financial information is available and whose operating results are regularly reviewed by the Board of Directors to make decisions about resource allocation and to assess performance.

The TNSC Group conducts gas businesses in Japan and overseas, mainly for customers in the steel, chemical, and electronics industries, and has built production and sales structures for its main products in Japan, the United States, and Asia and Oceania. In addition, the TNSC Group manufactures and sells housewares such as stainless steel vacuum bottles, and conducts real-estate rental and other businesses. Therefore, the Company has established the following four reportable segments: Gas Business in Japan, Gas Business in the United States, Gas Business in Asia and Oceania, and Thermos and Other Businesses.

The principal products and services included in the four segments are shown in the table below.

Reportable segments	Major products and services
Gas Business in Japan Gas Business in the United States Gas Business in Asia and Oceania	Oxygen, nitrogen, argon, carbon dioxide, helium, hydrogen, acetylene, gas-related equipment, specialty gases (electronic materials gases, pure gases, etc.), electronics-related equipment and installation, semiconductor manufacturing equipment, cutting and welding equipment, welding materials, plants and machinery, liquid petroleum gas (LPG) and related equipment, medical-use gases (oxygen, nitrous oxide, etc.), medical equipment, stable isotopes
Thermos and Other Businesses	Housewares, real-estate rental

The accounting methods adopted for the reported operating segments are the same as the TNSC Group's accounting policies described in "3. Significant Accounting Policies."

Revenue from intersegment transactions and transfers is based primarily on prevailing market prices.

(2) Revenue and profit (loss) amounts by reportable segment

FYE2017 (April 1, 2016 – March 31, 2017)

(Millions of Yen)

	Gas Business in Japan	Gas Business in the United States	Gas Business in Asia and Oceania	Thermos and Other Businesses	Total	Reconciling items (Note 1)	Amounts on the Consolidated Statements of Profit or Loss
Revenue							
Revenues from external customers	¥321,416	¥147,274	¥85,875	¥27,018	¥581,586	¥ —	¥581,586
Intersegment revenues and transfers	8,160	8,473	1,081	1,349	19,065	(19,065)	—
Total	329,576	155,748	86,957	28,368	600,651	(19,065)	581,586
Segment profit (Note 2)	29,450	12,074	5,165	10,017	56,707	(1,970)	54,736
Other items							
Depreciation and amortization	15,627	17,557	5,964	942	40,091	(43)	40,048
Impairment losses	4	—	85	—	89	—	89
Share of profit (loss) of investments accounted for using the equity method	104	(178)	4	4,412	4,341	(0)	4,341

Notes: 1. The ¥1,970 million negative reconciling item for segment profit is comprised of ¥357 million of intersegment eliminations and companywide expenses of ¥1,613 million that were not allocated to any particular reportable segment. These companywide expenses related principally to basic research expenses that were not allocated to a particular reportable segment.
2. Segment profit represents core operating profit, which is calculated as operating profit excluding certain gains or losses attributable to non-recurring factors (losses incurred by business withdrawals, streamlining, and others).

FYE2016 (April 1, 2015 – March 31, 2016)

(Millions of Yen)

	Gas Business in Japan	Gas Business in the United States	Gas Business in Asia and Oceania	Thermos and Other Businesses	Total	Reconciling items (Note 1)	Amounts on the Consolidated Statements of Profit or Loss
Revenue							
Revenues from external customers	¥327,952	¥149,553	¥89,375	¥27,541	¥594,421	¥ —	¥594,421
Intersegment revenues and transfers	7,805	6,660	3,615	1,166	19,247	(19,247)	—
Total	335,758	156,213	92,990	28,707	613,669	(19,247)	594,421
Segment profit (Note 2)	27,850	9,241	3,009	9,001	49,102	(1,646)	47,456
Other items							
Depreciation and amortization	15,865	16,872	6,364	708	39,812	(115)	39,696
Impairment losses	—	—	1,386	—	1,386	—	1,386
Share of profit (loss) of investments accounted for using the equity method	(22)	(177)	(106)	2,831	2,525	0	2,526

Notes: 1. The ¥1,646 million negative reconciling item for segment profit is comprised of ¥56 million of intersegment eliminations and companywide expenses of ¥1,703 million that were not allocated to any particular reportable segment. These companywide expenses related principally to basic research expenses that were not allocated to a particular reportable segment.
2. Segment profit represents core operating profit, which is calculated as operating profit excluding certain gains or losses attributable to non-recurring factors (losses incurred by business withdrawals, streamlining, and others).

Reconciliation of segment profit with profit before income taxes is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Segment profit	¥54,736	¥47,456
Gain on sales of fixed assets	1,012	—
Gain on step acquisition	—	1,813
Share of profit (loss) of investments accounted for using the equity method	(1,943)	—
Impairment losses	(141)	(344)
Operating profit	53,664	48,925
Financial income	1,429	1,316
Financial costs	(4,918)	(3,665)
Profit before income taxes	50,176	46,575

(3) Information about geographical area

A breakdown of revenues from external customers and non-current assets by geographical area is as follows:

Revenues from external customers

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Japan	¥338,239	¥346,558
The United States	141,009	143,090
Asia, Oceania and others	102,336	104,772
Total	¥581,586	¥594,421

Note: Revenue is classified by country or region based on the customers' location.

Non-current assets

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Japan	¥146,740	¥144,909	¥146,311
The United States	304,824	215,906	218,262
Asia, Oceania and others	103,604	75,792	47,103
Total	¥555,169	¥436,607	¥411,676

Note: Non-current assets are classified by their location, and they do not include financial assets, deferred tax assets or Retirement benefit asset.

(4) Information about major customers

Information about major customers is not disclosed since there is no single external customer that accounts for 10% or more of revenue.

5. Business Combinations

FYE2017 (April 1, 2016 to March 31, 2017)

Acquisition of Industrial Gas Operations

(1) Overview of business combination

1) Name and business description of acquirees

Names of acquirees: Air Liquide Industrial U.S. LP and Airgas, Inc.

Business description: Gas separation, carbon dioxide, packaged gases and nitrous oxide businesses

2) Acquisition date

September 8, 2016

3) Main reason for business combination

The objective was to become a national supplier by expanding gas separation business network of Matheson Tri-Gas, Inc. in the East and Midwest of the United States, solidifying its position as a manufacturer, improving its supply stability and customer trust nationwide, reinforcing production capacity for its carbon dioxide business, and entering the packaged gas business in Alaska and the nitrous oxide business, thereby expanding into new domains and solidifying foundations and profitability of Matheson Tri-Gas, Inc. through expansion in the United States, the world's largest industrial gas market.

4) Method for gaining control of acquirees

A wholly owned subsidiary Matheson Tri-Gas, Inc. acquired part of the American industrial gas operations and related business assets of Air Liquide Industrial U.S. LP and Airgas, Inc.

(2) Fair value of consideration transferred

(Millions of Yen)

	Acquisition date (September 8, 2016)
Cash	¥77,402
Total of consideration transferred	¥77,402

(3) Goodwill, assets acquired and liabilities assumed

(Millions of Yen)

	Acquisition date (September 8, 2016)
Current assets:	
Inventories	¥ 406
Other	369
Non-current assets:	
Property, plant and equipment (Note 1)	28,911
Intangible assets (Note 1)	24,502
Assets acquired	54,188
Current liabilities	12
Non-current liabilities	3,744
Liabilities assumed	3,756
Net assets acquired and liabilities assumed	50,432
Goodwill (Note 2)	26,970

The consideration transferred is allocated to assets acquired and liabilities assumed on the acquisition date based on fair value. As the allocation has yet to be completed, the amounts above are provisional fair values based on prevailing best estimates. Amounts may be revised up to one year after the acquisition following an assessment of additional information relating to facts and circumstances at the acquisition date.

Notes: 1. Details of property, plant and equipment and intangible assets
Property, plant and equipment are mainly machinery and vehicles of ¥23,346 million. Intangible assets are customer-related intangible assets of ¥24,502 million.
2. Goodwill
Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is deductible for a certain period under full taxation.

(4) Acquisition-related costs

Acquisition-related costs were ¥421 million, and are included in "Selling, general and administrative expenses" in the consolidated statements of profit or loss.

(5) Impact on the TNSC Group's results

The TNSC Group's consolidated statements of profit or loss include revenue and profit generated by the acquirees subsequent to the acquisition date of ¥14,742 million and ¥1,162 million, respectively.

The revenue and profit (pro forma information) assuming that the business combination was undertaken on April 1, 2016, the beginning of the fiscal year, are ¥593,123 million and ¥37,302 million, respectively. The pro forma information has not been audited.

Acquisition of Supagas Holdings Pty Ltd

(1) Overview of business combination

1) Name and business description of acquired company

Name of acquired company: Supagas Holdings Pty Ltd and related land

Business description: Sells LPG, industrial gases (including oxygen, nitrogen, argon, and carbon dioxide), and related equipment

2) Acquisition date

December 16, 2016

3) Main reason for business combination

The Company acquired Renegade Gas Pty Ltd in July 2015 to fully enter the Australian industrial gas market. Renegade Gas Pty Ltd operates principally in New South Wales, Queensland, and elsewhere on Australia's east coast. The Company planned to further expand its operations in Australia. In acquiring Supagas Holdings Pty Ltd, the Company augmented existing operations, including in Victoria and Western Australia, to complete a nationwide sales network. It was thereby able to reinforce its national account efforts and its user supply structure. In leveraging a nationwide sales network, the Company is positioned to capitalize on infrastructural demand, which should continue to expand solidly, while cultivating new resources and energy-related demand. The Company should also materialize synergies with Renegade Gas Pty Ltd to boost earnings and undertake activities to further expand its Australian business.

4) Percentage of voting rights acquired

100.0%

5) Method for gaining control of acquired company

Consolidated subsidiary, TNSC (Australia) Pty Ltd acquired all of the shares and related land of Supagas Holdings Pty Ltd by purchasing shares for cash and exchanging shares.

(2) Fair value of consideration transferred

(Millions of Yen)

	Acquisition date (December 16, 2016)	
Cash	¥20,737	(Note 1)
TNSC (Australia) Pty Ltd shares	841	
Total of consideration transferred	¥21,578	

Note: 1. In addition, the TNSC Group also made a cash loan of ¥7,686 million to the acquired company. This loan, which is repayable by the acquired company, is classified in the consolidated statements of cash flows within "Cash flows from investing activities" as "Other." The acquired company is using this loan to fund debt repayment.

(3) Number of shares transferred and method for measuring fair value thereof

A total of 9,158,348 ordinary shares were transferred to the former owners of Supagas Holdings Pty Ltd and the fair value, based on the financial position, results, and other numbers for TNSC (Australia) Pty Ltd, was agreed between the parties.

(4) Goodwill, assets acquired and liabilities assumed

(Millions of Yen)

	Acquisition date (December 16, 2016)
Current assets:	
Cash and cash equivalents	¥ 717
Trade receivables	1,566
Inventories	334
Other	112
Non-current assets:	
Property, plant and equipment	10,048
Intangible assets	4,577
Other	125
Assets acquired	17,479
Current liabilities	1,189
Non-current liabilities	8,382
Liabilities assumed	9,571
Net assets acquired and liabilities assumed	7,908
Goodwill (Note 1)	13,670

The consideration transferred is allocated to assets acquired and liabilities assumed on the acquisition date based on fair value. As the allocation has yet to be completed, the amounts above are provisional fair values based on prevailing best estimates. Amounts may be revised up to one year after the acquisition following an assessment of additional information relating to facts and circumstances at the acquisition date.

Note: 1. Goodwill
Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is not tax-deductible.

(5) Acquisition-related costs

Acquisition-related costs were ¥542 million, and are included in "Selling, general and administrative expenses" in the consolidated statements of profit or loss.

(6) Impact on the TNSC Group's results

The TNSC Group's consolidated statements of profit or loss include revenue and profit generated by the acquired company subsequent to the acquisition date of ¥2,073 million and ¥70 million, respectively.

The revenue and profit (pro forma information) assuming that the business combination was undertaken on April 1, 2016, the beginning of the fiscal year, are ¥588,072 million and ¥36,771 million, respectively. The pro forma information has not been audited.

FYE2016 (April 1, 2015 to March 31, 2016)

Acquisition of Renegade Gas Pty Ltd

(1) Overview of business combination

1) Name and business description of acquired company

Name of acquired company: Renegade Gas Pty Ltd

Business description: Filling and sales of LPG and industrial gases, and sales and rentals of related equipment

2) Acquisition date

July 31, 2015

3) Main reason for business combination

The Company is exploring ways to expand its operations into new countries to broaden its regional scope as part of efforts to reach the globalization objectives that are part of its "Ortus Stage 1" medium-term management plan. Australia has the 12th largest GDP in the world and a population growth rate of 1% to 2% annually, a high level among advanced nations. Its economy is set to expand at around 3% annually over the next few years, reflecting growth in housing investment and personal consumption. The industrial gas market should benefit from steady growth in housing construction and infrastructure-related demand and from new demand from mining and energy sectors.

The Company will position Renegade Gas Pty Ltd as a step in developing the industrial gas markets of Australia and the rest of Oceania, leveraging that company's existing network to broaden its product lineup and expanding its geographic reach.

The TNSC Group will launch efforts to materialize synergies from Renegade Gas Pty Ltd and establish a solid footing in the Australian industrial gas business.

4) Percentage of voting rights acquired

100.0%

5) Method for gaining control of acquired company

Consolidated subsidiary, TNSC (Australia) Pty Ltd acquired all of the shares of Renegade Gas Pty Ltd through acquisition of shares for cash and exchange of shares.

(2) Fair value of consideration transferred

(Millions of Yen)

	Acquisition date (July 31, 2015)
Cash	¥12,717
TNSC (Australia) Pty Ltd shares	2,244
Total of consideration transferred	¥14,961

(3) Share exchange ratio by share class and its calculation method, and number of shares issued

1) Share exchange ratio by share class

1 ordinary share of Renegade Gas Pty Ltd for 100 ordinary shares of TNSC (Australia) Pty Ltd

2) Calculation method for share exchange ratio

Calculated as a result of discussions with the relevant parties referring to stock valuation reports submitted by third-party appraisal institutions and other sources.

3) Number of shares issued

Shares of TNSC (Australia) Pty Ltd: 15,868,013

(4) Goodwill, assets acquired and liabilities assumed

(Millions of Yen)

	Acquisition date (July 31, 2015)
Current assets:	
Cash and cash equivalents	¥ 249
Trade receivables	1,338
Inventories	279
Other	88
Non-current assets:	
Property, plant and equipment	7,787
Intangible assets	700
Assets acquired	10,441
Current liabilities	1,796
Non-current liabilities	4,623
Liabilities assumed	6,419
Net assets acquired and liabilities assumed	4,022
Goodwill (Note 1)	10,939

Note: 1. Goodwill

Goodwill mainly comprises anticipated synergies and excess earnings capabilities arising from acquisition that do not match specific recognition criteria. Goodwill is not tax-deductible.

(5) Acquisition-related costs

Acquisition-related costs were ¥305 million, and are included in "Selling, general and administrative expenses" in the consolidated statements of profit or loss.

(6) Impact on the TNSC Group's results

The TNSC Group's consolidated statements of profit or loss include revenue and profit generated by the acquired company subsequent to the acquisition date of ¥4,393 million and ¥486 million, respectively.

The revenue and profit (pro forma information) assuming that the business combination was undertaken on April 1, 2015, the beginning of the previous fiscal year, are ¥598,342 million and ¥30,938 million, respectively. The pro forma information has not been audited.

6. Cash and Cash Equivalents

A breakdown of cash and cash equivalents is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Cash and deposits	¥52,857	¥49,216	¥52,769
Total	¥52,857	¥49,216	¥52,769

7. Trade Receivables

A breakdown of trade receivables is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Notes and accounts receivable—trade	¥151,965	¥147,914	¥153,784
Allowance for doubtful accounts	(1,985)	(2,063)	(2,082)
Total	¥149,979	¥145,850	¥151,702

Trade receivables are classified as financial assets measured at amortized cost.

8. Inventories

A breakdown of inventories is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Merchandise and finished goods	¥32,493	¥30,877	¥30,401
Work in process	10,837	11,406	8,758
Raw materials and supplies	8,604	9,575	8,419
Total	¥51,935	¥51,859	¥47,579

Amounts of inventories measured based on net realizable value at March 31, 2017, March 31, 2016 and April 1, 2015 were ¥6,641 million, ¥6,673 million and ¥3,259 million, respectively.

Amounts of write-downs of inventories recognized as expenses for FYE2017 and FYE2016 were ¥195 million and ¥234 million, respectively.

9. Property, Plant and Equipment

(1) Table of changes

Changes in costs, accumulated depreciation and accumulated impairment losses, and carrying amounts of property, plant and equipment are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

Costs

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2016	¥548,336	¥127,978	¥43,871	¥34,279	¥104,145	¥858,612
Individual acquisition	31,104	2,205	850	2,004	6,513	42,678
Acquisition through business combination	32,747	2,085	2,360	282	9,470	46,946
Sale and disposal	(6,807)	(722)	(164)	(122)	(2,462)	(10,279)
Transfer	2,898	91	(131)	(109)	(2,634)	114
Exchange differences on translation of foreign operations, etc.	493	144	86	24	(162)	586
Balance at March 31, 2017	¥608,772	¥131,784	¥46,873	¥36,358	¥114,870	¥938,659

Accumulated depreciation and accumulated impairment losses

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2016	¥(384,252)	¥(74,660)	¥(3,115)	¥—	¥(64,678)	¥(526,706)
Depreciation	(25,642)	(4,505)	—	—	(6,372)	(36,519)
Impairment losses	(0)	(4)	(114)	—	(0)	(118)
Acquisition through business combination	(3,450)	(2)	—	—	(2,252)	(5,705)
Sale and disposal	5,633	604	101	—	2,206	8,546
Transfer	389	17	—	—	180	587
Exchange differences on translation of foreign operations, etc.	483	179	(8)	—	156	811
Balance at March 31, 2017	¥(406,839)	¥(78,371)	¥(3,135)	¥—	¥(70,759)	¥(559,106)

Carrying amounts

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2016	¥164,084	¥53,318	¥40,756	¥34,279	¥39,467	¥331,906
Balance at March 31, 2017	¥201,933	¥53,413	¥43,737	¥36,358	¥44,111	¥379,553

FYE2016 (April 1, 2015 to March 31, 2016)

Costs

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2015	¥531,217	¥127,062	¥41,699	¥20,325	¥100,372	¥820,677
Individual acquisition	26,009	4,178	951	14,459	6,710	52,308
Acquisition through business combination	18,191	1,741	2,219	1,240	5,988	29,382
Sale and disposal	(11,376)	(890)	(217)	(63)	(2,422)	(14,970)
Transfer	916	(742)	(160)	(108)	(1,271)	(1,366)
Exchange differences on translation of foreign operations, etc.	(16,622)	(3,370)	(621)	(1,573)	(5,232)	(27,419)
Balance at March 31, 2016	¥548,336	¥127,978	¥43,871	¥34,279	¥104,145	¥858,612

Accumulated depreciation and accumulated impairment losses

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2015	¥(365,610)	¥(71,984)	¥(2,829)	¥—	¥(63,916)	¥(504,341)
Depreciation	(26,127)	(4,705)	—	—	(5,623)	(36,455)
Impairment losses	(1,386)	—	(267)	—	—	(1,654)
Acquisition through business combination	(8,794)	(613)	—	—	(693)	(10,101)
Sale and disposal	10,696	739	—	—	2,284	13,720
Transfer	(1,836)	617	(6)	—	1,018	(206)
Exchange differences on translation of foreign operations, etc.	8,806	1,286	(11)	—	2,252	12,333
Balance at March 31, 2016	¥(384,252)	¥(74,660)	¥(3,115)	¥—	¥(64,678)	¥(526,706)

Carrying amounts

(Millions of Yen)

	Machinery and vehicles	Buildings and structures	Land	Construction in progress	Tools, furniture and fixtures	Total
Balance at April 1, 2015	¥165,607	¥55,077	¥38,869	¥20,325	¥36,455	¥316,335
Balance at March 31, 2016	¥164,084	¥53,318	¥40,756	¥34,279	¥39,467	¥331,906

Depreciation of property, plant and equipment is included in “Cost of sales” and “Selling, general and administrative expenses” on the consolidated statements of profit or loss.

(2) Lease assets

Carrying amounts of leased assets under finance leases included in property, plant and equipment are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Machinery and vehicles	¥2,387	¥2,506	¥2,534
Other	1,732	1,691	1,818
Total	¥4,119	¥4,197	¥4,353

10. Goodwill and Intangible Assets

(1) Table of changes

Changes in costs, accumulated amortization and accumulated impairment losses, and the carrying amounts of goodwill and intangible assets are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

Costs

(Millions of Yen)

		Intangible assets		
	Goodwill	Customer-related intangible assets	Other	Total
Balance at April 1, 2016	¥ 82,797	¥29,244	¥14,593	¥43,837
Individual acquisition	208	—	715	715
Acquisition through business combination	40,855	27,935	1,196	29,131
Sale and disposal	—	—	(118)	(118)
Exchange differences on translation of foreign operations, etc.	1,376	2,468	(135)	2,333
Balance at March 31, 2017	¥125,238	¥59,648	¥16,252	¥75,900

Accumulated amortization and accumulated impairment losses

(Millions of Yen)

	Goodwill	Intangible assets: Customer-related intangible assets	Other	Total
Balance at April 1, 2016	¥(1,617)	¥(11,534)	¥ (9,476)	¥(21,010)
Amortization	—	(2,645)	(924)	(3,569)
Impairment losses	(27)	(38)	(46)	(85)
Sale and disposal	—	—	87	87
Exchange differences on translation of foreign operations, etc.	8	(17)	(0)	(17)
Balance at March 31, 2017	¥(1,636)	¥(14,235)	¥(10,359)	¥(24,594)

Carrying amounts

(Millions of Yen)

	Goodwill	Intangible assets: Customer-related intangible assets	Other	Total
Balance at April 1, 2016	¥ 81,179	¥17,710	¥5,117	¥22,827
Balance at March 31, 2017	¥123,602	¥45,412	¥5,892	¥51,305

FYE2016 (April 1, 2015 to March 31, 2016)

Costs

(Millions of Yen)

	Goodwill	Intangible assets: Customer-related intangible assets	Other	Total
Balance at April 1, 2015	¥70,443	¥30,136	¥14,818	¥44,955
Individual acquisition	325	55	229	285
Acquisition through business combination	16,843	919	121	1,041
Sale and disposal	—	—	(20)	(20)
Exchange differences on translation of foreign operations, etc.	(4,815)	(1,868)	(556)	(2,424)
Balance at March 31, 2016	¥82,797	¥29,244	¥14,593	¥43,837

Accumulated amortization and accumulated impairment losses

(Millions of Yen)

	Goodwill	Intangible assets: Customer-related intangible assets	Other	Total
Balance at April 1, 2015	¥(1,653)	¥(10,231)	¥(8,816)	¥(19,047)
Amortization	—	(2,043)	(1,006)	(3,050)
Impairment losses	(76)	—	—	—
Sale and disposal	—	—	15	15
Exchange differences on translation of foreign operations, etc.	112	741	330	1,072
Balance at March 31, 2016	¥(1,617)	¥(11,534)	¥(9,476)	¥(21,010)

Carrying amounts

(Millions of Yen)

	Goodwill	Intangible assets: Customer-related intangible assets	Other	Total
Balance at April 1, 2015	¥68,789	¥19,905	¥6,002	¥25,907
Balance at March 31, 2016	¥81,179	¥17,710	¥5,117	¥22,827

There were no significant internally generated intangible assets for FYE2017 and FYE2016.

Amortization of intangible assets is included in “Cost of sales” and “Selling, general and administrative expenses” in the consolidated statements of profit or loss.

Research and development costs recognized as expenses for FYE2017 and FYE2016 were ¥3,323 million and ¥3,238 million, respectively.

The carrying amount of assets with indefinite useful lives in the intangible assets above was ¥1,174 million at March 31, 2017. Principally, the assets were trademarks acquired at the time of a business combination, and the TNSC Group determined that their useful lives cannot be estimated because the assets will exist for as long as the business continues.

(2) Significant intangible assets

Significant intangible assets recorded in the consolidated statements of financial position were customer-related intangible assets held by Matheson Tri-Gas, Inc., a consolidated subsidiary. Their carrying amounts at March 31, 2017, March 31, 2016 and April 1, 2015 were ¥41,131 million, ¥16,769 million and ¥19,705 million, respectively. The remaining period of amortization is principally 19 years.

11. Impairment Losses

The TNSC Group groups assets into the smallest cash-generating units that generate cash flows largely independently. For idle assets, recognition of impairment loss is determined by individual assets.

Impairment losses for FYE2017 and FYE2016 were ¥231 million and ¥1,731 million, respectively. Impairment losses were included in “Other operating expenses” in the consolidated statements of profit or loss.

Major assets for which impairment losses were recognized are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)
There was no individually significant impairment loss incurred for FYE2017.

FYE2016 (April 1, 2015 to March 31, 2016)

(Millions of Yen)

Usage	Location	Type	Impairment losses
Gas production facilities	Singapore	Machinery	¥1,386

Breakdown of impairment losses
- Gas production facilities
  ¥1,386 million

The carrying amount of gas production facilities was written down to the recoverable amount of ¥95 million, since profitability was expected to decline due to changes in the business environment and future cash flows have proven to be below the carrying amount. The recoverable amount was measured by value in use, and calculated by discounting the future cash flows at 10.1%. Such losses were included in the reportable segment “Gas Business in Asia & Oceania.”

Carrying amounts of goodwill and intangible assets with indefinite useful lives allocated to a cash-generating unit (group of cash-generating units) are as follows:

(Millions of Yen)

Cash-generating unit (group of cash-generating units)	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Matheson Tri-Gas, Inc.	¥ 92,403	¥62,668	¥64,945
Renegade Gas Pty Ltd	9,492	10,910	—
Supagas Holdings Pty Ltd	15,207	—	—
Other	7,673	7,600	3,844
Total	¥124,776	¥81,179	¥68,789

Intangible assets with indefinite useful lives at March 31, 2017 of ¥1,174 million were included in Supagas Holdings Pty Ltd.

The recoverable amount of a cash-generating unit (group of cash-generating units) is measured by value in use.

Value in use is calculated reflecting past experiences and external information based on business plans within five years approved by the management. Cash flows exceeding the period of a business plan are determined by reference to the long-term average growth rate of a market or a country that the cash-generating unit belongs to. The major growth rates used for measuring the value in use for FYE2017, FYE2016 and the Transition Date were 4.0%, 3.6% and 3.6%, respectively. The major discount rates used for calculating the recoverable amount for FYE2017, FYE2016 and the Transition Date were 8.8%, 9.7% and 9.1%, respectively.

The TNSC Group determined that it is less probable to incur significant impairment even if the major assumptions used in the impairment test fluctuate to a reasonably predictable extent.

12. Investments Accounted for Using the Equity Method

The carrying amount of investments in joint ventures accounted for using the equity method that are individually insignificant is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Carrying amount of investments in joint ventures	¥1,302	¥3,287	¥2,491

Share of comprehensive income of joint ventures accounted for using the equity method is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Share of profit (Note)	¥(2,112)	¥(347)
Share of other comprehensive income	(49)	(54)
Total share of comprehensive income	¥(2,162)	¥(401)

Note: For FYE2017, impairment losses of ¥1,943 million were recognized since the recoverable amount was less than the carrying amount of investments in certain joint ventures.

The carrying amount of investments in associates accounted for using the equity method that are insignificant is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Carrying amount of investments in associates	¥21,656	¥17,582	¥18,300

Share of comprehensive income of associates accounted for using the equity method is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Share of profit	¥4,510	¥ 2,873
Share of other comprehensive income	(934)	(1,026)
Total share of comprehensive income	¥3,576	¥ 1,846

13. Other Financial Assets

A breakdown of other financial assets is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Equity securities and investments in capital	¥51,767	¥47,094	¥62,481
Other	19,453	19,891	15,982
Allowance for doubtful accounts	(509)	(406)	(333)
Total	¥70,711	¥66,579	¥78,129
Current assets	¥ 5,533	¥ 5,755	¥ 5,533
Non-current assets	65,178	60,823	72,596
Total	¥70,711	¥66,579	¥78,129

Equity securities and investments are classified as equity financial assets measured at fair value through other comprehensive income. Other is classified mainly as financial assets measured at amortized cost.

Equity securities are designated as equity financial assets measured at fair value through other comprehensive income because they are held mainly for the purpose of maintaining and strengthening business and collaborative relationships and financial transaction relationships, etc. Names of issuers and fair value of principal equity financial assets measured at fair value through other comprehensive income are as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

Name	Amount
JFE Holdings, Inc.	¥4,661
Tosoh Corporation	4,353
Azbil Corporation	3,141
Koatsu Gas Kogyo Co., Ltd.	2,382
IBIDEN CO., LTD.	2,296

FYE2016 (March 31, 2016)

(Millions of Yen)

Name	Amount
JFE Holdings, Inc.	¥7,383
Azbil Corporation	2,420
Koatsu Gas Kogyo Co., Ltd.	2,125
Tosoh Corporation	2,104
IBIDEN CO., LTD.	1,822

Transition Date (April 1, 2015)

(Millions of Yen)

Name	Amount
JFE Holdings, Inc.	¥12,926
Azbil Corporation	2,738
Tosoh Corporation	2,695
IBIDEN CO., LTD.	2,684
Tokyo Tatemono Co., Ltd.	2,235

In order to improve the efficiency and effective utilization of assets held, the TNSC Group conducts sales (derecognition) of equity financial assets measured at fair value through other comprehensive income. The fair value at the time of sales and cumulative gains or losses on sales are as follows. Cumulative gains or losses (after tax) recognized in other comprehensive income in equity were transferred to retained earnings at the time of sales.

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Fair value	¥4,627	¥1,237
Cumulative gains or losses	(561)	421

For equity financial assets measured at fair value through other comprehensive income, dividends received were recognized as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Financial assets that were derecognized	¥ 63	¥ 17
Financial assets held at the end of the fiscal year	935	1,096

14. Other Assets

A breakdown of other assets is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Prepaid expenses	¥5,663	¥3,504	¥2,898
Other	2,871	2,544	4,825
Total	¥8,535	¥6,049	¥7,723
Current assets	¥7,826	¥5,354	¥7,080
Non-current assets	709	694	643
Total	¥8,535	¥6,049	¥7,723

15. Trade Payables

A breakdown of trade payables is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Notes and accounts payable—trade	¥73,046	¥72,743	¥76,896
Total	¥73,046	¥72,743	¥76,896

Trade payables are classified as financial liabilities measured at amortized cost.

16. Bonds and Borrowings

A breakdown of bonds and borrowings is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Short-term borrowings	¥ 34,973	¥ 32,399	¥ 23,246
Current portion of long-term borrowings	43,747	51,728	41,442
Current portion of bonds	10,000	10,000	—
Long-term borrowings	208,833	130,174	144,141
Bonds	55,000	35,000	45,000
Total	¥352,553	¥259,302	¥253,830
Current liabilities	¥ 88,720	¥ 94,127	¥ 64,689
Non-current liabilities	263,833	165,174	189,141
Total	¥352,553	¥259,302	¥253,830

Bonds and borrowings are classified as financial liabilities measured at amortized cost.

Average interest rates applicable to short-term borrowings and long-term borrowings at March 31, 2017 were 1.61% and 1.50%, respectively.
Average interest rates applicable to short-term borrowings and long-term borrowings at March 31, 2016 were 1.41% and 1.51%, respectively.
Average interest rates applicable to short-term borrowings and long-term borrowings at April 1, 2015 were 1.18% and 1.45%, respectively.
The repayment term of long-term borrowings at March 31, 2017 is from 2017 to 2035.

A breakdown of bonds is as follows:

(Millions of Yen)

Company name	Name	Issuance date	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)	Interest rate (%)	Collateral	Maturity date
*1	The 9th Domestic Unsecured Straight Corporate Bonds	February 29, 2012	¥ —	¥10,000	¥10,000	0.55	None	February 28, 2017
*1	The 10th Domestic Unsecured Straight Corporate Bonds	June 14, 2012	10,000	10,000	10,000	0.44	None	June 14, 2017
*1	The 11th Domestic Unsecured Straight Corporate Bonds	February 27, 2014	15,000	15,000	15,000	0.32	None	February 27, 2019
*1	The 12th Domestic Unsecured Straight Corporate Bonds	February 27, 2014	10,000	10,000	10,000	0.56	None	February 26, 2021
*1	The 13th Domestic Unsecured Straight Corporate Bonds	December 15, 2016	15,000	—	—	0.14	None	December 15, 2021
*1	The 14th Domestic Unsecured Straight Corporate Bonds	December 15, 2016	15,000	—	—	0.39	None	December 15, 2026
	Total		¥65,000	¥45,000	¥45,000			

*1 The bonds were issued by the Company.

Assets pledged as collateral and secured obligations are as follows:

Assets pledged as collateral

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Property, plant and equipment	¥1,468	¥102	¥472
Total	¥1,468	¥102	¥472

Secured obligations

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Bonds and borrowings	¥906	¥ —	¥10
Other financial liabilities (current)	73	18	31
Total	¥980	¥18	¥41

17. Other Financial Liabilities

A breakdown of other financial liabilities is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Lease liabilities	¥ 6,975	¥ 8,633	¥ 6,535
Accrued expenses	21,169	19,535	18,570
Accounts payable—other	3,699	4,589	3,767
Other	3,931	2,643	2,767
Total	¥35,775	¥35,401	¥31,641
Current liabilities	¥30,152	¥28,270	¥25,489
Non-current liabilities	5,622	7,130	6,152
Total	¥35,775	¥35,401	¥31,641

Other financial liabilities are mainly classified as financial liabilities measured at amortized cost.

18. Lease Transactions

(1) Finance leases

Minimum lease payments and their present value are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)			FYE2016 (March 31, 2016)			Transition Date (April 1, 2015)		
	Minimum lease payments	Future finance charges	Present value	Minimum lease payments	Future finance charges	Present value	Minimum lease payments	Future finance charges	Present value
One year or less	¥2,500	¥(125)	¥2,374	¥3,013	¥(193)	¥2,820	¥1,953	¥(108)	¥1,844
More than one year but within five years	4,071	(152)	3,919	5,415	(333)	5,081	4,074	(148)	3,925
More than five years	707	(26)	681	794	(63)	731	808	(42)	766
Total	¥7,279	¥(304)	¥6,975	¥9,224	¥(590)	¥8,633	¥6,836	¥(300)	¥6,535

(2) Operating leases

Future minimum lease payments under non-cancellable operating lease contracts are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
One year or less	¥ 3,193	¥ 2,732	¥ 2,317
More than one year but within five years	7,082	7,874	6,485
More than five years	2,845	3,109	2,785
Total	¥13,120	¥13,716	¥11,588

Lease payments recognized as expenses for FYE2017 and FYE2016 were ¥4,415 million and ¥5,344 million, respectively.

19. Post-employment Benefits

The Company and certain consolidated subsidiaries have funded and unfunded retirement defined benefit plans and defined contribution plans for employees' retirement benefits, and the plans cover substantially all the employees.

(1) Defined benefit plans

Major defined benefit plans of the Company's consolidated subsidiaries are cash balance plans. Amounts of benefits under the cash balance plans are set based on various conditions such as years of service, points based on achievements during the service period, etc. The investment yield is determined taking into consideration the yield on government bonds.

In accordance with laws and regulations, the pension plans are managed by the Company's consolidated subsidiaries or a pension fund that is legally separate from the Company's consolidated subsidiaries. The Company's consolidated subsidiaries, or the Board of Directors of the pension fund and the trustees of pension fund management are required by laws and regulations to act in the best interest of policyholders, and responsible for operating plan assets based on the prescribed policies.

Amounts of defined benefit plans in the consolidated statements of financial position are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Present value of defined benefit obligations	¥ 32,694	¥ 33,942	¥ 32,944
Fair value of plan assets	(36,921)	(35,926)	(37,554)
Net amount of defined benefit asset	¥ (4,226)	¥ (1,984)	¥ (4,610)
Retirement benefit liability	¥ 4,216	¥ 4,515	¥ 4,281
Retirement benefit asset	(8,443)	(6,499)	(8,891)
Net amount of defined benefit asset	¥ (4,226)	¥ (1,984)	¥ (4,610)

For defined benefit plans, amounts recognized as expenses in the consolidated statements of profit or loss are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Current service cost	¥1,398	¥1,485
Interest expenses	174	286
Interest income	(141)	(172)
Total	¥1,432	¥1,599

Changes related to the present value of defined benefit obligations are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Balance at beginning of the fiscal year	¥33,942	¥32,944
Current service cost	1,398	1,485
Interest expenses	174	286
Remeasurements		
Actuarial gains and losses arising from changes in financial assumptions	(594)	1,135
Retirement benefits paid	(2,097)	(1,909)
Other	(129)	—
Balance at end of the fiscal year	¥32,694	¥33,942

Changes related to the fair value of plan assets are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Balance at beginning of the fiscal year	¥35,926	¥37,554
Interest income	141	172
Remeasurements		
Return on plan assets	1,538	(1,430)
Contributions from companies	981	1,256
Retirement benefits paid	(1,847)	(1,627)
Other	180	—
Balance at end of the fiscal year	¥36,921	¥35,926

Major actuarial assumptions used to calculate the present value of defined benefit obligations are as follows:

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Discount rate	0.66%	0.56%	1.04%

If discount rates, the major actuarial assumptions, fluctuate, the present values of defined benefit obligations at March 31, 2017 and March 31, 2016 change as follows. This sensitivity analysis is based on the assumption that all actuarial assumptions other than actuarial assumptions subject to analysis remain constant.

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)
Increase by 0.5%	(1,563)	(1,560)
Decrease by 0.5%	1,705	1,707

Fair values of plan assets at March 31, 2017 are as follows:

(Millions of Yen)

	Plan assets for which there are quoted market prices in an active market	Plan assets for which there are no quoted market prices in an active market	Total
Cash and cash equivalents	¥4,236	¥ —	¥ 4,236
Equity financial instruments			
Domestic equity securities	5,153	—	5,153
Jointly managed trusts	—	5,872	5,872
Total equity financial instruments	5,153	5,872	11,025
Debt financial instruments			
Jointly managed trusts	—	9,718	9,718
Total debt financial instruments	—	9,718	9,718
Life insurance general accounts	—	11,886	11,886
Other	—	53	53
Total	¥9,390	¥27,530	¥36,921

Fair values of plan assets at March 31, 2016 are as follows:

(Millions of Yen)

	Plan assets for which there are quoted market prices in an active market	Plan assets for which there are no quoted market prices in an active market	Total
Cash and cash equivalents	¥3,588	¥ —	¥ 3,588
Equity financial instruments			
Domestic equity securities	4,022	—	4,022
Jointly managed trusts	—	1,745	1,745
Total equity financial instruments	4,022	1,745	5,767
Debt financial instruments			
Jointly managed trusts	—	14,541	14,541
Total debt financial instruments	—	14,541	14,541
Life insurance general accounts	—	12,029	12,029
Total	¥7,610	¥28,315	¥35,926

Fair values of plan assets at April 1, 2015 are as follows:

(Millions of Yen)

	Plan assets for which there are quoted market prices in an active market	Plan assets for which there are no quoted market prices in an active market	Total
Cash and cash equivalents	¥ 749	¥ —	¥ 749
Equity financial instruments			
Domestic equity securities	5,326	—	5,326
Jointly managed trusts	—	4,066	4,066
Total equity financial instruments	5,326	4,066	9,392
Debt financial instruments			
Jointly managed trusts	—	12,275	12,275
Total debt financial instruments	—	12,275	12,275
Life insurance general accounts	—	11,800	11,800
Other	—	3,336	3,336
Total	¥6,075	¥31,479	¥37,554

Under the TNSC Group's plan asset management policy, the purpose of management is to secure the required combined returns over the medium and long term to the extent of allowable risks in order to ensure payments of the benefits of the defined benefit obligations in the future.

For plan assets, the TNSC Group seeks to reduce risks by diversifying investments widely in domestic and foreign equity securities, debt securities and life insurance general accounts based on asset allocation objectives of a policy asset mix formulated to achieve management objectives.

For asset allocation, the TNSC Group sets the allocation to be maintained for the medium and long term, based on the correlation between expectations of risks and returns for the medium and long term and actual management results of each asset. The TNSC Group reviews asset allocation according to the situation as necessary, such as when there is a significant change in the market environment.

For FYE2018, the TNSC Group plans to contribute ¥1,039 million to plan assets.

The weighted average durations of the defined benefit obligation at March 31, 2017, March 31, 2016 and April 1, 2015 were 12.2 years, 12.0 years and 12.7 years, respectively.

(2) Defined contribution plans and public pension systems

Amounts recognized as expenses under defined contribution plans and public pension systems are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Expenses under defined contribution plans	¥1,641	¥2,065
Expenses under public pension systems	3,870	3,586

20. Provisions

A breakdown of changes in provisions is as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

(Millions of Yen)

	Provision for construction warranties	Asset retirement obligations	Other provisions	Total
Balance at April 1, 2016	¥ 616	¥ 594	¥102	¥1,313
Increase during the fiscal year	170	4,999	22	5,191
Decrease during the fiscal year (intended use)	(226)	(73)	(60)	(360)
Decrease during the fiscal year (reversal)	(88)	—	(0)	(89)
Other	—	338	—	338
Balance at March 31, 2017	¥ 471	¥5,859	¥ 63	¥6,394
Current liabilities	¥ 471	¥ —	¥ 63	¥ 534
Non-current liabilities	—	5,859	—	5,859
Total	¥ 471	¥5,859	¥ 63	¥6,394

FYE2016 (April 1, 2015 to March 31, 2016)

(Millions of Yen)

	Provision for construction warranties	Asset retirement obligations	Other provisions	Total
Balance at April 1, 2015	¥ 340	¥1,026	¥ 48	¥1,415
Increase during the fiscal year	596	286	102	985
Decrease during the fiscal year (intended use)	(313)	(620)	—	(934)
Decrease during the fiscal year (reversal)	(7)	—	(48)	(56)
Other	—	(97)	—	(97)
Balance at March 31, 2016	¥ 616	¥ 594	¥102	¥1,313
Current liabilities	¥ 616	¥ —	¥102	¥ 718
Non-current liabilities	—	594	—	594
Total	¥ 616	¥ 594	¥102	¥1,313

Provision for construction warranties

In order to prepare for construction-related compensation expenses for machinery and device products, provision for construction warranties is recorded based on the latest estimated amount of compensation based on shipment amounts of machinery and device products in the previous fiscal year. Of these, amounts expected to be paid within one year are recorded. However, there is uncertainty in the occurrence of construction-related compensation expenses.

Asset retirement obligations

If the TNSC Group has legal obligations required by laws and regulations or contracts concerning retirement of fixed assets that are used for the ordinary course of business, such as obligations to restore the original condition accompanying lease contracts of factory facilities and properties used by the TNSC Group, asset retirement obligations are recognized based on the estimated amount of future expenditures calculated based on historical results, etc.

Although these expenses are expected to be paid mainly after one year or more, they will be affected by future business plans, etc.

21. Other Liabilities

A breakdown of other liabilities is as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Advances received	¥ 4,840	¥ 4,566	¥ 4,190
Deferred income	4,716	4,220	—
Employees' bonuses	3,483	3,691	3,326
Employees' paid absence	2,310	2,205	1,989
Other	13,290	10,629	13,384
Total	¥28,641	¥25,312	¥22,890
Current liabilities	¥14,858	¥12,899	¥14,425
Non-current liabilities	13,783	12,413	8,464
Total	¥28,641	¥25,312	¥22,890

22. Equity

(1) Share capital and treasury shares

Numbers of shares authorized and shares issued are as follows:

(Thousand shares)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Number of shares authorized	1,600,000	1,600,000
Number of shares issued		
Beginning of the fiscal year	433,092	433,092
Changes during the fiscal year	—	—
End of the fiscal year	433,092	433,092

All shares are ordinary shares with no par value. Shares issued are fully paid.

Changes in the number of treasury shares during the fiscal year are as follows:

(Thousand shares)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Beginning of the fiscal year	323	314
Increase	4	9
Decrease	0	0
End of the fiscal year	328	323

Major factors of changes during the fiscal year were due to the purchase or requests for sales of shares less than one unit.

(2) Capital surplus and retained earnings

Capital surplus consists of amounts not included in share capital as part of the amounts arising from capital transactions, and the main component is capital reserve. Retained earnings consist of legal retained earnings and other reserves.

The Companies Act of Japan stipulates that more than one-half of payments or delivery in relation to the issuance of shares shall be included in share capital, and the remaining shall be included in capital reserve. Capital reserve may be incorporated into share capital by resolutions of the shareholders' meeting.

In addition, the Act stipulates that one-tenth of the amount to be paid as cash dividends from surplus shall be appropriated as capital reserve or legal retained earnings until the total amount of capital reserve and legal retained earnings equals one-fourth of share capital.

The accumulated legal retained earnings may be used to eliminate or reduce a deficit, and the legal retained earnings may be reversed by resolution of the shareholders' meeting.

(3) Other components of equity

Other components of equity are as follows:

(Exchange differences on translation of foreign operations)
Exchange differences on translation of foreign operations are translation differences arising when consolidating the financial statements of foreign operations prepared in foreign currencies.

(Effective portion of net change in fair value of cash flow hedges)
The effective portion of net change in fair value of cash flow hedges is the cumulative amount of the effective portion of hedges as part of gains or losses arising from changes in fair value of the hedging instrument related to cash flow hedges.

(Financial assets measured at fair value through other comprehensive income)
Other components of equity include valuation differences in fair value of financial assets measured at fair value through other comprehensive income.

(Remeasurements of defined benefit plans)
Remeasurements of defined benefit plans are the effect of differences between actuarial assumptions at the beginning of the fiscal year and the actual results and the effect of changes in actuarial assumptions. These are recognized in other comprehensive income when incurred, and immediately transferred from other components of equity to retained earnings.

23. Dividends

Payments of dividends are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

Resolution	Type of stock	Total cash dividends (Millions of Yen)	Dividends per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2016	Ordinary shares	¥3,896	¥9	March 31, 2016	June 22, 2016
Board of Directors' meeting held on November 2, 2016	Ordinary shares	3,896	9	September 30, 2016	December 1, 2016

FYE2016 (April 1, 2015 to March 31, 2016)

Resolution	Type of stock	Total cash dividends (Millions of Yen)	Dividends per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 23, 2015	Ordinary shares	¥3,030	¥7	March 31, 2015	June 24, 2015
Board of Directors' meeting held on November 4, 2015	Ordinary shares	3,030	7	September 30, 2015	December 1, 2015

The dividends of whose effective date falls in the next fiscal year are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

Resolution	Type of stock	Total cash dividends (Millions of Yen)	Dividends per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 20, 2017	Ordinary shares	¥4,762	¥11	March 31, 2017	June 21, 2017

FYE2016 (April 1, 2015 to March 31, 2016)

Resolution	Type of stock	Total cash dividends (Millions of Yen)	Dividends per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2016	Ordinary shares	¥3,896	¥ 9	March 31, 2016	June 22, 2016

24. Other Comprehensive Income

Changes in each item in other comprehensive income during the year are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Financial assets measured at fair value through other comprehensive income		
Amount arising during the fiscal year	¥ 7,952	¥(10,824)
Tax effects	(2,418)	3,766
Net amount	5,534	(7,058)
Remeasurements of defined benefit plans		
Amount arising during the fiscal year	2,132	(2,565)
Tax effects	(569)	759
Net amount	1,563	(1,806)
Exchange differences on translation of foreign operations		
Amount arising during the fiscal year	(787)	(14,810)
Net amount	(787)	(14,810)
Effective portion of net change in fair value of cash flow hedges		
Amount arising during the fiscal year	36	(432)
Reclassification adjustments	350	947
Tax effects	(119)	(181)
Net amount	268	333
Share of other comprehensive income of investments accounted for using the equity method		
Amount arising during the fiscal year	(983)	(1,080)
Net amount	(983)	(1,080)
Total other comprehensive income	¥ 5,594	¥(24,422)

25. Employee Benefit Expenses

Employee benefit expenses other than post-employment benefits are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Wages and salaries	¥86,426	¥79,328
Social security contributions	7,180	6,926
Total	¥93,607	¥86,255

26. Other Operating Income and Other Operating Expenses

A breakdown of other operating income is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Gain on step acquisition	¥ —	¥1,813
Grant income	90	711
Gain on sales of property, plant and equipment	1,142	327
Other	1,338	1,595
Total	¥2,571	¥4,448

A breakdown of other operating expenses is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Impairment losses	¥ 231	¥1,731
Loss on retirement and sales of property, plant and equipment	420	1,122
Loss on reduction of property, plant and equipment	89	711
Other	1,501	1,115
Total	¥2,241	¥4,680

27. Finance Income and Finance Costs

A breakdown of finance income is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Interest income		
Financial assets measured at amortized cost	¥ 273	¥ 202
Dividend income		
Financial assets measured at fair value through other comprehensive income	998	1,113
Other	158	—
Total	¥1,429	¥1,316

A breakdown of finance costs is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Interest expenses		
Financial liabilities measured at amortized cost	¥4,484	¥3,661
Foreign exchange losses	255	3
Other	178	0
Total	¥4,918	¥3,665

28. Income Taxes

(1) Deferred tax assets and deferred tax liabilities

Major factors giving rise to deferred tax assets and deferred tax liabilities and their changes are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

(Millions of Yen)

	April 1, 2016	Recognized in profit or loss	Recognized in other comprehensive income	Other (Note 1)	March 31, 2017
Deferred tax assets					
Employees' bonuses	¥ 2,203	¥ 62	¥ —	¥ —	¥ 2,266
Accrued expenses	4,201	287	—	—	4,489
Property, plant and equipment (excess depreciation, etc.)	2,144	60	—	—	2,204
Unrealized gains (inventories and property, plant and equipment)	2,189	(72)	—	—	2,117
Other	4,579	1,190	(86)	1	5,684
Total	15,319	1,527	(86)	1	16,762
Deferred tax liabilities					
Securities and other investments	(4,603)	—	(2,582)	—	(7,186)
Property, plant and equipment (excess depreciation, etc.)	(32,093)	(3,071)	—	—	(35,164)
Retained earnings of overseas consolidated subsidiaries, etc.	(3,749)	(485)	—	—	(4,235)
Other	(6,062)	(537)	(437)	759	(6,277)
Total	(46,509)	(4,094)	(3,020)	759	(52,864)
Net deferred tax liabilities	¥(31,190)	¥(2,566)	¥(3,106)	¥760	¥(36,102)

FYE2016 (April 1, 2015 to March 31, 2016)

(Millions of Yen)

	April 1, 2015	Recognized in profit or loss	Recognized in other comprehensive income	Other (Note 1)	March 31, 2016
Deferred tax assets					
Employees' bonuses	¥ 2,100	¥ 102	¥ —	¥ —	¥ 2,203
Accrued expenses	4,220	(18)	—	—	4,201
Property, plant and equipment (excess depreciation, etc.)	2,191	(48)	—	2	2,144
Unrealized gains (inventories and property, plant and equipment)	2,279	(89)	—	—	2,189
Other	3,977	715	111	(225)	4,579
Total	14,768	662	111	(222)	15,319
Deferred tax liabilities					
Securities and other investments	(8,423)	—	3,744	75	(4,603)
Property, plant and equipment (excess depreciation, etc.)	(33,933)	(68)	—	1,909	(32,093)
Retained earnings of overseas consolidated subsidiaries, etc.	(3,383)	(366)	—	—	(3,749)
Other	(4,551)	(215)	487	(1,783)	(6,062)
Total	(50,291)	(651)	4,232	201	(46,509)
Net deferred tax liabilities	¥(35,523)	¥ 11	¥4,343	¥ (21)	¥(31,190)

Note 1: Other includes exchange differences on translation of foreign operations.

For recognition of deferred tax assets, the TNSC Group considers the possibility that some or all deductible temporary differences will be available for future taxable income. For the assessment of the recoverability of deferred tax assets, the TNSC Group considers the planned reversal of deferred tax liabilities, projected future taxable income and tax planning. For deferred tax assets recognized, the TNSC Group believes that it is probable the tax benefits will be realized based on historical taxable income levels and the projection of future taxable income during periods when deferred tax assets may be deducted.

Deductible temporary differences for which deferred tax assets have not been recognized at March 31, 2017, March 31, 2016 and April 1, 2015 were ¥14,217 million, ¥15,094 million and ¥12,472 million, respectively.

(2) Income taxes

A breakdown of income taxes is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Current income taxes	¥11,396	¥16,080
Deferred income taxes	2,566	(11)
Total	¥13,963	¥16,069

(3) Table of reconciliation of effective tax rates

The Company is mainly subject to corporate income tax, inhabitant tax and enterprise tax. The statutory tax rates based on these taxes for FYE2017 and FYE2016 were 30.86% and 33.06%, respectively. Overseas subsidiaries are subject to the corporate income tax, etc. of their location.

A breakdown of major items that caused differences between the statutory tax rate and the effective tax rate is as follows:

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Statutory tax rate	30.86%	33.06%
Permanently non-deductible or non-taxable items	0.41	0.38
Unrecognized deferred tax assets	0.10	0.90
Differences in tax rates for overseas consolidated subsidiaries	0.30	0.65
Retained earnings of overseas consolidated subsidiaries, etc.	0.97	0.78
Share of profit of investments accounted for using the equity method	(1.60)	(2.00)
Reversal of deferred tax liabilities of overseas consolidated subsidiaries	(2.24)	—
Other	(0.97)	0.72
Effective tax rates	27.83%	34.50%

29. Earnings Per Share

Basic earnings per share and the basis of calculation are as follows:

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Profit attributable to owners of parent (Millions of Yen)	¥34,740	¥29,030
Average number of shares during the fiscal year (Thousand shares)	432,766	432,774
Basic earnings per share (Yen)	¥80.28	¥67.08

Note: Diluted earnings per share are not presented as there are no dilutive potential shares.

30. Financial Instruments

(1) Equity management

The TNSC Group manages equity aiming at maximizing corporate value through sustainable growth. The major indices used by the Company in equity management are return on capital employed (ROCE) and net D/E ratio.

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Return on capital employed (ROCE) (Note 1)	8.4%	8.1%	—
Net D/E ratio (Note 2)	0.87	0.67	0.64

Note 1: Core operating profit / invested capital (average of the beginning and the end of the fiscal year)
Invested capital refers to total of interest-bearing liabilities and equity attributable to owners of parent.
Note 2: Net interest-bearing liabilities / equity attributable to owners of parent
Net interest-bearing liabilities refer to interest-bearing liabilities less cash and cash equivalents.

(2) Matters related to risk management

The TNSC Group is exposed to financial risks in the course of conducting business activities in various countries and regions throughout a wide range of fields. In order to reduce or avoid such risks, the TNSC Group manages risks based on certain policies, etc.

In addition, derivative transactions are used to hedge currency fluctuation risk or interest rate fluctuation risk. In principle, derivative transactions are only conducted based on actual demand and not used for speculative purposes.

(3) Credit risk

Trade receivables, etc., which are receivables arising from the TNSC Group's business activities, are exposed to the credit risk of customers. In addition, derivative transactions that the TNSC Group uses to hedge financial risks are exposed to the credit risk of financial institutions that are counterparties to the transactions.

In accordance with internal policies of each Group company, such as credit management regulations, the TNSC Group monitors due dates and outstanding balances of individual customers and establishes a system to periodically assess credit status. The TNSC Group thereby aims to early identify and alleviate collection concerns due to a deteriorating financial situation. In addition, derivative transactions are limited to financial institutions with high creditworthiness in order to minimize counterparties' credit risk related to contract default.

The TNSC Group records allowance for doubtful accounts at an unrecoverable amount for individually significant financial assets, and at an amount based on historical experience, etc. for individually insignificant financial assets, at the end of each fiscal year. Allowance for doubtful accounts related to such financial assets is included in "Trade receivables" and "Other financial assets" in the consolidated statements of financial position.

Allowance for doubtful accounts is as follows. Since the amount of expected credit losses for 12 months is not material, it is added to the expected credit losses for the entire period.

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Balance at beginning of the fiscal year	¥2,470	¥2,416
Increase during the fiscal year	992	584
Decrease during the fiscal year (intended use)	(538)	(226)
Decrease during the fiscal year (reversal)	(421)	(231)
Other	(8)	(72)
Balance at end of the fiscal year	¥2,495	¥2,470

The maximum exposure to credit risk of financial assets is the carrying amount after impairment that is presented in the consolidated financial statements.

(4) Liquidity risk

The TNSC Group's trade payables and borrowings, etc. are exposed to liquidity risk. The TNSC Group manages the risk by preparing cash management plans and secures liquidity by establishing commitment lines with several financial institutions.

Balances of financial liabilities (including derivative instruments) by due date are as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

	Carrying amount	Undiscounted contractual cash flows	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Non-derivative financial liabilities								
Trade payables	¥ 73,046	¥ 73,046	¥73,046	¥ —	¥ —	¥ —	¥ —	¥ —
Accounts payable—other	3,699	3,699	3,699	—	—	—	—	—
Short-term borrowings	34,973	34,973	34,973	—	—	—	—	—
Long-term borrowings	252,580	252,580	43,747	39,112	57,989	53,792	35,140	22,798
Bonds	65,000	65,000	10,000	15,000	—	10,000	15,000	15,000
Lease liabilities	6,975	7,279	2,500	1,789	1,596	453	231	707
Accrued expenses	21,169	21,169	21,169	—	—	—	—	—
Other	3,676	3,676	2,728	1	228	1	14	700
Derivative liabilities								
Forward exchange contracts	86	86	86	—	—	—	—	—
Currency swaps	2	2	0	0	0	0	0	0
Interest rate swaps	166	171	70	69	25	5	0	0

FYE2016 (March 31, 2016)

(Millions of Yen)

	Carrying amount	Undiscounted contractual cash flows	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Non-derivative financial liabilities								
Trade payables	¥ 72,743	¥ 72,743	¥72,743	¥ —	¥ —	¥ —	¥ —	¥ —
Accounts payable—other	4,589	4,589	4,589	—	—	—	—	—
Short-term borrowings	32,399	32,399	32,399	—	—	—	—	—
Long-term borrowings	181,903	181,903	51,728	35,874	23,719	30,110	30,598	9,871
Bonds	45,000	45,000	10,000	10,000	15,000	—	10,000	—
Lease liabilities	8,633	9,224	3,013	2,256	1,404	1,020	734	794
Accrued expenses	19,535	19,535	19,535	—	—	—	—	—
Other	1,953	1,953	979	1	1	199	1	768
Derivative liabilities								
Forward exchange contracts	215	215	215	—	—	—	—	—
Interest rate swaps	474	373	131	158	50	27	5	—

Transition Date (April 1, 2015)

(Millions of Yen)

	Carrying amount	Undiscounted contractual cash flow	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Non-derivative financial liabilities								
Trade payables	¥ 76,896	¥ 76,896	¥76,896	¥ —	¥ —	¥ —	¥ —	¥ —
Accounts payable—other	3,767	3,767	3,382	385	—	—	—	—
Short-term borrowings	23,246	23,246	23,246	—	—	—	—	—
Long-term borrowings	185,583	185,583	41,442	50,870	31,813	22,072	27,959	11,424
Bonds	45,000	45,000	—	10,000	10,000	15,000	—	10,000
Lease liabilities	6,535	6,836	1,953	1,917	1,284	530	340	808
Accrued expenses	18,570	18,570	18,570	—	—	—	—	—
Other	1,719	1,719	758	—	1	1	187	770
Derivative liabilities								
Forward exchange contracts	719	719	719	—	—	—	—	—
Currency swaps	14	14	14	—	—	—	—	—
Interest rate swaps	319	456	231	97	64	39	19	4

Unused overdraft agreements and loan commitment lines are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Unused overdraft agreements and loan commitment lines	¥60,728	¥48,374	¥53,877

(5) Currency risk

Receivables and payables denominated in foreign currencies arising from the TNSC Group's global business development are exposed to the risk of exchange rate fluctuations. The TNSC Group hedges trade receivables and payables denominated in foreign currencies, borrowings, and loans by using forward exchange contracts and currency swaps as necessary.

Currency sensitivity analysis

The following is the impact on profit before income taxes on the consolidated statements of profit or loss from the foreign currency financial instruments held by the TNSC Group at the end of the fiscal year, if the yen appreciates by 1% against the U.S. dollar and Euro, respectively, at the end of the fiscal year.

This analysis is calculated by multiplying each exposure of currency risk by 1%. It is assumed that there is no impact of the fluctuation of each exchange rate on other variables (foreign exchange rates of other currencies, interest rates, etc.).

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)
U.S. dollar (1% appreciation of the yen)	¥(1)	¥ (0)
Euro (1% appreciation of the yen)	(0)	(14)

(6) Interest rate risk

The TNSC Group's interest rate risk arises from interest-bearing liabilities, net of cash equivalents, etc. Borrowings and corporate bonds that are based on floating interest rates are exposed to interest rate fluctuation risk.

The TNSC Group hedges such risks by using derivative transactions (interest rate swaps) as necessary.

Interest rate sensitivity analysis

The following is the impact on profit before income taxes on the consolidated statements of profit or loss if the interest rate rises by 1% for financial instruments held by the TNSC Group at the end of the fiscal year.

This analysis is intended for financial instruments impacted by fluctuations in interest rates, and it is assumed that other factors, such as the impact of exchange rate fluctuations, remain constant.

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)
Profit before income taxes	¥(760)	¥(667)

(7) Risk of market price fluctuations

Securities, etc. held by the TNSC Group are exposed to the risk of market price fluctuations.

The TNSC Group periodically evaluates the fair value and the financial status of issuers (business partners) for securities, etc., and each supervising department reviews the holding status taking into consideration the relationship with the business partners on an ongoing basis.

(8) Fair value of financial instruments

For fair value hierarchy of financial instruments, Level 1 to Level 3 is categorized as follows:

Level 1: Fair value measured by the unadjusted quoted prices in active markets of identical assets or liabilities
Level 2: Fair value calculated using an observable prices directly or indirectly, other than Level 1
Level 3: Fair value calculated by valuation techniques including inputs not based on significant observable market data

Transfers between levels of financial instruments are determined at the end of each reporting period. There were no financial instruments with significant transfers between levels for FYE2017 and FYE2016.

1) Financial instruments measured at fair value on a recurring basis

Financial instruments measured at fair value are as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

	Level 1	Level 2	Level 3	Total
Assets				
Equity securities and investments in capital	¥35,218	¥ —	¥16,548	¥51,767
Derivative assets	—	214	—	214
Total	¥35,218	¥214	¥16,548	¥51,982
Liabilities				
Derivative liabilities	¥ —	¥255	¥ —	¥ 255
Total	¥ —	¥255	¥ —	¥ 255

FYE2016 (March 31, 2016)

(Millions of Yen)

	Level 1	Level 2	Level 3	Total
Assets				
Equity securities and investments in capital	¥30,728	¥ —	¥16,366	¥47,094
Derivative assets	—	124	—	124
Total	¥30,728	¥124	¥16,366	¥47,218
Liabilities				
Derivative liabilities	¥ —	¥690	¥ —	¥ 690
Total	¥ —	¥690	¥ —	¥ 690

Transition Date (April 1, 2015)

(Millions of Yen)

	Level 1	Level 2	Level 3	Total
Assets				
Equity securities and investments in capital	¥41,672	¥ —	¥20,809	¥62,481
Derivative assets	—	55	—	55
Total	¥41,672	¥ 55	¥20,809	¥62,536
Liabilities				
Derivative liabilities	¥ —	¥1,047	¥ —	¥ 1,047
Total	¥ —	¥1,047	¥ —	¥ 1,047

Equity securities and investments in capital

The fair value of marketable equity securities categorized as Level 1 is based on unadjusted quoted prices in active markets of identical assets or liabilities.

The fair value of unlisted stocks categorized as Level 3, for which quoted prices are not available in active markets, is calculated using the similar company comparison method or other appropriate valuation techniques based on reasonably available inputs. In addition, certain illiquidity discounts, etc. are added as necessary.

Derivative assets and liabilities

The fair value of derivative assets and derivative liabilities categorized as Level 2 is calculated based on observable inputs such as prices provided by counterparty financial institutions or exchange rates and interest rates.

For financial instruments categorized as Level 3, the evaluator determines the valuation techniques to measure each financial instrument covered in accordance with valuation policies and procedures including valuation techniques to measure fair value approved by the appropriate authorized person, and the fair value is calculated. The results are reviewed and approved by the appropriate authorized person.

Changes in financial instruments classified as Level 3 are as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Balance at beginning of the fiscal year	¥16,366	¥20,809
Other comprehensive income (Note)	(1,044)	(136)
Purchase	2,620	978
Sale	(572)	(900)
Change in the scope of consolidation	(1,383)	(3,599)
Other changes	561	(784)
Balance at end of the fiscal year	¥16,548	¥16,366

Note: This is included in "Financial assets measured at fair value through other comprehensive income" in the consolidated statements of comprehensive income.

2) Financial instruments measured at amortized cost

The carrying amount and fair value of financial instruments measured at amortized cost are as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

		Fair value			
	Carrying amount	Level 1	Level 2	Level 3	Total
Liabilities					
Long-term borrowings	¥252,580	¥—	¥252,020	¥—	¥252,020
Bonds	65,000	—	65,171	—	65,171
Total	¥317,580	¥—	¥317,192	¥—	¥317,192

FYE2016 (March 31, 2016)

(Millions of Yen)

		Fair value			
	Carrying amount	Level 1	Level 2	Level 3	Total
Liabilities					
Long-term borrowings	¥181,903	¥—	¥184,751	¥—	¥184,751
Bonds	45,000	—	45,342	—	45,342
Total	¥226,903	¥—	¥230,093	¥—	¥230,093

Transition Date (April 1, 2015)

(Millions of Yen)

		Fair value			
	Carrying amount	Level 1	Level 2	Level 3	Total
Liabilities					
Long-term borrowings	¥185,583	¥—	¥186,839	¥—	¥186,839
Bonds	45,000	—	45,266	—	45,266
Total	¥230,583	¥—	¥232,105	¥—	¥232,105

For financial instruments measured at amortized cost other than long-term borrowings and bonds, their fair value reasonably approximates the carrying amount.

Long-term borrowings

The fair value of long-term borrowings is calculated based on the present value calculated by discounting the total amount of principal and interest by the interest rate assumed when similar borrowings are newly made.

Bonds

The fair value of bonds is calculated based on market price.

(9) Transfer of financial assets

At March 31, 2017 and March 31, 2016, for trade receivables transferred without meeting the requirements for derecognition of financial assets, ¥2,176 million and ¥1,720 million were included in "Trade receivables," respectively, and the amounts received due to the transfer of ¥1,565 million and ¥1,720 million were included in "Bonds and borrowings," respectively. Of these Trade receivables, it is determined that the TNSC Group holds almost all of the risks and rewards related to ownership of the transferred assets, because it will assume the payment obligations if the issuer of the notes or the debtor fails to make payment.

(10) Derivative transactions

1) Derivative transactions for which hedge accounting is applied

Analysis of contract amounts, etc. of the hedging instruments by due date is as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

	Contract amounts, etc.	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Cash flow hedges							
Currency risk							
Forward exchange contracts	¥ 6,714	¥ 6,714	¥ —	¥ —	¥ —	¥ —	¥ —
Interest rate risk							
Interest rate swaps	29,267	10,149	1,076	15,465	1,286	286	1,003

FYE2016 (March 31, 2016)

(Millions of Yen)

	Contract amounts, etc.	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Cash flow hedges							
Currency risk							
Forward exchange contracts	¥10,565	¥10,565	¥ —	¥ —	¥ —	¥ —	¥—
Interest rate risk							
Interest rate swaps	36,997	9,516	9,922	1,168	15,389	1,000	—

Transition Date (April 1, 2015)

(Millions of Yen)

	Contract amounts, etc.	One year or less	More than one year but within two years	More than two years but within three years	More than three years but within four years	More than four years but within five years	More than five years
Cash flow hedges							
Currency risk							
Forward exchange contracts	¥ 9,478	¥ 9,478	¥ —	¥ —	¥ —	¥ —	¥ —
Interest rate risk							
Currency swaps	80	80	—	—	—	—	—
Interest rate swaps	47,252	12,028	8,438	9,406	953	15,314	1,111

Major forward rates of foreign exchange contracts and major interest rates of interest rate swaps are as follows:

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)	Transition Date (April 1, 2015)
Cash flow hedges			
Currency risk			
Forward exchange contracts			
U.S. dollar	¥101.02–¥114.65	¥115.84–¥118.95	¥101.58–¥120.46
Euro	¥112.94–¥127.35	¥109.98–¥118.74	¥129.18–¥147.77
Interest rate risk			
Interest rate swaps			
Fixed payables and floating receivables	0.34%–0.74%	0.34%–1.97%	0.34%–4.80%

Amounts related to items designated as hedging instruments are as follows:

FYE2017 (March 31, 2017)

(Millions of Yen)

	Contract amounts, etc.	Carrying amount		Items on the consolidated statements of financial position	Changes in fair value used to calculate ineffective portion of hedges for the fiscal year
		Assets	Liabilities		
Cash flow hedges					
Currency risk					
Forward exchange contracts	¥ 6,714	¥77	¥ 86	Other financial assets Other financial liabilities	¥143
Interest rate risk					
Interest rate swaps	10,149	1	166	Other financial assets Other financial liabilities	248

FYE2016 (March 31, 2016)

(Millions of Yen)

	Contract amounts, etc.	Carrying amount		Items on the consolidated statements of financial position	Changes in fair value used to calculate ineffective portion of hedges for the fiscal year
		Assets	Liabilities		
Cash flow hedges					
Currency risk					
Forward exchange contracts	¥10,565	¥63	¥215	Other financial assets Other financial liabilities	¥515
Currency swaps	—	—	—	—	6
Interest rate risk					
Interest rate swaps	36,997	61	474	Other financial assets Other financial liabilities	(95)

Transition Date (April 1, 2015)

(Millions of Yen)

	Contract amounts, etc.	Carrying amount		Items on the consolidated statements of financial position
		Assets	Liabilities	
Cash flow hedges				
Currency risk				
Forward exchange contracts	¥ 9,478	¥45	¥713	Other financial assets Other financial liabilities
Currency swaps	80	8	14	Other financial assets Other financial liabilities
Interest rate risk				
Interest rate swaps	47,252	1	319	Other financial assets Other financial liabilities

Amounts related to items designated as hedged items are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)		FYE2016 (March 31, 2016)		Transition Date (April 1, 2015)
	Changes in fair value used to calculate ineffective portion of hedges for the fiscal year	Cash flow hedge reserves	Changes in fair value used to calculate ineffective portion of hedges for the fiscal year	Cash flow hedge reserves	Cash flow hedge reserves
Cash flow hedges					
Currency risk					
Planned purchase	¥ 96	¥ 34	¥399	¥ (62)	¥(461)
Interest rate risk					
Interest on borrowings	171	(98)	(66)	(270)	(204)

Details of cash flow hedges are as follows:

FYE2017 (April 1, 2016 to March 31, 2017)

(Millions of Yen)

	Changes in fair value of hedging instruments recognized in other comprehensive income	Ineffective portion of hedges recognized in profit or loss	Items on the consolidated statements of profit or loss that include ineffective portion of gain or loss on hedges	Reclassification adjustments from cash flow hedge reserves to profit or loss	Items on the consolidated statements of profit or loss that include gain or loss due to reclassification adjustments
Cash flow hedges					
Currency risk					
Forward exchange contracts	¥ 96	¥—	¥—	¥164	Finance costs
Interest rate risk					
Interest rate swaps	171	—	—	78	Finance costs

FYE2016 (April 1, 2015 to March 31, 2016)

(Millions of Yen)

	Changes in fair value of hedging instruments recognized in other comprehensive income	Ineffective portion of hedges recognized in profit or loss	Items on the consolidated statements of profit or loss that include ineffective portion of gain or loss on hedges	Reclassification adjustments from cash flow hedge reserves to profit or loss	Items on the consolidated statements of profit or loss that include gain or loss due to reclassification adjustments
Cash flow hedges					
Currency risk					
Forward exchange contracts	¥399	¥—	¥—	¥515	Finance costs
Interest rate risk					
Interest rate swaps	(66)	—	—	122	Finance costs

2) Derivative transactions for which hedge accounting is not applied
Amounts related to items not designated as hedging instruments are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)			FYE2016 (March 31, 2016)			Transition Date (April 1, 2015)		
	Contract amount, etc.	More than one year	Fair value	Contract amount, etc.	More than one year	Fair value	Contract amount, etc.	More than one year	Fair value
Currency swaps	¥863	¥726	¥133	¥—	¥—	¥—	¥—	¥—	¥—

31. Subsidiaries

For FYE2017, FYE2016 and the Transition Date, there were no individually significant subsidiaries with non-controlling interests.

32. Related Parties

Remuneration for major executives
Remuneration for the TNSC Group's major executives is as follows:

(Millions of Yen)

	FYE2017 (April 1, 2016 to March 31, 2017)	FYE2016 (April 1, 2015 to March 31, 2016)
Remuneration and bonuses	¥583	¥731
Total	¥583	¥731

33. Commitments

Commitments on acquisition of property, plant and equipment and intangible assets are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)
Acquisition of property, plant and equipment and intangible assets	¥16,712	¥6,867

34. Contingent Liabilities

Guaranteed obligations

Guarantees and quasi-guarantees for borrowings from financial institutions are as follows:

(Millions of Yen)

	FYE2017 (March 31, 2017)	FYE2016 (March 31, 2016)
Joint ventures	¥ —	¥ 150
Associates	363	126
Other (Note)	1,728	2,082
Total	¥2,092	¥2,359

Note: Other mainly consists of guarantees for employees' bank loans based on the employees' house ownership support system.

35. Subsequent Events

Not applicable.

36. First-time Adoption

From the fiscal year ended March 31, 2017, the TNSC Group discloses its consolidated financial statements in accordance with International Financial Reporting Standards (IFRS). The most recent consolidated financial statements prepared in accordance with generally accepted accounting principles in Japan (Japanese GAAP) were those for the fiscal year ended March 31, 2016. The Transition Date to IFRS is April 1, 2015.

In principle, companies applying IFRS for the first time must apply the standards required by IFRS retrospectively. However, IFRS 1 "First-time Adoption of International Financial Reporting Standards" specifies items to which exemptions may be applied arbitrarily to certain standards required by IFRS.

Exemptions adopted by the TNSC Group for the transition from Japanese GAAP to IFRS are as follows:

- **Business combinations**

A first-time adopter may elect not to apply IFRS 3 "Business Combinations" retrospectively to business combinations that occurred before the Transition Date to IFRS. The TNSC Group has applied such exemption and elected not to apply IFRS 3 retrospectively to business combinations that occurred before the Transition Date. As a result, the amount of goodwill arising from business combinations that occurred before the Transition Date was based on the carrying amount at the Transition Date in accordance with Japanese GAAP. For goodwill, impairment tests were performed at the Transition Date, regardless of whether or not there was any indication of impairment.

- **Exchange differences on translation of foreign operations**

Under IFRS 1, a first-time adopter may elect to consider the cumulative translation differences of foreign operations as of the Transition Date to IFRS as zero. The TNSC Group has elected to consider the cumulative exchange differences on translation of foreign operations as of the Transition Date as zero.

- **Designation of financial instruments recognized before the Transition Date to IFRS**

Under IFRS 1, a first-time adopter may determine classification under IFRS 9 based on the facts and circumstances at the Transition Date, not the facts and circumstances that exist at the time of initial recognition. A first-time adopter may also designate equity financial assets as financial assets measured at fair value through other comprehensive income based on the facts and circumstances that exist at the Transition Date. The TNSC Group has determined classification under IFRS 9 based on the facts and circumstances that existed at the Transition Date and designated equity financial assets as financial assets measured at fair value through other comprehensive income.

The reconciliation tables required to be disclosed in the first-time adoption of IFRS are as follows. In the reconciliation tables, "Reclassification" includes items that do not affect retained earnings and comprehensive income, "Effect of change in the closing date"(*) includes differences due to unification of the closing date in accordance with IFRS, and "Differences in recognition and measurement" includes items that affect retained earnings and comprehensive income.

"Notes to reconciliation of equity" and "Notes to reconciliation of profit or loss and comprehensive income" do not include the above "Effect of change in the closing date."

*For the previous fiscal year (fiscal year ended March 31, 2016) under Japanese GAAP, the fiscal period used in consolidation of Matheson Tri-Gas, Inc., a consolidated subsidiary, was 15 months from January 1, 2015 to March 31, 2016. Under IFRS, a provisional settlement was made as if the closing date was changed to March 31, 2015.

Reconciliation of equity as of Transition Date (April 1, 2015)

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Effect of change in the closing date	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
Assets							Assets
Current assets							Current assets
Cash and deposits	¥ 53,420	¥ (1,873)	¥1,326	¥ (104)	¥ 52,769	(1)	Cash and cash equivalents
Notes and accounts receivable—trade	150,552	(2,520)	3,943	(274)	151,702	(1)	Trade receivables
Merchandise and finished goods	30,252	(30,252)	—	—	—		
Work in process	8,758	(8,758)	—	—	—		
Raw materials and supplies	9,782	39,011	(50)	(1,164)	47,579	(2)	Inventories
Deferred tax assets	8,387	(8,387)	—	—	—		
	—	5,533	5	(4)	5,533		Other financial assets
Other	9,470	(3,659)	1,267	—	7,080		Other current assets
Allowance for doubtful accounts	(2,520)	2,520	—	—	—		
Total current assets	268,105	(8,387)	6,493	(1,546)	264,664		Total current assets
Noncurrent assets							Non-current assets
Property, plant and equipment	324,842	—	(574)	(7,932)	316,335	(1)	Property, plant and equipment
Intangible assets							
Goodwill	66,471	—	2,317	—	68,789		Goodwill
Other	25,701	—	206	—	25,907		Intangible assets
Investments and other assets							
Investment securities	75,377	(54,892)	—	308	20,793		Investments accounted for using the equity method
Long-term loans receivable	1,199	(1,199)	—	—	—		
	—	65,636	(53)	7,012	72,596	(3)	Other financial assets
Net defined benefit asset	8,396	—	—	494	8,891		Retirement benefit asset
Other	10,542	(9,898)	—	—	643		Other non-current assets
Deferred tax assets	2,073	8,387	(185)	(6,037)	4,238	(4)	Deferred tax assets
Valuation allowance for investments	(20)	20	—	—	—		
Allowance for doubtful accounts	(333)	333	—	—	—		
Total noncurrent assets	514,251	8,387	1,710	(6,153)	518,196		Total non-current assets
Total assets	¥782,357	¥ —	¥8,203	¥(7,700)	¥782,860		Total assets

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Effect of change in the closing date	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
							Liabilities and equity
Liabilities							Liabilities
Current liabilities							Current liabilities
Notes and accounts payable—trade	¥ 77,036	¥ —	¥ 119	¥ (258)	¥ 76,896	(1)	Trade payables
Short-term loans payable	65,746	—	(257)	(800)	64,689	(1)	Bonds and borrowings
Income taxes payable	7,113	—	—	(5)	7,107		Income taxes payable
	—	23,900	1,417	172	25,489		Other financial liabilities
Provision	3,758	(3,369)	—	—	389		Provisions
Other	30,915	(20,530)	2,589	1,451	14,425	(5)	Other current liabilities
Total current liabilities	184,570	—	3,867	559	188,997		Total current liabilities
Noncurrent liabilities							Non-current liabilities
Bonds	45,000	(45,000)	—	—	—		
Long-term loans payable	148,904	45,000	3,445	(8,208)	189,141	(1)	Bonds and borrowings
Lease obligations	4,779	(4,779)	—	—	—		
	—	6,126	(87)	113	6,152		Other financial liabilities
Provision for executive officers' retirement benefits	420	(420)	—	—	—		
Net defined benefit liability	3,824	420	—	35	4,281		Retirement benefit liability
Provision for directors' and corporate auditors' retirement benefits	810	(810)	—	—	—		
	—	1,041	(15)	—	1,026		Provisions
Other	9,387	(1,578)	164	491	8,464	(5)	Other non-current liabilities
Deferred tax liabilities	43,451	—	—	(3,689)	39,761	(4)	Deferred tax liabilities
Total noncurrent liabilities	256,579	—	3,506	(11,258)	248,827		Total non-current liabilities
Total liabilities	441,149	—	7,373	(10,698)	437,824		Total liabilities
Net assets							Equity
Common stock	37,344	—	—	—	37,344		Share capital
Capital surplus	55,955	—	—	—	55,955		Capital surplus
Treasury stock	(232)	—	—	—	(232)		Treasury shares
Retained earnings	190,957	—	1,237	19,053	211,247	(6)	Retained earnings
Accumulated other comprehensive income	33,219	—	(379)	(16,114)	16,724	(7)	Other components of equity
	317,244	—	857	2,938	321,040		Total equity attributable to owners of parent
Non-controlling interests	23,963	—	(27)	59	23,995		Non-controlling interests
Total net assets	341,207	—	829	2,998	345,035		Total equity
Total liabilities and net assets	¥782,357	¥ —	¥8,203	¥ (7,700)	¥782,860		Total liabilities and equity

Notes to reconciliation of equity

(1) Cash and cash equivalents, trade receivables, property, plant and equipment, trade payables, and bonds and borrowings

The TNSC Group reviewed the scope of consolidation for adopting IFRS. As Sakai Gas Center, Inc., which was a consolidated subsidiary under Japanese GAAP, became a joint operation under IFRS, there were decreases in cash and cash equivalents, trade receivables, property, plant and equipment, trade payables, and bonds and borrowings.

(2) Inventories

The TNSC Group transferred replacement parts and maintenance goods that were included in supplies in "Inventories" under Japanese GAAP, to property, plant and equipment under IFRS. Accordingly, there was a decrease in inventories.

(3) Other financial assets (non-current assets)

The TNSC Group measured unlisted stocks mainly using the cost method based on the moving-average method under Japanese GAAP. Under IFRS, unlisted stocks are measured at fair value. Accordingly, there was an increase in other financial assets.

(4) Deferred tax assets and deferred tax liabilities

The TNSC Group offset deferred tax assets and liabilities in current and noncurrent categories, respectively, under Japanese GAAP. Under IFRS, all deferred tax assets and liabilities are classified under the non-current category. Accordingly, there was an increase in offset amounts and a decrease in deferred tax assets and deferred tax liabilities.

(5) Other current liabilities and other non-current liabilities

The TNSC Group recognized employees' paid absence, etc., which was not recognized under Japanese GAAP, as liabilities under IFRS. Accordingly, there was an increase in other current liabilities and other non-current liabilities.

(6) Retained earnings

The effect on retained earnings due to reconciliation resulting from the adoption of IFRS is as follows. The amounts below are the amounts after reconciliation of related tax effects and non-controlling interests.

(Millions of Yen)

	Transition Date (April 1, 2015)
Reconciliation of cumulative exchange differences on translation of foreign operations (see (7))	¥19,687
Recognition of employees' paid absence, etc. (see (5))	(1,331)
Other	696
Total reconciliation of retained earnings	¥19,053

(7) Other components of equity

The TNSC Group elected the exemptions stipulated in IFRS 1 and transferred all the cumulative exchange differences on translation of foreign operations to retained earnings as of April 1, 2015, the Transition Date.

(8) Reclassification

In addition to the above, the TNSC Group made reclassifications to conform to the provisions of IFRS. Major items are as follows:

- Under Japanese GAAP, short-term time deposits with a deposit period exceeding three months were included in "Cash and deposits." They are included in "Other financial assets" in current assets under IFRS.
- For deferred tax assets and deferred tax liabilities, all current portion was reclassified to non-current.
- Under Japanese GAAP, asset retirement obligations were included in "Other" in noncurrent liabilities. They are included in "Provisions" in non-current liabilities under IFRS.

Reconciliation of equity as of the end of FYE2016 (March 31, 2016)

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
Assets						Assets
Current assets						Current assets
Cash and deposits	¥ 50,785	¥ (1,506)	¥ (63)	¥ 49,216		Cash and cash equivalents
Notes and accounts receivable—trade	146,460	(2,063)	1,454	145,850	(1)	Trade receivables
Merchandise and finished goods	30,877	(30,877)	—	—		
Work in process	11,406	(11,406)	—	—		
Raw materials and supplies	10,827	42,283	(1,251)	51,859	(2)	Inventories
Deferred tax assets	4,467	(4,467)	—	—		
	—	5,697	57	5,755		Other financial assets
Other	9,130	(4,190)	415	5,354		Other current assets
Allowance for doubtful accounts	(2,063)	2,063	—	—		
Total current assets	261,891	(4,467)	612	258,036		Total current assets
Noncurrent assets						Non-current assets
Property, plant and equipment	339,096	—	(7,190)	331,906	(3)	Property, plant and equipment
Intangible assets						
Goodwill	75,323	—	5,856	81,179	(4)	Goodwill
Other	22,827	—	—	22,827		Intangible assets
Investments and other assets						
Investment securities	60,275	(39,608)	203	20,870		Investments accounted for using the equity method
Long-term loans receivable	3,421	(3,421)	—	—		
	—	53,947	6,876	60,823	(5)	Other financial assets
Net defined benefit asset	6,499	—	—	6,499		Retirement benefit asset
Other	12,038	(11,344)	—	694		Other non-current assets
Deferred tax assets	2,302	4,467	(2,101)	4,667	(6)	Deferred tax assets
Valuation allowance for investments	(20)	20	—	—		
Allowance for doubtful accounts	(406)	406	—	—		
Total noncurrent assets	521,357	4,467	3,644	529,468		Total non-current assets
Total assets	¥783,248	¥ —	¥ 4,256	¥787,505		Total assets

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
						Liabilities and equity
Liabilities						Liabilities
Current liabilities						Current liabilities
Notes and accounts payable—trade	¥ 72,987	¥ —	¥ (243)	¥ 72,743	(3)	Trade payables
Short-term loans payable	83,207	(83,207)	—	—		
Current portion of bonds	10,000	83,207	920	94,127	(1)	Bonds and borrowings
Income taxes payable	8,199	—	(7)	8,192		Income taxes payable
	—	28,134	136	28,270		Other financial liabilities
Provision	4,459	(3,740)	—	718		Provisions
Other	35,293	(24,394)	2,000	12,899	(7)	Other current liabilities
Total current liabilities	214,145	—	2,807	216,953		Total current liabilities
Noncurrent liabilities						Non-current liabilities
Bonds	35,000	(35,000)	—	—		
Long-term loans payable	137,583	35,000	(7,408)	165,174	(3)	Bonds and borrowings
Lease obligations	5,813	(5,813)	—	—		
	—	6,787	343	7,130		Other financial liabilities
Provision for executive officers' retirement benefits	510	(510)	—	—		
Net defined benefit liability	3,867	510	136	4,515		Retirement benefit liability
Provision for directors' and corporate auditors' retirement benefits	801	(801)	—	—		
	—	594	—	594		Provisions
Other	12,621	(766)	558	12,413	(7)	Other non-current liabilities
Deferred tax liabilities	34,929	—	927	35,857	(5)	Deferred tax liabilities
Total noncurrent liabilities	231,128	—	(5,443)	225,685		Total non-current liabilities
Total liabilities	445,274	—	(2,635)	442,639		Total liabilities
Net assets						Equity
Common stock	37,344	—	—	37,344		Share capital
Capital surplus	55,537	—	7	55,545		Capital surplus
Treasury stock	(244)	—	—	(244)		Treasury shares
Retained earnings	210,911	—	21,966	232,877	(8)	Retained earnings
Accumulated other comprehensive income	9,916	—	(14,982)	(5,066)	(9)	Other components of equity
	313,465	—	6,991	320,457		Total equity attributable to owners of parent
Non-controlling interests	24,508	—	(99)	24,409		Non-controlling interests
Total net assets	337,974	—	6,892	344,866		Total equity
Total liabilities and net assets	¥783,248	¥ —	¥ 4,256	¥787,505		Total liabilities and equity

For Matheson Tri-Gas, Inc., a consolidated subsidiary, the closing date under Japanese GAAP was December 31. At the end of the previous fiscal year (March 31, 2016), the closing date was unified with that of the Group on March 31, which is the consolidated closing date, as with IFRS. Accordingly, the "Effect of change in the closing date" is not presented.

Notes to reconciliation of equity

(1) Trade receivables, bonds and borrowings (current liabilities)

When transferring trade receivables in transactions involving liquidation of receivables, the TNSC Group derecognized all receivables as financial assets under Japanese GAAP. This treatment does not meet the derecognition criteria of financial assets for certain trade receivables under IFRS, and the TNSC Group recorded both trade receivables and borrowings. Accordingly, there were increases in trade receivables, bonds and borrowings.

(2) Inventories

The TNSC Group transferred replacement parts and maintenance goods that were included in supplies in "Inventories" under Japanese GAAP, to property, plant and equipment under IFRS. Accordingly, there was a decrease in inventories.

(3) Property, plant and equipment, trade payables, and bonds and borrowings (non-current liabilities)

The TNSC Group reviewed the scope of consolidation for adopting IFRS. As Sakai Gas Center, Inc., which was a consolidated subsidiary under Japanese GAAP, became a joint operation under IFRS, there were decreases in property, plant and equipment, trade payables, and bonds and borrowings.

(4) Goodwill

The TNSC Group amortized goodwill over a certain period under Japanese GAAP, whereas goodwill is not amortized under IFRS. Accordingly, there was an increase in goodwill.

(5) Other financial assets (non-current assets) and deferred tax liabilities

The TNSC Group measured unlisted stocks mainly using the cost method based on the moving-average method under Japanese GAAP. Under IFRS, unlisted stocks are measured at fair value. Accordingly, there was an increase in other financial assets and deferred tax liabilities.

(6) Deferred tax assets

The TNSC Group offset deferred tax assets and liabilities in current and noncurrent categories, respectively, under Japanese GAAP. Under IFRS, all deferred tax assets and liabilities are classified under the non-current category. Accordingly, there was an increase in offset amount and a decrease in deferred tax assets.

(7) Other current liabilities and other non-current liabilities

The TNSC Group recognized employees' paid absence, etc., which was not recognized under Japanese GAAP, as liabilities under IFRS. Accordingly, there was an increase in other current liabilities and other non-current liabilities.

(8) Retained earnings

The effect on retained earnings due to reconciliation resulting from the adoption of IFRS is as follows. The amounts below are the amounts after reconciliation of related tax effects and non-controlling interests.

(Millions of Yen)

	End of FYE2016 (March 31, 2016)
Reconciliation of cumulative exchange differences on translation of foreign operations (see (9))	¥19,687
Reconciliation of amortization of goodwill (see (4))	4,920
Recognition of employees' paid absence, etc. (see (7))	(1,517)
Other	(1,124)
Total reconciliation of retained earnings	¥21,966

(9) Other components of equity

The TNSC Group elected the exemptions stipulated in IFRS 1 and transferred all the cumulative exchange differences on translation of foreign operations to retained earnings as of April 1, 2015, the Transition Date.

(10) Reclassification

In addition to the above, the TNSC Group made reclassifications to conform to the provisions of IFRS. Major items are as follows:

- Under Japanese GAAP, short-term time deposits with a deposit period exceeding three months were included in "Cash and deposits." They are included in "Other financial assets" in current assets under IFRS.
- For deferred tax assets and deferred tax liabilities, all current portion was reclassified to non-current.
- Under Japanese GAAP, asset retirement obligations were included in "Other" in noncurrent liabilities. They are included in "Provisions" in non-current liabilities under IFRS.

Reconciliation of profit or loss and comprehensive income for FYE2016 (April 1, 2015 to March 31, 2016)

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Effect of change in the closing date	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
Net sales	¥ 641,516	¥ —	¥(42,812)	¥(4,281)	¥ 594,421	(1)	Revenue
Cost of sales	(416,102)	—	25,296	4,183	(386,621)	(1)	Cost of sales
Gross profit	225,413	—	(17,516)	(97)	207,800		Gross profit
Selling, general and administrative expenses	(182,051)	—	14,937	5,944	(161,169)	(2)	Selling, general and administrative expenses
	—	4,452	(2)	(1)	4,448		Other operating income
	—	(4,352)	(232)	(95)	(4,680)		Other operating expenses
	—	2,626	4	(104)	2,526		Share of profit of investments accounted for using the equity method
Operating income	43,362	2,726	(2,809)	5,646	48,925		Operating profit
Non-operating income	6,148	(6,148)	—	—	—		
Non-operating expenses	(6,340)	6,340	—	—	—		
Extraordinary income	2,673	(2,673)	—	—	—		
Extraordinary losses	(2,226)	2,226	—	—	—		
	—	1,742	(8)	(417)	1,316		Finance income
	—	(4,214)	465	83	(3,665)		Finance costs
Income before income taxes	43,616	—	(2,352)	5,311	46,575		Profit before income taxes
Income taxes—current Income taxes—deferred	(16,219)	—	1,078	(927)	(16,069)	(2)	Income taxes
Net income	¥ 27,396	¥ —	¥ (1,274)	¥ 4,384	¥ 30,506		Profit

(Millions of Yen)

Accounts presented under Japanese GAAP	Japanese GAAP	Reclassification	Effect of change in the closing date	Differences in recognition and measurement	IFRS	Notes	Accounts presented under IFRS
Net income	¥ 27,396	¥—	¥(1,274)	¥4,384	¥30,506		Profit
Other comprehensive income							Other comprehensive income
Valuation difference on available-for-sale securities	(7,328)	—	—	270	(7,058)		Financial assets measured at fair value through other comprehensive income
Remeasurements of defined benefit plans	(1,403)	—	—	(402)	(1,806)		Remeasurements of defined benefit plans
Foreign currency translation adjustments	(15,453)	—	441	201	(14,810)		Exchange differences on translation of foreign operations
Deferred gains or losses on hedges	399	—	—	(66)	333		Effective portion of net change in fair value of cash flow hedges
Share of other comprehensive income (loss) of associates accounted for using the equity method	(586)	—	—	(494)	(1,080)		Share of other comprehensive income of investments accounted for using the equity method
Comprehensive income	¥ 3,024	¥—	¥ (832)	¥3,892	¥ 6,083		Comprehensive income

Notes to reconciliation of profit or loss and comprehensive income

(1) Revenue and cost of sales

The TNSC Group reviewed the scope of consolidation for adopting IFRS. As Sakai Gas Center, Inc., which was a consolidated subsidiary under Japanese GAAP, became a joint operation under IFRS, there were decreases in revenue and cost of sales, accordingly.

(2) Selling, general and administrative expenses and income taxes

The TNSC Group amortized goodwill over a certain period under Japanese GAAP, whereas goodwill is not amortized under IFRS. Accordingly, there was a decrease in selling, general and administrative expenses and an increase in income taxes.

Reconciliation of cash flows for FYE2016 (April 1, 2015 to March 31, 2016)

Major differences between the consolidated statements of cash flows under IFRS and the consolidated statements of cash flows under Japanese GAAP were related to the change in the closing date of Matheson Tri-Gas, Inc., a consolidated subsidiary.

(2) Other

Quarterly information, for FYE2017 (April 1, 2016 to March 31, 2017)

(Cumulative period)	First quarter of FYE2017	First half of FYE2017	First three quarters of FYE2017	FYE2017
Revenue (Millions of Yen)	133,436	268,782	415,881	581,586
Profit before income taxes (Millions of Yen)	11,703	24,534	39,027	50,176
Profit attributable to owners of parent (Millions of Yen)	6,481	16,469	26,034	34,740
Basic earnings per share (Yen)	14.98	38.06	60.16	80.28

(Quarterly period)	First quarter	Second quarter	Third quarter	Fourth quarter
Basic earnings per share (Yen)	14.98	23.08	22.10	20.12

Report of Independent Auditors

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Building a better working world

Independent Auditor's Report

The Board of Directors
TAIYO NIPPON SANSO CORPORATION

We have audited the accompanying consolidated financial statements of TAIYO NIPPON SANSO CORPORATION and its consolidated subsidiaries, which comprise the consolidated balance sheet as at March 31, 2017, and the consolidated statements of income, comprehensive income, changes in net assets, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of TAIYO NIPPON SANSO CORPORATION and its consolidated subsidiaries as at March 31, 2017, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

Ernst & Young ShinNihon LLC

June 20, 2017

Investor Information

(At March 31, 2017)

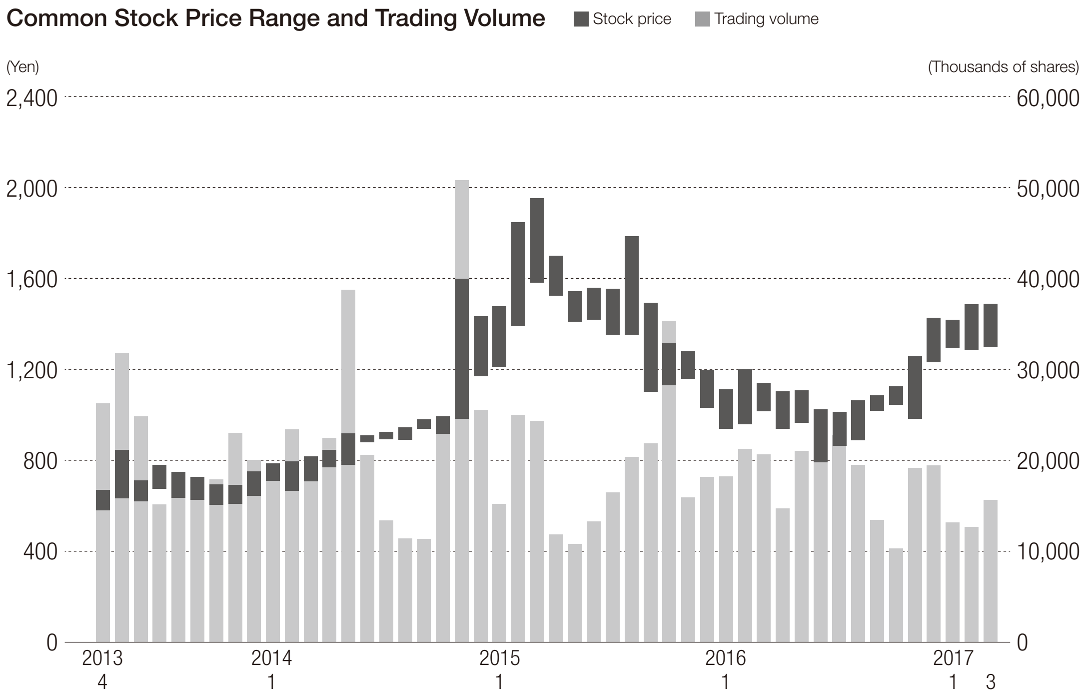
Number of shares authorized:	1,600,000,000
Number of shares issued:	433,092,837
Number of shareholders:	16,100

Major Shareholders:

	Thousands of shares owned	Percentage of total
Mitsubishi Chemical Holdings Corporation	218,996	50.59
Taiyo Nippon Sanso Client Shareholding Society	19,389	4.48
Mizuho Bank, Ltd.	16,365	3.78
JFE Steel Corporation	12,627	2.92
Meiji Yasuda Life Insurance Company	10,007	2.31
Japan Trustee Services Bank, Ltd. (Trust Account)	9,249	2.14
The Master Trust Bank of Japan, Ltd. (Trust Account)	8,305	1.92
The Norinchukin Bank	7,000	1.62
Japan Trustee Services Bank, Ltd. (Trust Account 9)	4,626	1.07
Employee Shareholding Association	3,649	0.84

Notes: 1. The Company holds 175,000 treasury shares.
2. Percentage of total is calculated excluding treasury shares.

Common Stock Price Range and Trading Volume

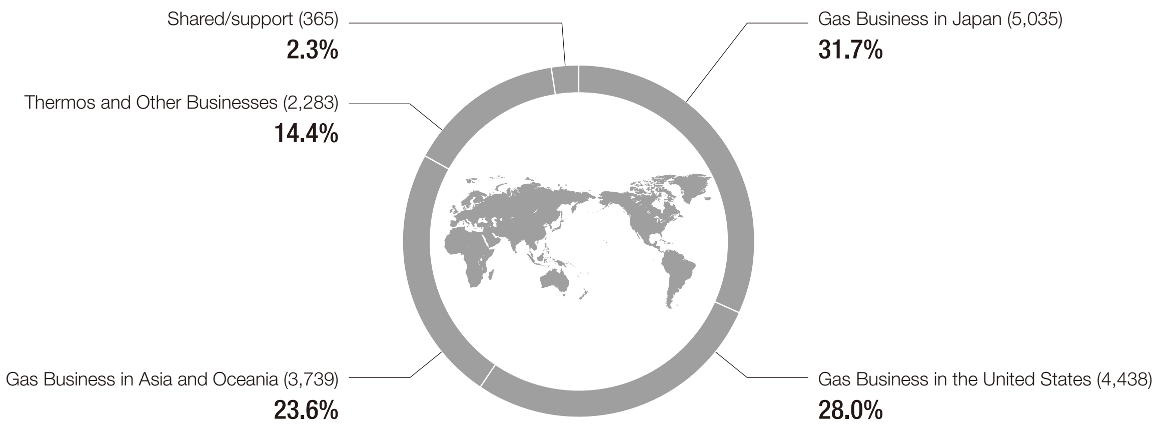


Corporate Data

(At March 31, 2017)

Company name:	Taiyo Nippon Sanso Corporation (Stock code: 4091)
Date founded:	October 30, 1910
Date established:	July 19, 1918
Paid-in capital:	¥37,344 million
Head office:	Toyo Building, 1-3-26 Koyama, Shinagawa-ku, Tokyo 142-8558, Japan
	Tel: +81-3-5788-8000
Number of employees:	15,860
Independent public accountants:	Ernst & Young ShinNihon LLC
Stock exchange listing:	Tokyo
Transfer agent:	Mizuho Trust & Banking Co., Ltd.
	2-8-4 Izumi, Suginami-ku, Tokyo 168-8507, Japan
	Tel (toll free in Japan): 0120-288-324
Contact:	Public Relations/IR Department, Taiyo Nippon Sanso Corporation

Number of Employees and Percentage of Total Labor Force by Reportable Segment



Disclaimer Regarding Forward-Looking Statements

This integrated report contains forward-looking statements. These statements reflect management's assumptions and beliefs based on information available as of the date of this document's publication and inherently involve risks and uncertainties. Actual results may differ substantially from these statements. Investors should refrain from relying solely on these forward-looking statements in making investment decisions. The Company undertakes no obligation to update any forward-looking statements as a result of new information or other developments.

THE KAITEKI COMPANY
Mitsubishi Chemical Holdings Group

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The Gas Professionals

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Printed in Japan