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6 Advocating Balanced Coexistence

Target Readers:

- Government
- External Audit Agency

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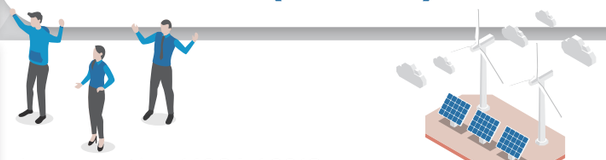
2023 Highlight

Gold Award from Intelligent Living Space Design Competition
Architecture and Building Research Institute
Ministry of the Interior

TPKE Building
LEED from U.S Green Building-Gold
Candidate for Green Building Certification (Taiwan)-Gold
Candidate for Smart Building Certification (Taiwan)-Bronze

First in Taiwan
Real Estate Development Industry Linking Green Buildings and Energy-Saving Indicators
Green Financing Project

Sustainable Digital Power Forum
Pledging to March Towards Net Zero With 9 Tpark Tenants



Incorporating 14064-1:2018
Standards for GHG Inventory
Energy Management System and **Carbon Emission Dashboard**

TPKA Building
Air Conditioning Improvement Project

Industry-Leading System Development
Patent Approval for Digital Real Estate Turnover

Building Information Modeling
Creating User Guide and Library
Improving Facility Management Efficiency

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Target and Progress

	Increase in Proportion of Green Building Floor Area	Reduction of Electricity Consumption per Unit of Floor Area
2030 Target	Reaching 57%	↓8%
2025 Target	Reaching 55%	↓4%
2024 Target	Reaching 50%	↓2%
2023 Target	Reaching 50%	↓1%
2023 Progress	59% (Completed)	Remain constant
Action Plan	• Stay informed on green building regulations and trends. • Send applicable staff to undergo training regarding green building labels.	• Identify the sources of electricity consumption and implement customized reduction measures to tackle each source. • Replace equipment with low energy efficiency. • Promote energy conservation to building tenants or occupants.

Note: 1. The boundary of GHG inventory for "Increase in Green Building Floor Area" covers the buildings with titles registered under FERD with 2022 as the base year.
2. The boundary of GHG inventory for "Reduction of Electricity Consumption Per Unit of Floor Area" is adjusted to cover the FERD office and public areas within TPKA R&D Building in Tpark. The base year is 2022. Tpark is continuing tenant engagement in the leased areas to promote energy reduction.
3. In 2022, FERD established the short-, mid- and long-term carbon reduction targets. Hence, 2022 is set as the base year for "Reduction of Electricity Consumption Per Unit of Floor Area."

Material Topics

Land Resources Management

Significance and Purpose of Management for FENC

To revitalize and utilize its properties throughout Taiwan, FENC entrusts FERD with affairs in real estate development and management. Through integrated planning by professional managers, the Company continues to experience steady growth in its real estate business and asset performance.

Management Approaches and Effectiveness Evaluation Mechanisms

- Align property planning with the latest regulations and market demand.
- Procure green building materials and construction methods that minimize pollution.
- Establish standard operating procedures with tracking mechanisms for the construction environment and process.

Authority

- FERD

Sustainable Community

Significance and Purpose of Management for FENC

FERD holds a strong conviction in sustainable management. All operations, which span from land planning and development to real estate management are approached with environmental protection and low carbon as the ultimate objective. By leveraging advanced technology, FERD is on track to create a smart and green park campus that fosters sustainable development to strike a dynamic balance between the mankind and environment.

Management Approaches and Effectiveness Evaluation Mechanisms

- Enhance GHG inventory, management and reduction.
- Embody green building concepts in new constructions and aim for obtaining green building labels.
- Expand the channels and formats of stakeholder engagement.

Authority

- FERD

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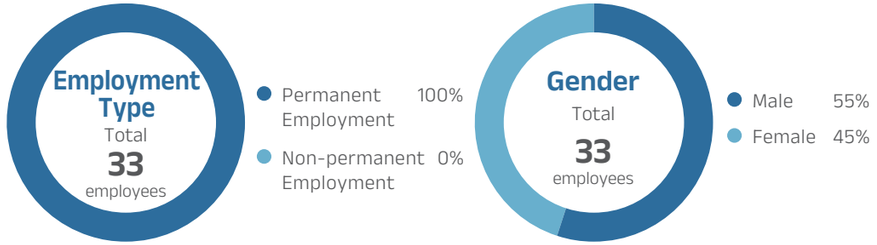
6.1 Optimizing Land Resources

6.1.1 About FERD

Far Eastern Resources Development Co., Ltd (FERD) is a wholly owned subsidiary of FENC, which consolidates and manages nearly 660,000 square meters of property and large-scale development projects. Overseeing real estate development, leasing and sales as well as operational management, FERD aims to improve resource efficiency and investment performance through the Development Operation Department, Administrative Management Department, Property Management Department and Engineering Department. With forward thinking, innovative spirit and a sustainable mindset, FERD is charting the blueprint for future development prudently, regenerating city and regional prosperity.

Administrative management, internal control as well as risk management and response at FERD are conducted in accordance with the rules and measures set forth by its parent company. There are no significant changes made to FERD's organizational structure, ownership, supply chain and headcount. In 2023, FERD paid NT$87.93 million in house tax and NT$470 million in property tax.

2023 Structure of Manpower at FERD



6.1.2 Progress of Major Development Projects

Taipei Far Eastern Telecom Park (Tpark)

Taipei Far Eastern Telecom Park (Tpark) occupies a 24-hectare site in Banqiao District of New Taipei City, where Far Eastern Textile Ltd. Co. once was. Tpark has been following the development and evolution of the Taiwanese economy closely and transitioned into the first telecommunications and digital technology park in Taiwan. With a robust infrastructure, Tpark offers its facilities as the R&D and innovative base for top Taiwanese and international telecommunications businesses, aiming to drive the next wave of economic development. Tpark follows a long-term master plan with sustainable and humanistic approaches for spatial and architectural design. Appealed by its modern and smart R&D buildings, many information and telecommunications companies have formed an industry cluster at Tpark. The park also offers residential, commercial and parking zones to satisfy all users. Additionally, an ecological park occupying nearly three hectares brings greenery, comfort and health into the development. In recent years, to stay net-zero committed along with the international community, Tpark developed innovative applications such as the carbon emission management system and a set of carbon reduction guidelines and strategies, taking measured steps towards setting the paradigm of an industrial park that fosters sustainability and carbon neutrality.

Other Development Projects

1. Spa Resort
   The 10-hectare project is located in Jiaoxi Township, Yilan County. Approval has been obtained for the zoning change, traffic impact study and urban design review. The building permit was obtained in May 2021 and the application for design modification in pending approval.

2. FE International Conference Hall
   FE International Conference Hall is located in Zhongli District, Taoyuan City. Designed by world-renowned Spanish architect Santiago Calatrava, this architectural masterpiece will house three landmark buildings, an international convention center,

Saving Planet! FERD's Sustainable City Financing

FERD commissioned Hua Nan Commercial Bank, Ltd. and Far Eastern International Bank Co., Ltd. to issue a five-year syndicated loan in the amount of NT$6 billion. Contract signing for the three parties was held on July 6, 2023.

FERD is dedicated to the development of sustainable cities, creating environmentally friendly space with the latest green construction methods and material applications. By linking sustainable indexes such as the building areas, number of building projects and building energy efficiency to the credit conditions, FERD is encouraging energy conservation, promoting green building and increasing energy efficiency. This is the first green financing project that is linked to the performance of both green building and energy conservation in the real estate development industry. The project was recognized by the international magazine, The Asset, with Triple A Country Award for Best Sustainability – Linked Loan Real Estate Taiwan. By infusing the sustainable DNA into real estate projects, FERD is taking action towards the global net-zero vision.

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Yu-Ziang Memorial Hall and an art center, which will be pivotal in the advancement of the local arts and culture, charity and academic disciplines, making its imprint as an international landmark in Taiwan. The groundbreaking ceremony was held on April 12, 2021, and construction for Yu-Ziang Memorial Hall started in April 2022.

3. Wugu Logistics Center

Located in Wugu District, New Taipei City, Wugu Logistics Center is a three-story structure in support of the development of e-commerce. The building permit was obtained in March 2023, the construction date was filed with the authorities in July, and the topping-out ceremony was held in December.

4. New Century New Vision

New Century New Vision is a residential development adjacent to Tpark. The demolition of existing structures was completed In April 2022, and the building permit was obtained in May. The application for design modification is currently pending review.

Tpark Development Projects

R&D Office

TPKA

Completed in 2010, TPKA Building is the first R&D office building at Tpark. In 2022, 96.7% of TPKA Building was leased.

Green Building Label (Taiwan)- Qualified

TPKD

TPKD Building was completed in January 2020. In January 2021, Google officially opened its doors at Tpark. The building is Google's first and largest hardware development center outside the U.S.

Green Building Label (Taiwan)-Diamond

Leadership in Energy and Environmental Design (LEED) from U.S. Green Building Council-Gold

TPKE

Being the fourth R&D building in Tpark, TPKE Building was completed in the fourth quarter of 2022, and the occupancy permit was obtained in January 2023.

Candidate for Green Building Certification (Taiwan)-Gold

Candidate for Smart Building Certification (Taiwan)-Bronze

Leadership in Energy and Environmental Design (LEED) from U.S. Green Building Council-Gold

Note: TPKC R&D Building is currently under the management of Far EasTone Telecommunications Co., Ltd. Since 2021, its sustainability performance has been disclosed in Far EasTone Corporate Sustainability Report.

Residential Building Zone

Eco Park Zone A (Residential Building Zone C)

The demolition and building permits were obtained in May 2021 and the application for design modification is pending approval.

Parking Facility

TPKP Parking Garage

The occupancy permit was obtained in the third quarter of 2023, and operation began in the fourth quarter.

High Distinction Award for Architecture, 2022 Taiwan Concrete Institute (TCI) Concrete Construction Award

Note: The construction of Eco Park Zone B (Residential Building Zone B) was completed at the end of 2022 and sales has begun. Its operation and management are now under the property management and its sustainability performance is excluded from the scope of the Sustainability Report effective in 2023.

Special Shareholder's Meeting with HSBC

Sales of Eco Park, the high-profile residential development in Tpark, began in 2023, which presented an opportune time to hold a shareholder's meeting featuring the property tour. The meeting was co-hosted by Investor Relations at FENC and the Hongkong and Shanghai Banking Corporation Limited (HSBC). Nearly 20 investors attended the meeting, including FENC's current shareholders and potential investors.

The property tour covered Tpark and Eco Park, as well as presentations on the development planning, sustainable principles and performance of FENC's land development business.

Guided by sustainable principles, Tpark is designed as a modern industrial park with aesthetic and humanistic elements. It is built with the low-impact precast construction and advanced seismic isolation technology, ensuring safety and comfort for the residential and office areas. Tpark has established sustainable development goals. In the future, the development will continue to expand in green building areas and phase down electricity usage and carbon emissions.

The investors witnessed the fruit of years of hard work behind the commercial, office, residential and park development. They were impressed by the comprehensive planning of Tpark, and the tour also boosted the confidence among juridical entities in the quantified value of FENC's real estate development.

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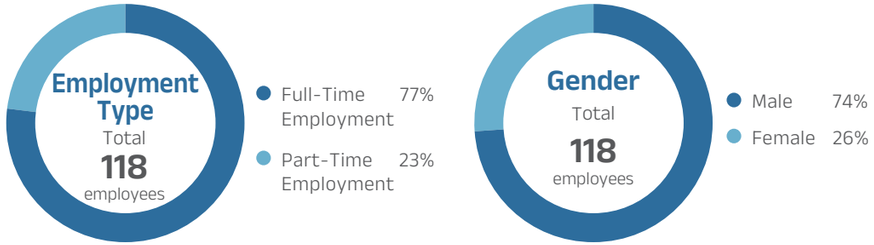
6.1.3 Tpark Contractor Management and Park Maintenance

Occupational Health and Safety

Worker safety is fundamental and paramount when it comes to construction management. FERD chooses suppliers that comply with safety and all applicable requirements stipulated by the current regulations in Taiwan. In addition to providing a safe construction environment, workers' protection is ensured by raising their safety awareness. Contractors must provide vocational training as well as health, safety and on-site management training. The implementation of training and regulatory compliance are required and supervised by FERD to minimize any damages resulted from man-made hazards.

In 2023, there were no occurrences of injuries in the line of duty, or severe occupational injuries during the construction within Tpark.

2023 Information on Contractor Staff



Note: All staff are nationals of the Republic of China. The contractors are in charge of scheduling the shifts based on the types and progress of construction projects. Therefore, requests for leave and absence are determined by the contractors based on individual company requirements.

Occupational Injuries Among Contractor Staff at Tpark

	2020	2021	2022	2023
Number of Occupational Injury Cases	0	0	1	0
Number of Work-related Deaths	0	0	1	0
Injury Rate (IR)	0.00	0.00	0.23	0.00
Rate of Work-Related Deaths	0.00	0.00	0.23	0.00

Note:
1. Injury rate (IR) = total number of occupational injuries × 200,000, which is equivalent to process safety total incident rate (PSTIR) in the SASB standards for the chemical industry.
2. Rate of Work-related Deaths = Number of Work-related Deaths ÷ Total Work Hours × 200,000.
3. IR, LDR and Rate of Work-related Deaths indicate the percentage of every 100 workers with 40 work hours a week, 50 weeks a year.
4. Occupational injuries include premature deaths, permanent total and partial disabilities, temporary total disabilities and minor injuries that result in no more than one lost day. Traffic accidents that occur during employees' commute to and from work are excluded.

Waste Management

Waste generated at Tpark is broken down to construction and general waste. Construction waste includes materials such as construction debris and reinforced concrete from construction projects, which are disposed of in accordance with regulatory requirements. Waste avoidance is also implemented with the Green Building Label requirements as guidance. General waste includes domestic and kitchen waste generated by construction and office workers. Efforts to promote waste avoidance and recycling continues at Tpark are ongoing through tenant and employee engagement. The commercial buildings at Tpark are for office purposes only, and no hazardous waste is generated.

Waste Quantity by Construction Project

	2020	2021	2022	2023
Construction Waste (Unit: Cubic Meter)	2,146	30,849	20,568	**0**
General Waste (Unit: Metric Ton)	305	480	599	**66**

Note:
1. Construction waste includes construction debris, bricks or the mixture of reinforced concrete, soil and gravels. The reporting of construction waste has been conducted in accordance with the regulatory and inspection standards from governmental agencies such as the local public works department, and filed based on the volume of earthwork measured in cubic meters. General waste includes domestic and kitchen waste generated by construction workers measured by weight in metric tons.
2. The 2020 construction projects within Tpark include TPKD and TPKE Buildings as well as Eco Park Residential Zone B. The 2021 projects include TPKE Building, Eco Park Residential Zones A and B as well as TPKP Parking Garage. The 2022 projects include TPKE Building, Eco Park Residential Zones A and B, TPKP Parking Garage and New Century New Vision. The 2023 projects include Eco Park Residential Zone A and TPKP Parking Garage, which has a data collection period from January to July.
3. The 2023 project, Eco Park Residential Zone A, is awaiting the approval of design modification. Only administrative affairs are in progress, and no construction waste is generated. The domestic waste has been disposed of by the waste management company commissioned by the public works office, and therefore, not included in the boundary of GHG inventory. No construction waste was generated from the construction of TPKP Parking Garage in 2023. The occupancy permit was obtained on July 5. Therefore, the data collection period for domestic waste in 2023 was between January and July.
4. All waste generated during construction was removed from the construction site and disposed of by qualified waste management companies. The waste materials were sent to legal resource storage and treatment facilities to be temporarily stored, piled, landfilled, transferred, recycled, classified, processed, calcinated or reused.

Quantity and Treatment of General Waste Generated From Operations

Unit: metric ton

	TPKA				TPKD			
	2020	2021	2022	2023	2020	2021	2022	2023
Incinerated	192	128	145	**171**	-	75	129	**162**
Recycled	27	23	27	**24**	-	14	32	**40**
Total	**219**	**151**	**172**	**195**	**-**	**89**	**161**	**202**

Note:
1. The numbers of employees hired by the tenants of TPKA Building grew by 8.5% in 2023 compared with 2022.
2. TPKD Building began operating in 2021. Waste and resource management at TPKD Building has been under the responsibility of the tenants' operational teams. The disclosure in this report regarding TPKD Building is also provided by the tenants.
3. TPKE Building is being remodeled by the tenants, and therefore, no data is available for the reporting period.
4. TPKP Parking Garage began the trial operation at the end of October 2023, and 2024 is the beginning of the data collection period regarding waste materials.
5. All construction waste is disposed of from the construction site by qualified waste management companies.

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6.1.4 Smart Green Park

Tpark has set the paradigm of a smart green park by implementing a low-carbon development model that integrates smart technologies with innovations in operation and management strategies. The team phases in digital technologies such as AI to build smart systems and platforms to monitor carbon emissions throughout all stages of the building life cycle. For the operational stage, Tpark developed a smart energy management system to improve the safety and stability of its operation, creating a management model with high efficiency and low risks.

Smart Energy Management

To manage and improve energy efficiency, FERD developed the energy management system, which is anchored upon the digital property management system. It is an all-in-one platform that facilitates energy monitoring, data collection and analysis, fulfilling energy digitization, safe management and low-carbon operation. Future system development efforts will aim for tools that could be shared with the tenants in order to monitor energy usage and make timely adjustments, ultimately reducing energy consumption and carbon emissions with greater results.

1. The energy management system utilizes an all-in-one digital platform that gathers real-time data on energy usage from all districts. It also monitors the operation status of facilities such as the electrical, air-conditioning, water supply, drainage and firefighting systems, increasing the efficiency of operational management significantly.

2. The platform monitors anomalies within the energy system, facilities and equipment, and manages crises immediately to implement safe and smart energy management.

3. The platform collects all energy usage data for analysis to identify patterns, which become the basis for the dynamic management approaches. The approaches also help formulate management and usage strategies that enhance energy efficiency and minimize unnecessary energy consumption and carbon emissions.

Carbon Dashboard Powered by AI and Big Data

Based on the research of United Nations, 38% of the global carbon dioxide emissions come from the construction and building sector. Among them, 74% are related to energy usage; 26% are from construction materials and carbon emissions during the construction stage. To make Tpark a low-carbon technological park that fosters sustainability, and support the government's net-zero pathway for 2050, FERD developed the carbon dashboard, a fusion of technical applications and innovative thinking. The dashboard collects data on carbon emissions during the construction stage and the operational carbon after the handover, which are then analyzed to assess carbon emissions and calibrate carbon reduction trajectories.

1. The dashboard collects activity data concerning water, electricity and oil consumption, fugitive loss and waste disposal, and converts the data into carbon emissions as the source for reporting carbon and GHG inventory for Tpark.

2. The dashboard calculates carbon emissions of the "past" from construction materials using the BIM model and carbon emissions of the "present" using energy data compiled through the FM system to manage carbon inventory with accuracy. By coupling AI and digital twins, the dashboard makes annual weather projections for the future based on the representative concentration pathway (RCP) published by the government to simulate the carbon emissions of the "future."

3. The system collects and analyzes carbon emission data from Tpark using digital tools to facilitate dynamic carbon emission management and formulate mid- to long-term carbon reduction guidelines.

In addition to the management units, it is planned to include tenants as future users to calculate the carbon emissions generated at the leased buildings and provide more tailored services that align with the green trends.

Smart Management Platform

In recent years, construction and development projects have been encouraged to incorporate BIM, which visualizes architectural design, improves collaborative efficiency and facilitates conflict management. However, the extent of utilization for most current users is limited to the design stage, where two-dimensional drawings are converted into three-dimensional images, without tapping into its true potential during the construction management stage. FERD thus established user guidelines for BIM incorporation and the component library in 2022, providing clear instructions for project teams during all stages. The guidelines and component library are expanding and maximizing the power of BIM, which has enhanced the efficiency in organizational communication and system usage. The benefits of incorporating BIM are as follows:

1. Information integration and sharing: Project teams from the design, construction and management stages may access the same data on a real-time and consistent basis, which improves efficiency and minimizes information gap. BIM also facilitates the management of whole building life cycle, which could be adopted during the design stage, adding benefits for the subsequent construction, operation and maintenance stages. Incorporating BIM helps the managers of Tpark monitor the facilities with higher precision, conduct preventive maintenance and prolong the life of the facilities.

2. Whole building life: BIM could be adopted during the design stage, adding benefits for the subsequent construction, operation and maintenance stages. Incorporating BIM helps the managers of Tpark monitor the facilities with higher precision, conduct preventive maintenance and prolong the life of the facilities.

3. Digital facility traceability: A BIM component library was established to record detailed facility information, including equipment, materials and maintenance records, which is beneficial for the operation and management stages.

4. Real-time project progress: The project team may review the project progress on a real-time basis to improve management efficiency.

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Patented Innovative Digital Real Estate Handover

A construction project enters the handover stage once it is completed. However, with thousands of items on the handover checklist, reviewing them manually would be time- and labor-consuming. FERD has solved this problem by developing the digital real estate handover system, an innovative application that has received patent approval. The system allows the handover procedure to commence simply by using the mobile phone, which increases the efficiency dramatically.

Mobile Scan

Scan the construction site with the phone to generate a model of as-built conditions.

Model Layering

Layer the as-built model and the BIM model, and confirm a match between the on-site conditions and the BIM model.

As-built Drawing and Information

Export the itemized list with quantity the BIM model and check against the lists from construction settlement to complete the handover.

Exchange of Smart City Experience with Delegation from Bình DươngProvince, Vietnam

The delegation from Bình Dương Province, Vietnam visited Tpark on August 5, 2023 for an exchange on issues such as smart city and economic development. Members of the delegation included the Deputy Secretary of Provincial People's Committee and staff from the Department of Science and Technology, Department of Information and Communications, Department of Planning and Investment, Office of Smart Cities and Becamex IDC, an investment company from the industrial park in Vietnam. Tpark has set the benchmark for a smart technological park that embodies sustainability. Its status comes not only from being the first industrial park in Taiwan dedicated to the information and telecommunications industry, but for being a trailblazer that fully embraces sustainability in its development projects. During the exchange, FERD's project team shared the forward-thinking planning that went into the development of Tpark, as well as the challenges and responses. The members were impressed by the stormwater management system and the various smart applications. Both sides benefited on multiple fronts from the insightful exchange.

Gold Award From Intelligent Living Space Design Competition

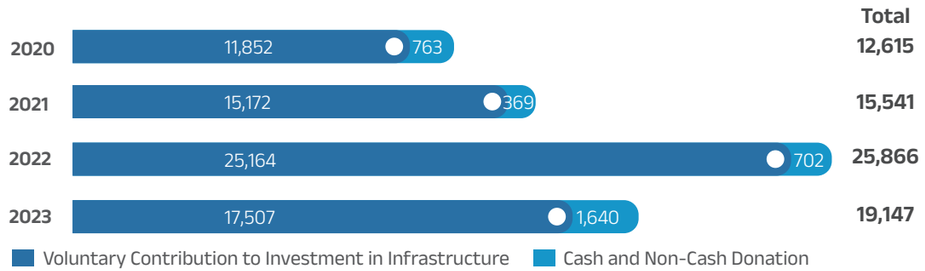
Grounded upon its sustainable principles, Tpark is building smart and low-carbon living with cutting-edge technologies. During the Intelligent Living Space Design Competition held by the Architecture and Building Research Institute, Ministry of the Interior, Tpark stood out among its industry peers with, "Tpark, a Park of Smart and Low-carbon Sustainability," winning the gold award for its forward-looking design.

6.2 Building Sustainable Community

6.2.1 Foster Social Prosperity

Social Engagement Investment

Unit: NT$ thousands



Note:
1. Voluntary contribution to investments in infrastructure in 2023 includes the maintenance of landscaping within Tpark and the roads as well as the operation of the ecological ponds at the north and south parks.
2. The cash and non-cash donation made in 2023 included social engagement (hosting and co-hosting charitable events) and community engagement.

FERD is a member of the community, and it has been attending to the local needs and bettering public welfare over the years. FERD hosts the LOHAS charity market several times a year on the ground floor of TPKA Building, and invites non-profit organizations such as Children Are Us Bakery and Hsinchulun Food Truck as well as local fruit vendors to sell their products. The LOHAS charity market opened ten times in 2023 and the non-profit organizations participated 36 times. Since 2020, Tpark has been hosting the Christmas Charity Market every December. The market features various charitable and sustainable themes, paying love forward by connecting the warmth expressed by the tenants and charitable organizations.

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2023 Tpark Christmas Charity Market-Paying Love Forward

On December 21, 2023, FERD held 2023 Tpark Christmas Charity Market-Paying Love Forward and invited ten non-profit partners, including eight organizations that provide care for the disadvantaged population in the local community and two that provide support in the African nations. The market helps boost their revenues and draw public attention. The event featured "Paying Love Forward." To encourage the participants to shop at one of the charitable booths, those who made the purchase would receive a small thank-you card filled with love and gratitude. FERD supports the circular economy with actions by using zero waste booths throughout the market. The booths are constructed with PC/PS faux wood, which is made of recycled materials. The entire booth can also be taken apart and reassembled into a new one.

Tpark partnered with Bjorgaas Foundation for the Christmas Charity Market, and the representative from the foundation gave the following feedback: "We are very grateful to the organizer's invitation to take part in 2023 Tpark Christmas Charity Market-Paying Love Forward. It gave us the opportunity to meet everyone in December, a month of appreciation, and to share our belief, 'Bjorgaas, Together We Can.' We appreciate the organizer's thoughtfulness. They decorated the market with cute African animals, encouraged participants to support the non-profit organizations and their reward programs, and put in promotional efforts before the event... Though a cold front was coming through, we felt the warmth of the care and passion from the staff at Tpark. It was truly touching that they spent the time to listen to the needs of the people in the Republic of Malawi in Africa and to understand the service programs offered by Bjorgaas Foundation. They also spent the money, giving substantive support, and many people cheered for us. These are the warmest support in the cold winter. Thank you."

6.2.2 Environmental Protection and Ecological Preservation

Tpark's Journey to Net Zero

In the global race towards zero emissions, the development team at FERD is laying out a net-zero pathway with comprehensive strategies. Tpark introduces a continuous stream of advanced technologies and delivers innovative, carbon-reducing solutions. Tpark has established digital models and systems that closely monitor all carbon emission data, which is driving the development of a low-carbon management model and comprehensive carbon reduction strategies for the future, making it an exemplary zero-emission industrial park.

2023 Tpark Forum, Pivoting Technology to a More Sustainable Future!

Corporations are faced with challenges posed by the need for low-carbon and net-zero transition, and FERD is stepping up to face the challenge. On November 16, 2023, FERD hosted the forum, Pivoting Technology to a More Sustainable Future! Experts from the industry, government and academia converged during the event to share their insights on accelerating the pace to net zero through AI. Peter Hu, Executive Vice President of Far EasTone Telecommunications Co., Ltd., shared ways of utilizing AI to accelerate the twin transition, and Professor Ching-Ying Yu from Yuan Ze University discussed the international green transition trends with the use of AIoT. During the event, FERD presented the sustainable management practice and performance at Tpark, including the stormwater management and rainwater recycling systems as well as the ecological park, which provides nearly 40,000 square meters of green space that fosters biodiversity. These elements are shaping Tpark into a low-carbon technological park of international caliber. Ming-Shan Jeng, Deputy General Director of Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, talked about the development of energy and carbon reduction technologies. The chairman of Green Industry Association also shared the experience in governmental coaching for developing carbon reduction strategies.

FERD held a kick-off ceremony for its march towards net zero with representatives from nine Tpark tenants, including Far EasTone Telecommunications Co., Ltd.; Synonogy Inc.; Elo Touch Solutions (Taiwan) Limited; SMART Modular Technologies; Unilever PLC; E.SUN Commercial Bank; CIMFORCE; Trihealth Enterprise Co., Ltd.; TMY Technology, Inc. The Department of Economic Development, New Taipei City represented the local government as the witness to corporate efforts and determination to reach net zero.

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Energy Efficiency Management

To fulfill its ESG commitment and join the global push for carbon reduction, FERD launched an air-conditioning improvement project in July 2023 to increase energy efficiency at TPKA Building. The project entails the replacement and update of multiple air-conditioning equipment, including the chillers, to enhance energy efficiency and reduce carbon emissions. The comparison of pre- and post-improvement energy consumption indicates that the improvement helps FERD avoid 186 tCO_2e of carbon emissions each year.

Energy Consumption of R&D Office

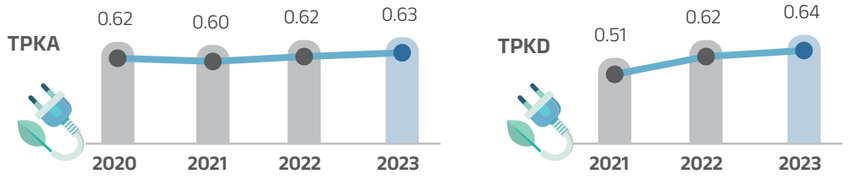
Unit: GJ

	2020	2021	2022	2023
TPKA	37,984	36,587	37,544	**38,184**
TPKD	-	28,019	34,268	**36,228**
TPKE	-	-	-	**19,871**
Total	**37,984**	**64,606**	**71,812**	**94,283**

Note:
1. The energy use comprises mainly non-renewable energy purchased from the electricity company as the power supply for office buildings.
2.TPKD Building began operating in 2021. The disclosure in this report regarding TPKD Building is provided by the tenants.

Energy Consumption per Unit Floor Area of R&D Office

Unit: GJ / m^3



Note:
1. The floor areas accounted for refer to the actual square meters occupied or leased.
2. TPKD Building began operating in 2021. The disclosure in this report regarding TPKD Building is provided by the tenants.
3. TPKE Building is not officially in operation, thus excluded from the boundary.

GHG Management

To enhance the precision of GHG disclosure, FERD incorporated the ISO 14064-1 standards in 2023 to conduct the GHG inventory with Tpark as the boundary. The inventory received third-party assurance on March 15, 2024.

GHG Emissions

Unit: tCO_2e

		2023	Proportion
Direct Emissions	Scope 1	255	31%
Energy Indirect Emissions	Scope 2	567	69%
Total		**822**	**100%**

Note:
1. The operational control approach is adopted.
2. The boundary of GHG inventory covers Tpark, including the TPKA, TPKD and TPKE Buildings, TPKP Parking Garage and other outdoor areas.
3. The main types of GHG included in the inventory include CO_2,CH_4, N_2O, HFCs, SF_6, NF_3 and PFCs.
4. Scope 1 emission sources include water coolers, air conditioners, freezers, cooling equipment and fire extinguishers. Scope 2 emission sources are purchased electricity.
5. The emission factor is based on the GHG emission factor table (version 6.0.4) published by the Ministry of Environment, and the 2022 electricity carbon emission factor published by the Energy Administration, Ministry of Economic Affairs on June 21, 2023. The values are converted to carbon dioxide equivalents using the global warming potential (GWP) for each emission source, and the value of GWP is based on the 6th assessment report issued by Internal Governmental Panel on Climate Change (IPCC).
6. FERD incorporated the ISO 14064-1 standards for GHG inventory in 2023. Therefore, the year 2023 is the base year for scopes 1 to 3 emissions.

Other Indirect GHG Emissions (Scope 3)

Unit: tCO_2e

	2023	Proportion
Fuel- and Energy-related Activities	115	52%
Waste Generated in Operations	79	36%
Business Travel	1	1%
Employee Commuting	25	11%
Franchises	0	0%
Investments	0	0%
Total	**220**	**100%**

Note:
1. The consolidation approach for emissions is operational control.
2. The boundary of GHG inventory covers Tpark, including the TPKA, TPKD and TPKE Buildings, TPKP Parking Garage and other outdoor areas.
3. Significant indirect GHG emissions are identified in accordance with ISO 14064-1:2018 and divided into 15 reporting categories based on the GHG Protocol.
4. The GHG emission generated from the processing, Purchased Goods and Services, Capital Goods, Upstream Transportation and Distribution, Upstream Leased Assets, Downstream Transportation and Distribution, Downstream Leased Assets are excluded due to the lack of materiality based on the principles for assessing significant indirect GHG emissions in ISO 14064-1:2018.
5. FERD does not engage in franchising and investing, thus without GHG emissions under "franchises and investments."

Content

Water Resource Management

At Tpark, the water supply for the office areas and construction projects is provided by Taiwan Water Corporation. Rainwater is recycled and reused through the rainwater retention tanks under each building and rainwater infiltration facilities throughout the premises. The design retains rainwater within Tpark and prevents flooding in the low-lying areas during storm events. In the past, domestic wastewater from Tpark was discharged after purification and reported in accordance with the regulatory requirements. In June 2021, its wastewater system was connected to the public sewage system. To confront the challenges posed by water scarcity, the management unit at TPKA Building implemented water conservation measures by adjusting the water pressure of faucets in all restrooms. Public notices have also been posted to urge employees and tenants to conserve and cherish water.

Water Withdrawal, Recycling and Reuse

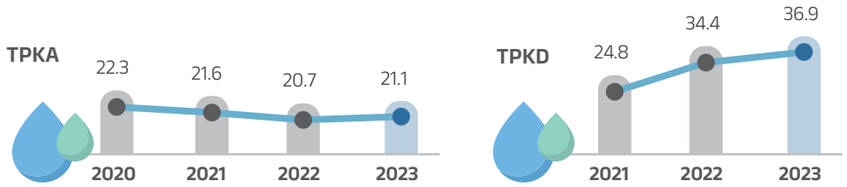
Unit: megaliter

		2020	2021	2022	2023
Tap Water (TDS ≤ 1,000 mg/L)	TPKA Building	47.7	44.8	43.8	**48.5**
	TPKD Building	-	32.2	61.1	**66.5**
	TPKE Building	-	-	-	**4.8**
	TPKP Parking Garage	-	-	-	**1.1**
	Outdoor Area	12.3	13.5	0.2	**0.9**
	Construction	30.9	12.3	18.2	**2.5**
	Total	**90.9**	**102.8**	**123.3**	**124.3**
Rainwater, Recycled and Reused Water (Condensate Water from Air Conditioning)	TPKA Building	1.4	1.0	1.0	**2.3**
	TPKD Building	-	-	4.6	**6.8**
	TPKE Building	-	-	-	**-**
	TPKP Parking Garage	-	-	-	**-**
	Total	**1.4**	**1.0**	**5.6**	**9.1**
Total		**92.3**	**103.8**	**128.9**	**133.4**

Note:
1. The sources of water withdrawal are tap water and rainwater, which pose no impacts to water sources.
2. Rainwater and recycled water enter the same pipelines. Therefore, the calculation is combined.
3. TPKD Building began operating in 2021. Waste and resource management at TPKD Building has been under the responsibility of the tenants' operational teams. The disclosure in this report regarding TPKD Building is also provided by the tenants.
4. The 2020 construction projects within Tpark include TPKD and TPKE Buildings as well as Eco Park Residential Zone B. The 2021 projects include TPKE Building, Eco Park Residential Zones A and B as well as TPKP Parking Garage. The 2022 projects include TPKE Building, Eco Park Residential Zones A and B, TPKP Parking Garage and New Century New Vision. The 2023 projects include Eco Park Residential Zone A and TPKP Parking Garage, which has a data collection period from January to July.

Water Consumption Per Capita at R&D Office

Unit: kiloliters / person



Note:
1. The numbers of employees hired by the tenants of TPKA Building grew by 8.5% in 2023 compared with 2022.
2. TPKD Building began operating in 2021. The disclosure in this report regarding TPKD Building is provided by the tenants. In March 2022, a new restaurant opened, hence increasing water withdrawal and water consumption per person per unit.
3. TPKE Building is not officially in operation, thus excluded from the boundary.

Conserving the Beauty of Nature

FERD attends to the preservation, maintenance, utilization, restoration and improvement of the natural environment with great care. All land development projects are guided by biodiversity principles, and incorporate elements such as ecological ponds, landscape design and the preservation of large green areas.

Protecting Local Biodiversity With the Removal of Invasive Alien Species

Jumbay tree (Leucaena leucocephala), which is on the list of 100 of the World's Worst Invasive Alien Species from the International Union for Conservation of Nature (IUCN), has been sighted at Tpark. Invasive alien species are a serious threat to local biodiversity. Jumbay tree is native in Central and South America. It was introduced to Taiwan as a material for paper pulp. However, this is a fast-growing allelopathic plant with high excludability. It releases mimosine, which suppresses the growth of other plant species, thus threatening the indigenous plants of Taiwan and the natural environment. To minimize its negative impact, FERD removed approximately 0.28 hectares of Jumbay trees within Tpark, and will continue to monitor, maintain and care for the ecological balance within Tpark to safeguard local biodiversity.

None of the land development area of FERD are located within wildlife preservation areas or reserves, and no animals on site are listed on the IUCN Red List of Threatened Species or national conservation lists.