中華電信 ESG
Chunghwa Telecom

# 2050
# 淨零城市展

**Exhibition Guidebook 2050**
**Net Zero City Expo**

Guidebook

**2025** 舞動AI之翼 預見 精采永續

Chunghwa Telecom upholds the spirit of "Always Ahead" combining technology and innovation to drive sustainable development.

Chunghwa Telecom's leadership in sustainability has been recognized once again in 2024 with its inclusion in the Dow Jones Sustainability Index (DJSI) World Index and its long-standing presence in the DJSI Emerging Markets index for 13 consecutive years. Furthermore, Chunghwa Telecom achieved the highest score in 13 topics in the S&P Global ESG Score among all the other international telecommunication service providers, underscoring its industry-leading excellence in sustainability.

Committed to biodiversity protection and environmental sustainability, Chunghwa Telecom is actively engaged in several key initiatives, including achieving Net Positive Impact (NPI) and No Net Deforestation (NND) by 2030, safeguarding over 100 endangered plant species by the Hundred-Species Restoration Project, and launching the citizen scientists for tree carbon program. Chunghwa Telecom also leverages 5G technology for innovative applications such as monitoring the habitats for black-faced spoonbills, showcasing the power of technology to protect natural resources. Notably, Chunghwa Telecom is the first in the industry to publish a Taskforce on Nature-Related Financial Disclosures (TNFD) report in Taiwan, setting a new benchmark for sustainability and innovation within the sector.

Building upon its pioneering efforts with the TNFD report, the first such publication by a telecom company in Taiwan, Chunghwa Telecom has also pledged to achieve net zero emissions targets by 2045, five years ahead of the globally recognized 2050 target. Looking to the future, Chunghwa Telecom will continue to harness the potential of AIoT technologies to enhance ecological conservation, deploy innovative ICT technology to address the challenges of climate change, and collaborate with its supply chain and partners to create a sustainable, prosperous, and beautiful future for all.
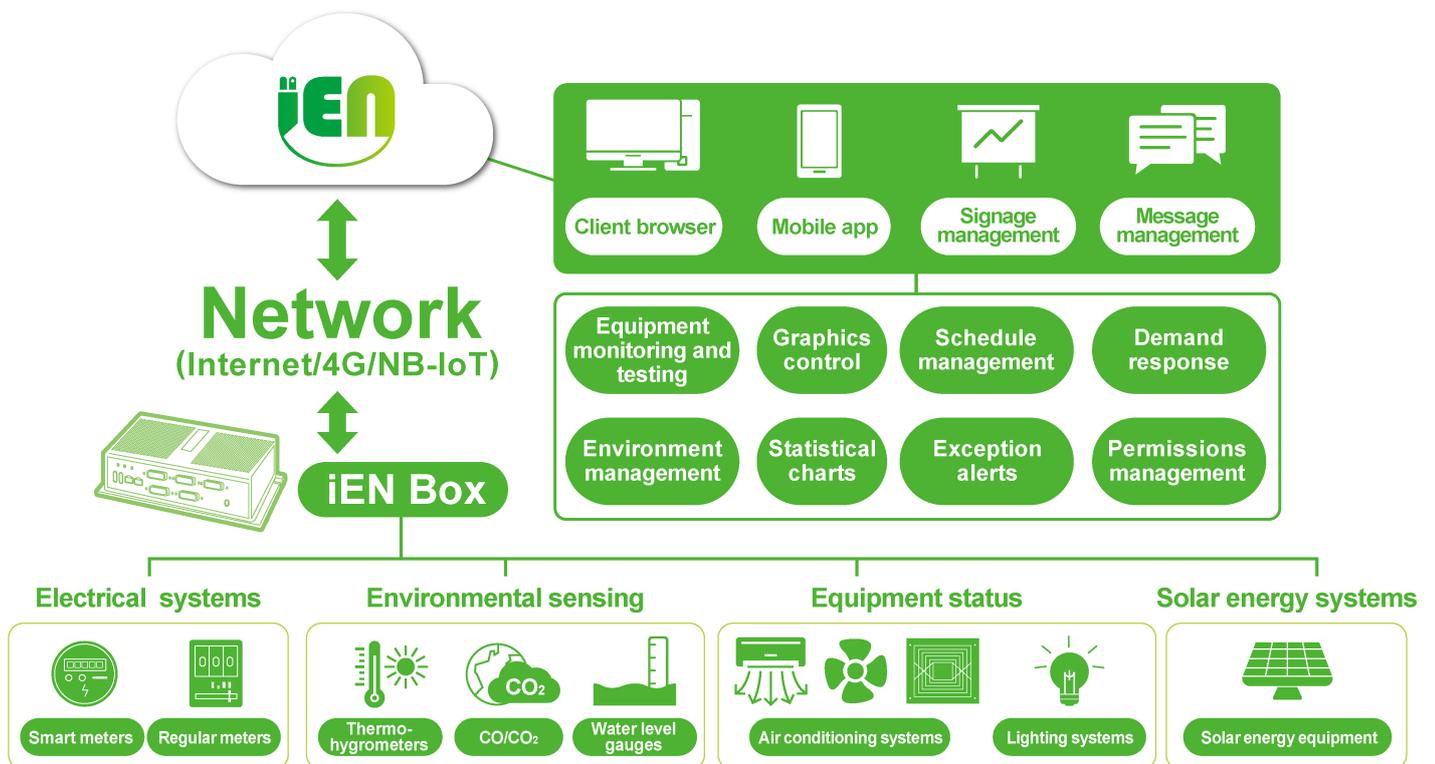
# Contents

# iEN Intelligent Environment Network

## Centralized Cloud Management of Energy, Further Enhance Operational Efficiency

In keeping with our commitment to environmental sustainability, Chunghwa Telecom has launched the "iEN Intelligent Environment Network," where we transform our years of professional expertise in electrical environment monitoring and system development into robust technical support services for energy management to service our corporate customers. This service uses an open platform architecture that can integrate multiple devices and provide a wide array of features. This ensures the stability of the system while also providing an optimized energy management environment for customers.

The iEN Intelligent Environment Network is widely applied in the field for energy conservation, water management, and the operation and maintenance of solar energy systems. It helps enterprises tangibly improve their system operation efficiency and reduce operating costs. Furthermore, customers will be able to use real-time data collection to performing monitoring at all times and places, thereby achieving the goals of precision management and sustainable development.



**iEN**

**Network**
(Internet/4G/NB-IoT)

**iEN Box**

Client browser | Mobile app | Signage management | Message management

Equipment monitoring and testing | Graphics control | Schedule management | Demand response

Environment management | Statistical charts | Exception alerts | Permissions management

**Electrical systems**
Smart meters | Regular meters

**Environmental sensing**
Thermo-hygrometers | CO/CO₂ | Water level gauges

**Equipment status**
Air conditioning systems | Lighting systems

**Solar energy systems**
Solar energy equipment

# Energy Operations Center (EOC)

## Monitor Energy Consumption in Real-time, Implement PDCA to Save Energy, and Achieve Carbon Reduction Goals

Chunghwa Telecom's Energy Operations Center (EOC) automatically collects internal power consumption information from all energy and information management systems in the company. This allows the comprehensive analysis of all of the company's energy consumption information and real-time displays of energy-saving results, providing functions such as a situation dashboard, power efficiency indicators, and an energy-saving technology database, thereby comprehensively assisting managers in implementing PDCA for energy conservation and helping companies achieve energy conservation goals.
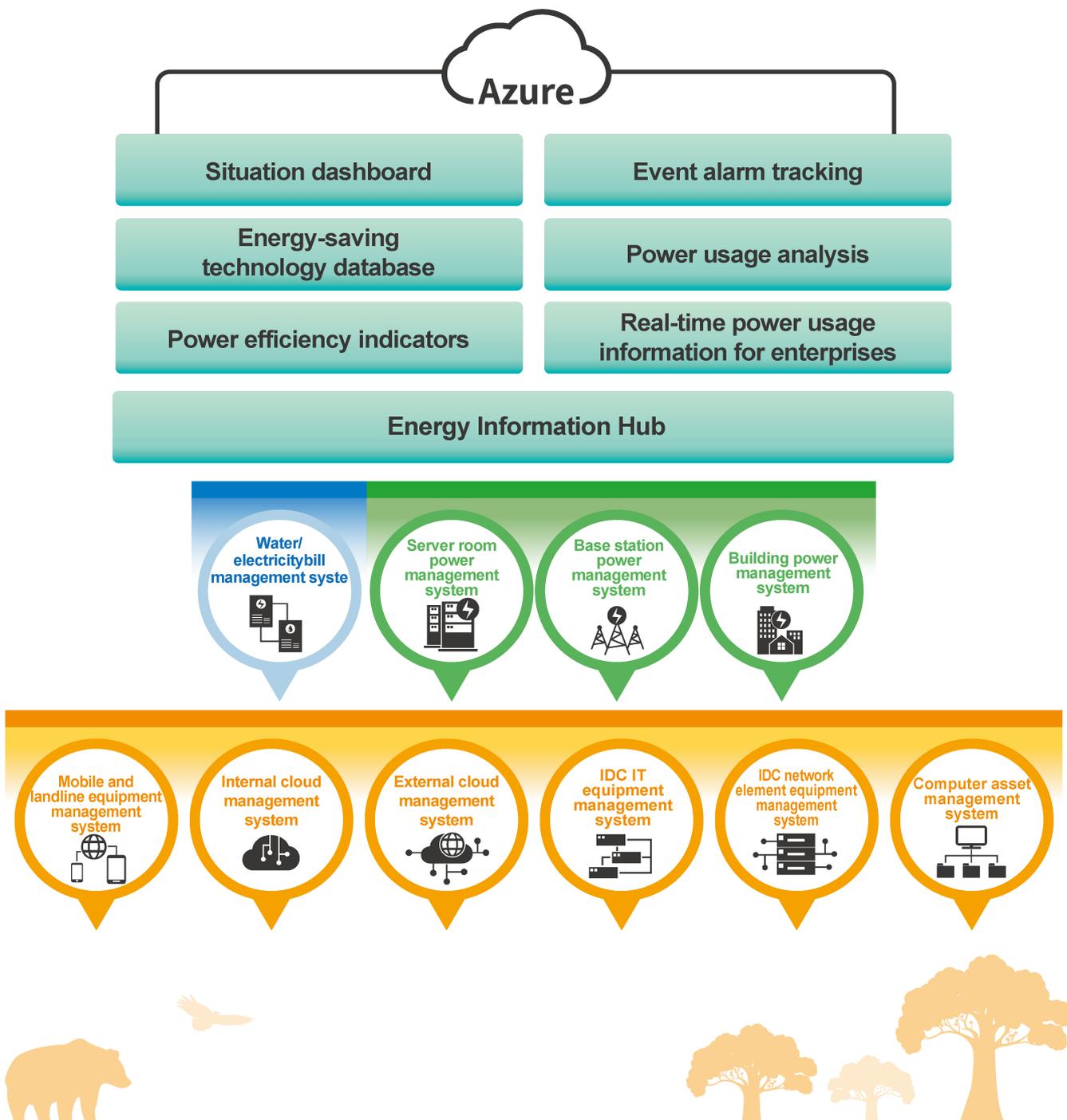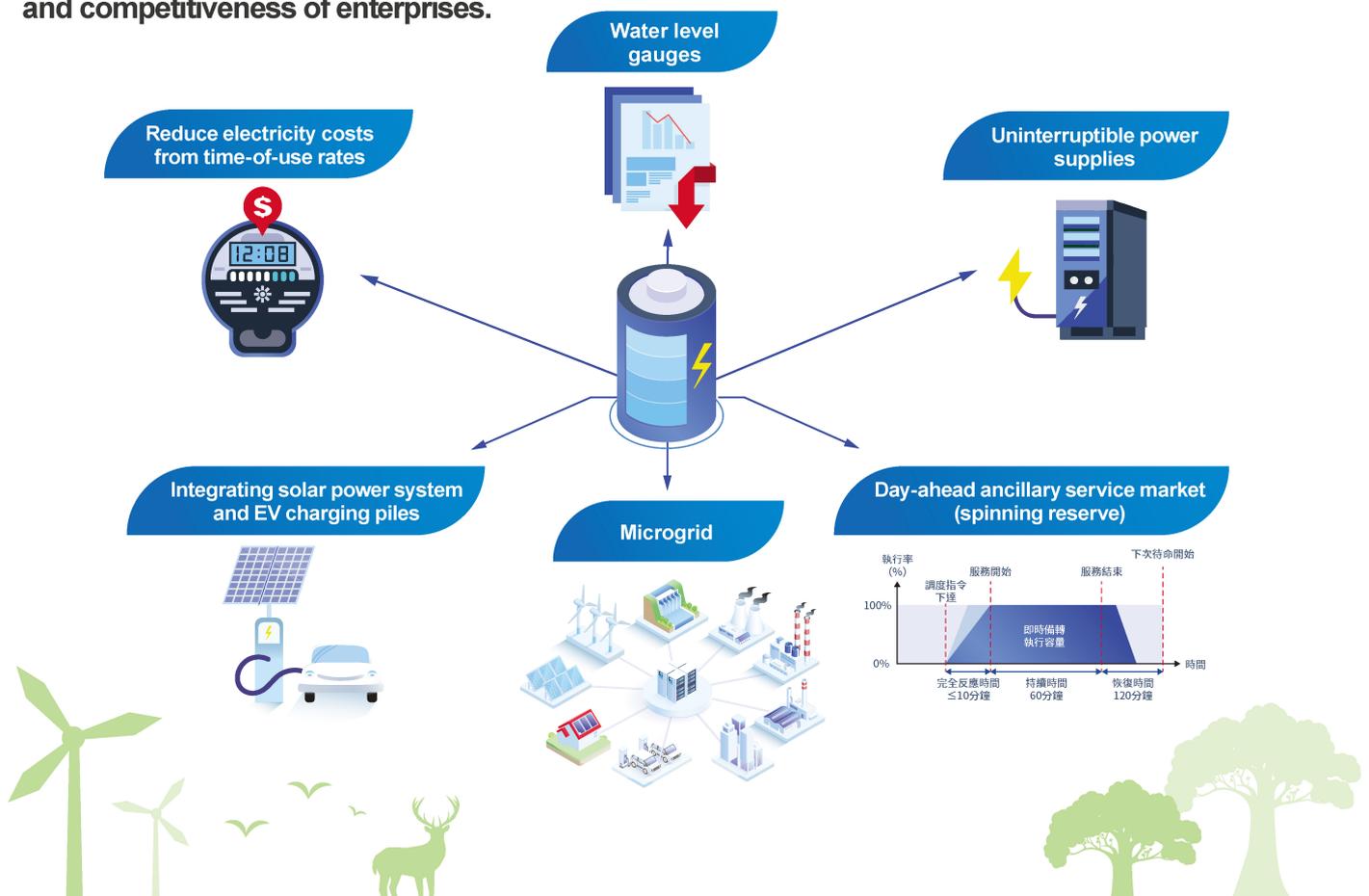
# Energy Storage System Solution

## One-stop Integrated Service for Project Management

Following the unstoppable global trends of ESG and energy transformation, smart energy has now become a major issue for enterprises. Chunghwa Telecom has been involved in the solar energy business for many years and has been proactively implementing its RE100 commitments. The company believes that ESS technology is the key to achieving enterprises' green power deployment and energy independence. As a result, Chunghwa Telecom has decided to play a leading role by implementing these technologies in its own facilities. In 2024, the company built a 1MW/1MWh energy storage system in its own IDC facility. Not only does this ESS optimize power supply stability in the IDC facility, but it also effectively reduces electricity costs via its smart charging and discharging scheduling and analysis system. Furthermore, Chunghwa Telecom is planning an integrated 3-in-1 system, including PV, ESS, and EV charging, which is expected to be completed at its training institute in 2025. This 3-in-1 system will enhance the company's green energy usage rates and also become the company's first microgrid model for training and simulations.

To help enterprises tackle ESG challenges, Chunghwa Telecom has launched the "Behind-the-Meter Energy Storage Solution", which provides electricity consumption assessments, system planning, project construction and maintenance services. These efforts will help enterprises address challenges such as rising electricity prices, power outages, and green power saving, thereby comprehensively improving energy management efficiency as well as benefiting the resilience and competitiveness of enterprises.



Water level gauges

Reduce electricity costs from time-of-use rates

Uninterruptible power supplies

Integrating solar power system and EV charging piles

Microgrid

Day-ahead ancillary service market (spinning reserve)

# O Carbon Cloud

## One-stop Service for Greenhouse Gas Inventory

Net-zero transformation has become a crucial issue that companies must consider in their operations. Greenhouse gas(GHG) inventory is the starting point for carbon reduction. To help companies address their concerns about carbon reduction, Chunghwa Telecom has planned a one-stop service for GHG inventory. This service includes GHG inventory consultation, inventory systems, and collaboration with third-party partners for verification. Companies can choose the services they need based on their requirements and current status. By implementing Chunghwa Telecom's GHG inventory system, companies can establish standard operating procedures (SOPs) to streamline the inventory process. This serves as a foundation for reducing GHG and helps companies plan their reduction strategies and track their carbon reduction goals.

The O Carbon Cloud is based on GHG quantification and reporting standard (ISO 14064-1) and can be extended to include carbon footprint of product (ISO 14067). To meet the Financial Supervisory Commission's requirement for climate-related financial disclosures, the system also incorporates TCFD functionality with built-in climate big data. This enables companies to conduct scenario simulations and data quantification, helping them better understand the risks and opportunities associated with climate factors.
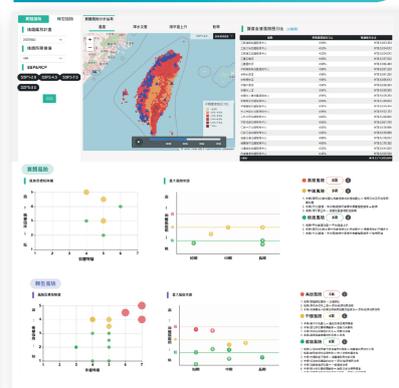


Professional Consultation Services

Cloud Carbon Management System for ISO 14064-1
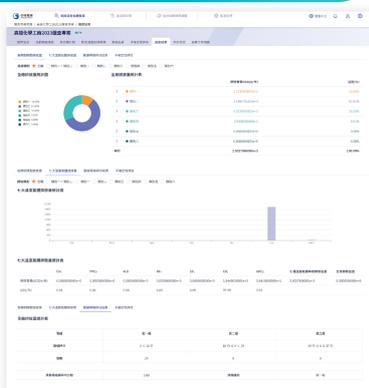
Cloud Carbon Management System for ISO 14067

Task Force on Climate-Related Financial Disclosures (TCFD) System

永遠走在最前面 | 預見 精采永續
Always Ahead | Foresee Brilliant Sustainability