

Joint Webinar
-The EU Response to the Energy Crisis-

NEC's Efforts to Achieve Carbon Neutrality

December 2, 2022
NEC Senior Executive Vice President
Norihiko Ishiguro

How We Contribute to Climate Action through Digital Technologies

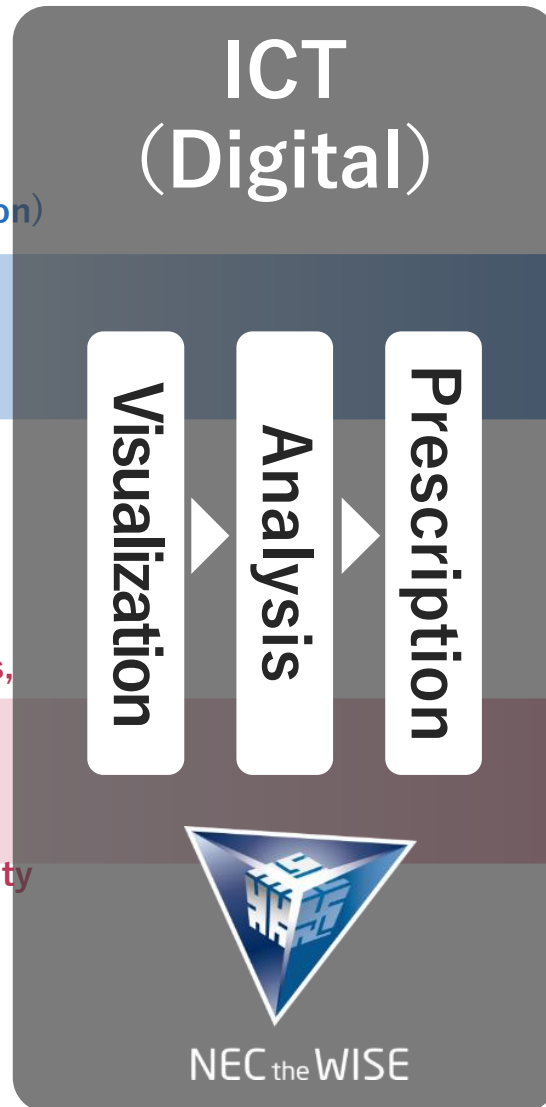
From the perspective of climate change

《Main source of emissions》

- Energy (generation, heat production)
- Transportation
- Manufacturing
- Agriculture, forestry, land use
- Day-to day life

《Main impact》

- Weather disaster (rising sea levels, storm surges, floods, landslides)
- Water shortage
- Crop decline/Food shortage
- Loss of ecosystems and biodiversity



Provided Value

Reduce energy consumption
(Reduce CO₂ emissions)

- Reduce energy loss
- Increase efficiency and productivity
- Improve the capacity operation Rate
- Improve transportation efficiency
- Eliminate transport of things, movement of people
- Reduce waste

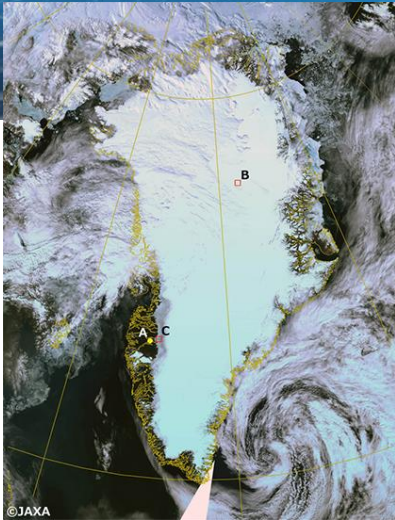
Prepare for impacts

- Disaster predictions and preparing in advance
- Surveillance and monitoring
- Notifications and evacuation guidance
- Predict crop yield, improve productivity, improve crop species
- Recovery measures

Visualization of the Global Environment

SHIKISAI (GCOM-C)

Global Change Observation Mission-Climate

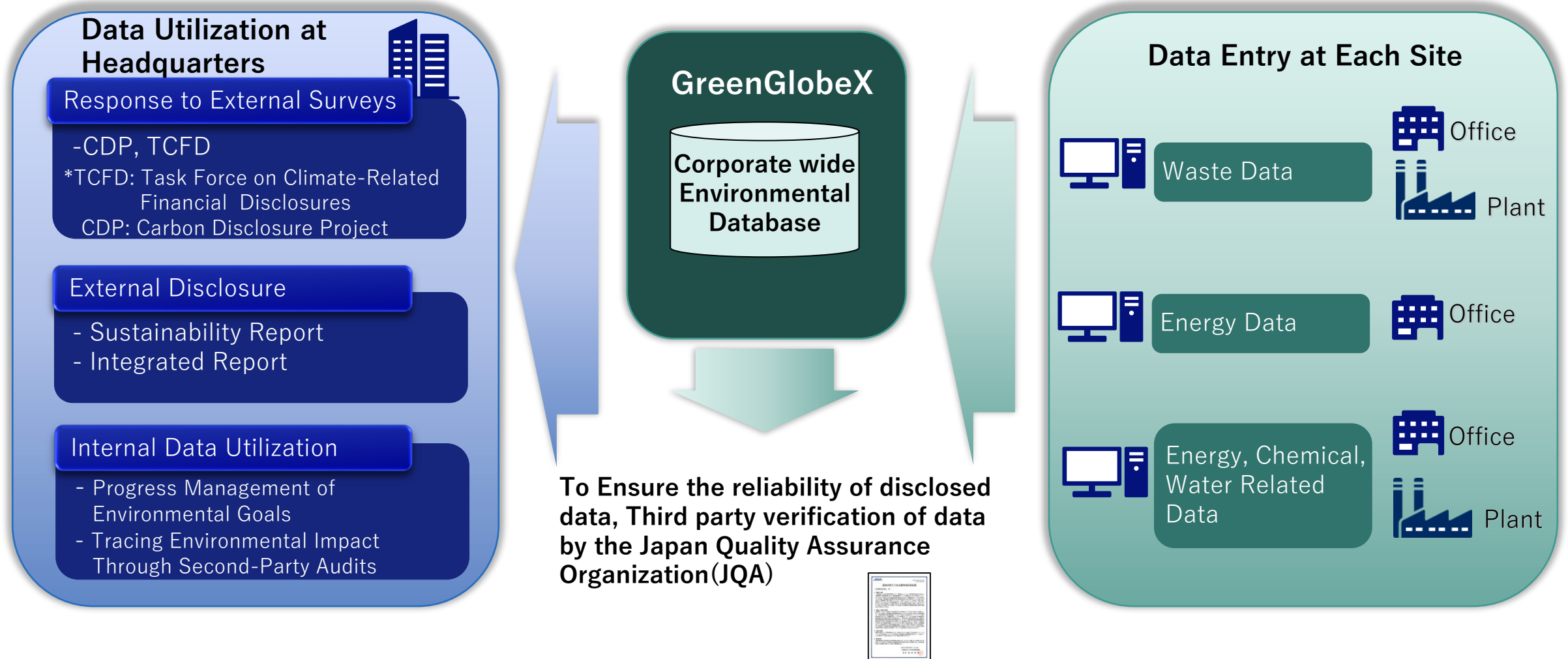


- An earth observation satellite that examines how the earth's color and temperature are distributed from orbit that travels from north and south at altitude of 800 km.
- By observing the state of the earth in two days, detect changes in the earth's environment such as decrease in glaciers by global warming, red tide caused by rising sea surface temperature.

The image of whole ice sheet in Greenland observed by GCOM-C/Second-generation Global Imager (SGLI)

Visualization of CO2, Water and Waste in Companies

Environment Performance Management



NEC Energy Resource Aggregation Business

Cloud Service for Energy Resource Aggregation

Main Power Source

Conventional

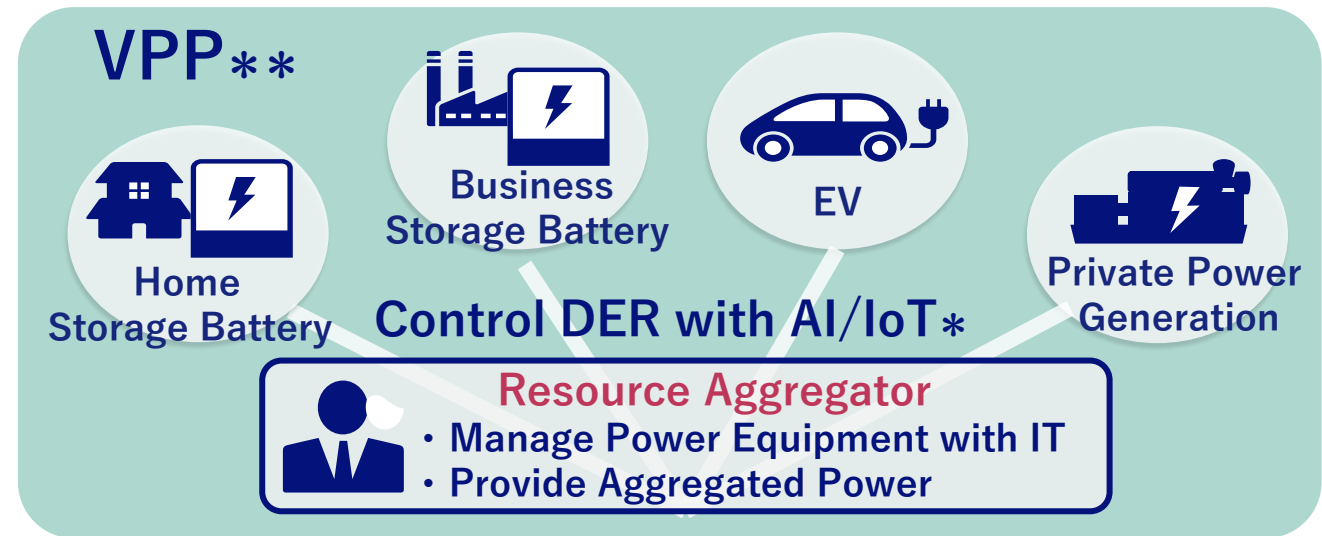
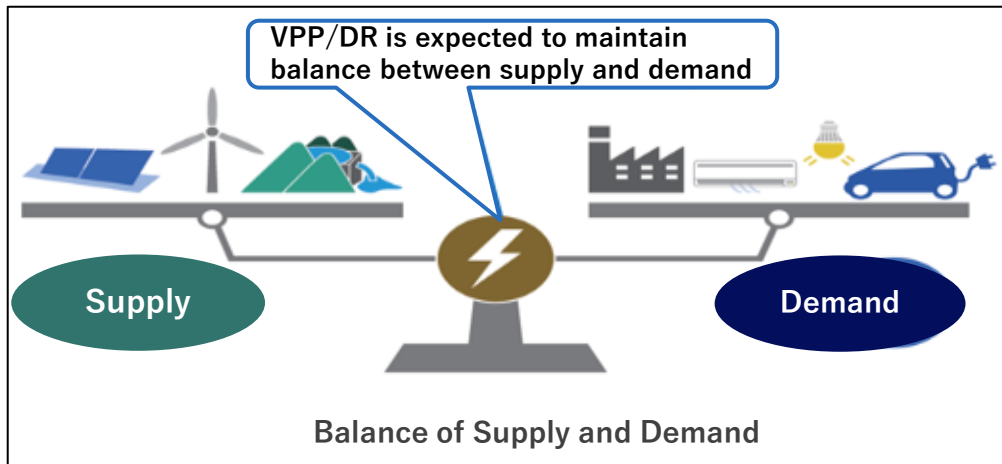
LNG/Petroleum-based Energy = Change **Supply** to meet changing **Demand**

Future

Renewable Energy

= Change **Demand** to meet changing **Supply**

Making Renewable Energy a Main Power Source

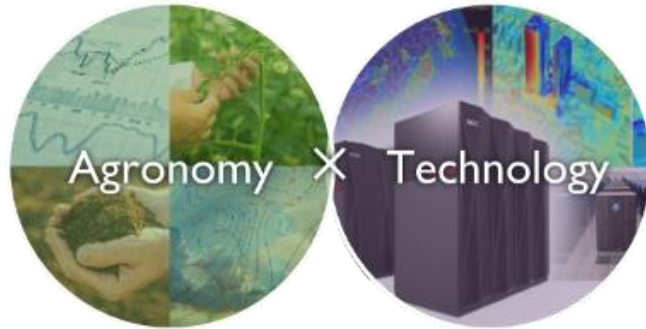


Source: ANRE

- * To keep demand constant against changes in supply by controlling energy resources
- ** VPP: Virtual Power Plant

Innovate the World's Agriculture with DX Solutions

KAGOME



NEC



Location	Lisboa, Portugal
Name	DXAS Agricultural Technology
Established	9 th September 2022
Representative	Kengo Nakata (CEO)
Area of business	Providing AI Agronomy Service (Sales, marketing, promotion, Service Planning)
Shareholders	Kagome (66.6%) , NEC (33.4%)

What DXAS Aims to Achieve

**Sustainable
Farming**

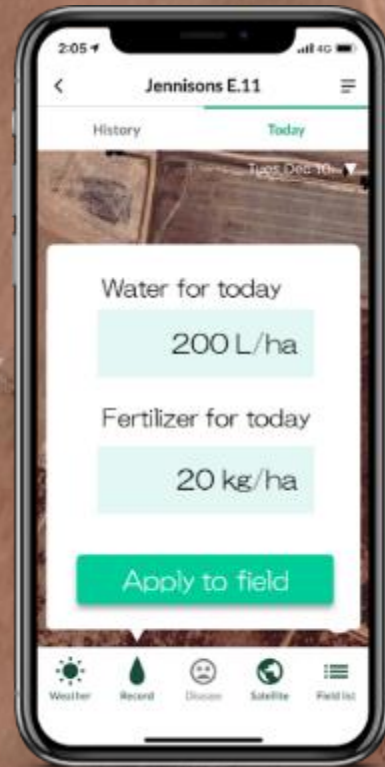
**Low input
High output**

**Improve Production
Efficiency**

Development Target Towards Automation



AI guide
(Water, Nitrogen, Disease)



Auto-management



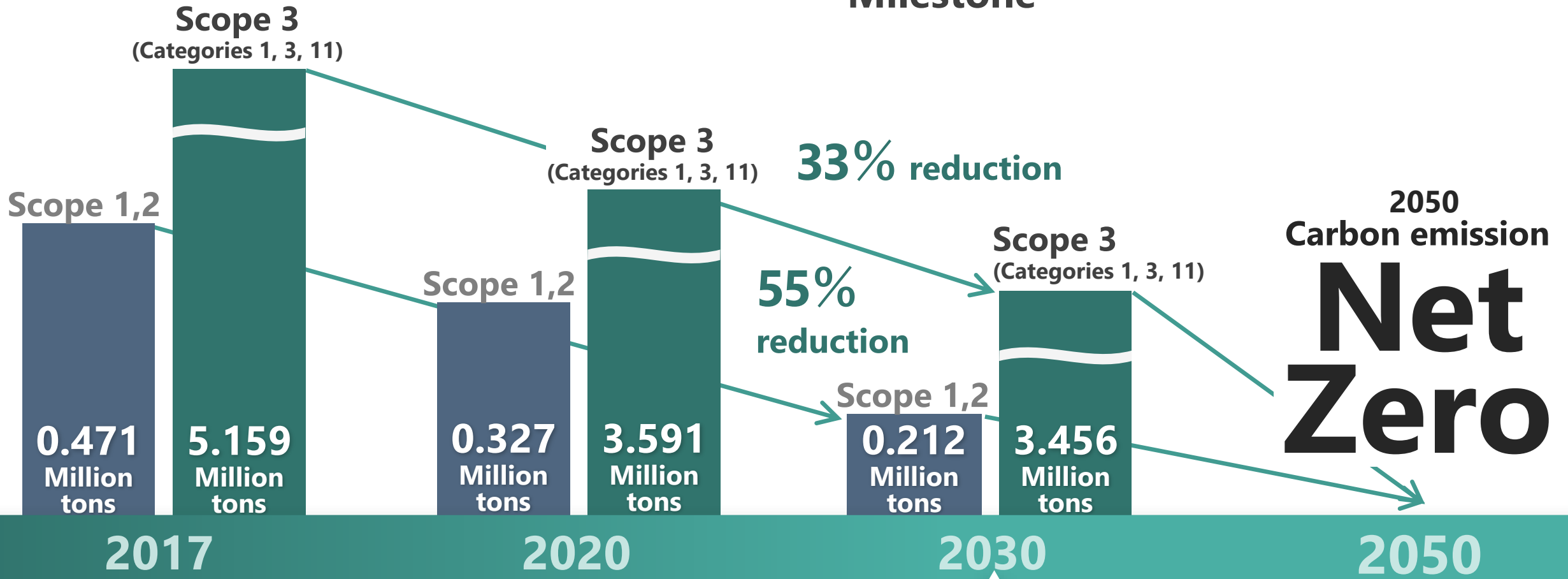
Yield ↑ 30% UP Nitrogen ↓ 20% Down




AI farming proven values

NEC's Efforts to Achieve Carbon Neutrality

Milestone



SBT1.5°C certification



SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Scopes 1 and 2 : Purchasing green electricity

Use 100% Renewable Energy at the Head Office Building and NEC Cloud IaaS Data Centers from FY 2022

Head office building



NEC Cloud IaaS data centers



NEC Kanagawa Data Center



NEC Kobe Data Center

Scope 3 : Efforts to Reduce CO₂ Emissions from the Supply Chain



Scope 3

Category 1: Purchased products and services

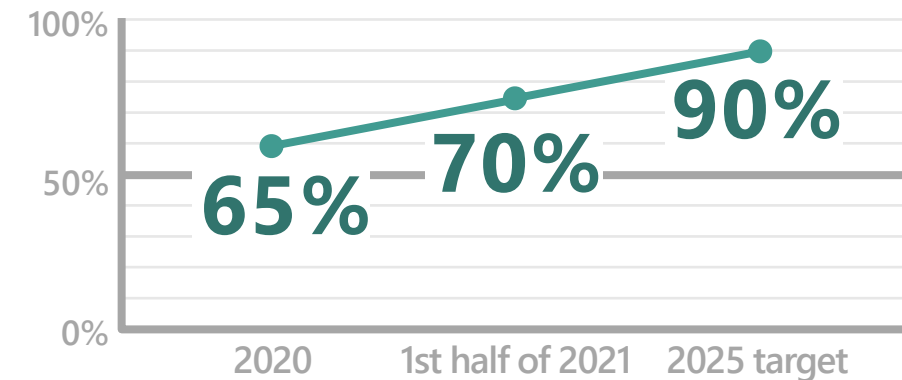
Boost engagement to encourage suppliers to reduce CO₂ emissions

- 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

\Orchestrating a brighter world

NEC