NEC TNFD Report

3rd Edition

August 2025

NEC \Orchestrating a brighter world

CEO Message

Unless we deliver "true value" to society, a company cannot achieve long-term profit. True value means solving the fundamental challenges faced by society, including our customers, and realizing prosperous, more sustainable economy. The greater this value, the more benefit reaches society, maximizing the profit the company receives in return and enabling reinvestment toward creating further value. Business activities are the repetition of this cycle; maximizing social contribution and corporate value are truly one and the same.

The World Economic Forum's January report on top global risks for the next decade highlights challenges like "extreme weather," " biodiversity loss and ecosystem collapse," "natural resource scarcity," and "pollution." While all are difficult to solve, advancements in technologies such as AI, image recognition, trust technologies, and simulation have proven useful in addressing these issues.

The NEC Group states its Purpose as: "NEC creates the social values of safety, security, fairness and efficiency to promote a more sustainable world where everyone has the chance to reach their full potential." As a company that has harnessed advanced technology to contribute to society for 126 years since its founding, actively tackling difficult social challenges and continuing to deliver true value is the path to realizing the Purpose. This is also our way to contribute to sustainability.

Furthermore, we believe the Task Force on Nature-related Financial Disclosures (TNFD) provides a crucial framework for identifying the dependencies, impacts, risks, and opportunities between the natural environment/ecosystems and corporate activities, and for incorporating these into management and investment decisions. The NEC Group recognized its importance early on and has advanced activities accordingly. In July 2023, we took the lead globally by publishing our first TNFD report, and the following year, we expanded our activities by issuing a second edition reflecting the insights gained.

In preparing this third edition, we undertook an initiative unique to a technology company by leveraging generative AI and Agentic AI. Using AI power, we analyzed the relationship between our business and the natural environment. Based on this analysis, our team members conducted field studies, verifying site-specific countermeasures and governmental initiatives. By combining AI and human capabilities, we achieved both efficiency and sophistication while organizing and grasping critical information.

The expertise gained here is not confined solely to our company; it is something we can also offer our clients. As our "Client Zero Initiative," we first thoroughly utilize advanced technology ourselves, accumulating real-world insights and experiences—including both successes and failures. We then deliver the resulting digital transformation (DX) success stories as scenarios within "BluStellar," our value creation model designed to guide clients' transformations to success.

It is now clear that data-driven decision-making, enabled by technology, is indispensable when pursuing sustainable businesses that contribute to solving societal challenges. By integrating information on natural capital into information systems spanning product planning, design, procurement, manufacturing, and sales, we believe we can directly contribute to advancing sustainability and driving business innovation across various industrial sectors.

This report introduces various NEC Group initiatives related to these insights, and we hope our stakeholders will perceive their value and importance. We sincerely hope for your understanding and support as we walk together toward building a social system where environmental improvement and economic development form a virtuous cycle.



NEC Corporation
President and CEO
Takayuki Morita

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1 Executive Summary

This report evaluates and discloses NEC's risks and opportunities from a natural capital perspective. Regarding direct operational risks, we identified 55 types of NEC Group business activities. Based on their dependence on natural capital, potential impact severity, and business scale/nature, we selected specific activities for in-depth evaluation. As a result, we conducted in-depth assessments for three businesses: optical submarine cable laying, data center operations, and equipment manufacturing.

For the optical submarine cable laying business, we assessed physical risks related to increasingly unstable sea conditions due to climate change, as well as regulatory risks concerning impacts on ecosystems and water quality. NEC incorporates measures to mitigate weather impacts during submarine cable laying. In addition, submarine cables have a thin diameter of 17 mm, and through the development of multi-core fiber cables, which provide multiple transmission paths in a single fiber, we can expand transmission capacity without increasing cable thickness. NEC engages in extensive discussions with submarine cable owners, countries, and local governments in the laying areas to ensure compliance with regional laws and ordinances while laying cables with environmental considerations. According to literature such as that from the United Nations Environment Programme, the environmental impact of submarine cable laying is limited. Nevertheless, NEC will continue to collaborate with stakeholders to advance environmental considerations.

Regarding data center operations, water-related risks were assessed. Among the 11 data centers NEC operates domestically, only the Kanagawa and Kobe data centers use air conditioning systems that consume water in cooling towers. To conduct a more detailed assessment than generic tools allow, we collaborated with the National Institute of Advanced Industrial Science and Technology (AIST). We quantitatively evaluated water stress levels (using the AWARE model), considering the volume of water resources necessary for the conservation of ecosystems within the river basin, and to quantitatively assess the extent to which local environmental capacity is exceeded. We also utilized AI to identify local risks, including those related to water infrastructure, and pinpointed areas requiring deeper investigation. Subsequent site visits and stakeholder dialogues confirmed that these facilities are connected to abundant water sources, eliminating concerns about water shortages. Furthermore, these data centers employ a redundant structure using both municipal water and groundwater and include storage facilities capable of sustaining 72 hours of operation during emergencies. This minimizes the risk of operational shutdowns or regional impacts. In regions with low water scarcity concerns, using water resources within sustainable limits can reduce the energy required for air conditioning. Surveys for data centers operated by group companies both domestically and internationally are scheduled for completion by next fiscal year. Furthermore, plans are in place to incorporate the requirement for prior water risk assessments when constructing new facilities into the next mid-term environmental plan.

For the equipment manufacturing sector, we conducted screening assessments using specialized tools for water scarcity risk, flood risk, pollution risk, and biodiversity risk at all 16 production sites globally. Based on these results, we performed in-depth evaluations using AI and on-site studies at the Jiangsu site in China, the Pathum Thani site in Thailand, the Abiko site in Chiba Prefecture, and the Tamagawa site in Kanagawa Prefecture. Based on regional water sources, water usage patterns at the sites, flood countermeasures in equipment and management, and pollution control status, the risks at these four sites were confirmed to be low. As there has been no new land conversion and pollution is being well-managed, we judge biodiversity risk to be low as well. We will continue to implement the PDCA cycle for environmental management, utilizing systems such as ISO 14001 Environmental Management Systems. Furthermore, we plan to incorporate the requirement for prior assessment of water risks and biodiversity risks when constructing new sites into our next mid-term environmental plan.

Regarding the upstream of the value chain, we assessed dependencies and impacts at each tier of mining, material manufacturing, and component manufacturing. Furthermore, for the 2,000 production sites of our procurement partners, we conducted evaluations using tools and AI, similar to our directly operated manufacturing sites. We plan to incorporate the process for strengthening future engagement into the next environmental mid-to-long-term plan.

Regarding business opportunities, as a Client Zero, we described our approach of proactively tackling various challenges ourselves and contributing to customers and society through the insights gained, under the value creation model "BluStellar." Specifically, we explain services developed during the preparation of this report that leverage generative AI and Agentic AI, as well as the integration of environmental information into enterprise IT systems. Furthermore, we have organized how NEC's strengths translate into value across five themes for business co-creation with other sectors, such as the resource circulation platform "PLA-NETJ" utilizing trust technology.

At NEC, environmental matters of significance are discussed at either the Executive Committee or the Business Strategy Council (composed of Executive Officers, etc.). Only topics deemed significant following discussions at the Environmental Management Promotion Council—composed of environmental promotion representatives from each business unit—are submitted for deliberation. Additionally, topics with particularly significant impact on NEC's business are reported to the Board of Directors. Furthermore, various risks related to natural capital are utilized in creating company-wide risk maps and in sustainability-related materiality assessments.

Regarding the realization of business opportunities, we will make appropriate investments to maximize long-term profits. AI now enables us to explore business opportunities by cross-referencing environmental regulations in each country, customer needs, competitor trends, and our own technologies. Alongside individual business decision-making, the Carbon Neutral Business Promotion PMO Group compiles the company-wide portfolio of environmental businesses, including those in the natural capital field, along with investment amounts. This is reported quarterly to the CEO and CFO.

Furthermore, NEC participates in activities such as developing sector guidance[1] for the World Economic Forum and contributing to the TNFD's NDPF, [2] thereby supporting the establishment of domestic and international schemes. Insights gained from these experiences are also incorporated into this report.

[1] Nature Positive Role of the Technology Sector：Currently being compiled jointly by the World Economic Forum and Oliver Wyman. It sets out what each sector should do to enable the transition to a nature-positive economy. NEC is currently preparing an IT sector report together with leading companies worldwide.

[2] Nature Data Public Facility：An initiative to make the vast amount of nature-related data available worldwide easier to use.

https://tnfd.global/enhancing-market-access-to-global-nature-data/

2 Introduction

The TNFD disclosure recommendations cover a broad range of nature-related factors closely linked to corporate activities, extending beyond ecosystems and biodiversity to include water resources, pollution, and resource circulation. These are disclosure areas being considered under the European CSRD/ESRS regulations and ISSB S3. NEC assesses its business's dependence on and impact upon the natural environment, along with associated risks and impacts, and discloses this information as TNFD.–

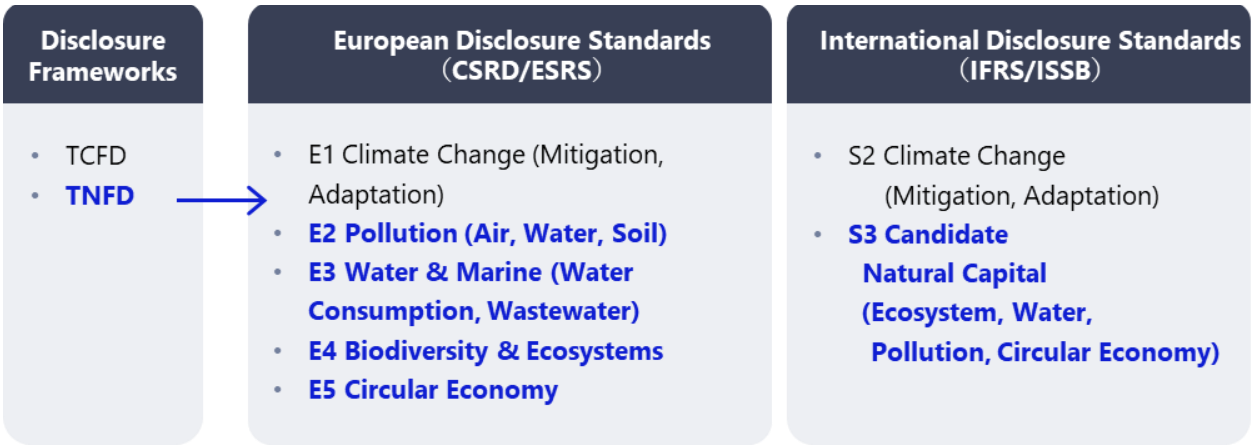


Figure 1: Comparison of TNFD and Key Disclosure Standards

3 General Requirements

① Materiality

This report evaluates both "the impact of natural capital on business activities" and "the impact of business activities on natural capital" using the double materiality approach.

② Scope of Disclosure

Disclosures cover risks (direct operations, upstream and downstream of the value chain) and opportunities.

③ Location of Nature-related Issues

For all 16 direct operation production sites and all 26 data centers (including domestic and overseas group companies), assessments were conducted using evaluation tools for water scarcity risk, flood/storm surge risk, and biodiversity risk. Furthermore, detailed assessments of regional water resources were performed using AI. Based on these results, we conducted on-site studies and engaged in dialogue with local authorities and site stakeholders at two directly operated data centers (Kanagawa and Kobe) and four production sites (Suzhou, Jiangsu Province, China; Pathum Thani Province, Thailand; Abiko Plant, Chiba Prefecture; and Tamagawa Plant, Kanagawa Prefecture).

We also conducted similar assessments for 2,000 production sites of our procurement partners and are considering detailed investigation plans for production sites located in areas where potential risks exist.

④ Integration with Other Sustainability Issues

Climate change and natural capital influence each other. For physical risks directly related to operations, we have assessed flood risks under a 4℃ climate change scenario using simulations. Other sustainability issues are disclosed in the NEC ESG Data Book.

⑤ Time Horizons

The short term is defined as the period from now through fiscal 2025, the medium term as fiscal 2026 through fiscal 2030, and the long term as fiscal 2031 through fiscal 2040.

Figure 2: Definition of Time Horizons

Time Axis	Definition	Alignment with Environmental Strategy	Alignment with Corporate Strategy
Short-term	FY2024–2025	NEC Eco Action Plan (Mid-to-Long-Term Environmental Plan)	2025 Mid-Term Management Plan
Mid-Term	FY2026–2030	NEC Group Environmental Management Action Plan 2030 (Environmental Goals 2030)	NEC 2030 VISION
Long-Term	FY2031–FY2040	SBT Net-Zero	-

⑥ Human Rights, Stakeholder Engagement

In 2015, NEC established the "NEC Group Human Rights Policy," declaring its commitment to promoting respect for human rights throughout its entire value chain through dialogue and consultation with stakeholders and the implementation of human rights due diligence. Furthermore, in June 2022, the policy was revised to clearly demonstrate top management commitment to respecting human rights and governance structures as required by the UN Guiding Principles on Business and Human Rights (UNGPs), and was reported at the Board of Directors meeting for fiscal year 2022. During the revision process, we engaged in dialogue with a wide range of internal and external stakeholders, including labor unions, experts from the International Labour Organization (ILO), international NGOs, investors, and lawyers specializing in human rights and business.

As part of our broader stakeholder engagement, we disclose information in our annual integrated report and ESG data book and facilitate mutual dialogue at environmental management briefings. We have also established the NEC Sustainability Advisory Committee as an advisory body to the officer in charge of sustainability, regularly holding dialogue sessions between external experts in sustainability and management. Furthermore, we conduct annual environmental education for all employees, including those at overseas locations. Additionally, at our Abiko site, which preserves habitats for rare species, we engage in dialogues and on-site activities with local NPOs, government agencies, and experts.

4 Governance

NEC promotes "Environmental Management" as part of its corporate social responsibility. This involves reducing the environmental impact of its own business activities—such as energy conservation in facilities and transportation and reducing the use of chemicals—and contributing to reducing society's overall environmental impact through the provision of products and services. Furthermore, to advance environmental management across the entire group—including the company, affiliated companies, production sites, and research laboratories—we have established an "Environmental Policy" as our action guideline for environmental matters. All personnel, from executives to employees, adhere to this policy, ensuring environmentally conscious actions are thoroughly implemented. We also require compliance with relevant guidelines and contractual obligations from our supply chain, including procurement partners and contractors.



NEC Environmental Policy

NEC views the operation of business in harmony with the environment as one of its top priority issues and is committed to reducing the environmental impact of the entire global supply chain and contributing to a sustainable society.

1. We will create social value focused on delivering ICT solutions and services leveraging advanced technologies to contribute to their adaptation, and we will contribute to the reduction of the environmental burden on customers and the global environment and to the mitigation of the impacts of climate change.
2. We will assess the environmental impact throughout the entire lifecycle of ICT solutions and service development with considerations for reducing environmental burden.
3. We will comply with environmental laws and regulations associated with our business activities, honor agreements with stakeholders, and strive to conserve energy, save resources, and prevent environmental pollution caused by chemical substances and waste throughout the entire supply chain.
4. We will prioritize the procurement of environmentally friendly hardware, software and services.
5. We will disclose environmental information regarding our business activities, ICT solutions and services to our stakeholders.
6. We will raise the environmental awareness of each and every one of our employees worldwide and contribute to the conservation of the global environment through the promotion of climate change action, resource circulation and biodiversity.
7. We will strive to improve our environmental management system with environmental targets and conduct periodic reviews to realize continual improvement.

Figure 3: Environmental Policy

Environmental matters of significance are discussed at the Executive Committee or Business Strategy Committee (composed of Executive Officers, etc.). Agenda items submitted for discussion are limited to those deemed significant based on discussions within the Environmental Management Council established in each business unit, discussions in specialized thematic subcommittees, and discussions in the Environmental Management Promotion Council composed of environmental promotion staff from each business unit. Furthermore, agenda items that could have a particularly significant impact on NEC's business are reported to the Board of Directors.

Each business unit, in addition to establishing an Environmental Management Council, has established a framework that leads to concrete initiatives within each department and at domestic and overseas affiliates. By

formulating and implementing specific action plans based on the environmental strategy established by the Executive Committee or Business Strategy Council, NEC promotes consistent environmental management as an organization.

Furthermore, for business promotion activities that view the environment as a new business opportunity, a dedicated team called the Carbon Neutral Business Promotion PMO has been established. This team supports the formulation of company-wide strategies and the acceleration of business initiatives, including those involving group companies.

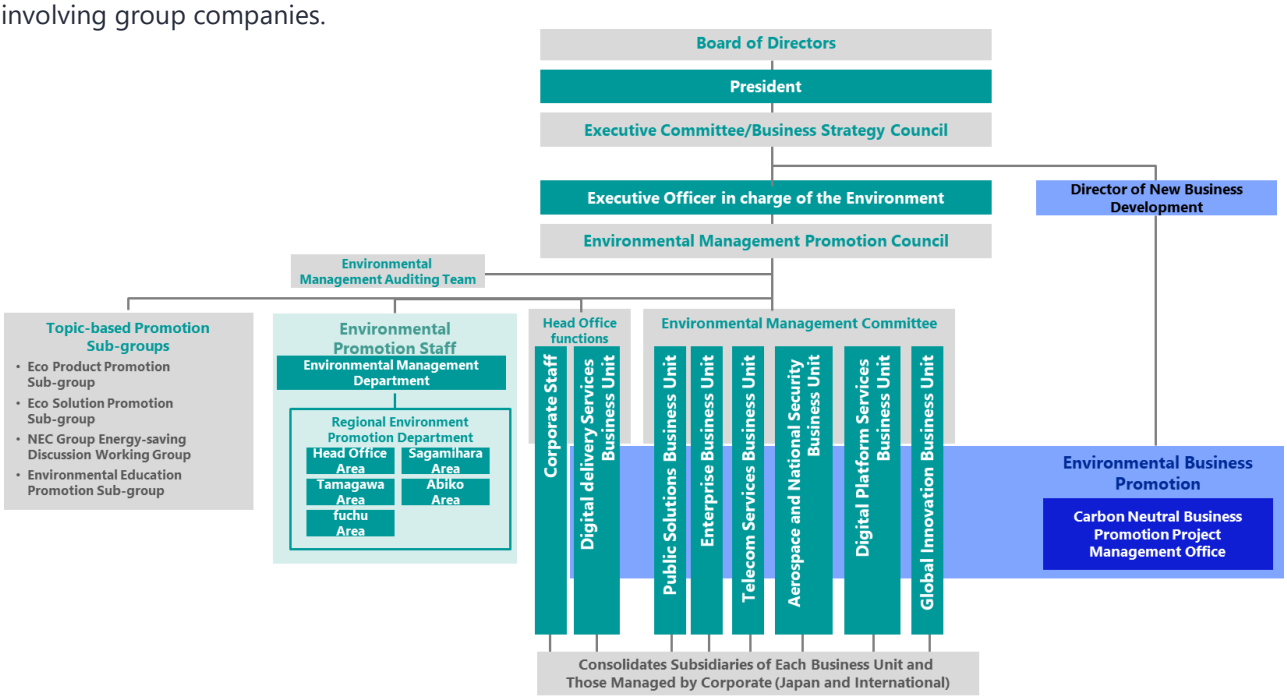


Figure 4: NEC Environmental Promotion Framework

In addition to its environmental promotion framework, NEC established a Sustainability Advisory Committee[3] in fiscal year 2021 to advance sustainability management that contributes to enhancing both corporate and social value. This committee brings together the CFO and executive officers responsible for sustainability initiatives to engage in regular high-level discussions with external experts in sustainability. Its purpose is to confirm the company's direction in an era of high uncertainty and rapid change, and to drive improvements in its initiatives. In addition to management activities, NEC operates an internal online community called "NEC for Green," where team members gather to discuss environmental issues broadly. Over 1,800 participants from across the NEC Group share daily updates on environmental trends and discuss new business opportunities.

Regarding human rights, NEC established the "NEC Group Human Rights Policy"[4] in 2015. This policy declares NEC's commitment to promoting respect for human rights throughout its entire value chain through stakeholder dialogue and consultation, as well as the implementation of human rights due diligence. [5] Furthermore, in June 2022, the policy was revised to clearly demonstrate top management's commitment to respecting human rights and the governance framework required by the UN Guiding Principles on Business and Human Rights (UNGPs). This revised policy was reported at the Board of Directors meeting in fiscal year 2022. During the revision process, we engaged in dialogue with a wide range of internal and external stakeholders, including labor unions, experts from the International Labour Organization (ILO), international NGOs, investors, and lawyers specializing in human rights and business.

This policy applies to all officers and employees (including fixed-term employees, contract workers, and part-time workers) of the Company and its consolidated subsidiaries. We will also engage our suppliers, business

[3] Sustainability Advisory Committee https://jpn.nec.com/sustainability/ja/management/advisory_committee.html

[4] NEC Group Human Rights Policy https://jpn.nec.com/sustainability/ja/pdf/human_rights.pdf

[5] Identification and assessment of adverse human rights impacts from corporate activities; response to the identified human rights issues (integration into management); tracking and evaluation; and the process for reporting on initiatives.

partners, and customers, encouraging them to understand this policy and strive to respect human rights. Furthermore, we will continuously review this policy and our human rights initiatives based on it, updating and revising them as necessary.

External Engagement on Natural Capital

Figure 5: Initiatives in Which NEC Participates

Participating Initiatives	Description
The TNFD Forum/ Early Adopters	Join the TNFD (Task Force on Nature-related Financial Disclosures) Forum as a member and contribute to discussions Register as an Early Adopter and implement disclosures based on TNFD
TNFD Nature Data Public Facility (NDPF)	Activities to make the vast amount of nature-related data available worldwide more accessible. Currently providing input as a pilot company on required functionalities
Science Based Targets Network	A methodology for setting targets related to water, biodiversity, land, and oceans, enabling companies to act within planetary boundaries in alignment with sustainability goals. NEC participates in the Corporate Engagement Program, contributing to the development of global standards.
World Economic Forum (WEF) Nature Positive Transitions for Technology Sector	Identifying the environmental impacts and key initiatives of the ICT sector alongside companies worldwide. A paper is scheduled for release in December.
TNFD Technology Sector Guidance	Working with companies worldwide to develop indicators and metrics metrics for the ICT sector
Keidanren Nature Conservation Council	As a planning committee member, implements collaboration with international initiatives such as TNFD, policy proposals, and support for nature conservation projects
Electrical and Electronics Industry 4 Organizations Biodiversity Working Group	Analyzing the electrical and electronics industry's dependence on and impact to natural capital, developing various tools for mainstreaming biodiversity. Participating as a WG member.
Nature-Positive Development Society Realization Hub	Selected for the full-scale "Co-creation Space Formation Support Program (COI-NEXT)" by the Japan Science and Technology Agency (JST). Participating in the hub led by Professor Michio Kondo of Tohoku University's Graduate School of Life Sciences. Aiming to realize a society that develops while restoring nature through collaboration with diverse stakeholders.
Research and Development Bridge Program (BRIDGE) for Society 5.0 Development and Demonstration of Nature Footprint Based on Promoting Nature-Related Disclosure by Financial/Investment Institutions and International Standardization	Developing a methodology (Nature Footprint) to quantitatively assess environmental impacts focusing on natural capital and biodiversity from a global value chain perspective, and implementing initiatives necessary for international standardization. NEC participates as a business operator.

5 Strategy

5.1 Summary (Analysis Using the LEAP Approach)

We conducted an analysis using the LEAP approach recommended by TNFD. The summary of the analysis results is as follows, with details disclosed starting in the next chapter.

Figure 6: Summary of LEAP Analysis Results

	Direct Operations / Downstream Value Chain				Upstream Value Chain
	IT Services	Optical Submarine Cable Installation	Data Center Operation	Equipment Manufacturing (Electronic and Communication Equipment)	
Locate	Identify interactions between business activities and natural capital using ENCORE and our industry knowledge				
	— (Location not specified)	— (Not disclosed for security reasons)	・Identified areas of concern among 26 locations (Kanagawa, Kobe, 9 subsidiary locations)	・Identified areas of concern among 16 locations (Thailand, China, Abiko, Tamagawa)	・Organized upstream tiers: mining, material manufacturing, and component manufacturing phases; identified dependencies and impacts per tier ・Identified areas of concern among 2,000 domestic and international procurement suppliers
Evaluate	・Identify opportunities where ICT technology can contribute through qualitative evaluation via dialogue with business divisions	・Conduct qualitative assessments through dialogue with business divisions	・Conduct quantitative assessments using high-resolution tools for water scarcity risks and flood/storm risks ・Collect local information using AI ・Field studies and interviews with stakeholders at each site ・Future risk assessment through scenario analysis	・Quantitative assessment using high-resolution tools for water scarcity risk and flood/storm risk ・Biodiversity risk assessment using iBAT ・Local information gathering using AI ・Field studies and interviews with stakeholders at each site ・Future risk assessment through scenario analysis	【About Procurement Suppliers】 ・Quantitative assessment using high-resolution tools for water scarcity risk and flood/storm risk ・Biodiversity risk assessment using iBAT ・Localinformation gathering using AI 【Intermediate Suppliers to Upper Stream】 Evaluation of water resource dependency and impacts using statistical data
Assess	・Organize how NEC's ICT strengths contribute to solving customer and societal challenges: Client Zero and five themes of business co-creation	・Confirm risks are minimized through advanced technologies reducing environmental impact, compliance with regulations, and construction schedules/ measures considering the local environment	・Redundant configuration using both surface water and groundwater sources; no past water outages or shortages ・Confirmed stability of water resources at intake points	・Thailand/China: No water usage in production processes. Sufficient countermeasures against water shortages, flooding, and wastewater pollution risks confirmed at facilities, industrial parks, and surrounding areas ・Abiko: Established flood countermeasures and emergency response protocols in collaboration with the city government ・Tamagawa: Fundamentally strengthened flood countermeasures based on the 2019 Tama River flooding damage	(Annual questionnaires are conducted for procurement partners)
Prepare	・Enhance market opportunity analysis using AI; align disclosure scope with business divisions	・Align disclosure scope with business divisions	・Plans to complete subsidiary data center surveys by next fiscal year ・Plan to incorporate prior risk assessments for new business site establishment into the next Eco Action Plan	・Plans to incorporate prior risk assessments for new business site establishment into the next Eco Action Plan	・Plans to incorporate detailed supplier investigations into the next Eco Action Plan

5.2 Risks (Direct Operations / Upstream Value Chain)

NEC conducts various business activities centered on IT services and social infrastructure. We narrowed down the business activities and regions requiring attention for risk analysis through the following steps. We broadly

explored risks by utilizing resources such as the ENCORE[6] framework developed by the United Nations Environment Programme, the World Economic Forum's Nature Positive transition guidance for the IT sector (draft), and our own environmental management expertise.

Approach to Risk Analysis

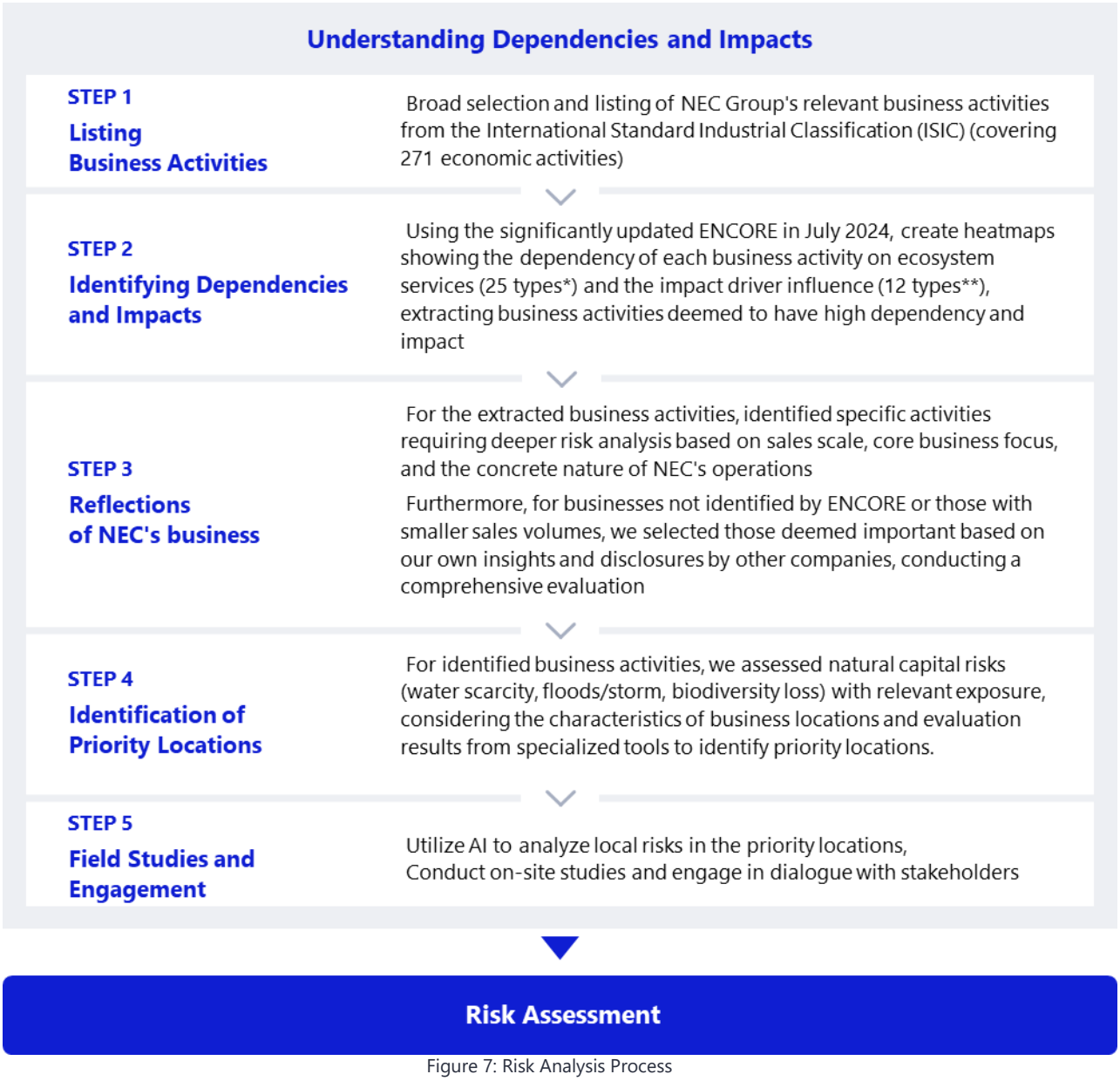


Figure 7: Risk Analysis Process

[6] Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE): Led by the Natural Capital Finance Alliance and developed jointly with UNEP-WCMC and others. A tool that helps users understand and visualize how environmental changes impact the economy.

https://encore.naturalcapital.finance/en

Ecosystem Services(＊)		Impact Drivers(**)
• Air filtration • Biological control • Biomass provisioning • Education • Flood mitigation • Genetic material • Global climate regulation • Local climate regulation • Noise attenuation • Habitat maintenance • Animal-based energy • Dilution • Sensory impacts mediation • Pollination	• Rainfall pattern regulation • Recreation • Soil retention • Soil quality regulation • Solid waste remediation • Spiritual & artistic • Storm mitigation • Visual amenity • Water flow regulation • Water purification • Water supply	• Freshwater ecosystem use • Land use • Seabed use • Disturbances (e.g noise, light) • GHG emissions • Non-GHG air pollutions • Nutrient pollutants to water and soil • Toxic pollutants to water and soil • Solid waste • Invasive species • Abiotic resource extraction • Biotic resource extraction (e.g. fish, timber) • Water use

Figure 8: Ecosystem services and impact drivers defined in ENCORE

We also used ENCORE to assess the upstream of our value chain. For the equipment manufacturing industry, we traced back to the very top of the value chain. Leveraging our company's expertise, we identified target activities in mining, material manufacturing, and component manufacturing, and created a heatmap using ENCORE.

Upstream	Intermediate Business Partners	Procurement Partners	Direct Operations	Downstream
Mining	**Material Manufacturing**	**Parts Manufacturing**	**Manufacturing Construction Operations**	**Reuse Recycling**
• **Minerals/ Non-ferrous Metals** • **Crude Oil**	• **Steel Smelting and Refining** • **Petroleum /Chemical Products** • **Crude Oil Distillation**	• **Communication Equipment Manufacturing** • **Semiconductors** • **Electrical Components/ Machinery/ Equipment Component Manufacturing**	• **Equipment Manufacturing** • **IT Services** • **Submarine Optical Cable Installation** • **Data Center Operation**	

Figure 9: Scope of Evaluation in the Value Chain

ENCORE's assessment is based on industry representative values. We created the heatmap by applying qualitative adjustments based on our own insights and international discussions. (The heatmap includes [ ] marks.) For example, based on discussions in the World Economic Forum's Nature Positive Transition Guidance for the IT Sector, which NEC also contributed to, the assessment of data center operations' dependence on "Water supply" was revised from "VL" to "H," and the impact on "Water use" was revised from "L" to "H.

Figure 10: Heatmap (Dependencies)

		Water supply	Flood mitigation	Climate regulation	Dilution	Rainfall regulation	Soil retention	Waste remediation	Storm mitigation	Water flow regulation	Water purification
Direct Operation	IT Services	VL	VL	VL	N/A	VL	VL	N/A	VL	VL	N/A
	Optical Submarine Cable Laying	M	M	M	L	VH	[M]	ND	M	M	M
	Data Center Operation	[H]	VL	VL	N/A	VL	VL	N/A	VL	VL	N/A
	Equipment Manufacturing (Electronic Equipment /Communication Equipment)	M	M	VL	L	VL	L	L	M	M	M
Upstream	Mining	H	H	H	M	VH	M	L	M	H	VH
	Material Manufacturing	M	M	VL	L	M	M	L	M	M	M
	Components Manufacturing	M	M	VL	L	M	L	L	M	M	M

※VL=Very Low, L=Low, M=Medium, H=High, VH=Very High

Figure 11: Heatmap (Impact)

		Freshwater ecosystem use	Land use	Seabed use	Disturbances (Sound, Light)	GHG emissions	Non-GHG air pollutions	Water, soil contaminants	Solid waste	Abiotic resource extraction	Water Use
Direct Operations	IT services	N/A	M	N/A	M	L	VL	L	VL	N/A	L
	Optical Submarine Cable Laying	[L]	L	M	VH	M	L	[M]	M	N/A	L
	Data Center operation	N/A	M	VL	M	L	VL	ND	VL	N/A	[H]
	Equipment Manufacturing (Electronic /Communication Equipment)	N/A	L	N/A	M	VL	L	H	L	N/A	L
Upstream	Mining	VH	M	VH	VH	M	H	VH	H	H	M
	Material Manufacturing	N/A	L	N/A	VH	M	M	VH	M	N/A	H
	Components Manufacturing	N/A	L	N/A	M	L	L	VH	L	N/A	M

※VL=Very Low, L=Low, M=Medium, H=High, VH=Very High

5.3 Risk (Direct Operations)

Based on the above analysis, the business activities for in-depth risk analysis were selected as the following three: submarine cable laying, data center operations, and equipment manufacturing.

Figure 12: Selection of Activities for In-Depth Analysis (Direct Operations)

ENCORE and Other Evaluations			NEC's Actual Situation
Dependence	Submarine Optical Cable Laying	Installation relies on the regulation of rainfall patterns (stabilizing sea conditions)	Stable ocean weather and currents are crucial for cable laying
	Data Center Operation	Data centers may use water in cooling towers for air conditioning	Some of our data centers utilize cooling towers
Impact	Submarine Optical Cable Laying	Construction sites may impact the surrounding ecosystem and water quality	Cables are laid on the seabed worldwide
	Data Center Operations	Data centers may use water in cooling towers for air conditioning	Some of our data centers utilize cooling towers
	Equipment Manufacturing (Electronic/ Communication Equipment)	Manufacturing plants may use water	Water is used in our plants
		Manufacturing plants may discharge wastewater	Our plants discharge wastewater
		Manufacturing plants may generate waste	Our plants generate waste
		Manufacturing plants may use chemicals that cause soil contamination	Chemicals are used in our plants

As part of the risk assessment process, we identified the data center operations (26 sites) and equipment manufacturing operations (16 production sites) as "material regions" under the LEAP approach. Subsequently, through screening utilizing specialized tools based on each site's characteristics and perspectives defined in the TNFD recommendations—such as "biodiversity-critical areas" and "areas with high physical water risk"—we identified the locations of four production sites and 11 data centers as "sensitive locations."

For sites that were both material and sensitive, we set a high priority and conducted on-site studies and local engagement. We are assessing risks from multiple angles through in-depth surveys on local situations, on-site inspections and discussions with local stakeholders. Note that for the submarine optical cable business, disclosure of detailed regional information is withheld for security reasons.

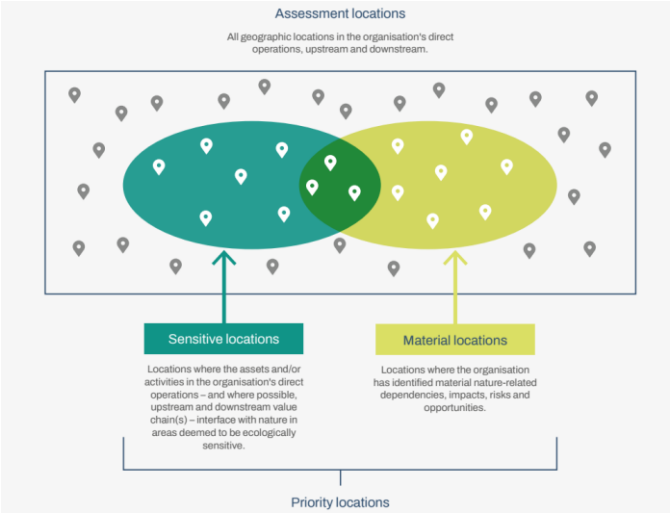


Figure 13: Identification of Sensitive and Material Areas
(Source: Task Force on Nature-related Financial Disclosures recommendations)

5.3.1 Optical Submarine Cable Laying

Figure 14: Risks Considered

Dependencies and Impacts	Risks Considered			
Rainfall regulation/ Storm mitigation	Physical	Acute and Chronic	Extended lead time and costs due to climate change and unstable sea conditions	Mid-term Long-term
Impact on Ecosystems And water quality	Transition	Policy Regulation	Regulations become stricter, potentially increasing costs	
		Market	Customer demands become stricter, potentially increasing costs	
		Technology	Risk of reduced competitiveness due to potential delays in technological development	
		Reputation	In the event of ecological impact, the company'sbrand value may decline	

NEC implements measures to mitigate the impact of weather conditions during submarine cable laying. For instance, in the North Pacific region, severe weather is common during winter. To avoid construction during this period, NEC collaborates with cable owners to plan advance permits and cable production. Furthermore, by conducting ocean surveys, NEC proposes routes to cable owners that avoid areas prone to undersea earthquakes and landslides, enhancing resilience against natural disasters.

(1) Utilizing Cutting-Edge Technologies to Reduce Environmental Impact

Submarine cables have a small diameter of 17 mm yet possess strength sufficient to withstand the seabed at depths of 8,000 meters. Furthermore, the development of multi-core fiber cables, which incorporate multiple

transmission paths within a single fiber, has enabled increased transmission capacity without enlarging the cable's overall size. As global demand for communication lines increases, this technology enables us to provide cable owners with systems offering higher return on investment while restraining increases in environmental impact. Furthermore, NEC is collaborating with other organizations in the Sustainable Subsea Networks working group of the SubOptic Foundation, an industry association for submarine cables, to calculate the lifecycle CO2 emissions of submarine cable systems for the first time globally.

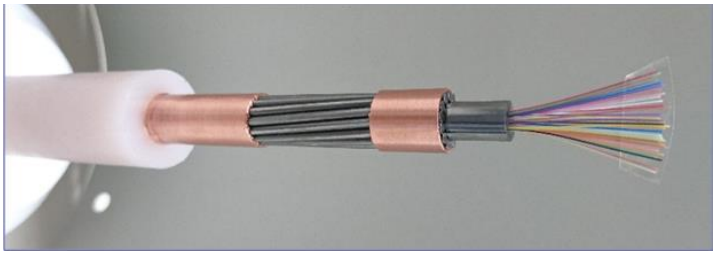


Figure 15: OCC SC530 LW Cable

(2) Legal Compliance and Consideration for the Local Environment

Furthermore, NEC places great importance on discussions with submarine cable owners, countries, and local governments in the installation areas to ensure compliance with local regulations while laying cables with environmental considerations. For example, in Florida, USA, construction was scheduled to avoid sea turtle nesting season in compliance with regulations. Additionally, depending on the installation environment, NEC conducts preliminary surveys of marine life and implemented measures such as installing silt curtains to prevent sand from being stirred up during cable installation.



Figure 16: Loggerhead Sea Turtle



The sea turtles in Florida are primarily loggerhead sea turtles. Members of NE… Supply Chain Sustainability Management Division participated in a field researc… of the Keidanren Nature Conservation Council's domestic support project in Shizuoka Prefecture, where they learned about the ecology of loggerhead turtle nesting. Regarding the environmental impact of submarine cables, the United Nations Environment Programme has compiled a report.[7]

(3) Contributing to Global Communications Infrastructure Development

Currently, 99% of international communications rely on submarine cables. NEC is one of the top three companies in the global submarine cable market share and is committed to realizing social values such as safety, security, fairness, and efficiency. This business has a history spanning over 60 years, with a cumulative installation record of 400,000 km across oceans worldwide, including the Pacific, Atlantic, and Indian Oceans. By connecting remote islands to communication infrastructure, NEC helps bridge the digital divide. This contributes to improving residents' access to education and healthcare, as well as promoting the tourism industry.

5.3.2 Data Center Operations Business

Figure 17: Risks Considered

[7] https://www.unep-wcmc.org/en/news/keeping-connected-submarine-communications-cables-and-ocean-life

Dependencies and Impacts	Risks Considered			
Water Use	Physical	Acute Chronic	Operational shutdown due to cooling tower inoperability caused by water shortage	Mid-term Long-term
	Transition	Policy Regulation	Decrease in sales in case water intake restrictions become stricter, and we cannot respond it	
		Market	Decrease in sales in case customer demands become stricter and we cannot meet them	
		Technology	Competitiveness weaken in case technological development delays	
		Reputation	Our corporate brand value decline In case of causing regional water shortage	

(1) Identification of Priority Locations

Data center operations have been shown to depend on and impact water resources, as indicated by ENCORE and various guidelines. Among the 11 data centers NEC operates domestically, the Kanagawa and Kobe data centers—which use water-consuming cooling towers—were identified as priority locations. Regarding water scarcity risk, the accuracy of commonly used generic global tools is considered limited. Therefore, NEC collaborated with the National Institute of Advanced Industrial Science and Technology (AIST) to conduct a quantitative analysis[8] of water scarcity risk at these sites. This analysis quantitatively assessed water stress levels (using the AWARE model), which considers the water resources necessary for the ecosystem as well as for the human use within the watershed, and the extent to which the region exceeds its environmental carrying capacity.

Furthermore, though sites for NEC have been selected data center locations to secure high resilience against disasters such as liquefaction, tsunami, flood, and landslide, this time we further extended our risk evaluation with flood simulations for future climate change. We estimated flood depth at each priority locations under temperature rise by 4℃

Figure 18: Risk Assessment Results Using Tools

Risk Category	Tools (Providers)	Indicator	Results
Water Shortage	Global Supply Chain Water Risk Analysis Sheet (National Institute of Advanced Industrial Science and Technology)	Water Stress Index (AWARE)	At both data centers water stress is very low, environmental capacitis are not exceeded
Flood	Climate Vision (Gaia Vision Inc.)	Flood Depth (4℃ Scenario, 1-in-100-year probability)	At both data centers expected flood depth: 0m No future flood risk

Based on the evaluation using specialized tools, no water shortage risk or flood risk was identified in the areas where both the Kanagawa and Kobe sites are located.

(2) Field Studies and Community Engagement

In addition to the above tool-based assessment, field studies were conducted to understand the actual dependencies on and impacts of water resources at each site, along with the status of countermeasures. Prior to visiting sites, specific local water-related information was gathered and researched. Sharing this information with local personnel helped build common understanding. AI technology significantly reduced the research workload for this local risk studies. Furthermore, by engaging in dialogue with local governments at both sites,

[8] https://www.unep-wcmc.org/en/news/keeping-connected-submarine-communications-cables-and-ocean-life

information not publicly available online was also obtained.

The field survey results indicate that both the Kanagawa and Kobe data centers ensure redundancy in their cooling water sources through the combined use of groundwater and municipal water supplies. No significant water outages or shortages have occurred in the past. Furthermore, as the water resources at the intake points are stable, no significant burden on regional water resources has been identified. Therefore, we assess that the dependence on and impact to natural capital are currently limited. In data centers where there are no significant issues regarding water shortge, using water within sustainable bounds can save the energy required for cooling.

Figure 19: Risk assessment results based on field studies and interviews with local governments

		Kanagawa Data Center	Kobe Data Center
Water Sources		Municipal water + Well water (redundant configuration)	2 Municipal water systems + Well water (redundant configuration)
Water Intake Risk	**Emergency Preparedness**	Water tank for 72-hour supply	Water tank for 72-hour supply
	Water Supply Interruption	Never in the past	Never in the past
	Water source status *Based on interviews with each municipality	Water is drawn from areas with stable water volume. For well water, groundwater levels have remained stable over the past decade, posing a low risk of depletion.	The primary water source is the Noto Dam system, but alternative supply pipelines from the Yodo River system are in place, keeping supply risks low.
Impact of water intake on surrounding areas		Groundwater use is limited to levels that do not cause significant fluctuations in the area, with no impact observed at this time.	As municipality has developed resilient water system, no significant burden on surrounding watersheds has been identified.

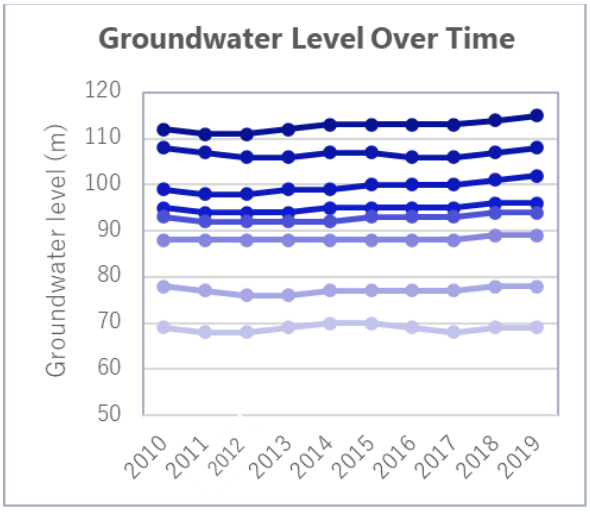


Figure 20: Ground water levels around Kanagawa Data Center: stable over years (Source: Created by NEC based on data from municipal report)



Figure 21: Coverage Areas by Water Sources: multiple sources where the Kobe Data Center locates (Source: Water Bureau website)

(3) Risk Assessment Results for Data Center Operations

Based on a comprehensive analysis of the results from tool-based assessments of water scarcity risk and flood risk, combined with findings from on-site studies, the environmental risks for the Kanagawa and Kobe data centers are low. At this time, no significant operational disruption risks or severe impacts on water resources have been identified.

However, in the future, mid- to long-term risks such as restrictions on water-resource use and the

strengthening of regulations may be conceivable due to climate change and heightened demands for environmental consideration for data centers. Furthermore, beyond water resources, concerns exist regarding increased greenhouse gas emissions from rising power consumption driven by the high-density integration of computers like GPU servers, which advances alongside AI progress and adoption. NEC addresses these future risks by improving Water Use Efficiency (WUE) through the adoption of direct liquid cooling system, and by developing data centers powered by 100% renewable energy. We support our customers' sustainability management and DX initiatives through the latest technologies.



Figure 22: NEC Kanagawa Data Center Phase II Building

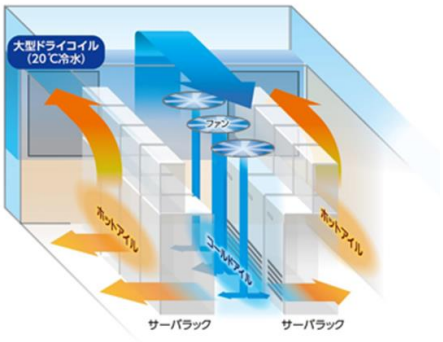


Figure 23: Cooling System for the Machine Room

Regarding NEC Group Companies' Data Centers

Regarding the data center services operated and utilized by the NEC group companies domestically and internationally, screening using tools identified 9 locations (8 overseas, 1 domestic) as being situated in sensitive locations. For these locations, we are investigating local risks at each site using AI, preparing documentation, and distributing this alongside the Water Risk Survey Sheet. We are currently confirming the situation with local personnel. For housing-type sites operating servers within external data centers, we are requesting information from the facility's building owners and operating companies through local personnel.

5.3.3 Equipment Manufacturing (Electronic/ Communication Equipment)

Figure 24: Risks

Dependencies and Impacts	Risks Considered			
Water supply Flood mitigation	Physical	Acute Chronic	Plant shutdowns due to water shortages or flood damage	Mid-Long-term
Wastewater, Waste, Soil contamination	Transition	Policy and Regulation	New environmental regulations and potential revenue loss if unable to comply	Short-term
		Market	Customer demands become stricter, leading to a decline in sales if unable to meet them	
		Technology	Decreased competitiveness if technological development is delayed	
		Reputation	In the event of environmental pollution, damage to the company's reputation and brand value	

(1) Identification of Priority Locations

In the quantitative screening of nature-related risks at each manufacturing site, water-related risks were assessed using high-resolution specialized evaluation tools, similar to the data center business, specifically for water scarcity risk and flood risk. For biodiversity risks, the Integrated Biodiversity Assessment Tool (IBAT) was used to understand the importance of ecosystems surrounding the sites. This biodiversity risk assessment considers multiple factors: proximity to Key Biodiversity Areas (KBAs) or protected areas within a 1km radius, the number of endangered species inhabiting the vicinity, and conservation contribution potential measured by the STAR (Species Threat Abatement and Restoration) index. This integrated approach prioritizes sites with higher risks. The quantitative analysis results revealed that four sites are located in sensitive areas: ① the Pathum Thani site in Thailand, ② the Suzhou site in China, ③ the Abiko site, and ④ the Tamagawa site.

Figure 25: Risk Assessment Results by Tool

Risk Category	Tools Used (Providers)	Indicators	Results
Water shortage	Global Supply Chain Water Risk Analysis Sheet (National Institute of Advanced Industrial Science and Technology)	Water Stress Index (AWARE)	2 sensitive locations ① Thailand, Pathum Thani ② Suzhou, China
Flood	Climate Vision (Gaia Vision Inc.)	Flood Depth (4℃ Scenario, 1-in-100-year probability)	4 sensitive locations ① Thailand, Pathum Thani ② Suzhou, China ③ Abiko Plant ④ Tamagawa Plant
Biodiversity	IBAT (IBAT Alliance)	Distance from KBA & protected areas Number of endangered species STAR indicator	Highest Priority (located within KBAs) ① Thailand, Pathum Thani

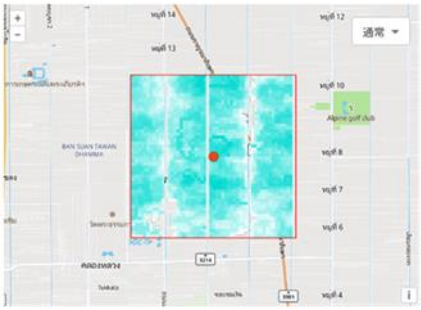


Figure 26: Flood Assessment for the Thai Pathum Thani Base (Source: Climate Vision)

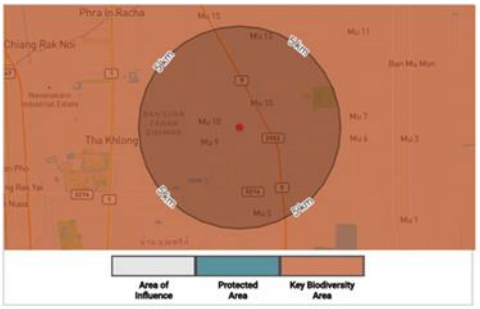


Figure 27: Thai Pathum Thani Base Located within the KBA Area (Source: IBAT)

(2) Field Studies and Local Engagement

NEC conducted field studies in addition to tool-based risk assessments to understand the actual dependences on and impacts to natural capital at each site and evaluate the status of countermeasures to potential risks. For these field studies, like the data center risk studies, NEC utilized AI technology to collect information on local risks in advance, enabling more effective interviews.

Based on the results of the field studies, it was found that the four sites located in sensitive areas have implemented appropriate countermeasures for each respective risk. At this time, the impact of these sites on the natural capital of the surrounding areas can be considered limited.

① Thailand: Pathum Thani Site

Thailand's Pathum Thani Province is an area where potential risks such as water shortages, flooding, and biodiversity loss are assumed.

Regarding water shortage risk, this NEC facility only uses water for production building air conditioning and in the cafeteria and restrooms. Production processes will not halt due to water shortages. It also has a 400m^3 water storage tank, sufficient for three days of usage. The industrial park draws water directly from the Chao Phraya River, and the municipal water supply sourced from three upstream dams is also available.

Regarding flood risk, following the major flood damage in 2011, transformers and elevated electrical equipment, and implemented flood BCP measures such as water level monitoring at three upstream dams. Furthermore, a 20-kilometer perimeter around the industrial park was enclosed by a 2.5-meter-high flood prevention walls. Large drainage pumps have been installed, and operations are managed 24 hours a day, 365 days a year, which helps prevent the expansion of damage during disasters.





Figure 28: Flood-Control Measures in the Industrial Park (Flood prevention walls and drainage pumps)

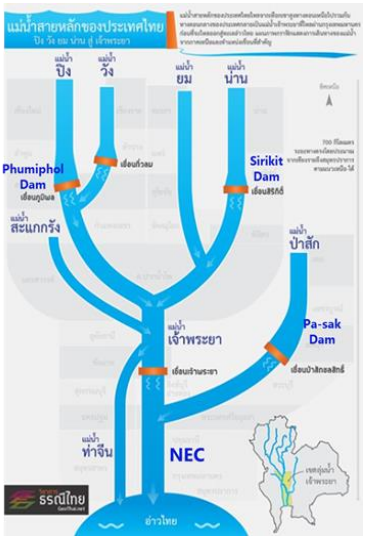


Figure 29: Three Dams Located Upstream of the Site

Regarding biodiversity risks, according to IBAT, IUCN Red List Critically Endangered (CR) species of birds, reptiles, and freshwater organisms have been confirmed within a 50km radius of the site. At existing manufacturing sites there is no new land conversion, so impacts on surrounding biodiversity occur through emissions such as wastewater, exhaust gas, and waste. NEC's manufacturing sites, including this site, are certified under ISO 14001; they continuously check the content of national and local environmental laws and ordinances, identify the relevant facilities, and have members with appropriate competencies carry out environmental management. Furthermore, NEC's manufacturing sites set voluntary standards stricter than legal limits for exhaust gases and wastewater as part of their environmental management. It should be noted that this site does not discharge wastewater directly into rivers. Wastewater undergoes primary treatment on-site before being processed at the industrial park's wastewater treatment plant and then discharged into rivers. The industrial park conducts unannounced spot checks on the water quality after primary treatment several times a year to confirm proper wastewater treatment. From these facts, the biodiversity risk at this site is judged to be low.

②Suzhou Site, China

This site is located in an important industrial zone, where the Chinese government has established a sophisticated water management system. Even if the water level of Lake Taihu, the intake source, drops, alternative water intake from the Yangtze River is possible, and the dual securing of water sources leads us to evaluate water-scarcity risk as low. The site assembles ICT devices such as wireless routers, and there is no water use in the production process; according to data collected using NEC's environmental-performance management solution "GreenGlobeX," [9] annual water use is about 4.8 thousand m^3, which is a small amount. [10] Therefore, the impact on regional water resources is very limited.



Figure 30: Field studies of water sources

With respect to flood risk, major equipment and finished-product stocks are placed on floors two through four where the risk of inundation is low, sandbags and drainage pumps are kept on hand, and regular drills are conducted. Flood-control infrastructure provided by the authorities is also in place, and secondary impacts during disasters can be contained.

From these study results, water consumption is low, damage-spread risk during floods is minimized, and at present there is no pronounced burden on the natural ecosystem of the surrounding region.

③Abiko Plant

[9] GreenGlobeX https://jpn.nec.com/environment/biz_solution/performance/index.html

[10] At 4,800 m^3, this is equivalent to the water use of an office with 96–240 people. (参考資料)

The Abiko site is located in an area where potential flood damage is assumed in the hazard map. Therefore, NEC, in collaboration with the City of Abiko, conducts detailed information sharing and scenario checks regarding assumed flood depths, the effect of nearby retarding basins, and emergency responses in the event of levee breach or overtopping. Furthermore, at the site "Flood Countermeasure Action Guidelines" has been established which place the highest priority on employee' safety and define stepwise response actions according to conditions such as the rising water level of the Tone River. Based on these, periodic disaster-prevention drills are conducted to build effective flood-countermeasure system.

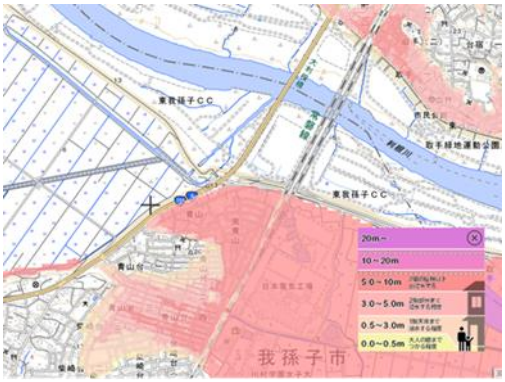


Figure 31: Hazard Map around the Abiko Site
(Source: Ministry of Land, Infrastructure, Transport and Tourism "Kasane-ru Hazard Map" website)

④Tamagawa Plant

During the Tama River flooding in October 2019, the Tamagawa Plant suffered significant damage when part of the site was inundated due to backflow from drainage pipes. Based on this experience, NEC is fundamentally strengthening flood risk preparedness at this site. Specifically, we have taken thorough hardware measures such as installing water-stop panels at building entrances and openings, introducing flood-protection doors, implementing sandbag-based inundation-prevention measures, elevating power-supply equipment, and placing air-conditioning equipment on rooftops. In addition, we have developed BCP action guidelines that systematically define responses in emergencies and are working to build a structure for rapid and appropriate responses when disasters occur.

(3) Risk Assessment Results for Equipment Manufacturers

This analysis confirmed that all four facilities located in sensitive areas have implemented effective countermeasures against nature-related risks such as water scarcity, flooding, and biodiversity loss. At this time, no significant business interruption risks or significant impacts on local ecosystem were identified.

Furthermore, NEC has maintained activities at its manufacturing sites for over 20 years to limit landfill disposal to less than 0.5% of total waste volume. It promotes the sale of valuable materials, thorough waste separation, paper usage reduction, and reuse of packaging materials. Illegal dumping is also prevented through proper management using electronic manifests and periodic inspections on contractors.

Regarding soil contamination and chemical substance risks, NEC conducts prior assessments when using heavy metals or organic solvents to determine whether introduction is permissible. Also, training programs ensure thorough leak prevention. For potential historical contamination, NEC conducts both legally mandated and voluntary investigations, implementing necessary countermeasures.

The introduction of environmental impact reduction technologies and strengthened local engagement present opportunities to enhance business sustainability and market competitiveness. NEC will continue to pursue minimization of environmental impacts and risks to promote sustainable business operations which coexist harmoniously with local communities and nature.

(4) Scenario Analysis - Toward Future Risk Countermeasures

In addition to assessing current risks and confirming countermeasures, we conducted future risk assessments through scenario analysis. We focused on water resources, a natural capital with particularly high relevance to both the data center operation and the equipment manufacturing. We examined four scenario stories driven by two key forces: increased water stress due to water resource degradation (physical risk), such as impacts from climate change and demographic shifts; and advancing regulations and countermeasures driven by society's water conservation orientation (transition risk). The results revealed the necessity for changes in physical risk conditions to be appropriately incorporated into regulations and pricing, highlighting the continued need for policy engagement.

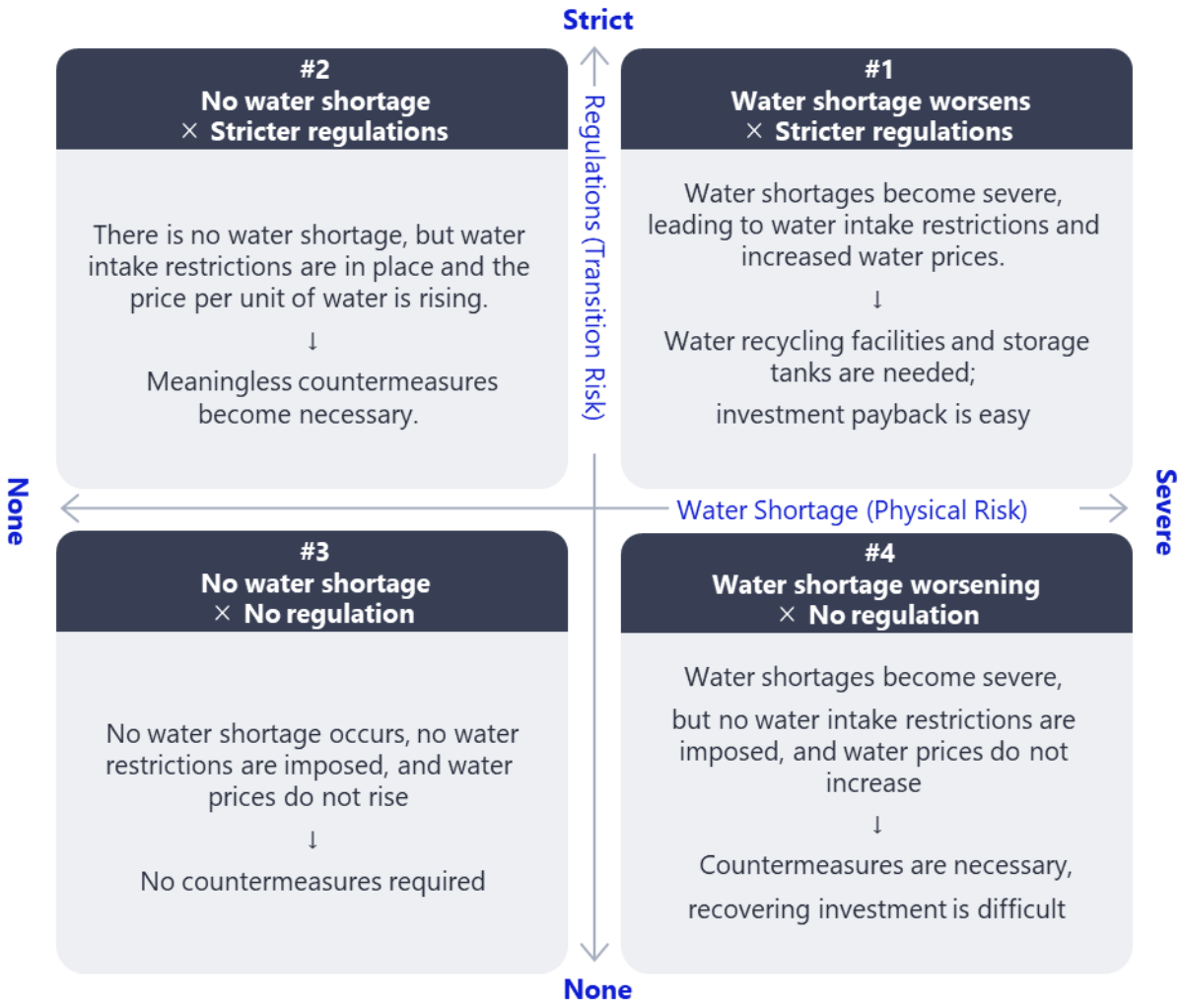


Figure 32: Four Scenario Stories

Beyond the scenarios above, NEC is also leveraging AI to conduct concrete examinations of potential future physical risks and migration risks at manufacturing sites and at data center sites. For example, by researching relevant information worldwide and quantifying the financial impact involved, it has become possible to conduct concrete examinations that go beyond mere speculation.

Based on these scenario stories, NEC held workshops with external experts to explore future scenarios with its business divisions. Ms. Mei Haneo from the Freshwater Group, Conservation Department, WWF Japan, gave a presentation on the water risk initiatives expected of companies. She shared insights including the need to assess water environments holistically—considering not just shortages but also floods and water quality—that environmental risks often lie in the value chain rather than direct operations (making them harder to grasp), and that evaluating, disclosing, and addressing these risks is crucial. She also emphasized the importance of dialogue and collaboration with stakeholders who share river basins.

Additionally, Mr. Masaharu Motoshita from the Natural Capital Sustainability Research Team, Nature Positive Technology Implementation Research Center, National Institute of Advanced Industrial Science and Technology (AIST), presented on evaluating dependence on and impacts of water resources within global value chains. He provided scientific and concrete insights, including Japan's responsibility for global water consumption and the relationship between water resource availability and mineral resource production. Following the presentations, we held discussions with business divisions on future risks and countermeasures based on these inputs and scenario stories, creating a valuable opportunity for the NEC Group to consider water risks.



Figure 33: Scenario Analysis Workshop

(5)Appendix：Detailed Tool Evaluation Results Used to Identify Areas Requiring Attention

①Tool Evaluation Results for Kanagawa/Kobe Data Centers

・Water Shortage Risk

Risk Indicator	Indicator Description	Kanagawa DC	Kobe DC
Water Stress Value (Overall)	Water Stress Value Compared to World Average = 1	0.3 times	0.4 times
Water Stress Value (Irrigation Water)	Water stress value relative to global average = 1	0.27 times	0.41 times
Water Stress Value (Industrial water)	Water stress value compared to world average = 1	0.3 times	0.4 times
Environmental Capacity Exceedance	Exceeding the site's environmental capacity (Values above 0 indicate exceeding capacity)	0	0
Environmental Capacity Exceedance Risk	Percentage of current water consumption relative to environmental capacity, with 100% representing full capacity (The closer to 100, the higher the risk of exceeding environmental capacity)	14.2%	9.5%

・Flood/Storm Surge Risk

Risk Indicator	Indicator Description	Kanagawa DC	Kobe DC
Flood Water Depth	1.5℃ Future Scenario/100-Year Event	0m	0 m
	4℃ Future Scenario/100-Year		
Storm surge inundation depth	1.5℃ Future Scenario/100-Year Event	0 m	0 m
	4℃Future Scenario/100-Year Event		

② Tool Evaluation Results at NEC Production Sites

・Water shortage risk

Risk Indicator	Indicator Description	Thailand Pathum Thani	China, Suzhou
Water Stress Value (Overall)	Water stress value compared to world average = 1	3.8 times	52.9 times
Water Stress Value (Irrigation Water)	Water stress value compared to global average = 1	3.8 times	67.4 times
Water Stress Value (Industrial water)	Water stress value compared to the global average of 1	3.5 times	34.7 times
Excess Environmental Capacity	Exceeding the environmental capacity of the location (Values above 0 indicate exceeding capacity)	0	0.24
Environmental Capacity Exceedance Risk	Percentage of current water consumption relative to environmental capacity, with 100% representing full environmental capacity (the closer to 100%, the higher the risk of exceeding environmental capacity)	24.5%	68.4%

・Flood /Tidal Surge Risk

Risk Indicator	Indicator Description	Thailand Pathum Thani	China Suzhou	Abiko	Tamagawa
Flood Depth	1.5° C Future Scenario/100-Year Event	1.1 m	0.9m	2.2m	0.9 m
	4° C Future Scenario/100-Year Event	1.2 m	1.1 m	2.3m	1.0 m
Tidal Surge Depth	1.5° C Future Scenario/100-Year Event	0 m	0 m	0 m	0 m
	4° C Future Scenario/100-Year Event	0 m	2.1m	0 m	0 m

5.4 Risks (Upstream in the Value Chain)

5.4.1 Approach to Upstream Value Chain Assessment

The NEC Group is supported by over 10,000 procurement partners. Assessing environmental risks in the upstream value chain and establishing corresponding processes are critical themes for enhancing the Group's overall resilience and securing competitive advantage. NEC requires existing and new suppliers to implement environmental initiatives, including greenhouse gas emission reduction, water usage reduction, prevention of air, water, and soil pollution, and noise countermeasures, through its "Guidelines for Responsible Business Conduct in Supply Chains." Compliance with the guidelines is continuously verified through the annual "Decarbonization and Natural Capital Initiatives Survey," which assesses the implementation status of initiatives and the management systems for these environmental issues.

For this assessment, starting from NEC's representative products and referencing the general supply chain structure common to the industry, we traced back to the very upstream and organized the main upstream layers of the value chain, as shown in the figure below.

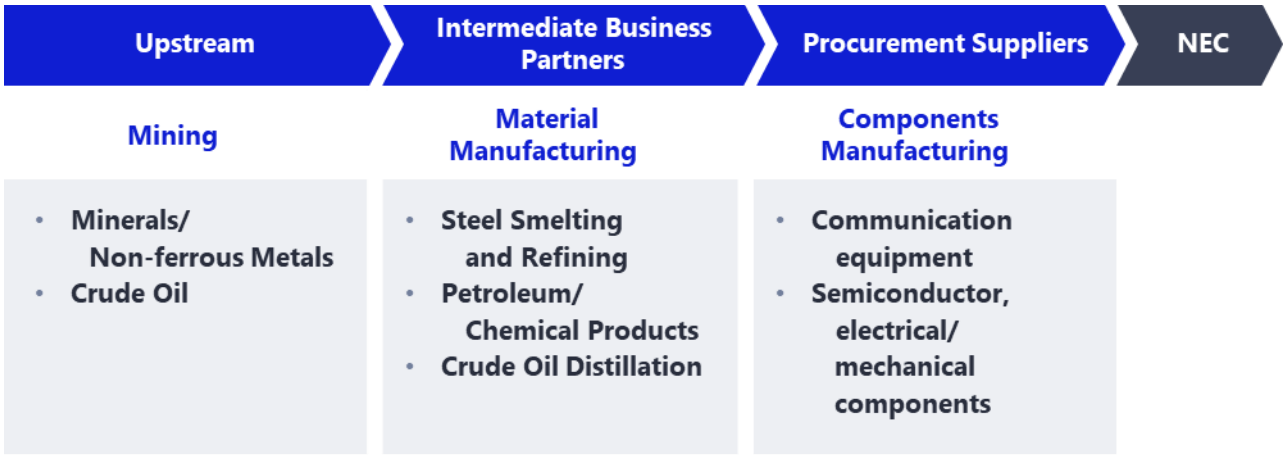


Figure 34: Identification of Upstream Value Chain Layers

Dependencies on and impacts to natural capital at each layer are listed using ENCORE.

Figure 35: Dependencies and Impacts in the Upstream Value Chain

ENCORE Evaluation		
Mining	Dependency	Water quality used for cleaning and processing quarried products depends on water purification by ecosystems
		Dependence on ecosystem services such as water supply, flood mitigation, and global climate regulation provided by ecosystems
	Impact	Mining may affect freshwater, marine topography, and changes in biological populations
		May cause emissions of greenhouse gases and air pollutants
		May cause impacts such as noise pollution and vibration
		Heavy metal leaching may occur, potentially degrading habitats and contaminating land
		Harvesting non-living resources may potentially disturb or adversely affect species habitats
Material manufacturing	Impact	Potential impacts such as noise pollution and vibration
		Manufacturing plants may use chemicals that cause water and soil pollution
		Water extraction may reduce water supply, increase drought risk, and impact ecosystem habitats
Component manufacturing	Impact	Manufacturing plants may use chemicals that cause water and soil pollution

5.4.2 Approach to Procurement Suppliers

Among procurement partners, approximately 2,000 production sites supplying hardware components—which are expected to have particularly significant environmental impacts—were included in the scope of the further risk assessment.

For risk assessment, like evaluating our own sites, we utilized specialized assessment tools addressing water scarcity risk and flood risk for screening. For water scarcity risk, we leveraged RPA to analyze indicators provided by specialized institutions, enabling the analysis of all 2,000 sites.

As a result, regional trends like those shown in the following figure were confirmed.

- For water-related risks, a relatively large number of the sites in sensitive locations are in Asian countries and within Japan.
- For biodiversity risk, a relatively large number of the sites in sensitive locations are in Japan and Europe.

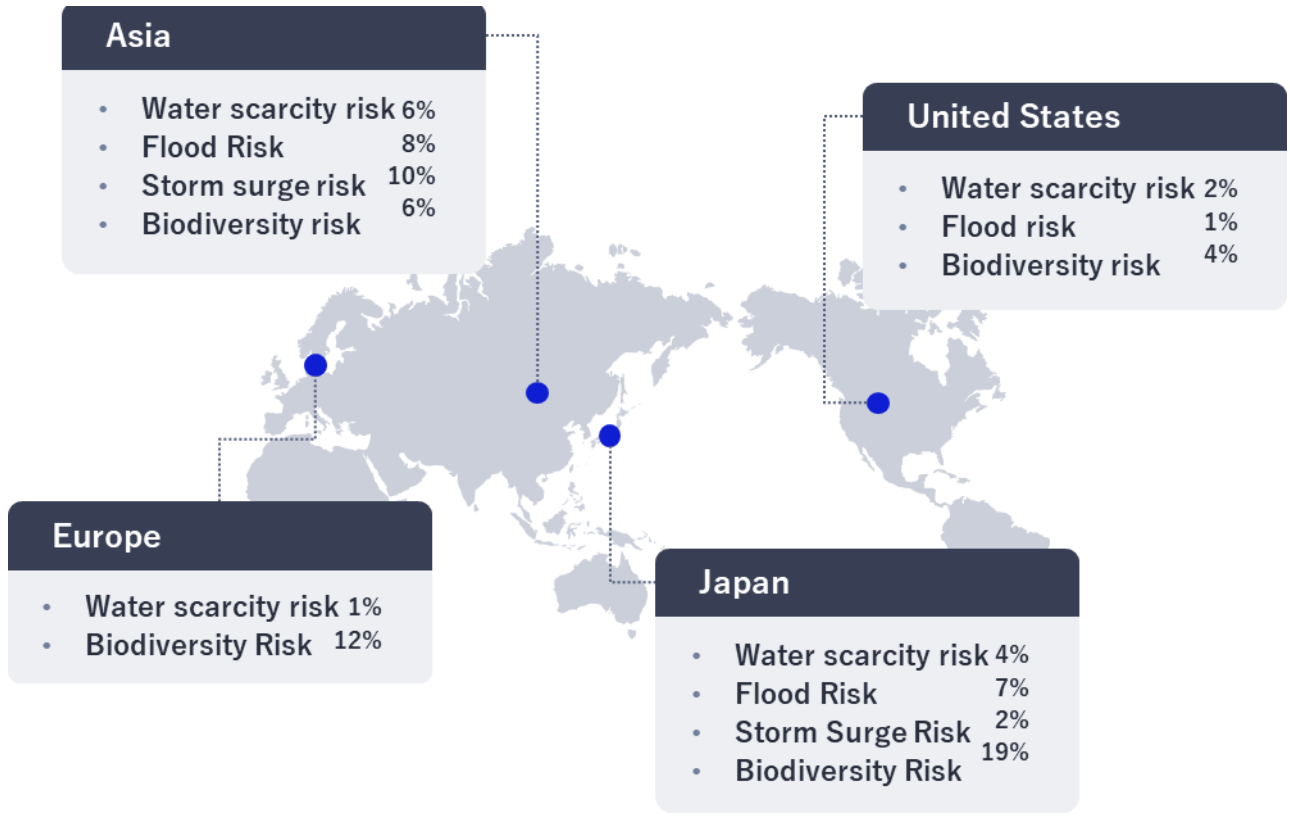


Figure 36: Percentage of Locations Situated in Areas Requiring Caution

We also utilized generative AI and agentic AI to investigate water infrastructure information and local risks at 2,000 sites. Going forward, we will assess the actual dependencies on and impacts to nature for each facility located in sensitive areas and evaluate the status of countermeasures to potential risks. To understand the status at each facility, we will refer to the results of the "Survey on Initiatives for Decarbonization and Natural Capital." For facilities determined to have significant dependencies on and impacts to nature, we will strengthen engagement through dialogue. We plan to incorporate the process for completing engagement into the NEC Eco Action Plan.

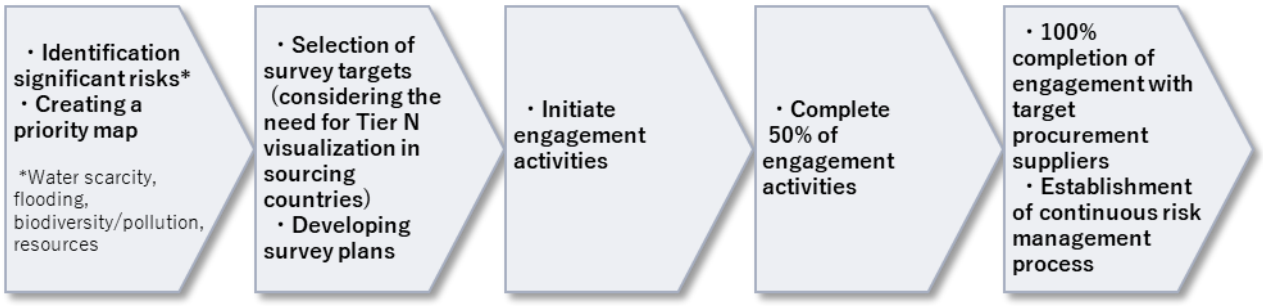


Figure 37: Engagement Promotion Flow for Procurement Suppliers

5.4.3 Evaluation of Intermediate Suppliers to the Upper Stream

NEC also requests compliance with guidelines from intermediate suppliers and beyond through its procurement partners. However, particularly at the mining stage at the very top of the value chain, direct corporate evaluation faces limitations due to the lack of common investigation schemes and difficulties in obtaining information, making it challenging to grasp the actual situation. Therefore, NEC is conducting trial risk assessments based on hypotheses, supplementing its efforts with external statistical data and publicly available information.

Assessing Dependence on and Impacts of Water Resources in the Global Value Chain

Tracking the vast number of upstream procurement partners to grasp the full picture of natural capital dependencies and impacts is extremely challenging. With support from the National Institute of Advanced Industrial Science and Technology (AIST), NEC undertook a water stress analysis of the entire value chain using

the Global Supply Chain Water Risk Analysis Sheet. [11] For the upstream value chain, we attempted to visualize the total induced water consumption, the impacts (stress) due to dependence on water resources, and the planetary boundaries (exceeded environmental capacity and excess risk) of water resource use reflecting regional characteristics. We evaluated the entire value chain using the same concept as Scope3, which calculates greenhouse gas emissions at the organizational level.

The results revealed that water consumption induced by "purchased products and services" (equivalent to Scope3 Category1) was the highest. Furthermore, the total water consumption exceeding the environmental capacity of each river basin accounted for 9.7% of the NEC Group's total induced water consumption (compared to an industry average of 11.2% in Japan). Going forward, we will continue to utilize the latest insights to assess impacts on various natural capital, including water.

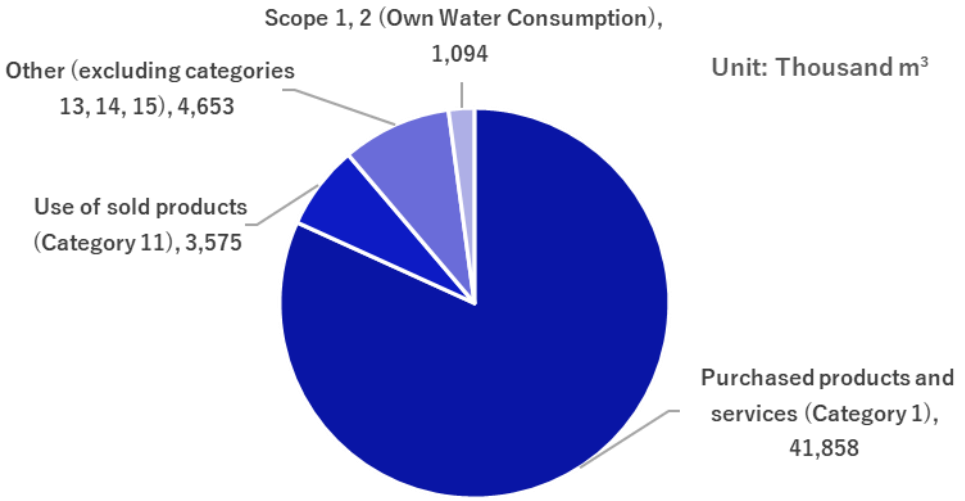


Figure 38: Water consumption induced by the NEC Group across its entire value chain

5.4.4 Promoting Responsible Procurement through Supply Chain Collaboration

NEC aims to minimize environmental and social impacts and create social value based on building sustainable supply chains, not only through its own initiatives but also through collaboration and co-creation across the entire supply chain. Alongside requirements under the Guidelines for Responsible Business Conduct in Supply Chains," NEC actively supports enhancing understanding and execution capabilities at the operational level by holding environmental briefings and workshops for procurement partners.



Figure 39: Vision for Supply Chain Sustainability



Figure 40: Example of Initiative Support: CO2 Visualization Workshop

Against this backdrop of initiatives, NEC was selected in July 2025 for the Ministry of the Environment's "Environmental Due Diligence (DD) Promotion Support Project." This project aims to create advanced case studies addressing environmental impacts and risks throughout the entire value chain. NEC will actively share insights gained through this project both within and outside the industry, aiming to serve as a model case for environmental DD by Japanese companies and lead the promotion of environmental DD. NEC will continue to collaborate with diverse stakeholders to contribute to the realization of a sustainable society.

[11] Global Supply Chain Water Risk Analysis Sheet https://riss.aist.go.jp/results-and-dissemin/2944/#gsc.tab=0

5.5 Risks (Downstream Value Chain)

Regarding the downstream of the value chain, we examined risks associated with the use and disposal stages of hardware.

(1) Chemical Substances in Products

NEC conducts detailed assessments of the environmental impact of chemical substances, actively working to reduce usage and substitute with safer alternatives. Specifically, we promptly identify regulatory trends worldwide, establish ""Environmental Specifications Pertaining to Procurement Restrictions for the Inclusion of Chemical Substances in Products," and collaborate with suppliers to advance these efforts. These standards define prohibited substances, conditionally prohibited substances, and controlled substances, requiring calculation of concentration levels and submission of certificates of compliance. Furthermore, NEC may analyze target substances upon receiving procured components. Surveys and aggregation of chemical substances contained in each component utilize solutions such as NEC's "ProChemist." [12] These efforts ensure legal compliance and manage environmental impacts during hardware use and disposal.

(2) End-of-Life Products

NEC has been collecting, reusing, and recycling used information and communication equipment since 1969. In 2001, NEC became the first manufacturer to obtain the "Wide-Area Processing Certified Operator" qualification. Computers, general-purpose computers, servers, and printers collected from corporations and individuals are reused or recycled as materials at a rate exceeding 91% by weight (FY2024 results). Specifically, parts are reused as refurbished used parts units, while materials such as iron, copper, aluminum, precious metals, glass, and plastics are recycled.

Furthermore, NEC collaborates with Seven Bank on ATM reuse initiatives. ATMs are collected, cleaned internally and their sensors inspected, and their functionality verified to enable reuse. To date, over 13,000 ATMs have been reused cumulatively. Even ATMs unsuitable for direct reuse have their parts reused. This contributes to the effective utilization of resources such as plastics.



Figure 41: Reuse of Seven Bank ATMs

[12] Contained chemical substances management cloud service Prochemist https://jpn.nec.com/environment/biz_solution/chemicals/as/index.html

■Column: Environmental Impact Assessment Across the Entire Value Chain

NEC is working to utilize environmental impact assessment methods employing statistical data to grasp the environmental impact across the entire value chain. From fiscal year 2024 to fiscal year 2025, NEC participated in the "LIME3 Utilization Working Group" hosted by the Japan Industrial Environmental Management Association LCA Forum. Using the life cycle impact assessment method LIME3, NEC worked on evaluating the impact of IT equipment.

Furthermore, starting in fiscal year 2024, NEC is participating in the "Development and Demonstration Project for Nature Footprint Based on Promoting Nature-Related Information Disclosure by Financial/Investment Institutions and International Standardization," selected for the Cabinet Office's BRIDGE (Bridge between R&D and Society 5.0) program. As a participating company, NEC is trialing evaluations using the Nature Footprint indicator, deepening its consideration of impact assessments, particularly regarding natural capital.

We are working to expand beyond the traditional single indicator of product CFP (Carbon Footprint) for CO2 emissions to include a broader assessment encompassing impacts on water, ecosystems, resources, and more.

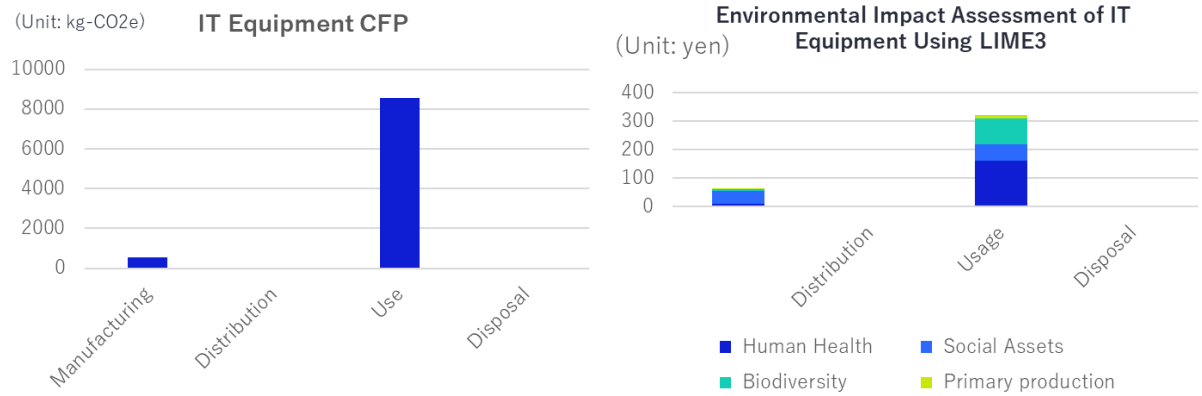


Figure 42: Environmental impact assessment results for IT equipment using CFP and LIME3

We will continue participating in discussions for developing Nature Footprint indicators and their societal implementation. As a participating organization, we will also conduct various trials to advance environmental impact assessments incorporating the latest academic insights. Furthermore, through active utilization and disclosure, we will contribute to the widespread adoption of these methodologies.

■Column: Risks of AI

Globally, AI usage is expanding, and it is expected to become increasingly commonplace in our daily lives. At the same time, societal concerns are growing over the rising energy load in data centers where AI operates. NEC's Cloud IaaS, operated in our data centers, has already achieved 100% renewable energy adoption.

The rapid advancement of generative AI has spurred various companies and public institutions to pursue business transformation using generative AI. Consequently, there is a growing demand for enhancing the functionality and performance of generative AI itself, including developing use cases tailored to more specialized tasks and integrating it into business systems. To address these challenges, NEC is developing technologies to enhance the performance of its proprietary generative AI "cotomi" and improve GPU computational efficiency during its use, thereby providing an environmentally conscious generative AI utilization.

Moving forward, we will continue to advance appropriate countermeasures from a medium-to-long-term perspective, considering the risks associated with the expansion of environmental impacts such as future electricity consumption, CO2 emissions, and water consumption.

5.6 Opportunities (Direct Operations)

Within the grounds of NEC's Abiko Plant lies a spring-fed pond complex known as "Yotsuike," believed to have formed from the Tone River. Since 2009, NEC has collaborated with the Teganuma Aquatic Life Research Association, a local environmental NPO, on ecosystem conservation activities for Yotsuike. NEC utilizes Yotsuike Pond to contribute to the conservation of ecosystems in Chiba Prefecture and the Tone River basin, as well as to serve as a testing ground for ICT solutions.

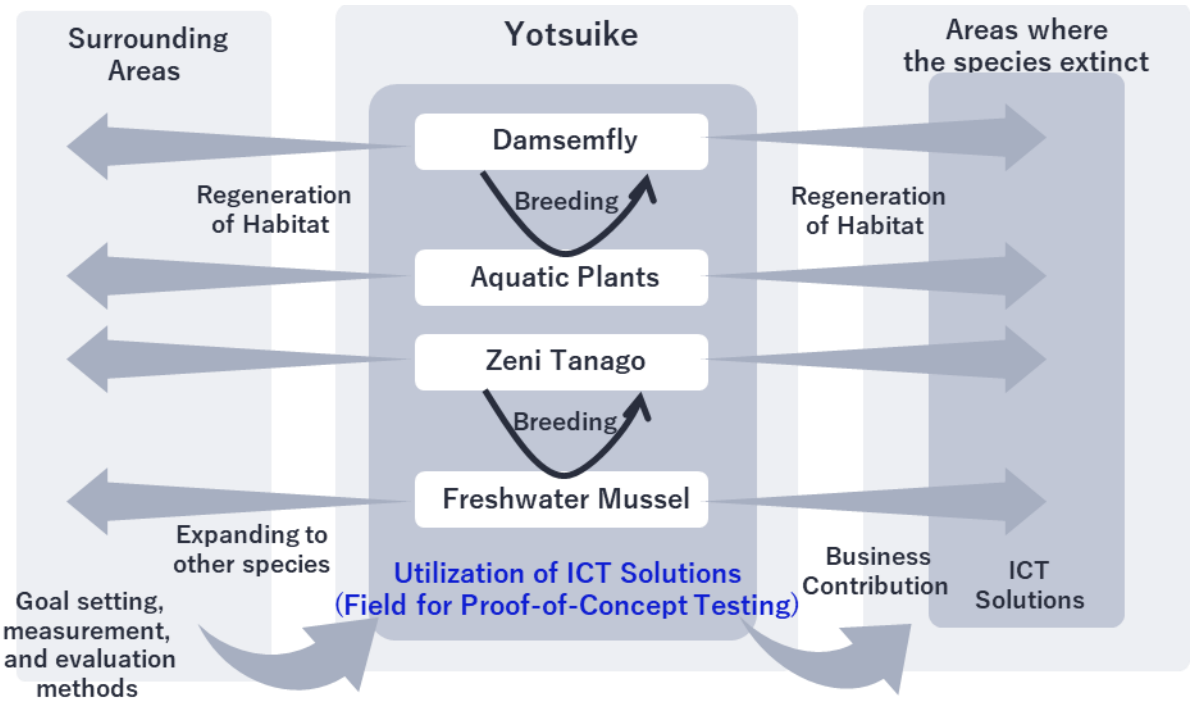


Figure 43: Vision for the Abiko Business Site Biodiversity Conservation Activities

(1) Contributing to the Community: Creating Social Value

At Yotsuike Pond, NEC is promoting conservation activities for the "Giant Monoceros Damselfly Pseudocopera rubripes" (Endangered IB (EN) designated by the Ministry of the Environment) and the Zenitanago ray finned fish Acheilognathus typus (endangered IA (CR)). Habitat for the Giant Monoceros Damselfly is rapidly declining, with existing habitats now covering less than 20% of its known range in Japan. The Japanese minnow, endemic to Japan, is currently experiencing a drastic decline across all its distribution areas and is virtually extinct in the Kanto region. To conserve habitats for these endangered species, we are also working to remove invasive species such as the American crayfish and bluegill.

In formulating the conservation plan, NEC is proceeding with careful consideration of the impact on the ecosystem. We are advancing this effort through regular monitoring and biodiversity dialogues, engaging with regional stakeholders including the Teganuma Aquatic Life Research Group, experts, the Chiba Prefecture Biodiversity Center, and the Abiko City Office.

These long-term efforts were recognized, and in October 2023, Yotsuike Pond was certified as a "Nature Coexistence Site" by the Ministry of the Environment (an area where biodiversity conservation is achieved through private sector initiatives, etc.). This recognition means that the NEC Abiko Plant site will make a clear contribution toward achieving the global 30 by 30 target (the goal of effectively conserving at least 30% of land and sea as healthy ecosystems by 2030).

The figure below evaluates the biodiversity conservation priority of Abiko City, where the Abiko Plant is located, and its neighboring municipalities. Redder areas indicate irreplaceable sites, many of which are water bodies in the plains, such as the Tone River, Lake Teganuma, and Lake Imbanuma. NEC contributes to ecosystem protection in this region by widely sharing its experience in conserving the Yotsuike wetlands at the Abiko Plant with other companies and local governments through networks like the Chiba Prefecture Corporate Network.

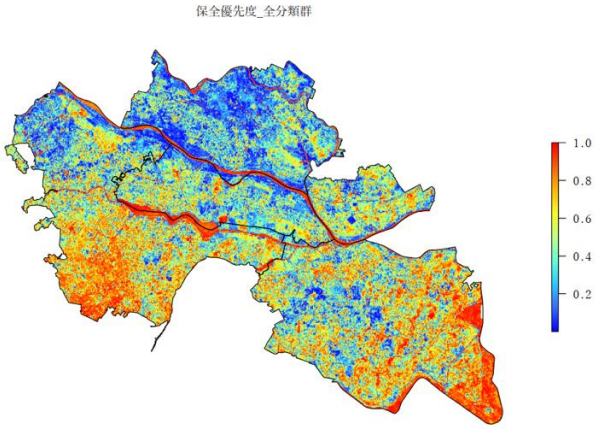


Figure 44: Biodiversity Conservation Priority Areas around Abiko City[13]
(Source: Think Nature Co., Ltd.)



Figure 45: Panoramic View of Yotsuike

(2) Utilization as a Field for ICT Solution Verification: Validating Foundational Technologies

Yotsuike Pond is also utilized as a testing ground for NEC's environmental solutions, leveraging its rich natural environment. For example, in collaboration with NEC Solution Innovators, it conducts monitoring of species composition using environmental DNA (eDNA) analysis, aiming to establish survey methods for aquatic ecosystems. Furthermore, the verification field has been expanded to include the restored Yatsuda rice fields in Kasumigaura, Ibaraki Prefecture, developed through the NEC Rice Field Creation Project.

At Yotsuike Pond, various methods are being trialed to remove invasive species, including manual removal, fishing for removal, and biological control using eels. However, environmental DNA analysis results confirmed that the majority of detected fish DNA still belonged to invasive species such as bluegill and largemouth bass. We utilize the environmental DNA results and monitoring data—including species recorded during conservation activities—to refine our invasive species removal techniques and frequency, and to formulate future activity plans.

Activities at these four ponds also serve as an environmental education venue for NEC Group employees. Participating in actual biodiversity conservation activities provides employees with a valuable opportunity to deepen their understanding of environmental issues and learn firsthand the importance of advancing business with a nature-positive perspective.

[13] Kubota, Y., et al. (2017). *Japanese Journal of Ecology*, 67:267-286.

Antoine Guisan et al.; supervised translation by Yasuhiro Kubota. *Habitat Suitability and Species Distribution Modeling for Wildlife*.

Lehtomäki J. *et al.* (2018). Diversity and Distributions 25: 414-429.

Shiono T. *et al.* (2021). Global Ecology and Conservation 30, e01783.

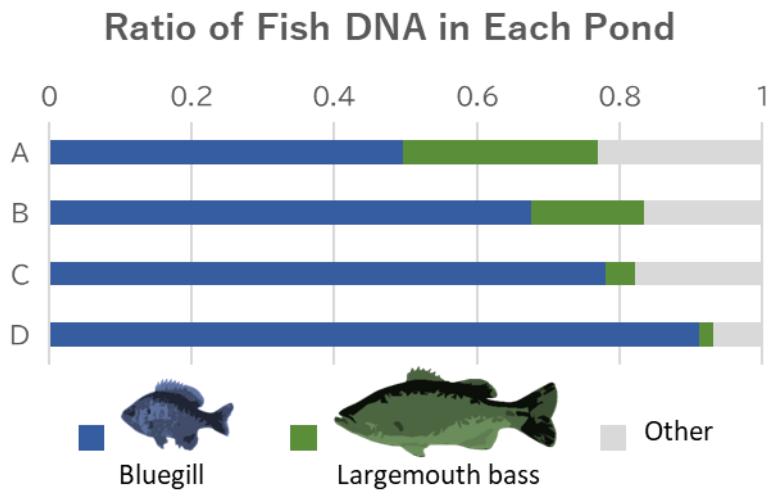


Figure 46: Fish Survey at Yotsuike Using Environmental DNA Purple: Bluegill, Blue: Largemouth Bass

5.7 Opportunities (Solutions)

NEC aims to maximize the strengths of its cutting-edge digital technologies—such as AI, IoT, sensors, telecommunications, and satellites—to enhance understanding of natural capital and propose solutions by delivering value to various stakeholders. These advanced technologies required high levels of expertise to operate, presenting barriers to widespread adoption. To address this challenge, NEC is working to make these technologies more accessible by combining them—for example, using generative AI to support the analysis of vast volumes of satellite imagery.[14]

As a technology company, we are organizing and advancing two key approaches to contribute to solving environmental challenges while accelerating them as business opportunities.

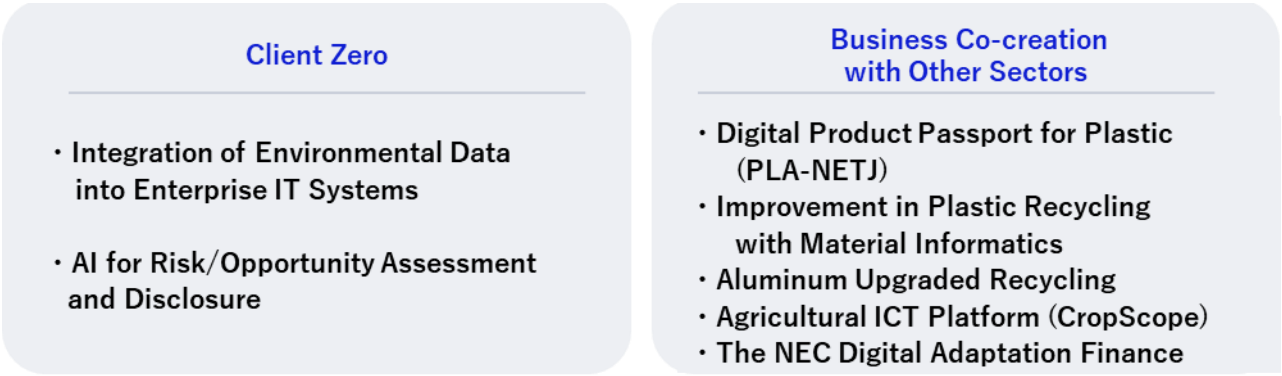


Figure 47: Two Approaches and Initiatives

5.7.1 Client Zero

Client Zero is a term referring to a series of activities where NEC positions itself as its first customer, tackles various challenges, and share the insights gained to following customers. It aims not only to conduct proof-of-concept experiments but also to systematize and provide practices—from its own business operations to its entire supply chain—as best practices directly addressing customer challenges.

NEC has set forth "BluStellar," a value-creation model that guides customers to the future. BluStellar is a value-creation model that, through NEC's cutting-edge technologies honed through years of development and operations and advanced cross-industry knowledge backed by track record, realizes transformations in business models, leads to solutions for social issues and customers' management issues. Regarding natural

[14] March 2025 Special Feature: Green Transformation — NEC's Initiatives in the Environmental Field

https://jpn.nec.com/techrep/journal/g24/n01/240117.html

capital, we will contribute to customers and society through services such as consulting, leveraging insights accumulated based on Client Zero under the BluStellar value creation model.

(1) Integrating Environmental Data into Enterprise IT Systems — Data-driven Corporate Transformation —

Corporate transformation doesn't occur merely by a sustainability department proclaiming its principles. Business activities become sustainable only when functional departments change their decision-making methods—such as product design departments selecting sustainable materials, or procurement departments choosing parts sourced from regions without environmental issues. NEC builds business systems for clients across diverse industries. By making environmental impact and risk information visible within enterprise IT systems—alongside cost and quality data—across design, procurement, manufacturing, logistics, and sales, we support our clients' corporate transformation. We also provide transformation consulting, including integrating this information into organizational KPIs alongside information systems.

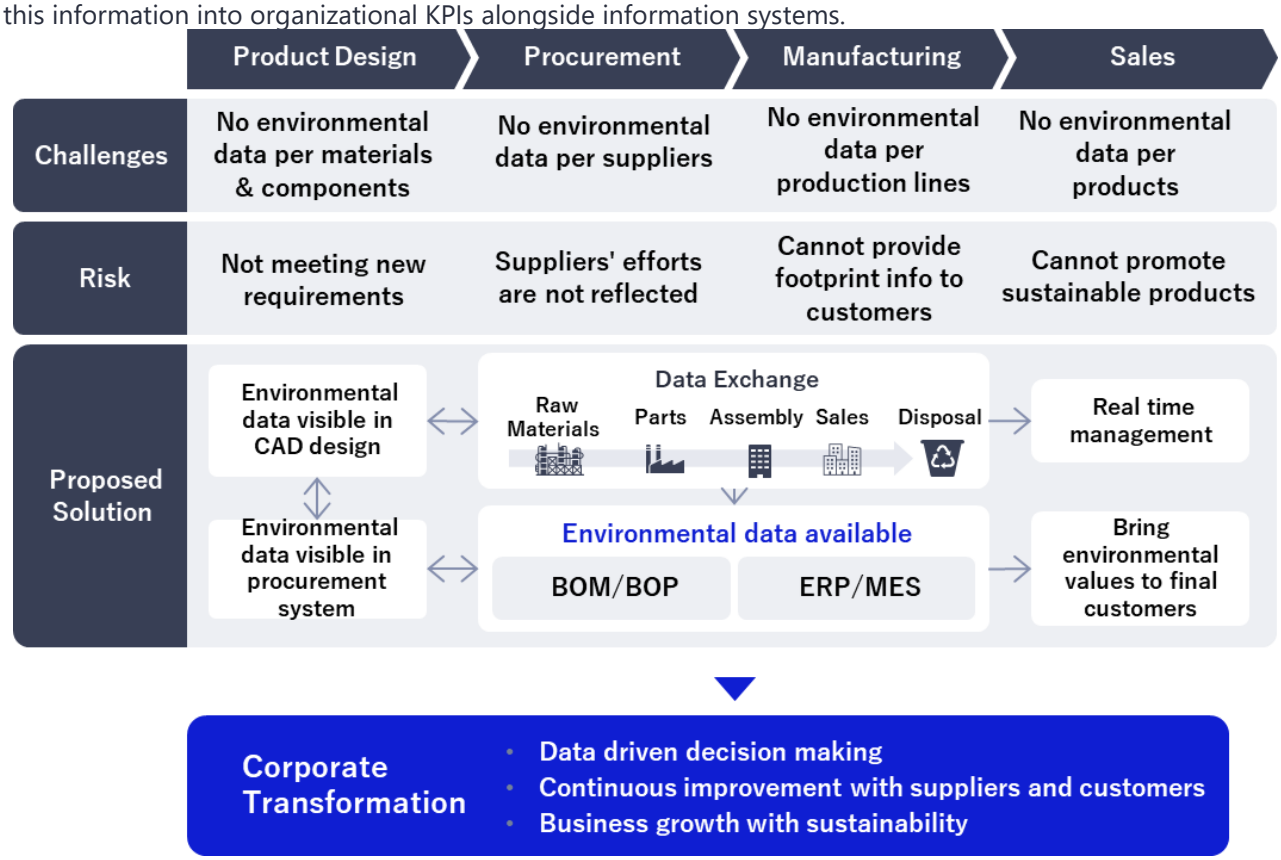


Figure 48: Concept of Sustainability Management Utilizing Enterprise IT Systems

NEC has implemented Obbligato[15], the domestic market leader for 29 years in PLM (Product Lifecycle Management) for managing technical information across product lifecycle stages like design, procurement, and production, at over 1,000 companies. By integrating application-specific Bill of Materials (BOM) and environmental information management, it enables eco-conscious design from the front-loading design stage. Furthermore, alongside ProChemist[16]—which also supports the data creation tool chemSHERPA—it helps maintain the up-to-date environmental data and ensures proper chemical substance management. As a global partner of IFS, the provider of the ERP system IFS Cloud[17] with extensive adoption in manufacturing, NEC supports the transformation to data-driven manufacturing.

In addition, NEC provides services to calculate product carbon footprints [18] and will incorporate know-how on calculating the Nature Footprint, in which we are participating, into the services.

[15] Obbligato https://jpn.nec.com/obbligato/index.html

[16] ProChemist https://jpn.nec.com/environment/biz_solution/chemicals/as/index.html

[17] IFS Cloud https://jpn.nec.com/ifs/index.html

[18] Product Carbon Footprint calculation service https://prtimes.jp/main/html/rd/p/000000945.000078149.html

(2) AI for Risk/Opportunity Assessment and Disclosure

NEC leverages its own sustainability expertise to provide ongoing support services for corporate sustainability management. This is done in collaboration with its consulting division, group company ABeam Consulting, and GX Concierge, a joint venture with Sumitomo Corporation. The generative AI and agentic AI utilized in creating this TNFD report will also be used in consulting services. NEC is also considering offering the AI functionality as a service.



Figure 49: Approach to TNFD-Related Tasks Using AI

The details of the AI developed this time are as follows.

① Research

We have trained it to read guidance documents issued by various international organizations, initiatives, and national governments. It can now analyze dozens of specialized guidance documents totaling thousands of pages, perform gap analysis on our company's reports, and clearly identify areas for improvement. What previously took at least 6 hours per guidance document when done manually can now be completed within 30 minutes.

② Risk Assessment

While global generic tools offer high coverage, obtaining locally relevant risk information for each regional location with decision-making precision remains challenging. This time, AI enables the automatic extraction of information such as regional water resource trends, infrastructure, stakeholders, and historical/cultural context. Combining this with site-specific information (production processes, power generation facilities, etc.) allows for risk assessment of our own sites and those in our supply chain. This has enabled us to conduct in-depth investigations for approximately 2,000 sites, compared to only about 3 sites per year previously. This equates

to saving 80,000 man-hours. By incorporating specialized knowledge, risk assessments—previously limited to a select few members—can now be performed by anyone. Furthermore, the man-hours saved through this automation can be redirected toward visiting site locations and dedicating time to stakeholder dialogue. Additionally, leveraging global information has made financial impact assessments and future scenario analysis significantly more feasible.

③ Opportunity Assessment

Historically, corporate sustainability disclosures focused primarily on case studies introducing solutions addressing environmental challenges. However, investors and rating agencies now demand explanations demonstrating how these cases represent business opportunities. This time, NEC trained AI on its extensive knowledge of environmental laws and regulations across countries, gained through years of compliance management for its sites and products. We then identified business opportunities leveraging NEC's strengths in technology, solutions, and partnerships.

④ Writing

We trained the AI on past reports, the content of this study, guidance, comparisons with other companies, and formatting templates, then had it generate a draft report. We also incorporated insights from investors and experts we had previously engaged with into the AI.

⑤ Communication

We trained the AI on past press releases, the content of this report, formatting templates, and other materials, then had it draft the report's headlines and body text.

This time, to enhance AI accuracy, we created multiple specialized AI models and utilized them to support TNFD works. Tasks do not progress automatically; human verification is required. For example, we proceed to the next task only after determining the report editing policy and risk assessment approach based on the findings from the ① Research. Meanwhile, within the ② Risk Assessment, multiple operations are automated through various methods. This AI solution was made possible precisely because NEC possesses both specialized expertise in environmental management and facility management, combined with cutting-edge AI capabilities. It represents the first AI solution globally to cover the entire TNFD process. Furthermore, we developed and evaluated an Agentic AI capable of autonomously executing these processes.

NEC is now applying this newly developed AI not only to TNFD but also to ISSB, SSBJ, CSRD, CDP responses, and more. Furthermore, we will utilize it as a tool not just for disclosure compliance, but for minimizing risks and maximizing opportunities.

5.7.2 Business Co-creation with Other Sectors

(1) Digital Product Passport for Plastic: PLA-NETJ

The issue of marine plastic pollution has prompted a reevaluation of the linear economy—a one-way system of making, using, and discarding—and a growing recognition of the importance of shifting toward a sustainable, circular economy. Over 170 countries are participating in discussions on the UN Plastic Treaty. The proposed European ELV Regulation requires that starting in 2029, at least 20% of the plastic used in new vehicles must be recycled plastic, and digital technology must be used to prove this. For Japan's automotive industry, which exports to Europe, securing waste plastic that meets quality requirements and introducing digital technology have become critical themes.

NEC is leading the development of societal frameworks in the field of inter-company data collaboration to promote plastic circulation. NEC participates in the "Building a Circular Economy System" initiative under Phase 3 of the Strategic Innovation Promotion Program (SIP), [19] led by Japan's Cabinet Office. As a key ICT company, NEC is developing the Plastic Information Distribution Platform (PLA-NETJ).

[19] Cross-ministerial Strategic Innovation Promotion Program (SIP), Phase 3 https://www8.cao.go.jp/cstp/gaiyo/sip/sip3rd_list.html

PLA-NETJ is a system that digitally manages and shares information on the circulation of plastic materials used in products throughout their lifecycle. Research and development are particularly focused on enhancing the utilization of recycled plastic materials. Through PLA-NETJ, data such as "where the raw materials were mined, where they were processed, where they became final products, how much CO2 was emitted, how much recycled content is included, and what durability it has" is recorded as a "Digital Product Passport (DPP)". Furthermore, PLA-NETJ connects to data spaces being established domestically and internationally (spaces for sharing and utilizing data across borders and sectors, such as the Ouranos Ecosystem and DATA-EX). It facilitates the flow of information between data registered in PLA-NETJ and data registered in other systems, operating as a Digital Product Passport.

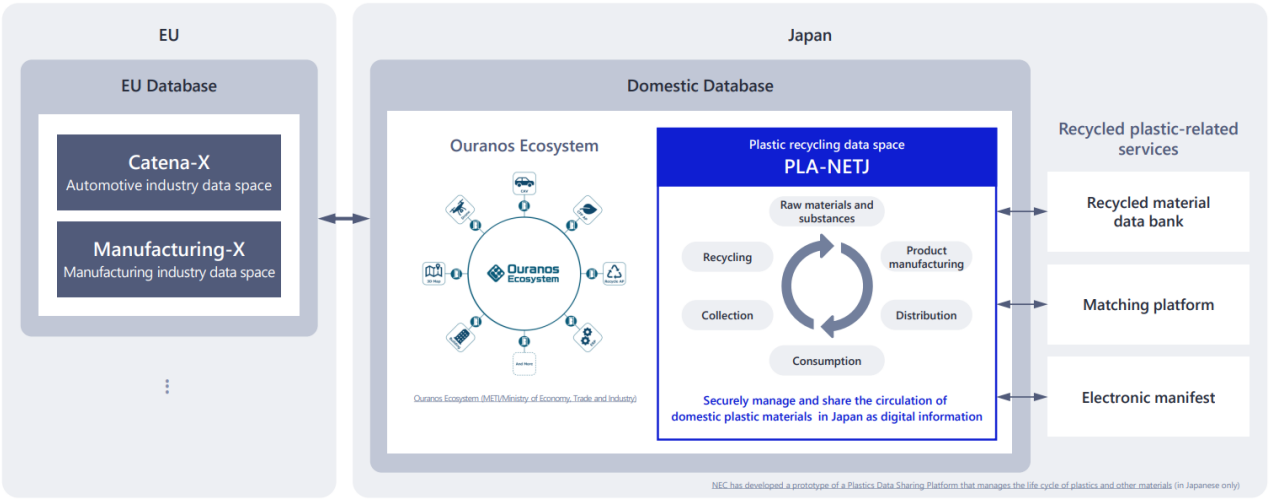


Figure 50: Positioning of Each Data Space

PLA-NETJ manages data starting from product materials. It integrates with materials informatics systems used in material development and the recycled material database developed in this SIP to manage the physical properties of plastic materials (virgin and recycled). This enables supply-demand matching through a plastic material database. Furthermore, it enables the management of product lifecycle data (DPP) through distributed data management utilizing digital trust technologies like blockchain. PLA-NETJ manages and visualizes the product lifecycle in the physical space within the cyber space.

PLA-NETJ's initiatives are being implemented in collaboration with the Ministry of the Environment, Tohoku University, major automotive OEMs/auto parts companies, major materials companies, and major recycling companies, with proof-of-concept testing already completed. Currently, in addition to expanding the range of products for proof-of-concept testing, discussions are underway with the Ministry of Economy, Trade and Industry (METI) and the Digital Agency to explore societal implementation. Furthermore, NEC participates in the Keidanren Industrial Data Space Preparation Committee, continuously proposing the ideal form for an industrial data space.

NEC's trust technologies and security technologies can contribute to ensuring the reliability of information handled within the Industrial Data Space, enabling companies to share data with confidence. We believe NEC's strengths—its broad range of technologies and extensive experience in large-scale social implementation—can be leveraged here. Furthermore, NEC is also exploring the development of applications that enable companies to advance data analysis and transformation.

Trust Products	Function	Trust Anchor (Credibility Guarantee)
e-Seal	Certifies the originator of electronic data created by a company and verifies that the originator has not been impersonated	Issued by providers certified by the national government (Ministry of Internal Affairs and Communications)
Timestamp	Proves that the electronic data existed at a specific point in time and has not been tampered with since then	Same as above
Blockchain (Evidence Management)	Register electronic data issued by companies and process logs onto the blockchain, periodically checking to prove no fraudulent activity has occurred	Ensure trust through distributed nodes across multiple companies or by utilizing public blockchains



Figure 51: Technologies Required for Data Spaces

PLA-NETJ's initiatives can contribute to plastic recycling across a wide range of fields beyond the automotive industry, so we are also advancing discussions with numerous companies and industry associations. Furthermore, we have begun discussions to expand these mechanisms horizontally to the recycling systems for other materials, such as aluminum.

(2) Improvement of Plastic Recycling with Materials Informatics

Achieving a circular economy requires digital transformation (DX) not only in the arterial industries that use materials but also in the venous industries that recover and recycle them. Particularly in Japan, where many SMEs operate in the venous sector, creating an environment and systems that enable the utilization of digital technologies is essential.

NEC and Maruki Sangyo conducted a proof-of-concept experiment applying materials informatics technology—which uses AI to streamline material development—to enhance the efficiency of recycled plastic manufacturing. The results confirmed that when less experienced workers handle the blending and color matching of waste plastics in recycled plastic production, the required work time can be reduced by half. This proof-of-concept also demonstrated the potential for contributing to reduced manufacturing costs through optimized blending.



Figure 52: Efficiency Enhancement in Recycled Plastic Manufacturing Process via MI-Based Physical Property/Color Prediction

The plastic recycling process begins with the collection and sorting of waste plastics. It then proceeds through stages such as crushing, compounding, color matching, and pelletizing, ultimately processing the material into a product called pellets for shipment. Within this process, the compounding stage is particularly critical. Here, the optimal compounding formula must be determined each time based on the specific performance characteristics and quantities required by the customer—such as strength, heat flow, and color—using the small quantities of diverse waste plastics received daily. This step especially relies on the knowledge and experience of skilled operators. Building on Maruki Sangyo's formulation expertise cultivated since its founding, NEC has developed a system that proposes waste plastic blending and coloring solutions. This system leverages NEC's knowledge in material development, including bioplastics, and its materials informatics technology. By inputting desired performance characteristics and color, the system can propose optimal solutions tailored to the daily fluctuations in waste plastic inventory.

Building on these results, both companies have begun discussions to develop solutions enabling efficient recycled plastic manufacturing. Aiming for 2026, they plan to provide solutions—including consulting—to companies involved in plastic recycling, thereby promoting the efficient and circular use of waste plastics. They will also leverage AI to enhance the value of recycled plastic materials, contributing to expanding their application scope. By leading these efforts and promoting cross-industry co-creation activities, both companies will accelerate the circular economy—a socio-economic system that efficiently circulates resources—and work toward solving societal challenges. NEC will continue its challenges, collaborating with numerous stakeholders and considering the global expansion of the expertise accumulated in Japan, starting with Southeast Asia.



Figure53：Plastic Recycling at Maruki Sangyo

(3) Aluminum Upgraded Recycling[20]

Aluminum products achieve the properties required for various applications, such as enhanced strength, by adding elements like Si (silicon), Mg (magnesium), and Zn (zinc). Consequently, the range of applicable products is limited by the type and content of these elements. When horizontal recycling is difficult, downgrade recycling (cascade-type recycling) typically occurs in the sequence "extruded materials → cast materials/die-cast materials," moving from materials with lower element content to those with higher content, within the scope permitted by specifications.

Furthermore, while primary ingot (new ingot) production from bauxite, the raw material for aluminum, ceased domestically following the oil crisis, the refining process for secondary material (recycled ingot) from recycled aluminum reduces CO2 emissions by 97% compared to using imported primary material (CO2 emissions per unit: 9.24 kg-CO2/kg for new ingot vs. 0.309 kg-CO2/kg for recycled ingot). - CO2/kg). Therefore, expanding the domestic recycling structure for recycled materials is also required from the perspective of promoting decarbonization.

Amidst this, the "Industry-Academia-Government-Community Collaboration Hub for Creating a Toyama Circular Economy Model," which advanced to a full-scale project in fiscal year 2024 under the COI-NEXT program (a collaborative innovation platform support initiative by the Japan Science and Technology Agency, JST), is advancing efforts to enhance aluminum utilization. Centered around the National University Corporation Toyama University, these efforts include realizing upgrade recycling, which improves quality by removing unwanted components. Major aluminum building material manufacturers and automotive parts manufacturers are participating in this project. NEC is participating as the sole ICT company, aiming to contribute in the DX domain.

To expand domestic circular structures, including the challenging goal of realizing upgrade recycling, it is

[20] Building an advanced aluminum circular economy through ICT https://jpn.nec.com/techrep/journal/g24/n01/240116.html Global Challenge: "Upgraded Recycling" of Aluminum — Joint Research by the University of Toyama and NEC Begins https://jpn.nec.com/corporateblog/202402/03.html

necessary not only to enhance material value through collaborative innovation via data sharing between universities and research laboratories that have previously developed expertise individually, but also for aluminum-related market stakeholders to collaborate in building optimal supply chains and value chains.

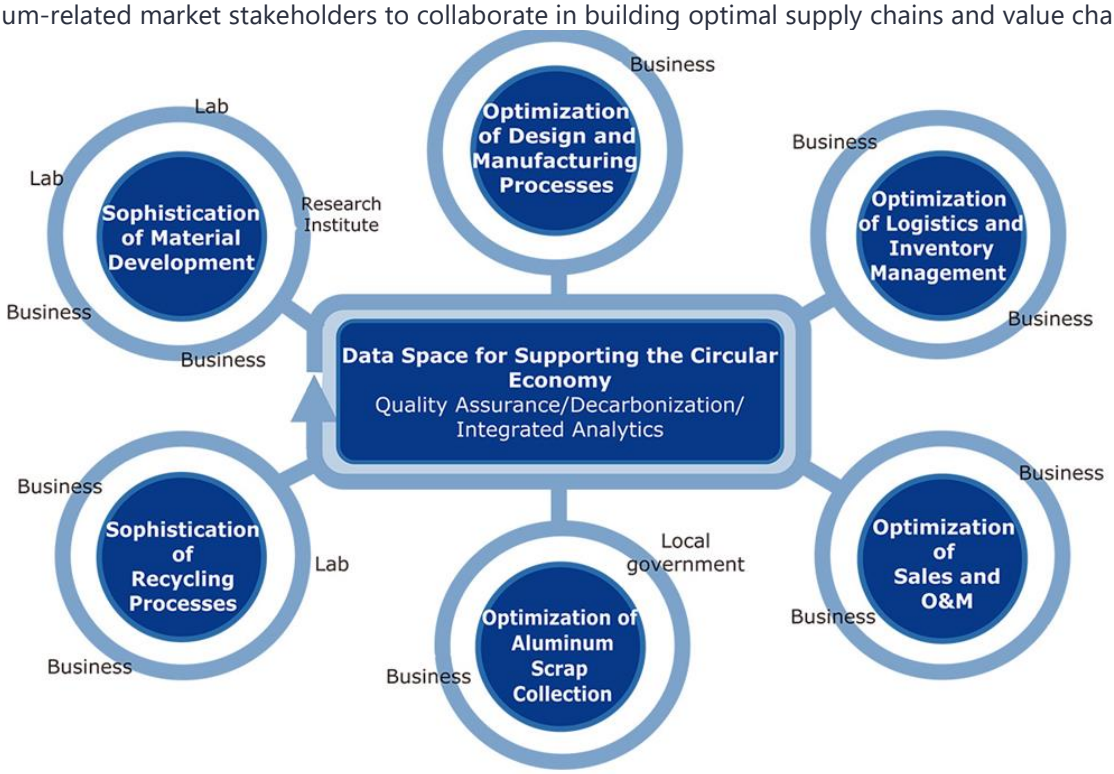


Figure 54: Value Enhancement through Co-creation with Players in the Circular Cycle

In advancing aluminum recycling, NEC is exploring structures that contribute to optimizing the entire process and improving quality and characteristics through the use of technologies such as optimization AI. Specifically, this includes using AI to enhance recycling process efficiency—such as proposing purification processes to remove unwanted components and heat treatment methods that leverage changes in physical properties during heat treatment. NEC is also collaborating with the University of Toyama to explore initiatives for optimizing the entire supply chain using Digital Product Passports (DPP).



Figure 55: Aluminum Recycling Research Facility

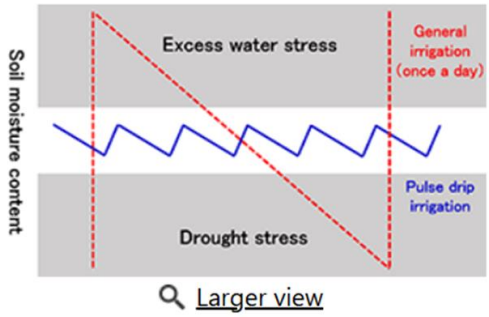
(4) Agricultural ICT Platform: CropScope

The agricultural ICT platform "CropScope"[21] aims to revolutionize traditional agricultural production sites through AI-powered digital agriculture. It provides a platform that centralizes production data for access by all stakeholders, enables prediction and optimization using accumulated farming data, and offers remote automated control through integration with irrigation systems. This enables AI farming that incorporates expert know-how and automated irrigation control optimized for small-volume, frequent irrigation. It achieved "15% reduction in irrigation water while increasing yield by 20%" and "20% reduction in nitrogen fertilizer while

[21] Open-field farming support solution CropScope https://jpn.nec.com/solution/agri/service/farm_analysis.html

maintaining yield" in tomato cultivation in Portugal. In tomato cultivation in Northern Italy, it achieved "19% reduction in irrigation water while increasing yield by 23%". Regions worldwide, starting with Europe, face the challenge of balancing reduced environmental impact in agriculture with securing crop yields. CropScope is a platform that directly tackles this societal challenge.

In September 2022, Kagome and NEC established DXAS Agricultural Technology, a joint venture utilizing AI to support processing tomato farming. By addressing water scarcity issues in farming operations, it promotes more environmentally friendly and profitable farming practices, contributing to sustainable agriculture worldwide. This also enhances the sustainability of various industries that have agriculture at the upstream of their supply chains.



Larger view

Conventional irrigation causes plants to be stressed from excess water or drought, while pulse drip irrigation can maintain water conditions that are stress-free



Larger view

The automated irrigation system makes it possible to automatically control AI farming advice, such as irrigation frequency, to help eliminate complicated and time-consuming manual work

Figure 56: CropScope

NEC provides CropScope in collaboration with governments in the Global South and international organizations, tailoring it to the actual circumstances of farmers and field operations. For example, in Africa, it visualizes crop growth status based on satellite data and combines it with weather forecast data to support optimal decision-making for farming operations. Additionally, NEC XON, NEC's regional subsidiary based in South Africa that leads ICT and digital solutions in Sub-Saharan Africa, proposes an IC card called an "e-Voucher" to streamline the paper ledger management used by local governments when distributing fertilizers and seeds to farmers. This prevents fraudulent receipt of aid supplies and enables the efficient distribution of appropriate quantities to the farmers who need them. This is an example of a business initiative based on NEC's Purpose: creating social value through biometric authentication technology, ensuring safety, security, fairness, and efficiency.

The agricultural sector is highly vulnerable to climate change impacts. However, estimating the return on investment (ROI) for potential adaptation measures—such as irrigation systems or crop variety changes—has been challenging due to the wide range of factors affecting crop growth, including temperature, water, and soil. NEC and ClimateAi, a North American startup, have developed a conceptual model that uses AI to analyze the various factors affecting crop growth and calculates the economic return on investment for implementing adaptation measures. [22] Utilizing this model enables the focused implementation of adaptation measures in regions where effectiveness is anticipated, allowing for the efficient and sustainable advancement of local agricultural development. Trials will begin with crops like cacao beans, where price surges persist due to poor harvests.

CropScope is a solution that contributes to conserving water resources and suppressing nitrogen pollution of groundwater by optimizing water and nitrogen fertilizer usage. Reducing nitrogen fertilizer application also leads to suppressing greenhouse gas emissions. N2O, in particular, is estimated to have a global warming potential approximately 273 times that of CO2. NEC has submitted this CropScope case to the European Green Digital Coalition (EGDC) and is working with specialized institutions to calculate its net impact. CropScope is the only Japanese corporate IT solution selected for this initiative.

[22] https://prtimes.jp/main/html/rd/p/000001024.000078149.html

Furthermore, NEC is the only IT company participating in the Japan Food & Agriculture Society (JAFAS), [23] collaborating with numerous food and beverage manufacturers and retailers to explore regenerative agriculture. By pooling each company's expertise and technologies related to agriculture and food, the initiative aims to drive business innovation and promote new social systems globally.

(5) The NEC Digital Adaptation Finance

NEC focuses not only on "Mitigation"—reducing greenhouse gas emissions—but also on "Adaptation"—responding to the impacts of climate change—in its environmental initiatives. Specifically, addressing the challenge of delayed investment in the "Adaptation" domain, NEC proposes "Adaptation Finance" to the international community. This approach leverages digital technology to improve capital circulation and promotes its social implementation.



Figure 57: Keynote speech by CTO Nishihara at the UNFCCC Pavilion during Climate Change COP29

The Climate Change COP29 held in November 2024 was dubbed the "Finance COP," with climate finance targets as its central theme. The conference established a target to scale up climate finance for developing countries to over $1.3 trillion annually by 2035. It strongly advocated advancing the concept of "Blended Finance," which leverages both public and private capital. This represents a significant market opportunity to stimulate private investment in adaptation measures.

NEC's "NEC Digital Adaptation Finance" initiative aims to leverage digital technology to rapidly capture information essential for climate adaptation. By scientifically measuring and predicting the effectiveness of such measures, it seeks to quantitatively visualize the difference in disaster losses with and without adaptation as "adaptation value." This approach clarifies the ROI (Return on Investment) of adaptation measures, aiming to stimulate new capital inflows into the adaptation sector, where private investment has historically been challenging.

[23] A corporate-led initiative born from the activities of “4Revs,” the innovation platform provided by the NPO NELIS (Next Leaders Initiative for Sustainability). https://jafas.jp/

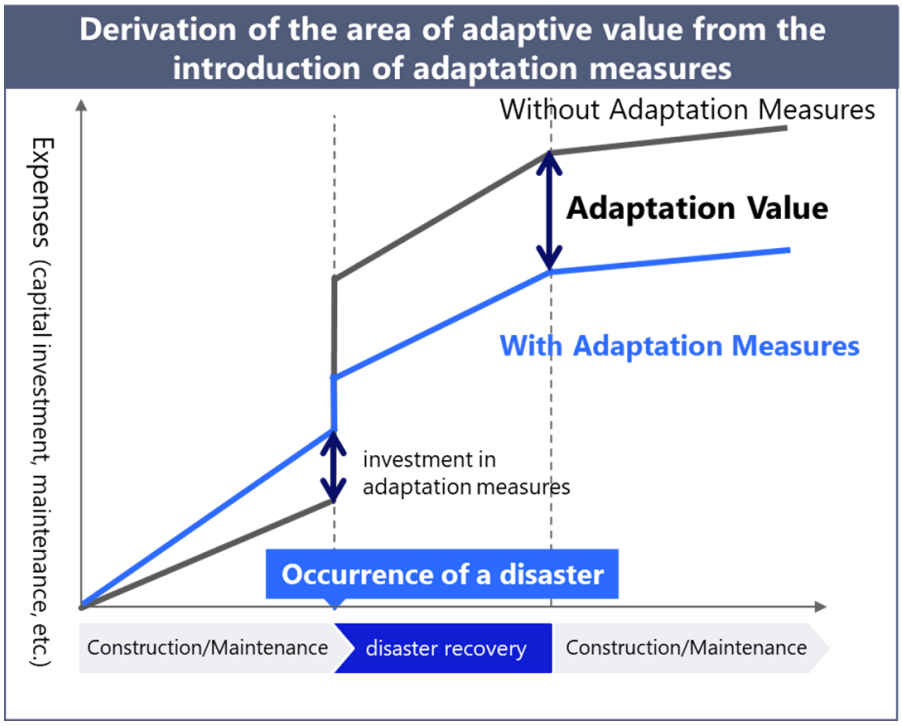


Figure 58: Conceptual Diagram of Deriving Adaptation Value through Adaptation Measures

This approach provides the following opportunities for customers and society:

・**Reduced natural disaster risk and enhanced corporate resilience**

Using advanced digital technologies such as remote sensing, AI, and digital twins, we simulate the physical risks and financial impacts of natural disasters. We quantify the difference in damage between scenarios with and without adaptation measures. This clarifies the effectiveness of preemptive disaster countermeasures in mitigating future economic losses. Consequently, client companies and local governments can implement more effective disaster prevention and mitigation strategies, driving enhanced resilience.

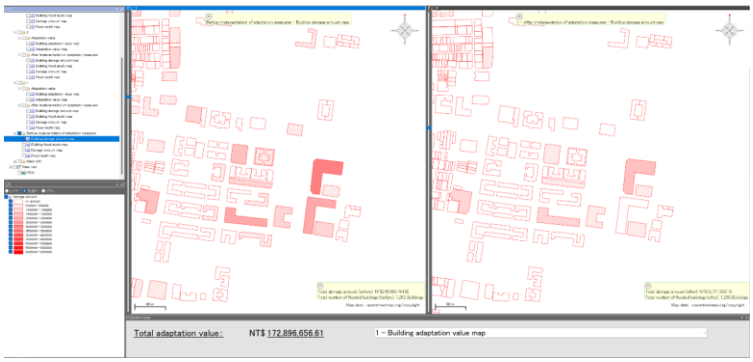


Figure 59: Conceptual Comparison of Flood Damage Costs with and without Adaptation Measures

・**Quantifying Adaptation Value and Accelerating Capital Circulation**

By using digital technology to quantify and evaluate the disaster mitigation effects generated by adaptation measures, we provide transparent information to investors and financial institutions. This promotes investment interest and enables the development and provision of new financial products, accelerating the flow of funds. It encourages private capital to flow into adaptation measures, which previously relied heavily on public investment, thereby contributing to enhancing society's overall resilience to climate change.

・Co-creation with Multi-Stakeholders

To accelerate the societal implementation of this "Adaptation Finance," NEC has established the "Adaptation Finance Consortium"[24] together with Mitsui Sumitomo Insurance. This consortium aims to maximize adaptation value and expand the adaptation finance market by collaborating with diverse public-private-academic partners, including insurance and financial institutions, investment organizations, social infrastructure operators, research institutions, local governments, and government agencies. Furthermore, to create concrete use cases for Adaptive Finance, starting in June 2025, NEC will begin a joint survey project with Yachiyo Engineering. in Indonesia. This project, part of the "SmartJAMP" initiative promoted by the Ministry of Land, Infrastructure, Transport and Tourism, will calculate the adaptive value of disaster prevention measures (adaptation strategies) against flood risks. This marks the start of creating concrete use cases overseas. [25]

Through these initiatives, NEC will contribute to realizing a sustainable society by accelerating corporate resilience and capital circulation. This is achieved by digitally quantifying adaptation value against natural disaster risks caused by climate change.

[24]Adaptation Finance Consortium https://jcaf.org/

[25] Yachiyo Engineering and NEC launch a study in Indonesia to quantify the adaptation value of disaster-prevention (DRR) measures in the field of adaptation finance. https://prtimes.jp/main/html/rd/p/000000979.000078149.html

6 Risk and Impact Management

NEC has established a "Risk and Compliance Committee" to manage risks across the entire company. This committee performs a supervisory function, reviewing the outcomes, challenges, and future plans of specific risk mitigation measures and providing direction. It also reports to the Management Committee and the Board of Directors as necessary.

Regarding climate change, biodiversity, environmental issues within the value chain, natural disasters, lifelines at business sites (including water supply), and violations of environmental laws and regulations, responsible departments regularly monitor changes in both internal and external factors. If a situation is recognized as potentially having a significant impact on business operations, countermeasures are deliberated within the Risk and Compliance Committee.

Furthermore, within the company-wide environmental management system, risks and opportunities are identified annually based on internal and external trends and reflected in the review of the "Eco Action Plan." NEC also recognizes the impact environmental risks can have on its business. Based on the following approach, the company continuously strives to reduce risks through evaluation, inspection, and education.

Risk countermeasures are promoted by categorizing them into three types: "Factory-related risks," "Product-related risks," and "Sales and maintenance-related risks."

The first category, plant-related risks, targets hazards such as hazardous substance leaks, soil contamination, and groundwater pollution caused by natural disasters or equipment failure. We conduct preemptive assessments through environmental risk assessments and implement training programs to prevent environmental accidents.

The second category, product-related risks, targets risks such as the inclusion of substances regulated by the EU RoHS Directive or violations of labeling regulations. We address these by ensuring strict compliance with guidelines through product assessments and by centrally managing information via our internal systems.

The third category, sales and maintenance risks, targets risks such as violations of the Waste Management and Public Cleansing Act due to inadequate waste disposal outsourcing. We have issued waste guidelines, provide regular training to sales personnel, and strive for legal compliance. Simultaneously, we have established the "Environmental Risk Information Escalation and Response Regulations" to strengthen governance over environmental risks.

Furthermore, NEC requires its upstream procurement partners in the value chain to engage in environmental conservation, including biodiversity, water, and soil, through its " Guidelines for Responsible Business Conduct in Supply Chains". We also survey their implementation status through our annual supplier questionnaire.

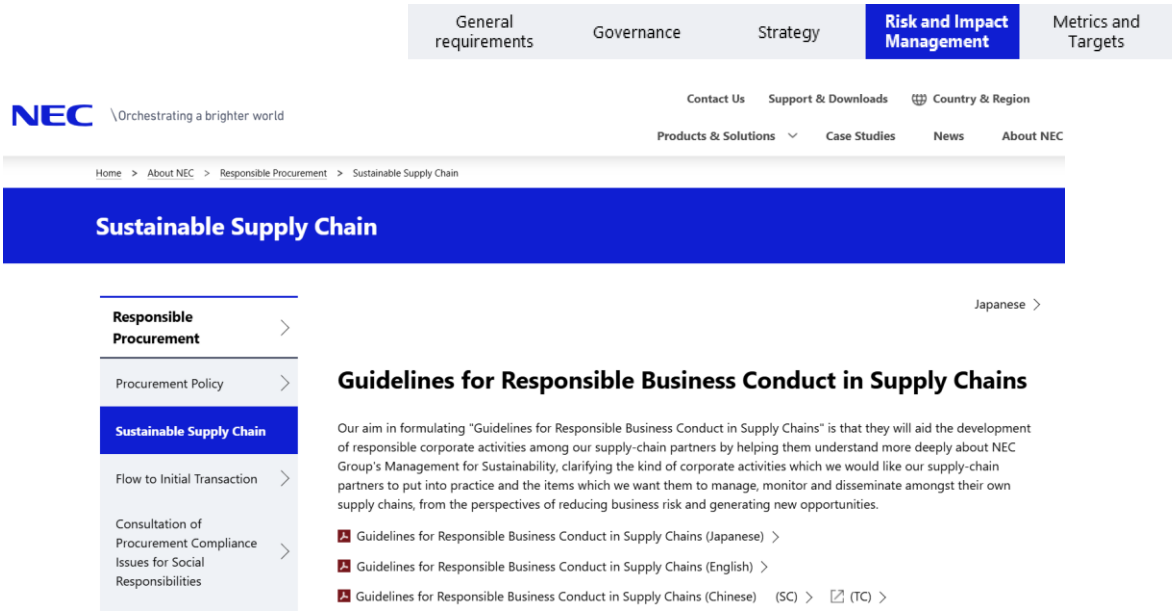


Figure 60: Guidelines for Responsible Business Conduct in Supply Chains
(Source:：Sustainable Supply Chain: Responsible Procurement | NEC)

Through the preparation of this TNFD report, we assessed the following risks. Considering our business activities and locations, we found no material risks at this time. Furthermore, as the sales contribution of each data center and manufacturing site to the NEC Group as a whole is less than 1%, we consider the operational risks to be low. We will also incorporate the insights gained from this in-depth assessment into our future regular risk management processes.

Figure 61: Key Risks Deeply Evaluated in This Report

		Key Risk Assessment Findings
Direct Operations	Optical Submarine Cable Laying	Confirmed that risks are minimized through advanced technologies and installation management that secure compliance and local environmental impacts
	Data Center Operation	・Redundant configuration using both municipal water and groundwater ・Stable water sources; no past water outages or shortages
	Equipment Manufacturing	・Thailand/China: No water usage in production processes. Sufficient countermeasures against water shortages, flooding, and wastewater pollution risks confirmed at facilities, industrial parks, and surrounding areas ・Abiko: Established flood countermeasures and emergency response protocols in collaboration with Abiko City ・Tamagawa: Fundamentally strengthened flood countermeasures based on the 2019 Tama River flooding damage
Upstream		(Annual questionnaires conducted with procurement partners)

7 Metrics and Targets

NEC uses its proprietary environmental performance management solution, GreenGlobeX, for data aggregation and management. Additionally, aligned with the mid-term management plan period, we formulate an "Eco Action Plan" and conduct annual reviews based on internal and external trends. The table below shows our alignment with the TNFD Core Metrics. It includes company-wide information and information from sites where risks were assessed under "Strategy."

Figure 62: TNFD Core Metrics Correspondence Table

	Impact Driver	Indicator	FY2024 Actual	FY2025 Target
C1.0	Land Use	Spatial Footprint	・**Conduct prior assessments when establishing new manufacturing sites** (No target/performance managementas core operations do not involve land alteration)	
C1.1		Land Use Change	・**Conservation Site: 4.343 ha (Abiko Office, Yotsuike)**	
C2.0	Soil Pollution	Soil Pollution	・**Appropriate surveys and measures are taken in accordance with regulations in case of land use change.** (No target and performance management due to thorough leakage control)	
C2.1		Discharge Water Quality and Volume	・**BOD discharge: 44.6 tons** Each facility sets voluntary standards stricter than laws and ordinances ・**Total Discharge Volume: 1,302 thousand m³**[3] Sewage: 1,023,000 m³[3], Public Waterways: 279,000 m³[3]	・**BOD discharge: 1% reduction compared to FY2017** ・According to Aqueduct, two manufacturing sites are located in areas with challenges in sewage infrastructure. However, these NEC sites are already connected to sewage infrastructure, so no individual reduction targets have been set.
C2.2		Waste	・**Total waste volume: 28.5 thousand tons** ・**Landfill ratio relative to total waste volume: Less than 0.5%** ・**Product recovery and resource reuse rate: 91%**	・**Total Waste Volume: 4.8% reduction compared to FY2018** ・**Percentage of Landfilled Volume Relative to Total Waste Volume: Maintained below 0.5%** ・**Product recovery resource reuse rate: 90% or higher**
C2.3		Plastic	・**Waste plastic volume: 2,800 tons**	・**Plastic waste volume: 4.2% reduction compared to fiscal year 2019**
C2.4		Non-GHG Air Pollution	・**NOx emissions: 7.5 tons** ・**SOx emissions: 0.01 t** ・**VOC emissions: 56 tons**	・**NOx emissions: 1.0% reduction compared to FY2017** ・**SOx emissions: 1.0% reduction compared to FY2017** ・**VOC emissions: 1.0% reduction compared to FY2017**
C3.0	Resource Utilization	Water intake from water-scarce areas	・**Water intake volume at facilities located in water-stressed regions:** **China, Suzhou: 4,825m³** **Thailand, Pathum Thani: 51,557 m³**[3] ・Total direct operational water intake: 1,591 thousand m³[3] Water supply: 560,000 m³ Groundwater: 842,000 m³ Industrial water: 188,000 m³[3] Reclaimed water: 21 thousand m³	・**No water usage in manufacturing at the China site,no individual targets are set** ・**The Thailand facility has installed water storage tanks and water recycling equipmentand established water usage priorities during droughts.** **Will continue close collaboration with local governments/industrial parks** ・Direct operational total water withdrawal: 10.5% reduction compared to FY2017 ・**Preparing to incorporate water risk assessments before acquiring new sites into the "NEC Eco Action Plan"**
C3.1		Quantity of high-risk natural commodities	・**Examples of SBTN commodities in components: Copper, Iron, Aluminum** ・**Currently trialing evaluation using LIME3 and Nature Footprint methodologies** ・Regarding conflict minerals, we have established the “Responsible Mineral Procurement Policy" and issued the "FY2022 Conflict Minerals Survey Report" Report"	
C7.0	Risk	Transition risks	・**No assets or revenues vulnerable to transition risks were identified through in-depth evaluation under "Strategy"** ・Continue monitoring regulatory, market, and technological trends (e.g., data center WUE)	
C7.1		Physical risks	・**Sales from the Patumthani, Thailand site, located in a water risk area, account for less than 1% of NEC's total sales** ・Measures at the Thai Pathum Thani site are thorough, and risks are minimized	
C7.2		Significant fine & penalties	・**No environmental fines or penalties were incurred in fiscal year 2024**	
C8.0	Opportunity	Related investment	・**Expanding product and service offerings that deliver positive impacts** (e.g., AI farming system "CropScope" that reduces nitrogen fertilizer and water usage on farmland) ・Numerous elemental technologies applicable to the natural capital sector (e.g., data trust technology applicable to supply chain management) ・Quantitative figures are not yet calculated	
C8.1		Revenue from products and services that positively impact nature		

Future and Transition Plan

The TNFD's "Discussion Paper on Nature Transition Plans" requires the inclusion of "Underlying Policy," "Implementation Strategy," "Engagement Strategy," "Indicators and Targets," and "Governance." As these are already covered within this report, we summarize future plans here.

NEC is currently assessing sustainability-related impacts, risks, and opportunities (materiality) for the next mid-term management plan period starting in 2026. The assessment of natural capital incorporates insights revealed in this report. For example, while we currently estimate that no data centers—which have significant social and environmental impacts—are located in high-risk areas for water risk, we recognize this as a theme requiring consideration in future business expansion. Furthermore, while data centers at domestic and international group companies primarily utilize third-party housing services, we are comprehensively evaluating the risks at these sites. This includes high-resolution water scarcity/flood risk assessments, AI-driven local risk investigations, and individual interviews. Detailed analysis results will be published in the next TNFD report.

In the upcoming NEC Eco Action Plan (the mid-term environmental plan starting FY2026), currently under preparation, we are considering explicitly stating that when establishing new sites, we will investigate the local ecosystem and biodiversity and assess water risks. Furthermore, regarding risks in the upstream supply chain, we will advance in-depth risk assessments through the following steps.

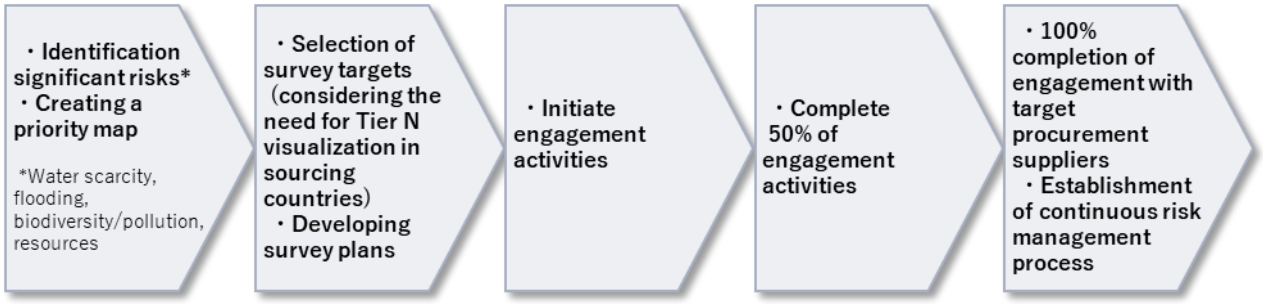


Figure 63: Procurement Partner Engagement Promotion Flow (Reprinted)

Currently, no risks have materialized in direct operations or the supply chain, so we do not plan countermeasure expenditures such as capital investments. However, man-hours are required to continuously monitor global and regional situations. These man-hours can be significantly reduced using the AI developed this time. We will continue to enhance the AI's capabilities. We will advance data-driven sustainability management based on both quantitative and qualitative data.

Regarding the realization of business opportunities, we will make appropriate investments to maximize long-term profits. This AI now enables us to explore business opportunities by cross-referencing environmental regulations, customer needs, and competitor trends in each country with our own technological strength. We will also actively engage in shaping domestic and international schemes to create markets that solve environmental challenges. Alongside individual business decisions, the Carbon Neutral Business Promotion PMO Group compiles the company-wide portfolio of environmental businesses, including those in the natural capital field, along with investment amounts, reporting quarterly to the CEO and CFO.

Currently, we issue a separate TNFD report to delve deeper into the new theme of natural capital. However, we plan to integrate this information into other sustainability disclosures going forward.

Message from the Executive Officer in Charge of the Environment

Thank you for reading NEC's TNFD Report.
As Chief Supply Chain Officer (CSCO), I recognize that natural capital is very important in relation to NEC's business activities and that, in the globally expanding supply chain, visualizing relationships with natural capital, properly understanding potential risks, and executing optimal measures is a difficult challenge.

In this context, at NEC we have established a structure that advances environmental management not independently but together with supply-chain functions such as procurement, quality, production management, and logistics, and with DX functions that support these functions. It allows us to tackle broader sustainability issues—such as human rights, information security, and economic security—within the same structures, as these require similar efforts from our business partners.
Consequently, collaboration with procurement partners has become more efficient. We will continue to accelerate our efforts to enhance the sustainability of our business with all stakeholders, including procurement partners and customers.

Furthermore, the DX functions are driving transformation in work practices through digital technology.
The use of AI in TNFD activities is one example. The AI developed this time is now being applied to information disclosures such as CDP responses and SSBJ/CSRD reports. Moreover, this AI not only supports disclosure but also contributes to minimizing corporate risk by fundamentally strengthening the supply chain. For instance, it enables AI analysis of water scarcity risks at our own and partner sites—risks that previously required extensive specialized research—providing actionable insights for decisions like whether additional investment is necessary. We are truly aiming for meaningful sustainability data-driven management.

The insights gained from NEC's own implementation are also applied to solving our customers' management challenges. We call this our Client Zero initiative. Essentially, we become the first client, conducting various in-house proof-of-concept experiments to identify effective measures. We then propose these measures, including their implementation methods, to our customers. We see significant potential for this approach across all sustainability activities, including environmental management.

We will continue to take on initiatives that lead the world across overall sustainability, including environmental management, and we will advance efforts to enhance sustainability across society as a whole, including customers and procurement partners.



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