AICHI STEEL

AICHI STEEL CORPORATION

1, Wanowari, Arao-machi, Tokai-shi, Aichi-ken 476-8666, JAPAN
https://www.aichi-steel.co.jp/ENGLISH/

AICHI STEEL

Corporate Profile

Innovate Materials.
Create Tomorrow.

A Great Society Comes from Great Materials.

From our role as a materials manufacturer, Aichi Steel, a specialty steel manufacturer belonging to the Toyota Group, has achieved development to this day with the enormous mission of supporting Japan's automobile and many other industries from their roots. The development of specialty steel is nothing less than the development of manufacturing itself; it is a material of unlimited potential. Aichi Steel supplies products around the whole world with prime quality and delivery. We believe that it is their safety and reliability that support the world's development. Cherishing that desire, our aim is to be a world-leading materials manufacturer that people hope will continue its presence in their region forever.

Takahiro Fujioka Chairman

Naohide Goto President

Great Cars Are Made with Great Steel.

Aichi Steel, a member of the Toyota Group, started from the determination to make steel for domestically produced popular car production from scratch. The origin lay in the words of the founder Kiichiro Toyoda, who said that "Great cars are made with great steel." This high aspiration subsequently evolved into the mission of "A great society comes from great materials." This DNA of challenge and creativity has been steadily carried on by Aichi Steel to this very day.

Kiichiro Toyoda Founder

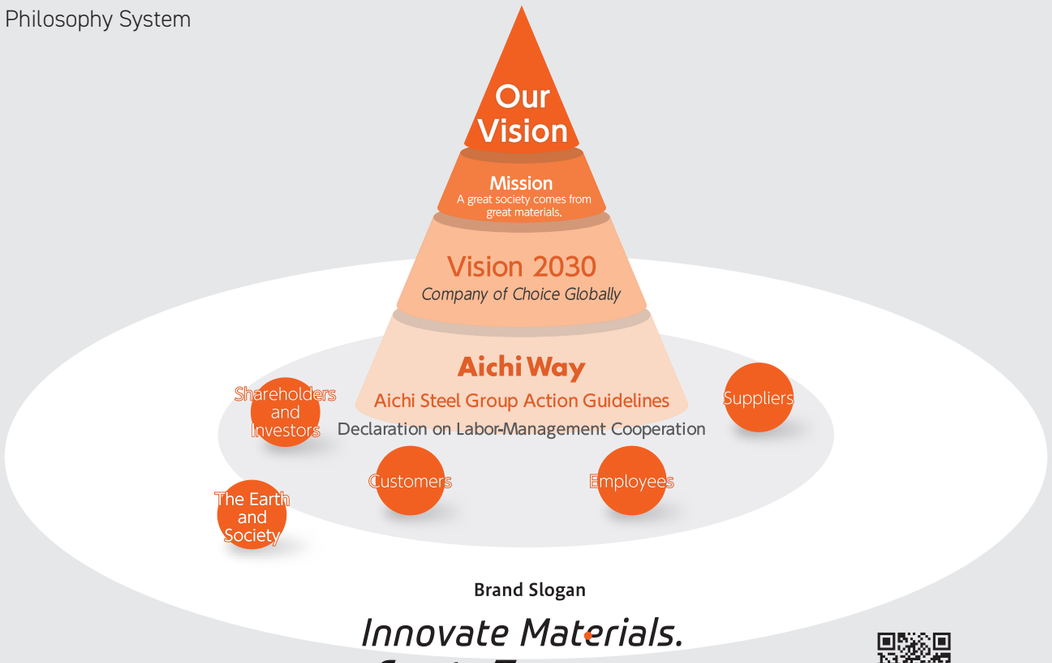
A pioneer in the development of a domestically produced car in Japan and founded the company that is now Toyota Motor Corporation.

Our Vision

We will strive to make positive contributions to society by providing appealing products from global perspectives and based on our vibrant and trustworthy corporate qualities.

1. **We will strive to make a positive contribution to society with safe, appealing and useful technology and products.**
2. **We will nurture a corporate culture based on trust, reliability and the pursuit of excellence.**
3. **We will be a good corporate citizen, ever mindful of our environment responsibilities.**

Philosophy System



Brand Slogan

Innovate Materials. Create Tomorrow.

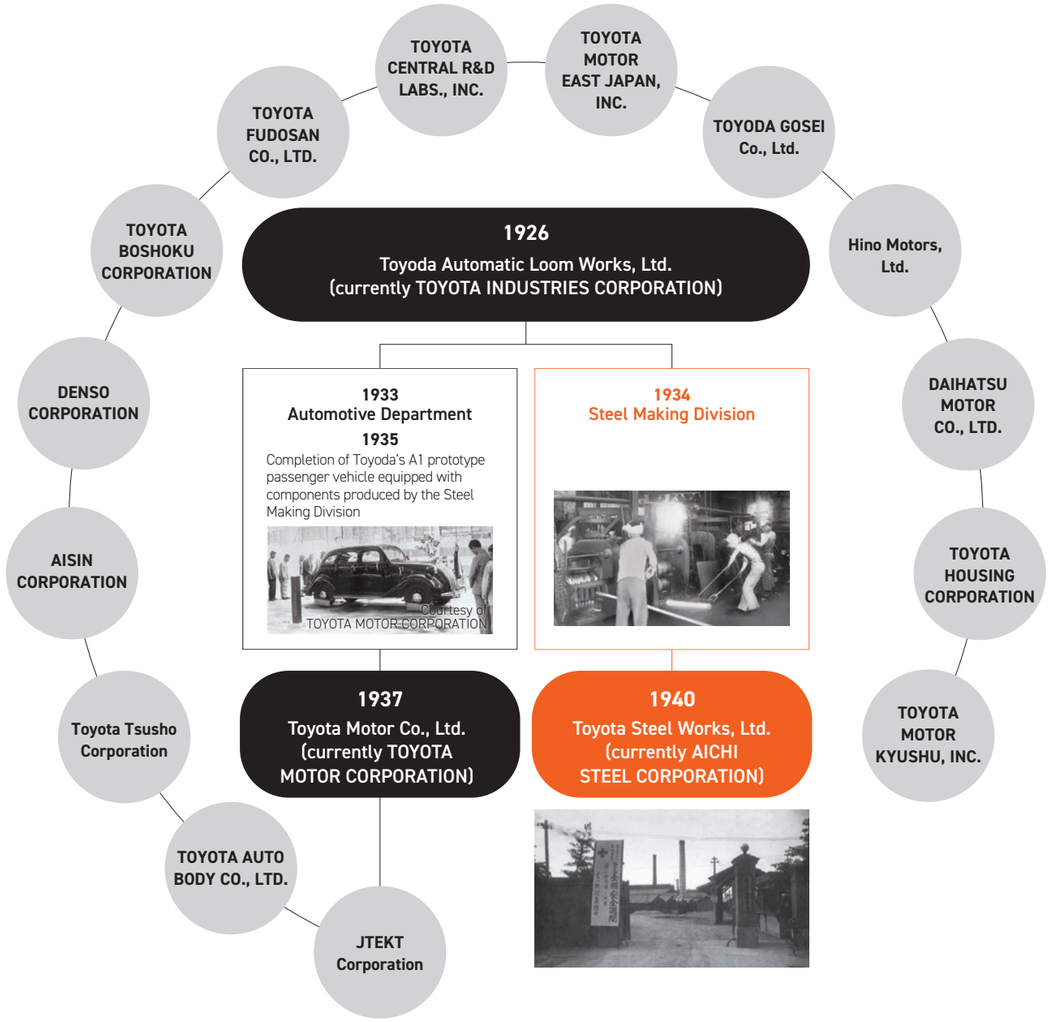
In March 2020, we created our brand slogan. This is our declaration to society that we intend to become **a company that expands the possibilities of manufacturing by adding value to materials, as the starting point, to evolve them into products and systems.**
The orange dots in the logo symbolize our commitment to using materials to support the future.

Brand site

https://www.aichi-steel.co.jp/brand/

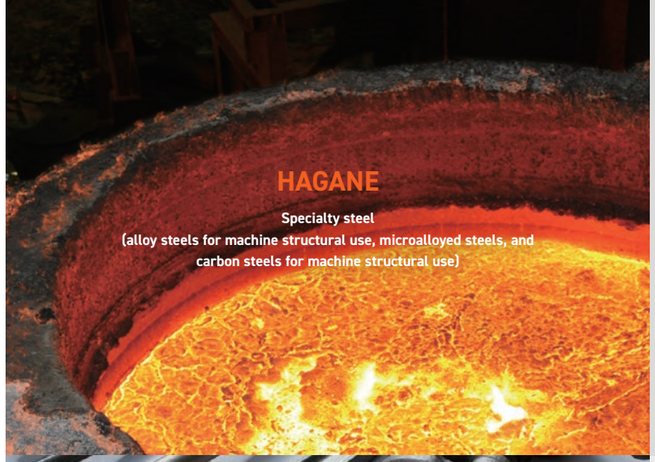
Roots in the Toyota Group

Aichi Steel is an independent spinoff from the Steel Making Division of Toyoda Automatic Loom Works, Ltd. Ever since our founding, we have supported the development of automobiles as a materials manufacturer. Going forward, we will continue to contribute, as a member of the Toyota Group, to the building of a prosperous society in all kinds of industrial fields.



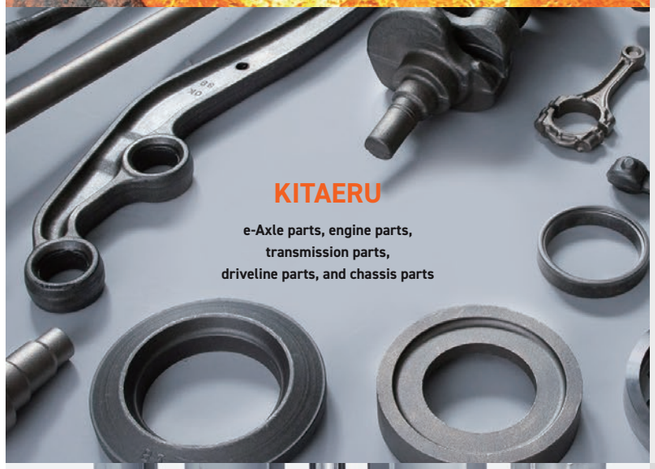
Corporate Information

Established	March 8, 1940
Capital	25,016 million yen (As of March 31, 2023)
Head Office	1, Wanowari, Arao-machi, Tokai-shi, Aichi-ken 476-8666, JAPAN
Offices and sales offices	Tokyo, Nagoya, Osaka, and Fukuoka
Overseas locations	Philippines, Thailand, China, Indonesia, Korea, USA, and Germany
Plants	Chita, Kariya, Forging, Gifu, Seki, Higashiura, and Electronic Components Plants
Number of Consolidated Subsidiaries	17 (8 in Japan and 9 overseas)



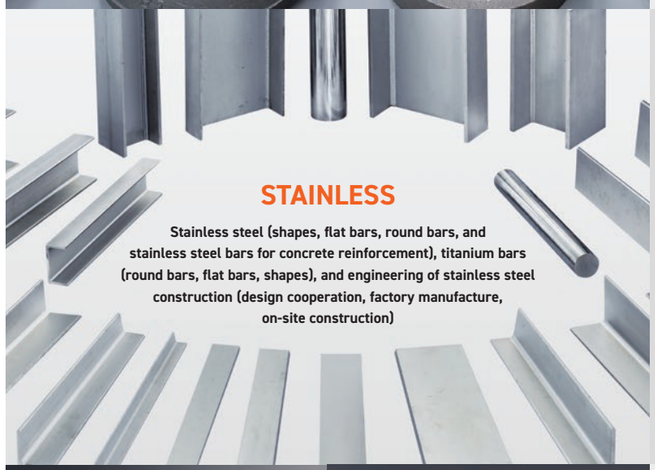
HAGANE Company

The Hagane Company offers a wide range of highly-appealing specialty steel products by leveraging integrated forging with steel making processes to perform in-house all processes from material development to production. Its strength is high quality that contributes to automobile safety.



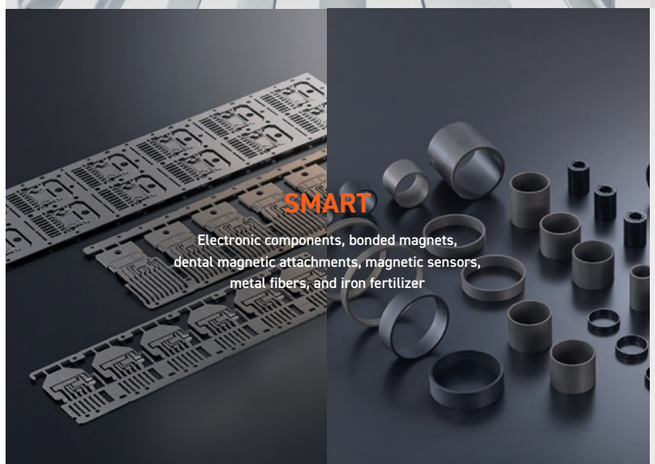
KITAERU Company

In addition to integrated forging with steel making processes, the Kitaeru Company develops integrated, highly-efficient manufacturing processes that include machining to supply high-quality products to the market, contributing to a diverse mobility society in the low-carbon era.



STAINLESS Company

As the leading manufactuer of stainless steel shapes in Japan, the Stainless Company meets the various needs of the customers through large variety and small quantity production of over 4,000 products of different shapes and types, and also handles engineering of stainless steel construction.



SMART Company

The Smart Company develops, manufactures, and sells products in the five businesses of electronic components, magnets, dentistry, sensors and metal fibers, and iron fertilizer, providing solutions to customers in a wide range of fields from mobility to infrastructure, health care, and agriculture.

Manufacturing that Contributes to the Global Environment

Aichi Steel is a resource-recycling company that uses steel scrap generated during dismantling of automobile bodies and infrastructure and other processes as a raw material to perform manufacturing.
In addition, we have achieved the integration of forging with steel making processes, enabling us to perform unified development and production of steel materials to forged products at the same site.
Taking advantage of these strengths, we create environmentally-friendly products that are stronger, lighter, and more functional.

Resource-Recycling Manufacturing

Automobiles

Our high-quality products, made with high technology, support the advancement of motorization and provide safety and security.

Steel Scrap

Steel scrap is the main raw material used in the specialty steels manufactured by Aichi Steel. There are various types of steel scrap including scrap generated during automobile body processing and that from end-of-life vehicles.

Steel Making

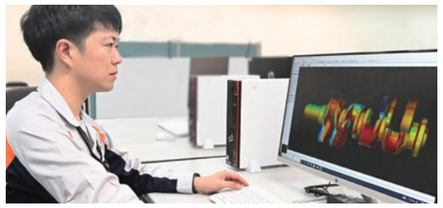
We melt steel scrap in an electric furnace, and after adding ferroalloys to adjust the chemical composition, we then manufacture large pieces known as steel blooms in continuous casting machines.

Rolling

We heat steel blooms in a furnace and use a rolling mill to roll out products to a particular diameter and length according to the customer's specifications.

Material Design Technology

We perform chemical composition design of steel materials with exceptional characteristics including higher strength, lighter weight, and enhanced functionality to meet the needs of each customer.



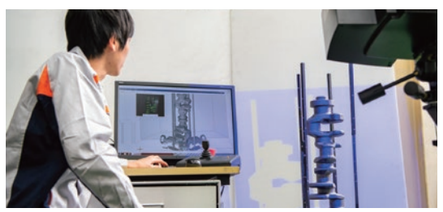
Part Processing Technology

We provide optimal process and design technology solutions that contribute to customer part designs and solutions.

Technologies That Support the Integration of Forging with Steel Making Processes

Steel Processing Technology

By optimally combining new technologies and expertise relating to existing technologies, we are able to reduce CO_2 emissions and create steel materials with higher quality at lower cost.

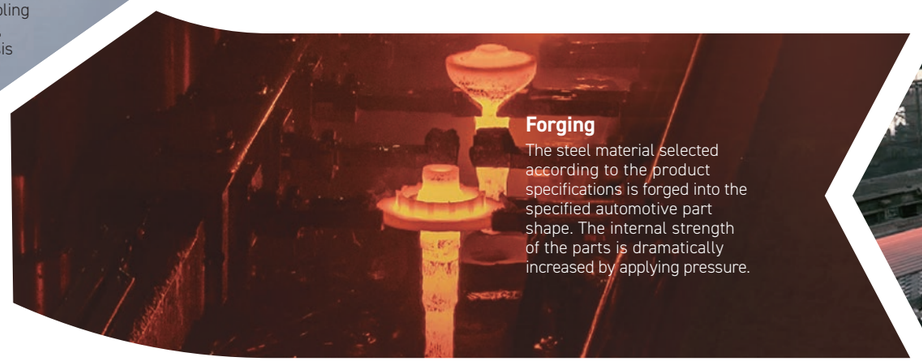


Forging Process Technology

Technological development in the integration of forging with steel making processes achieves low environmental impact and low cost through the pursuit of process omission and near net shape manufacturing.

Forged Products

We achieve the high quality, strength, and durability demanded for automotive parts by assembling our forged products into e-Axle, engine, and driveline and chassis components.



Forging

The steel material selected according to the product specifications is forged into the specified automotive part shape. The internal strength of the parts is dramatically increased by applying pressure.

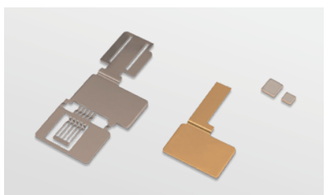
Mobility

Creating the Future of Sustainable Mobility

What is required of automobiles will change with the times.
Aichi Steel will support the mobility society of the future by advancing the technologies and corporate culture that it has developed since its founding and providing high-quality materials and parts.

The technological power of the integration of forging with steel making processes

Utilizing the strengths of our integrated forging process design technology, in areas ranging from steel products to forging and machining, we will respond to the changing and diversifying needs of our customers as mobility advances.



Electronic components that support power semiconductors

Our high-quality heat dissipation components and lead frames created through proprietary high-precision pressing processes and extremely clean plating technology are used in many electric vehicle inverters. We are contributing to the widespread adoption of safe and secure electric vehicles.

Global Magnetic Positioning System (GMPS) that accurately measures position of autonomous vehicles

We are contributing to safe autonomous driving with technology that enables highly accurate estimation of vehicle position in all environments including tunnels and underground, where GPS cannot be accessed, and in snow, fog, and backlighting, which make the use of optical devices difficult.

Contributing to the creation of a hydrogen society with stainless steels for high-pressure hydrogen

We developed and launched stainless steel products for high-pressure hydrogen ahead of other companies, contributing to the spread of fuel-cell vehicles, fuel-cell trucks and buses, fuel-cell ships, and hydrogen-refueling stations.

Irabu Ohashi Bridge
A sea-crossing bridge in which Aichi Steel Corporation's stainless steel reinforcing bars are utilized

Infrastructure

Protecting People's Lives Through Safe and Secure Social Infrastructure

Aichi Steel Corporation has been and in the future will continue contributing to the establishment of sustainable social infrastructure, which supports our daily lives, with excellent stainless steel products and remarkable engineering capabilities.

The inside of an LNG tank
Photo credit: TOHO Gas Co., Ltd.

Stainless steels maintain high ductility under cryogenic temperatures

Unlike commonly-used steels, stainless steels are highly ductile at extremely low temperatures. Therefore, stainless steels are and in the future will continue making solid contributions to building energy infrastructure related to liquid natural gas (LNG), liquid hydrogen, and so on.

A dam intake tower

Stainless steels enable super long service life and maintenance-free operation

Highly corrosion-resistant stainless steels are and in the future will continue making further contributions to developing and updating water infrastructure including flood control, water use, water storage, water purification, water supply, waste water treatment and desalination.

Agriculture

Using the Strength of Iron to Contribute to Agriculture in Japan and Around the World

Preserving the global environment is a crucial issue for the development of a sustainable society, and the role that companies should play in this is being called into question. We use the strength of Iron to contribute to agriculture in Japan and overseas.

Iron fertilizers revitalize agricultural products in Japan

Even when plants are weakened due to low- or high-temperature stress or other factors, easily-absorbed ferrous ions make it possible to grow vigorous plants.

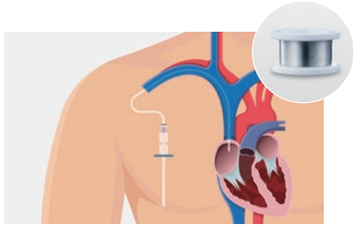
Next-generation fertilizer (PDMA) enables increased food production in poor soil around the world

To combat iron deficiencies in agricultural products caused by alkaline poor soils around the world, we are developing environmentally-friendly next-generation iron fertilizers, contributing to increased food production.

Healthcare

Healthy Living with Advanced Technologies

We use our proprietary technologies to deliver health and peace of mind to people around the world so that they can enjoy healthy and comfortable living throughout their lives.



Expanding the possibilities of cutting-edge healthcare with amorphous wire

By equipping medical devices intended for insertion into the body with highly-functional amorphous wires, ultra-fine metal fibers that are thinner than a human hair, more accurate positioning becomes possible, expanding the possibilities of healthcare.

High-sensitivity magnetic sensors can detect the weak magnetic pulse of the heart

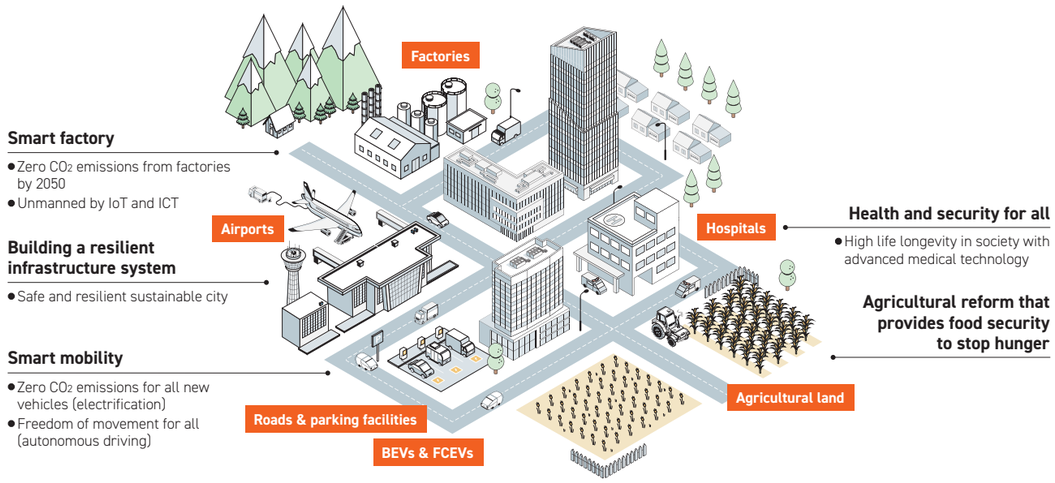
Extremely weak magnetic information generated by the heart and other organs can be read by high-sensitivity sensors without the need to use large equipment, contributing to the development of increasingly miniaturized medical devices.

Easy-to-use dental magnetic attachments

Compact magnets with strong attractive force make it possible to easily insert and remove dentures, facilitating use by the elderly and those with limited hand mobility, thereby contributing to the recovery of oral functions.

Technological Development

Drive innovation through manufacturing that creates a sustainable and smart society



Development policy

(1) Strong promotion of next-generation mobility development and development to improve people's live
(2) Innovation of fundamental technology and development management
(3) Building collaboration with research institutes and external organizations - promoting open innovations

Information on the most recent research can be found here
https://www.aichi-steel.co.jp/ENGLISH/products_development/development/

Human Resource Development

Refine Basic Skills, Hone Capabilities, and Strive to Become a Leading Group of Professionals Among Colleagues

Aichi Steel's mission is to accurately identify social needs, even under highly uncertain conditions, and continuously provide new value as a materials manufacturer, and human capital is the source of this. We prepare a base where people can develop naturally and strategically use on-the-job and off-the-job training to promote development.

Enhancing Carbon Neutrality with Technology

With the rapid development of society, the preservation of the global environment is an issue for all humankind. We will continue to tackle the challenges of creating a decarbonized society based on the resource recycling-type manufacturing that we have cultivated since our establishment.

Forging technology that cuts reduces CO_2 emissions by 51%

Technological developments that combine forging and material technology enable a shift from hot forging to warm forging, near net shape, and elimination of heat treatment, thereby reducing forging CO_2 by 51%.

Reusing heat from iron melting

We introduced a system that recovers exhaust heat from electric furnaces in the form of steam energy through exhaust heat recovery boiler and effectively uses it for vacuum degassing equipment and other equipment, contributing to CO_2 reduction.

Toward the practical application of hydrogen combustion

In 2023, a burner that combines hydrogen and city gas has been installed in a heat treatment furnace at Kariya Plant. In the future, hydrogen combustion for heat treatment of stainless steel will be put into practical use after the development of hydrogen combustion technology and demonstration tests.

Bottom right photo credit: TOHO Gas Co., Ltd. and NIPPON FURNACE CO., LTD.

Image of society after achieving carbon neutrality in 2050