

# Carbon Neutral Vision 2050 / Action Plan

In April 2021, the Kyuden Group formulated the Kyuden Group Carbon Neutral Vision 2050, declaring its commitment to take on the challenge of achieving carbon neutrality and strive to become a corporate group that leads the way in Japan's decarbonization from Kyushu as an industry leader in low-carbon and carbon-free efforts.

Toward realizing this, we also formulated the Action Plan to Achieve Carbon Neutrality in November 2021. As our vision for 2050, in addition to achieving net-zero supply chain greenhouse gas (GHG) emissions, we also set the goal of achieving as early as possible before 2050 "carbon negativity," which will contribute significantly to reducing GHG emissions in society as a whole. Moreover, we have set challenging management targets for 2030 by backcasting from 2050, and formulated a specific action plan to achieve them with the pillars of "carbon reduction/decarbonization in power sources" and "promotion of electrification."

The Kyuden Group considers carbon neutrality and other changes in the business environment as an opportunity for transformation. We will take this opportunity to grow ourselves, and continue to aim to be a corporate group that leads the decarbonization of Japan from Kyushu.

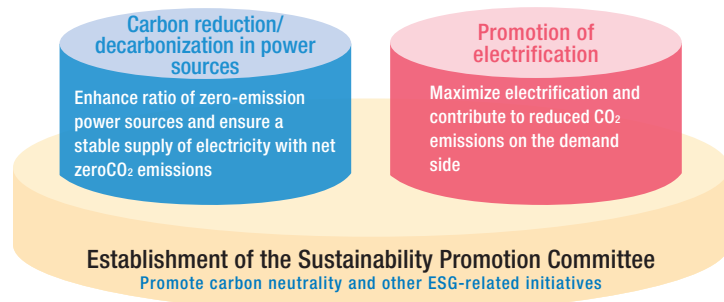
## Vision

### 2050 Carbon Neutrality Declaration

**The Kyuden Group will take on the challenge of achieving carbon neutrality by 2050.**

~Aiming to be a corporate group that leads Japan's decarbonization from Kyushu~

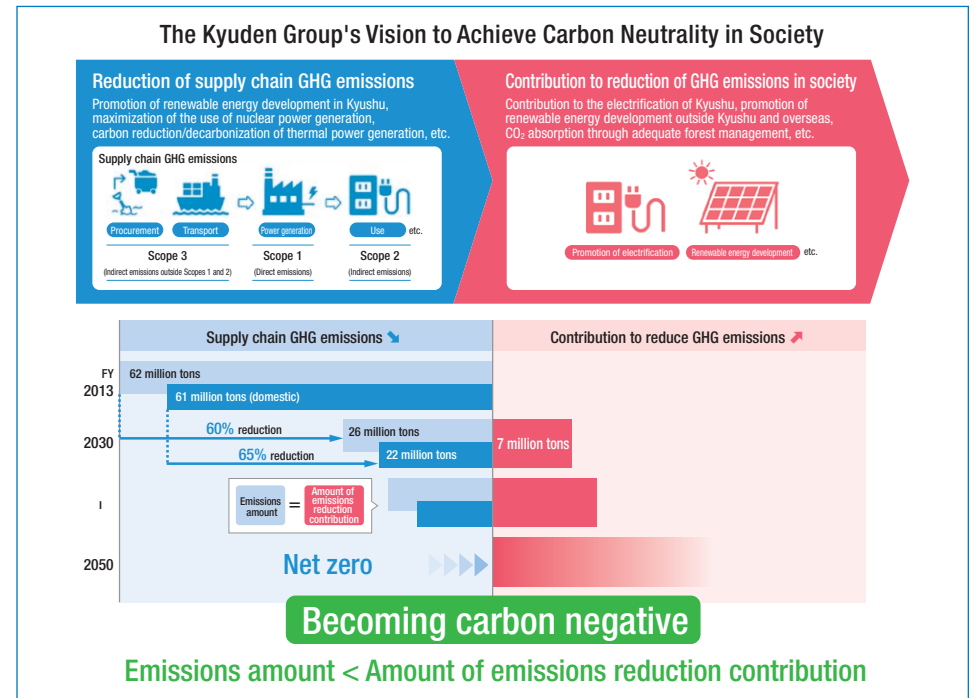
- The Kyuden Group believes that the fight against global warming presents an opportunity for businesses to grow. We plan to lead Japan's decarbonization from Kyushu as a leader in low-carbon and carbon-free projects.
- As two pillars of our efforts on the energy supply and demand sides, we continue to challenge ourselves on carbon reduction/decarbonization in power sources and promoting electrification.
- By establishing the Sustainability Promotion Committee, with the president as its chair, we are moving forward with ESG initiatives, including those aimed at carbon neutrality.



## Goals

### The Kyuden Group's Goals for 2050

- We will reduce greenhouse gas (GHG) emissions from the entire supply chain to net zero during business activities.
- We will contribute to the reduction of GHG emissions in society by promoting a shift to electricity-based energy consumption to the maximum extent possible, providing a stable supply of environmentally-friendly energy, etc.
- Through these efforts, the Kyuden Group will achieve "carbon negativity" as early as possible before 2050.



### 2030 Management (Environmental) Targets For details, please refer to Management Vision 2030. P18

#### Supply

- 60% reduction in supply chain GHG emissions (compared to FY2013)
- 65% reduction in our domestic business (compared to FY2013)  
→Significantly higher than the Japanese government's GHG emission reduction target of 46% (compared to FY2013)

#### Demand

Contribution to the electrification of Kyushu (Household: 70%; Commercial: 60%)

Action Plan

The Kyuden Group aims to achieve its 2050 goals and considers the period up to 2030 in particular to be extremely important. We have formulated a specific action plan to achieve our 2030 Management Targets, with the pillars of “carbon reduction/decarbonization in power sources” and “promotion of electrification.”

**Specific Action Plan Through 2030** For details of each plan, please refer to Chapter 4. Creating Value through Business (Leading the Way Toward a Decarbonized Society). **P44–55**

Carbon reduction/decarbonization in power sources	Positioning renewable energy as a main power source	Solar power	Promotion of development, and more effective use of existing resources, such as purchasing power from post-FIT power sources
		Battery/pumped storage	Establishment of integrated control technologies for distributed energy resources/development of aggregation business
		Wind power	Promotion of development mainly for offshore wind power generation at promising sites
		Hydroelectric power	Updating of existing power stations and promotion of new development using FIT and FIP systems
		Geothermal power	Promotion of new development based on geothermal power resource surveys both in and outside Kyushu
		Biomass	Promotion of development and sustainable resource cycle of woody biomass
	Active development of overseas business	Initiatives for renewable energy, low-carbon thermal power generation, transmission and distribution projects, etc., tailored to the needs of each region	
	Maximum use of nuclear power	Continuation of safe and stable operation for maximum utilization Perform full-scale reviews at an early stage to enhance the capacity factor	
	Lowering the carbon intensity of thermal power	Phase-out of inefficient coal-fired thermal power Review/establish technology for co-firing of 1% hydrogen and 20% ammonia (Hydrogen co-firing with LNG combined thermal power, ammonia/ biomass co-firing with coal-fired thermal power, etc.)	
		Review the possibility of collaboration toward building a supply chain for carbon-free fuel (hydrogen/ammonia)	
	Upgrading of the transmission and distribution network	Expand interconnection of renewable energy, etc., through new system connections/enhance network utilization rate	
Promotion of electrification	Contribution to electrification of Kyushu	Household sector	Widespread use of all-electric housing through enhanced cooperation with housing-related businesses
		Commercial sector	Enhancement of individual proposals (propose economic efficiency, eco-friendliness, and operability by estimating equipment expenses and utility costs)
		Industrial sector	Technical research on heat source conversion equipment such as heat pumps, and proposing electrification across wide-ranging temperature zones in the production process
		Transportation sector	Conversion of 100% of company cars to EVs, and review a new business model using EVs
	Promotion of carbon neutrality in the region	Contribution to solving local and social issues by providing the Kyuden Group's solutions toward the collaborative needs of municipalities, etc., for promoting carbon neutrality in the region and enhancing resilience	
		CO <sub>2</sub> absorption through adequate forest management, creation/utilization of J-credit through the use of forest resources	

2030 KPIs

Positioning renewable energy as a main power source

Amount of renewable energy to be developed

**5,000 MW**

(Domestic and international)

Lowering the carbon intensity of thermal power

Achieve the benchmark index for the Energy Conservation Act

Establish technology toward co-firing of

hydrogen **1%** / ammonia **20%**

Contribution to electrification of Kyushu

Household sector

Incremental electricity **1,500 GWh** (2021-2030 total)

Commercial sector

Incremental electricity **1,600 GWh** (2021-2030 total)

Transportation sector

Conversion of company cars to **100% EVs\***

\*Excl. special purpose vehicles