

# Implementing Group Vision 2030

Since November 2020, the Kawasaki Group has been implementing Group Vision 2030, a vision for Group's future. In keeping with our tagline, "Changing Forward," this vision is forward-looking, laying out what we want the Kawasaki Group to look like in 2030.

For more details, please visit our website.



Group Vision 2030-Business Direction Briefing  
(November 2, 2020)  
[https://global.kawasaki.com/en/corp/ir/library/other\\_presen\\_201102.html](https://global.kawasaki.com/en/corp/ir/library/other_presen_201102.html)



Group Vision 2030  
<https://global.kawasaki.com/en/corp/profile/gv2030.html>



Group Vision 2030-Progress Report Meeting  
(June 1, 2021)  
[https://global.kawasaki.com/en/corp/ir/library/other\\_presen\\_210601.html](https://global.kawasaki.com/en/corp/ir/library/other_presen_210601.html)



Group Vision 2030

## Trustworthy Solutions for the Future

The Kawasaki Group will make available in a timely manner innovative solutions that accommodate an ever-changing society in order to create a hopeful future. At the same time, the Group will surpass organizational boundaries and take on challenges to expand the horizons of its potential for further growth.



**Pioneering the technology frontier with our challenger DNA**

Since our founding, we have always been **challengers**. Throughout a history studded with national and global firsts in many sectors, including shipbuilding, rolling stock, and aerospace, we have leveraged our cutting-edge technologies and fostered a DNA characterized by a spirit of pioneering the frontier that draws on our unique perspective. We will continue to respond to the **frontier of this new era's social challenges**, based on that **unique perspective**, in order to create a hopeful future.

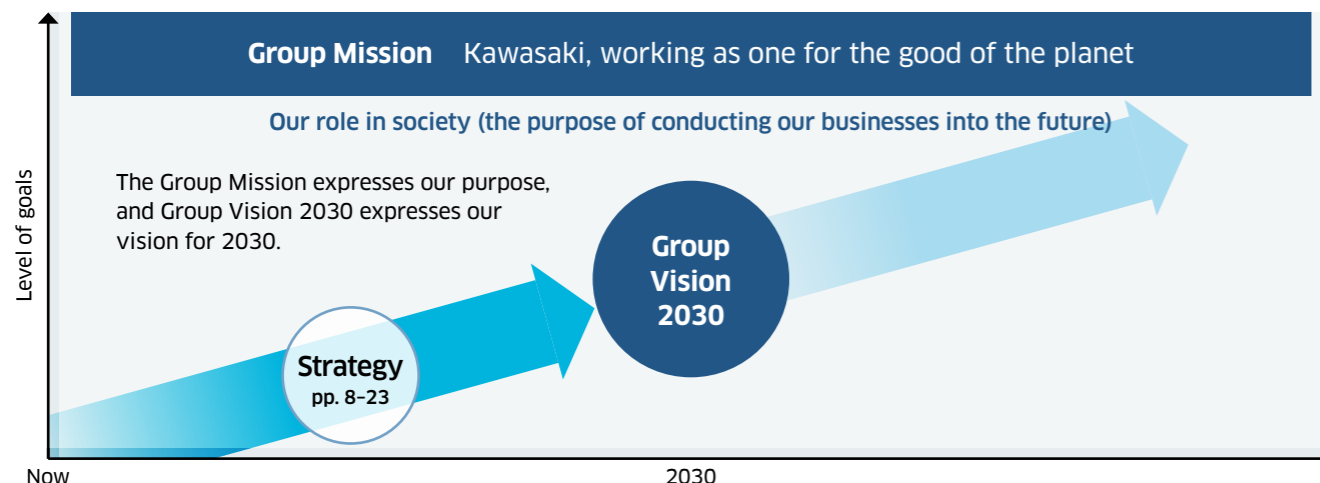
**Providing innovative solutions to the problems facing the world**

The world is now facing an array of problems, including environmental deterioration, energy challenges, expanding populations, graying societies, natural disasters, and pandemics. We are committed to providing new and meaningful value to a wide range of customers and society by **concentrating the trusted technologies** and knowledge that we have built in order to provide innovative solutions and to **speedily accommodate** social change.

**Becoming a creative challenger that continues to grow by breaking barriers**

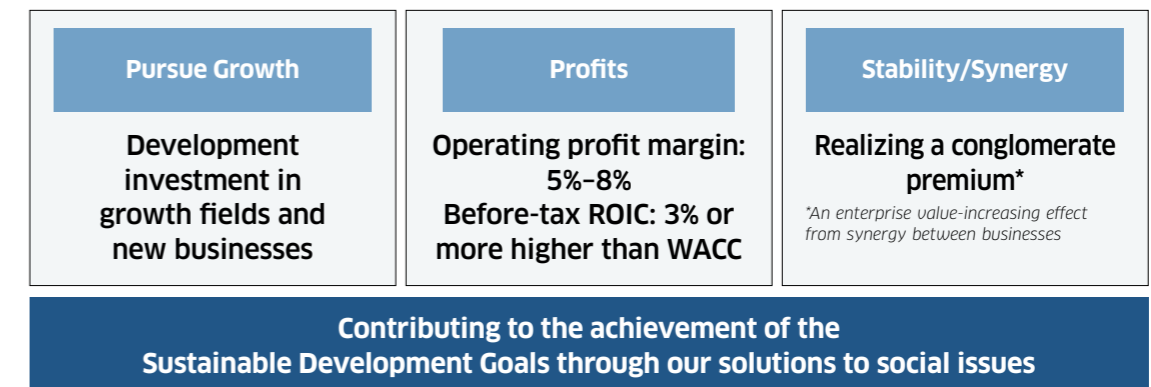
To provide innovative solutions focused on social challenges, we will continue to be an open-minded, **free-thinking**, and creative team that **goes beyond the boundaries** of internal and external organizations and of product/service categories, leveraging our **rich diversity**. Moreover, we will keep growing as an organization and as individuals by expanding our potential, boldly **taking on challenges** in unfamiliar domains and learning from the experience.

### The Group Mission and Group Vision 2030



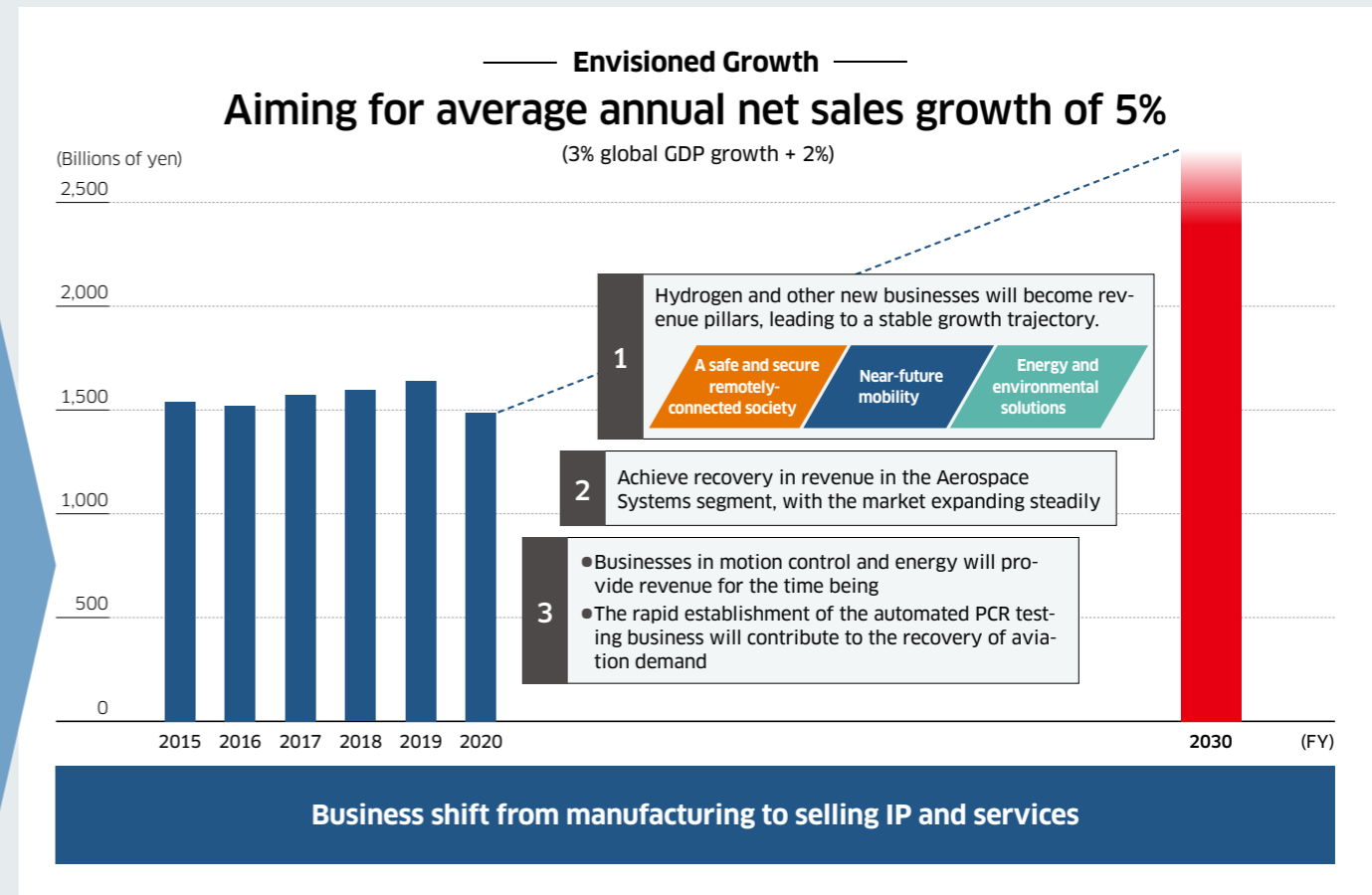
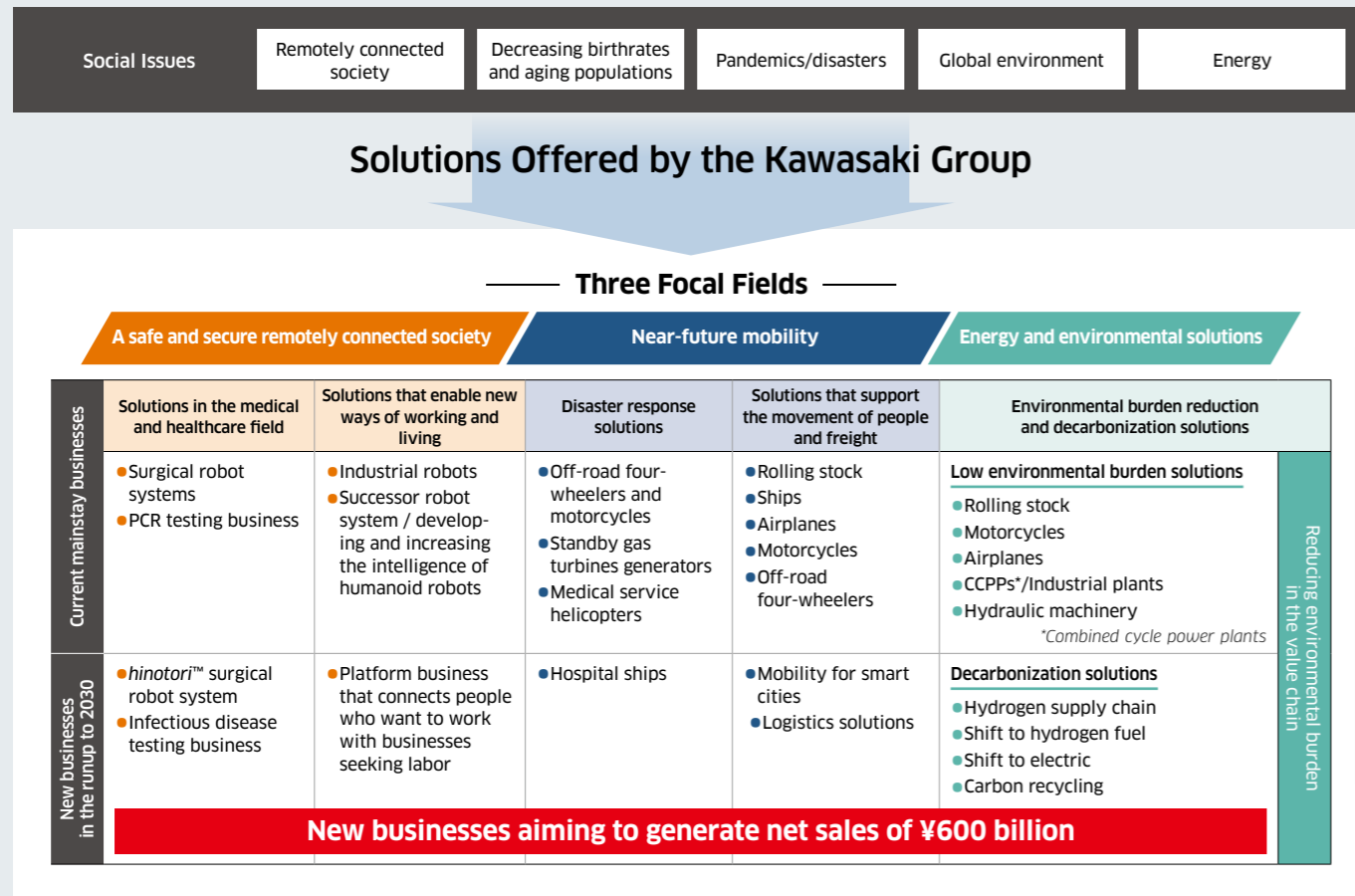
### Management Policy

We will pursue ongoing growth by investing in growth businesses while transforming to meet evolving needs.



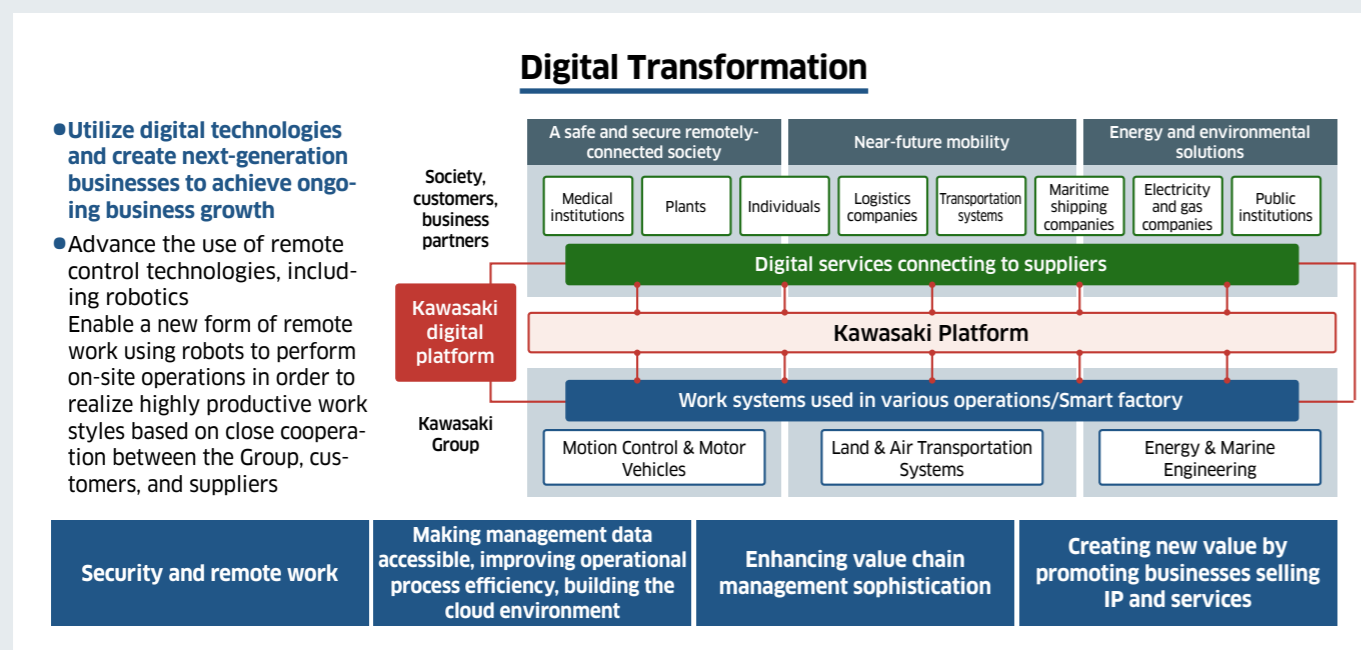
# Growth Scenario Leading to 2030

Looking to ahead to the social issues of the coming decade, we have established a growth scenario around three focal fields. By reinforcing Kawasaki's current mainstay businesses and realizing inter-business synergy, we are developing new businesses that will grow into future pillars.



## Key Mechanisms Supporting the Growth Scenario

To help achieve the growth scenario of Group Vision 2030, we have adopted a new personnel system that allows employees to proactively contribute regardless of age under the concept of taking on new challenges and commitment. Furthermore, by advancing digital transformation (DX), we seek to create new businesses, enhance efficiency and value added in operational processes, and speed up decision making.



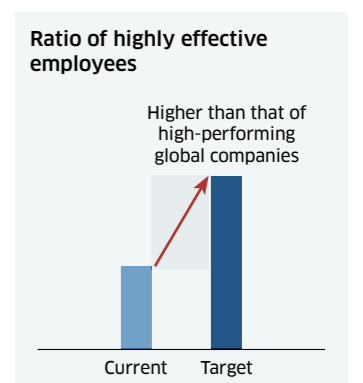
### Human Resources and Organizational Systems

- Shifted to a personnel system that gives greater weight to ability, role, and results and enables the more flexible utilization of human resources beyond the bounds of the internal companies
- Established the Presidential Project Management Division

**Overview of the Personnel System Overhaul and Its Progress**

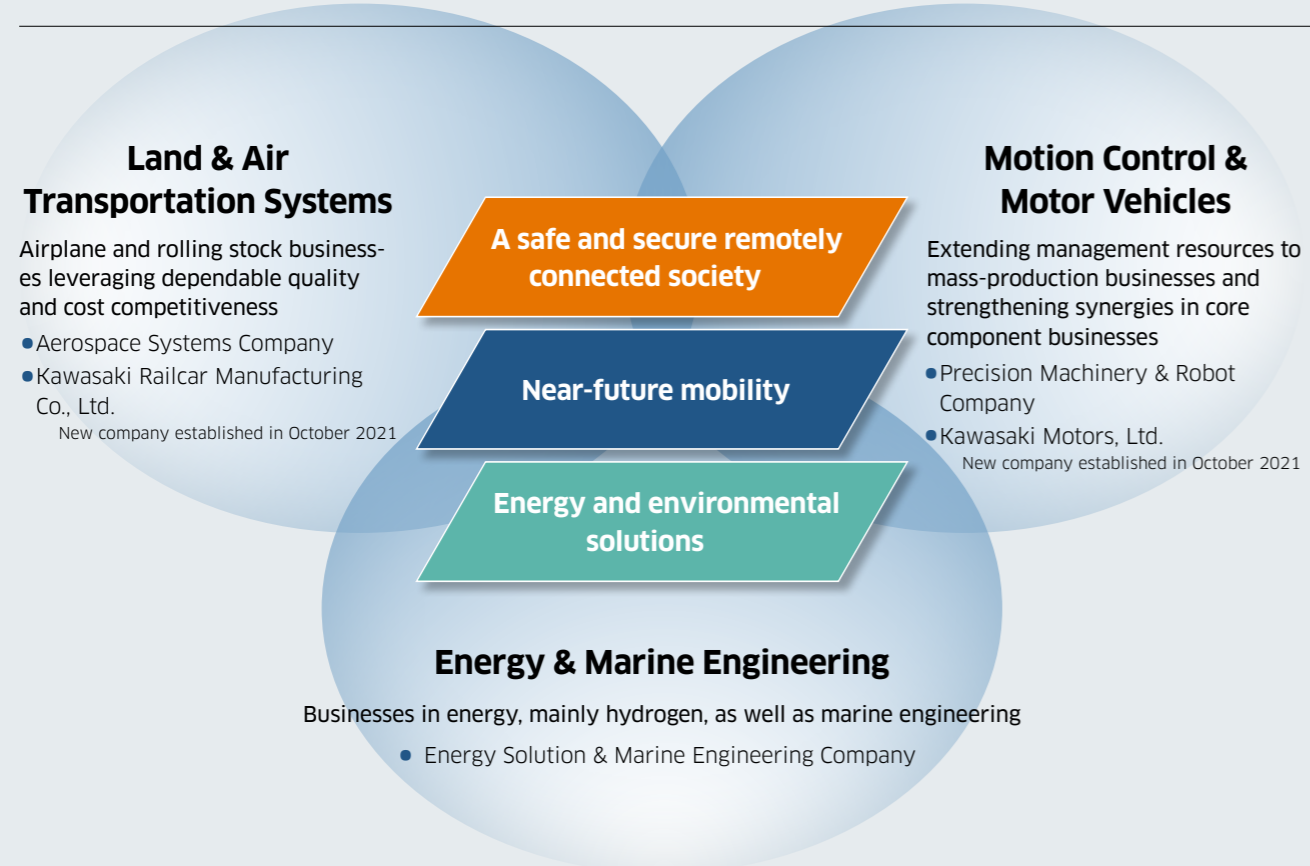
The first step in transforming mindsets and corporate culture for sustained corporate growth: eliminating age-based seniority elements

- Corporate officer compensation will be dependent largely on contribution to the Company's goals
- We continue to implement measures in such areas as corporate culture transformation, DX, and enabling employees to realize their career goals
- We are enabling talented younger employees to take on important roles and positions
- We have created a system that allows veteran employees who still want to embrace challenges to do so, regardless of age



**Increase the ratio of highly effective employees who are highly motivated and provide an environment that allows them to embrace challenges**

## Transitioning to a Business Structure for Creating Solutions



We will operate businesses within the three groups of Land & Air Transportation Systems, Motion Control & Motor Vehicles, and Energy & Marine Engineering and increase the effectiveness of coordination between businesses.

### Kawasaki Motors, Ltd.

- Launched as a new company on October 1, 2021
- Will be the driver of the Kawasaki brand as the Group's only B to C business
- Has commanded the top domestic market share for 251 cc and above motorcycles for three consecutive years
- Creating stores based on the concept of enjoyment involving all five senses and offering high-quality lifestyles

We have opened 77 Kawasaki Plaza stores nationwide since 2017 (as of April 2021)  
Sales of large motorcycles<sup>1</sup> is up 80%, and the portion of customers in their 20s is up 60%<sup>2</sup>

1. Domestic sales of 401 cc or higher units, compared with before the start of Plaza network sales (compared with fiscal 2016)
2. Age group breakdown of new customers in the domestic market (compared with fiscal 2017)



### Kawasaki Railcar Manufacturing Co., Ltd.

- Launched as a new company on October 1, 2021
- Established a Domestic and Asian Division and a North American Division
- Large-scale R211 subway car project, with a total value of approximately ¥400 billion,\* is now under way
- Further improving productivity at North American locations and maximizing revenue from large-scale projects

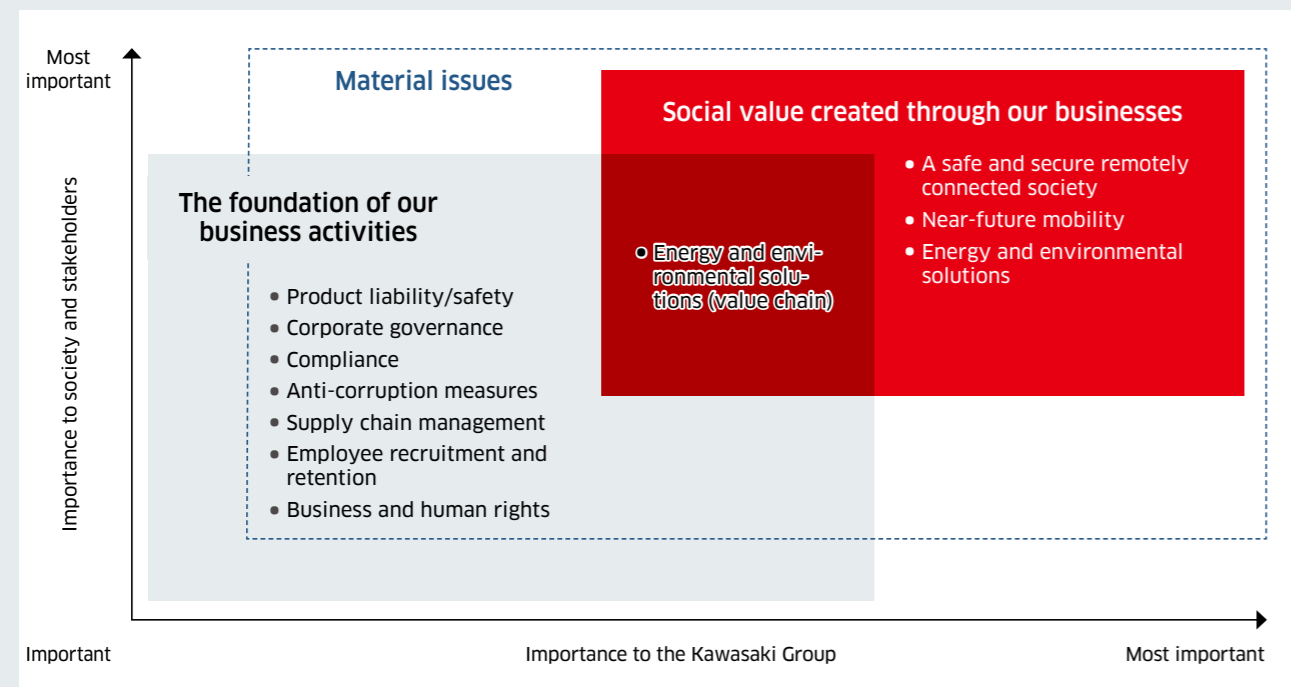
\* Total order value if all options are exercised  
R211 subway cars for the New York City Transit Authority (Lincoln Plant in Nebraska, United States)



## Revision of Material Issues in Line with the Formulation of Group Vision 2030

The Kawasaki Group identifies material issues based on such factors as the relationships between social issues and Group business activities and their impact on stakeholders. In June 2021, the Sustainability Committee, chaired by the president, revised our material issues, changing the material issues under "social value created through our businesses" to the three focal fields of Group Vision 2030. Going forward, we will continue to periodically revise our material issues in light of changes in the business environment and society's expectations.


Materiality Matrix of Items Identified



Process for Identifying Materiality

2018	
<b>STEP 1</b>	<b>Step 1: Identify and narrow down sustainability issues</b> We analyzed criteria evaluated by ESG ratings institutions and international sustainability reporting guidelines to identify and then narrow down material issues.
<b>STEP 2</b>	<b>Step 2: Evaluate importance of issues and assign priorities</b> We analyzed the importance of the individual criteria evaluated by ESG ratings institutions to create a provisional order of importance to society and stakeholders. We also held internal workshops to establish a provisional order of importance to the Company. Furthermore, we grouped responses to social issues that were identified under Medium-Term Business Plan 2016 into the category of "social value created through our businesses," which we made our top priority.
<b>STEP 3</b>	<b>Step 3: Interview outside experts and decide the material issues</b> We interviewed outside experts and, based on their comments, revised the importance to society and stakeholders we had assigned to the issues. We also defined the issues in the social value created through our businesses category as top priorities to address over the long-term and the other issues as the foundation of our business activities.
<b>STEP 4</b>	<b>Step 4: Formulate the plan and conduct a review</b> Aiming to comply with the management approach defined under the GRI standards, we designated responsible divisions and officers, policies, and specific numerical targets related to the material issues identified and implemented activities aimed at achieving said targets.
2021	
<b>STEP 1</b>	<b>Step 1: Revision in line with the formulation of Group Vision 2030</b> Upon discussion by the Sustainability Committee, the content of the "social value created through our businesses" category was changed to the three focal fields under Group Vision 2030. We are now advancing revisions to the "foundation of our business activities" category.

### Value Creation Story in the Three Focal Fields

Focal field and social issues to address	Goal	Main actions	Social outcomes (results)	Targets/Key Performance Indicators (KPIs)	Specific measures
<p><b>A safe and secure remotely connected society</b></p> <p><b>Social issues to address</b></p> <ul style="list-style-type: none"> <li>Declining working population in developed countries</li> <li>Increase in diverse work styles, including remote work</li> <li>Shortage of doctors, increasing burden, healthcare disparities</li> <li>Decrease in movement of people</li> <li>Pandemic countermeasures</li> </ul>	<p><b>New value creation using remote technology</b></p> <p>Create a society that is rich, safe, and secure for all with remote technology</p> 	<ul style="list-style-type: none"> <li><b>Healthcare</b> <ul style="list-style-type: none"> <li>Infectious disease testing business</li> <li>Surgery support business</li> <li>Nursing care business</li> </ul> </li> <li><b>Business in automated, autonomous, and remote technology support for manufacturing and service industries</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Infectious disease testing</b> to prevent the spread of disease and speed up recovery in the movement of people, including air travel demand</li> <li><b>Reduce the burden on healthcare and nursing care workers</b> <ul style="list-style-type: none"> <li>Advanced treatment using <b>surgical support robot systems</b></li> <li><b>Correct regional disparities</b></li> <li><b>Improve productivity and alleviate labor shortages</b></li> </ul> </li> <li><b>Work style reforms</b> <ul style="list-style-type: none"> <li>Time flexibility</li> <li>Eliminate strenuous, dirty, and dangerous work</li> <li>Remote work that includes on-site operations</li> </ul> </li> <li><b>Secure labor</b></li> <li><b>Provide opportunities for all people to participate in society</b></li> <li>Support for evacuees (improve quality of life)</li> <li><b>Save more lives</b></li> </ul>	<p><b>Targets for 2030</b></p> <ul style="list-style-type: none"> <li><b>Eliminate 5% of Japan's approximately 2,000,000-person shortage in healthcare and welfare workers (market estimated at over ¥1 trillion)</b></li> <li><b>Eliminate 5% of Japan's approximately 4,000,000-person shortage in manufacturing and service industry workers (market estimated at over ¥2 trillion)</b></li> </ul> <p><b>KPIs</b></p> <p>(a) Remote platform active users (b) Sales of robotic assisted surgery systems</p>	<ul style="list-style-type: none"> <li><b>Infectious disease testing system</b> Joint PCR testing research with universities, PCR testing service at airports for departing passengers on international flights, expanding domestic use from monitoring to screening (social implementation)</li> <li>Demonstration of telesurgery performed at a distance of 30 km using <b>robotic assisted surgery systems</b> (animal testing), world's first <b>telesurgery demonstration</b> using commercial 5G networks</li> <li>Adoption of nursing care robots in hospitals</li> <li>Market introduction of personal care products that use remotely connected technologies</li> <li>Development and implementation of robots for warehouses and stores</li> <li>Practical application of humanoid robots</li> <li>On-site work using remotely controlled robots at plants (proof of concept demonstration begun in fiscal 2021)</li> </ul>
<p><b>Near-future mobility</b></p> <p><b>Social issues to address</b></p> <ul style="list-style-type: none"> <li>Responding to changes in the movement of people and freight (e-commerce development, urban traffic congestion, spread of the sharing economy, growing demand for personal mobility)</li> </ul>	<p><b>Transforming the movement of people and freight</b></p> <p>Create a society where people and freight move safely, quickly, and efficiently using new forms of mobility</p> 	<ul style="list-style-type: none"> <li>Offer <b>new equipment and systems</b>, such as delivery robots and unmanned transport helicopters</li> <li>Offer <b>automated, autonomous, and remote</b> solutions for the logistics industry</li> <li>Reduce environmental burden and utilize advanced safety technology in transportation equipment</li> <li>Respond to mobility as a service (MaaS)</li> <li>Increase speed and efficiency of inter-city transport</li> <li>Promote optimization via integrated control of marine, land, and air transport</li> <li>Develop new personal mobility</li> <li><b>Take part in super city projects</b> Coordinate with municipalities to realize advanced cities</li> </ul>	<ul style="list-style-type: none"> <li>Handle increasing logistics volumes and alleviate labor shortages</li> <li>Provide safe working conditions</li> <li>Realize a society that enables the environmentally friendly and safe movement of people and freight</li> <li><b>Realize seamless urban transportation</b> Increase the speed and efficiency of the movement of people and freight</li> <li><b>Alleviate traffic congestion and logistics delays</b></li> <li><b>Disaster-resilient community building</b> Rapid transportation of emergency supplies, etc.</li> </ul>	<p><b>Targets for 2030</b></p> <ul style="list-style-type: none"> <li><b>Eliminate 20% of Japan's approximately 200,000-person shortage in logistics workers</b></li> <li><b>Commercialize new mobility</b> <ul style="list-style-type: none"> <li>Delivery robots</li> <li>VTOL drones (vertical take-off and landing aircraft)</li> <li>Autonomous four-wheelers</li> <li>Supply chain optimization services, etc.</li> </ul> </li> <li>Autonomous marine transport (<i>Marine Collaboration Project</i>)</li> <li><b>Take part in super city projects</b></li> </ul> <p><b>KPIs</b></p> <p>(a) Sales of VTOL drones (b) Sales of delivery robots</p>	<ul style="list-style-type: none"> <li><b>Logistics chain optimization</b> <p><b>Phase 1</b></p> <ul style="list-style-type: none"> <li>Autonomous transportation and loading equipment (autonomy that extends to the last mile)</li> </ul> <p><b>Phase 2</b></p> <ul style="list-style-type: none"> <li>Supply chains (create seamless connections: improve efficiency, including for reloading systems)</li> <li>Overseas expansion by 2030</li> </ul> </li> <li><b>New mobility</b> <ul style="list-style-type: none"> <li>Commercialize delivery robots and autonomous four-wheelers by 2025</li> <li>Full-scale operation of VTOL and integrated transport service business by 2030</li> </ul> </li> <li><b>Realize super cities</b> <ul style="list-style-type: none"> <li>Coordinate with municipalities to take part in super city projects (total optimization of urban transportation, including the movement of people)</li> <li>Build overarching management systems for the movement of people and freight (local MaaS). Organically link these with other Group businesses.</li> <li>Build cooperative relationships with logistics companies and software companies</li> </ul> </li> </ul>
<p><b>Energy and environmental solutions</b></p> <p><b>Social issues to address</b></p> <ul style="list-style-type: none"> <li>Global warming</li> <li>Decarbonization</li> <li>Energy problems</li> </ul>	<p><b>Working toward the stable generation of clean energy</b></p> <p>Quickly achieve a stably powered, carbon-neutral society at low cost</p> 	<ul style="list-style-type: none"> <li>Build a hydrogen supply chain High-volume, stable supply of hydrogen</li> <li>Expand the use of hydrogen Power generation systems, transportation equipment, etc.</li> <li>Electrify products Transportation equipment and systems as well as components for construction machinery</li> <li>Carbon recycling Capture and use CO<sub>2</sub> in fields that cannot eliminate fossil fuels</li> <li>Reduce environmental burden throughout the value chain</li> </ul>	<ul style="list-style-type: none"> <li><b>Reduce the price of hydrogen energy</b></li> <li><b>Help address climate change by reducing CO<sub>2</sub> emissions</b></li> <li><b>Provide clean travel and transportation by land, sea, and air</b></li> <li>Help address climate change by reducing CO<sub>2</sub> emissions</li> </ul>	<p><b>Targets for 2030</b></p> <ul style="list-style-type: none"> <li><b>Hydrogen supply from Kawasaki solutions: 225,000 t/year (when commercialized)</b></li> <li><b>CO<sub>2</sub> reduction from Kawasaki's hydrogen energy solutions: 1.6 million t/year (theoretical value)</b></li> </ul> <p><b>KPIs</b></p> <p>(a) Hydrogen supplied by Kawasaki solutions (b) CO<sub>2</sub> reductions from Kawasaki's hydrogen energy solutions</p>	<ul style="list-style-type: none"> <li><b>Form a hydrogen consortium</b> <ul style="list-style-type: none"> <li>Technological development Establish technologies for larger scale, leveraging NEDO-subsidized projects and partnerships</li> </ul> </li> <li><b>Increase transport volume</b> (Two or more carriers in 2030; 80 or more carriers in 2050) <ul style="list-style-type: none"> <li>Develop hydrogen-fueled rolling</li> <li>Mass production of hybrid and electric motorcycles and off-road four-wheelers</li> <li>Deliver hybrid and electric marine propulsions systems</li> </ul> </li> <li>Pilot-scale energy-saving CO<sub>2</sub> separation and capture system Begin pilot-scale demonstration testing (Kansai Electric Power Company)</li> </ul>

Note: For greater detail on this topic please refer to pp. 22-23.

Three Focal Fields

1

A Safe and Secure Remotely Connected Society

New value creation using remote technology

# Create a society that is affluent, safe, and secure for all with remote technology

Kawasaki's Solutions to Social Issues

- In industrial robots, we will use automation and remote technologies to offer solutions to labor issues ranging from worker shortages in developed countries to difficult and dangerous worksites.
- In the healthcare field, we will alleviate patient burden, the increasing burden on doctors, and regional healthcare disparities (commercialization of robotic assisted surgery systems).
- Reflecting work and lifestyle diversification, we will facilitate remote work environments that enable participation in society regardless of distance, lifestyle constraints, or health limitations as well as the use of overseas workers and skilled workers.
- We will use sophisticated and diverse transportation and energy equipment to prevent and alleviate damage from increasingly severe natural disasters and help ensure economic continuity and stability in daily life.



Medical and Healthcare Field

## Automated PCR Testing System

Amid the ongoing pandemic, restoring the movement of people and normal functioning of society will require the expansion of infectious disease testing. Kawasaki has overcome the previous barriers to such expansion using robots and offers automated PCR testing services that realize rapid, continuous, high-volume, high-accuracy processing.

## hinotori™ Surgical Robot System

In 1968, Kawasaki was the first company in Japan to develop and manufacture robots, and it has remained at the forefront of Japan's robotics industry ever since. In 2013, we established Mediaroid Corporation, specializing in medical robots, as a joint venture with Sysmex Corporation. Mediaroid Corporation then developed the hinotori™ surgical robot system, the first medical robot produced in Japan. Following approval by the Ministry of Health, Labour and Welfare in August 2020, the system entered clinical use and has been well received. Going forward, we will expand the types of surgery it can be used for and roll out the product overseas as we establish technologies in such areas as telesurgery.



**ANSWERS**  
Technology supporting patients and doctors. The robotic assisted surgery revolution. (Japanese only)  
<https://answers.khi.co.jp/ja/connected-society/20210131j-01/>

Offering New Ways of Working and Living

Remote work remains an option for only a relatively small number of people. Kawasaki has partnered with Sony Group Corporation to establish a joint venture with the aim of creating a remote robot platform business. The joint venture will seek to help solve a number of social issues, from enabling remote work in the service, manufacturing, and logistics industries, to eliminating the need to engage in hazardous and highly strenuous labor, to enabling the participation of those who would like to work but cannot physically go to worksites.

Disaster Response

The Kawasaki Group offers a wide array of disaster-response products, including medical service helicopters, stand-by gas turbine generators, and off-road motorcycles and four-wheelers. Furthermore, we are considering the possibilities of hospital ships that bring together our wealth of technologies, such as transportation equipment, standby generator sets, and telemedicine via robots, to contribute to relief and services for remote and islands areas hit by disasters.

Three Focal Fields

2

Near-Future Mobility

Transforming the movement of people and freight

# Create a society where people and freight move safely, quickly, and efficiently using new forms of mobility

## Kawasaki's Solutions to Social Issues

- We will provide new solutions based on Kawasaki's wealth of technologies necessary to the transportation chain, including those related to airplanes, helicopters, ships, rolling stock, and motorcycles. These solutions will address the changing face of mobility, including growth in e-commerce, sharing services, and demand for personal mobility.
- Addressing the increasingly severe issues related to labor shortages and worsening working conditions caused by growing logistics volumes, we will offer new systems that combine transportation equipment with robotics and remote technologies.
- We will offer solutions leveraging transportation systems that combine land and air transport to address such issues as time lost in transport due to higher traffic congestion because of economic development and disruptions caused by increasingly serious natural disasters.

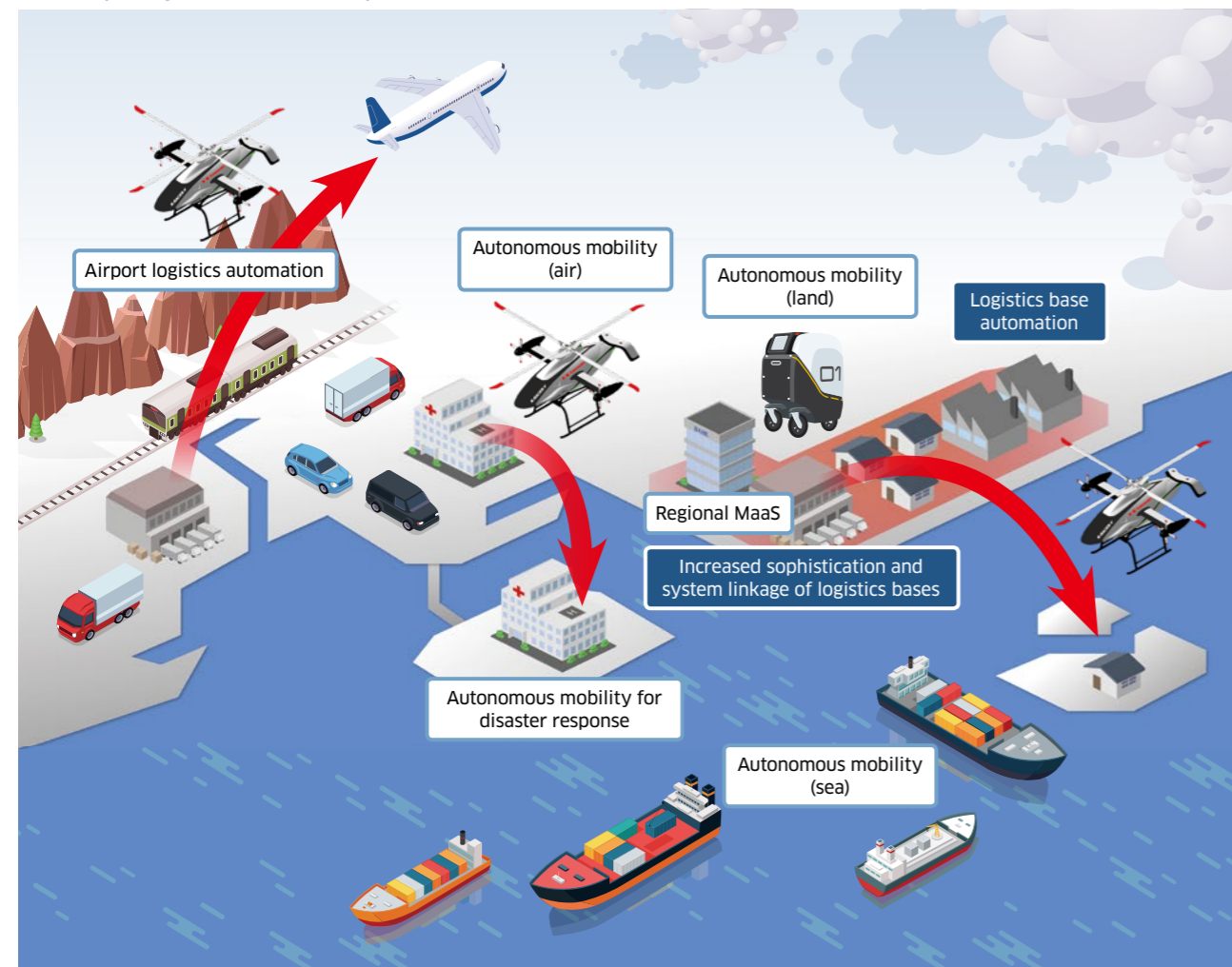


### Social Implementation

## Working toward the Social Implementation of Near-Future Mobility

- Building strategic partnerships in logistics from fiscal 2022 with the aim of achieving social implementation in regional cities, commercial facilities, hospitals, etc.
- Participating in moves towards deregulation and institutional development with regard to remote and autonomous mobility.

### Super City Using Near-Future Mobility



### Logistics Solutions

## VTOL Drones

The Kawasaki Group is a leading manufacturer in the Japanese aerospace industry, with an extensive track record in the manufacture of helicopters for the defense and commercial sectors as well as wide-ranging knowledge about such topics as air traffic control. Drawing on this technological prowess and expertise, we are developing VTOL\* high-speed delivery helicopter drones with the aim of revolutionizing the last mile problem in logistics. We plan to carry out test flights within 2021.



Kawasaki Group Channel on YouTube  
 Kawasaki Heavy Industries: Revolutionizing Air Transportation with VTOL Drones  
<https://www.youtube.com/watch?v=Dgs79EmjoJY>

## Delivery Robots

We aim to revolutionize the last mile in transportation using delivery robots that combine our robotics technologies with the driving technologies of our off-road four-wheelers.

<p>Drives fast where safe</p>	<p>Supports comfortable living</p>	<p>Automatically recognizes and avoids obstacles</p>	<p>Enables communication</p>

Three Focal Fields

3

Energy and Environmental Solutions

Working toward the stable generation of clean energy

Quickly achieve a stably powered, carbon-neutral society at low cost

Kawasaki's Solutions to Social Issues

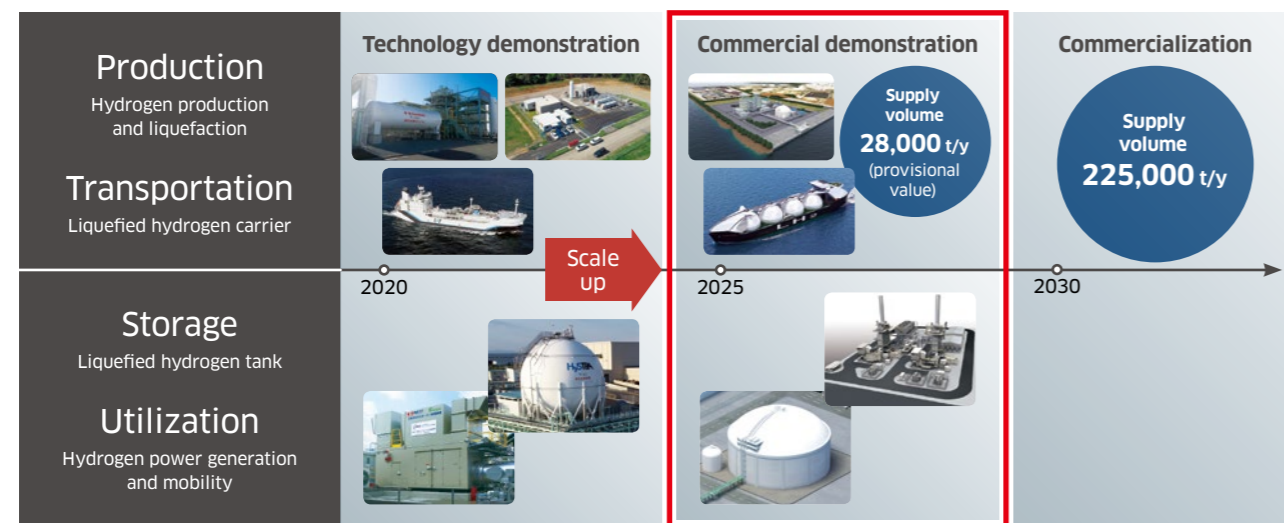
- We will provide decarbonization and electrification solutions that leverage our wide-ranging technologies and energy and transportation systems to address global warming.
- Building on our track record (e.g., liquefied hydrogen tanks and liquefied hydrogen containers at the JAXA Tanegashima Space Center) and pioneering technological development of a CO<sub>2</sub>-free hydrogen supply chain (production, transportation, storage, and utilization), we will coordinate with rapidly advancing hydrogen projects around the world to improve costs and transportation volumes, helping realize a carbon-neutral society.
- With the global advance of transportation electrification and electricity supply infrastructure development, we will lead the shift to electric and hybrid technologies in motorcycles and other transportation equipment and systems, helping realize a carbon-neutral society.



Developing a Hydrogen Supply Chain

Steps Toward Expanding Hydrogen Use and Transport Volumes

Hydrogen-related businesses are increasingly being looked at as powerful potential tools in eliminating carbon emissions. The Kawasaki Group has been advancing R&D in this area for a decade, working to produce hydrogen cheaply and develop a hydrogen supply chain. Scaling up our current technology demonstrations, we expect to realize a commercial demonstration supply of approximately 28,000 tons per year in 2025 and a commercial supply of approximately 225,000 tons per year by 2030.

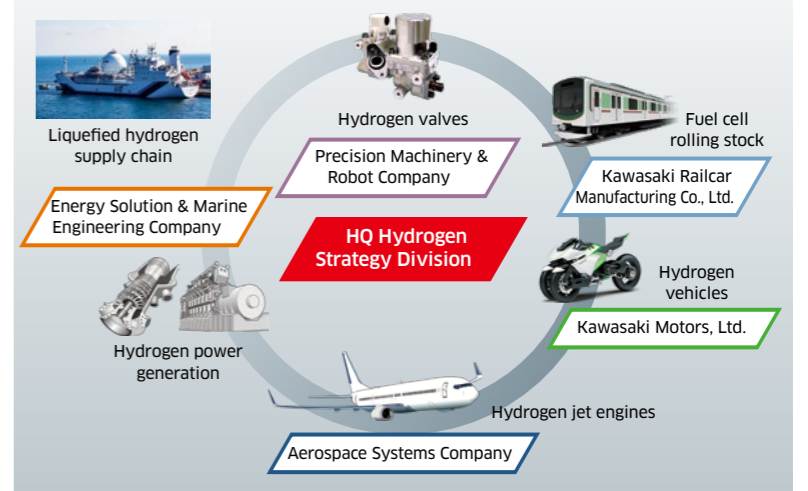


Expansion in Hydrogen Use

Several projects related to the use of hydrogen are currently in progress at Kawasaki.

- Development of hydrogen gas engines in the marine sector
  - Participation in the development of hydrogen-powered aircraft
  - Leading the development of liquefied hydrogen fuel tanks, hydrogen fuel supply systems and other core technologies
- In light of the expected expansion in the use of hydrogen across industrial fields, we have established the Hydrogen Strategy Division within the Head Office to coordinate our hydrogen-related businesses and advance a wide range of initiatives leveraging Group technologies.

Further Development of Hydrogen-Related Products and Businesses



**ANSWERS**  
Realizing a Carbon-Neutral Society: The Global Acceleration of Hydrogen Energy Development (Japanese only)  
<https://answers.khi.co.jp/ja/energy-environment/20210731-j02/>

Carbon Recycling

Kawasaki promotes the separation, capture, utilization, and storage of CO<sub>2</sub> emitted by power stations and manufacturing plants. We are building a pilot-scale test facility at Kansai Electric Power's Maizuru Power Station, where we will begin demonstration testing of CO<sub>2</sub> capture in fiscal 2022.



Electrification

In light of the changing social environment, Kawasaki will accelerate the shift to electric and hybrid technologies in its transportation equipment and systems while reinforcing coordination within the industry.

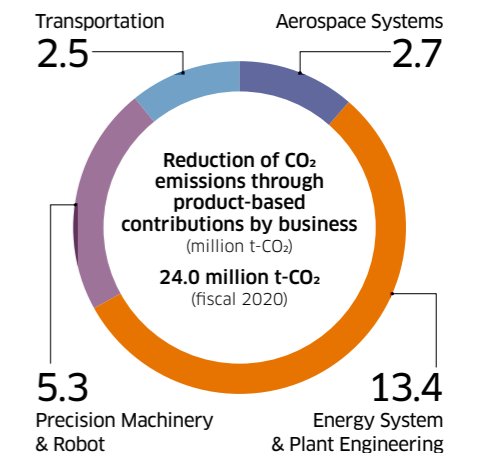


Reducing CO<sub>2</sub> Emissions through Product-Based Contributions

More than 90% of the CO<sub>2</sub> emitted during the life cycles of our products is released during post-sale product use. To promote the reduction of CO<sub>2</sub> emissions during product use, since 2014 we have operated the Kawasaki-brand Green Products system, an ISO 14021-compliant internal system for certifying environmentally friendly products. Products that meet our proprietary standards related to boosting the environmental performance of the products themselves and reducing the environmental impact caused by associated manufacturing processes are registered under the system.

As of the end of fiscal 2020, the number of registered Kawasaki-brand Green Products stood at 61. We have also established rules for calculating CO<sub>2</sub> emissions reductions through product-based contributions in order to quantify the contributions of such products to the mitigation of global warming.\* Calculations based on these rules showed that Kawasaki products sold in fiscal 2020 (mainly Kawasaki-brand Green Products) reduced CO<sub>2</sub> emissions by about 24.0 million tons.

\*For details about calculation rules, please refer to p. 67.



Promoting Environmental Management

Kawasaki established the Kawasaki Global Environmental Vision 2050 in 2017. To achieve this vision, we advance concrete initiatives according to environmental management activities plans formulated every three years. An overview of the 10th plan (fiscal 2019–2021) and progress in fiscal 2020 is shown below.

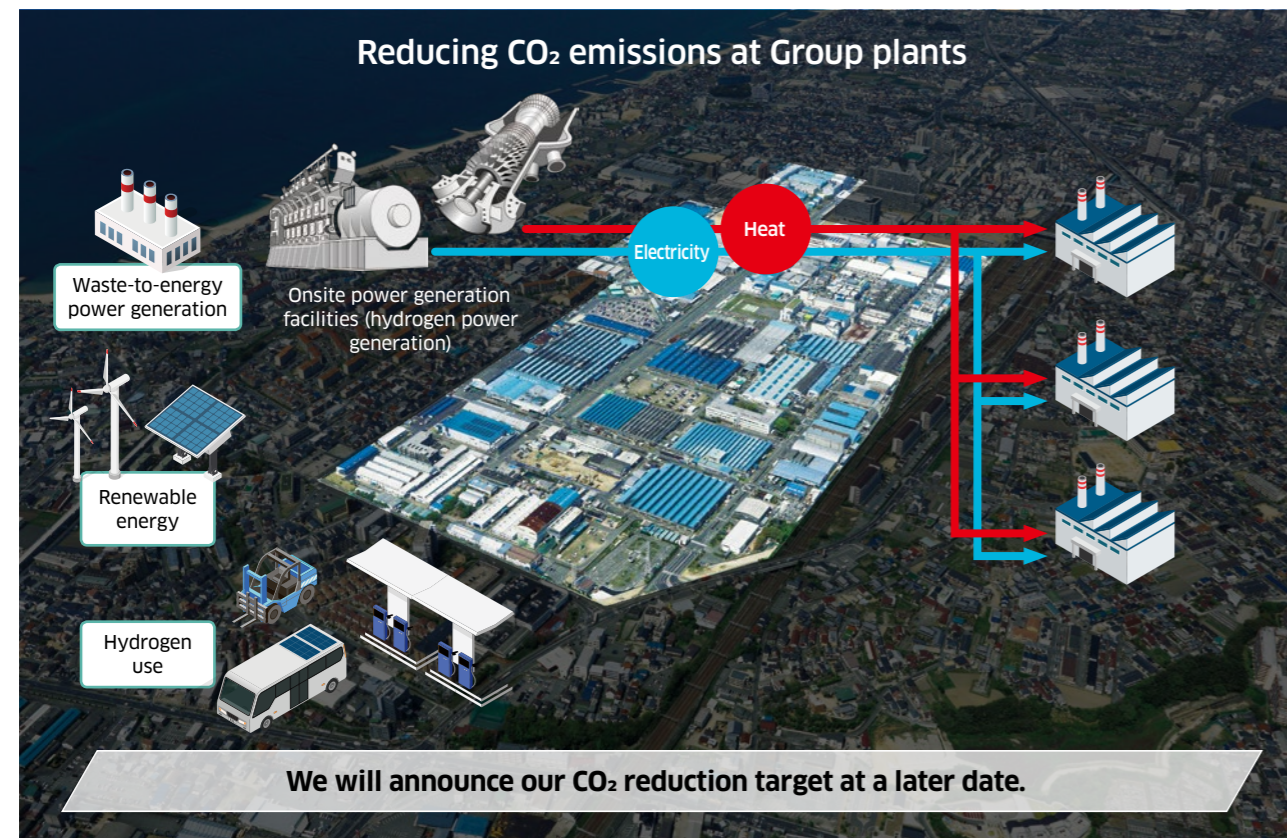
	Kawasaki Global Environmental Vision 2050	10th Environmental Management Activities Plan	
		(FY2019–FY2021 plan)	Progress (FY2020)
<b>CO<sub>2</sub> FREE</b>	<ul style="list-style-type: none"> <li>● Aim for zero CO<sub>2</sub> emissions in business activities</li> <li>● Provide products and services that greatly curb CO<sub>2</sub> emissions</li> </ul>	Reduce CO <sub>2</sub> emissions per unit of net sales by 20% from the fiscal 2013 level (FY2021 target) Target CO <sub>2</sub> emissions per unit of net sales: 233 t-CO <sub>2</sub> /billion yen (FY2019–FY2021 average)	226t-CO <sub>2</sub> /billion yen <ul style="list-style-type: none"> <li>● Promoted the use of renewable energy (installed solar power generation facilities produced by Kyocera and Century Tokyo Leasing at the Seishin Works)</li> </ul>
<b>Waste FREE</b>	<ul style="list-style-type: none"> <li>● Aim for zero waste emissions in business activities</li> <li>● Thoroughly enforce conservation and the recycling of water resources</li> </ul>	Maintain ratio of direct-to-landfill waste to total waste generation at less than 1% (non-consolidated)	<ul style="list-style-type: none"> <li>● Landfill disposal rate of 0.4%</li> <li>● Confirmed water resource risks</li> </ul>
<b>Harm FREE</b>	<ul style="list-style-type: none"> <li>● Aim for zero harmful chemical substance emissions in business activities</li> <li>● Develop business with respect for biodiversity</li> </ul>	Reduce environmental risk while operating factories with respect for biodiversity	<ul style="list-style-type: none"> <li>● Maintained proper management of harmful chemical substances</li> <li>● Properly manage green spaces at plants, etc.</li> </ul>

\*For details about environmental management, please refer to the Kawasaki Environmental Report 2021.

The Kawasaki Group's Initiatives to Achieve Carbon Neutrality

The Kawasaki Group is studying measures to reduce CO<sub>2</sub> emissions from its business processes. We plan to announce our CO<sub>2</sub> emission reductions target for 2030 at a later date.

Zero-Emission Plant



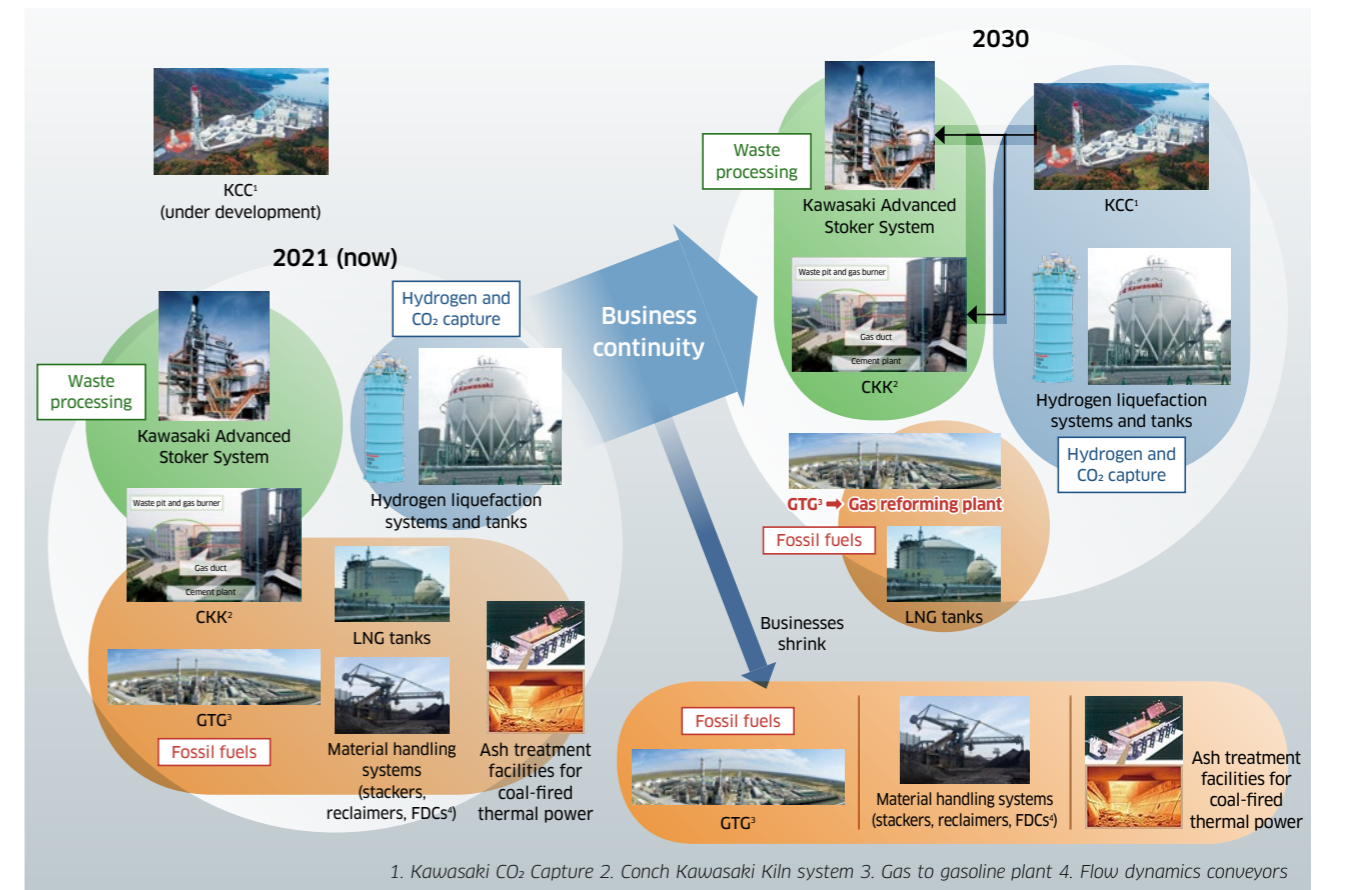
Disclosure in Line with the Recommendations of the Task Force on Climate-related Financial Disclosures

Strategy

Based on the 2°C scenario and 4°C scenario of the Intergovernmental Panel on Climate Change and related scenarios (from the International Energy Agency and elsewhere), Kawasaki has conducted scenario analyses of its industrial plant business, with a target year of 2030. Going forward, looking at the entirety of the Group's businesses, we will advance further analyses of businesses likely to be highly impacted by climate change and study the financial impact on them in quantitative terms.

	2°C scenario	4°C scenario
<b>Waste processing</b>	<ul style="list-style-type: none"> <li>● Waste incineration and waste-to-energy power demand will not decrease</li> <li>● Future regulatory tightening could limit CO<sub>2</sub> emissions from waste incineration</li> </ul>	<ul style="list-style-type: none"> <li>● Waste incineration and waste-to-energy power demand will not decrease</li> </ul>
<b>Fossil fuels</b>	<ul style="list-style-type: none"> <li>● Coal and gasoline demand will fall, but liquefied natural gas (LNG) will be a main power source in 2030 (after 2030, LNG demand may also fall)</li> </ul>	<ul style="list-style-type: none"> <li>● Fossil fuel demand will remain at current levels</li> </ul>
<b>Hydrogen and CO<sub>2</sub> capture</b>	<ul style="list-style-type: none"> <li>● Steps toward the widespread adoption of hydrogen will advance and its production cost will decrease (focus on hydrogen carriers using methods of transportation and storage other than liquefaction, such as using organic hydrides or ammonia)</li> <li>● Demand for CO<sub>2</sub> capture (such as Kawasaki CO<sub>2</sub> Capture, "KCC") for power generation and other industries will grow</li> </ul>	<ul style="list-style-type: none"> <li>● Hydrogen and CO<sub>2</sub> capture will not be widely adopted</li> </ul>
<b>Kawasaki's response</b>	We determined that Kawasaki's businesses will be resilient, based on the countermeasures shown in the diagram below.	While it will take more time to recoup investment in hydrogen and CO <sub>2</sub> capture, Kawasaki will be able to maintain business continuity based on its current technology portfolio.

Vision of the Future (2°C Scenario) and Countermeasures



Countermeasures

- Waste processing**
  - Shift away from fossil fuels (heavy oil) as auxiliary fuels for incineration
  - Promote the development of carbon capture and storage (CSS) and carbon capture, utilization and storage (CCUS)
  - Improve the efficiency of heat recovery
- Fossil fuels**
  - GTG: Reforming natural gas into methanol, xylene, and hydrogen
- Hydrogen and CO<sub>2</sub> capture**
  - Respond to the growing use of hydrogen and demand for CO<sub>2</sub> capture (accelerate manufacturing and research)

Note: For details on disclosure in line with the recommendations of the Task Force on Climate-related Financial Disclosures, please refer to the Kawasaki Environmental Report 2021.