Briefing on ESG

NEC's Efforts to Achieve Carbon Neutrality and Business Deployment

NEC

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An age in which businesses are required to commit to environmental targets and disclose information

Low-carbon society that the world aims to achieve

Keep the average temperature rise below 1.5°C to 2°C from pre-industrial levels by 2050

Commitment to environmental targets

Reduction requested by customers / Reduction requests incorporated in procurement requirements





BUSINESS 1.5°C





Disclosure of environmentrelated information

Disclosure of environment-related information demanded by the financial sector and EU







カーボン

MSCI ESG Leaders

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History of NEC's efforts

2000

2010

2017

2021



Environmental Management Vision 2010

CO₂ emissions from business activities

Reduce the level of CO₂ emissions from customers and society

Environmental Management Action Plan 2020

Reduce the level of CO₂ emissions from customers and society that is five times the total volume of CO₂ emissions from the entire supply chain

Course of Action for **Climate Change**

Reduce CO₂ emissions from NEC's business activities to net zero by 2050

2025 Mid-term Management Plan

Turn the carbon neutral businesses into growth businesses

Achieved in 2009

Achieved in 2019

Updated in 2021



Purpose

NEC 2030VISION

Environment

Living harmoniously with the earth to secure the future

Society

Nurturing prosperous cities with inclusive and harmonious societies Creating sustainable societies by shaping new industries and workstyles Sharing hopes that transcend time, space, and generational boundaries



Carbon neutrality of NEC and its supply chain

Carbon neutrality of customers and society



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New commitments for FY2021

Recertified in May 2021



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

NEC increased the stringency from the "well below 2°C" level to the "1.5°C" level.

Joined in May 2021



NEC is committed to 100% conversion to renewable energy by 2050 at all our operations in Japan and overseas.

Signed in October 2021

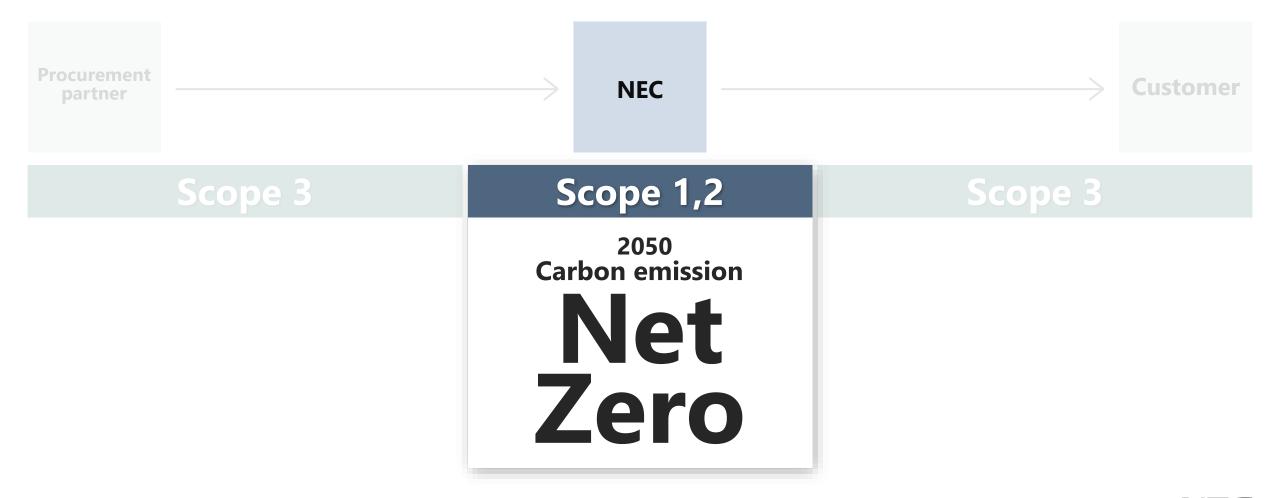
BUSINESS 1.5°C

NEC is committed to reducing the GHG emissions to net zero across the entire supply chain.

Scope 2: Indirect greenhouse gas emissions from the use of electricity, vapor, and heat

Scope 3: Indirect greenhouse gas emissions from the entire corporate group (supply chain) excluding those of Scopes 1 and 2

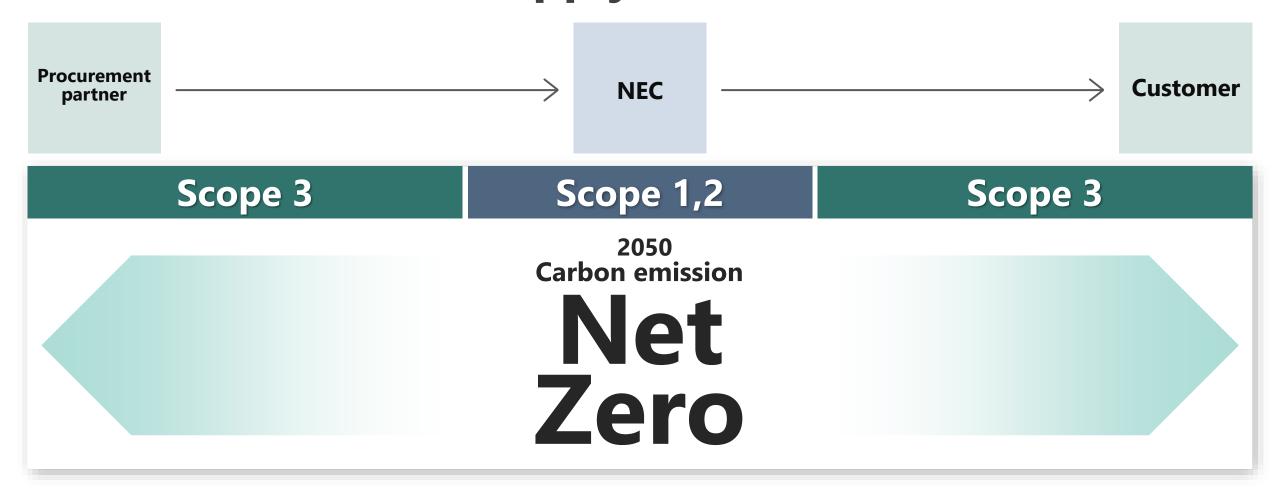
Reduce CO₂ emissions from **NEC's business activities to net zero**



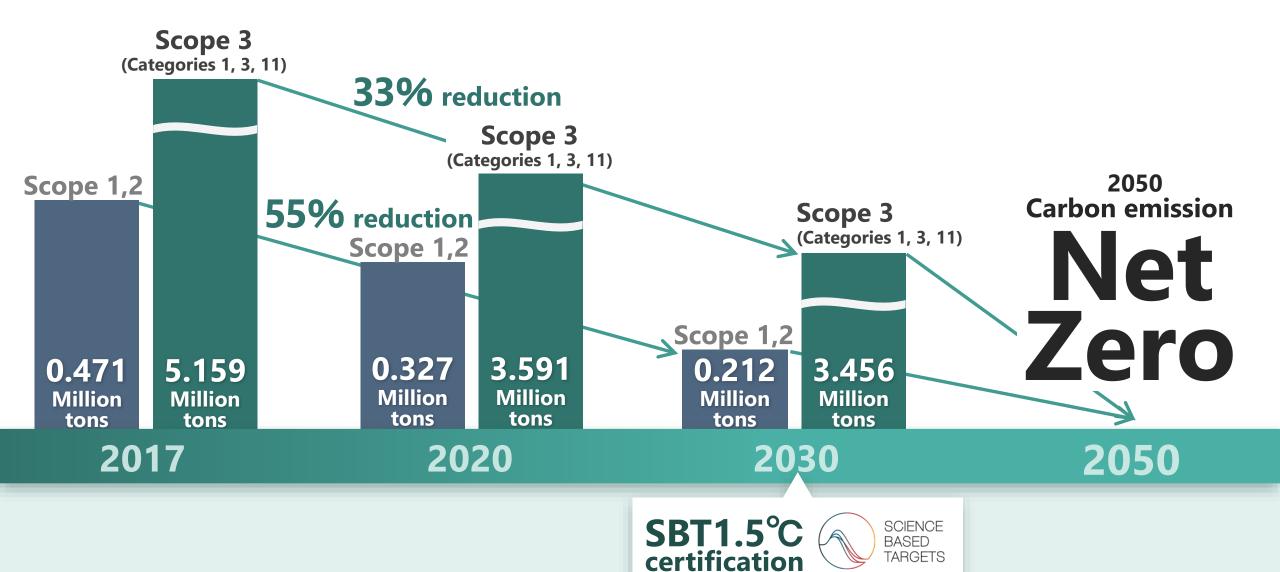
Scope 2: Indirect greenhouse gas emissions from the use of electricity, vapor, and heat

Scope 3: Indirect greenhouse gas emissions from the entire corporate group (supply chain) excluding those of Scopes 1 and 2

Reduce CO₂ emissions from the entire supply chain to net zero

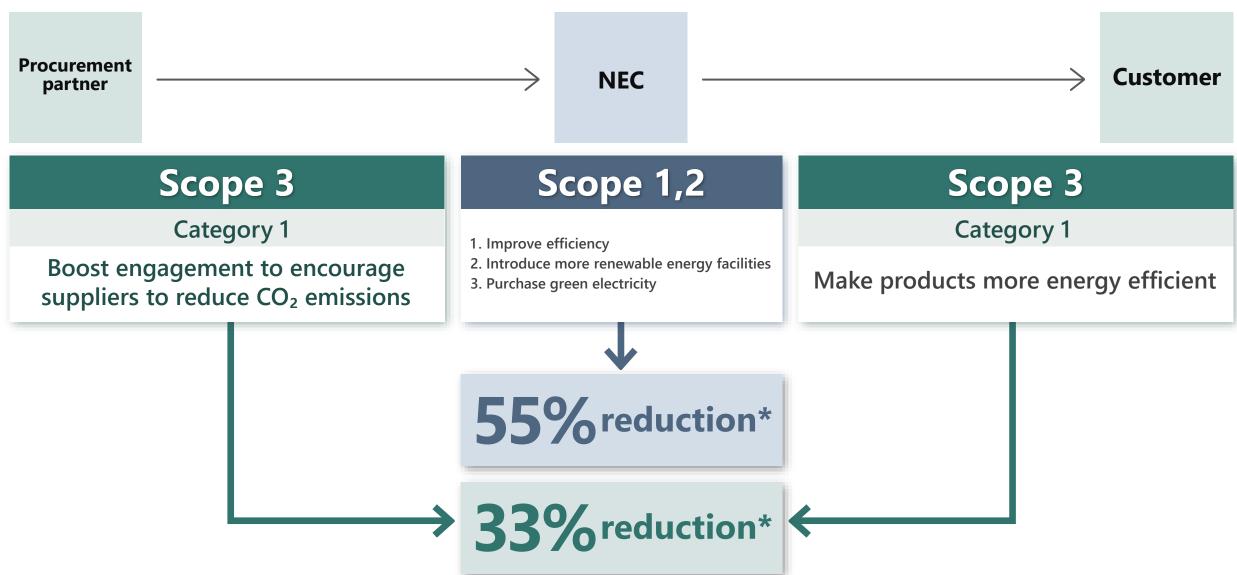


Milestones



Efforts to achieve SBT 1.5°C in 2030





* From FY 2017 levels

Scopes 1 and 2: Introducing more renewable energy facilities

Introduce solar power generation at domestic plants by FY2023

: 1 MW or more : 10 kW or more

1 MW is equivalent to power for approx. 400 households

Japan

NECPF Nasu Plant

0.3-MW solar power plant planned to be put into operation in FY 2021

NEC Fuchu Plant -

1.0-MW solar power plant planned to be introduced in FY 2023

NECPF Otsuki Plant

0.5-MW solar power plant planned to be introduced in FY 2023

NECPF Kofu Plant

1.2-MW solar power plant put into operation in August 2021

NECPF Kakegawa Plant

0.7-MW solar power plant planned to be introduced in FY 2022

0.3-MW solar power plant planned to be introduced in FY 2023

* NECPF = NEC Platforms

NEC Sagamihara Plant

0.4-MW solar power plant planned to be introduced in FY2023

NEC Abiko Plant

Total ⇒ 4.1MW

1.2-MW solar power plant put into operation in FY 2019

0.3-MW solar power plant put into operation in FY 2020

1.8-MW solar power plant planned to be put into operation in FY 2021

0.8-MW solar power plant planned to be introduced in FY 2022



Solar panels installed at the Abiko Plant

Overseas

NECPF Thailand

1.4-MW solar power plant put into operation in Sept. 2019

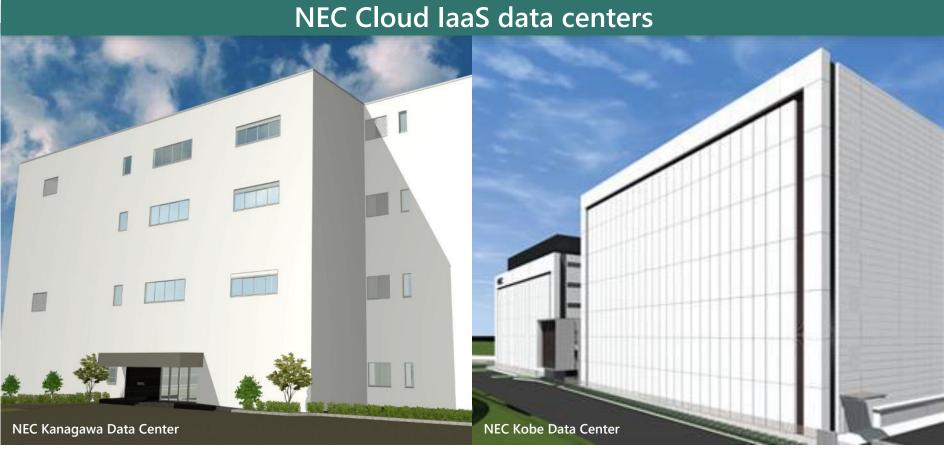




Scopes 1 and 2: Purchasing green electricity

Use 100% renewable energy at the head office building and NEC Cloud laaS data centers from FY 2022





Scope 3: Efforts to reduce CO₂ emissions from the supply chain





Scope 3

Category 1: Purchased products and services

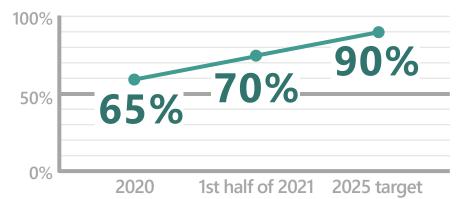
Boost engagement to encourage suppliers to reduce CO₂ emissions

- Make NEC's action policy known to all suppliers
- Supplier awards system
- Seminars and workshops
 Case study presentations and provision of know-how
- Introduction to services for reducing CO₂ emissions

Scope 3

Category 11: Use of sold products

Rate of energy efficiency improvement from FY 2013 levels



Aim to achieve 90% in FY 2025



Awarded top rating from external evaluator

NEC has received an A List rating three consecutive years in a row in the global environmental disclosure system run by the CDP.

2019



CLIMATE



2020



CLIMATE



WATER

CDP SUPPLIER ENGAGEMENT LEADER

2020

2021



A LIST 2021

CLIMATE WATER

* Supplier Engagement Leader of FY 2021 yet to be named

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Carbon neutrality of NEC and its supply chain

Carbon neutrality of customers and society

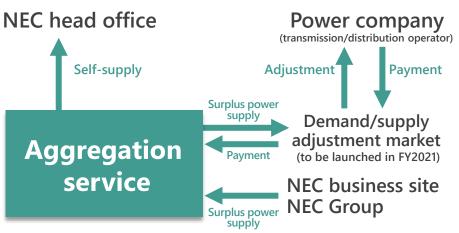


Living harmoniously with the earth to secure the future

Future Growth Aimed at Social Value Creation: Carbon-Neutrality-Related Business

Foreseen expansion in power demands due to uptake of EV/all-electric housing towards achieving carbon neutrality; Realize efficiency and optimization by market-matching of surplus power generated from renewable energy

NEC resource aggregation business Business scale in FY 2025: 12.0 billion yen



Related businesses

Decarbonization management solutions

Circular economy

Energy management

Contribution to carbon-free society

- Spread of renewable energy
- Improvement in resource productivity in industry

Economic effect of CO₂ reductions: 90 trillion yen*

*Source: Green Growth Strategy Through Achieving Carbon Neutrality in 2050 (announced by the Ministry of Economy, Trade and Industry in 2020) The market size is an estimate for Japan in 2030.



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Value creation through mid- and long-term environmental impact reductions

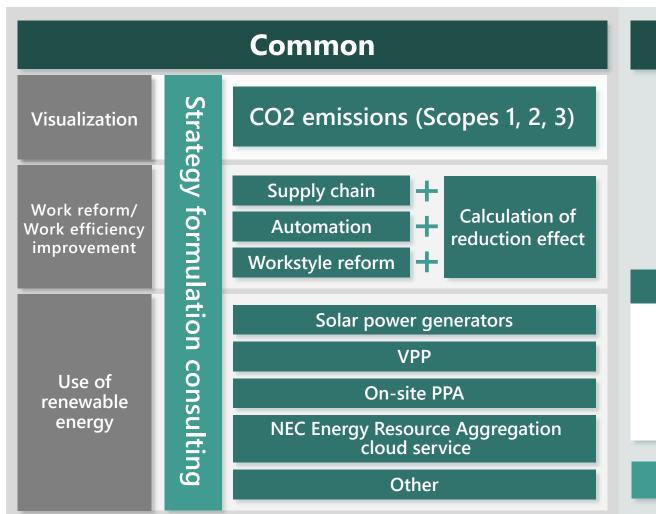
Making our core businesses green Strengthen and expand carbon neutral businesses

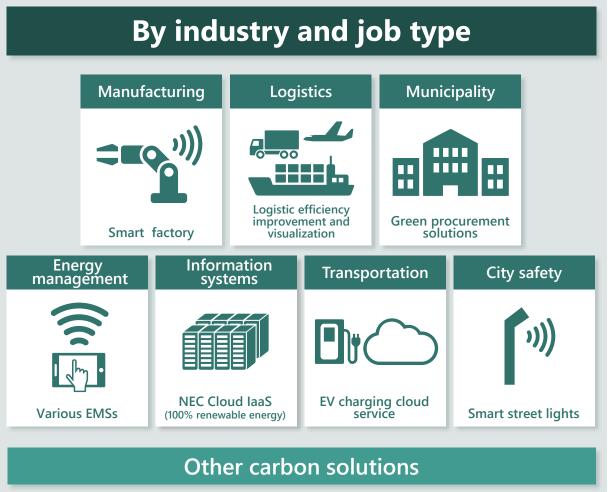
2021 2030 2050 2025 **DIGITAL** ESG risk assessment **Finance** Carbon credit **GOVERNMENT Green Digital Government / Green Smart City DIGITAL FINANCE Government/municipalities Cross-domain total** Industry optimization Green DX Green DX **CORE DX** (Visualization and optimization inside the company) (Supply chain optimization) ICT infrastructure O-RAN Innovative ICT infrastructure and devices **GLOBAL 5G** Power-saving ICT infrastructure **Carbon neutral businesses** 1 Enhancement of existing DX accelerated by decarbonization Other (RA*, etc.)

2 Development of new businesses that contribute to decarbonization

* RA: Resource Aggregation

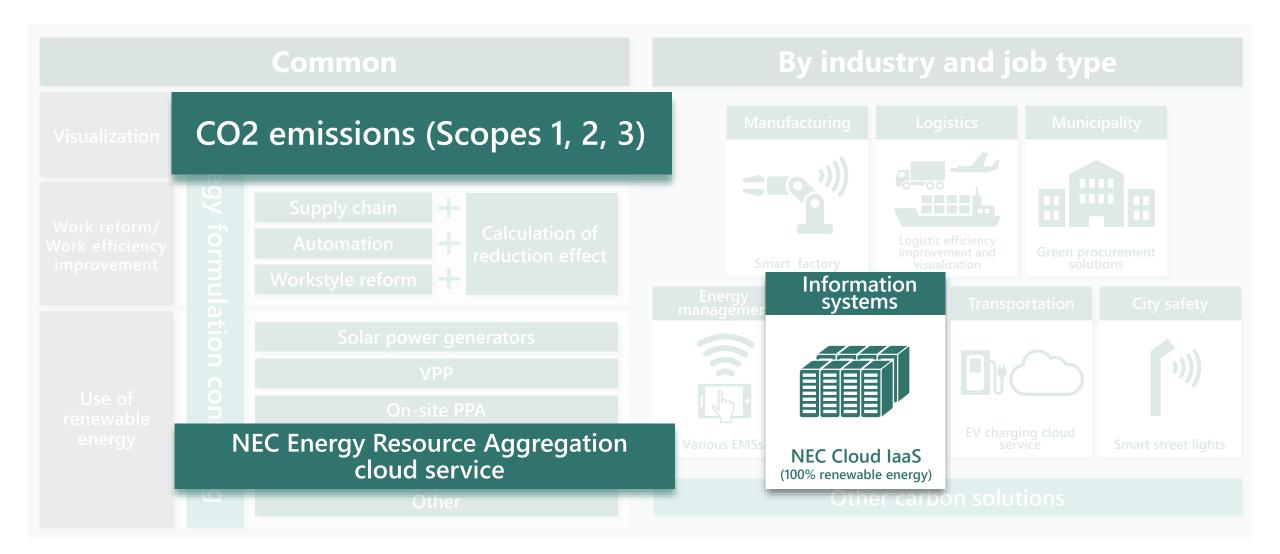
NEC's carbon solutions





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NEC's carbon solutions





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Visualize CO₂ emissions from the customer's entire supply chain



GreenGlobeX

Collect and analyze environmental data (energy usage, GHG emissions, water usage, drainage volume, etc.)

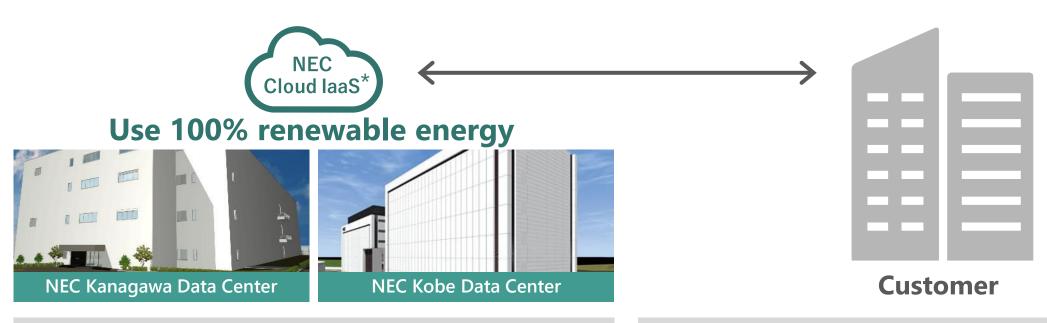
Enhance the report creation function for ESG surveys



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Help customers decarbonize



Scope 3

Prevent CO₂ emissions from the customer's supply chain from increasing

Scope 2

Save energy by using the cloud



^{*} Cloud platform service that supports the customer's business by linking the housing area and on-premise environment

Accelerate efforts to make society carbon neutral by streamlining and optimizing energy management

Demand/supply Customer | **NEC's** adjustment market entry **Self-supply** Resource aggregator Resource aggregation service **RA cloud** Service Al/IoT-based management of distributed power supply provision Deploy multiple DER control **Distributed Power** functions (VPP) in NEC's cloud Distributed supply on Compensation incidental service power supply (jointly developed by Tokio customer premises Marine & Nichido Fire Insurance

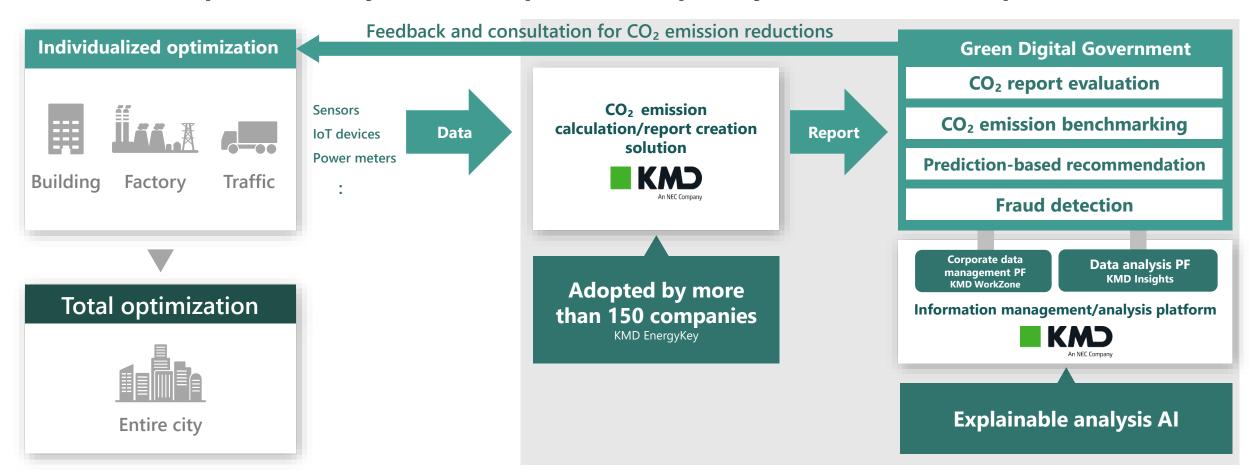


Co., Ltd.)

Green Digital Government business launched in Europe by Denmark's KMD

Realize decarbonization process management at municipal and national levels and deploy it worldwide

- Explainable analysis AI-based platform adopted by more than 150 companies -



Realize innovative green ICT infrastructure

Energy-saving O-RAN/ICT infrastructure

Innovative ICT infrastructure/devices

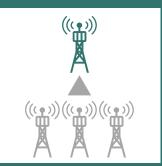
O-RAN market differentiation using green technology

New business creation by saving power at DC *1

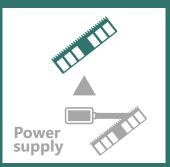
Realization of innovative networks using ecosystems

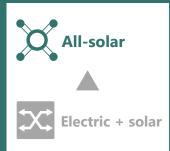
Innovative green materials















Autonomous ICT infrastructure operation

Integrated network/ IT control

Base station resource optimization

O-RAN Autonomous optimization

Phase-change cooling

World's first new refrigerant (CFC-free) NanoBridge(R)

Non-volatile devices INBS*21

IOWN, APN photoelectric conversion

Reduction of ICT power consumption by half [NTT] **Beyond 5G**

Next-generation network [Osaka University] **Material informatics**

Material innovation

^{*1} Data center / *2 NanoBridge Semiconductor, Inc. / *3 Beyond 5G

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Development of robust financial and non-financial measurement methodologies

Efforts to achieve carbon neutrality



To fulfill our Purpose, NEC will continue to work toward enhancing our corporate value