

Reporting (as of March 31, 2023)

1. Allocation Reporting

< 1st Series of Green Bonds >

We have allocated proceeds from green bonds each eligible project as the following table all of Bond Proceeds 9.945 billion Yen which was excluded the issuance fee has been allocated for new investment as of the end of March 2023.

(Million Yen)

Issuance amount	Issuance fee	Bond proceeds
10,000	55	9,945

(Million Yen)

Eligible project categories	Allocated amount (January to March 2022)	Breakdown of allocated amount			Unallocated amount
		R&D	Capital Investment	Manufacturing Cost/Expense	
Batteries	3,109	1,522	-	1,586	-
Next-generation power semiconductors	1,432	1,432	-	-	
CCU/CCS and hydrogen/ammonia	1,615	1,615	-	-	
Clean energy utilization	292	-	292	-	
Energy-efficient manufacturing	167	-	167	-	
Total	6,617	4,570	459	1,586	

(Million Yen)

New investment / Refinancing	Amount	Percentage (%)
Total amount in FY2021 (January – March 2022)	3,328	-
Total amount in FY2022 (April 2022 – March 2023)	6,617	-
New investment	9,945	100%
Refinancing	-	-

< 2nd Series of Green Bonds >

We have allocated proceeds from green bonds each eligible project as the following table all of Bond Proceeds 4.970 billion Yen which was excluded the issuance fee has been allocated for new investment as of the end of March 2023.

(Million Yen)

Issuance amount	Issuance fee	Bond proceeds
5,000	30	4,970

(Million Yen)

Eligible project categories	Allocated amount (January to March 2022)	Breakdown of allocated amount			Unallocated amount
		R&D	Capital Investment	Manufacturing Cost/Expense	
Batteries	1,524	875	-	648	-
Next-generation power semiconductors	1,346	1,346	-	-	
CCU/CCS and hydrogen/ammonia	1,718	1,718	-	-	
Clean energy utilization	204	-	204	-	
Energy-efficient manufacturing	175	-	175	-	
Total	4,970	3,940	380	648	

(Million Yen)

New investment / Refinancing	Amount	Percentage (%)
Total amount in FY2022 (December 2022 – March 2023)	4,970	
New investment	4,970	100%
Refinancing	-	-

2. Impact Reporting

Eligible project categories	Impact Reporting Indicators
Batteries	<ul style="list-style-type: none"> - NGK announced that it has received an order for NAS batteries for electrical power storage intended as those for grid storage from Toho Gas Co., Ltd.. The batteries have a capacity equivalent to one day's worth of electrical power consumption by approximately 6,000 average households. The batteries will be directly connected to an electrical power grid as the same for grid storage and are intended to stabilize the supply and demand of electrical power by storing electrical power when there is an excess supply and discharging it during shortages. - Ricoh Company, Ltd., IHI Corporation, and NGK will start a trial project in October 2022 for a decarbonization and economic circulation system. The system will convert the environmental value gained by Ena City through the generation and sales of electricity from the renewable energy of the regional power producer and supplier Ena Electric Power Co., Ltd. into economically compensable value ("credits") and make use of those credits. - The project of Installing energy storage and photovoltaic equipment systems by "Abashiri Renewable Energy Promotion Consortium" organized by Abashiri city, Abashiri Electric Power Co., Ltd., and NGK was certified by Hokkaido government as "Zero-Carbon Village Construction Support Project" of FY2022. - Ricoh Company, Ltd. ("Ricoh") and NGK have started operations at NR-Power Lab Co., Ltd. ("NR-Power Lab"), the two companies' joint venture in the electric power business, in February 2023. NR-Power Lab will provide services to promote the widespread adoption of renewable energy, which is essential to achieving carbon neutrality. These services will be provided by combining NGK's control technologies for storage batteries, such as NAS batteries and ZNB, and Ricoh's renewable energy distribution record platform using its proprietary digital technologies. - The NAS batteries, which NGK supplied to the Japan Aerospace Exploration Agency (JAXA), has started operation at the Misasa Deep Space Station (MDSS) in December 2022. - The NAS batteries, which NGK supplied to OMRON FIELD ENGINEERING CO., LTD., has started operation in January 2023. - NGK exhibited NAS Battery Systems at World Future Energy Summit (WFES 2023) held in January 2023 in Abu Dhabi, UAE.
Next-generation power semiconductors	<ul style="list-style-type: none"> - NGK has decided to build a new R&D building at its head office site in order to encourage the development of products related to a digital society ("DS") in November 2022. By consolidating human resources and facilities for new product and production technology development, we will shorten the lead time from basic research to product launch and achieve early commercialization of new DS-related products such as new wafers for applications including wireless communications, optical networks, and in-vehicle sensors for automatic driving, and microheaters for semiconductor mounting equipment.

Eligible project categories	Impact Reporting Indicators
Next-generation power semiconductors	<ul style="list-style-type: none"> - NGK participated in electronica 2022, which was held in November 2022 in Munich, Germany. NGK showcased the ceramics product for the electrical and electric equipment utilizing our unique ceramic technologies including gallium nitride (GaN) wafers.
CCU/CCS and hydrogen/ammonia	<ul style="list-style-type: none"> - NGK exhibited Sub-nano ceramic membrane at World Future Energy Summit (WFES 2023) held in January 2023 in Abu Dhabi, UAE. - NGK has participated in the "Building of a Japanese global industry based on direct use of CO2 through photosynthesis," one of the themes for the New Energy and Industrial Technology Development Organization (NEDO) Green Innovation Fund Projects, for which Chitose Laboratory Corp. (Kawasaki City) selected as the planned project executor in March 2023. By working to develop microalgae separation technology using a ceramic membrane, NGK aims to contribute to the creation of a bioindustry and promotion of its social implementation to help achieve carbon neutrality. - Regarding R&D on DAC (Direct Air Capture), NGK is working on technical research on atmospheric CO₂ adsorptive module to start demonstration experiments by 2025 with partners in US, Europe and Japan.
Clean energy utilization	<ul style="list-style-type: none"> - NGK has decided to install a NAS battery for energy storage and photovoltaic equipment systems at manufacturing sites in Nomi City, Ishikawa Prefecture in July 2022. NGK will work to reduce its CO₂ emissions through captive use of all of the generated renewable energy. In addition, the battery energy storage facility will be the largest in the Hokuriku region and serve as a backup power source in times of emergency or disaster. - In October 2022, NGK joined "RE100", a global initiative that aims for 100% of electricity used in business operations to come from renewable energy sources. - NGK has installed a firing furnace developed in-house for a mass production demonstration in March 2023, with a view to introducing hydrogen combustion firing furnaces for actual use. A demonstration experiment will begin in June 2023, with the goal of establishing hydrogen combustion technology for mass production by 2025 so that it can be introduced at domestic and overseas mass production facilities from 2030.
Energy-efficient manufacturing	<ul style="list-style-type: none"> - NGK promotes new capital investment of the high-efficiency facilities by continuously applying the internal carbon pricing (140 US dollar per ton). - NGK made the capital investment which will be more contributable the reduction of CO₂ emission than existed facilities from April 2022 to March 2023.

Eligible project categories	Impact Reporting Indicators		
Energy-efficient manufacturing	【1st Series of Green Bonds】		
	Major capital investment	Receipt amount	Annual reduction volume of CO ₂ emission
	Ventilating and air conditioning system renewal in the building at Komaki area	44 Million Yen	-65.0t /year
	Renewal of compressors at Komaki area	22 Million Yen	-31.0t /year
	Renewal of the kiln's ventilating system at Komaki area	13 Million Yen	-51.6t /year
	【2nd Series of Green Bonds】		
	Major capital investment	Receipt amount	Annual reduction volume of CO ₂ emission
	Ventilating and air conditioning system renewal in the building at Nagoya area	51 Million Yen	-81.7t /year
	Replacement of factory lighting with LED at Nagoya Area	22 Million Yen	-30.1t /year