

		Relationship with stakeholders		Stakeholders' main interests	Main dialogue channels
 Business partners	Materials suppliers	Nikko Group believes that it is essential to work on solving the social issues faced by its supply chain together with all business partners including material suppliers, sales agents, and contractors.	- Suppliers of outsourced products based on Nikko design (about 20 companies) - General materials suppliers (about 100 companies)	- Equal, fair transaction terms - Quality assessment - Centralized purchasing - Support for business succession, technology transfer	- Daily procurement activities - Quality improvement support - Factory, warehouse visits - Quality audit
	Tombo-kai (sales agent network)		Members: 124 companies	- Proposal of new products - Support for seeking new sales channels	Holding general meetings and subcommittee meetings
	Akitsu-kai (contractors' network)		Members: 200 companies	- Safe work environment - Advice regarding specialized skills and technologies - Securing stable work load over the long term	Safety and health meeting
 Local community, future generation		For Nikko Group to develop and grow, it needs to contribute to raising the sustainability of society. Nikko considers the realization of carbon neutrality as its responsibility towards future generations.		- Co-existence with local communities - Creation of employment - Contribution to local development - Preservation of the local natural environment - Safe operation	- Offering of grant-type scholarship to students in the Kinki region - Offering of research grants to researchers from Hyogo Prefecture - Support for disaster prevention education at primary and special needs schools (14 of them) within Akashi city (offering of disaster prevention <i>tenugui</i> towels) - Responsible responses to climate risks - Company and plant tours for high school students in Akashi City - Nikko Marche (exhibition and sale of disaster prevention and BBQ goods) - Let's Protect Roads!, a game offered in a social experience app for children
 Shareholders, investors		Shareholders and investors, who offer financial capital, support the growth of Nikko Group and has the role of monitoring its management. We will further strengthen our relationships of trust with them through our efforts in improving corporate value and enhancing information disclosure.		- Improving our corporate value - Promotion of fair disclosure - Capital policy that is conscious of capital efficiency - Achievement of business returns that exceed the capital cost - Strengthening of initiatives towards ESG and sustainability, and enhancement of information disclosure - Improvement in effective governance	- General Shareholders Meeting (attended by 6,835 people including online participants) - Financial results briefing sessions (four times) - Individual meetings with institutional investors (six meetings with 10 investors)

The figures are results for FY 2021.

Information disclosed based on TCFD framework



Climate change caused by greenhouse gas (GHG) emission has an enormous impact on society and economy, and Nikko Group recognizes that it is the most pressing social issue the Group should work on. For the realization of a decarbonized society targeted in the Paris Agreement, Nikko Group is aiming to achieve a 50% reduction in CO₂ emissions (compared with FY 2021) from its business activities as well as operation of Nikko-made plants at customers as an interim target for FY 2030.

The Group is promoting the development of technologies for reducing CO₂ emissions and provision of related products and services towards achieving carbon neutrality in 2050. After endorsing the TCFD recommendations in October 2021, it has been disclosing information in accordance with the TCFD framework for smooth communication regarding climate change issues with stakeholders including shareholders and investors.

Status of the initiatives related to the four core elements of the TCFD recommendations

Nikko Group's initiatives	
Governance	- The Group has established the Low Carbon Task Force (LCTF) led by the managers of business and development divisions, which gathers and analyzes carbon neutrality-related information and carries out planning (once a month meetings). - The Committee of Inside Executives sets forth targets based on the proposals by LCTF and formulates detailed strategies for achieving them (as necessary). - The Sustainability Committee and the Finance Committee work together to identify risks and opportunities and discuss countermeasures (as necessary). - Key measures and action plans formulated by the committee are promoted company-wide and the progress is reported to the Board of Directors. - The Board of Directors deliberates on the validity of strategies and inherent risks and supervises the progress towards targets (twice a year or more).
Strategy	- Identify risks and opportunities in scenario analysis considering the 2°C and 4°C scenarios, decide on medium- to long-term measures, and manage their progress - Analyze the impact of risks and opportunities on business and finance - Formulate development plan for low-carbon and decarbonization-related products and their market introduction plans
Risk Management	- The Risk Management Committee chaired by Director and Executive Officer identifies and manages risks that have major impact on business and finance as priority management risks. - The committee shares risk information with the Committee of Inside Executives and the Board of Directors and decides appropriate responses from the perspective of company-wide risk management.
Metrics and Targets	- Verification of CO₂ emissions by Nikko Co., Ltd. - Switch to renewable energy-based electricity and establishment of RE100 target - Verification of Scope 3 (in the entire supply chain) CO₂ emissions - Setting of the FY 2030 interim target and the FY 2050 target based on scenario analysis <FY 2022 results> - CO₂ emissions (Scope 1 and 2): 544t-CO₂ (down 79.8% vs. FY 2021) - CO₂ emissions (Category 11 of Scope 3): 664,082t-CO₂ (down 16.4% vs. FY 2021) <FY 2030 emission targets> - CO₂ emissions (Scope 1, 2, and 3): 436,970t-CO₂ (vs. FY 2021 results) - Aim for net-zero CO₂ emissions (Scope 1, 2, and 3) <FY 2050 target> - Aim for net-zero CO₂ emissions (Scope 1, 2, and 3)

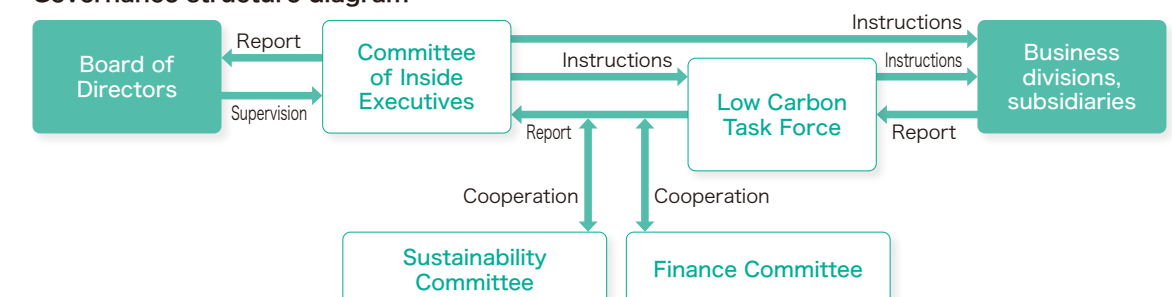
Governance

Carbon neutrality promotion structure

Nikko established the Low Carbon Task Force (LCTF) led by the managers of the Business and Technology Development Divisions to promote the realization of carbon neutrality. Through its monthly LCTF meetings, it examines and discusses the issues in a cross-divisional manner for the realization of carbon neutrality based on data verification and evidence. The Committee of Inside Executives discusses the plan proposal drafted by LCTF and formulates concrete target

values and specific strategies for achieving the targets. It also works together with the Sustainability Committee chaired by the Director and Executive Officer as well as the Finance Committee as necessary. The Board of Directors, at its meetings, deliberates the investment plan, product development plan, and risk countermeasures formulated by the Committee of Inside Executives and supervises their adequacy and progress.

Governance structure diagram



Strategy

Climate change scenario analysis

Nikko assumes the future temperature rise scenarios in the range of 2°C and 4°C upon carrying out the scenario analyses for 2030 and 2050.

Reference scenarios: ■World Energy Outlook 2020 by IEA

- STEPS (current policy scenario) ● SDS (sustainable development scenario)
- IPCC AR5
- RCP2.6 (2°C scenario) ● RCP8.5 (4°C scenario)

Business and financial impact of climate-related risks and opportunities based on scenario analysis; medium- to long-term measures addressing risks and opportunities and results for FY 2022

2°C scenario (assuming progress in low-carbonization)	Risks	Impact on finance	Likelihood of occurrence	Countermeasures	FY 2022 results
	Rapid shift to decarbonized burners (plants)	High	Medium	Speed up product development.	- Completed demonstration tests of burners fired by decarbonized fuels such as hydrogen, ammonia, and powder biomass. - Increased R&D expenses (700 million yen) - Prepared a decarbonization technology roadmap. - Revised the price table due to increase in procurement costs. - The head office factory switched to green electricity. - Sales of decarbonization-related products increased.
	Request from users to share the carbon tax burden (discount)	High	Medium	Tirelessly explain to and negotiate with customers	
	Market introduction of highly carbon-efficient roadbed materials alternative to asphalt	High	Low		
	Increase in R&D expenses and capital investment	Medium	High	Improve efficiency of development. Clarify priorities.	
	(decarbonized burners, CO ₂ capture and storage technology, etc.)	Medium	High	Speed up product development.	
	New entry by boiler, burner, and electric furnace manufacturers	Medium	Medium	Strengthen analysis of expected new entrants. Acquire related intellectual properties at an early stage.	
	Decrease in the number of operating plants due to centralization to large plants	Medium	Medium	Identify users who will survive and recommend systematic maintenance to such users	
	Increase in the cost of procurement of raw materials (steel materials, etc.)	Low	High	Strengthen function-focused purchasing, etc.	
	Increase in the cost of electricity derived from renewable energy	Low	High	Streamline plant operations and pass on costs to product prices	
	Increase in the cost of procurement of alternative fuels	Low	High	Promote a wide range of fuel procurement methods	
	Opportunity	Impact on finance	Likelihood of occurrence	Countermeasures	FY 2022 results
	Demand for updating to low-carbon or decarbonized burners (plants)	High	High	Diversify fuels and enhance product lineup	- Increased number of business negotiations for CO₂-absorbing plants - Promoted proposals for recycling plants targeting ASEAN - Increased the number of employees engaged in technology development - The number of patent applications increased.
	Growth in market share due to superiority in the R&D competition	High	Medium	Further strengthen technology development investment	
	Increase in demand for concrete products (roadbed materials alternative to asphalt)	Medium	Low	Transform plants to pavement concrete production	
	Growth in demand for recycling and low-carbon plants due to stricter environmental restrictions in China and Southeast Asian countries	Medium	Medium	Reinforce overseas production bases	
	Provocation of demand for new plants due to spread of CO ₂ fixation concrete	Low	High	Enhance lineup of plants for CO ₂ -absorbing concrete	
	Increase in demand for lithium battery recycling equipment due to expansion of the EV market	Low	Medium	Enhance lineup of environmentally friendly and recycling products	

4°C scenario (assuming low-carbonization scenario is not promoted)	Risks	Impact on finance	Likelihood of occurrence	Countermeasures	Results
	Expansion of the new roadbed and construction material markets due to measures against heat island effect (shrinkage of the existing asphalt and concrete markets)	Medium	Low	Launch products developed using core technologies in the new construction material market	- Established a dedicated department for lateral deployment of the core technologies. - Unearthed new suppliers mainly in the ASEAN region. - Revised the price list as needed.
	Increase in the cost of procurement of materials due to suspension of supply chains	Low	Medium	Diversify supply chains including those overseas	
	Increase in BCP expenses	Low	High	Appropriately pass on costs to product prices	
	Opportunity	Impact on finance	Likelihood of occurrence	Countermeasures	Results
	Increase in demand for preemptive maintenance for stable operation	High	Low	Improve the efficiency of the maintenance business using IoT	- Promoted use of subscription service for maintenance. - Established a production base in ASEAN. - Acquired land for factories in Japan as needed. - Increased the number of employees engaged in technology development - The number of patent applications increased.
	Increase in demand for disaster prevention or mitigation models	Medium	Medium	Strengthen manufacturing capacity and reorganize manufacturing sites	
	Increase in demand for disaster prevention products (waterproof boards, temporary scaffolding, etc.)	Medium	High		
	Increase in demand for counter-disaster mobile plants	Low	Medium		
	Increase in demand for transferring plants to areas with low disaster risk	Low	Low	Transform plants to pavement concrete production	
	Increase in demand for concrete products (roadbed materials alternative to asphalt)	Medium	Low		
	Growth in demand for recycling and low-carbon plants due to stricter environmental restrictions in China and Southeast Asian countries	Medium	Medium	Reinforce overseas production bases	
	Provocation of demand for new plants due to spread of CO ₂ fixation concrete	Low	High	Enhance lineup of plants for CO ₂ -absorbing concrete	
	Increase in demand for lithium battery recycling equipment due to expansion of the EV market	Low	Medium	Enhance lineup of environmentally friendly and recycling products	

The degree of financial impact is evaluated across three levels between high, medium, and low, depending on the likelihood of occurrence of the risks and opportunities and their impact on periodic income.

Four steps and seven approaches towards the realization of carbon neutrality

To grasp CO₂ emissions in Scope 1, 2, and 3 as accurately as possible, we have been verifying major categories by setting certain conditions since FY 2021. The results of the verification show that CO₂ emissions from the use of products such as Nikko-made plants sold were 664,000 tons (verified in FY

2022), accounting for 90.1% of overall emissions in Scope 3. The Group will offer products and services by identifying the most cost-effective methods for reducing CO₂ emissions, while sharing with customers the evidence extracted from verification data.

Four steps



To accurately understand the CO₂ emissions during the mixture manufacturing process, Nikko analyzed the energy consumption at the mixture plants. Since about 80% of energy is used to remove water and heat aggregates (recycled materials), reducing the water content has proved effective in reducing

the energy consumption in the drying and heating process. Based on such verified data, Nikko has been taking seven approaches to developing products aimed at decarbonization as part of efforts to reduce emissions.

Seven approaches



Nikko is conducting product development by combining seven technologies for the realization of carbon neutrality.

1 Fuel transition

To replace heavy oil, which has high CO₂ emissions, the Group has embarked on the R&D of burners using ammonia and hydrogen, which are promising CO₂-free fuels, in addition to the development and improvement of burners that use city gas, natural gas, and biomass fuels.

2 Warm mix

Manufactures asphalt mixture at a temperature lower than the usual heating temperature by reducing the viscosity of asphalt by adding water to heated asphalt and foaming it. Use of warm mix reduces the energy consumption in heating, thus helping reduce CO₂ emissions.

3 Transformation of the material storage system

Reducing water in aggregate, which is the raw material of asphalt mixture, enables to lower energy consumption in the aggregate incineration process, thus reducing CO₂ emissions.

4 Reform of the plant system

CO₂ emissions can be reduced by lowering the amount of newly used consumption energy by recycling exhaust gas and heat from plant operation for heating and processing aggregate.

5 CCU

The external CO₂ emissions of a plant can be reduced by absorbing CO₂ emitted at the plant using the technology to absorb CO₂ with concrete. We are also promoting research and development for absorbing the CO₂ emitted from asphalt plants at concrete plants.

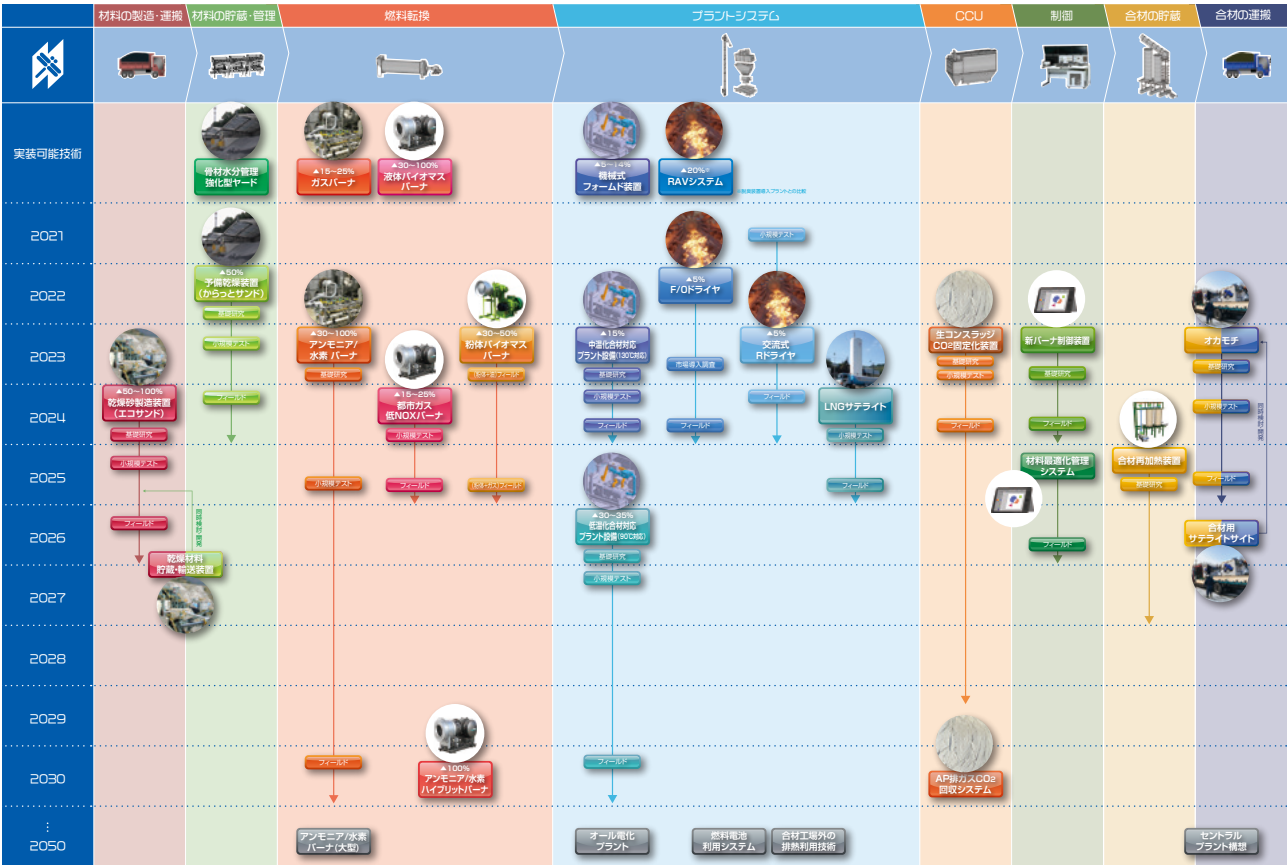
6 Transformation of the mixture delivery system

CO₂ emissions can be reduced by lowering energy consumption by improving production efficiency of mixture through establishment of technology for extending the distance of mixture transport and improving transport efficiency from the plant to the destination.

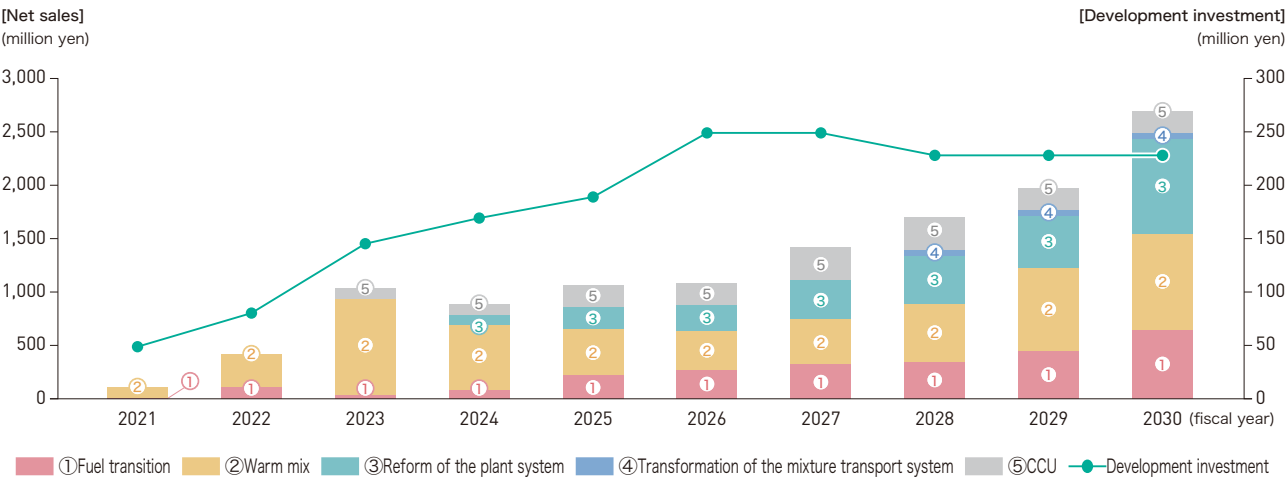
7 Electrification

Assuming that the use of CO₂-free electricity would spread, we are considering development of an all-electric plant to replace fossil fuels by promoting the electrification of drying and heating equipment.

Road map for the development of carbon-neutral AP products



Net sales target of decarbonization and low-carbon products and investment plan (the figures for FY 2021 and 2022 are results)



Risk Management

The Low Carbon Task Force (LCTF) formulates and drafts the carbon neutrality-related plans and promotes company-wide response to climate change.

The Risk Management Committee evaluates and identifies climate change-related impact on the Company and manages the effects. Furthermore, it plays the role of integrating the impact of climate change-related risks into company-wide risks by closely collaborating with the Committee of Inside Executives. The Committee of Inside Executives discusses the impact of and

response to climate change and evaluates them. It also formulates policies, key measures and targets, and action plans for minimizing climate risks. The contents of the discussion at the meetings of the Committee of Inside Executives are reported to the Board of Directors twice a year or more. The Board of Directors performs the supervisory function, regularly receiving reports on climate change-related action plan and risk evaluation from the Committee of Inside Executives and the Risk Management Committee, and deliberating on those reports.

Metrics and Targets

Nikko Group aims to realize virtually zero CO₂ emissions from its business activities and Nikko products it sells in 2050. It promotes the development of products that contribute to the reduction of CO₂ emissions as well as thorough energy saving activities and proactive utilization of renewable energy. Including these responses,

the Group has reduced the verified Scope 1, 2, and 3 CO₂ emissions to 56.8 in FY 2022 when the emissions in FY 2013 are set at 100. (There are discrepancies with previously verified figures, as we changed the conditions for service life for some asphalt plant-related products.)

Verified Scope 1, 2, and 3 CO₂ emissions (t-CO₂)

Category	Target activities	FY 2013	FY 2020	FY 2021	FY 2022
Scope 1 and 2					
1 Combustion of fuels	Emissions from manufacturing, processing, and experimenting	430	305	341	353
2 Use of electricity	Electricity use at all companies including dorms	2,639	2,454	2,354	191
Scope 3					
1 Purchased products and services	Emissions in upstream of the products purchased (including raw materials and office supply)	39,073	48,002	46,876	40,958
2 Capital goods	Emissions in upstream of capital investment that has been recently introduced	2,137	3,946	2,278	2,342
3 Fuel- and energy-related activities not included in Scope 1 and 2	Emissions from mining, refining, etc. of the fuel used for burning and generating electricity in Scope 1 and 2	367	328	321	314
4 Transport, delivery (upstream)	Procurement and transport of raw materials and parts, and shipment of products (costs borne by the company)	26,386	24,670	27,020	28,613
5 Waste from the business	Waste disposal, recycling of goods other than valuables, emissions from transport	115	61	42	41
6 Business trips	Emissions from business trips by employees (rail service and airplane)	84	83	85	91
7 Commuting by employees	Emissions from employees' commute (rail service, bus, ship, automobile, motor bike)	310	304	310	329
11 Use of products sold	Emissions from operating asphalt plants (AP) sold	1,091,313	620,840	718,339	559,136
	Emissions from operating batching plants (BP) sold	33,716	20,586	29,829	28,367
	Emissions from operating conveyors sold	101,819	57,075	46,052	76,581
	Total for Category 11	1,226,848	698,501	794,220	664,084
12 Disposal of products sold	Emissions from disposal of AP, BP, and conveyors sold	93	95	93	74
Total		1,298,482	778,749	873,940	737,390
Vs. FY 2013		100.0%	60.0%	67.3%	56.8%

Utilization of renewable energy-based electricity

Nikko Co., Ltd. switched all electricity used at its head office factory to electricity generated from renewable energy sources in March 2022. The move significantly reduced the Scope 2 CO₂ emissions from 2,354t-CO₂ in FY 2021 to 191t-CO₂ in FY 2022. Going forward, we will pursue this initiative also at sales offices and group companies throughout Japan.

Ratio of introduction of electricity generated from renewable energy sources (green electricity) at Nikko (non-consolidated)
FY 2021 7.9% FY 2022 91.8%
RE100 achievement target: FY 2030 at the Nikko Group in Japan

Interim targets (2030) of CO₂ emissions (Scope 1, 2, and 3)

FY 2021 emission results: 2,695t-CO₂ (Scope 1 and 2); 873,940t-CO₂ (Scope 3)
2030 emission targets: 436,970t-CO₂ (Scope 1, 2, and 3; down 50% from FY 2021) (Nikko Co., Ltd.)

