

# 2023

## **TAINAN CITY SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY LOCAL REVIEW**

# TAINAN CITY





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TAINAN CITY

Sustainable Development Goals  
Voluntary Local Review

# MESSAGE FROM THE MAYOR

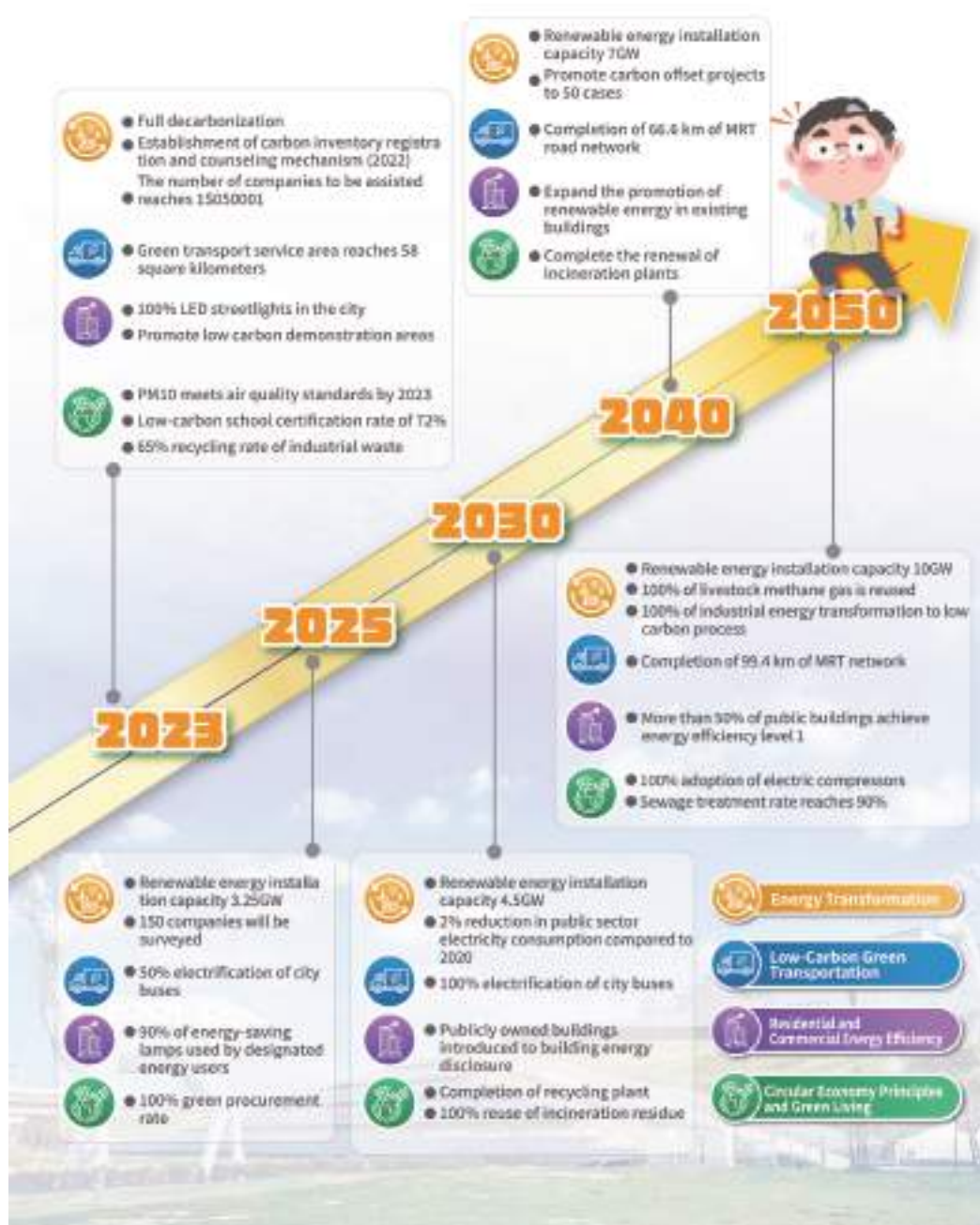
In 2024, Tainan celebrates its 400th anniversary since its founding, making it the oldest city in Taiwan. Amidst the dynamic changes and thriving industrial and commercial developments of our times, transitioning to net-zero sustainability by 2050 has become our primary goal. In the process of democratization, we have developed a concern for people and the environment. As such, the 2050 Zero Transformation is a time-bound race. Tainan has already set targets and timelines for the Zero Path and has specific work. Moving forward, we will continue to safeguard our citizens, cherish water resources, and promote the use and development of more renewable energy sources. Our aim is to transform Tainan into a livable and sustainable city for generations to come.

In accordance with the international trend of sustainable development, Tainan City has adopted the United Nations Sustainable Development Goals (SDG) framework in integration with its municipal plan and published its first voluntary review report in 2021. In response to the challenges faced by global cities, Tainan City continues to promote its urban development vision with the "3 Upgrades, 3 Sustainables" governance strategy. In 2023, Tainan City has continued and expanded its review of the implementation of a total of 17 SDGs, focusing on enhancing public welfare, promoting a healthy environment, fostering economic prosperity, caring for the elderly, vulnerable groups, women, children, new immigrants, and promoting sustainable development principles. The goal is to enhance citizens' quality of life, stimulate urban prosperity, and build a resilient, low-carbon sustainable city.

The promotion of sustainable development requires the implementation of the three directions of environmental protection, economic development, and social equality, and relies on the accumulation of the results of various municipal efforts to keep pace with the times. Tainan City is willing to support the Global Sustainability Initiative with practical and responsible behaviors, and through objective self-examination, has revealed 17 sustainable development goals and 140 detailed goals, and set benchmarks for rolling review, to take stock of the status of sustainability in Tainan City and its various bureaus. We are grateful for the efforts of 1.85 million citizens and all our colleagues in the city government on this road to sustainability. The city government team will continue to work hard for the environment and for the next generation, so that we can continue to make progress and move steadily toward sustainable development.







△2050 Tainan Net Zero Pathway

# TAINAN

SUSTAINABLE DEVELOPMENT GOALS

VOLUNTARY LOCAL REVIEW



# 01

## Introduction







# Introduction to the Sustainable Development Goals (SDGs)

Climate change, environmental pollution, resource depletion, and social imbalance are huge challenges faced by countries around the world. To move the world towards a sustainable and resilient future, the United Nations launched the "Transforming our world: the 2030 Agenda for Sustainable Development" in 2015. This agenda covers three main dimensions: environmental protection, social progress, and economic growth. It is built upon the 5P principles: People, Planet, Prosperity, Peace, and Partnership. The agenda integrates and presents 17 Sustainable Development Goals (SDGs), along with 169 specific targets and 232 indicators. Its aim is to ensure that all people have the right and responsibility to fulfill their potential and live dignified and high-quality lives. The agenda integrates and presents 17 Sustainable Development Goals (SDGs),

along with 169 specific targets and 232 indicators. It aims to ensure that all individuals have the right and responsibility to fulfill their potential, leading dignified and high-quality lives.

Under each core goal, several specific targets have been established to clearly identify issues that the world needs to face together, thereby guiding the direction of policy actions by global and local governments over the next 15 years and calling on businesses and other organizations to work together for sustainable development. By 2030, we hope to achieve a fair, just, inclusive, and peaceful society that produces and consumes in a sustainable manner and develops the economy while considering environmental and ecological diversity.



17 United Nations Sustainable Development Goals





## **SDG 01 NO POVERTY**

Eliminate all forms of poverty everywhere



## **SDG 02 ZERO HUNGER**

Ensure food security, end hunger and promote sustainable agriculture



## **SDG 03 HEALTH AND WELL-BEING**

Ensure health and promote well-being for all ages



## **SDG 04 QUALITY EDUCATION**

Ensure inclusive and equitable quality education, and promote lifelong learning



## **SDG 05 GENDER EQUALITY**

Realize gender equality and empower women



## **SDG 06 CLEAN WATER AND SANITATION**

Ensure availability and sustainable management of water and sanitation for all



## **SDG 07 AFFORDABLE AND CLEAN ENERGY**

Ensure affordable, reliable, sustainable and modern energy for all



## **SDG 08 DECENT WORK AND ECONOMIC GROWTH**

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



## **SDG 09 INDUSTRY, INNOVATION AND INFRASTRUCTURE**

Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation



## **SDG 10 REDUCED INEQUALITY**

Reduce income inequality within and among countries



## **SDG 11 SUSTAINABLE CITIES AND COMMUNITIES**

Promote inclusive, safe, resilient and sustainable cities and human habitat



## **SDG 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**

Ensure sustainable consumption and production patterns



## **SDG 13 CLIMATE ACTION**

Take urgent action to combat climate change and its impacts



## **SDG 14 LIFE BELOW WATER**

Conserve and sustainably utilize marine ecosystems to ensure biodiversity and prevent marine environmental degradation



## **SDG 15 LIFE ON LAND**

Conserve and sustainably utilize terrestrial ecosystems to ensure biodiversity and prevent land degradation



## **SDG 16 PEACE, JUSTICE AND STRONG INSTITUTIONS**

Promote a peaceful and diverse society, uphold impartiality in the legal system, and implement a reputable and extensive mechanism for public feedback



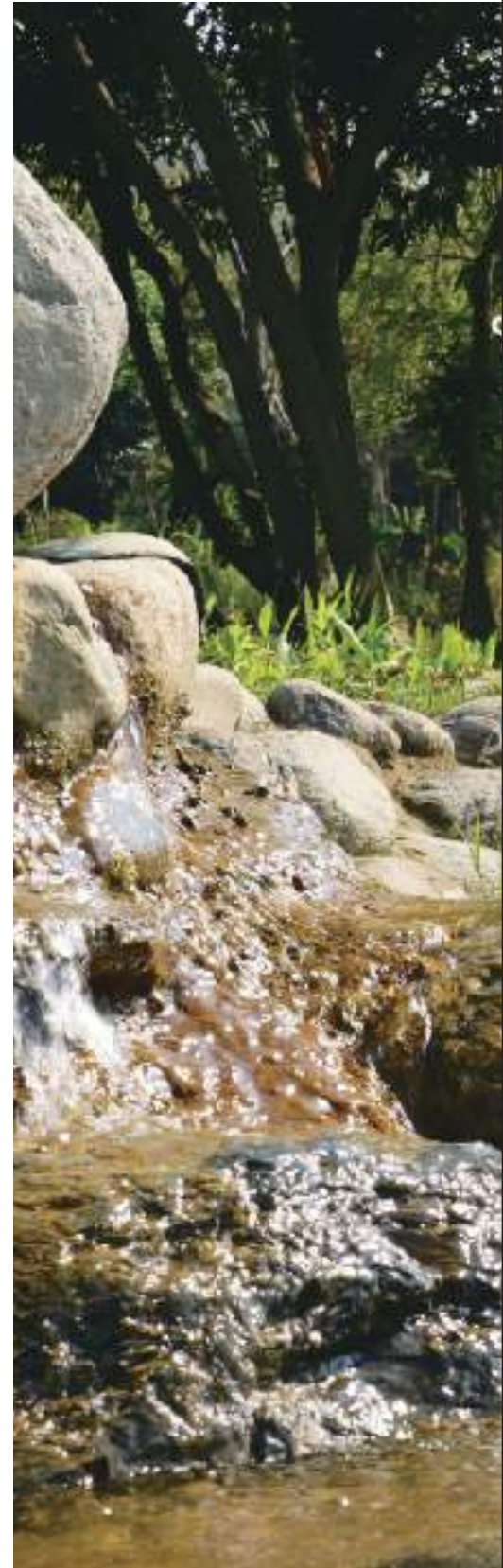
## **SDG 17 PARTNERSHIP FOR THE GOALS**

Take emergency measures to respond to climate change and its effects



# Tainan City's Sustainable Development Plan

As the city with the most extensive history in Taiwan with its 400th anniversary approaching in 2024, Tainan has worked hard in recent years to promote and implement energy conservation and carbon reduction, and by incorporating the key framework ideas of the United Nations Sustainable Development Goals and Taiwan's Sustainable Development Goals into Tainan's sustainable development vision, and by measuring the city's policies and proposing solutions that can be implemented in daily life, Tainan is guiding all sectors to work together to implement the important principles of human well-being, a healthy environment, and economic prosperity, and to establish Tainan's sustainable development philosophy. In this way, we will establish the concept of sustainable development in Tainan, defend the beautiful environment of modern Tainan and the next generation, and demonstrate our determination to move towards net zero emissions by 2050.







△Zhuxi Riverside Park



# Tainan City's Sustainable Development Plan

Tainan City aims for sustainable development with the goal of "abundant food and clothing, and a peaceful and happy life" and adopts the governance strategy of "3 Upgrades, 3 Sustainables" to gradually promote its urban development vision. Simultaneously, it enforces strict fiscal discipline and enhances administrative efficiency within its public service system to achieve the goal of good governance leading to better lives for its citizens.

The three enhancements are "economic upgrading", "transportation upgrading" and "health upgrading".

The three sustainables are "environmental sustainability," "warmth sustainability," and "cultural and educational sustainability."



## Economic upgrading

Industrial zone development and promotion of new industries are two major policy directions for industrial development in Tainan City. The city aims to achieve a circular economy and establish sustainable supply chains.



## Transportation upgrading

Integrating green, smart, and safe transportation modes into public transit creates a sustainable and environmentally friendly transportation environment. It is aimed at enabling citizens to experience the convenience of transportation facilitated by smart technology.



## Health Upgrading

Implementing local infectious disease prevention and control measures, including establishing vaccination policies, to fully safeguard the health of citizens from birth to old age.







## Environmental Sustainability

In response to the chain reactions caused by climate change, Tainan City actively controls air pollution, promotes solar photovoltaic energy, and develops environmental initiatives like soil and water purification. These efforts aim to progressively build a low-carbon and sustainable home for its residents.



## Warmth and Sustainability

Enhance community disaster prevention and rescue systems, intensify evacuation awareness campaigns, and encourage community improvements. Simultaneously, beautify neighborhood public environments with green initiatives. Establishing sustainable disaster mechanisms also integrates local community development with sustainable local characteristics.



## Culture and Education Sustainability

Dedicated to providing high-quality and equitable learning opportunities for all age groups, ensuring the educational needs of students with special needs, and safeguarding the right of everyone to participate in learning.





# Tainan City Environment and Policy

## An international city of culture and technology

As the city with the most extensive history in Taiwan, Tainan will be 400 years old in 2024, and has not only the most museums in Taiwan, but also the most national monuments in Taiwan.

Rich cultural assets are not only Tainan's pride but also a challenge. Tainan is prone to digging up large areas of remains during urban construction and development. Even Southern Taiwan Science Park, which is now full of high-tech factories, encountered ancient monuments 20 years ago when it was excavated from sugarcane paddies, and overcame many challenges to become the semiconductor town of Taiwan today. Therefore, in the road of economic development, how to strike a balance between culture, monuments and technology makes Tainan "indispensable". The transformation of Tainan today is the result of the accumulation of successive mayors, which has enabled Tainan to rise to an international level.

## Twin Engines of Technological Development

Tainan's five main axes of municipal development include "Cultural Capital", "Industry and Economy Town", "Smart New Capital", "Creative City and Township", and "Home of Hope". These initiatives aim to make Tainan a more livable and sustainable city. Therefore, the city government team is committed to assisting enterprises to invest and set up factories, focusing on the dual engines of Southern Taiwan Science Park and Shalun Smart Green Energy Science City. This effort aims to attract satellite factories to invest in Tainan, introducing low-pollution, low-energy-consumption, and high-value-added industries to create employment opportunities. This initiative aims to attract young professionals who have moved away ("Northern Drifters") back to Tainan, thus driving development in the Southern Taiwan region.

TSMC's 5nm and 3nm advanced manufacturing process Tainan Park project will create 23,500 new construction jobs and more than 11,300 direct high-tech jobs for Tainan City with a total investment of NT\$1.86 trillion and attract top global manufacturers to locate in Tainan, such as MediaTek, ASML have set up offices and talent development centers in the city. Major semiconductor equipment manufacturers such as Applied Materials and Tokyo Electron Limited, as well as semiconductor material suppliers Showa Denko and Fujifilm, accelerating the upgrading of Tainan's overall industry.

Mayor Huang Wei-Cher: "In one year, Tainan will be 400 years old - my goal is to make Tainan visible to the world."





△Shalun Smart Green Energy Science City





# Tainan Promotes Environmental Sustainability Creating a Livable City

There is only one planet, thus industrial development must change from a linear mindset to a circular economy. The Tainan City Government is actively promoting economic development while also striving to safeguard environmental quality and improve air quality. In 2022, it released the "2050 Tainan Net Zero Roadmap" to promote circular economy and green living, with the goal of achieving net zero emissions by 2050 and creating a low-carbon home for sustainable development.

In order to improve air quality, Tainan City has implemented the "Bright and Clear Sky Project PLUS". In 2023, the ratio of blue-sky days reached 90.8%, significantly improving air quality in the city. In the industrial sector, Tainan City led the nation by replacing 538 industrial fuel boilers with natural gas boilers, achieving the highest replacement volume nationwide.



△Yungkang water reclamation plant





In addition, in recent years, due to the influence of climate change and warming, the intensity and frequency of heavy rainfall in Tainan has increased repeatedly, and 1/3 of the flood-prone areas in Taiwan are in Tainan, so it is the city government's goal not to give up any place that will be flooded. In 2020, Tainan City launched a comprehensive project to rehabilitate the San-Yeh Creek, aiming to relieve residents in the Rende district and industrial zones from recurring flooding issues. Additionally, pump stations were installed in Xuejia, Yongkang, and Madou districts to enhance community drainage capacity and improve flood prevention measures.

With the goal of zero carbon emission, Tainan focuses on enhancing the use of renewable energy, with energy saving, energy storage, energy creation, and system integration as the four main axes, considering the balanced development of "green economy, energy transformation, industrial development, and sustainable home", strengthening and promoting rooftop solar power installations, and continuously deepening energy transformations. In 2023, the number of approved solar photovoltaic projects reached 12,062, with a total capacity of 4,177 MW. These projects are estimated to generate approximately 5.38 billion kWh annually, surpassing the annual electricity generation of over 19.56 Tseng-Wen Hydroelectric Power Plants. This output can supply electricity to nearly 1.53 million households annually, resulting in an annual reduction of nearly 2.709 million metric tons of carbon dioxide emissions, equivalent to the reduction achieved by approximately 8,327 Tainan City parks. The investment attracted amounted to approximately 292.4 billion NTD. The original target of accumulating 3.25 GW of solar power capacity by the year 2035 has been achieved ahead of schedule.

In the face of Tainan's long dry season, Tainan City actively promotes water reclamation and recycling, maintains a stable water supply for the technology industry, installs rainwater storage tanks in traditional markets, emphasizes the deployment of water for agricultural irrigation, and continuously supplies recycled water from the semi-conductor industry to the car wash industry, and sets up water collection maps for the public to access free recycled clean water, realizing the concept of sustainable water sources and allowing Tainan's precious water resources to continue to move in the direction of sustainability. Under the vision of "Sustainable and Livable Greater Tainan," Tainan City has linked its governance strategy to the international SDGs for sustainable development and formulated specific implementation plans and has introduced the concept of energy sustainability into the lives of its citizens, so that it can actually implement the construction of sustainable homes in response to the impact of global climate change.



## CHAPTER 02

### Sustainable Development Highlights



# 02

## Sustainable Development Highlights



# Vision for Sustainable Governance

Mayor Huang Wei-Cher has been implementing the "3 Upgrades, 3 Sustainables" policy strategy since 2020, gradually advancing the city's development vision. Together with the city team, Mayor Huang is dedicated to ensuring that the citizens of Tainan have "ample food and clothing, secure housing, and enjoyable careers." Simultaneously, there is a focus on maintaining strict fiscal discipline within the public administration, enhancing administrative efficiency, and achieving the goal of effective governance for a better quality of life for the residents.

## 1. Improving Economic Development

Industrial Park development  
creates job opportunities  
Development of Green Energy  
Industrial Parks

The Tainan City Government is providing industrial land to stimulate local and green energy industry development. It plans to develop a green energy industrial park in the Rende Gangqian district, aiming to create a cluster of industries in conjunction with the Shalun Smart Green Energy Science City. This initiative is expected to generate 4,400 job opportunities and retain young local talents in Tainan. The industrial park will be developed on part of the Taiwan Sugar Corporation's original Gangqian farmland, located near National Freeway No. 1 and Provincial Highway No. 86, adjacent to the Baoan Industrial Zone and the Shalun Smart Green Energy Science City. The total development area will cover 64.64 hectares. It aims to attract industries including plastic product manufacturing, basic metal manufacturing, metal product manufacturing, electronic component manufacturing, computer, electronic and optical product manufacturing, electronic equipment and accessories manufacturing, machinery equipment manufacturing, automobile and parts manufacturing, and other transport equipment and parts manufacturing.

## AI flagship companies settling in

Taiwan holds a crucial position in the global economic supply chain. With changing global trends, Tainan City has been guiding local enterprises through policy measures to continually upgrade and transform. This shift has led to changes in industrial structure, moving from traditional industries towards technology and emerging sectors. The advent of AI is revolutionizing global lifestyles and work patterns, with new technologies and digital transformations disrupting traditional industries. Faced with rapidly changing and highly competitive markets, business leaders must rethink their operational models and redefine corporate values, accelerating digitalization to meet various challenges. The city government has long been focused on the development of local businesses, facilitating digital transformation and operational capabilities. In 2023, the Economic Development Bureau launched the Tainan Industrial Digital Transformation Guidance Program to provide resources for digital transformation and lead industries towards new milestones.





△ Tainan Information Month AI Technology Exhibition

### Winning Ground Innovation Incubator

In recent years, through close collaboration among industry, government, and academia, Tainan has undergone a transformation from a cultural capital to a smart city that blends tradition with modernity and integrates humanities with technology. The "Winning Ground Innovation Incubator" in Daxinying district has played a crucial role as a hub for entrepreneurial incubation and guidance. Established over three years ago with a focus on sustainable development, it connects local and central resources to promote an ecosystem of entrepreneurial services. It provides comprehensive entrepreneurial guidance services and actively nurtures innovative talent. Collaborating with small and medium enterprises (SMEs), the Small and Medium Enterprise Administration, local revitalization offices, and the Small Business Innovation Research (SBIR) office, the incubator facilitates local enterprise transformation by bridging multiple resources. Its programs, exchanges, events, and technology showcases have yielded significant results, assisting startups and teams in accessing funding,

facilities, and expert consultations.

The "Winning Ground Innovation Incubator" has achieved fruitful results in its guidance efforts. As of 2023, it has successfully facilitated the operations of 46 new startup ventures, established 2 new companies, and increased employment by 23 individuals. Participating in events such as the 2023 InnoVEX Pitch Contest and the 2023 Smart Life in Tainan, the incubator has garnered attention from over 5,000 individuals, contributing to economic benefits exceeding 57 million NT dollars.



#### Youth Entrepreneurship

To strengthen the economic resilience of small and medium enterprises (SMEs) and support youth entrepreneurship, the Tainan City Government has collaborated with the Small and Medium Enterprise Credit Guarantee Fund of Taiwan (TSMEG) to launch the "Tainan City Government Youth Entrepreneurship and SME Credit Guarantee Project Loans." This initiative aims to enhance the operational funds for local SMEs and increase the loan amounts available. It assists youth and enterprises in obtaining financing, thereby fostering innovation, development opportunities, and contributing to the city's prosperity and economic growth.

▽2023 InnoVEX Pitch Contest



▽Youth Entrepreneurship Forum and Startup Seminar





## Shalun Green Energy Technology Demonstration Site

Shalun Smart Green Energy Science City is located in the High Speed Rail Specific Zone, boasting convenient transportation access. It is surrounded by three major universities: National Cheng Kung University, National Yang Ming Chiao Tung University, and Chang Jung Christian University. Additionally, it benefits from the presence of three national-level research institutes: Industrial Technology Research Institute (ITRI), National Applied Research Laboratories (NARL), and Academia Sinica. The green energy technology demonstration area in Zone D was officially launched in December 2019, covering approximately 7.44 hectares. Its primary purpose is to serve as a platform for technical verification and integrated applications in green energy technology, providing industries with real-world performance testing and optimal demonstration verification for pilot production. Currently, the occupancy rate of the green energy technology demonstration area has reached 94%, with 26 units already stationed there.

For the 2023 commercial strategy, the plan aims to attract investments through collaborative demonstration verification, focusing on the final stages of industrialization, showcasing products and technologies, and providing experiences of green energy living. Priority is given to attracting investments that leverage synergies in innovative energy, energy conservation, energy storage, and smart systems. This strategy aims to enhance and expand the development of green energy technology research capabilities and strengthen the overall industrial chain linkage benefits.



△ DaXinYing Carnival





#### Commercial District Assistance Program

Since 2011, Tainan City Government has been actively promoting the Commercial District Assistance Program, focusing on strategies and plans aimed at enhancing the quality of commercial district management in Tainan. The program emphasizes three main aspects: infrastructure and policies, research and development support, and marketing and autonomy. The goal is to continuously improve the operating environment of commercial districts and gradually shift towards promoting autonomous management by district organizations. Through diverse counseling methods and execution strategies, the city markets its unique commercial districts to generate more consumer activity and drive overall industry development within these areas. This approach aims to create a comprehensive economic boost for Tainan's commercial districts.

In 2023, the city collaborated with local district offices to implement 10 specialized project counseling cases. These efforts resulted in the selection of 9 cases under the Ministry of Economic Affairs' 2023 Cloud Generation Commercial District Transformation Project, receiving subsidies totaling NT\$1.69 million. Additionally, 26 cases were selected under the 2023 Active Commercial District Subsidy Program, receiving NT\$11.94 million in subsidies, and 4 new emerging commercial districts were supported in their establishment efforts.



△Hai'an Commercial District Christmas Music Festival

## Expansion of South Taiwan Science Park Phase III

The city actively collaborated with the Executive Yuan's approval of the "Southern Science Park Tainan Park Expansion Project" in 2020. This led to the implementation of the Southern Science Park Phase III Urban Plan Amendment, which was announced and published on June 14-15, 2023. The project area covers approximately 84.5 hectares, with 38.9 hectares designated for industrial use and 45.5 hectares for public facilities. The plan balances the development of high-tech industries, preservation of the Bajiaoliao archaeological site, and regional flood control and drainage needs, aiming to achieve mutual prosperity with the community and international alignment.

The Phase III development of the Southern Science Park is projected to attract industries such as semiconductor, smart machinery, biotechnology, telecommunications, computer peripherals, and innovation centers. It is expected to create about 4,900 job opportunities and generate an average annual output value of around 39.2 billion NTD, thereby strengthening the high-tech industry in Southern Taiwan and enhancing the overall industrial and urban development landscape in the region. This development lays a sustainable foundation for Tainan as a cultural capital and a hub for technology, promoting compatibility and sustainable growth.

## Smart Aquaculture

### Smart Farming

To address the management issues of oyster rafts, starting from 2019, the city government collaborated with National Cheng Kung University and National Sun Yat-sen University. With support from the Ocean Affairs Council and Fisheries Agency of the Council of Agriculture, they successfully developed the "Smart Management System for Oyster Rafts." This system includes real-name registration and positioning technology for rafts, which has been implemented at the Anping Fishing Port Management Center for real-time monitoring and inquiries.

In 2023, at the Anping Fishing Port Management Center in Anping District, a new-generation omni-directional antenna was installed. This antenna can receive signals up to 5 kilometers away with a reception angle of 60 degrees. Additionally, three signal reception stations were added to expand the monitoring range to the Annan and South Districts. This initiative aims to establish a comprehensive database of time and spatial information for oyster rafts, enabling real-time queries and management for administrators. The project continues to collaborate on research with National Sun Yat-sen University and Chunghwa Telecom.



△ Installation of RFID Chips



## CHAPTER 02

### Sustainable Development Highlights

#### Agricultural Cold Chain Logistics Center

The city plans to establish the Yujing Agricultural Processing Cold Chain Logistics Center to enhance the value and safety of agricultural products, increase the quality of Tainan's agricultural products, and enhance competitiveness in international markets, thereby bringing greater profits to farmers.

The construction investment amounts to 639 million NTD, with the main building spanning 2 floors and totaling 2,256.68 ping (approximately 7,461 square meters). After establishment, the center is expected to procure fresh produce from Tainan City and nearby counties. It will perform operations such as receiving, consolidation, sorting, grading, pre-cooling, low-temperature quarantine, packaging, processing, warehousing, and distribution.

#### Domestic and International Sales of Agricultural Products

In addition to the agricultural hardware constructions such as the Xinhua Fruit and Vegetable Market and the Yujing Cold Chain Logistics Center, efforts include domestic sales promotion through exhibitions, and international sales expansion through participation in trade shows, guidance on processing and procurement, and development of processed products. Furthermore, partnerships with other industries are utilized to cultivate consumer habits and strengthen the application market for agricultural processed products.

In the fiscal year 2023, a total of 76 events were organized, including participation in international food exhibitions, trade negotiations, marketing and sales promotions, press conferences, channel placements,



△ Groundbreaking Ceremony for Yujing Agricultural Processing Cold Chain Logistics Center



and collaborations with other industries. Activities included organizing exhibitions, participating in food shows in Japan, Korea, and other regions, hosting international tropical fruit procurement days, organizing mango festivals and regional events, as well as domestic sales promotions of seasonal agricultural products and promotions through channel placements.



△ Mayor's Attendance at the FOODEX JAPAN 2023



△ Tainan City's Mangoes Available at PX Mart Chain



## 2. In terms of transportation improvement

### Construction of multi-level parking facilities

To expand parking availability in Tainan City and address the imbalance between parking supply and demand in hotspots, the city has been implementing the "Tainan Good Parking No. Million Plan" since 2018. This initiative includes strategies such as incentivizing private development of off-street parking lots, converting idle public and private land into temporary off-street parking lots managed by district offices, and constructing multi-level parking facilities. By 2027, it is projected that all 13 multi-level parking facilities will be completed, providing a total of 3,844 parking spaces for cars and 2,217 spaces for motorcycles.

In alignment with the city's vision to develop as a low-carbon city, parking facilities will integrate smart parking management systems. These systems will include features such as license plate recognition, diverse payment methods, occupancy detection, and app-based smart parking guidance systems. These advancements aim to reduce the time spent searching for parking spaces, thereby lowering energy consumption and air pollution associated with parking space hunting. All parking facilities will be designed to meet the requirements for Silver-level green building certification. Projects involving new parking facilities costing over 200 million NTD will also pursue qualifications for smart and green building certifications. Upon completion, these facilities will incorporate rooftop solar photovoltaic systems to generate green energy for operational needs.



△ Overview of Forward-looking Multi-level Parking Construction Projects



△ Ximen Health Parking Lot



## Shuttle Taxi

In response to the challenges faced by sparsely populated and aging rural areas with dispersed settlements, where there are significant variations in public transportation demand, Tainan City has integrated resources to introduce the "Shuttle Taxi" initiative. This program coordinates with bus operators to adjust routes and schedules and invites taxi operators to participate in providing Shuttle Taxi services, optimizing overall resource utilization. Like the fare calculation for major Tainan trunk and branch bus routes, residents can use their Citizen Welfare Card to ride for free, effectively converting bus fare into taxi service! Through a "door-to-door service" approach, elderly residents simply wait at home for pick-up, ensuring convenience and care. Platform information is consolidated through integration with the Greater Tainan Bus official website and app. Users can access the Shuttle Taxi section to check real-time locations, available seats, and estimated arrival times, enhancing convenience for passengers.

Since its inception, the Shuttle Taxi initiative has expanded to cover a total of 20 administrative districts with 31 routes. To date, it has served over 170,000 passengers. This effort has been recognized with awards such as the "2019 -Taiwan Healthy Cities and Age-friendly Cities Awards" in 2021 and the 5th "Government Service Award" in 2022. By injecting new vitality into previously quiet rural areas, the initiative has achieved positive effects of "caring with love, balancing urban and rural areas."



△ Shuttle Taxi Bus and Shuttle Taxi Stations





#### MRT System

To enhance the public transportation services in our city and provide high-quality, convenient, friendly, and energy-efficient public transport, we have embarked on planning a metro transit system. According to the overall network approved by the Ministry of Transportation on March 22, 2022, the implementation will proceed in stages based on a prioritized network and long-term plans. The prioritized network includes 6 lines: Phase 1 Blue Line, Phase 1 Blue Line Extension, Red Line, Green Line, Deep Green Line, and Yellow Line.

#### North Outer Ring Expressway System in Tainan City

In response to the rapid urban development, the North Outer Ring Road is Tainan City's first expressway system, aimed at establishing a comprehensive 1-hour living circle to enhance the traffic network around the city core. Once completed, the travel time from Da-gang Guanhai Bridge on Provincial Highway 17 to Nanke Singangshe Boulevard in the city center, originally 30 minutes, will be significantly reduced to 15 minutes. This improvement effectively enhances the external transportation services for the Southern Taiwan Science Park. Currently, construction is ongoing with Phase 1 already open, Phase 3 opened in 2022, while Phases 2 and 4 are in various stages of construction and detailed design.



△ Priority Network Map for Tainan MRT



△ North Outer Ring Expressway System in Tainan City

## Road Leveling Project

Tainan City is the first city in the country to include the coefficient of friction of handhole covers in its Self-Government Ordinance for Road Excavation Management. During the road leveling process, efforts are made to improve the flatness and skid resistance of handhole covers. Since the fiscal year 2011, the Road Leveling Project has invested a cumulative total of 4.685 billion NT dollars, improving 234 road sections with a total length of 379.24 kilometers. In addition to the Road Leveling Project, the city government continues to promote the leveling and maintenance of agricultural, fishery, and industrial roads in non-urban areas to ensure the safety of road users and vehicles throughout the region.



△The agricultural land reorganization in Xinying District.

## Renovation and refurbishment of agricultural and waterways roads

Tainan City has a flourishing agriculture sector and is an indispensable agricultural production hub in Taiwan. The reclamation areas for agricultural land are distributed across 23 administrative districts, covering an extensive area of 57,785 hectares. Significant improvements have been made in the smoothness, paving, and smooth integration of roadside structures of agricultural roads. Safety measures such as reflective road markers and roadside lines have been planned at intersections, contributing to tangible improvements felt by farmers. Over the past five years (from 2019 to 2023), a total of over 2.306 billion NT dollars have been invested in the renovation and improvement projects of agricultural and water roads in reclamation areas. This effort has resulted in the improvement of 782 kilometers of agricultural roads and 120 kilometers of water roads, making Tainan City a leader nationwide in agricultural and water road improvement achievements.



△Improvement Project of Agricultural Roads in Jiangjun District

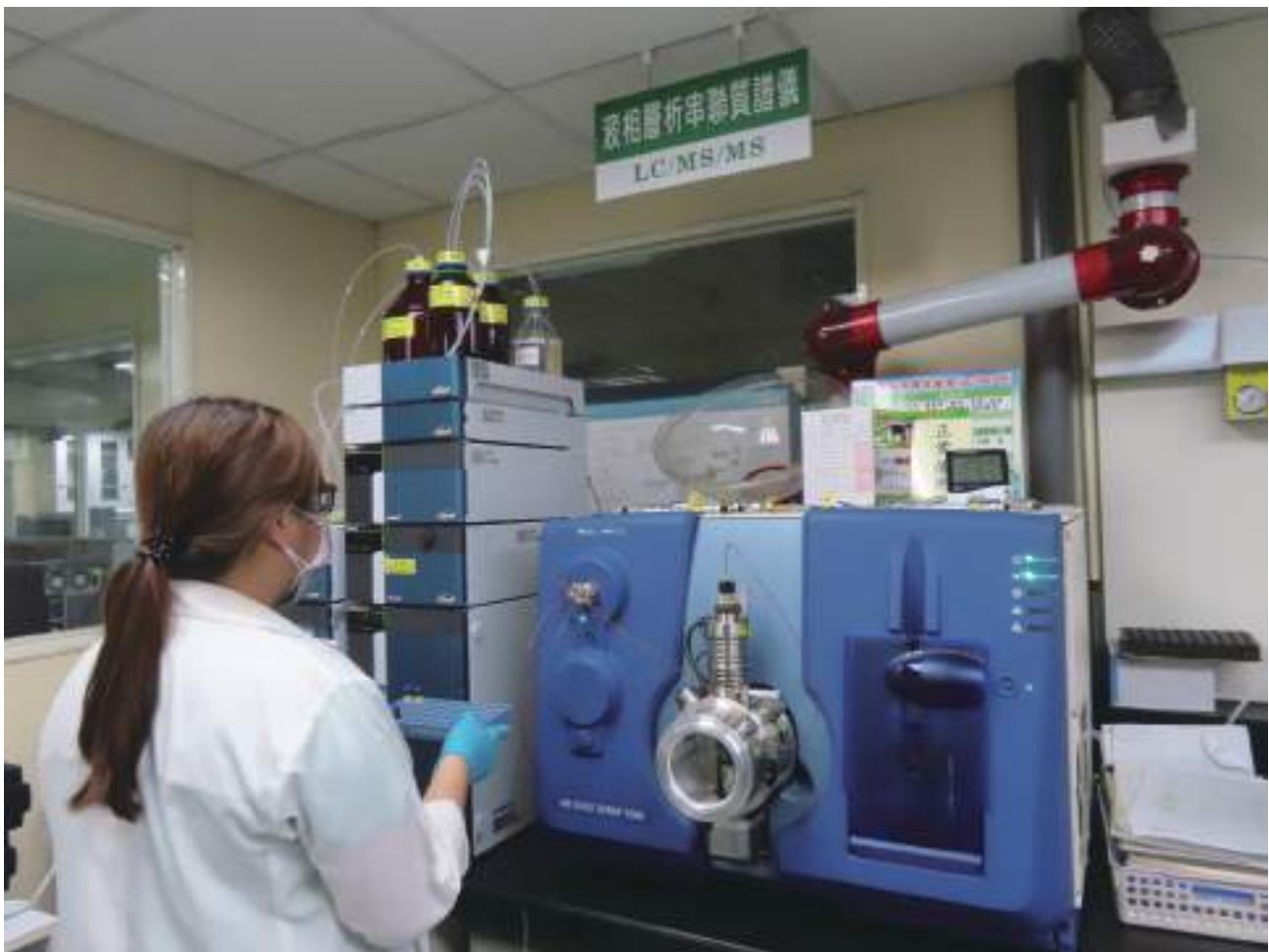


### 3. In terms of health improvement

#### Comprehensive Healthcare System

Tainan City covers a large area, and medical resources are concentrated in densely populated areas. Taking stock of the city's medical resources, there are a total of 34 hospitals at the district level or above, 2,005 clinics (including traditional Chinese medicine, Western medicine, and dental clinics), and 136 nursing facilities. To support vulnerable groups, the city simplifies disability assessments and provides subsidies through public welfare lotteries. To promote harmonious doctor-

patient relationships, Public Health Bureau of the Tainan City Government handles medical disputes and provides a platform for communication to reduce litigation. Additionally, efforts are made to strengthen horizontal communication among medical institutions to safeguard the rights of healthcare workers and ensure a conducive environment for patient care.



△ The personnel at this center conduct analysis of veterinary drug testing



## Enhancing Testing Service Capacity

To strengthen the testing service capacity of Tainan City's testing center, we are pursuing four objectives aimed at strengthening the laboratory quality management system to improve testing quality.

1. Strengthening public health testing in food chemistry, microbiology, and infectious diseases: In 2023, in collaboration with the Business Section, a total of 2,167 food chemistry tests were conducted, with 44 cases (2.0%) found to be non-compliant. Microbiological tests (including food and business hygiene) totaled 1,335 cases, with 93 cases (7.0%) found to be non-compliant. Water quality tests at hydration stations totaled 220 cases, with 6 cases (2.7%) found to be non-compliant. Medical tests for infectious diseases totaled 15,027 cases, with 54 cases (0.4%) found to be non-compliant.
2. Expanding testing items and acquiring new testing equipment: In 2023, four major new testing categories were added: one in food category—phosphates, and three in emerging abused drugs. The testing methods for these categories have been established to ensure comprehensive monitoring, safeguarding public safety and health. Additionally, six new testing equipment items were purchased to enhance hardware resources, optimize testing operations, and provide more accurate testing data and improved testing services.
3. Promoting and implementing Principles of Good Laboratory Practice (GLP): Continuously adding new laboratory certification categories, we have achieved accreditation from the Taiwan Accreditation Foundation (TAF) for 5 major categories, the Taiwan Food and Drug Administration (TFDA) of the Ministry of Health and Welfare for 31 major categories, and the Centers for Disease Control (CDC) of the Ministry of Health and Welfare for 9 major categories of testing. This strengthens our laboratory quality management system, ensuring that testing results are more credible and trustworthy.
4. Expanding the scope of laboratory services: Assisted the Dengue Fever Prevention Center of Tainan City Government with 6,600 dengue fever tests. Conducted 18,042 urine tests for drug abuse for the local Police Department. Carried out 19 tests for pesticides, veterinary drugs, heavy metals, and fungal toxins in agricultural and livestock products for the local Agricultural Administration. Conducted 5 tests for heavy metals and fungal toxins in alcoholic beverage raw materials for the local Finance and Local Tax Bureau.



#### Community Nutrition Care Personnel Training Program

As the elderly population grows, many seniors prefer to dine at care centers. Ensuring they eat nutritious, balanced meals is crucial. Therefore, our department trains meal preparers at care centers to enhance their knowledge of elderly dietary needs. The goal is to help them understand the concept of adjusting food texture to improve the quality of meals served.

#### Age-friendly City

Over the years, the Tainan City Government has actively promoted various policies aimed at enhancing public health, rallying collaborative efforts across departments. Comprehensive plans have been formulated in areas such as food, medical care, housing, transportation, education, and recreation. Past achievements in these initiatives have garnered notable recognition in national competitions like the "Taiwan Healthy City and Age-Friendly City Award" and the "Taiwan Healthy City and Age-Friendly City Poster Award." Moving forward, the city will continue prioritizing health promotion and age-friendly initiatives as crucial governance policies, offering assistance to elderly and vulnerable populations across various domains.

#### Safe Epidemic Prevention Health City, Real-time Epidemic Monitoring and Reporting Rate

Actively promoting various vaccinations, implementing disease surveillance and reporting, enhancing epidemic control effectiveness, and strengthening nationwide epidemic prevention efforts; actively promoting syndrome reporting and treatment mechanisms to detect infectious diseases early, treat them promptly, and effectively reduce the risk of epidemic occurrence. Implementing the Eradicate Three Diseases and One Tetanus (Measles, Congenital Rubella Syndrome, Poliomyelitis, and Neonatal Tetanus) program, with reported measles/rubella cases confirmed to be fewer than 10 individuals in local medical institutions. The city has achieved outstanding results in national evaluations such as the "Taiwan Healthy City and Friendly Elderly

City Award" and "Taiwan Healthy City and Friendly Elderly City Poster Award." In the future, the city will continue to prioritize health promotion and elderly-friendly city policies, assisting elderly and vulnerable populations in various aspects.

Implemented community health education on enterovirus and intestinal disease prevention, integrating medical resources to ensure effective epidemic surveillance and prevention, thereby controlling infectious disease outbreaks. Achieved an awareness rate of over 85% among caregivers of children under 5 years old regarding enterovirus prevention and signs of severe symptoms. Confirmed cases in the enterovirus health insurance database were fewer than 60,000 individuals. Promoted preparedness plans for influenza pandemics, actively monitoring and responding to epidemics to enhance the quality and capacity of infectious disease medical care. Maintained personal protective equipment at safe reserve levels and ensured they remained within their effective shelf life. Achieved 100% compliance in public influenza antiviral drug reserves and inspections. Continued conducting public health education campaigns on influenza prevention, with participation in at least 150 events and a total attendance of over 5,000 people.



△Community Health Education and Promotion

### Newly Developed Distinctive Parks

As a livable city, our city has long strived to achieve the concept of "one district, one park." Parks, suitable for people of all ages, are vital to our city's vitality. Currently, there are 555 parks in the city covering an area of 829.629 hectares. In order to better plan public children's play spaces and family-friendly infrastructure, our city plans distinctive parks. In the future, for newly developed parks or large-scale park renovations, factors such as local terrain, topography, historical texture, local characteristics, natural environment, and natural materials will be considered. We will continue to implement a civic policy model, inviting local residents and experts to participate in discussions and collaborate on planning and designing parks that truly reflect local characteristics and meet the expectations of local residents.



△ Rende Sports Park Distinctive Playground



△ Guiren District Sports Park Distinctive Playground





#### Fire-fighting Coat Cleaning SOP Mechanism

The Tainan City Fire Department leads the nation by independently developing and designing the "Fire-fighting Coat Cleaning SOP Mechanism", aimed at reducing the attachment probability of harmful substances such as smoke particles, carbon dust, and toxic microparticles to the body. This innovation enables quick drying of fire-fighting coat, significantly enhancing disaster response efficiency. Typically, traditional methods for drying fire-fighting coat involve air-drying or sun-drying, taking approximately 1-2 days in clear weather or up to 3-4 days during rainy periods, requiring manual flipping to ensure both the inside and outside are dry. To expedite drying time and improve willingness to clean and remove dirt from fire-fighting coat, a self-developed drying equipment has been designed, capable of completing one drying cycle in as little as 2 hours of electricity consumption.

#### 4. In terms of environmental sustainability

##### Water management plans and watershed comprehensive management plans

To enhance regional drainage and small to medium-sized drainage dredging projects, maintain unobstructed drainage, improve sedimentation in drainage systems, and enhance overall flood control and drainage functions, the city has set regional drainage protection standards for a 10-year recurrence interval flood design, with a goal of no overflow during a 25-year recurrence interval flood. Comprehensive water management strategies are implemented in densely populated or major construction areas to maintain the flood protection functions of 165 designated drainage areas totaling 655 kilometers of primary and small drainage channels. As of the year 2023, the completion rate of these improvements has reached 64.1%, with an anticipated increase to 65.01% by the year 2024.



△A simple type of drying equipment

### The Key River Rehabilitation Plan

The Tainan City Government has been actively promoting cross-departmental efforts to improve river pollution. In 2023, pollution lengths in both the Yanshui River and the Erren River have decreased significantly. However, in the Jiushui River basin, pollution lengths have slightly increased due to the increase in livestock wastewater. The Environmental Protection Bureau of Tainan City Government has utilized technological instruments to strengthen inspection and crackdown efforts, employing tools such as remote photography connections and water quality monitoring equipment. These technologies have effectively detected illegal wastewater discharge activities, ensuring that irresponsible operators have nowhere to hide.

### Bright Sky PM Reduction and Control Plan

The city cooperated across 21 departments to implement the "Bright Sky PM Reduction and Control Plan," outlining 45 control strategies across 8 major aspects to safeguard air quality and protect public health. In 2023, the proportion of days with poor air quality index (AQI>100) was 9.18%, marking an improvement of nearly 6.3% compared to 2022. This improvement rate is the highest among the six major cities in Taiwan. Additionally, the proportion of clear sky days exceeded 90% for two consecutive years. The average concentration of PM<sub>2.5</sub> decreased to 18.2 µg/m<sup>3</sup>, showing an improvement of more than 18% compared to 2019. The 8-hour ozone concentration also improved by approximately 11.7%, ranking first nationwide in terms of improvement rate.



△ Sanyei River drainage



△ Guizigang drainage



△ Guizigang drainage



△ Guizigang drainage



△ Liu Cuo drainage





#### Resource Circularity and Reuse

To effectively promote resource circulation and reuse in our city, we encourage residents to extend the lifecycle of unused or faulty items by donating them to second-hand stores. Through activities such as second-hand markets, buying, selling, donating, and recycling, we aim to replace the concept of discarding and repurchasing. Additionally, we have established 212 "Bag Sharing Stations" throughout the city, where local agencies, schools, and other units collect reusable shopping bags for public use.

After waste is collected and recycled, parts of it can be effectively reused in our city:

1. Usable furniture and bicycles, skillfully repaired by craftsmen at "Cang Jin Yard," are sold or donated within the facility.
2. Waste paper and Styrofoam, recycled and creatively crafted into various paper-plastic products by the "Aesthetic Class."
3. Waste tree branches or furniture processed through our city's "Wood Bank" after being crushed can be used for agricultural purposes, solid fuel regeneration, dust suppression, and beautification of gardens.
4. Waste glass containers, after recycling, can be used for glass bottle remanufacturing, glass asphalt, permeable bricks, manhole covers, interlocking bricks, colorful glass, decorative arts, and related environmentally friendly construction materials.

By utilizing existing resources through recycling, we aim to mitigate the risk of resource depletion.



△Organizing a Second-hand Goods Exchange Market



### Solar photovoltaic (PV)

The transformation of energy is an international trend, and Taiwan is also on the path of energy transformation. Solar photovoltaic (PV) power facilities are environmentally friendly green energy sources that can drive local industrial transformation and establish a green economic industrial chain. In accordance with central government policies, our city promotes the installation of solar PV facilities, always adhering to the principle of "multiple uses of land for single land," focusing on overall benefits, and persisting in "ecology-based, green energy value-added" principles



△Aesthetic Paper Sculpture Exhibition



△The exhibition of aesthetic paper-plastic artworks "Bag to Bag" Promotion Campaign



## 5. In terms of Warm Sustainability

### Public Food Sharing and Donation

#### Center for Food Conservation

To ensure effective utilization of every donation and provide care to the vulnerable, our city has launched the "Reduce Waste, Extend Care Public Love Repository" initiative. Since 2019, we have established physical Love Banks to offer emergency supplies to economically disadvantaged individuals. By the end of 2023, the city has set up 5 commissioned stores, 14 cooperative branches, and 19 physical substations. Additionally, 6 material transport vehicles are deployed to facilitate personalized services such as material transportation

and home delivery, ensuring that all 37 administrative districts are covered. As of December 2023, this initiative has benefited 12,049 households and served 27,155 individuals, receiving donations worth over NT\$32.82 million in market value, achieving a service coverage rate of over 100%.



△Physical Love Banks Physical Storefront



## Long-Term Care 2.0

In response to an aging society, Tainan City actively promotes diversified and integrated long-term care services, constructing a friendly environment for long-term care. In recent years, the number of users of long-term care services has rapidly increased, with over 70,000 individuals served cumulatively. According to statistics from the Ministry of Health and Welfare, Tainan City has ranked first among the six major municipalities for three consecutive years from 2021 to 2023, demonstrating the widespread and diverse availability of long-term care services and the effectiveness of service deployment. To alleviate the burden on families providing long-term care, the city has actively repurposed underutilized public spaces and expanded long-term care service resources through public-private partnerships. The number of home-based long-term care facilities has grown nearly ninefold from 2018 to 2023, and by 2022, day care centers achieved full coverage for middle

school students. Additionally, in response to the needs of individuals with moderate to severe disabilities, a comprehensive network of residential care facilities has been established, addressing the inadequacies in service capacity in rural areas and balancing the development of service resources across all districts.

The coverage rate of long-term care services in Tainan City exceeds 90%, indicating a significant demand among residents for long-term care services. The city government is committed to supporting all family caregivers and providing high-quality long-term care services. Future efforts will focus on creating personalized and appropriate integrated care centered around individuals, offering a continuum of services from family support and home care to community and residential care. This initiative aims to establish a long-term care-friendly service model, realizing Tainan's transformation into a healthy and vibrant aging city.



△The Family Caregivers' Art Workshop presents the public welfare stage play "People Like Stars."





#### Infant Daycare Centers

The city provides affordable and high-quality public childcare services for infants and toddlers aged 0 to 2 years old, allowing parents to work with peace of mind and confidently entrust their children. This initiative aims to encourage childbirth and mitigate the impact of declining birth rates, envisioning sustainable social development through welfare services.

The city has completed the establishment of 2 Public and Private Childcare Centers and 13 Public Infant Daycare Centers, totaling 15 public childcare facilities currently in operation. We will continue to increase the capacity of public childcare services, aiming to enhance opportunities for residents to access high-quality and affordable childcare services. This effort is aligned with the city's vision of sustainable development and nurturing a warm community environment.

To address declining birth rates, the city has integrated existing public spaces to establish Parent-Child Leisure Centers, enhancing community care and family support capabilities. These centers serve preschool-age children

and their parents, strategically located for convenience and to optimize the distribution of childcare resources within each neighborhood, minimizing duplication. Currently, the city operates 12 Parent-Child Leisure Centers offering childcare consultations, parenting education programs, and activities to alleviate family caregiving pressures while bolstering community childcare capacities. Outreach services are provided via mobile units to underserved areas, ensuring resources reach deep into communities to create nurturing environments for children.

The city also offers full-day, nighttime, or holiday temporary childcare services either at home or at designated centers to accommodate varying parental needs. Leveraging existing public sector facilities such as spacious Parent-Child Leisure Centers, Children Welfare Service Centers, and Infant Daycare Center enhances the efficiency of venue usage and supports fixed-term childcare services, thereby promoting a high-quality environment for children's growth across the city.



△ Map of Infant Daycare Centers

## Residential Justice and Social Housing

1. Housing Subsidies: The city implements an integrated housing subsidy policy, including subsidies for mortgage interest on home purchases, subsidies for interest on renovation loans, and a NT\$30 billion expansion project for rental subsidies, aiming to alleviate the financial burden on residents. In 2023, there were 1,903 cases approved for mortgage interest subsidies on home purchases, 69 cases for renovation loan interest subsidies, and 35,883 cases for rental subsidies (including old cases transferred). Qualified households for mortgage interest subsidies on home purchases also received an additional one-time subsidy of NT\$60,000, with 630 cases approved. To streamline procedures and enhance convenience for residents, the Social Affairs Bureau has increased the number of manned service points at various district offices and stationed personnel to assist with document collection. Additionally, staff from the Student Life Counseling Division at National Cheng Kung University provide periodic service rotations, embodying the spirit of efficient and responsive governance to ensure faster and more convenient application processes for the public.

2. Rent Management Program: Since 2018, our city has implemented a rent management program aimed at utilizing privately owned residential properties for renting to low-income individuals. Under this initiative, property owners who participate in the program receive tax incentives and various subsidies to encourage their involvement. Qualified tenants under this program are eligible to apply for rental subsidies to make housing more affordable.

3. Tainan Social Housing: To reduce the housing burden on residents and safeguard their housing rights, the city government actively promotes the development of rental-only social housing in Tainan. This is achieved through diverse approaches such as government-led urban renewal with public benefits, direct government construction, and incentives for private donations. Collaborating closely with the National Land

Management Agency of the Ministry of the Interior and the Public Housing and Urban Regeneration Center, multiple avenues have been pursued to acquire social housing units in Tainan, accelerating the realization of the social housing blueprint. Recently, through government-led urban renewal projects emphasizing public interests, Tainan has acquired approximately 1,264 units of social housing at no cost. Currently, the city has a total of 8,402 units of social housing under construction or in planning, surpassing the Executive Yuan's approved target of 7,000 units under the "Social Housing Development Program (Second Amendment)." On July 26, 2023, Tainan City revised and issued the "Tainan City Social Housing Rental Regulations," expected to bear fruit by 2025 and achieve a significant milestone in Tainan's social housing efforts.



## CHAPTER 02

### Sustainable Development Highlights

#### Creating an Animal-Friendly City

To strengthen source management and enforce pet owner responsibilities, our city has implemented measures for stray dog control. In 2023, we registered 17,810 cases of dogs and cats, conducted inspections in 1,513 instances, and provided guidance and inspections for specific pet operators in 2,129 sessions. We also organized 501 events including adoption fairs, campus awareness campaigns, and animal protection activities. These efforts aim to reduce human-dog conflicts by controlling 5,307 roaming dogs and facilitating the adoption of 1,782 stray dogs and cats. Currently, Tainan has two pet-friendly parks: Anping Pet Park and Nanying Green Pet-Friendly Heart Park. Additionally, we are securing funding to establish pet-friendly parks at Yongkang District's Xiwan Vil Detention Basin, East District's Zhugaocuo Park, and South District's Minghe Park. We continuously evaluate suitable locations to expand outdoor recreational spaces for both residents and their furry companions. We are also promoting the "Tainan City Street Dog and Cat Carcass Handling Operation" to uphold the principle of respecting life, ensuring proper handling for 2,687 deceased stray animals in this phase to complete their final journey with dignity.



△Nanying green metropolis pet sports park







△Inauguration of the pet sports park



## 6. In terms of Sustainable Education and Culture

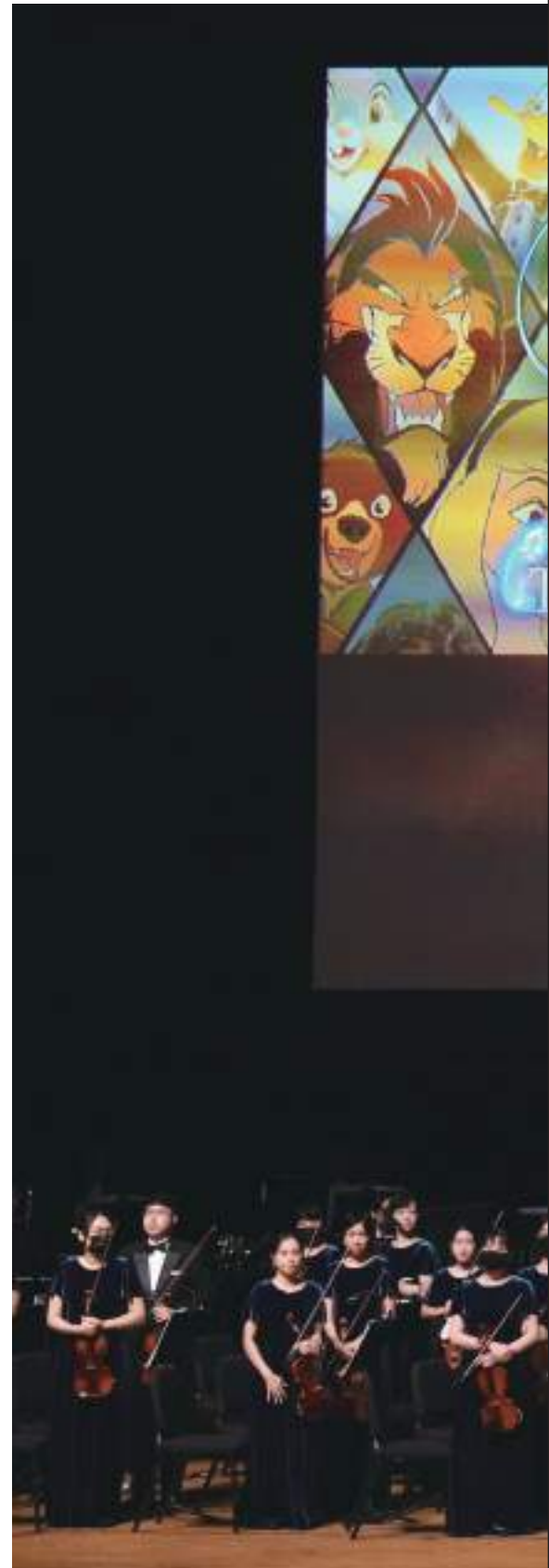
### Tainan International Music Festival

The 2023 Tainan International Music Festival, themed "Music of the Future," featured two main themes: "Voices of the Future" and "Music in Diversity." It took place from September 2 to October 14, hosting a total of 10 concerts across 11 performances. The festival showcased internationally renowned musicians alongside talented local artists, held at diverse venues such as Tainan Shan-Shang Garden and Old Waterworks Museum and Taiwan Poetry Road, emphasizing innovative collaborations. Outdoor concerts were complemented by markets, magicians, tea gatherings, and other activities, offering a diverse program and innovative cross-genre performances that highlighted the versatility and limitless potential of music in the future. Additionally, the promotion efforts by international cellist Capuçon resonated positively among local students and music enthusiasts, further enriching the festival's outreach and diversity. In total, the festival drew over 12,000 participants across indoor and outdoor events, solidifying its reputation as a celebrated international music event in Tainan.

### Publicization of Educational and Childcare Services

In order to achieve the educational policy goal of "easing the burden on parents," our city provides affordable and high-quality early childhood education and childcare services. We adopt a principle of steady improvement and public-private collaboration. The approach focuses primarily on increasing non-profit kindergartens, supplemented by public kindergartens, and setting up additional classrooms at locations planned by local governments. This strategy aims to create a supportive environment for childcare and early childhood education.

From the academic years 109 to 112, a total of 133 classes have been added to public and non-profit kindergartens. For the 113 academic year, plans include adding 51 classes with 888 spots, including new kindergarten establishments, expanding existing kindergartens, and transforming classes. This initiative will include 14 classes with 336 spots for 3-5-year-olds and 37 classes with 552 spots for 2-year-old specialized classes. As of the first semester of the 112 academic year, the enrollment rate for institutions providing public educational and childcare services has reached 59.19%.







△Disney in Concert:The Sound of Magic





#### Creating a K-12 Reading Comprehension Platform

Book Planet promotes the widespread availability of reading resources, establishing a foundation in basic education to ensure universal participation. Particularly significant is the proportion of schools in remote and non-urban areas in our city, accounting for 49.26% of all schools. Therefore, promoting "educational resource equity" is a critical focus of our city's educational policy. To diversify the content of reading selections and cultivate abilities to face future challenges, the city has established selection committees. These committees not only choose age-appropriate books but also consider integrating different fields and topics. This approach helps students prepare for the complexities of future

times during their learning process. Additionally, to foster understanding of cultural diversity and promote respect for cultural variety, the city integrates SDGs (Sustainable Development Goals) indicators into the book selection process. It also organizes theme-based activities that incorporate activities like newspaper cutting, bilingual education, or international education. These efforts aim to deepen students' understanding of multiculturalism, allowing them to apply this understanding in real-life situations from a young age.



△Book Planet Reading Area in Anping Elementary School Library

## Sustainable Ecological Campus

Since 2019, the Sustainable Campus Project has transitioned into two phases: the "Smart and Climate-Friendly Campus Pilot Project - Basic Phase" and the "Demonstrative Sustainable Circular Campus Transformation Project." These initiatives are aimed at promoting school-wide implementation by actively participating in workshops, seminars, exhibitions, consensus meetings, and exchange conferences organized by the Ministry of Education. Through the Basic Phase project, the entire school community including teachers and students gain a deeper understanding of the actual strengths and weaknesses of the campus environment, enabling the development of tailored sustainable development strategies and implementation plans.

In 2023, the city successfully applied for projects at four schools including Taikang Elementary School, Wunnei Elementary School, Chang Jung Senior High School, and Chang Jung Christian University. Each institution leverages its unique regional, cultural, historical, and ecological characteristics to create diverse and distinctly innovative campus environments.



△ New Campus Construction of South District Sinsing Elementary School



# Sunshine Electric City 3.0

## Development History

Tainan boasts exceptional "sunshine conditions" with an annual average of over 2,000 hours of sunshine, making it an ideal city for developing solar photovoltaic energy. In 2011, the Tainan City Government launched the Sunshine Electric City project with a target of 1GW. Achieving this goal ahead of schedule in 2019, the city expanded it to the Sunshine Electric City 2.0 project the same year. Originally aiming to reach the cumulative 3GW of solar power by 2023, Tainan accomplished this by the end of June 2021. Subsequently, the city has begun implementing the Sunshine Electric City 3.0 Project,

focusing on energy conservation, energy storage, energy creation, and system integration as its four main axes. This initiative aims to promote balanced development in "green economy, energy transformation, industrial development, and sustainable homes." Furthermore, it prioritizes the enhancement and promotion of rooftop solar photovoltaic installations, continuing to advance Tainan's energy transformation efforts. The city also supports businesses in establishing green power, thereby instilling fresh impetus into the growth of the economy.



△ Sunshine Electric City 3.0 Top 10 Promotion Projects



## Top 10 Promotion Strategies and Projects

To realize the vision of a low-carbon city and promote the use of renewable energy generation facilities, Tainan City has initiated the Sunshine Electric City project, focusing on Sunshine Roofs and Sunshine Communities. This initiative encourages residential homes and collective communities to install solar photovoltaic systems, aiming to become a national demonstration city. In 2023, the city expanded the initiative with the launch of Sunshine Electric City 3.0. A single service window was established to facilitate coordination among green energy manufacturers across the upstream, midstream, and downstream sectors of the industry, ensuring the implementation of demonstration installations. These strategies include promotion and publicity, subsidies and incentives, financing projects,

mandatory regulations, illegal renovation, green roofs, equipment accreditation, promotion centers, and information platforms. The systematic deployment of solar photovoltaic systems covers five primary rooftop types—sunlight public housing, solar roofs, sunshine communities, green plants, and agricultural sheds—and five primary ground types, including salt land, water space, landfill, green energy land, and green energy facilities. The objective is to establish a model city for green energy research and development, as well as a demonstration base. This initiative has facilitated the expansion of Tainan's green industry and garnered the interest of international manufacturers to invest and establish factories.



## CHAPTER 02

### Sustainable Development Highlights

#### Sunshine Electric City Top 10 Promotion Strategies

Green Roof	<ul style="list-style-type: none"> <li>· ctively participated in the central government's "Green Roofs for All" promotion program.</li> <li>· Complete the selection of operators in the whole Tainan City.</li> <li>· Rebate rate of at least 10%.</li> </ul>
Mandatory by Law	<ul style="list-style-type: none"> <li>· In accordance with the Tainan City Low Carbon City Autonomy Ordinance</li> <li>- Article 21 announces the establishment of two low-carbon demonstration communities, the Annan Jiufenzi Community and the specific area of the high-speed railroad Tainan City Station.</li> <li>- Article 23 announces the installation of 10% solar power for large electricity consumers of 800kw or more.</li> </ul>
Grants and Incentives	<p>Set up the "Implementation Plan for Subsidized Installation of Solar Power Systems in 2021"</p> <p>-The subsidy amount per peak watt has been increased to between NT\$3,000 and NT\$15,500, with a maximum subsidy limit of NT\$500,000.</p>
Financing Projects	<p>Actively coordinate with bankers to establish solar power financing projects.</p>
Local Application	<p>The first city and county in the country to receive certification for solar power equipment.</p>
Promotion and Advocacy	<p>Organizing renewable energy-related presentations, investment meetings, seminars, and visits.</p>
Demonstration Setting	<ul style="list-style-type: none"> <li>· The first county and city government to bid for the installation of solar power in public housing.</li> <li>· Active inventory of public housing sites for renewable energy at all levels of government agencies and schools.</li> </ul>
Re-fitting	<p>In accordance with the central government's regulations, subsidizing the installation of solar power on illegally constructed rooftops.</p>
Promotion Center	<p>Established "Green Energy Technology Industry Promotion Center Office" to remove barriers to investment.</p>
Information Platform	<p>Establishment of Tainan City Renewable Energy Information Integration Platform and Renewable Energy Map.</p>

## Green Power Information at a Glance

To achieve the goal of energy transformation, the city government not only continues to promote the Sunshine Electric City 3.0 Project but also focuses on creating a more favorable environment for green energy investments. Efforts are being made to eliminate barriers to green energy investments, allowing citizens and businesses to promptly access and inquire about the latest green energy information and policies in Tainan City. The municipal government is actively developing the Tainan Renewable Energy Information Integration Platform Service Network, which includes the Sunshine Electric City Information Network, the Renewable Energy Information Integration Platform, and the Renewable Energy Information Map. These platforms fully utilize information management technology, systematizing processes from information disclosure to internal management. Future enhancements will include real-time information on rooftop solar power generation in Tainan City, aiming to provide up-to-date data on daily green energy production.

In addition to renewable energy, ecological environmental issues have gained significant attention recently. The Renewable Energy Map now includes new environmental and social verification data in addition to the existing Grade 1 and 2 environmentally sensitive area maps. By overlaying installation sites with map data on the GIS platform, potential development sites can be identified. This is followed by using the fast screening process of environmental and social verification to identify potential issues at development sites, accelerating the installation of photovoltaic systems at sites with minimal or lower concerns. These efforts are integrated with the application processes of the electricity industry. The operation of advisory committees further ensures the coexistence and co-prosperity of solar power development with society and the environment.



△ Salt Field Solar Power Plant

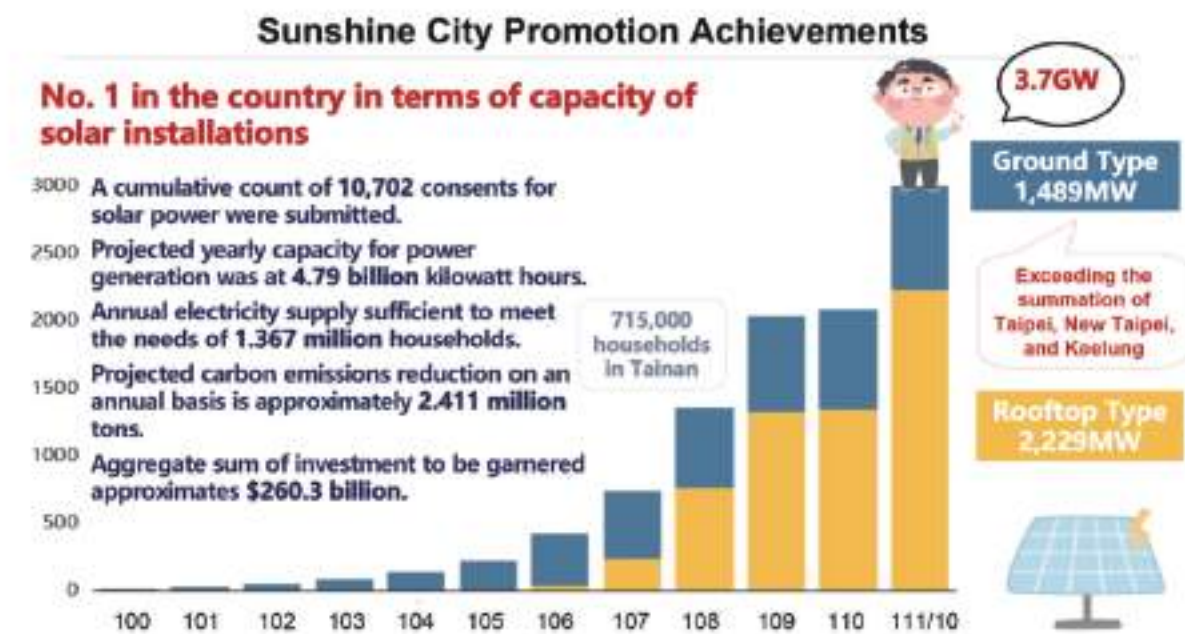




## Green Energy Leadership Among Major Electricity Consumers

To realize the vision of Tainan as a city moving towards sustainability, according to Article 23 of the Tainan Low-Carbon City Self-Governance Ordinance, large consumers with a contracted capacity ranging from 800 kilowatts to 4,999 kilowatts must procure or utilize 10% of their contracted capacity from renewable energy sources. Currently, there are 724 total announcements, with 380 completed notifications, 252 applications for exclusion, 25 under counseling, and 67 installations in progress. The total installed capacity exceeds 157 megawatts, generating over 2.069 billion kilowatt-hours annually, which can supply electricity to approximately 50,863 households per year and reduce carbon

emissions by over 102,400 tons annually. Furthermore, there are 25 ongoing counseling and improvement projects, achieving an execution rate of 87.29%. It is hoped that through the proactive participation of these large electricity consumers, they will fulfill their corporate responsibility and serve as leaders in green energy adoption. This will gradually encourage residents of Tainan to collectively respond by installing solar power systems and leading the way in achieving energy transformation.



△Achievements in the promotion of solar power in Tainan

## Sunshine Electric City Offers the Greatest Installed Capacity in Taiwan

Statistics up to the present, there were 12,062 instances of solar power consent, with a total capacity of 4,177MW. The estimated annual power generation capacity of these cases is approximately 5.38 billion kilowatt hours, which exceeds nearly 19.56 hydroelectric power plants in Zengwen. Annual carbon reduction of nearly 270.9 million tons, equivalent to the carbon reduction of approximately 8,327 Tainan parks, has attracted investment totaling around \$2.924 trillion. Originally planned to achieve a cumulative 3.25GW by the year 2025, this goal has been reached ahead of schedule.

## 2023 Sunshine Electric City Re-Upgrade

The Sunshine Electric City 3.0 Project not only continues to promote the original Sunshine Electric City 2.0 Project's five roof-based projects and five ground-based projects but also emphasizes upgrading its information platform. This includes the implementation of a smart grid, energy storage, energy creation, and the advocacy of energy conservation.

1. The "Feeder Information Platform" is a system that has been integrated with Sunshine Electric City in Tainan City. Its primary function is to provide the public with information regarding feeder lines and grid capacity in the surrounding area. Additionally, the platform enables users to monitor the status of the green energy land application process, thereby facilitating a better understanding of the progress of the case for applicants.
2. Smart Grid: In coordination with the "Foresight Infrastructure Project - Green Energy Construction," and specifically designated for the "Shalun Smart Green Energy Science City," this initiative promotes renewable energy and the establishment of a smart grid. It accelerates the energy transformation by expediting energy conservation, energy generation, energy storage, and the integration of smart systems.
3. Local Communication on Environmentally Sensitive or Ecologically Controversial Site Locations: Tainan City is a crucial development area for solar photovoltaic projects, while also encompassing internationally and nationally important wetlands. Currently, there are 11 large-scale solar photovoltaic development projects estimated to exceed 2MW within Tainan City, including 11 instances of fishery and electricity coproduction zones and 28 cases of land use zoning changes. While the central government has established parameters and components for environmental and social impact assessments, the principle of non-retroactivity in legislation does not apply to cases that have already been submitted.



# Water for Water

## Development History

As water resources diminish year by year, the Executive Yuan approved the "Strategic Plan for National Spatial Development" in 2010, which clearly states that "energy conservation, carbon reduction, and water conservation" will be the nation's new vision for spatial development. They aim to enhance the utilization of domestic water resources through initiatives such as water resource protection, improving water use efficiency, and "water pollution prevention and recycling." Therefore, Tainan City has actively constructed a local industrial environment to attract industries and encourage them to take root. In recent years, climate change has led to distinct droughts and floods, prompting high-tech manufacturers in Tainan Science Park to continue expanding their investments in advanced manufacturing processes, making water use a major concern. Based on corporate social responsibility and the global trend towards sustainable development, Southern

Taiwan Science Park and its advanced processors have committed to using a certain volume of recycled water sources to ensure stable water supply in Tainan and prevent conflicts over water between industry and agriculture.

To properly utilize water resources, the city government approved the Yongkang Reclaimed Water Project in 2018, the first of its kind in the nation to supply water for advanced semiconductor manufacturing processes. Subsequent reclaimed water projects in Anping and Rende are planned in accordance with the Southern Taiwan Science Park's water usage plans. The Rende Reclaimed Water Plant has also pioneered an environmental benefit exchange model, introducing the innovative concept of "Water for Water Exchange," creating a win-win situation.



△Anping Water Reclamation Plant



## Enhancing the Confidence in the Development of the Technology Industry

Tainan City intends to construct three additional water reclamation facilities with the purpose of providing water to Tainan Science Park. The Yongkang Water Resources Center will primarily reuse discharged water to meet industrial water demands in the park. The phased water supply capacity of the reclaimed water plants is planned as follows: the first stage will provide 8,000 cubic meters per day (CMD), and the second stage will provide 15,500 CMD. The first stage supplying 8,000 CMD began on December 16, 2022, and the second stage supplying 15,500 CMD is expected to commence in September 2023, catering to TSMC, UMC, and Innolux. The Anping Water Resources Center will also reuse discharged water primarily for industrial use in the Southern Taiwan Science Park.

Park Bureau has successfully supplied 45,500 CMD of reclaimed water. The Yongkang project completed its first stage of supplying 8,000 CMD, and the Anping project advanced to complete its second stage of supplying 37,500 CMD by mid-July 2023. Additionally, the Rende Water Resources Recycling Center will construct a third reclaimed water plant, aiming to supply 8,000 CMD of reclaimed water daily to Chi Mei Corporation starting in 2024. Upon completion of the three reclaimed water plants, approximately 63,000 CMD of reclaimed water will be available daily for industrial use by high-tech factories, promoting a circular economy and supporting the growth of the reclaimed water industry.

By the end of 2023, the Southern Taiwan Science





#### The First "Water for Water" Model in Taiwan

The city of Tainan has incorporated the circular economy framework into its water consumption and production model. This has been facilitated by the public sector's allocation of construction funds and reduction of water consumption burdens. The city has thus promoted water recycling and energy resource utilization, enhanced the value of resource reuse, realized energy conservation and carbon reduction, and implemented sustainable development practices. Based on the principles of Goal 6 ("Water and its sustainable management") and Goal 12 ("Sustainable consumption and production practices") of the Sustainable Development Goals (SDGs), Tainan has demonstrated the establishment of a model for exchanging recycled water rights, akin to carbon trading. This effort has introduced Taiwan's first "Water for Water" model, with the Tainan city government serving as a facilitator between various private sector stakeholders, thereby pioneering the first exchange of recycled water resources across Taiwan.

#### Discharge Water to Treat Vending Demand - Creating a Model of Sustainable Management

Our city's promotion of recycled water initiatives has garnered multiple awards, including the "2022 TSAA Taiwan Sustainability Action Awards." Recognized for integrating water resources into promoting recycled water, we received the Taiwan Sustainable Action Award Gold Award, making us the only government agency awarded in the National Sustainable Development Awards for advancing water resource recycling and reuse.



△Awarded the "2022 TSAA Taiwan Sustainability Action Awards"

# Net Zero Guidance Panel

## Development History

To enhance energy efficiency in the residential sectors of the city, and to continue to promote the implementation of energy saving and carbon reduction in the residential sectors, Tainan City established the "Tainan City Energy Saving Alliance" in 2018 by bringing together Southern Technology Enterprises and local energy saving service centers. Through free on-site energy saving counseling, Tainan City promotes the concept of energy saving and carbon reduction and enhances the efficiency of replacing old energy-consuming equipment. Since Mayor Huang Wei-Cher launched the Tainan Net Zero Press Conference on June 1, 2023, proposing the

ultimate goal of 139-year net zero, the Alliance also responded to the government's policy and transformed into a "Net Zero Guidance Panel" to help local residential to promote the implementation of carbon reduction and net zero. A working meeting was held on November 6, 2023, to provide energy-saving technical guidance to local businesses and outline the greenhouse gas inventory training program for 2024. This effort aims to assist businesses significantly affected by the EU Carbon Border Adjustment Mechanism in building inventory capabilities and gradually moving towards Tainan's net zero emissions goal.



△Tainan City Net Zero Guidance Panel





## Industry-Academia Collaboration and Energy Saving Diagnostic Counseling

In Tainan City, industrial electricity consumption predominates, accounting for approximately 80% of the total electricity usage. Most industrial sectors in Tainan have actively improved their energy efficiency due to pressures from the international industrial chain. Conversely, electricity consumption in residential sectors (such as government agencies, schools, residences, and service industries) although lower in proportion, still holds untapped potential for energy conservation, with only a fraction of users currently implementing energy-saving measures mandated by domestic regulations. To address this, the Environmental Protection Bureau of Tainan City Government (hereinafter referred to as "the Bureau"), in collaboration with the Southern Taiwan Science Park Bureau of the National Science and Technology Council (NSTC), established the "Tainan Energy Saving Alliance" in 2018. This alliance includes industrial enterprises from the Southern Taiwan Science Park and local energy service centers. The Bureau identifies residential energy users with energy-saving potential, while NSTC leads experienced enterprises to form a team for on-site energy-saving counseling. Through these efforts, the alliance promotes energy-saving and carbon reduction concepts, aiming to enhance the efficiency of outdated energy-consuming equipment through free on-site energy-saving counseling sessions.

At the beginning of its establishment in 2018, Taiwan Semiconductor Manufacturing Company Limited, United Microelectronics Corporation, and ChipMOS TECHNOLOGIES INC. and other STSP companies were the first to join the Alliance in the spirit of corporate social responsibility, and in 2019, the Alliance was expanded to include local academic institutions and the Energy Diagnostic Centers (EDCs) of the city's small and medium-sized energy users. Including Kun Shan

University of Science and Technology, Far Eastern University, and National Cheng Kung University's Research Center for Energy Technology and Strategy. In 2021, the team was expanded to include Taiwan Power Co. In 2022, the counseling team expanded to include Chi Mei Corporation, Walsin Lihwa Corporation, Ltd., and InnoLux Display Corporation's D factory, joining the Net Zero Guidance Panel. In 2023, the counseling team further expanded with the inclusion of AGC Display Glass Taiwan Inc. (Tainan Plant).



△ Net Zero Guidance Panel onsite energy efficiency diagnosis



△ Net Zero Guidance Panel onsite energy efficiency diagnosis



△ Net Zero Guidance Panel onsite energy efficiency diagnosis



## Net-zero guidance panel: Industrial guidance

The city's top three sources of greenhouse gas emissions are the industrial sector (62%), transportation (15%) and residential (15%), because industrial and transportation emissions are directly related to the economy and people's livelihood, but also shows that the importance of reducing emissions in the residential sectors, where public action can make a significant

impact. In order to echo the international trend of carbon reduction, the 111th Power Saving Coalition has been fully transformed and upgraded into the " Net Zero Guidance Panel ", and subdividing the Net Zero Steering Group into three groups including the Power Saving Group, Carbon Reduction Group, and Carbon Rights Group.

## Power Saving Group Guidance Procedure





#### Power Saving Group

According to the energy usage status of the counseled clients, the counseling report is proposed to improve energy saving, starting from energy saving and energy management. Targeting businesses or organizations that have not previously received guidance, on-site energy efficiency diagnosis and counseling will be conducted. To ensure inclusivity in the just transition concept, efforts will continue to include rural and vulnerable units as recipients of energy-saving counseling.

#### Carbon Reduction Group Carbon Reduction Group

Assist businesses to conduct GHG inventory reporting and assist SMEs in carbon reduction with a three-step carbon inventory registration and counseling mechanism:

1. Set up a carbon registration platform: Referring to the greenhouse gas calculator of the Environmental Protection Administration and the Industrial Development Bureau, set up the city's registration platform for easy calculation.
2. Understand the hot spots of emissions: from the inventory data, find the highest carbon emissions, and set reduction strategies.
3. Proactive counseling: train lecturers to counsel enterprises and supply chain manufacturers on the direction of inventory and carbon reduction.

#### Carbon Rights Group

In line with domestic and international policies on carbon fees, total volume control, and carbon trading, a carbon rights transfer system is being developed, with the city as the management unit of the greenhouse gas offset project, applying for the parent program of the program-type offset project, and having the enterprises conduct preliminary energy-saving and carbon-reduction potential assessments, and after completing the assessments, the city or the enterprises will fund the replacement of equipment, followed by the writing of the greenhouse gas offset project report, registration applications, and quota approvals.



## Net Zero Guidance Panel and Counseling Program

Net Zero Guidance Panel Subgroups	Guidance Items	Panel Members
<b>Power Saving Group</b>	<ul style="list-style-type: none"> <li>- Data Analysis and Action Plan Planning</li> <li>- Green energy construction and power saving target planning</li> <li>- Assistance in replacing old equipment</li> </ul>	Taiwan Semiconductor Manufacturing (Taiwan) Co. United Microelectronics Corporation (Taiwan) Co. ChipMOS Technologies (Taiwan) Co. Center for Energy Saving Diagnosis Service, Kun Shan University of Science and Technology Department of Refrigeration, Air Conditioning and Energy, Far Eastern University of Science and Technology Center for Energy Technology and Strategy Research, National Cheng Kung University Taiwan Power (Taiwan) Co.
<b>Carbon Reduction Group</b>	<ul style="list-style-type: none"> <li>- Greenhouse Gas Inventory Data Confirmation Counseling</li> <li>- Tapping the potential of energy saving and carbon reduction</li> <li>- Greenhouse Gas Inventory Staff Training</li> </ul>	Taiwan Semiconductor Manufacturing (Taiwan) Co. United Microelectronics Corporation (Taiwan) Co. ChipMOS Technologies (Taiwan) Co. Chi Mei Corporation Walsin Lihwa Corporation Innolux Corporation
<b>Carbon Rights Group</b>	<ul style="list-style-type: none"> <li>- Methodology Discussion</li> <li>- Carbon Reduction Program Discussion</li> <li>- Assistance with registration applications</li> </ul>	Taiwan Semiconductor Manufacturing (Taiwan) Co. United Microelectronics Corporation (Taiwan) Co. ChipMOS Technologies (Taiwan) Co. Walsin Lihwa Corporation



# Greenhouse Gas Control

## Development History

Tainan City has been actively pursuing greenhouse gas control for over a decade. As early as 2011, it launched the "Low Carbon City Construction Project," initiating a series of measures aimed at reducing greenhouse gas emissions. The following year, in 2012, Tainan became the first city in Taiwan to enact the "Tainan Low Carbon City Municipal Government Ordinance," integrating greenhouse gas control into its governance framework. In 2013, the city established the "Tainan Low Carbon Adaptation and Sustainable Development Committee" to oversee and promote the construction of a low carbon city. In accordance with Article 14 of the Climate Change Response Act, organizational adjustments were made,

leading to the establishment of the "Tainan Climate Change Response Promotion Committee" in September 2023. At the present stage, Tainan City is promoting the "Net-Zero Sustainable City Management Municipal Government Ordinance (Draft)" and has held public hearings with stakeholders to solicit opinions from all sectors and incorporate them into the draft, with the expectation that all departments will set corresponding control strategies and continue to move toward the vision of a low-carbon home.

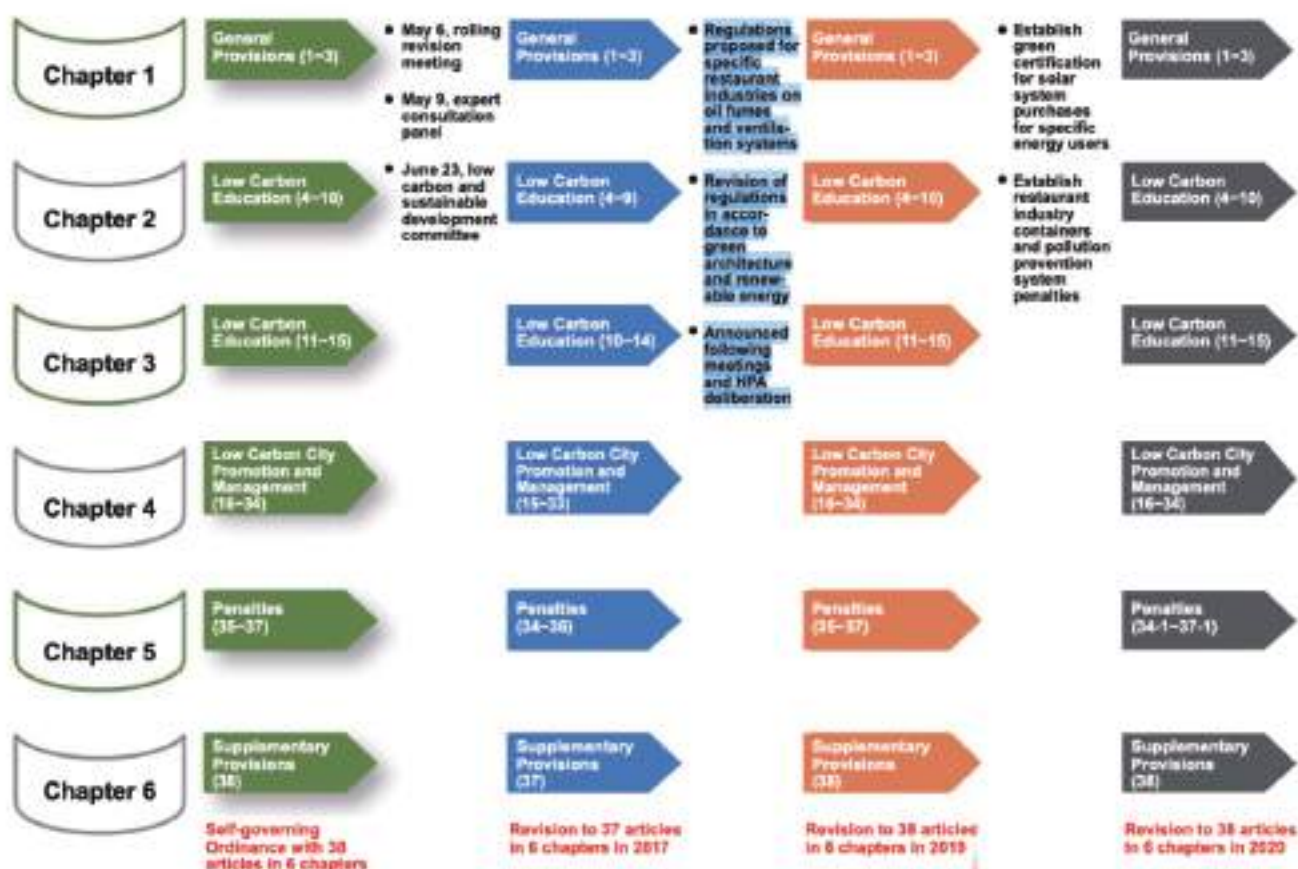
## Tainan City's History of Promoting Greenhouse Gas Reduction



## Low Carbon City Municipal Government Ordinance

With the goal of establishing a low-carbon city aligned with international standards and promoting the well-being and health of its citizens, Tainan City completed the drafting of the "Tainan City Low-Carbon City Municipal Government Ordinance" in June 2011. The ordinance was passed by the Tainan City Council on third reading and approved by the Executive Yuan and was promulgated and implemented by Decree No.

1011084760A on December 22, 2012. This initiative made Tainan City the first municipality in Taiwan to adopt low-carbon city governance as a regulatory framework. After years of continuous review and revision, the Tainan City Low Carbon City Autonomous Ordinance currently consists of 6 chapters and 38 articles, jointly promoted by 14 bureaus and departments within the city.



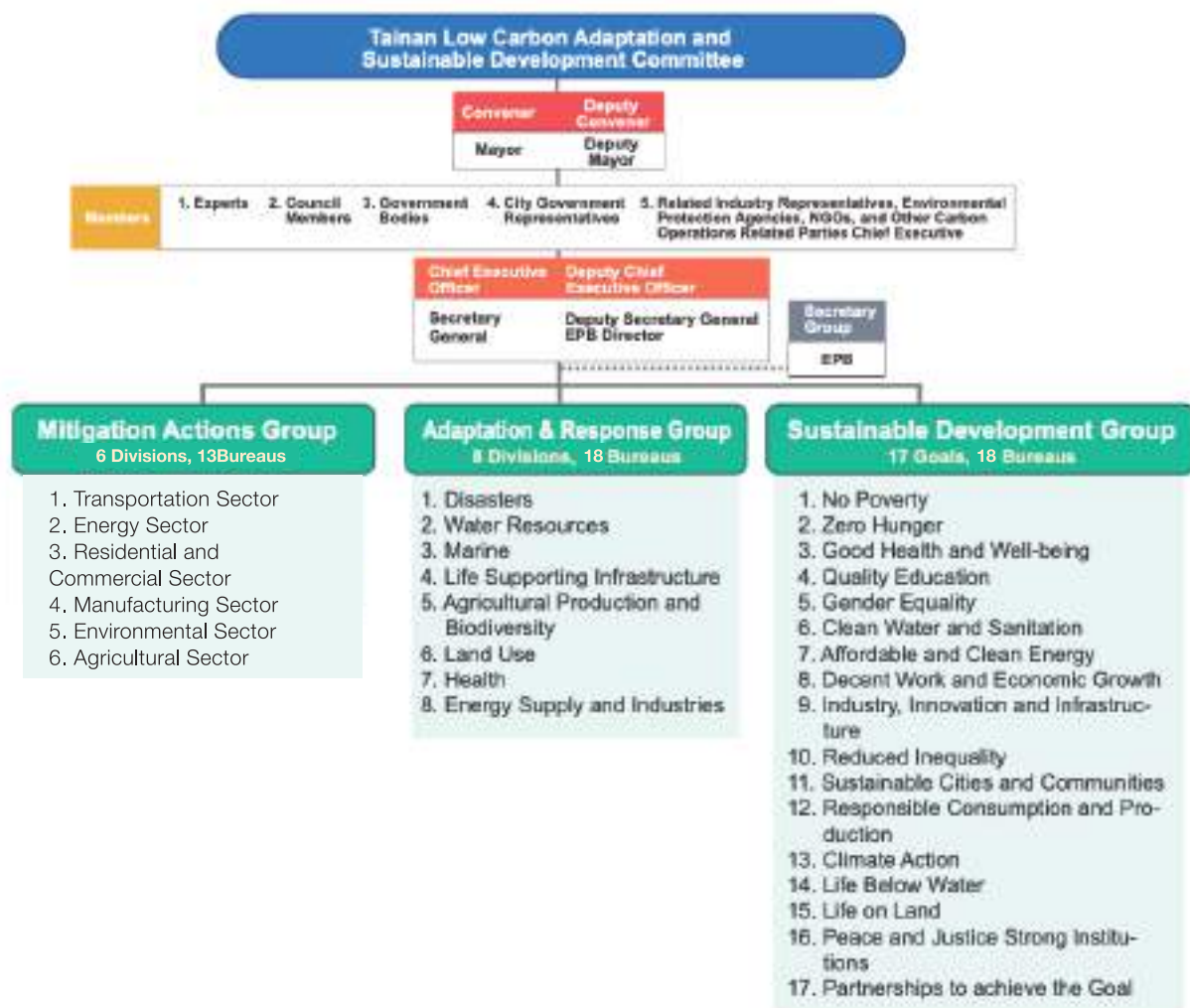




## Low Carbon Adaptation and Sustainable Development Committee

In addition to the regulatory efforts undertaken by government departments for greenhouse gas reduction, various suggestions have been actively solicited. Pursuant to Article 4(1) of the Guidelines for the Establishment of the Tainan City Government Climate Change Response Promotion Committee, the Tainan City Government has established the Low Carbon Adaptation and Sustainable Development Committee to promote and execute relevant low-carbon initiatives. The Tainan City Government Climate Change Response Promotion

Committee convenes biannually to continually refine sustainable low-carbon policies. Chaired by the mayor, the committee comprises scholars, experts, environmental protection groups, non-profit organizations, government agencies, representatives from low-carbon industries, and city officials. It operates in a rolling manner to review and formulate low-carbon strategies, as well as assess the implementation progress of various low-carbon initiatives.



△ Tainan Low Carbon Adaptation and Sustainable Development Committee Organization Structure Diagram

## The second phase of greenhouse gas control implementation program framework

Tainan City promoted the first phase of the "Tainan City Greenhouse Gas Control Implementation Plan" in 2018, integrating 14 greenhouse gas reduction-related bureaus such as the Environmental Protection Bureau and the Public Health Bureau to carry out comprehensive control in a cross-bureau horizontal cooperation approach. In the first phase, there are six departmental objectives, 20 main strategies and 30 key performance indicators.

The draft of the second phase of Tainan City's

greenhouse gas control implementation plan was reviewed by the 2022 Low Carbon Adaptation and Sustainable Development Committee on May 25, 2022. It was revised to include six departmental objectives, 19 main strategies and 46 key performance indicators. The second phase of the greenhouse gas implementation plan was formally proposed in January 2023 and submitted to the Environmental Protection Administration for review. It has been approved and ratified.

## Tainan City Greenhouse Gas Control Implementation Plan Framework

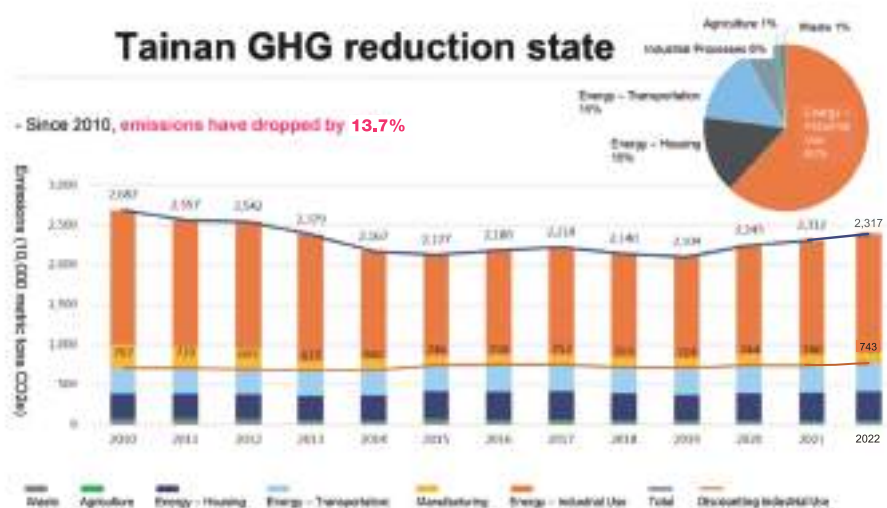


## Effectiveness of greenhouse gas reduction

In order to specifically examine the results of greenhouse gas reduction and to take up the global civic responsibility of carbon disclosure, Tainan City will take stock of the total amount of greenhouse gas emissions within its jurisdiction every year, and has actively participated in the Carbon Disclosure Project (CDP) in the last two years, achieving an A rating of only 13.25% of the world for two consecutive years (2019 and 2020). The city then received A-, B and A- ratings for 2021, 2022 and 2023, respectively. According to the results of the inventory, the city's greenhouse gas emissions have been decreasing year by year since 2010, and the total greenhouse gas emissions in 2022 were 23.17 million tons of CO<sub>2</sub>e. If compared with the emissions of 26.87 million tons of CO<sub>2</sub>e in 2010, the reduction has been 3.70 million tons of CO<sub>2</sub>e, with an improvement of 13.7%.



## Historical changes in greenhouse gas emissions in Tainan City



## Per capita emissions of greenhouse gas emissions in Tainan City



## Outlook for 2050 Net Zero Carbon Emission

The impact of climate change is imminent, and to prevent its exacerbation, the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) has proposed the Paris Agreement, which aims to keep the temperature within 2 ° C of the industrial age by the end of this century. In 2019, the European Union will propose the goal of carbon neutrality by 2050, and its call will drive the snowball effect of the global net-zero carbon emissions discussion. 13 countries have already enacted relevant regulations, 3 countries are in the process of legislation and 129 countries are in the policy development or target study stage in 2021.



Amidst the global emphasis on energy conservation and carbon reduction, the Environmental Protection Agency announced in late October 2021 "Greenhouse Gas Reduction and Management Act" draft amendments, and the bill was renamed "Climate Change Response Act". On January 10 of this year, the third reading was passed, and Article 4, Item 1 clearly provides that the long-term national greenhouse gas reduction target is to achieve net zero greenhouse gas emissions by 2050 (Year 139 of the Republic of China), becoming the main source of future climate governance.

In response to the central government's 2050 net-zero greenhouse gas emissions, Tainan City has continued to reduce greenhouse gas emissions, and has begun to develop relevant strategies and targets with the city's climate emergency declaration's three key commitments of "4.5GW of renewable energy installations in 2030, full electrification of the urban area, and greenhouse gas reduction of more than 40% compared to 99 years" as the primary goal:

1. 2050 Net-Zero Emission Pathway: In June 2022, the 2050 Net-Zero Emission Pathway was developed, focusing on four major areas of carbon reduction, including energy transformation, low-carbon green transportation, energy efficiency improvement for households and businesses, and green living in the circular economy, with 53 targets.

2. Tainan City Zero Sustainable City Management Self-Governance Ordinance (Draft): On July 14, 2022, the city government drafted the Tainan City Zero Sustainable City Management Self-Governance Ordinance, referencing the draft Climate Change Response Act of the Environmental Protection Administration. By the end of 2023, 15 public hearings and consultations have been held, inviting diverse stakeholders to provide feedback and engage in discussions. The ordinance comprises six core areas: general provisions, greenhouse gas reduction, climate change adaptation, circular sustainability promotion, promotion of zero green living, penalties, and bylaws, totaling 49 articles across 7 chapters. Public hearings were convened on January 12, 2023, and July 17, 2023, to gather input from various sectors, and subsequent seminars will continue to be held with stakeholder groups.

3. The second phase of the "Tainan City Greenhouse Gas Control Enforcement Program": Through the elimination of items without significant carbon reduction benefits and the streamlining and consolidation of similar indicators, the second phase of the Greenhouse Gas Control Enforcement Program was proposed in January 2023. It includes six departmental objectives, 19 main strategies and 46 key performance indicators. The implementation progress will be consolidated every six months, and an annual report on the adaptation implementation outcomes will be compiled.



To date, 12 cross-departmental meetings have been held for discussion



## CHAPTER 03

### The promotion process of sustainable development

T a i n a n C i t y



# 03

## The promotion process of sustainable development







# Tainan's Sustainable Development History and Goals

In order to mitigate environmental problems such as climate change, and to avoid the risk of submerging Anping, the historical site of Taiwan's modern origins, due to rising sea levels, Tainan City has comprehensively planned its carbon reduction policies to demonstrate its efforts to combat the global climate crises. Below are key milestones in Tainan City's sustainable development and recognized achievements in sustainability.

#### **Spearheaded the demonstration with low-carbon self-government ordinance:**

Tainan obtained the designation of a low-carbon demonstration city in the Southern District in 2012, and on December 22 of that year, announced the implementation of the "Tainan City Self-Government Ordinance for a Low-Carbon City," becoming the first city to legislate low-carbon urban governance. The mayor established the "Low Carbon Adaptation and Sustainable Development Committee" as the convener, integrating cross-departmental division of labor through a dedicated organization to implement and manage the goals of a low-carbon city.

#### **Joined the Global Covenant of Mayors for Climate & Energy (GCCE) to obtain the highest level of accreditation:**

Tainan City joined the Global Covenant of Mayors for Climate & Energy (GCCE) in 2015. In July, Tainan City submitted its commitment to complete all the audits, and in October, Tainan City received the highest level of 4 badges from the GCCE, officially becoming a member of the GCCE, demonstrating Tainan's determination to become a low-carbon city.

### **A-rated City by CDP:**

In collaboration with the Carbon Disclosure Project (CDP), the city has publicly disclosed its carbon emissions inventory, set future targets for carbon reduction and renewable energy, and published a city climate action plan. In 2019 and 2020, the city was awarded the highest ranking of "A" by CDP for two consecutive years, showing that its achievements in promoting low-carbon cities and sustainable development are recognized internationally.

### **Signing Climate Emergency Declaration Committed to new goals of carbon reduction, electric bus and green energy in 2030:**

On May 11, 2021, Mayor Huang Wei-Cheh led his city government team to sign the "Tainan City Climate Emergency Declaration" at the Anping Fortress in the presence of Greenpeace, setting out a vision for sustainable development by 2030, including a renewable energy capacity of 4.5 GW (Giga Watt, megawatt), carbon neutral electricity consumption in the residential and commercial sectors, full electrification of urban buses, and a gradual move toward net energy by 2050. and moving towards net-zero carbon emissions by 2050.

### **Urban Construction Receives 2022 Architecture and Landscape Award and National Award for Excellence in Construction:**

Tainan City uses the concept of sponge city and permeable pavement design to create a people-oriented and friendly environment; it combines the concepts of water treatment, water purification and water-friendly, and has both landscape and flood retention capabilities, which has won 16 awards in the 2022 Architecture and Landscape Award and 36 awards in the 2022 National Excellence in Construction Award, the first in the country.



## CHAPTER 03

### The promotion process of sustainable development

#### **ISO 37120 Platinum certification for international cities:**

In 2017, Tainan City joined the World Council on City Data (WCCD) and started to participate in ISO 37120 certification, and with the cooperation of all departments, Tainan City has completed 100 indicators for two consecutive years, presenting a comprehensive social, economic and environmental development performance, and received the highest level of WCCD certification in 2018 and 2019.

#### **Received the 2022 Asia Pacific and Taiwan Sustainability Initiative Award - Outstanding City Award for Asia-Pacific Livable and Sustainable Cities:**

In terms of urban development, the key is to align with the United Nations' SDGS 11 Sustainable Cities goals, to take stock of the current situation, resources, conditions and needs for sustainability, and to draw up a concrete vision, and to link urban governance strategies to the international community. Policy highlights include the realization of housing justice through such policy tools as the hoarding tax, rent escrow, and public housing in Tainan. In 2022, there will be 124 bus routes with a capacity of 12.67 million passengers and 12 yellow buses with a total of 56,000 passengers. We are committed to improving the quality of life of our citizens and creating a prosperous city by promoting the well-being of the public, a healthy environment, and caring for the elderly, the vulnerable, women and children, and new residents.

#### **Received the 2022 Asia Pacific and Taiwan Sustainability Awards - Gold Award for Sustainability in Asia Pacific:**

In order to optimize the use of water resources, Tainan City has introduced the concept of circular economy into water consumption and production. 3 water reclamation plants will be built in 2023 to collect industrial wastewater discharged from Nanke and high-tech plants and reuse it for Nanke and high-tech plants after treatment. The "water-for-water" model, the first of its kind in Taiwan, is similar to international carbon trading and is the best demonstration of water recycling and water energy in Taiwan, which will drive the development of recycled water technology and related industries.



### **Sunshine City 3.0, Sustainable Development and Net Zero" Receives the National Sustainable Development Award in 2022:**

The National Council for Sustainable Development of the Executive Yuan organizes the National Sustainable Development Award to recognize units with outstanding performance in promoting sustainable development. The Economic Development Bureau of the Tainan City Government won the 2022 National Sustainable Development Award with "Sunshine City 3.0, Sustainable Development, and Net Zero" in the face of fierce competition from 134 organizations nationwide. In addition, it is the only government agency that has won the award for promoting green energy and has put energy transformation into concrete terms in its governance, constructing a non-nuclear, livable city, and realizing Mayor Huang Wei-Cher's vision of "Sustainable Tainan, Lovable Capital" in his administration.

### **Received the 2023 Asia Pacific and Taiwan Sustainability Initiative Award - Outstanding City Award for Asia-Pacific Livable and Sustainable Cities:**

The key to urban development lies in Tainan's comprehensive progress across industries, culture, transportation, and environment, closely aligned with the United Nations' 17 Sustainable Development Goals (SDGs), advancing sustainable actions. Specific initiatives include promoting the "Sunshine City Project," making Tainan the national leader with a peak solar power capacity of 4.17GW. Additionally, the city supplies 50,000 tons of recycled water daily, initiates renovations for 57 deteriorating buildings, plans 8,138 units of social housing, expands a fleet of 31 yellow buses, and constructs a comprehensive network of four east-west and three north-south elevated highways, achieving tangible results.

### **Received the 2023 Asia Pacific and Taiwan Sustainability Awards - Gold Award for Sustainability in Asia Pacific:**

Harnessing technological prowess to address pressing issues directly affecting people's lives underscores Tainan's commitment to building a smart city. The Environmental Protection Bureau introduced the "Air Quality Smart Monitoring and Governance" initiative, leveraging IoT-enabled air quality sensors to trace, detect, and effectively manage pollution. This effort resulted in achieving a record high of 90% clear sky days in 2022. The Fire Department integrated technology with the launch of "e-Tainan Health Protection," establishing an "Emergency Medical Dashboard" that boosted out-of-hospital cardiac arrest (OHCA) survival rates to 31.99% in 2022. The Transportation Bureau's "Digital Innovation, Convenient Parking in Tainan" initiative enhanced roadside parking through a big data system, achieving 78% smartification of roadside parking spaces and increasing usage rates by 47%.



## CHAPTER 03

### The promotion process of sustainable development

#### **Received the 2022 Asia Pacific and Taiwan Sustainability Awards - Taiwan Sustainability Award Silver Award:**

Over the years, Tainan City has been vigorously promoting "Sunshine City" as a green energy source, and has installed solar panels in factories, communities, landfills, and farmhouses, etc. By the end of June 2022, the installation capacity has exceeded 3.5GW, the highest in the country. We are now promoting "Sunshine City 3.0", including the establishment of smart grids, energy storage, energy creation, and promotion of energy conservation, etc. We expect to reach the goal of 10GW of renewable energy by 2050.

#### **Received the 2023 TCSA Taiwan Corporate Sustainability Awards - Sustainability Report Category - Platinum Award:**

Sustainable development and net-zero transformation are core values of Tainan City's governance. From urban planning and design reviews, factors such as rainwater retention, green coverage rate, and circular economy are incorporated to create a resilient, low-carbon, and sustainable city. Benefiting from excellent sunlight conditions, Tainan actively promotes Sunshine City. Originally set to achieve a cumulative 3 GW of solar photovoltaic capacity by 2034, this goal was reached ahead of schedule in June 2022, with current installations totaling 3.9 GW, equivalent to the annual electricity consumption of nearly 1.459 million households. This achievement in green energy promotion leads the nation. Addressing vulnerable groups, Tainan City collaborates with the private sector to promote the Public Love Food Pantry program, establishing 19 Love and Conservation Food Platforms, highlighting efforts toward SDG 2, Zero Hunger. In pursuit of SDG 5, Gender Equality, efforts to create a sustainable and gender-friendly campus environment include pioneering a nationwide initiative to provide free menstrual products in school restrooms for women from disadvantaged families and rural students, enhancing awareness of gender equality among students and dispelling stereotypes about women's menstruation.

### **Received the 2022 Asia Pacific and Taiwan Sustainability Awards - Taiwan Sustainability Award Silver Award:**

Achievements in low-carbon construction in Tainan City. The Bureau of Education's "Low-Carbon Campuses, Sustainable Tainan" initiative implements campus water and electricity conservation policies, environmental education, and installation of solar panels. Currently, 231 schools participate in the program, with 25 schools certified as low-carbon demonstration campuses through five accreditation criteria. The Water Resources Bureau's "Green Pathway Learning, Citizen Sustainable Practice" initiative focuses on preserving the landscape of the Chianan Irrigation Channel and local cultural heritage. It constructs bicycle lanes and shaded green belts that serve both recreational and commuting purposes, continuing a nature-centric approach while fostering the development of urban-rural tourism industries.

### **Received the 2022 Asia Pacific and Taiwan Sustainability Awards - Taiwan Sustainability Award Platinum Award:**

In terms of content and infrastructure related to economic development, the Bureau of Land Administration's entry "Living Well in Tainan, Sustainable Prosperity" highlights the city government's approach to reducing environmental impact during land development. It collaborates with local NGOs and community colleges to maintain green corridors, preserving 100% of the original trees on-site. The Public Works Bureau's "Integrated Information on Road Excavation" initiative establishes a road excavation management system that integrates regional excavation cases, effectively managing energy usage and achieving substantial carbon reduction benefits. The Bureau of Economic Development's participation in "Enhancing Sustainable Capability of Tourist Factories" combines industry, government, academia, and research to enhance factory management quality and marketing capabilities. Currently, Tainan boasts the highest number of certified tourist factories nationwide at 23, attracting 1.7 million visitors last year and generating NT\$980 million in revenue.





## CHAPTER 03

### The promotion process of sustainable development

#### The History of Tainan City's Sustainable Development

- 2012 Tainan City Low Carbon Year  
Issuance of Low Carbon City Autonomy Ordinance
- 2013 Establishment of Low Carbon Adaptation and Sustainable Development Committee
- 2014 Completed the Low Carbon City Promotion Results Report
- 2018 The First City in Taiwan to Set Healthy City Indicators Using SDGs
- 2020 Established the "Green Energy Technology Industry Promotion Center"
- 2021 Mayor Huang Wei-Che signed the Climate Emergency Declaration  
Published the first edition of the Voluntary Review of Sustainable Development (VLR)
- 2022 Drafted the "Tainan City Net-Zero Sustainable Urban Management Self-Governance Ordinance"
- 2023 Released the second version of the Voluntary Local Review (VLR) on Sustainable Development in 2023
- 2023 Established the Climate Change Adaptation Promotion Committee (formerly known as the Low Carbon Adaptation Sustainable Development Committee)
- 2023 Submitted the draft "Tainan City Net-Zero Sustainable Urban Management Self-Governance Ordinance" to the City Council



△ Voluntary Review Report  
on Tainan City's Sustainable  
Development Goals for 2021



△ Voluntary Review Report  
on Tainan City's Sustainable  
Development Goals for 2022

## Tainan Sustainable Development Voluntary Review and Evaluation Report:

Tainan's SDGs are guided by the policy direction of "3 Upgrades" including "Economic Upgrading," "Transportation Upgrading," "Health Upgrading," and "3 Sustainables" comprising "Environmental Sustainability," "Warmth Sustainability," and "Cultural and Educational Sustainability." In 2023, the city conducted an inventory of 17 SDGs and 140 SDGs sub-items, presenting the second edition of Tainan City's Voluntary Local Review (VLR) of Sustainable Development Goals. The English version is publicly available on the IGES LAB international platform (<https://www.iges.or.jp/en/vlr/tainan>), showcasing the city's achievements in promoting sustainable development goals.

This year, aligned with policy initiatives such as policy plans, greenhouse gas control, climate change adaptation, healthy city indicators, and climate emergency declarations, Tainan City formulated the third edition of its Voluntary Local Review of Sustainable Development Goals. This report comprehensively reviews the city's progress towards the 17 SDGs and its current development status, aiming to regularly self-assess the implementation of the 2030 Sustainable Development Goals.



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

# 04

## Goals and Achievements of Sustainable Development Promotion

Tainan City | Sustainable Development







# SDG

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# 01

## No Poverty

### -Eliminate All Forms of Poverty Everywhere

An examination of Taiwan's economic history indicates that significant events such as the Internet bubble in 2000, SARS outbreak in 2003, financial crisis in 2008, and the recent COVID-19 pandemic have had adverse effects on the country's economic structure. These occurrences have left marginalized groups more susceptible to environmental impacts, leading to an increase in the wealth gap between the affluent and the underprivileged in Taiwan. Tainan City Government is actively promoting a range of social assistance services to support disadvantaged groups in meeting their fundamental needs. The aim is to reduce the disparity between the affluent and the underprivileged, bolster the resilience and recovery capacity of the latter in the aftermath of disasters, and mitigate their vulnerability to severe climate, economic, social, and environmental shocks and crises.

### 1.1

#### Establishing Day Activity Facilities for Individuals Physical and Mental Disabilities

Tainan City is currently engaged in the active construction of community-based day work facilities for individuals with physical and mental disabilities. This initiative aims to provide individuals who are unable to enter sheltered workshops or adult day care institutions with increased opportunities to select a community-based lifestyle.

The city has established 34 community-based day work facilities for individuals with physical and mental disabilities, ranking second nationwide in terms of quantity. In the forthcoming period, it is envisaged that the estimation of under-resourced areas by the central government will serve as a point of reference for the development of more diversified services through public-private partnership. The implementation of various social welfare measures will persist in order to incentivize families with physically and mentally disabled members to avail the services provided by day work facilities.



△ Work Activities for Individuals with Intellectual Disabilities in Tainan City in 2023

## 1.2

### Reducing the Dropout Rate

Tainan City has proposed the "Individualized Support Program (ISP) for Students at Risk of Dropping Out due to Mid-term Dropout, Long-term Absenteeism, Deviant Behavior, or High Care Needs." Based on the concept of case management, schools integrate resources from various departments and units to develop personalized re-enrollment plans for mid-term dropout students. Early counseling programs are also tailored for students at risk of dropping out, aiming to reduce the dropout rate and increase the re-enrollment rate. This initiative underscores the city's commitment to not giving up on any child and marks the pioneering establishment of the "Support Service Network for Mid-term Dropout Students" nationwide. The city has allocated subsidies to support high-care and flexible curriculum schools, totaling NT\$5,057,573.

## 1.4

### Vocational Rehabilitation Window Service for the Physically and Mentally Handicapped

The Tainan City Government administers employment transition notifications and services for individuals with disabilities, integrating various service resources. Case managers in vocational rehabilitation customize services based on individual needs, abilities, and interests. They effectively link and utilize local vocational rehabilitation resources for continuous and seamless professional services tailored to assist individuals with disabilities in their employment journey.

## 1.3

### Strengthening Employment Relief through Work Subsidies

Tainan City Government has implemented a relief-through-employment program to assist members of low-income and middle-to-low income households aged 16 and above who are capable of working but unemployed. This initiative aims to promote self-sufficiency by helping individuals increase their income and acquire job skills during their job search. The program, known as "Enhancing Relief through Employment," calculates assistance based on the hourly minimum wage announced by the Ministry of Labor multiplied by the number of hours worked. The total monthly assistance cannot exceed the monthly minimum wage. Flexible working hours are provided to allow participants to balance work, job-seeking, and family caregiving responsibilities. In 2023, a total of 137 referrals were made for capable but unemployed individuals from low-income and middle-to-low income households to receive employment services, vocational training, and participate in the relief-through-employment program. A total of 69 individuals benefited from this initiative.



△ Employment Assistance for People with Disabilities through Sheltered Workshops



△ Support Network for School Dropout and At-Risk Students in Tainan City





## 1.5

## Implementing Housing Justice Social Housing in Tainan City

To reduce the housing burden on citizens and safeguard their housing rights, the municipal government of Tainan actively promotes the development of rental-only social housing. In order to expedite the establishment of social housing in Tainan, a diverse approach is being employed, including public-private partnerships for urban renewal, government construction initiatives, and incentives for private sector donations. Collaboration with National Land Management Agency of the Ministry of the Interior and the Public Housing and Urban Regeneration Center is integral to acquiring social housing through various channels, accelerating the realization of Tainan's social housing blueprint.

Currently, there are 8,402 units of social housing planned or under construction in the city, exceeding the Executive Yuan's approved target of 7,000 units under the "Social Housing Development Program." As of 2023, construction has commenced on 9 projects totaling 3,153 units. Looking ahead, the city government will continue to collaborate with the central government to survey and assess underutilized land, evaluate the feasibility of new site selections, and enhance the capacity to supply social housing.

## The development of a demonstration area for net-zero social housing is being proposed.

Tainan City Government, in order to improve the living environment and enhance the quality of life for economically disadvantaged residents, actively promotes a program in collaboration with district offices. This program allows eligible residents in the city to apply for subsidies. In the fiscal year 2023, the approved subsidy amount totals NT\$2,928,000, benefiting a total of 16 households: 11 households for home acquisition and 5 households for home renovation. In the future, funding requests to the central government will be increased annually based on the number of applications and beneficiaries each year, ensuring the housing needs of the indigenous people are met.



△ Tainan Public Housing Promotion Image



△ Subsidy for Construction and Renovation of Housing

## 1.6

### Provision of Educational Assistance to Children and Adolescents

To assist disadvantaged students, our city has implemented textbook remission measures, prioritizing care for the vulnerable. These measures aim to enhance the social competitiveness of disadvantaged students, ensuring they receive adequate educational support. Through subsidies, we alleviate financial burdens for disadvantaged families, allowing their children to access quality education. A total of NT\$28,206,808 was allocated for this purpose in 2021.

## 1.7

### Caring for individuals engaged in resource recycling.

To enhance the income of individual households engaged in resource recycling, our city continues to promote the "Resource Recycling Care Program." Participants can bring designated recyclables (items listed for recycling) to collection points each month and receive subsidies exceeding market rates. Additionally, we offer home collection services for those with mobility issues or elderly individuals.

In 2023, a subsidy of NT\$16.76 million benefited 286 participants. This initiative not only increases household incomes but also promotes social inclusivity and sustainable development. It ensures more individuals in need can benefit while advancing environmental protection and resource recycling goals.



**臺南市 資源關懷計畫**

**補助金額**

項目	回收商收購金額 <時價參考>	環保局補助金額
紙容器 <公斤>	1.2	15 倍 18
鍵盤 <台>	3	10 倍 30
玻璃容器 <公斤>	0.7	8.6 倍 6
乾電池 <公斤>	8	1.3 倍 10
農藥容器 <公斤>	0	♥ 17
汽機車輪胎 <公斤>	0	♥ 5

臺南市政府環境局

△ Resource Recycling Care Program



△ Assistance with home collection for elderly individuals





## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 1.8

#### A bright and sunny life

Tainan City Government has implemented a marketing and promotion project for handicrafts produced by individuals with disabilities and specific groups such as women, through sheltered workshops. This initiative utilizes online marketing and physical exhibitions to enhance exposure and increase economic income for the partners. Additionally, vocational courses and intensive counseling are provided to enhance their skills. In 2023, 241 booth setup events were organized, generating an additional income of NT\$8.64 million.



△ Sunny Day Workshop

#### 1.9

#### Tainan City Public Welfare Platform

To expand support for disadvantaged groups in Tainan City, the Tainan City Public Welfare Platform officially launched on December 9, 2019. It aims to digitize information on private social welfare resources to reduce resource duplication and waste, maximizing the effectiveness of charitable resources. Starting with the initial function of "donation resource registration," the platform has progressively added features such as "charitable donations," "material donations," "support for disadvantaged groups," "independent living programs," "social welfare schemes," "charity notifications," and "meal reservations for those in need." Additionally, an online donation platform for municipal social assistance funds is scheduled to launch in mid-year, integrating online donation functionalities to facilitate public contributions and improve convenience and operational efficiency. The city continues to promote the platform's purpose and service offerings in public forums, complemented by tri-fold pamphlets and platform operation manuals, to enhance awareness among individuals and organizations. This approach aims to increase platform membership and outreach.



△ Homepage of the Public Welfare Platform



△ Promoting the Public Welfare Platform in public settings





SDG

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02

## Zero Hunger

### -Ensure Food Security, End Hunger and Promote Sustainable Agriculture

In recent years, the issue of hidden food crises has gained increasing attention due to significant international conflicts. The Tainan City Government has implemented several policies to address the problem of uneven food distribution. These include establishing public food banks, creating a platform for food conservation, and subsidizing lunch fees for economically disadvantaged students. Additionally, initiatives like the New Farmer Project aim to accelerate agricultural modernization to ensure stable productivity. Coupled with educational campaigns promoting sustainable practices, these efforts seek to reduce unnecessary food waste.

### 2.1

#### Promote Branding of Quality Agricultural Products

Tainan City Government promotes the "Best Product of Taiwan" certification mark, focusing on local production and integrating principles of safety, hygiene, and traceability into its branding spirit. This initiative aims to enhance the promotion of high-quality agricultural, fishery, and livestock products from Tainan, ensuring "food safety" for consumers and advocating for the purchase of local ingredients.

From the year 2021 to 2023, a total of 110 fresh products and 151 processed products have been certified under the "Best Product of Taiwan" agricultural specialty products program. In 2023, four sales and exhibition events were organized, featuring eight dedicated zones in collaboration with agricultural associations, and one promotional press conference for the "Best Product of Taiwan" ambassadors.



△The "Best Product of Taiwan" Ambassadors Promotion Press Conference in 2023



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 2.2

#### Lunch Subsidy for Economically Disadvantaged Students

To ensure the physical and mental well-being of students and alleviate financial burdens that may hinder their ability to access school lunches due to family circumstances, the city actively disseminates information on subsidy application procedures to schools. This includes sending letters to schools before each semester outlining the application process. Additionally, the city reinforces advocacy during public meetings with principals, directors, and nutritionists. According to statistics, in the second semester of the 2022 academic year, subsidies for economically disadvantaged students' school lunches were provided to a total of 13,118 students, amounting to NT\$46,086,650. In the first semester of the 2022 academic year, subsidies were provided to 12,448 students, totaling NT\$48,482,366. During the 2022 summer and winter breaks, subsidies for economically disadvantaged students' school lunches were provided to 3,702 students, totaling NT\$4,404,360.

#### 2.3

#### Improvement of Food and Beverage Sanitation

Tainan City's diverse and distinctive culinary scene often attracts visitors from other counties and cities, making food safety and hygiene critically important. The city actively invites relevant restaurant operators to participate in assessments for GHP. In 2023, a total of 141 restaurants in Tainan were recognized with the city's GHP certification. Participants in this certification must renew their certification every two years, and the number of participating operators continues to grow. This trend underscores the increasing importance that residents place on food hygiene. We aim for transparency, safety, and environmental friendliness throughout the entire production and distribution process, from farms and markets to dining tables.



△ Certification Assessment for GHP in 2023



△ Providing Local Ingredients to Rural Schools

## 2.4

### Establishment of Public Caring Depository

#### Establishing a Physical Food Bank Outlet

To strengthen the social safety net, since 2019, our municipality has established a Physical Food Bank to provide emergency living essentials to economically disadvantaged residents. This assistance targets individuals residing or officially registered within our city who have faced recent unemployment or unexpected hardships, resulting in financial distress. We offer 3 to 6 months of material support to prevent families or individuals experiencing acute economic difficulties from falling into hunger or poverty. Starting from 2024, the Physical Food Bank has been organized into five major service regions across the city. This includes five designated physical store locations, fourteen cooperative branches, and nineteen material distribution stations. Additionally, we operate six supply vehicles to facilitate customized deliveries and transportation of goods to households through designated agencies. As of 2023, we have established five physical store locations, eleven cooperative branches, and twenty-two material distribution stations.



△ The physical storefronts of the material bank - Receiving surplus food from the Care and Compassion Points at the Food Cherishing Platform

#### Establishing Food Care Platform

Since 2019, the Tainan City Government has embraced the "Cherish Food, Love Food" philosophy by integrating food cherishing refrigerators and a compassionate food cherishing platform at local markets under the Market Administration Office. Vendors are invited to place surplus or unsold ingredients into these refrigerators at the end of each market day. The city government then coordinates with social welfare groups and community centers to collect these ingredients, which serve as supplementary supplies for meal provision points. Periodic educational training and coordination meetings are held to encourage vendor participation in the food cherishing initiative and to facilitate knowledge exchange among stakeholders. As of 2023, a total of 19 compassionate food cherishing platforms have been established in markets across the city. Moving forward, the municipality plans to continue setting up additional food cherishing platforms in suitable markets, aiming to generate more sustainable food utilization outcomes.



△ The physical storefronts of the material bank - Receiving surplus food from the Care and Compassion Points at the Food Cherishing Platform





## 2.5

### Attracting New Farmers

#### New Farmers Guidance Program

In the early stages of agriculture development in Tainan, farming was predominantly small-scale, lacking basic income incentives, coupled with rural youth migrating northward. This has led to a declining and increasingly elderly farming population, with the average age of farmers now reaching 63 years old. Therefore, promoting the involvement of new farmers in agricultural production, processing, and marketing is crucial for the sustainable development of agriculture in Tainan.

Tainan City Government has implemented various measures to support new farmers across four dimensions: land, funding, technology, and marketing. As of 2023, there are over 2,190 registered new farmers, with more than 220 earning annual incomes exceeding NT\$1 million, engaged in fruit trees, rice, grains, vegetables, aquaculture, livestock, and beekeeping production.

1. Technology: The city organizes agricultural training courses through Farmer's School, providing practical knowledge and skills related to agriculture. In 2023, grassroots agricultural associations conducted 1-4 courses, inviting experts and scholars to teach, and organized 3 mobile Farmer's School sessions focusing on soil and crop cultivation practices.

2. Land: Utilizing the Agricultural Land Bank as a platform to match landlords with farmers for leasing agricultural land, the city guides agricultural associations to disseminate rental information widely within their

jurisdictions, assisting new farmers in acquiring suitable farmland.

3. Funding: Assisting farmers in obtaining specialized agricultural loans such as the "New Farmers' Agricultural Loans" from the Agricultural Bank of Taiwan and Credit departments of farmers' and fishermen's associations.

4. Marketing: Establishing five regular markets within Tainan City (Xinhua Farmers' Market, Anding Farmers' Market, Yonghua City Hall Market, Tainan City Civic Center, and Evergreen Plaza Hotel Tainan Market), and organizing periodic large-scale market events at locations with high foot traffic to promote the high-quality agricultural products of Tainan's new farmers.



△PhotosofCherishedFoodMealService



△2023 Tainan City New Farmers' Networking Event



△PhotosofCherishedFoodMealService

## 2.6

### Food and Agriculture Education

Tainan, being a major agricultural city, is committed to supporting local agriculture by strengthening the connection between diet, environment, and agriculture. By collaborating with local farmers and agricultural associations, the city has developed programs to help students understand agricultural knowledge and experience the farm-to-table process. This initiative aims to cultivate food literacy, promote balanced eating habits, and encourage food conservation to reduce waste, while enhancing local agricultural awareness. In 2023, a total of 63 schools received funding for their self-sufficient farm gardens, with a total subsidy of NT\$623,900. The program promotes the concept of "from farm to table," conveying the idea of "enjoying local and seasonal produce" with the goal of achieving energy savings, carbon reduction, and environmental protection.



△Yongkang Junior High School - Visit to National Pingtung University of Science and Technology's Livestock Farm

## 2.7

### Mitigating Food Waste and Educating on Waste Reduction

Tainan City organizes courses on diet, nutrition, and hygiene to enhance awareness among teachers, staff, students, and parents about valuing food, reducing food waste, and minimizing kitchen waste. These programs educate participants on waste recycling, resource recovery, and proper waste management practices. Additionally, the city aims to improve the quality of school lunch ingredients by encouraging the purchase of organic or traceable vegetables (pre-cut vegetables) to reduce raw kitchen waste. Cooked food scraps are also directed to licensed recycling organizations for proper reuse.



△Area of Agricultural Land Cultivated with Cabbage

## 2.8

### Agricultural Land Area

Tainan City is located in the Chianan Plain, making it the largest agricultural area among cities and counties in Taiwan. Agricultural report officers from various district offices in the city conduct field surveys to reconcile discrepancies between the current land use and the basic maps, such as mismatched boundaries of cultivated or non-cultivated land. After completing the on-site inspections, they calculate the areas of increase or decrease to determine the total area of cultivated land on each basic map. In 2023, the agricultural land area in Tainan is 90,649 hectares.



△Tainan City's 2023 Farm-to-Table Learning and Fun Program



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# 03

## Good Health and Well-being

### -Ensure Health and Promote Well-Being for All Ages

As Taiwan gradually advances into an aging society, the population of elderly individuals aged 65 and above in Tainan City constitutes approximately 15% to 16% of the city's total population. To safeguard the physical and mental health of citizens across all age groups and to establish a comprehensive and friendly medical care service system, the city emphasizes the universality and fairness of medical care distribution. Tainan City promotes physical activity and healthy eating habits, develops diverse channels for active health education communication, and utilizes e-health initiatives for health promotion. This includes integrating resources from medical institutions, mobile health units, and interdepartmental systems to provide citizens with a healthy living environment.

### 3.1

## Reducing the Number of Confirmed Dengue Fever Cases

### Establishing Preventive Measure

In Tainan City, a total of 602,556 households have had their breeding sources of dengue fever vector mosquitoes removed from locations where confirmed dengue cases were identified, including residences and activity sites. Additionally, chemical control measures have been carried out at 196,214 households where confirmed dengue cases were found. In the city's East District, South District, North District, West Central District, Annan District, Anping District, Yongkang District, Rende District, Guiren District, and Xinying District, 3,252 ovitraps have been set up. These traps are monitored weekly for mosquito density, and based on monitoring results, mobilization for breeding source removal and preventive chemical control measures are implemented.



△Promotion of Dengue Fever Vector Mosquito Breeding Prevention



### Encourage Reporting and Detection of Hidden Cases

Encourage medical institutions to conduct rapid screening and reporting, proactively identifying positive cases to increase reporting capacity. Expansion of testing stations has been carried out in areas such as Rende District, Yongkang District, North District, Annan District, Shanhua District, East District, Guiren District, West Central District, South District, Anping District, Jiali District, Madou District, Guanmiao District, and Xinying District, focusing on areas with unknown infection sources. The number of contracted institutions for NS1 rapid testing has increased from 334 to 400, and the reporting rate by clinics has risen from 30.3% to a maximum of 62.2%. A total of 183 testing sessions were held, with 4,577 individuals tested, 175 testing positive, and 209 confirmed as positive through laboratory assessment.

### Health Education and Training

In the year 112, our city conducted 36,414 sessions of dengue fever prevention and health education outreach, including community events, press conferences, school programs, construction site visits, volunteer activities, and sessions for foreign migrant workers, reaching a total of 2,073,563 individuals. We released 227 press releases regarding local dengue fever outbreaks and policies. A total of 410 volunteer teams were established for community health education, engaging 229,200 people. They conducted 13,840 inspections of breeding sources, covering 1,387,518 households, and provided health education to 524,374 individuals.



△Chemical Control



### 3.2

#### Enhancement of Pneumococcal Vaccination for Seniors

Starting from August 112, our city has combined influenza and COVID-19 vaccination programs, setting up vaccination stations in communities and institutions. Additionally, we utilized garbage trucks to broadcast the mayor's recorded messages promoting vaccination. In collaboration with the Centers for Disease Control, the eligibility for vaccination was lowered from age 71 to 65. We implemented a "left flu, right pneumonia" strategy, verifying vaccination records during flu vaccine administration and encouraging seniors aged 65 and older who have not previously received the pneumococcal conjugate vaccine to get vaccinated. We also allocated vaccines across various districts to ensure ample supply and meet public demand. This approach has successfully increased the pneumococcal vaccination rate for seniors to 53.57% for the year 112.



△ Health Education Promotion

### 3.3

#### Immunizations for Pediatric Populations

To effectively manage vaccine expiration dates and maintain the quality of publicly funded vaccinations, our city has implemented quarterly on-site inspections and guidance at local healthcare facilities through public health centers. Additionally, the Health Bureau conducts random inspections to effectively control vaccine expiration, inventory management, and cold storage practices. In 112, a total of 379 facilities were inspected and guided.

To enhance the knowledge of vaccine-related practices among local health centers and contracted medical institutions and improve vaccine administration quality, we conducted one in-service training session for vaccination personnel in 112. The vaccination completion rate for routine vaccines among children under 3 years old in 112 reached 93.7%, an increase of 1.6% compared to 111.



△ Community-Based Vaccination



△ Community Mobilization for Breeding Source Removal



△ Public Health Centers Providing Routine Vaccination Services for Young Children

### 3.4 Creating a Healthy Living Environment Plan

To increase the proportion of residents engaging in regular physical exercise in our city, we are promoting health awareness through various channels in schools, communities, and workplaces about consuming whole grains and unrefined cereals to enhance balanced dietary habits. We are also continuously expanding the number of healthy dining establishments and creating supportive environments to promote healthy lifestyles among citizens.

In 2023, the number of elderly participants in physical activity programs reached 29,206 (177.11% of the target). For student activity programs, 12 schools participated with a total of 8,074 participants (120% of the target). A total of 168 promotional events were held through schools, communities, and workplaces, attracting 7,130 participants. The proportion of Tainan City residents classified as overweight or obese decreased from 43.2% in 2022 to 41% in 2023, ranking third among the six major cities. Additionally, the proportion of residents engaging in regular exercise increased from 32.7% in 2022 to 34% in 2023.



△Promoting Physical Activity in The Workplace



△Promoting physical activity in the community

### 3.5 Mobile Hospitals and Universal Health Screening

Due to the uneven distribution of medical resources in Tainan City, the plan is to collaborate with medical institutions in urban areas and utilize the "Tainan Love Screening Platform" to encourage these institutions to set up service stations. This approach aims to increase the coverage of preventive health services for adults. By providing the most comprehensive services to the public, the initiative will also conduct various health promotion and education activities to strengthen the community's ability to implement disease prevention measures. This will enable community-based health services to connect with local medical resources and health stations, forming a community health care network.

In 2023, the goal is to maintain services for over 30,000 people, with future objectives focused on early detection, early treatment, disease progression control, and the reduction of disability and mortality rates.



△Promoting physical activity in the community







### 3.6

## Denture Installation Program for Seniors Aged 65 and Above

As people age, dental problems and tooth loss become inevitable. With the increasing proportion of the elderly population, issues such as dental diseases and tooth loss among seniors have become more prominent. Since June 16, 2011, our city has launched the "Tainan City Free Denture Installation Service for Seniors Aged 65 and Above," collaborating with local dental medical institutions to provide services for our elderly residents.

In 2023, the city served a total of 3,814 individuals. We aim to consistently provide at least 3,000 cases annually to ensure that seniors in our city can maintain a healthy quality of life. This initiative helps reduce gastrointestinal burdens and financial pressures, while improving their overall quality of life and activity levels. It also contributes to better physical function, including mobility, vision, and hearing.



△Using Educational Pamphlets to Teach Seniors How to Adapt to Dentures

### 3.7

## Reproductive Health Interpreter Training

Public Health Bureau, Tainan City Government trains new immigrant interpreters to assist health centers across districts in implementing policies for new immigrants. These interpreters help convey knowledge about reproductive health, mental health promotion, and disease prevention to a broader audience of new immigrants, acting as multicultural advocates in public health.

In 2022, during the COVID-19 pandemic, interpreters participated in the city's Public Health Bureau's New Immigrant Care Team, explaining home quarantine and self-health management guidelines to confirmed cases. In 2023, they assisted medical institutions with high-risk pregnant immigrants, providing appropriate care and support.

### 3.8

## Establish a Smoke-Free Environment

To create a good smoke-free environment, each district public health center in the city will implement at least one smoke-free environment initiative in addition to the statutory smoke-free areas specified in Articles 18 and 19 of the Tobacco Hazards Prevention Act. The initiative will focus on high-traffic areas within the jurisdiction, providing guidance and collaborating with management units to establish smoke-free environments. The goal is to enhance public awareness of tobacco harm prevention and ensure that people can enjoy public spaces without the risk of secondhand smoke.

### 3.9

#### Psychological Counseling

The city offers free psychological counseling services. By 2023, a total of 43 locations have been established to provide accessible psychological counseling services to the public. Additionally, to enhance the capacity of psychological counseling services, we have invited counseling and therapy centers to collaborate, with 18 outreach services joining the counseling program. Counseling sessions are available both during the day and at night. In 2023, we served a total of 2,820 individuals. A satisfaction survey was conducted for the counseling cases, with a satisfaction rate of 93.4%.

#### Mental Health Awareness Month

In response to World Suicide Prevention Day on September 10th, which aims to raise awareness about suicide prevention and promote the value of life, our city, in collaboration with the Taiwanese Society of Suicidology, organized the 2023 "Show Action, Create Hope - Unite to Protect Lives" poster design and essay competition. We invited the public to join in as guardians of life. In 2023, a total of 41 events were held, with 2,568 participants, and the event satisfaction rate was 93%.

### 3.10

#### Oral Health Mobile Clinic Services

To ensure that citizens in remote areas and regions without dental services also receive quality oral healthcare, our city introduced an oral health mobile clinic in 2017. This service addresses the oral healthcare needs in areas with insufficient dental resources and includes fluoride treatment for high-risk groups to improve accessibility and availability of dental care. To instill oral health awareness among schoolchildren and encourage regular check-ups, we arrange for dentists to visit schools, prioritizing those in more remote areas. We also conduct community-based oral health education lectures with professional instructors to enhance public understanding of oral health and the importance of proper dental hygiene, aiming to establish good oral health habits and practices.



△Dentists Providing Dental Care Services to Community Residents



△No-Smoking Environment Awareness Campaign at Dalongtian Ecological and Cultural Park



△Mental Health Awareness Month Event Sessions



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 3.11

#### Long-Term Care Services 2.0 Service Universalization

To address the aging society and ensure a more secure and comfortable senior life and care, the city is actively developing an integrated long-term care service system. This system offers a range of continuous services from family support, home care, and community care to residential care, aimed at enhancing the quality of life for both long-term care recipients and caregivers. By the end of 2023, the number of long-term care contracted units has grown to 940. Additionally, the goal of establishing "one day care center per school district" was achieved by 2022. Furthermore, the city has comprehensively established a network of residential care institutions, with a total of 214 facilities and 10,025 beds available in 2023.

#### Diversified Services

The expansion of services includes dementia care services, support for family caregivers, discharge planning for long-term care, and home doctor programs to meet diverse service needs. As of 2023, the city has established 6 Dementia Care Centers, 40 dementia community service locations, 9 support service centers for family caregivers, 50 designated home doctors for disabled home care cases, and 25 hospitals providing discharge planning for long-term care services.

#### Service Convenience

Residents of the city can apply for long-term care services through a few simple methods: by calling the 1966 long-term care hotline, via the city government's one-stop website, or through an assessment conducted by hospital staff during the discharge preparation period. The service process is designed to be straightforward and efficient.

#### Localization of Services

Based on the different types of service recipients and regional characteristics, localized service features have been developed to enhance the resonance with service users. As of 2023, a total of 398 community care and support points have been established, providing local and accessible care services such as home visits for the elderly, health promotion, phone check-ins, and meal services.



△ Tainan Population Policy Resources Network - Long-Term Care



△ Tainan City's First Comprehensive Long-Term Care Facility OT Case



△ Day Care Centers lead health promotion activities for seniors





SDG

04

## Quality Education

### -Ensure Inclusive and Equitable Quality Education, and Promote Lifelong Learning

Education is a crucial foundation for a country, as quality education is essential for cultivating an outstanding next generation. To enhance the education of its citizens and ensure equitable access to education for all, Tainan City is committed to not only providing educational opportunities for school-age children but also emphasizing lifelong education for seniors. The city offers diverse adult learning platforms and strengthens educational rights for students in remote areas and those with special needs.

#### 4.1 Institutional Services for Preschoolers

Although the national population of preschool-aged children continues to decline, the enrollment rate of children in kindergartens in Tainan City is still on the rise, indicating an increasing demand for early childhood education and care services from parents. For the 2023 academic year, there are a total of 588 public and private early childhood education and care institutions in the city, with a capacity to enroll 67,747 children. Additionally, the number of children aged 2 to 5 in Tainan City for 2023 is 51,173. There are 446 public, non-profit, and semi-public kindergartens in the city, providing 41,560 slots, achieving a public service ratio of 81.2%. This capacity is sufficient to meet the childcare needs of parents and offer a range of educational choices for children. In line with the central

government's policy to address declining birth rates, the city has introduced special classes for 2-year-olds and established workplace mutual assistance childcare service centers. These measures, along with the semi-public kindergarten mechanism, aim to increase the supply of affordable early childhood education services and reduce the financial burden on parents.



△ Opening of CTBC Non-profit Kindergarten



△ Childcare Subsidy and Education Grants



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 4.2

#### Citywide Participation in Lifelong Learning

The city's Bureau of Education offers various adult lifelong learning activities, including Senior Learning Centers, adult basic education classes (including programs for new immigrants), community colleges, digital opportunity centers, new immigrant learning centers, and remedial schools for junior and senior high school students. As of 2023, the citywide participation rate in lifelong learning is 11.78%. The city will continue to encourage active enrollment in these learning channels. For instance, adult basic education classes will be promoted through posters, red banners, or announcements on school campuses, nearby school websites, and in areas with high population density. Additionally, learning expansion points will be set up at senior learning centers in each district to facilitate nearby learning opportunities and increase the willingness of older adults to engage in education.



△Inauguration Ceremony of the Non-Profit Preschool at National Cheng Kung University



△Opening of Lian Yuan Non-profit Kindergarten

#### 4.3

#### Promoting Digital Learning Across All School Districts

To enhance e-literacy among residents and reduce the digital divide between urban and rural areas, Tainan City is committed to building a sustainable, internationally aligned smart learning city. The city's Bureau of Education in collaboration with schools and community resources, is creating a learning-oriented society.

The curriculum includes:

- Understanding the basic components of computer hardware and peripheral devices.
- Navigating system menus and managing related files.
- Using basic tools on mobile phones.
- Teaching courses related to current topics such as environmental and medical apps.

The "Digital Learning Across All School Districts" program offers 12 hours of instruction per class. It is available to all junior high and elementary schools in the city, targeting residents and employees in Tainan, with a focus on adults. To prevent resource waste, a refundable deposit of NT\$1,000 is required (exempt for those with low-income certificates or disability handbooks). In 2024, the program has been approved for 46 schools, with a total of 827 classes scheduled.



△Public Preschool Enrollment

## 4.4 Placement of Students with Physical and Mental Disabilities

### Allocation of Resources for a WellBalanced Education

Based on the rate of identification of students with physical and mental disabilities, adjustments are made flexibly to increase or decrease the number of special education classes in various administrative districts. This aims to facilitate the placement of students in nearby schools and kindergartens. For the 2023 academic year, 157 schools have special education classes or resource rooms with special education teachers to provide related support services for students with special needs.

For students with physical and mental disabilities attending schools without special education resource rooms, itinerant special education teachers and special education programs will be provided to offer appropriate support and meet the students' special education needs.

### Flexibility in the Placement of Preschool Special Education Classes

The period before age six is a golden time for supporting a child's overall development. Therefore, early detection, early intervention, and early treatment are most beneficial for children with disabilities. Consequently, the types of placements offered in preschool education should be diversified to provide parents with various options, allowing for appropriate placement based on the specific educational needs of each child.

### Consistent Monitoring and Tracking of Students Receiving Special Education Services

The special education support team regularly visits special education classes, resource rooms, and itinerant support classes at various schools to assess the appropriateness of special education services for students with physical and mental disabilities who are enrolled in regular classes.

## Diversified Placement Model and Transfer Counseling System for High School Jobs

Hold informational meetings or use enrollment activities to promote each school's educational philosophy and distinctive features, providing students with the basis for placement choices. This helps to dispel misconceptions parents may have about selecting schools, ensuring that students with physical and mental disabilities receive appropriate placement. Additionally, appropriate mechanisms will be planned to assist students who have difficulty adapting after enrollment, including offering support through in-school counseling, as well as options for reassignment or transfer to other schools.



△Preschool Special Education Consultation Service Centers



△2024 Academic Year Priority Enrollment Assessment and Placement Information Session for Children with Physical and Mental Disabilities





#### 4.5

#### School Accessibility Improvement

To facilitate access and use of buildings for people with mobility impairments, new or renovated buildings must be equipped with barrier-free facilities according to regulations. To achieve an accessible campus environment, the city has invested funds since 2019 to improve playgrounds in schools. Over the past five years, nearly 300 million NT dollars have been combined with Ministry of Education subsidies to establish 478 new playgrounds in elementary schools and kindergartens. These playgrounds not only meet national standards but also embody creativity and inclusiveness, creating diverse, accessible, and safe play spaces for children. To ensure ongoing maintenance, a budget has been allocated to assist schools with regular inspections and subsequent needs, guaranteeing the safety of playgrounds in the city's schools.



△Dacheng Elementary School Mathematics Inclusive Playground

## 4.6 Environmental Education Facility Sites

### Diversified Development and Field Linkage

The city assists community groups, non-governmental organizations, private enterprises, and other entities with environmental education characteristics in applying for environmental education facility certification. The support provided is tailored to the applicant's unique features and includes establishing a mentorship system to help applicants enhance their environmental education expertise. This process clarifies the significance and content of environmental education facility certification, aiming to create high-quality environmental education sites. In 2023, guidance was provided to the TSMC South Science Park Reclaimed Water Plant and the Cigu Salt Field, leading to their certification as environmental education facilities. As of 2023, Tainan City boasts a total of 21 certified environmental education facilities, ranking first in southern Taiwan.

### Creating Demand for Environmental Education and Promoting Diversity

To enhance the development of environmental education in the city and encourage outdoor learning, environmental education facilities have been established. These facilities provide environmental interpretation, educational programs, and outdoor activity design, as well as planning for eco-friendly amenities. Schools within the city are encouraged to include these certified facilities in their annual outdoor education programs, thereby increasing the proportion of students visiting certified sites and meeting the local community's recreational needs. The goal is to make it easier for the public to engage with environmental issues such as resource recycling and ecological conservation through the establishment of these environmental education sites.



△Tainan City Environmental Education Facilities Map





#### 4.7

#### Low Carbon Campus Certification

In addition to promoting the "Low Carbon Demonstration Campus Certification Program," the city's Bureau of Education holds an annual awards ceremony in the first week of June to align with Energy Education Week. The theme for the 2023 academic year was "Low Carbon, Sustainable Future," aiming to raise awareness among schools and students about the importance of energy conservation and carbon reduction as model zero-emission sites. To recognize schools' efforts in low-carbon sustainability, the bureau has introduced the SDGs (Sustainable Development Goals) Award in addition to the existing certification medals. This year, a total of 120 schools achieved certification. Among them, nine schools—Yufeng Elementary, Taikang Elementary, Jiazhong Elementary, Yushan Elementary, Danei Junior High, Dujia Elementary, Nanxing Elementary, Ximen

Experimental Elementary, and Chonghe Elementary—were distinguished for meeting nine out of the 17 SDGs indicators, earning them the title of Low Carbon Model Schools for their outstanding performance. Yushan Elementary, Danei Junior High, and Ximen Experimental Elementary have received Model School certification for two consecutive years. This demonstrates that over the past decade, the low-carbon campus initiative has become firmly established. The goal is to share experiences on low-carbon campus management and the promotion of SDGs among schools, helping students and teachers in Tainan City understand international trends and the context of sustainable development, and to steadily advance towards achieving net-zero carbon emissions.



△Tainan City 2022 Academic Year Low-Carbon Campus Awards Ceremony



## 4.8 Marriage Education Lectures and Activities

In response to the changing demographic structure of decreasing birth rates, the Family Education Center of Tainan City organizes various lectures and activities related to pre-marital, marital, newlywed, and married life education each year. In 2023, a total of 48 events were held, with 2,217 participants. The Center employs professionals in family education, counseling psychologists, and experts on current topics to conduct these events. The activities include short lectures, picture book readings, film analyses, and DIY crafts. These diverse educational activities aim to help participants at different stages of their lives understand how to navigate various phases of marriage, recognize individual values, and learn acceptance and tolerance through self-discovery.



△“Love Reading Moments” Workshop



△“Practice Love ~ Open Your Heart Channel, Bringing Love Closer” was organized at Guiren Aviation.



△Organize a lecture on love titled “What Do We Want to Gain from Love? — Analyzing the Principles of Love”



#### 4.9

#### Traffic Guidance Volunteers

To ensure the safety of students through school traffic guidance volunteers, the city's Bureau of Education provides full subsidies for traffic guidance volunteers' accident insurance each year. The bureau also assists volunteers in tracking their service hours to help them receive honor cards with associated benefits, and subsidizes the purchase of school safety equipment, investing approximately NT\$2 million annually. Additionally, a traffic safety education advisory team is arranged to visit schools and provide consultations on improving safety measures around school zones, such as marking and signage. In the 2023 fiscal year, improvements were made at 73 schools, actively working to build a comprehensive traffic safety network around schools. The emphasis is on the principle that "Education has no bystanders," meaning that there should be no distinctions between individuals or between urban and rural areas. Everyone is encouraged to work together to make education more equitable, outstanding, diverse, and inclusive.

#### 4.10

#### Publicization of Education and Care Services

Tainan City continues to advance the publicization of early childhood education and care services and improve service quality. According to the K-12 Education Administration of the Ministry of Education's 2023 Handbook on "Newly Constructed Kindergarten Facilities and Existing Space Improvements for Public Kindergartens," the goal is to "reduce the burden on parents." From the 2020-2021 to the 2023-2024 school years, a total of 133 classes have been added in public and non-profit kindergartens. For the 2024 school year, 51 new classes will be established in public and non-profit kindergartens, accommodating 888 children (including new kindergartens, additional classes in existing ones, and converted classes). As of the first semester of the 2023 school year, the enrollment rate in publicized early childhood care services has reached 59.19%. To support dual-income families, the city has also established 7 workplace mutual support childcare services, encouraging businesses to utilize workplace space to provide childcare facilities, thereby sharing the responsibility of caring for young children.



△2023 Tainan City Outstanding Traffic Guidance Volunteers and Heartfelt Service Station Awards Ceremony





△Siraya Non-profit Kindergarten



△Yongkang Elementary School Treehouse Inclusive Playground





#### 4.11

#### Active Aging Learning Centers

To realize the vision of having "Active Aging Learning Centers in Every District" and "Distinctive Centers in Every Location," Tainan City has established a total of 38 Active Aging Learning Centers across its 37 administrative districts. These centers offer core courses focused on active aging for citizens aged 55 and above, continuing education and participation to promote their health, safety, and quality of life, thereby achieving the goals of senior learning. In terms of professional development for senior learning, the city has commissioned its active aging learning demonstration centers to conduct training for active aging learning professionals (general instructors), incorporating topics such as gender equality and dementia-friendly practices into the curriculum. The Active Aging Learning Centers aim to provide a rich and diverse learning environment for the elderly, encouraging them to enjoy learning regardless of their age. By offering a variety of educational programs, these centers help seniors move beyond their homes and engage with the community, creating a second stage in their lives. In 2023, a total of 8,268 course activities were conducted, with 201,491 participants.



△Llioujia District Active Aging Learning Center Hosts "Beat of Joy: Senior Learning" Course





△South District Active Aging Learning Center: Participants and Their Creations





## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion



# SDG

## 05

## Gender Equality

### -Realize Gender Equality and Empower Women

To ensure that women are not unfairly treated due to their inherent gender and to achieve complete gender equality, the Tainan City Government is focusing on several key areas:

- Operation and System Establishment of Gender Equality Education Organizations.
- Development of Gender Equality Education Programs and Teaching Resources.
- Multigenerational Learning Mechanisms.
- Training for Staff and Educators.
- Prevention and Handling of Gender-Related Incidents in Schools.

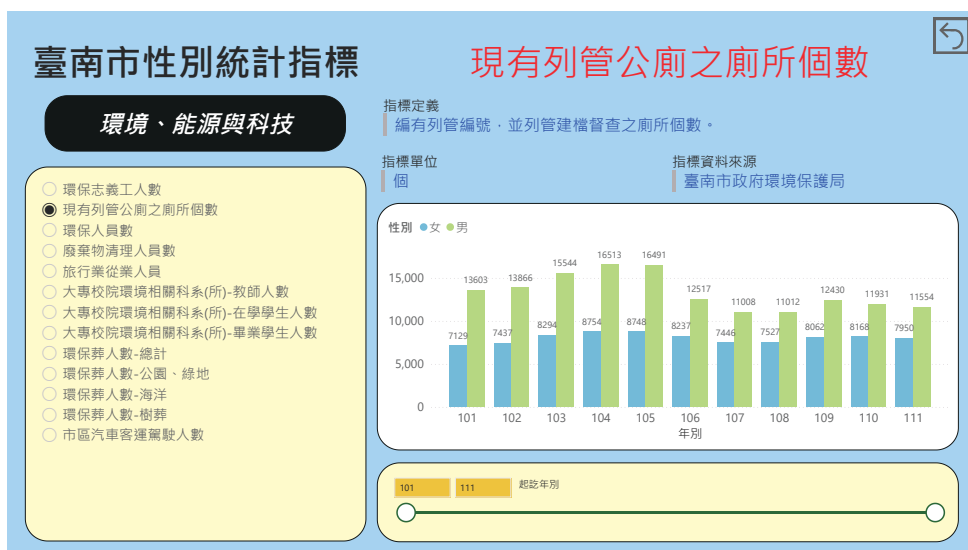
These initiatives aim to integrate the concept and practice of "gender equality" into the daily lives of the city's residents.

### 5.1

## Tainan City Gender Portrait Compilation

Every year, statistical data on gender-related issues from central government ministries and city departments are collected. These data are categorized according to the promotion strategy of the "Gender Equality Policy Framework" into six major areas: "Power, Decision-making and Influence", "Employment, Economy and Welfare", "Education, Media and Culture", "Personal Safety and Justice", "Health, Medical and Care", and "Environment, Energy and Technology". The data are presented through statistical charts and textual descriptions, analyzing trends over the years to understand the differences in treatment between

genders under various circumstances. This information serves as a reference for relevant government agencies in performing their duties. As of August 2023, the compilation of the "2022 Tainan City Gender Portrait" has been completed, including six major categories, 161 subcategories, and 1,771 indicators. The Power BI visualization tool was used to create an interactive chart titled "Gender Statistics Indicators" on the city's website. This chart employs clear and comprehensible visuals to enhance the readability of the data and support its diverse applications.



△ Interactive Visualization of "Gender Statistics Indicators" - Example Using the Number of Restrooms in Managed Public Toilets



## 5.2

### Incentives for Women's Clean Energy Entrepreneurship

#### Protecting Women's Labor Rights

Tainan City, with its rich cultural heritage and high-quality environment, attracts many enterprises. To recruit talented individuals and provide an excellent employment environment, creating a family-friendly workplace is crucial. Therefore, since taking office, Mayor Huang has continuously organized the "Tainan City Five Hearts Workplace Certification Program". The certification for outstanding workplaces under this program has now reached its 5th year in 2023. The program encourages enterprises to share their experiences in creating friendly workplaces, thus enhancing their competitiveness and transforming into happy enterprises.

In 2023, the Tainan City Five Hearts Workplace Outstanding Units include seven companies:

- Sumika Technology Co., Ltd.
- Nang Kuang Pharmaceutical Co., Ltd.
- Chi Mei Hospital, Liouying.
- Taiwan Scott Paper Corporation Xinying Plant
- Ta Chen Construction & Engineering Corp.
- Dashing Sheet Metal Co., Ltd.
- Far Eastern Department Stores Co. Ltd. Tainan Cheng Kung Branch

Sumika Technology Co., Ltd. provides pregnant employees with amenities such as shoe benches, dedicated parking spaces, and special maternity meals to supplement nutrition. Chi Mei Hospital, Liouying, goes beyond legal requirements by establishing a welfare committee to secure various benefits for employees. Nang Kuang Pharmaceutical Co., Ltd. offers comprehensive employment support measures for middle-aged and older employees, ensuring they do not face challenges due to aging. Taiwan Scott Paper Corporation, a long-established enterprise in Tainan, not only has a high proportion of female supervisors but also offers benefits that exceed legal requirements and are ahead of industry standards. Dashing Sheet Metal

Co., Ltd. has established the first enterprise childcare center in the Science and Technology Industrial Park, allowing employees to work without worrying about childcare, and features a gym to encourage physical activity. Ta Chen Construction & Engineering Corp. provides flexible working hours, annual health check-ups for all employees, emphasizes occupational safety with zero accidents, and has received multiple public works awards. Additionally, it maintains a high retention rate for middle-aged and older employees. Far Eastern Department Stores Co. Ltd. Tainan Cheng Kung Branch not only employs a significant number of middle-aged and older workers but also offers superior compensation and benefits compared to peers, along with thoughtful measures for female employees such as menstrual heat packs and support for pregnant employees.



△Group Photo of the 2023 Tainan City Five Hearts Workplace Outstanding Certification Companies



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 5.3

#### Gender-friendly public toilets

Since 2019, our city has been dedicated to improving the public toilet environment. We have secured a total of NT\$190 million in central government subsidies to renovate and rebuild 461 public toilets, making it the city with the highest number of renovated toilets nationwide. As of 2023, Tainan City has completed the repair and construction of 65 gender-friendly toilets, exceeding the target of 60 gender-friendly public toilets set for 2024.

#### 5.4

#### Gender Equality in Seminar "Our Farms, Your Farms "

To assist women in understanding diverse perspectives on gender equality, recognizing and sharing their experiences in breaking gender stereotypes, and enhancing gender equality awareness, the city promotes equitable and mutually beneficial household division and customs. This is achieved through seminars and videos on gender equality topics, extensively promoted in agricultural cooperatives' home economics classes across various districts. In the year 2023, a total of 6 sessions were held, with 400 participants.



△ Gender-Friendly Public Toilets at Nanying Hall



△ Gender Equality Prevention and Intervention Professional Training



△ Longci District Office 3rd Floor Gender-Friendly Toilets

## 5.5

### Menstrual Products Donation Program

#### Creating a Women-Friendly Environment

In August 2021, Tainan City launched the “Menstrual Products Donation Program”, which subsidizes schools to proactively provide menstrual pads or other menstrual products to disadvantaged female students. Schools across the city have set up emergency menstrual product stations in designated locations (such as health centers) to ensure both convenience and privacy for female students, thereby creating a women-friendly environment.

In the fiscal year 2022, the program provided subsidies to 248 high schools and elementary schools, benefiting a total of 2,577 students, with a budget of NT\$3,092,400. In the fiscal year 2023, subsidies were extended to 232 high schools and elementary schools, covering 2,130 students, with a budget of NT\$2,556,000.

#### Promoting Menstrual Education

To cultivate and maintain good personal hygiene practices and implement self-care methods, the focus is on exploring the connection between health behaviors and health promotion from multiple perspectives to enhance overall health literacy. The learning content includes key concepts such as body composition and function, health maintenance skills, and good hygiene practices.

Additionally, in collaboration with the global advocacy organization Little Red Riding Hood Association, gender equality courses are conducted. In the years 2022 and 2023, innovative menstrual education programs for teachers were organized, integrating the 108 Curriculum Guidelines for teacher professional development. This involved promoting menstrual education through in-person joint

observations and discussions. The initiative is supported by funding for diverse menstrual products from the Ministry of Education and matching funds from the city, which also subsidize schools to conduct parent-teacher-student workshops and promotional activities.



△ Collaborating with Agricultural Associations to Conduct Gender Equality in Seminar "Our Farms, Your Farms "



△ Menstrual Products Donation Program Press Conference



△ 2022 Year Campus Menstrual Products Donation Program Activity.





# SDG

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## 06

### 6.1

#### Sewage Treatment

##### Sewage Treatment Rate

The sewage treatment rate in Tainan City is influenced by building types, real estate development, and population size. With predominantly detached houses as the primary building type, the proportion of specialized and building sewage treatment facility installations is relatively low. Additionally, sewage infrastructure requires long-term investment and significant construction costs. The phased implementation of water resource recycling systems over years is necessary to demonstrate effectiveness. This effort aims to improve household sewage pollution, reduce construction and operational costs, and expedite the transfer of users to the developing sewage pipeline system. The Water Resources Bureau has expanded the scope of user drainage equipment drawing reviews since January 1, 2021, to accelerate user takeover and enhance overall sewage treatment rates. By the end of 2023, the city's sewage treatment rate reached 64.52%, marking a significant increase from 18.33% at the end of 1999—an increase of 46.19%, demonstrating the city's proactive efforts in sewage pipeline construction.



## Clean Water and Sanitation

### -Ensure Availability and Sustainable Management of Water and Sanitation for All

Taiwan is surrounded by the sea on all sides, and Tainan's annual average rainfall exceeds 2,500 millimeters, which is 2.6 times the global average. However, due to the uneven distribution of rainfall and low water storage rates, there is often a water shortage, particularly during the dry season. Therefore, the city government is dedicated to educating the public on how to coexist with water without degrading its natural state. This involves fostering habits of "water conservation, water saving, and water protection" among citizens and implementing policies such as repurposing wastewater from public treatment facilities to provide reclaimed water, thereby safeguarding water resources.

##### Sewer Connection Rate

Sewerage infrastructure is a vital public facility for modern cities and a key indicator of living quality. By ensuring that each household connects to the sewerage system, the city government aims to build a comprehensive infrastructure for daily life, enhancing the cleanliness of community back alleys, significantly improving the quality and odor of community ditches, and promoting public health and living standards.

Currently, the city is advancing sewerage systems in seven areas: Anping, Huweiliao, Rende, Liuying, Guantian, Yongkang, and Annan BOT. These projects are being phased and gradually implemented. By the end of 2023, the number of households connected to the public sewerage system reached 203,029, an increase of 148,812 households from 54,217 at the end of 2010, representing a 3.74-fold growth. The sewerage system coverage rate has reached 27.94%, up from 8.48% at the end of 2010, reflecting a 3.29-fold increase. The city will continue to push forward with these initiatives to create a healthier and more livable urban environment.



△ Before sewer connection construction (left), after sewer connection construction (right).

## 6.2

### Water Resources

#### Steady and continuous water flow; cherish and conserve water resources

Taiwan is a region with limited land and high population density, characterized by steep and fast-flowing rivers. Despite ample rainfall, there is a significant disparity between wet and dry periods, and the river systems have limited capacity for water storage and utilization. Additionally, the rapid development of industry and commerce in the city has led to a substantial increase in water demand, exacerbating the difficulties in water allocation during dry periods and worsening the issue of water scarcity.

In 2023, the average daily water consumption per person in Tainan was 276 liters. To address this, the city has strengthened water situation monitoring, carefully managed water resources, and enhanced public awareness of water conservation. The strategy, known as "steady and continuous water flow," involves specific

actions to "reduce water use," "increase water sources," and "optimize water distribution," all aimed at rigorously implementing water-saving measures.

### Water Conservation

Assist major water-consuming industries in implementing water-saving technologies to effectively enhance their water resource usage efficiency. Organize workshops and seminars on water and energy conservation for businesses, households, and communities, as well as site visits to award-winning companies recognized for their achievements in wastewater recycling and water conservation. These activities aim to guide citizens and organizations in implementing effective water-saving practices and making reasonable and efficient use of water resources.



△2023 Tainan Water Conservation Awards DM



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### Finding Water

To address the increased demand for recycled water from industries in the Southern Taiwan Science Park, alleviate the water usage pressure in Tainan, and manage the construction and operation of reclaimed water plants through government procurement with a Design-Build-Operate (DBO) approach, efforts are actively underway to promote reclaimed water in Yongkang, Anping, and Rende.

The construction of the reclaimed water plants in Yongkang and Anping has been completed, and the Rende reclaimed water plant is expected to be finished by the end of 2024. Together, these three plants will provide high-tech manufacturers with reclaimed process water. Currently, the Anping and Yongkang reclaimed water plants can supply 45,500 tons of reclaimed water daily to the Southern Taiwan Science Park. By the end of 2024, this capacity is projected to increase to 63,000 tons per day, with a further expansion to 90,000 tons by 2026 in alignment with central government policies. Additionally, TSMC's self-built reclaimed water plant can supply 20,000 tons of reclaimed water daily. Through the

combined efforts of the government and private sector, a total of 110,000 tons of reclaimed water will be available each day, meeting the industrial needs of Tainan, stabilizing economic development, enhancing the recycling of water resources, and fostering the reclaimed water industry.



△ Mayor Inspects Yongkang Reclaimed Water Plant







△Anping Reclaimed Water Plant



△Yongkang Reclaimed Water Plant



△Rende Reclaimed Water Plant Vision Simulation Diagram



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### Increase Water Transfer

In response to changing water conditions, the Tainan City Government set up 43 water supply points and dispatched water trucks 965 times from April 12 to June 12. This provided approximately 22,000 cubic meters of water for fruit trees. Due to the effective irrigation assistance, the city's mango production reached approximately 89,000 metric tons, setting a new historical high. This demonstrates that the measures taken have effectively helped farmers overcome drought conditions and stabilize their harvests.



△Emergency Water Supply and Irrigation Assistance Service





## 6.3

### Water Environment Protection Volunteers

#### Caring for Rivers: Our Responsibility

"From Caring to Action," the Environmental Protection Bureau of Tainan City Government aims to raise public awareness of environmental protection through the River Watch patrol team initiative. This effort seeks to redefine the new pact between citizens and the environment, encouraging collective action to safeguard water resources. By participating in this initiative, the River Watch patrol team has the opportunity to align with international development trends and goals, demonstrating their commitment and enthusiasm for water environmental protection.

#### Volunteers Ahead - Protection of Rivers

The city's water environment volunteer teams demonstrate robust operational management through a comprehensive replacement mechanism. This approach continues to phase out less active teams and invite new teams to join the river patrol efforts. In 2023, there are a total of 43 registered water environment protection volunteer teams, including schools, community groups, and corporate organizations.

#### Public-Private Partnership for River Improvement

Through education and training, as well as promotional activities, the city provides a comprehensive pollution reporting and notification process to the patrol teams. The process involves continually updating the river patrol maps and organizing volunteers from various river basins to accompany environmental inspections and joint enforcement projects. By leveraging local volunteers' familiarity with the environment, the city government can better understand and quickly address river pollution issues. This approach helps identify and report unknown drainage pipes, illegal pipes, or inadequately treated wastewater. The city can then take legal action, track improvements, and collaboratively execute river patrol verification work.



△ 2023 Tainan City Water Environment Protection Volunteer Team Seed Teacher Training





#### 6.4

#### Remediation of Polluted Rivers

##### Clear Water for Sustainable Tainan

Water pollution is a major public concern. To emphasize the sustainable use of drinking water and water resources, the Tainan City Government is actively advancing water pollution control efforts within the city. The policy, "Accelerate River Restoration and Promote Water Conservation," includes integrated management of river basins. In addition to regularly holding meetings across counties, government agencies, and civic groups, the city also incorporates recommendations from these meetings and suggestions from experts. This approach integrates elements such as tourism, recreation, and cultural industries to increase public willingness to engage with water-related activities. By following the stages of "water treatment, water purification, water-friendly initiatives, and revitalized water," the goal is to achieve the vision of "clear water with visible fish and sustainable oceans."

##### Overseas Pollution - Difficult Challenges

Tainan City, a hub of industrial development and cultural heritage, aims to enjoy a beautiful and accessible water environment while advancing its economy. Some of the river pollution in Tainan originates from Chiayi County (Bazhang River) and Kaohsiung City (Erren River), and illegal wastewater discharges are frequent. The city has prioritized the urgent restoration of Jishui River, Yanshuei River, and Erren River. In 2023, the proportions of severely polluted river sections were 14.1%, 13.6%, and 24.3%, respectively.



△ River Remediation

## 6.5

### Delivering Water to Remote Areas

In recent years, the city government has been actively improving water supply to remote areas. According to the evaluation and review mechanism of the Water Resources Agency under the Ministry of Economic Affairs, and in conjunction with the Executive Yuan's Forward-looking Infrastructure Plan—specifically the "Strengthening Water Supply Improvement in Areas Without Tap Water" project—funds have been allocated for extending water pipelines. This funding helps share the cost of the projects, reduce evaluation costs, and improve ranking, aiming to secure additional central government subsidies to address the issue of lack of tap water. In 2023, assistance was provided to 122 households with water supply issues, and future improvements will continue to be planned and implemented.

## 6.6

### Install River Surface Litter Barriers

In coordination with the national water environment construction plan, efforts are made to remove floating debris, trash, dead fish, water hyacinths, weeds, and decaying organic matter from river surfaces, which can cause unpleasant odors and fish kills. This initiative aims to keep river surfaces clean and prevent garbage from entering rivers through area drainage and stormwater systems. In 2023, five river surface litter barriers were installed, with plans to install additional barriers by 2025, and a total of ten barriers by 2029.



△Autumn Coastal Clean-up Event

## 6.7

### Coastal Clean-up, River Clean-up, and Marine Clean-up Activities

On the morning of December 16, 2023, the city held the Autumn Coastal Clean-up event at Yuguang Island in Anping District. Around a thousand participants, including businesses, community organizations, and environmental volunteers, gathered on the holiday morning to pick up various types of waste scattered across the beach. Over the course of two hours, a total of 950 kilograms of general waste was collected, with tree branches accounting for the largest portion at 800 kilograms. Recyclable waste totaled 150 kilograms, with glass bottles being the most common at 75 kilograms. For 2023, the total weight of waste removed during coastal clean-up activities reached 2,879.7 metric tons.



△Improve water supply in areas without tap water







#### 6.8 Leachate Treatment Plant (including Sewage Treatment Plant) Operation and Management, and Leachate Transport Services

In recent years, due to the rapid development of industry and commerce, the volume of waste generated from various production and consumption activities has significantly increased, making waste management one of the most critical issues. The leachate generated from the city's landfill has averaged 66,941.01 cubic meters annually, while the average volume of treated sewage has been 59,935.50 cubic meters. After treatment, both are discharged only if they meet the effluent standards, thereby reducing the discharge of polluted wastewater and ensuring proper handling.

#### 6.9 Operation, Maintenance, and Management of the Chengxi Landfill Leachate Treatment Plant (Contracted)

The Chengxi Landfill Leachate Treatment Plant processes wastewater generated from the Chengxi landfill, fly ash stabilization plant, and bottom ash plant. After treatment, the water is recycled for use in street cleaning, irrigation, and dust suppression. The plant has an average annual treatment capacity of approximately 256,000 cubic meters. The treated effluent consistently meets discharge standards, and after further treatment by the RO (reverse osmosis) system, the water quality is suitable for reuse. In 2023, the volume of recycled water used was 27,390 cubic meters, effectively conserving water resources.



△An-Ding Leachate Treatment Plant



△Chengxi Landfill Leachate Treatment Plant





SDG

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07

## Affordable and Clean Energy

### -Ensure Affordable, Reliable, Sustainable and Modern Energy for All

Tainan City, located in southern Taiwan, benefits from its well-established industrial cluster, ample sunlight, comprehensive industrial infrastructure, a single-window administrative system for enhanced efficiency, and a central government office dedicated to promoting development. To accelerate alignment with the national policy of a nuclear-free homeland, Tainan is pioneering the "Sunshine Electric City Project." This initiative involves forming a dedicated project team to match various applications and needs, leveraging Tainan's local solar energy advantages to build a complete green energy industry chain. The goal is to showcase the city's commitment to green energy and transform Tainan into a livable, low-carbon city.

### 7.1

#### Increase Capacity of Solar Power System Installation

##### Sunshine Electric City 3.0 Project

The city of Tainan is currently engaged in the promotion of the Sunshine Electric City 2.0 initiative. This project involves the establishment of a centralized service window, which aims to connect green energy manufacturers operating in the upstream, midstream, and downstream sectors, thereby creating a robust industrial base. Additionally, the initiative seeks to systematically promote the installation of solar power across five major rooftop types and five major ground types, including salt land, water space, landfills, green energy sites, and various green energy installations such as sunshine public housing, sunshine rooftops, sunshine communities, green factories, and agricultural sheds. The Sunshine Electric City 3.0 Project aims to advance the objectives of the prior Sunshine Electric City 2.0 Project by enhancing both the rooftop and ground-based initiatives. Additionally, the project prioritizes the modernization of the information platform, which encompasses the implementation of a smart grid, energy storage, energy generation, and the encouragement of energy conservation.

#### Developing Operational Guidelines for Solar Power Systems

Tainan has taken the lead in establishing guidelines for the installation of solar power generation systems in publicly owned housing units and managing the associated bidding processes. These housing units include district offices, activity centers, police stations, public retail markets, and other municipal facilities. The installation of public housing for demonstration purposes serves as a testament to the government's commitment towards advancing energy efficiency policies. It also aims to showcase the diverse solar power options available to cater to the varying needs of the public, significant electricity consumers, system manufacturers, and financing entities. As of present, a total of 260 sessions have been conducted.

#### Establishing a Low Carbon Economy

To address funding issues and enhance the feasibility of policy implementation, annual budgets are allocated, and subsidy plans are formulated to encourage installations. The city has coordinated with banks to establish solar photovoltaic financing programs. Currently, Cathay United Bank, Bank SinoPac, Hua Nan Bank, Chang Hwa Bank, and Taiwan Business Bank Co., Ltd. have all responded, collectively contributing to the development of a low-carbon economy.



## 7.2

## Expansion of the Sunshine Electric City Project 2.0

## Implementation of Green Rooftop Power Generation

The city is advancing five major rooftop projects and five major ground-based projects and is promoting the Green Rooftop Participation Program as one of the central government's model cities. The city has completed the assessment of rooftop potential and the selection of regional operators across all 37 administrative districts. Additionally, a green rooftop consultation hotline has been established. The city is coordinating with various government departments to set up consultation windows for unauthorized solar power installations and handle the certification of equipment under 2,000 kilowatts. It is also facilitating the installation of green rooftop power generation systems on rental rooftops provided by commercial and industrial property owners.

## Proposed Subsidy Program to Encourage Installation

To realize a nuclear-free homeland and achieve the vision of net-zero carbon emissions by 2030, Tainan City is accelerating the deployment of rooftop solar photovoltaic systems. The city has allocated annual funds and established the 2023 subsidy plan for solar power system installations. In 2023, the subsidy amount has been increased, ranging from NT\$3,000 to NT\$15,500 per kilowatt (KW), with a maximum subsidy cap of NT\$500,000. This subsidy is available for legal private buildings, including those with unauthorized rooftop solar installations, new development communities, and participants in the "Green Rooftop for All" initiative, including individuals and enterprises. The subsidy standards are divided into ten categories, covering Taipower-related circuit fees, sunshine community, self-use type, and energy storage type, among others.

## Establishment of a Violation Consultation Line

After consulting with the government regarding illegal roof modifications, it is required to apply for the installation of solar photovoltaic systems in accordance with regulations, and such installations must be certified for structural safety by a professional engineer. However, solar photovoltaic systems cannot be installed on roofs with evacuation platforms, illegal building floors exceeding two stories, or those affecting public safety. The Tainan City Government has announced the "Safety Scope and Consultation Methods for Illegal Roof Solar Photovoltaic Installations in Tainan City" and has established a hotline for consulting on illegal installations. The expansion of roof-type solar power installations is anticipated through the relaxation of installation regulations for solar photovoltaic systems on the unlawful rooftops of lawful buildings. The objective is to achieve 100 communities with ample sunshine by 2030.

# 112年臺南市太陽光電補助計畫

● 補助至11月底截止，歡迎踴躍申請！

## 補助條件

於112.01.01~112.11.30期間取得經濟部能源局核准備案同意備案或備案登記者

## 補助對象

合法私有建物之屋主、住戶

- 太陽光電系統安裝負責人為自然人或法人之大樓、零散、社區、協會、非營利團體、商業建築物所有權人或(出租)房屋中隔或改建等相關權利關係人、不在位居住
- 太陽光電系統安裝負責人為自然人且非該建物所有權人者，則應備有以配偶或二親等以內親屬證明

補助項目	台電相關費用	陽光社區			一般型			綠白型		
		第一型	第二型	第三型	全屋型	自用型	儲能型	全屋型	自用型	儲能型
補助金額	全額補助	6千5百	5千5百	1.05萬	3千5百	1.55萬	4千	8千	1.55萬	
補助上限	5萬	15萬	25萬	50萬	≤100坪			30萬		
					100坪以上至滿300坪			30萬		
					15萬 20萬 30萬			30萬		
					300坪以上			30萬		
					25萬 50萬 30萬			30萬		

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△Tainan City Solar Photovoltaic Subsidy Program for 2023

### 7.3

## Incineration Thermal Power Generation

To achieve the net-zero transformation by 2050, our city is actively promoting the development of renewable energy and the recycling of energy resources. One aspect of energy resource recycling is the use of incinerators to process waste and recover thermal energy for electricity generation. Incineration plants play a crucial role in the renewable energy sector in Tainan City. The city has two waste incineration facilities, namely the Yongkang and Chengxi incineration plants. Between 2021 and 2023, these incinerators generated approximately 780,000 MWh of electricity, which is enough to supply nearly 63,000 households with electricity for a year. This also results in a reduction of approximately 128,000 tons of carbon emissions annually.

### Chengxi Incineration Plant Renovation and Maintenance Works

The Chengxi Waste Incineration Plant has been in operation for over 20 years and has experienced a gradual decline in performance. The city government is addressing this by replacing the old facility with a new generation incineration plant. The existing Chengxi incinerator processes approximately 600 tons of waste daily. The upgraded furnace will restore the original design capacity to 900 tons per day and will incorporate advanced pollution control technologies. In addition to autonomously reducing various pollutants, emissions of nitrogen oxides, sulfur oxides, and hydrogen chloride from the incineration process will be significantly

lower than relevant environmental regulations. During its operational period, the new facility is expected to generate an annual electricity output of 262.44 million kWh, more than double that of the old Chengxi plant, providing electricity for approximately 64,513 households each year. Furthermore, the management building used during the operation will be designed to meet green building certification standards, making the new facility not only a waste incineration plant but also a notable landmark for environmental education.

### Installation of Air Pollution Control System

The two incineration plants located within the city have implemented Continuous Emissions Monitoring Systems (CEMS) in compliance with the regulations established by the Environmental Protection Agency (EPA). These systems provide real-time monitoring and control capabilities and are publicly accessible through the official website of each respective incineration plant. The Yongkang incineration plant completed the upgrade of its SNCR (selective non-catalytic denitrification) system and CEMS system equipment in 2022. In 2023, the average nitrogen oxide concentration was approximately 69 ppm, demonstrating improved air quality and enhanced environmental protection around the incineration plant during high-efficiency power generation.



△Chengxi Waste Incineration Plant New Furnace BOT Groundbreaking Ceremony



△Chengxi Incineration Plant ACC Update





#### 7.4

#### Enhance the Annual Electricity Generation Capacity of a Landfill

The city is leasing the land from closed and rehabilitated landfills to companies for the installation of solar power facilities. A total of 13 landfills will have solar photovoltaic systems installed, with a combined capacity of 15.59 MW (Megawatts). The total area of these sites is 31.78 hectares. Annually, this solar power capacity will reduce carbon dioxide emissions by nearly 10,000 tons compared to coal-fired power generation and provide electricity for approximately 5,000 households.



△ Biogas Recovery Collection Bag

#### 7.5

#### Counseling Livestock Farm Biogas Reuse

Assisting livestock farms in installing biogas recovery facilities allows the use of biogas as a substitute for natural gas. Effective collection and utilization of this biogas can reduce greenhouse gas emissions, making it a more environmentally friendly approach. This not only helps achieve carbon reduction goals but also fosters a circular economy and improves environmental issues. In 2023, the biogas recovery rate reached 47.2%.

#### 7.6

#### Green Factory and Office

In Tainan City, users with an electricity contract capacity of 800 kW or more are required by Article 23 of the Tainan City Self-Government Ordinance for a Low-Carbon City to install solar photovoltaic systems or energy storage systems with a capacity of at least 10% of their contract capacity at appropriate locations within the city, or to purchase a certain amount of renewable energy power and certificates.

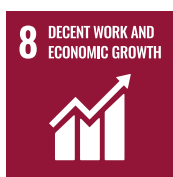
As of now, 724 users have been announced, with 380 having completed registration, 252 having applied for removal, 25 still under guidance, and 67 in the process of installation. The total installed capacity exceeds 157 MW, with an annual electricity generation of over 206.9 million kWh, sufficient to power 50,863 households for a year and reducing carbon emissions by over 102,400 tons annually. Additionally, 25 users are continuously receiving guidance for improvement and installation, achieving an implementation rate of 87.29%.







△ Chengxi Landfill Solar Power Installation



# SDG

## 08

## Decent work and Economic Growth

### -Promote Sustained, Inclusive and Sustainable Economic Growth, Full and Productive Employment and Decent Work for All

In addition to the collision and fusion of different ethnic groups and cultures, tradition and modernity are also blending in Tainan. To create a favorable industrial environment, Tainan City has made a dedicated effort to safeguard labor rights and safety, extend requisite support to businesses, and foster industrial advancement and novelty, and developing local features. This approach aims to promote economic development, create more employment opportunities, and gradually transform Tainan into a city where technology and sustainability coexist harmoniously.

### 8.1

### Prevention and Promotion of High-Temperature Heat Hazards in Business Units

#### Mitigating the Incidence of Environmental Heat-Related Disorders Caused by High Temperatures

Global warming has led to abnormal climate changes, with elevated temperatures becoming a common occurrence both domestically and internationally. Persistent high temperatures increase the risk of heat-related illnesses, such as heat stroke, for outdoor workers involved in industries like construction, advertising sign hanging, power pole maintenance, and roadwork. As summer approaches, to protect the health of outdoor workers, the Tainan City Bureau of Labor Affairs and the Southern Region the Occupational Safety and Health Administration of the Labor Health Service Center, Ministry of Labor are collaborating. They are

enhancing awareness, enforcing preventive measures against heat hazards, and providing financial incentives through subsidies. These efforts aim to encourage small and medium-sized enterprises to invest in equipment and facilities that protect outdoor workers from heat hazards, assisting employers in implementing effective preventive measures.

#### Occupational Safety and Health Disaster Prevention Visits

To improve working conditions and ensure the safety and health of workers, the city promotes workplace safety and health awareness to prevent heat-related illnesses caused by high temperatures and to safeguard the health of outdoor workers. In 2023, a total of 455 sessions were conducted. Through these efforts to enhance the working environment and protect worker safety, the city aims to realize the mayor's policy of creating a "Safe and Healthy Hopeful Home," ensuring that workers can "enjoy Tainan, stay safe, and maintain good health."



△Occupational Safety and Health Counselor Education Training in 2023



### Supervision and Inspection on Prevention of High-Temperature Heat Hazards in Outdoor Operations

The city has implemented supervision and inspections to prevent heat hazards in outdoor workplaces, including construction sites, road work, and other similar environments, within its ten major industrial zones. In 2023, a total of 199 inspections were conducted. It is projected that this number will reach 220 by 2030. These inspections aim to ensure that employers adopt effective measures to prevent heat hazards and safeguard the safety and health of outdoor workers, thus reducing the risk of heat-related illnesses.

### Establishing Effective Measures for Thermal Hazards by Employers

To safeguard the health of outdoor workers, an annual target progress control schedule has been established. This schedule aims to encourage employers within the city's jurisdiction to implement effective measures to prevent heat hazards through labor inspections. The goal is to ensure the safety and health of outdoor workers and prevent heat-related illnesses, thereby building a "Safe and Healthy City" in Tainan.

Conducting Summer Outdoor Work Heat Hazard Prevention Inspection

#### The labor inspection encompasses:

The implementation of educational programs aimed at preventing heat-related illnesses among workers.

Conduct routine inspections prior to and during work activities.

Utilize protective equipment and reinforce various measures to prevent heat hazards.

Locations for relaxation that provide shelter from direct sunlight.

The provision of sufficient potable water or sports beverages.

Refrain from engaging in strenuous physical activities during the hours of midday.

Establish emergency medical, notification and response mechanisms.



## 8.2

### Local Industry SBIR Innovation Promotion

To encourage local small and medium-sized enterprises (SMEs) to enhance technological innovation and development, and to motivate them to apply for larger central government subsidy programs, the Tainan City Government has launched the "Tainan City Government Local Small Business Innovation Research Program" (Local SBIR). This initiative aims to accelerate the competitiveness of SMEs in Tainan by establishing robust research and development processes, comprehensive financial accounting knowledge, and effective project management and planning models. It also seeks to reduce the difficulty of applying for large municipal projects and increase the willingness to apply. In 2023, the city's Local SBIR program provided a total subsidy of NT\$45,743,000 to 58 companies, with an anticipated increase in added value reaching NT\$310 million.

### Tainan City's Green Energy Technology Development Policy

The policy of Tainan City pertaining to the development of green energy technology encompasses three primary areas of focus, which are "green energy for transportation," "green energy for regeneration," and "green energy for power conservation." The five principal domains encompass "solar energy," "light-emitting diode (LED) illumination," "environmentally sustainable constructions", "energy service companies (ESCOs)", and "electric cars". The city's development

policy incorporates measures to ensure a consistent and tangible execution of renewable energy development.

- The implementation of novel technologies and the facilitation of inventive practices to expedite the advancement of industries or pivotal sectors in which the urban area holds a competitive edge.
- The identification of potential application domains for significant trend technologies serves as a catalyst for enterprises to allocate resources towards innovative research and development initiatives, as well as transformative endeavors.
- The advancement of novel technologies. Assist start-ups in sustainable management, linking local and central resources.

### Provide Subsidies to Encourage Start-ups

The manufacturers in the city are being incentivized by the central government's policy to invest in research and development in various categories such as fashion autonomy, digital transformation and smart driving, high quality food and medicine, green technology, 5G leadership, and new business creation. This is being done to stimulate economic growth and development. Over the course of the previous 13 years, a cumulative total of 930 cases have been sanctioned, resulting in the generation of 10 billion yuan in output value by the enterprises. Additionally, 345 instances of collaboration between neighboring industries and academia have been advanced. This has led to the employment of 2,611 people in Tainan City.



△Front of the Promotional Card



△Back of the Promotional Card

### 8.3

## Implementing Industrial Zone Development Plan

### Comprehensive Review of All Industrial Zones in the City

To encourage the return of Taiwanese businesses and attract corporate investment, it is essential for various levels of industry to be proactive. Tainan is actively employing strategies such as industrial park development, land inventory assessments, and urban land readjustments to create diverse investment opportunities and promote the development of industrial zones. Measures for transformation and development have been established to resolve stagnation issues in the development of some industrial zone lands.



△Tainan City Business Transformation Consulting and Counseling



△Tainan City Industry Digital Transformation Joint Briefing

### Development of Industrial Areas

The city government has successfully developed four industrial zones: Shugu Park, Liuying Technology Industrial Zone, Yongkang Technology Industrial Zone, and Xinji Industrial Zone. In response to the demand for the return of Taiwanese businessmen and the need for mass production bases around Shalun Science City, the Cigu Technology Industrial Park is currently undergoing hypothetical planning, land extraction, and land preparation projects. Additionally, the Green Energy Industrial Park is in the process of application, and suitable locations are continuously being assessed for future development.

With the two major engines of Southern Taiwan Science Park and Shalun Smart Green Energy Science City driving industrial cluster development, and the city government's proactive cooperation with central government initiatives on 5G, digital transformation, and AIoT, local industries are undergoing overall transformation or capacity enhancement toward sustainable development goals. Furthermore, there is a strong focus on attracting low-pollution, low-water-consumption, low-energy-consumption, and high-value-added industries, with significant investment in metal products, machinery, plastic products, and food industries. In addition to semiconductor manufacturers, Tainan has also attracted leading companies in manufacturing and services, reflecting confidence in Tainan's economic development prospects and its recognition as one of the most investment-potential cities in Taiwan.





#### 8.4

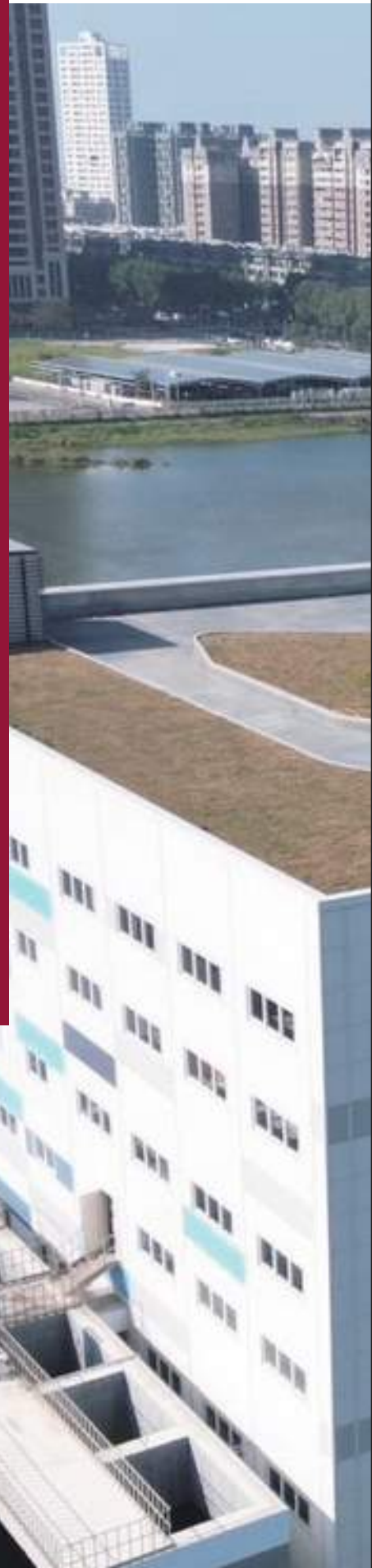
#### Enhancing Employment and Entrepreneurship Capabilities of Indigenous Peoples

To enhance career development planning for indigenous individuals and improve job matching success rates, the city has collaborated with the Council of Indigenous Peoples' Yunlin, Chiayi, and Tainan Regional Indigenous Employment Service Specialists, as well as the city's Bureau of Labor Affairs. Employment promotion activities have been organized, with ongoing tracking and guidance provided to support stable employment for indigenous people. In 2023, a total of 45 employment promotion events were held, serving 1,550 indigenous individuals. Among them, 248 were accompanied to interviews, 110 were successfully matched with jobs, and 66 achieved stable employment. Moving forward, the city will continue to provide stable and ongoing employment services and career planning assistance to indigenous individuals, helping them enter the workforce and leverage their skills.

#### 8.5

#### Attracting Investment to Build an Economic and Industrial Hub

The municipal government is actively creating a high-quality investment environment. In addition to providing various investment services through a single-window service center, it assists businesses in resolving investment and establishment issues and removing investment barriers. Major investment projects are closely monitored through significant investment meetings chaired by the mayor, aiming to address administrative issues related to each investment case. Currently, there are 85 major investment cases with investments exceeding 200 million NTD, totaling 253.2 billion NTD. Since 2019, Tainan has attracted 1,462 investment cases, generating 201.1 billion NTD in investments and 398.7 billion NTD in output value, creating 48,343 job opportunities. Additionally, local businesses have engaged in 218 cases under Taiwan's three major investment programs, with an investment amount of 273.6 billion NTD and creating 20,157 job opportunities. As a result, Tainan has rapidly emerged as a key hub for industrial development.







△Anping Reclaimed Water Plant



#### 8.6

#### Winwin Innovation & Incubation Base

To create a dreamland for entrepreneurs in Tainan City and attract more entrepreneurial talent to develop in the city, the plan involves revitalizing the Minzhi Hall as a physical space for Tainan's innovation incubation base, named the "Winwin Innovation & Incubation Base" (WinWin, implying a mutually beneficial outcome). This initiative aims to foster a strong industrial foundation in Tainan by leveraging large-scale projects to support smaller ones and encourage innovation and creativity through local industry collaboration. The base provides a platform for innovative teams with potential market opportunities, offering comprehensive support for commercialization and market expansion, and serves as an incubator for creative and innovative startups.

As of 2023, the program has successfully advanced the operations of 46 startups, established 2 new companies, increased employment by 23 positions, and participated in events such as the 2023 InnoVEX Pitch Contest and the 2023 Smart Life in Tainan. The initiative has attracted over 5,000 attendees and generated more than NT\$57 million in economic benefits.



△ Tainan Winwin Innovation & Incubation Base Website

#### 8.7

#### Establishment of Vocational Rehabilitation Service Desk for Individuals with Disabilities

The city provides employment transition notifications and services for individuals with physical and mental disabilities, integrating various service resources. Case managers for vocational rehabilitation offer personalized services based on individual needs, abilities, and interests, effectively connecting and utilizing local vocational rehabilitation resources for people with physical and mental disabilities. This approach ensures continuous, seamless, and appropriate professional services throughout the vocational rehabilitation process, aiming to assist individuals with physical and mental disabilities in securing employment. In 2023, the city assisted 328 individuals with physical and mental disabilities in finding employment.







SDG

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09

## Industry, Innovation and Infrastructure

### -Build Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization, and Foster Innovation

The city of Tainan is proactively encouraging the adoption of solar photovoltaic systems for users with a contract capacity of 800 kilowatts or more as a means of implementing energy transformation. Additionally, the city has established the Office of Strengthening Corporate Financial Contingency to aid young individuals and enterprises in acquiring funds and accessing innovative development opportunities. These efforts are aimed at constructing a resilient infrastructure and increasing the green coverage rate to enhance the city's ecological regulation capacity, ultimately realizing the vision of a sustainable eco-city. Additionally, they are designed to foster local industry development and attract more creative young talents to return to Tainan, contributing to a new and vibrant future for the city.

### 9.1

#### Assist SMEs with Credit Guarantee Loans

##### Establishment of the Office for the Promotion of Financial Contingency for Strengthened Enterprises

To assist youth and businesses in securing funding and obtaining opportunities for innovation and development, the city established a service window in September 2020 through the integration of counseling and advisory programs. This initiative includes youth entrepreneurship and SMEs credit guarantee loan review, and providing comprehensive services such as entrepreneurship counseling, incentive grants, financing and loan applications, training courses, and referrals to other entrepreneurial resources. Additionally, one-on-one advisory counseling is offered. This approach enables SMEs, which often face resource constraints, to

focus on technological innovation and breakthroughs, thereby driving industrial growth. In 2023, there were 31 applications, with 17 approvals (a success rate of 54.84%), totaling NT\$14.21 million in approved funding.

#### Arranging Onsite Visits to Enterprises

In alignment with the "Tainan City Government Youth Entrepreneurship and SME Credit Guarantee Loan Program" and the Taiwan SME Joint Counseling Foundation's initiatives, we have conducted on-site consultations to diagnose enterprises' financial needs. In 2023, we received 31 applications, all of which were completed, resulting in a 100% completion rate. Among the serviced cases, the wholesale and retail sector led with 7 cases (21.58%), followed by the restaurant industry with 6 cases (19.35%), and the biotechnology services sector with 4 cases (12.90%). This indicates a significant need for government support and operational funding for micro-enterprises.



△Shalun Smart Green Energy Science City - The Envoy of the Wind



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 9.2

#### Road Quality Improvement

##### Establishment of the Office for the Promotion of Financial Contingency for Strengthened Enterprises

In recent years, with numerous construction projects and road excavations, the existing sidewalks have often been obstructed by materials or temporarily removed, causing inconvenience for pedestrians. Therefore, the establishment of temporary pedestrian pathways has become crucial. From 2011 to 2016, the city improved and constructed approximately 39 kilometers of sidewalks through the National Land Management Agency of Ministry of the Interior's "Human-Centric Environment Construction Project." Since 2017, the city has continued to actively seek funding from the Ministry of the Interior and the Ministry of Transportation and Communications through the "Road Quality Improvement Project" under the Forward-looking Infrastructure Plan. This policy focuses on sidewalk and road surface projects and includes the creation of barrier-free pathways, enhancing intersection safety, integrating and burying utility lines, increasing green coverage with planting, adding pedestrian refuge islands, expanding pedestrian spaces at street corners, planning left-turn lanes, reconfiguring road layouts, and

analyzing traffic accidents. As of 2023, approximately 58 kilometers of sidewalks have been constructed or improved. Notably, sidewalks around 29 schools in the city have been completed or enhanced to facilitate safe school commutes.



△Road Quality Improvement Plan



佳里區仁愛國小



山上區山上國小



### 9.3 New Solar-Powered Bus Stop Lighting Equipment

In recent years, the city has been actively promoting public transportation and continuously working to improve the quality of bus services in Tainan, with a particular focus on enhancing the waiting environment. To provide safer waiting conditions and improve passenger convenience, as well as to assist bus drivers in identifying waiting passengers at night, the city has begun installing new solar-powered bus stop lighting equipment in 2023. It is anticipated that by 2024, a total of 3,500 new solar-powered bus stop signs will be installed citywide. In 2023 alone, 253 of these new solar-powered bus stop signs have been successfully installed, with positive results noted. The city is currently expanding the installation process. This initiative is a pioneering effort nationwide and has received positive feedback from both passengers and bus drivers.

### 9.4 Newly Established Off-Street Parking Lots Promotion Effectiveness

With the increasing number of private vehicles in Tainan City, the demand for parking has risen significantly. To expand the parking supply and address the parking demand and supply ratio, the city has implemented the "Tainan Good Parking No. Million Plan" since 2018. This initiative involves collaborative efforts between Bureau of Transportation, Bureau of Public Works, district offices, and private sector partners. It utilizes idle public and private lands through methods such as incentivizing private parties, adopting land, and establishing temporary roadside parking lots. Additionally, the city has worked closely with the Ministry of Finance's National Property Administration to develop temporary surface parking lots on state-owned lands, incorporating fee management to revitalize land use, promote local development, and improve urban aesthetics. This approach has created friendly and high-quality parking spaces, effectively organized urban space, and provided a convenient parking environment. As of 2023, the initiative has successfully increased the number of parking spaces by over 70,000 for cars and over 30,000 for motorcycles, demonstrating significant results in enhancing parking availability.

### Regulations for Subsidies for Private Sector Installation of Off-Street Public Parking Facilities

According to the "Tainan City Subsidy Regulations for Private Sector Installation of Off-Street Public Parking Facilities," a subsidy of NT\$3,000 is granted for each new off-street parking space for small vehicles. Additionally, annual subsidies for land value tax or property tax are provided. From 2019 to 2023, a total of 24 applications for subsidies have been processed, resulting in the addition of 1,753 parking spaces for small vehicles and 60 parking spaces for large vehicles.



△ New Solar-Powered Bus Stop Lighting Equipment



△ Yongkang District Office New Off-Street Parking Lot at Former Feiyan New Village (Shangding Li Parking Lot)



△ Off-Street Parking Lot under the Tainan 86 Bridge in the Southern District (Wannian Third Street Off-Street Parking Lot)





# SDG

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# 10

## Reduced Inequalities

### -Reduce Income Inequality Within and Among Countries

Taiwan is a society characterized by its rich cultural diversity. To ensure that different ethnic groups can mutually accept and appreciate each other's cultural differences, the Tainan City Government focuses on providing equal rights to both indigenous people and residents in remote areas, while also assisting newcomers. Efforts are made to prevent various forms of discrimination and prejudice. The city strives to create an environment of cultural equity, aiming for effective and equitable resource allocation to provide equal opportunities for everyone and avoid inefficiencies caused by resource overlap. This commitment helps to eliminate disparities arising from factors such as identity, age, gender, region, ethnicity, and physical or mental disabilities.

### 10.1

#### Mobile Medical Services

To address the healthcare needs of residents in remote areas and alleviate local medical deficiencies, efforts are being made to increase the accessibility and quality of medical services. This includes providing mobile medical services in remote regions and encouraging health clinics to apply for the "Universal Health Insurance Improvement Program for Areas with Insufficient Western Medical Resources." By 2030, it is expected that health clinics in remote areas will conduct 230 mobile medical rounds and provide services to 2,600 individuals within a 12-mile radius. These initiatives aim to balance the distribution of medical resources, ensuring that residents in remote areas receive effective, safe, and high-quality medical care.





△2023 Art in the District Opening Ceremony



## 10.2

### The Vibrant Arts and Cultural Flourish

#### The Diversity of Arts and Culture, Cultural Equality

In 2011, a merger between the county and city prompted the Tainan City Government to initiate the "Bring the Art to Your Community" program, aimed at implementing local cultural affirmative action. The program sought to collaborate with various public offices to bring performing arts to different areas of Greater Tainan through outdoor theaters. The objective was to enable citizens to develop a closer relationship with theater performances and integrate art appreciation into their daily routine. This year marks the 13th year of the program.

From September 3 to December 2, 2023, the "Bring the Art to Your Community" program will be held for three months in the districts of Guiren, Yongkang, Yanshui, Madou, Shanhua, Anding, Jiangjun, Nanxi, Sinshih, and Baihe. Featuring 10 outdoor large-scale performances by nine renowned domestic and international performing groups, the program has attracted 10,836 participants. The enthusiastic response from the community highlights the indispensable role of art in everyday life.



△ Opening Press Conference – Clown Performance



△ Shintrun Taiwanese Opera Troupe



## Promotion of Ethnic and Cultural Diversity

To promote the indigenous cultures of our city, Tainan, in August 2023, we organized the "Ari Parade Fun" Tainan Indigenous Peoples' Day Carnival, kicking off with lively events like river tours in traditional attire and dance parades. Activities included folk song and dance performances, a fashion show featuring traditional attire, a grassland music concert, and opportunities for taking photos in traditional attire with fathers. Additionally, there was a mobile exhibition at the Indigenous Cultural Relic Museum, attracting a total of 2,587 participants. On November 18, 2023, at the Xinhua Forest Station of National Chung Hsing University, we held the "Soaring X 2023 Acoustic Melody Cultural Festival and Ethnic Music Concert." Events included exhibits showcasing the revitalization of the Pepohoan ethnic language, cultural performances, ethnic music concerts, Indigenous cultural parent-child activities, and a cultural and food market, engaging 1,256 participants. Furthermore, on December 3, 2023, at the west side plaza of Tainan Public Library's new main branch, we hosted the "2023 Cultivation and Harvest in Tainan Indigenous Education and Cultural Joint Achievement Exhibition." Activities featured markets, concerts, Indigenous book exhibitions, handicraft experiences, cultural and artistic booths,

and storytelling sessions in indigenous languages, with 1,500 attendees. These efforts aim to foster greater understanding of Tainan's indigenous cultures and achieve mutual promotion among communities. Additionally, we actively implemented the "Multicultural Promotion through Indigenous Language Singing and Playing Plan" in kindergartens. In 2023, this initiative involved 6 kindergartens and engaged 286 children, promoting multicultural learning experiences.



△ "Ari Parade Fun" 112 Tainan Indigenous Peoples' Day Carnival



△ Soaring X 2023 Acoustic Melody Cultural Festival and Ethnic Music Concert



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 10.3

#### Social Integration Assistance for New Residents

##### Further Development of New Residents' Education

To strengthen the adaptation and life skills of new residents, harness their potential, enhance cultural exchange and respect, and build a supportive educational network for new immigrant families. Tainan City hosted the "2023 Cultivation and Harvest in Tainan Indigenous Education and Cultural Joint Achievement Exhibition" at the west side plaza of the Tainan Public Library's new main branch. The event included a market, concerts, Indigenous book exhibitions, hands-on craft experiences, cultural and artistic booths, and storytelling sessions in indigenous languages. These activities aimed to deepen public understanding of Tainan's indigenous cultures and promote mutual cultural exchange.

##### Development of Second Expertise in Training Programs

The Tainan New Residents Learning Center aims to revitalize campus spaces and provide convenient access for new immigrants and their families to engage in multicultural and family education activities. The center offers a diverse range of courses, including community education, language learning, cultural and local studies, family education, legal knowledge, multicultural empowerment, and other courses or educational activities aligned with national policy development needs. In 2023, the center conducted 84 sessions with a total of 1,955 participants.



△Dagang Elementary School New Resident Learning Center Multicultural Empowerment Courses

#### 10.4

#### Indigenous People Career Development

##### Financial Knowledge Seminar: Building Correct Consumer Attitudes

The Tainan City Government, in collaboration with the Financial Supervisory Commission, local Credit Union, schools, churches, and Indigenous financial counselors, conducts financial literacy campaigns. These initiatives aim to foster skills in credit maintenance, debt management, financial and digital literacy, promote responsible financial consumption, enhance financial management knowledge, and expand loan services. In 2023, they organized 5 sessions of Indigenous entrepreneurship and financial management courses, along with 13 sessions of financial officer training and outreach activities.



△2023 Cultivation and Harvest in Tainan Indigenous Education and Cultural Joint Achievement Exhibition



△Financial Literacy Outreach Program: Campus and Community Awareness Activities



## Loan Services to Assist Indigenous People's Career Development

To support Indigenous Careers and loan recipients in securing the necessary funding for starting or expanding economic ventures, guidance is provided for applying for the Indigenous People Comprehensive Development Fund Loan, which encompasses the Economic Industry Loan, Youth Entrepreneurship Loan, and Smile Loan, and the Indigenous People Business Loan Credit Guarantee. In 2023, a total of 25 new loan cases were approved, with a total loan amount of NT\$6.2 million. This included 2 business loans and 23 microeconomic activity loans (comprising 3 for production purposes and 20 for consumption purposes). Additionally, 185 loan consultation and overdue account guidance visits were conducted.



△ Financial Literacy Outreach Program: Campus and Community Awareness Activities



△ Business Management and Entrepreneurship Training Course for Indigenous Entrepreneurs



△ Providing job seekers with employment application forms at job fair

## 10.5 Sunny Day Workshop

To promote independent living for individuals with physical and mental disabilities and disadvantaged friends in Tainan City, and to increase the visibility of their handicraft products, an information platform and related activities have been established. Marketing and promotion plans are implemented to encourage disadvantaged individuals to showcase their creative works, establish barrier-free demonstration points to expand employment opportunities for disabled groups and vocational training participants, and boost self-employment income.

The "Sunny Day Workshop" serves as a platform for individuals with physical and mental disabilities and specific groups in the Greater Tainan area to display their handicraft creations. By leveraging the boundless reach of the internet, this initiative allows disabled individuals and specific partners to showcase their skills without time and space constraints. In 2023, a total of 30 hours of professional skills courses were conducted.



△ Professional Skills Training Courses



△ Jointly organized with the Indigenous Resource Center to provide consultation





## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 10.6

#### Transportation Services

##### Rehabilitation Bus Service Capacity

To implement Mayor Huang Wei-Cher's vision of "Smart Governance" and better serve individuals with disabilities, the Tainan City Government has taken several steps. For those who have been unable to successfully make reservations during peak hours, the Social Affairs Bureau has coordinated with universal taxis and long-term care transportation services to expand service availability. Additionally, in partnership with the Administration for Digital Industries of the Ministry of Digital Affairs, the city has launched an official Line@ account as part of the "Smart City Taiwan Living Applications Plan" to facilitate vehicle reservations and tracking. Currently, Tainan City operates 155 small rehabilitation buses and 1 medium-sized rehabilitation bus. This year, the city plans to purchase new buses to replace those that are over 10 years old through private donations and subsidies, ensuring the safety of users.



△ Tainan City Bus App

##### Shuttle Taxi Service

To address the issue of insufficient public transportation resources faced by disadvantaged groups, the Tainan City Government has introduced a new "Shuttle Taxi" service based on a demand-responsive concept. This service utilizes taxi vehicles to operate bus routes in rural areas, aiming to significantly improve service efficiency.

Since the implementation of the Shuttle Taxi service, students in remote areas have had better access to education, with safer, more convenient, and time-efficient travel. Parents no longer need to spend time transporting their children. Additionally, the mobility of elderly individuals has increased, enhancing their participation in social activities and leisure. The service has also revitalized local industries and improved community accessibility and visibility, contributing to the development of tourism spots. Furthermore, local



△ Shuttle Taxi Route Map



△ Fare structure for Shuttle Taxi



△ Shuttle Taxi Service

## 10.7 Women's and Children's Safety Awareness Campaign

drivers contributing to the service promote regional prosperity and a positive cycle in public transportation.

Currently, the service covers 20 administrative districts with a total of 31 routes, serving over 170,000 people to date. It has been highly effective, receiving the "110th Taiwan Healthy and Age-friendly Cities Award" and the 111th "Government Service Award" in its fifth year. The service has been widely praised by the public and has injected new vitality into previously underserved rural areas, achieving the positive impact of "Caring with Love, Balancing Urban and Rural Areas."

To protect women's and children's safety, the Tainan City Government implements principles and concepts such as "Establishing Gender Equality Relationships," "Assisting Victims in Applying for Protection Orders," "Preventing Online Dating Traps," and "Combining Investigation and Protection." The government conducts extensive outreach to schools, communities, agencies, organizations (including educational institutions and disability groups) to address issues such as domestic violence, sexual assault, sexual harassment, child protection, stalking, and child sexual exploitation. These initiatives include promoting prevention concepts, reducing the occurrence of domestic violence and sexual assault cases, and minimizing the risk of victimization. The goal is to fully safeguard the physical and mental well-being of vulnerable gender groups and the public.



△ Shuttle Taxi Service



△ Rehabilitation Bus Service



△ Women's and Children's Safety and Crime Prevention Awareness Campaign





# SDG

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# 11

## Sustainable Cities

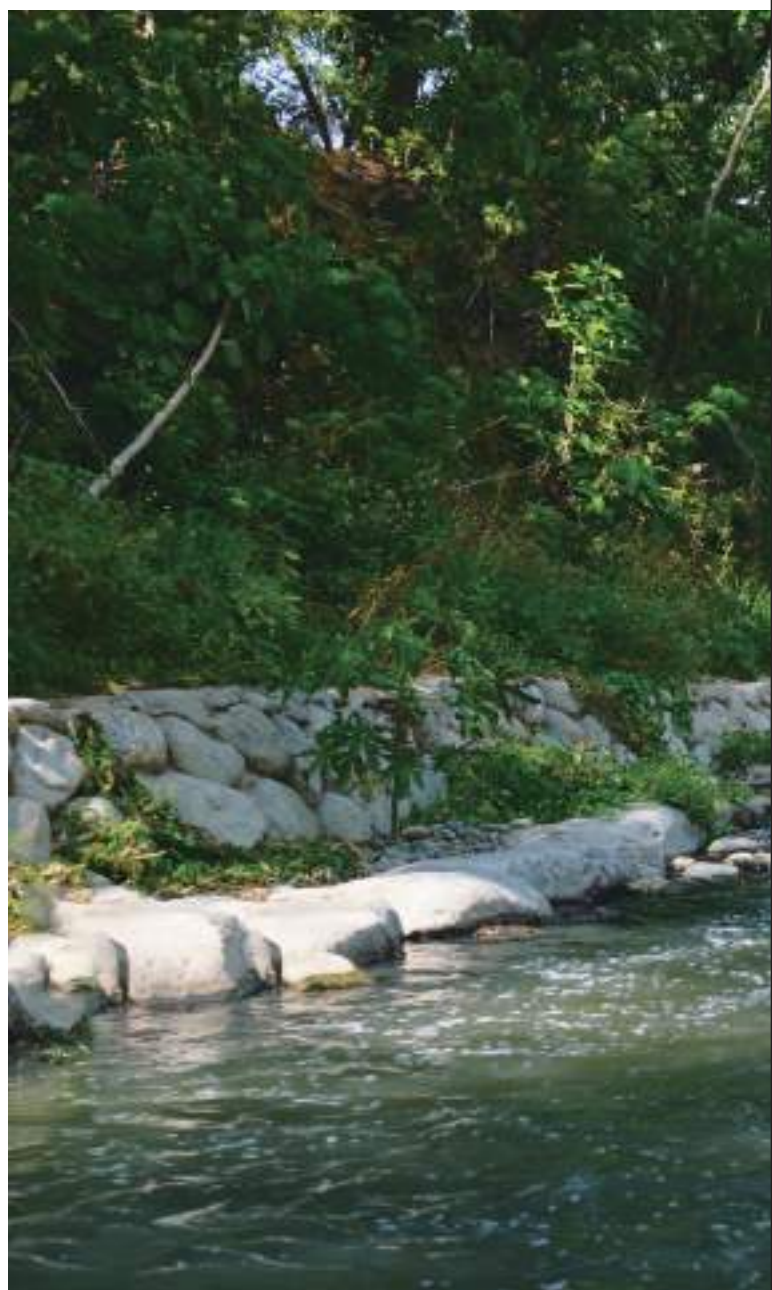
### -Promote Inclusive, Safe, Resilient and Sustainable Cities and Human Habitat

Tainan City is advancing its urban development with the principle of "Global Thinking, Local Action," focusing on "Low Carbon Living" and "Sustainable Management." Leveraging the power of smart technology, Tainan is committed to building a sustainable city. The city will continue to actively maintain air quality, create a clean environment with pure water and soil, and promote the widespread use of solar energy. The goal is to work together with citizens to build a low-carbon, sustainable Tainan City.

### 11.1

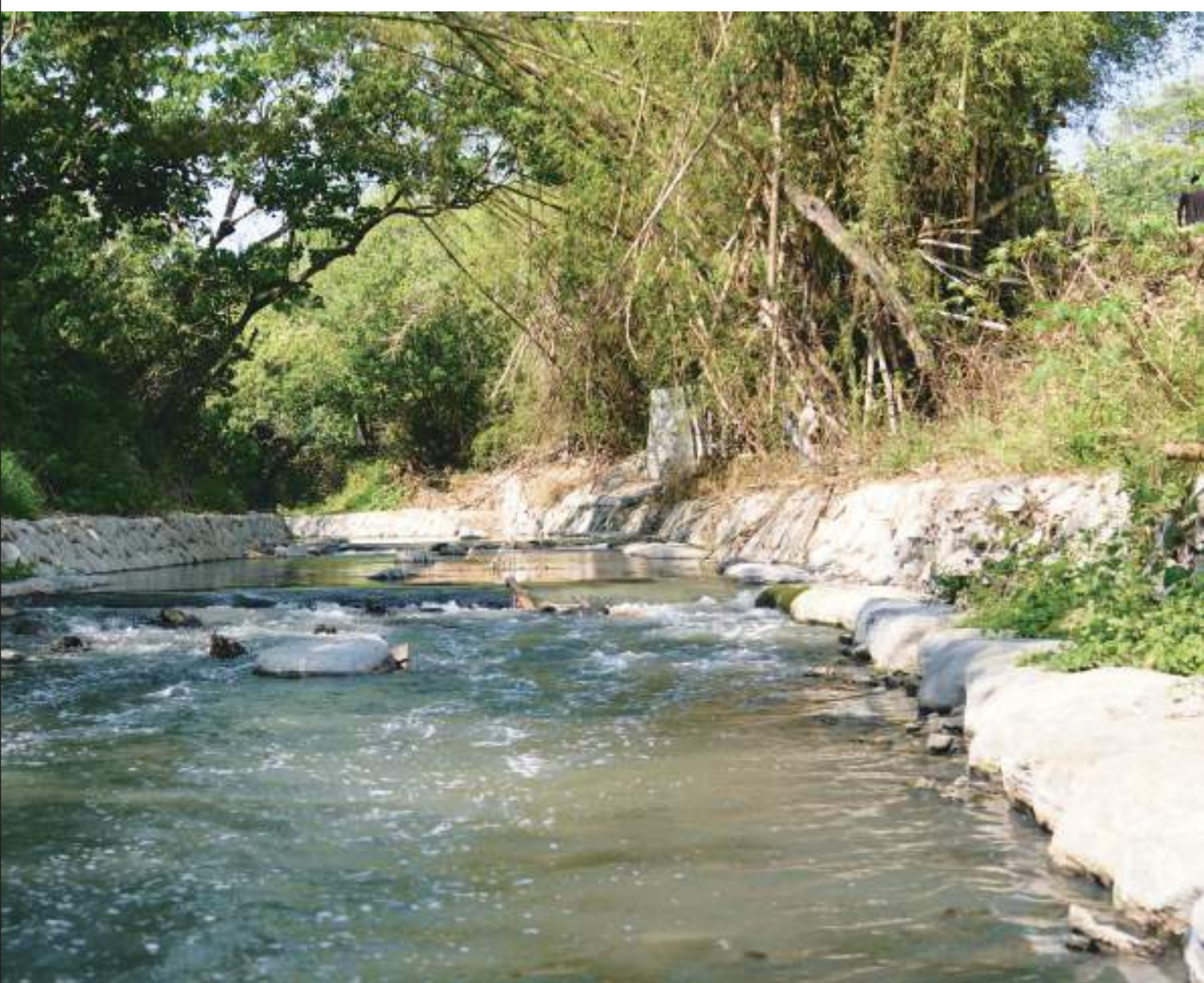
#### Low Carbon City Green Life Establishing the Green Xanadu

To build a low carbon green energy city, Tainan is actively increasing green spaces and constructing a high-quality green urban environment. The city is implementing park development plans to expand park areas, improve the appearance of existing parks, and renovate old park facilities. As of 2023, the total park area has reached 829.6 hectares. The goal is to increase the park area by 10 hectares by 2030 and plant 20,943 new trees. These efforts aim to enhance urban greenery, effectively reduce carbon emissions, and improve the city's aesthetics, while providing accessible green spaces that enhance residents' quality of life and sense of well-being.





▽ Zhuxi Riverside Park





## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### Advocating the Distinctive Parks of Tainan

Parks are refreshing corners in busy cities, helping people momentarily set aside their daily worries and enjoy a relaxing atmosphere amid nature. Developing unique parks is one of Tainan City's key policies. Since the launch of the "Distinctive Parks" initiative, Tainan has planned and developed 43 specialty play areas. Of these, 17 are completed, 10 are under construction, and 16 are in the planning and design stage. Recently, four specialty play areas have opened, including the "Healthy Oasis Park" situated in the South District Public 61, Yongkang Park, the Wanli Artificial Wetland Specialty Playground, and the Xinan Demonstration Historic Harborside Park with its deep-sea adventure play area.

Additionally, to ensure the parks truly meet local residents' expectations, the city government has adopted an open approach for developing new specialty parks such as the Historic Harborside Park and the Yanshui District Public 20 Distinctive Park. Multiple workshops have been organized, inviting parents, children, and experts to collaboratively participate in designing the most community-oriented plans. The Historic Harborside Park has been completed and opened, receiving positive

feedback from parents and children, reflecting the city's efforts and achievements. Ongoing projects also involve input from experts, representatives from Taiwan Parks & Playgrounds for Children by Children, and major parent organizations. Moving forward, the city will continue to select suitable locations, assess public needs, and enhance residents' lives by creating multifunctional and engaging urban green spaces.



△Tainan Distinctive Parks



△Healthy Oasis Park





△Hutoupi Scenic Area



△Xinying Public 3 Park



△Changsing Ecological Park



△Healthy Oasis Park



△ Wanli Leisure Park



△Historic Harborside Park





## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### Sustainable Afforestation, Create Urban Lungs

To slow the rise of carbon dioxide levels in the atmosphere, increase carbon sequestration, and enhance functions such as water conservation and biodiversity in forested areas, Tainan City is actively supporting the "Sustainable Forestry Multi-Counseling Program" launched by the Forestry and Nature Conservation Agency of the Ministry of Agriculture. This new policy provides comprehensive support for forestry operators who have engaged in reforestation for over 20 years. The program not only covers the production of timber products but also includes forest recreation, therapeutic uses, and various forest-related industries. Additionally, the Ministry of Agriculture encourages forestry professionals to use domestic timber, providing free seedlings and awarding reforestation grants annually. These incentives have significantly increased interest among individuals in participating in reforestation efforts.

Tainan City's flatland reforestation program continues to nurture and expand forested areas. In 2023, 2 hectares were newly planted (bringing the total to 8 hectares), with a goal to exceed 10 hectares by 2030. This initiative aims to fill Tainan City with lush greenery, protect the Earth's ecological environment, and create a better future.



△ Jia Tian Community in Houbi District

#### Emerging Prospects for Community Development

Community holistic development empowers residents to have a voice in their living environment, enabling them to choose and cultivate the lifestyle they desire. It sparks a sense of hometown pride among community members, encouraging them to express opinions about their living environment. Empowering "community planners" from youth to seniors enlightens generations and leads local communities from grassroots levels to address community issues, participate in activities, and exert influence to collectively create sustainable and regenerative transformations. These efforts shape the distinctive characteristics of urban and rural local communities.



△ Green Beautification of Daxin Renben Park in Xinhua District

### Community Environmental Transformation: Do It Yourself

The city is advancing its local community revitalization and spatial development through the "Tainan Creative Space Building Program" and the "Green Community Empowerment Program." These initiatives aim to engage and connect individuals of all ages—including college and university graduates, new professionals, youth, seniors, retirees, and interested parties—with community development efforts. The programs are aligned with the overall urban and rural development plans of Tainan City, implemented progressively each year. The initiatives focus on themes such as vibrant cities, sustainability, and ecology. By employing various creative aesthetics and low-carbon green practices and integrating the operational spirit and methods of community building, these programs strive to gradually transform Tainan into a sustainable and livable city.



△ Beautification and Reconstruction of Public Market Spaces with Bamboo Woven Lanterns in Zuozhen District



△ Zuozhen District Gongguan Community



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### 11.2

### Constructing Quality and Sustainable Public Transportation

#### Enhancing the Bus Network

Since 2013, our city has been implementing the "Bus Metro Transformation" project, utilizing a hub-and-spoke model to significantly reform bus routes, schedules, and infrastructure. This initiative aims to complement the existing railway network, establishing a robust public transportation system that supports a 30-minute living circle. Currently, there are a total of 147 bus routes, including 19 urban routes, 2 village routes, 6 trunk routes, 109 feeder routes (including 31 mini-bus routes), 1 high-speed rail express bus, 9 tourist buses, and 1 double-decker bus route. In recent years, we have replaced 380 urban buses (reducing the average age to 7.0 years), updated 717 bus shelters, installed 306 smart bus stops, upgraded 26 LED transit hubs, implemented 120 cross-industry dynamic LED displays, installed 106 solar-powered e-paper bus stops, and introduced 3,626 new-style bus signs. These improvements have led to a significant increase in ridership, with 15.11 million passengers in 2023 alone.

#### Taiwan Tourist Shuttle

The Taiwan Tourist Shuttle is a service designed specifically for travel planning. Since 2020, the pandemic has significantly impacted travel, making it challenging to increase ridership due to ongoing concerns about the virus. To promote low-carbon tourism in Tainan, the Taiwan Tourist Shuttle offers a variety of routes to enhance local travel experiences.

The 88 Tainan Loop Route connects major attractions in the historic city area, including Confucius Temple, Hayashi Department Store, Chihkan Tower, and Shennong Street. The 99 Anping Taijiang Route emphasizes ecological education, traveling to notable sites such as Anping Fort, Anping Tree House, the Taijian National Park Administration, Sicao Ecological Culture Zone, and Qigu Salt Mountain. Additionally, the Mountain Museum Line links three major mountain museums: the Tainan Shan-Shang Garden and Old Waterworks Museum, Tainan City Zuojhen Fossil Park, and the Tainan Astronomical Education Area.

These routes not only guide visitors to experience Tainan's local cuisine and landmarks but also facilitate convenient travel between popular destinations. The initiative aims to promote the concept of low-carbon tourism by encouraging visitors to choose the Taiwan Tourist Bus for exploring Tainan City, thereby reducing carbon emissions.



△ Solar-Powered E-Paper Smart Bus Stop Sign



△ Electrification of Public Transportation Services in the Xibei Region



△ Bus Shelter



## 11.3

### Tainan Riding Trail - Green Transport

#### Continued Promotion of Public Bicycle System in Tainan City

In response to increasing demand for public bicycles at transportation nodes, schools, and tourist attractions across various districts, Tainan City promotes cycling as a short-distance transit option. The city integrates public bicycle rental services with its public transportation system and bicycle lane network to encourage the use of low-pollution, low-energy public bicycles. This initiative aims to reduce private vehicle ownership and usage, alleviate urban traffic congestion, environmental pollution, and energy consumption, and complete the last mile of public transportation effectively. Starting February 23, 2023, the service transitioned to the YouBike 2.0 system, expanding to 500 stations with 5,000 bicycles planned. As of 2023, 362 stations have been installed, serving a cumulative total of 6.621 million users, with a significant monthly increase to over 220,000 users on average.

#### Increase Service Area of Shared Green Transport

Recently, the global trend of shared green transportation, such as bicycles and electric scooters, has become increasingly popular. This movement aims to reduce private vehicle ownership by offering flexible transportation options that multiple users can share, thus alleviating parking demand and addressing gaps in public transportation while achieving energy savings and carbon reduction goals.

Tainan City boasts rich tourism resources, including historical buildings, monuments, temples, local festivals, cultural landscapes, natural ecology, agricultural products, local cuisine, and shopping districts. The city actively promotes the development of these attractions. To support this, besides shared electric scooters, the public bicycle system also contributes to green transportation services. Since February 2023, the city has adopted the YouBike 2.0 system for public bicycles. By the end of 2023, a total of 362 bike stations have been established across 31 administrative districts, complementing the service area of shared electric scooters to cover a combined total of 72.4 square kilometers.



△Tainan 2024 Bicycle Subsidy Program



△Service Area Coverage of Shared Electric Scooter



△Celebrity-Led Promotion of Taiwan Tourist Shuttle Activities



## CHAPTER 04

### Goals and Achievements of Sustainable Development Promotion

#### Total Electrification of Buses

In recent years, the electrification of transportation has become a significant trend in reducing carbon emissions. More people are purchasing electric cars and scooters to replace traditional diesel-powered vehicles. To encourage the use of public transportation and reduce private vehicle usage, the city government has been implementing the "Metro-like Public Transportation System" policy since 2012. This initiative involves restructuring bus routes and schedules and encouraging bus operators to replace old buses with new ones. Starting in 2019, the city began promoting the development of electric buses, planning to gradually replace city and feeder buses with electric low-floor buses. By the end of 2023, the total number of electric buses in the city had reached 113. On December 26, 2023, the city held the "Tainan Electric Bus 2023 Achievement Press Conference" to showcase the progress made in the adoption of electric buses throughout the year. With an annual goal of adding at least 30 new electric buses, the city aims to replace all buses with electric low-floor models by 2030. This effort continues to enhance Tainan's public transportation system, making it more efficient, user-friendly, and sustainable.



△ Electric Bus



△ Greater Tainan Electric Bus Achievements Press Conference



## 11.4 Widespread Installation of Smart Parking Spaces

Tainan City pioneered the nationwide introduction of a "High-Position Camera Parking Management System" in 2019 through a BOT (Build-Operate-Transfer) model. This system was the first to incorporate electronic ticketing for on-site payments and support multiple payment methods. It also installed widespread ground sensors and established a "Smart Parking Cloud Data Center" to integrate various parking information. The "Tainan Good Stop APP" provides real-time parking information, parking guidance, vacancy predictions, and online payment options. Additionally, CMS offers on-site parking guidance services, and the overall smart parking system has been highly endorsed by the public.

In 2022, Tainan uniquely combined on-street parking with charging and information board services, catering to the public's need for on-the-go charging. By 2023, the proportion of smart parking spaces reached 87% (including 4,000 smart parking payment spaces and 9,000 ground sensors), leading the nation in this regard. The smart on-street parking payment system has significantly reduced ticketing errors and increased ticket issuance by 31%, turnover rate by 69%, and usage rate by 59%. It also provides on-site parking information and payment services. Automated ticketing has replaced manual ticketing, with on-site payment for automated tickets reaching 40%. Over the past three years, this has saved 8.05 million tickets, reducing CO<sub>2</sub> emissions by 9.5 tons. Real-time information disclosure has reduced the average time spent finding a parking space by about 4-6 minutes, decreasing CO<sub>2</sub> emissions from driving in search of parking by 1,070 tons. Diverse payment methods have replaced convenience store and cash payments, saving 17.48 million payment receipts in the past three years and reducing CO<sub>2</sub> emissions by 21.8 tons.



△ On-Street Parking Integrated with  
Charging and Information Kiosk Services





#### 11.5

### Protecting the Environment and Creating a Comfortable City

#### "Pay with Services" and Centralized Incineration of Paper Offerings

The traditional practice of burning paper offerings has been deeply rooted in folk customs for thousands of years and is closely intertwined with people's lives. It is not something that can be easily changed overnight through strict enforcement. Instead, Tainan City is adopting a gradual approach to reduce paper offerings by promoting two main policies: "Pay with Services" and "Centralized Incineration of Paper Offerings." The city continues to encourage citizens to reduce or eliminate the burning of paper offerings. In 2019, Tainan established the nation's first dedicated paper offerings incinerator, the "Pure Yuan Man" incinerator, to address concerns about the mixed burning of waste and paper offerings, thereby reassuring the public. This initiative promotes the concept of accumulating merit through charitable deeds instead of burning paper offerings, allowing citizens to fulfill their spiritual needs through alternative means. The response to the "Pay with Services" program in Tainan has shown a growing trend, with recent participation exceeding 3 million TWD annually. In 2023, to further enhance incineration efficiency and serve more citizens, a second "Pure Yuan Man" incinerator was built. With both incinerators, a total daily incineration capacity of 20.4 tons is achievable. In 2023, 5,726 participants contributed a total of 3,699,129 TWD. If each person is considered to burn 100 TWD worth of paper offerings (approximately 2.2 kg), this effort resulted in a reduction of 122,071 kg of carbon emissions.

#### Clean Air and Clear Sky

Air pollution is a significant public concern, and Tainan City is affected by its geographical and meteorological conditions, which result in poor air dispersion during the fall and winter seasons. To address this issue, the city has implemented the "Clear Sky Fine Particulate Reduction Control Plan" to manage air quality. This plan involves the collective efforts of 21 municipal departments, focusing on control strategies for stationary, diffuse, and mobile sources of pollution, with notable improvements in effectiveness. For stationary source control, the city has assisted 74 high-ozone potential factories, successfully reducing volatile organic



△ The change in the proportion of blue-sky days in 2023



△ The Old Scooter Replacement with Electric Two-Wheelers Program for 2023

compounds (VOCs) by 21 tons. In terms of diffuse source management, the city has introduced monitoring-linked sprinkling systems and intelligent AI pollution identification systems at construction sites, effectively reducing dust pollution. As for mobile source control, the city has been providing subsidies for replacing old motorcycles for several years. Tainan City has achieved a significant milestone with the proportion of blue-sky days (AQI<101) exceeding 90% for the past two years and reaching a historic high of 90.8% in 2023. In terms of pollutant concentration improvements, the annual average concentration of PM10 was  $37.7 \mu\text{g}/\text{m}^3$  in 2023, an improvement of over 22.6% compared to 2019. The PM2.5 average concentration was  $18.2 \mu\text{g}/\text{m}^3$ , showing an improvement of over 18% from 2019, while the 8-hour ozone concentration improved by nearly 11.7%, making Tainan's improvement rate the highest in the nation.

### Clean Soil, Clear Water, and Green Homes

As the economy has prospered, various environmental pollutants have emerged, with soil and groundwater serving as the ultimate receptors and collection points for these pollutants. The Soil and Groundwater Contamination Site Improvement Task Force in the city regularly reviews the progress of site remediation. Through the involvement of professionals from various fields, the task force supervises the remediation work from different perspectives to enhance the feasibility and effectiveness of site contamination treatment,

aiming to achieve remediation goals. To restore polluted land to its original use, the city has focused on 23 agricultural land sites that have remained stagnant since their announcement in 2007. The city has actively sought funding from the Environmental Management Administration of the Ministry of Environment to re-evaluate and confirm the extent of contamination. The investigation revealed 14 sites with moderate to low contamination and 9 sites with high contamination. Different management strategies are applied based on the level of contamination risk. Appropriate measures have been implemented for the moderately contaminated agricultural lands, resulting in the de-listing of 14 sites, totaling 1.08 hectares. This achievement supports the goals of sustainable land use and public health protection.

For the 9 sites with high contamination risk, after assessment and communication, 1 site has been managed by the landowners themselves. The remaining 8 sites have undergone various contamination management measures based on their specific characteristics, including the installation of fences, covering with non-woven fabric, and vegetation restoration. These measures have successfully managed 0.74 hectares of contaminated land, achieved effective use of funds and reduced pollution risk. The management results have been handed over to the landowners, who are guided to fulfill their responsibilities in land management to prevent future contamination.



△ Soil Pollution Site Remediation Supervision at CPDC Anshun Plant



△ Supervision of Site Pollution Remediation





#### 11.6

#### Various Eco-Friendly and Natural Funeral Options

Since the merger of Tainan City and County, the city has actively promoted eco-friendly and natural burial methods. In 2014, the Danei Life Memorial Park was established, and by the end of 2023, a total of 5,279 ancestors had been interred there. To continue promoting and creating a high-quality funeral environment, an eco-burial area was set up on approximately 0.7 hectares within the Zhongzhou Demonstration Cemetery in Rende District. This area features a leaf-shaped design, creating a Metropolitan Park atmosphere and offering citizens a different option. Since its official opening on June 29, 2021, a total of 2,944 ancestors have been interred there.

In 2023, the Bureau of Civil Affairs of the Tainan City Government established a subsidy plan for sea burial, providing NT\$15,000 per deceased person to assist with the arrangements and the rental of vessels. The number of sea burials in the city increased from 25 in 2022 to 27 in 2023, with 14 of these receiving subsidies, reflecting the growing acceptance and effectiveness of the promotion.

The number of eco-burials in Tainan City continued to rise in 2023, reaching 1,880, accounting for 10.486% of the total deaths. Both the number of interments and sea burials have significantly increased. Future plans include expanding eco-burial areas in suitable locations to enhance overall capacity and service quality, thereby creating excellent funeral facilities and providing comprehensive services.



△ Danei Life Memorial Park



△ Rende Life Memorial Park Eco-Friendly Burial Area





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12

## Responsible Consumption and Production

### -Ensure Sustainable Consumption and Production Patterns

In the modern society driven by economic growth, natural resources are extensively used for consumption and production. To mitigate the severe and ongoing environmental degradation, Tainan City has adopted the principles of a circular economy in its consumption and production models. The city is advancing organic agriculture practices that are environmentally friendly, promoting waste reduction at the source, and encouraging recycling and reuse. These efforts aim to enhance resource value and reutilization, ultimately fostering a sustainable, low-carbon, and livable city.

#### 12.1 Enhancing Environmental Awareness and Beautifying Spaces as Key Points in Community Development

In the Sanmin community of Yongkang District, Tainan City, notable environmental resources include the Yongkang Sugar Refinery, the Sankandian Shinto Shrine Remains, and the Farmland Tree Frog Conservation Area. These areas serve as excellent classrooms for environmental resource protection. The community development association and interested individuals are invited to participate in the "Sanmin

Community Image Shaping Workshop." Through interaction and brainstorming between schools and the community, unique features and highlights for the community are developed. To ensure that volunteers, children, and the elderly in the community can learn and grow together equally, the Daren Community Development Association in North District, Tainan City, offers handmade courses. These courses teach participants to create items for community beautification (such as wooden planters) and, in conjunction with the "Food Map Summer Camp" results, craft wooden signs for recommended local businesses. This initiative fosters interaction and connections between local businesses and the community.



△Eradication of Plants: Shaoguang Paper Workshop



#### 12.2

### Effective Reuse of Building Materials

#### Promote Sustainable Recycling of Old Materials

To promote the use of recycled old building materials, Tainan City, with funding from the Bureau of Cultural Heritage of the Ministry of Culture, established the "Tainan City Cultural Heritage Material Bank" in July 2017, becoming the first in the country to do so. By 2024, the bank has facilitated the use of 9,153 items, totaling 57.21 cubic meters of wood and other materials, which has offset 50.17 tons of carbon dioxide.

The city has implemented a pioneering, systematic management mechanism to increase the reuse rate of building materials and diversify their applications. Strategies include promoting old material recycling education, offering material matchmaking consultations, and providing guidance on reuse. These efforts aim to integrate recycled materials into various levels of use while actively promoting this initiative to the public and communities. By combining material reuse with traditional craftsmanship for creative value addition, Tainan City aims to enhance and solidify heritage preservation concepts and standards. The long-term goal is to have accumulated 15,000 recycled materials by 2030.

#### 12.3

### Organic and Environmentally Friendly Farming

The city is taking proactive measures to ensure the safety and healthfulness of crops for consumption, particularly given the vulnerability of the farming environment to fragmentation and contamination from temporary fields. The practice of organic-friendly environmental farming is grounded in the principles of recycling and sustainable utilization of natural resources. Its aim is to produce natural and safe agricultural products while promoting green, safe, and healthy organic produce for consumers. This approach is aligned with the policy of ecological greening and environmental conservation. To safeguard soil and water resources, ecological environments, biodiversity, animal welfare, and consumer rights, the city is actively promoting organic-friendly farming practices. This is being accomplished by reducing the use of chemical pesticides and fertilizers, providing guidance to farmers on improving their production and processing equipment, and enhancing greenhouse facilities. Additionally, the city is offering subsidies for certification fees and incentives to further encourage the adoption of these practices. Starting in 2017, the area dedicated to organic agriculture is set to increase annually from 420 hectares to 835 hectares by 2022.



△Visit from a Circular Economy Delegation

## 12.4

### The Promotion of Green Procurement

#### The Leadership of the Government

To promote a green economy and ensure sustainable consumption and production patterns, the Tainan City Government is actively advancing green procurement within its agencies. By adopting environmentally friendly consumption practices and prioritizing green products with lower environmental impacts, the city aims to reduce the use of plastics and harmful substances, thereby decreasing environmental pollution. The goal is for the city government to lead by example and drive a trend toward green procurement. Since 2012, the green procurement rate for designated items in city agencies has consistently reached 100%. The procurement amount has increased from NT\$176,411,393 in 2015 to NT\$251,315,403, supporting green products through concrete actions and achieving environmental protection benefits.

trend toward green procurement. Since 2012, the green procurement rate for designated items in city agencies has consistently reached 100% for 10 consecutive years. The procurement amount has also increased from NT\$176,411,393 in 2015 to NT\$251,315,403, supporting green products through concrete actions and achieving environmental protection benefits.

#### The Promotion of Green Office

To promote a green economy and ensure sustainable consumption and production patterns, the Tainan City Government is actively advancing green procurement within its agencies. By adopting environmentally friendly consumption practices and prioritizing green products with lower environmental impacts, the city aims to reduce the use of plastics and harmful substances, thereby decreasing environmental pollution. The goal is for the city government to lead by example and drive a



△ Women's Underwear Recycling and Exchange Program



△ Establishing Diverse Recycling Channels - Smart Recycling Machine



△ Promoting Source Reduction Activities with Civil Society Organizations (Ground-Up Education Initiatives)





## 12.5

### Waste Treatment

#### Enhance the General Waste Recycling Rate

The city is actively promoting resource recycling through four major systems: governmental agencies, communities, schools, and organizations, as well as recyclers. It has strengthened enforcement of mandatory waste sorting, public awareness campaigns, and measures ensuring that industrial waste is not disposed of in garbage trucks. The city has pioneered a trial program for recycling women's underwear and continues to promote source reduction practices, such as the establishment of the nation's first self-service cup lending stations, second-hand item exchange stations, promotion of eco-friendly delivery and catering services, and collaboration with civil society organizations to advance source reduction activities. Additionally, the city has developed diverse recycling channels, including community recycling stations, smart recycling stations, themed recycling promotion and exchange events, and the Cang Jin Yard for second-hand furniture restoration. The introduction of reward-based recycling systems has helped increase the overall volume of recycled resources, with the recycling rate of general waste rising from 62.22% in 2020 to 63.50% in 2023.

#### Enhance the Recycling Percentage of Commercial Waste

Given the increasing amount of industrial waste generated domestically each year and the gradual reduction in the acceptance capacity of incineration plants across various counties and cities, the disposal of combustible industrial waste has become increasingly challenging. In promoting a circular economy, Tainan City has adopted a dual approach of "increasing waste reuse" and "source reduction." Compared to a 62.5% recycling and reuse rate of industrial waste in 2017, the rate has gradually increased to 70.6% in 2023, reflecting an 8.1% growth. In recent years, efforts have also been made to assist businesses in reducing waste at the source by identifying hotspots for raw material losses in their production processes. °

#### Wood Waste Recycling

In Tainan City, branches from campus trees, park trees, and roadside trees are typically sent to incineration plants or landfills after pruning. To promote resource recycling, the Environmental Protection Bureau established a Wood Bank in March 2022. To increase the utilization and speed up the processing of wood materials, pruned tree branches are shredded into approximately 5 cm pieces, which are suitable for dust reduction and composting. The Wood Bank is open to the public at five cleaning teams across the city—Xinying, Beimen, Nanhua, Madou, and Rende—where people can collect these materials for free. The response has been enthusiastic, with over 700 tons of wood being collected to date.

The wood is primarily used for soil improvement in agricultural fields. Additionally, it has been utilized by construction projects, such as the "Southern Branch of the National Central Library & National Repository Library New Construction Project," to control dust and enhance green landscaping. The livestock industry has also reported that the shredded wood can be used as a ground cover in animal pens, where it mixes with manure to form a solid mass that facilitates cleaning. After cleaning, the mixture can be composted to produce fertilizer, effectively addressing manure disposal issues and achieving resource recycling goals.



△ Shredded Wood



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**13**

## Climate Action

### -Take Urgent Action to Combat Climate Change and its Impacts

To mitigate the impacts of climate change, such as global warming, El Niño phenomena, and rising sea temperatures, Tainan City is not only focusing on reducing and adapting to disaster occurrences but also actively strengthening the city's and residents' "adaptive capacity" and "resilience" to disasters. This approach aims to minimize the effects of disasters when they occur and to shorten recovery time after such events, thereby reducing the damage caused by climate change and natural disasters.

#### 13.1

#### Adaptation and Mitigation Climate Change Adaptation Plan

Climate change adaptation plans have become a global trend. In response to climate change, the city has developed an adaptation implementation plan by integrating the central government's Third National Climate Change Adaptation Action Plan. The plan is tailored to local conditions, reviewing existing adaptation plans and measures, and drafting the framework and content of the city's adaptation implementation plan. Relevant departments have been invited to discuss the city's adaptation implementation framework, objectives, strategies, and the positioning, execution timelines, and content of various action plans within the implementation scheme.

On December 11, 2023, a "Cross-departmental Climate Change Adaptation Meeting" was held to explain the overall structure of the adaptation plan, the subsequent management and evaluation mechanisms, and the current implementation status. To ensure active

implementation by the responsible units, incremental quantitative key performance indicators for the years 2025 and 2030 have been established for tracking the achievement of execution targets, aiming to achieve a vision of a sustainable and resilient city.



△ Meeting arrangements



## 13.2

### Strengthen Disaster Response

#### Increase the Rate of Drainage Improvement

To enhance and improve the city's regional drainage and flood control functions and to reduce flood damage, ongoing efforts are being made to address city-managed regional drainage and small-to-medium drainage systems. These efforts include strengthening regional drainage and small-to-medium drainage dredging projects and managing the city's water conservancy and flood control facilities. Through comprehensive flood control projects and resilient flood management measures, the effectiveness of water management is being improved. The design standard for city-managed regional drainage aims to handle floods with a 10-year return period, with a goal of preventing overflow

during a 25-year return period. Comprehensive water management strategies are implemented in densely populated and major construction areas to maintain the flood control functions of 163 designated districts, totaling 638 kilometers, and small-to-medium drainage systems. Funding is sourced from both local resources and central government grants to carry out regional drainage improvement projects, aiming to increase the drainage improvement rate. As of 2023, the improvement rate has reached 64.1%, with a target to raise it to over 70% by 2030. This will further boost local economic development, effectively protect people's lives and property, and improve the quality of living.



△Liuying District, Ba-Weng Village Emergency Protective Works



△Liuying District, Dajiaotui Drainage Upstream of Wujunying Bridge Improvement Project



## The Implementation of Disaster Prevention Awareness Measures

In recent years, the frequency and scale of disasters have increased due to global climate change. The principle of "prevention is better than cure, and avoiding disaster is better than prevention" highlights the importance of proactive disaster management. For foreseeable disasters, "preventive evacuation" is a crucial strategy. Conducting evacuation drills and training helps build disaster awareness among residents and communities, thereby reducing damage to lives, property, and social instability during disasters.

The focus is on 16 villages within 7 administrative districts in the city that are prone to landslides. Efforts are made to enhance the operations of self-reliant disaster prevention community organizations, improve their ability to monitor and respond to disaster conditions, and establish disaster response teams. This includes setting up disaster response LINE groups, maintaining safety checklists, developing disaster maps and evacuation routes, identifying evacuation shelters, and ensuring the availability of disaster supplies. Rainfall monitoring and landslide patrols are carried out, and appropriate alerts are issued. As of 2023, a total of 60 self-reliant disaster awareness activities have been conducted, strengthening the operation of self-reliant disaster prevention communities and establishing a disaster reduction mechanism. This approach aims to minimize community losses and build a bottom-up disaster response system that prioritizes disaster avoidance.

Additionally, to ensure effective evacuation and prevent gaps in operations due to personnel changes, regular training is provided. This includes hands-on instruction on radio equipment operation, ensuring participants are familiar with function keys, knobs, proper calling methods, channel search, roaming, and station connection functions. This training ensures that, even if conventional communication (such as landlines or fax) is interrupted, emergency notifications can be made via radio. This approach enhances digital roaming benefits and provides a backup support system, maintaining a critical line of defense for disaster response and management.

## Evacuation and Shelter Awareness Campaign

"Disaster prevention is more important than disaster relief, and avoiding disaster is better than prevention." For foreseeable disasters, "preventive evacuation" is a crucial disaster management strategy. Our city has been organizing evacuation and relocation-related workshops and drills to build disaster awareness among residents and communities, thereby reducing potential life and property damage and societal anxiety during disasters. Furthermore, to ensure smooth execution of evacuation and relocation tasks and to avoid gaps in business continuity due to personnel changes, we conduct regular training to ensure that disaster prevention personnel in each district office are well-acquainted with their responsibilities. By the end of 2023, our city had organized a total of 211 such activities, with 35,757 participants. In the future, in addition to hiring experienced professional instructors, we will enhance course design to allow the public to experience realistic disaster scenarios and to improve the professional skills of disaster prevention personnel.



△ National Disaster Prevention Day and Disaster Prevention Week Poster for Year 112



### 13.3 Environmental Protection and Sustainability: Deepening Education

#### Environmental Protection and Sustainability: Deepening Education

To establish a progressive, safe, hygienic, healthy, and humane learning environment, it is essential to integrate community awareness, build community character, and expand eco-tourism initiatives. This involves transforming school campuses into public activity spaces with community characteristics and implementing campus green technologies. This approach aims to convert domestic industry technologies, enhance the promotion of green industries, and achieve the spirit and goals of sustainable campus projects. In the year 112, our city has approved and initiated this plan in four schools (Taikang Elementary School, Wunnei Elementary School, Chang Jung Senior High School, and Chang Jung Christian University). By understanding the unique

features of each school's locale, culture, history, and ecology, we aim to create distinctive and diverse campus environments. As of year 112, a total of 20 schools have applied. In the future, we encourage schools to apply, with a goal of at least 3 new applications per year. By year 114, we plan to reach a total of 24 schools and by year 119, to 39 schools.



△Hushan Elementary School - The spacious plaza in front of the new school building



△Promoting Sustainable Campus at Wunnei Elementary School



## Expanding the Network of Environmental Protection Volunteers

Environmental protection is closely related to people's daily lives, influencing aspects such as environmental hygiene, urban aesthetics, resource recycling, air pollution, river conservation, and global warming. These issues significantly impact everyone's routine. If only the government's resources are used for environmental improvement, the scope and effectiveness of the efforts are limited. Therefore, we aim to promote environmental volunteer services to engage more people in environmental work and strengthen community service dynamics. By combining public and private resources, we seek to advance environmental protection, deepen environmental education, and cultivate a greater love for our land and environment. Our vision is to "Create Eco-friendly Communities and Build Sustainable Homes," promoting widespread environmental consciousness and fostering clean, eco-friendly living spaces. As of the end of year 112, our city has a total of 612 environmental

volunteer teams with 27,107 volunteers, who participate in environmental cleaning and maintenance activities over 20,000 times each month and cover more than 20,000 kilometers of street cleaning annually.

To encourage the acquisition of environmental volunteer certifications and increase volunteer numbers, we began actively promoting self-organized volunteer training in 112. A total of 277 teams participated, training 4,650 individuals. We also provide guidance to help volunteer teams transition into official volunteer organizations, assisting in the training of volunteers to become lead volunteers. By the end of year 112, there were 362 volunteer teams with 9,473 members. Looking ahead, we hope to enhance our efforts through friendly training, service rewards, and recognition of volunteer achievements to recruit more citizens into the environmental volunteer ranks. Our goal is to increase the total number of environmental volunteers to 1,050 by 2030, working together to protect our home and create a high-quality, sustainable eco-community.



△2023 Tainan City Environmental Volunteer Service Coordination Meeting



△2023 Tainan City Environmental Volunteer Service Supervision Training





#### 13.4

#### Disaster Response Measures

##### Promoting Flood Disaster-Resistant Community

In recent years, Taiwan has experienced increasingly extreme rainfall patterns due to climate change, with high-intensity and prolonged rainfall leading to larger, more widespread, and impactful flooding events compared to past experiences. Our city aims to enhance community disaster awareness and strengthen the capacity for self-managed disaster response to mitigate the impact of flooding. Since 2012, we have established self-managed flood prevention communities in 45 neighborhoods, achieving good results. In addition to continuing the annual establishment of new flood prevention communities in collaboration with central government initiatives, we also maintain and operate existing communities. We conduct ongoing education and training activities to deepen public disaster awareness and enhance response capabilities. Communities activate their operations during typhoons and heavy rain events, patrol their areas, report conditions, and ensure the safety of residents, all of which have proven effective.

In the 2023 flood disaster-resistant community evaluations, Tainan City received 17 awards, including 1 Seed Community, 5 Outstanding Communities, 4 Excellent Communities, 5 Grade A Communities, and 2 Special Contribution Awards. Among these, Liuying's Baweng Community received the Seed Community honor; Rende's Erxing Community, Yongkang's Xiwan Community, Sanmin Village, Annan's Gongqin Village, and Nanxing Community were awarded Outstanding Communities; Danei's Shilin Village, Yongkang's Kunshan Village, Annan's Yuandian Village, and Houbi's Xinjia Community were rated Excellent Communities; Beimen's Jinhua Community, Baihe's Zhumen Community, Sigang's Xinfu Village, Madou's Pitou Community, and Xinying's Guye Community received Grade A awards; Annan's Yantian Community and Jiangjun's Guangshan Community were honored with Special Contribution Awards. This marks the highest number of awards received nationally.

##### Promoting Resilience Communities

Resilience communities primarily focus on developing strategies to respond to disasters and enhancing community resilience. A key aspect of this approach is

training community members to become disaster relief volunteers, making them pivotal in building resilience communities. This helps guide residents in self-help and mutual assistance during and after a disaster and facilitates the involvement of public resources within the community. Traditionally, disaster prevention initiatives have been led by private professional and academic institutions with limited participation from municipal or district offices. The goal of promoting resilience communities is to establish mechanisms for district offices to independently drive community disaster preparedness efforts. With support from the city government and district offices, these mechanisms aim to connect various communities, integrating volunteer groups, businesses, and nearby schools to build a comprehensive disaster preparedness network across the entire community.



△ 2023 Liuying Baweng Village Flood Disaster-Resistant Community Evaluation



△ Flood Disaster-Resistant Community Evaluation

## 13.5

### Greenhouse Gas Reduction

#### Develop a Carbon Reduction Path Focusing on Four Major Directions

On June 1, 2022, the Tainan City Government released the "2050 Tainan City Net-Zero Carbon Emissions Pathway," outlining the goals, timelines, and specific details for achieving net-zero emissions in Tainan. Over the next 30 years, Tainan will focus on four major areas to reduce carbon emissions: energy transition, low-carbon green transportation, improving energy efficiency in residential and commercial buildings, and promoting a circular economy and green lifestyle.

In the short term, within 5-10 years, the city aims to reduce greenhouse gas emissions by 30% from the 2005 baseline by 2030, by 65% by 2040, and to achieve net-zero emissions by 2050.

#### Visible Carbon Reduction Effects

Since 2010, our city's greenhouse gas emissions have been declining annually. In 2022, the total greenhouse gas emissions amounted to 23.17 million tons of CO<sub>2</sub>e. Compared to the 26.87 million tons of CO<sub>2</sub>e emitted in 2010, this represents a reduction of 3.7 million tons of CO<sub>2</sub>e, demonstrating that our reduction strategies have been effectively implemented.



△ "2050 Taiwan Net Zero - Tainan in Motion" Press Conference



## 13.6

### Agricultural Insurance

Due to the severe climatic changes caused by global warming, the intensity and frequency of natural disasters have been increasing, which raises the risks associated with agricultural production. In response, our city has implemented a pilot program for agricultural insurance. The goal is to use insurance mechanisms to reduce the losses farmers may incur from natural disasters, maintain stable incomes, and spread the risk. Currently, our city provides insurance for various crops and agricultural activities, including rice, mangoes, papayas, pomelos, guavas, agricultural facilities, beekeeping, banana income, watermelons, sorghum, and citrus fruits. The premium subsidies are as follows: 100% for basic rice income insurance and 50% for other types. The city government offers a 40% subsidy for sorghum, a 10% subsidy for agricultural facilities, and a 22.5% subsidy for other insurance types.

Since the introduction of paddy rice revenue insurance in 2022, there has been enthusiastic participation from farmers. As of 2023, a total of 34,892 policies have been issued. Moving forward, we will continue to work with the Agricultural and Food Agency to conduct promotional meetings in production areas, encouraging farmers to actively participate in the insurance program.

**水稻收入保險 農來保，揪安心**

**基本型**  
★適用對象：合法種植水稻的農民  
★投保對象：合法種植水稻的農民  
★投保金額：每公頃可獲理賠1.8萬元  
★理賠標準：按(鎮、市、區)產量減產超過2成

**加強型**  
★適用對象：合法種植水稻的農民  
★投保對象：合法種植水稻的農民  
★投保金額：每公頃可獲理賠1.8萬元  
★理賠標準：按(鎮、市、區)產量減產超過5%(一劃作)或30%(二劃作)以上

**好康報你知!**  
投保便利  
1.參加種植作業時，得同時投保一、二類基本型保險  
2.參加種植作業的農作農民，得統一交由農會主體投保

**優質種植 理賠多多**  
加強型保險依種植方式，分為「一劃加強型」及「二劃加強型」，兩者保費相同，參加「一劃加強型」或取得「有收」、「產前賠償」或「產後補給」等，農民可加保「優質加強型」，獲得較高的理賠金額

**保險官辦 費便宜**  
與對岸或外地主，得以本大功能方式辦理投保

**基本型：全額補助**  
加強型：農會補助1/2，部分地方政府加額補助

**中小農戶 大大保障**  
最低只需繳交1成保費，可獲得超過6成保障

**投保時間：一劃劃作為1~3月，二劃劃作為5~8月**  
投保地點：請洽各鄉鎮市農會  
諮詢專線：02-2388-2388 轉185、186、189

行政院農業委員會農業保險司 啟

農會保險專線

△Paddy Rice Revenue Insurance DM



### 13.7

## Promoting a Low Carbon Sustainable Community

The Low-Carbon Sustainable Community Certification system is a long-term effort. Given the impact of global climate change, it is essential not only for public sectors to actively formulate relevant policies to build low-carbon cities but also to foster consensus among citizens. The initiative aims to achieve widespread participation in creating low-carbon, sustainable communities through a multi-tiered approach that includes administrative villages, districts, and counties/cities. This program focuses on six key areas: ecological greening, green energy conservation, green transportation, resource recycling, low-carbon living, and

sustainable management. It evaluates the effectiveness of carbon reduction and carbon sequestration efforts. To date, significant progress has been made in this initiative. At the village level, 520 administrative villages have successfully registered, with 50 receiving Bronze certification and 12 achieving Silver certification. At the township and district level, all 37 administrative districts in the city have participated, with 30 districts successfully registering. Additionally, one district has obtained Bronze certification and six districts have achieved Silver certification, marking the highest number of Silver certifications in the country.



△Yongkang District Fuguo Resilience Community



△On-Site Guidance and Photographs from Committee Site Visits



△Xihu Village, West Central District - Afforestation and Beautification



△Zhongxing Community, Liuying District - Green Wall



# SDG

# 14

## Conserving Marine Ecosystems

### -Conserve and Sustainably Utilize Marine Ecosystems to Ensure Biodiversity and Prevent Marine Environmental Degradation

Marine conservation encompasses a wide range of activities. In Tainan City, efforts include reducing marine pollution and marine debris to maintain clean oceans; managing resources responsibly and preventing illegal fishing to ensure sustainable use; protecting marine ecosystems to preserve biodiversity and ecological value; and continuously conserving wetlands and coastal sandbars.

### 14.1

## Marine Ecology and Environment Education

### Lectures on Wetland Ecology in Schools

To address topics such as beekeeping, snake catching, bird rescue, heron conservation, and the maintenance of ecosystems and biodiversity, environmental education seminars are conducted in schools. These seminars use engaging methods to introduce students to rich natural resources and the concept of sustainable development, guiding them to explore the wonders of natural ecosystems. Since 2018, this initiative has been ongoing, with 50 seminars held in 2023 alone, involving 5,000 participants. The goal is to educate students about wetland ecosystems and diverse species, fostering an understanding of marine conservation and the sustainable use of marine ecosystems.

### Marine Environment Promotion Activities

To enhance public awareness of the importance of marine environmental conservation and to educate people on reducing marine litter at its source, we aim to protect the marine environment. As of 2023, 11 marine environmental education outreach events have been held. These events employ various formats, such as presentations, website experiences, DIY activities, and beach clean-ups, to help the public understand how improperly managed waste ends up as marine debris and is eventually returned to beaches due to ocean currents and conditions. The goal is to integrate marine environmental education into daily life through practical and relatable content.



△Deep-Sea Warriors Recovering Marine Debris (Bottom Waste)



△Deep-Sea Warriors Recovering Marine Debris (Bottom Waste)

## 14.2 Fishing Port Waste Disposal

To assist fishermen in properly managing marine debris such as fishing nets and other waste generated during their operations, Tainan City's fishing ports and coastal management offices have established "Temporary Marine Waste Disposal Areas" at the Anping, Jiangjun, Qingshan, Beimen, and Keliao fishing ports. These areas are designated for the centralized collection and disposal of marine debris, facilitating the sustainable development of fisheries and the protection of the marine environment.



△ Bamboo Stakes and Sand-Filled Tubes Installed at Qingshan Port Sandbar to Dampen Wave Impact

## 14.3 Beach and Sandbar Conservation Project

Using Nature-Based Solutions (NBS) such as sand nourishment, bamboo stakes, and sand-filled tubes, the beach and sandbar restoration project has been implemented. In 2020, 3 hectares of sandbars were restored; in 2021, another 3 hectares; in 2022, 2 hectares; and in 2023, 2.8 hectares. This project also involved dredging 30,000 cubic meters of lagoon sediment, effectively mitigating coastal erosion and lagoon siltation issues. The construction process employed near-natural methods, replacing traditional concrete with bamboo stakes and sand-filled tubes to reduce carbon emissions. Additionally, bamboo fences were installed for windbreaks and vegetation restoration, achieving both disaster prevention and ecological sustainability goals.



△ Temporary Marine Waste Disposal Areas



△ Wooden Stakes Installed by the Taijiang National Park Administration at Wangzailiao Sandbar to Block Waves





#### 14.4

#### Wetland Conservation Plan

Wetlands not only provide clean water but also offer crucial conditions for cultivating food and fostering diverse and rich ecosystems. They play an irreplaceable role in mitigating natural disasters and alleviating climate change. Tainan City has funded three projects: the Erren River Wetland Conservation Action Plan, the Kunshen Lake Ecological Resource Survey and Conservation Promotion Plan, and the Shuangchun Eroded Coast and Land Subsidence Area Ecological and Environmental Conservation Action Plan. These projects include ecological background surveys, local outreach, and environmental education initiatives. The aim is to enhance the completeness and richness of wetland ecosystems and to introduce suitable recreational activities, allowing the public to engage with and appreciate the wonders of wetlands firsthand.

#### 14.5

#### Implementation of Oyster Shed Management

##### Oyster Shed Recycling

To prevent marine pollution caused by waste from oyster sheds, Tainan City recycled a total of 3,074.08 metric tons of oyster racks in 2023. The collected sheds were crushed and primarily used as fuel for boilers or processed into organic fertilizers. Additionally, the Longci District Farmers' Association developed the racks into sea bamboo charcoal and created various products such as deodorizing pouches, bamboo vinegar, and cat litter. The bamboo charcoal powder was also provided to agricultural research stations for soil improvement trials, enhancing the recycling and reuse options.

##### Research and Development of New Oyster Farming Facilities

The Tainan City Government is actively developing new oyster farming facilities. By moving away from traditional materials such as bamboo and polystyrene floats, the focus is on creating structures that are resistant to waves, typhoons, and wear. The government will continue to allow local fishermen to apply for trials of these new oyster sheds or cultivation facilities. It will also collect data on the trial results from fishermen and establish demonstration models for oyster farming, which other fishermen can use as reference. A total of 300 new oyster sheds are planned for testing from 2023 to 2025.



△ Recycling of Oyster Shed Waste



## 14.6

### Environmental Protection Fleet

The Tainan City Government is advancing the River and Marine Pollution Prevention Task Force, establishing an interdisciplinary communication platform. The integrated performance of river and sea management has been recognized with a top honor. The city will continue to recruit diving groups or individuals who are passionate about marine conservation to form the "Underwater Warriors," encouraging their participation in sea-cleaning activities to expedite the removal of underwater nets and debris. Additionally, various types of vessels are invited to join the "Environmental Protection Fleet," which helps clear floating (and bottom) waste from the ocean to maintain marine ecological health. By 2023, the Environmental Protection Fleet consists of 413 vessels.



△ Erren River Wetland - Environmental Education Outreach Activities



△ Recycling of Discarded Oyster Racks



# SDG

# 15

## Conservation of Terrestrial Ecosystems

### -Conserve and Sustainably Utilize Terrestrial Ecosystems to Ensure Biodiversity and Prevent Land Degradation

Global climate change is impacting natural environmental changes, making environmental conservation a critical social issue for everyone. Located in the southwest of Taiwan, Tainan features a long and diverse coastline with sandy coastal terrain. It also encompasses historical landscapes such as the Taijiang Inner Sea, which today hosts rich ecosystems and resources like lagoons and wetlands. Tainan aims to ensure the diversity of terrestrial ecosystems while pursuing economic development.

### 15.1

#### Biodiversity Promotion Activities

Invasive alien species pose a significant threat to the environment, health, and economic ecosystems, and are widely recognized as the second greatest threat to global biodiversity, after habitat loss. Taiwan also faces issues with invasive species. To address this, the city has organized "Invasive Species Management Workshops" to educate the public about the correct concepts and management practices for these species, enhancing their understanding of invasive species control. The Tainan City Government continues to promote the importance of ecological education and conservation. Through engaging educational activities, it encourages interested individuals to participate and contribute to environmental protection. In 2024, the city organized eight events, including biodiversity conservation education promotion, community tours, and parent-child environmental education camps, with over 250 participants. These initiatives aim to increase public recognition of ecological conservation, work towards sustainable development for people, land, and ecosystems, and provide a deeper understanding of local features industries.

### 15.2

#### Incentive-Driven Afforestation Project

In response to the "2050 Taiwan Net Zero - Tainan in Motion" initiative and the emphasis on carbon sequestration through forestry, significant attention is being given to carbon offset issues. The city continues to implement nationwide afforestation, lowland afforestation, and incentive-driven afforestation projects. With the nationwide afforestation program concluding in 2023 and lowland afforestation also ending in 2023, Tainan will persist in promoting incentive-based afforestation and green beautification. The goal is to add at least 3 hectares of incentive-driven afforestation and Afforestation and Beautification to 5 communities each year, creating diverse and high-quality recreational spaces. By the end of 2023, the incentive-driven afforestation project will have maintained a total afforested area of 66.49 hectares.



### 15.3

#### Longqi Geopark

To protect the natural landscape, ecology, terrain, and original environment of Longqi, the city has demonstrated its commitment to "steadfastly defending the Longqi natural landscape" through three main actions. First, Longqi has been designated as a natural landscape park. Second, the city continues to appeal to the High Administrative Court to challenge the legality of the soil and water conservation plan's invalidity. Third, a request was made to the Environment Protection Administration to consider the annulment of the review conclusions. On July 30, 2021, the city announced the designation of the "Longqi Niupu Badland Natural Reserve" and the "Longqi Niupu Badland Geopark," covering 149 hectares and 132 hectares respectively. The Council of Agriculture approved this on September 14, 2021. In line with the spirit of promoting community involvement in the geopark, the city actively supports local development. On April 23, 2023, the Tainan City Geopark Association was officially established, making it the third geopark association in the country. Moving forward, efforts will focus on supporting local groups associated with the Longqi Niupu Badland Geopark and Natural Reserve, as well as repairing and improving damaged roads within the geopark. This will enhance the quality of trails and facilities, establish related recreational amenities, and improve local maintenance and management, ensuring that the Longqi Geopark serves as both an educational and recreational resource.



△Current Status of the Longqi Natural Landscape

### 15.4

#### Biodiversity Conservation and Invasive Species Management Plan

Taiwan benefits from inherent geographic advantages and rich natural resources. However, the presence of invasive species, which often lack natural predators and reproduce rapidly, poses a serious threat to native species and disrupts biodiversity. To mitigate the impact of these invasive species on Taiwan's ecosystem, the city adheres to the "Three No Principles": no introduction, no release into the wild, and no spread. In a friendly approach, the city has coated rice seeds with iron powder, which not only helps to deter bird damage but also increases the seed weight, root depth, and stability of the rice plants, thus enhancing economic benefits. By 2023, the city had coated rice seeds on 20 hectares. According to the goals set by the Forestry and Nature Conservation Agency of the Ministry of Agriculture, the primary invasive plants in the Jianan area include Parthenium Weed, Milea-minute Weed, White Popinac, and Fragrant Eupatorium. With limited funds, priority has been given to controlling these invasive plants, and by 2023, efforts had successfully managed 67 hectares.

Regarding invasive animal species, the city established the "Dragon Capture Team" in January 2023. Utilizing high-energy air guns for precise capture, the team targets invasive green iguanas to suppress their population and protect the ecological environment. As of 2023, the team had removed 8,014 iguanas. The fight against invasive species is ongoing and long-term. Removal efforts are just one aspect of managing these species; reducing their introduction is crucial. The city will continue to promote awareness among public officials about various invasive species, their distribution, and their impact on local ecosystems, while regularly updating eradication information for effective control.



#### 5.5

#### Conservation of Precious Trees

To enhance tree protection and promote the concept of natural conservation, three ecological conservation workshops have been organized. These courses focus on practical aspects, providing insights into tree health physiology and environmental management. Participants learn how to assess tree health and understand the mechanisms behind tree diseases and pests. The workshops aim to help tree managers respond promptly and seek professional assistance when needed, thereby maintaining tree health and ensuring environmental safety.



△ Comparison of Rice Seed Coating with Iron Powder: Before and After



△ Tree Pest and Disease Management and Prevention & Control Study



SDG

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16

## Peace, Justice and Strong Institutions

### -Promote a Peaceful and Diverse Society, Uphold Impartiality in the Legal System, and Implement a Reputable and Extensive Mechanism for Public Feedback

Tainan City is not only a city rich in cultural heritage but can also be a “happy city” that is ideal for living, enjoying life, and residing comfortably. To balance quality of life with long-term regional equilibrium, engaging in democratic dialogue has become an important part of municipal development. Therefore, “openness and transparency, combined with broad consultation, are essential to achieving greatness for a city.” We hope to establish a credible system that reflects public opinion through open dialogue, fostering a harmonious and diverse society.

### 16.1

#### Enhancing the Effectiveness of Emergency Aid

To assist disadvantaged individuals who experience economic difficulties due to sudden emergencies and to strengthen the localized mutual assistance and reporting system, efforts are made to proactively identify individuals and families in distress. This allows for the provision of emergency relief or emergency aid funds and connects resources to alleviate their urgent needs, aiming to achieve self-reliance and self-help.

In the year 112 of our city’s administration, one training session for the implementation of relief programs was conducted, providing emergency aid to 2,012 people, totaling NT\$13,155,556. Emergency relief subsidies were provided to 425 people, totaling NT\$6,094,307.



△ Assist Families in Crisis by Connecting Them with Other Charitable Resource





## 16.2

### Implement Citizen Participation Promoting Cultural Governance through Citizen Deliberation

In Tainan City, civic deliberation is supported by a professional advisory team from the Ministry of Culture, the Cultural Affairs Bureau's community development advisory team, and local offices working together. This includes inviting the public to attend explanatory meetings, widely promoting through the city government's LINE broadcasting system, news media reports, and distributing promotional materials. Local offices also enhance public participation by integrating various activities, such as the makeup-themed parade organized by the Rende District Office in 2020 and the expansion of promotion and civic voting combined with night markets in 2021. In 2023, guidance was provided to local offices to advance civic deliberation work, promoting cultural governance to facilitate public participation in policy discussions, making decisions more inclusive and responsive to public opinion. In 2023, three local offices—Rende, West Central, and Anping—implemented advanced civic deliberation programs, tailoring discussion topics and operational models to local conditions.

### Deepening the Government's Strategic Thinking

By organizing open public participation activities, we aim to enhance the benefits of civic engagement, establish cross-departmental cooperation mechanisms, promote municipal exchanges, and deepen government strategic thinking. A total of 75 events were conducted, including workshops, vision discussions, and participatory budgeting sessions, with 11,893 participants. These activities covered various topics, such as the Cultural Affairs Bureau's community building proposals and the renovation of playground equipment and landscapes at Tainan Metropolitan Park; the Environmental Protection Bureau's "Net Zero Fair Transition" initiative proposals; the Public Health Bureau's discussions on age-friendly community issues with 37 district public health centers; the Bureau of Urban Development's participatory design discussions for the Fu'an Keng Creek project; and the Bureau of Economic Development's "Tainan City Business District Joint Power-Saving Proposal Plan" and public discussions with business district organizations. In total, 169 proposals were submitted, with 54 selected. Additionally, 98 major policy briefings, public hearings,

and liaison meetings were held, attracting 18,140 participants.

These events included the Bureau of Traffic's coordination with the announcement process of the "Tainan City Net-Zero Sustainable Urban Management Self-Governance Ordinance" draft, involving group and stakeholder meetings; the Water Resources Bureau's planning and design of the Bamboo Creek Phase II water quality improvement facility and the Yuejin Harbor water environment improvement design; the Bureau of Sports' projects including the Yongkang Sports Center and the An-Nan Water Sports Training Center; and the Social Affairs Bureau's Children and Youth Welfare and Rights Promotion Committee, as well as the design competition and event planning for youth representative badges.

### Government Information Disclosure

To implement the spirit of data governance and provide a more user-friendly way to access data, the Tainan City Government has consolidated similar types of data into a single dataset. This approach avoids the issue of excessively dispersed data that can hinder its use. Additionally, the government has transformed file-based data provision into API services, with approximately 8,000 APIs currently available. The data openness platform officially launched in March 2015, and as of the end of 2023, it has made 1,743 datasets and 18,449 data points available, with a cumulative view count of 8.04 million visits. The city has established a "Tainan City Government Agency Data Openness Evaluation Mechanism," which evaluates open datasets from various departments annually. This system encourages agencies to provide high-quality, user-friendly open data. In 2023, 130 new open datasets were added to the platform.

### Governance for the Youth

In 2023, a total of 37 meetings and events were organized, including working group meetings, municipal visits, workshops, youth exchange sharing sessions, and consensus discussions with youth committee members. Through these meetings and discussions, young committee members were able to interact with city government departments, gain mutual understanding of each other's perspectives, and collaborate on discussions. These interactions served as valuable reference points for future policy development.

## 16.3

### Citizen Power Plant

A Citizen Power Plant is centered around citizen participation and should involve local communities such as neighborhoods, villages, and townships. It is established based on spaces and community areas recognized by local residents. In addition to encouraging local residents to participate or involving the local government in creating platforms to attract citizen investment, it also promotes collaboration with relevant stakeholders through innovative operational models. By uniting partners with similar ideals, the community can autonomously establish organizations, collectively invest, and set up renewable energy generation facilities. This allows them to gain ownership or shares and actively participate in the plant's operation, decision-making, revenue, public affairs, and social contributions. Currently, among companies operating under this model, Sunshine Power House is noted, with a total of 105 sites in Tainan as of the latest statistics.



△ Tainan City Government Information Open Platform Website



△ West Central District Office - Pedestrian-Friendly City Vision Workshop



△ Rende District Office - Erren River Waterfront Space Kayak Experience



△ The city's Traffic Bureau and the Third Youth Affairs Committee held a Tainan



△ Third Youth Affairs Committee Exchange Meeting



# SDG

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# 17

## Peace, Justice, and Strong Institutions

### -Take Emergency Measures to Respond to Climate Change and its Effects

In recent years, climate change has caused rapid global climate shifts, leading to severe climate issues that impact human life worldwide. As a part of the Earth, Tainan cannot avoid the impacts of climate change and cannot address these challenges alone. Therefore, it is essential for the city government to engage in substantial inter-departmental cooperation and align with international efforts to effectively tackle the challenges posed by climate change.

### 17.1

#### Low Carbon Adaptation and Sustainable Development Committee

##### Fully Empowered to Promote Cross-Bureau Cooperation

To effectively mitigate, respond to, and adapt to the impacts of climate change, and with the goal of establishing a low-carbon city that supports prosperous livelihoods, health, and international alignment, Tainan City drafted the "Tainan City Self-Government Ordinance for a Low-Carbon City" in June 2011. This ordinance was approved after three readings by the Tainan City Council and was authorized by the Executive Yuan. It was officially promulgated on December 22, 2012, making Tainan City the first municipality in Taiwan to implement low-carbon city regulations. In accordance with Article 3, Section 2 of the Tainan City Self-Government Ordinance for a Low-Carbon City, the Low-Carbon Adaptation and

Sustainable Development Committee was established to promote and execute related low-carbon tasks, continually review and develop low-carbon strategies, and assess the progress of low-carbon adaptation and sustainable development efforts. The "112th Tainan City Low-Carbon Adaptation and Sustainable Development Committee First Meeting" was held on August 31, 2023. This meeting, attended by industry, government, academia, and research representatives, discussed the city's net-zero sustainability achievements and the "2022 Tainan City Voluntary Local Review (VLR)." Additionally, the meeting reviewed the draft of the "Tainan City Net-Zero Sustainable Urban Management Self-Governance Ordinance," which builds on the existing "Tainan City Self-Government Ordinance for a Low-Carbon City" and focuses on six core areas: significantly reducing carbon emissions, accelerating green energy adoption, optimizing energy-saving equipment, developing green transportation, enhancing adaptation resilience, and promoting circular and sustainable living.



△ The Six Cores of Tainan City Net Zero Sustainable City Self-Governance Ordinance

### 17.2

#### Public-Private Partnership Proposal

##### Participatory Budgeting: The People Take Charge

To encourage community members to collaboratively explore how to adapt to extreme climate risks at the community level, and to develop climate adaptation plans suited to their local needs, discussions and participation are conducted. These discussions integrate low-carbon sustainable living and climate adaptation action topics to identify ways to strengthen social connections and local economic and cultural resilience. Communities are encouraged to propose localized



action plans for urban greening, cooling, insulation, ventilation, flood prevention, and drought resistance, aiming to achieve the city's goals for low-carbon sustainability and flood control.

To build a park with local features, the Rende District Office organized a "Fun Tainan, Rende Train" workshop at the Rende Sports Park on February 19, 2023. This workshop invited local children to engage in clay modeling and woodworking, sharing their expectations and imaginations for the park. Mayor Huang Wei-Cher also attended the event to interact with the children and understand their needs for park play equipment, which will serve as important references for the future redevelopment of the Rende Sports Park playground.

### Participatory Workshops: Co-creating Designs with the Community

Tainan City is home to several ancient rivers, including Wen-Yuan Creek, De-Qing Creek, Fang Creek, and Fu-An Keng Creek. Each creek has its own unique characteristics. Local organizations have long been working to reestablish historical hydrology and have developed a consensus on this initiative. This activity combines input from cultural historians, academics, NGOs, and city government departments into an integrated proposal. Moving forward, the city will continue to foster civic awareness and encourage resident participation through soft activities. By co-creating designs, residents will enhance their recognition of the historical value of these ancient river channels, with the aim of eventually restoring them.

## 17.3 Increase the Proportion of Resident Volunteers

To implement Mayor Huang Wei-Cher's policy focus on "Hopeful Communities" and "Priority for the Disadvantaged," our city is actively promoting volunteer services. As of the end of December 2023, the total number of volunteers in our city has reached 103,727, achieving the target set for 119 years. According to the 2023 Sustainability and Happiness City Survey by Commonwealth Magazine, our city ranks first among the six major municipalities in the indicator of "percentage of volunteers among the population aged 15 and above."

In 2021, the Tainan City Volunteer Corps was established, comprising three main teams: Neighborhood, Companionship, and Safety Protection Volunteers.

This initiative aims to integrate social welfare human resources to provide "care," "support," and "protection" services to disadvantaged individuals, offering tangible warmth and support to those in need.

Additionally, the Social Affairs Bureau has donated the children's book "Grandma Fell in Love?" to 422 libraries and high and elementary schools across the city. This effort uses various media to promote the spirit of volunteerism and encourage more people to participate in volunteer services.



△Fu-An Keng Creek Participatory Design Workshop



△"Fun Tainan, Rende Train" Park Playground Participation Workshop



△"Grandma Fell in Love?" Family Volunteer Picture Book





#### 17.4

#### Examining Tainan through a Global Lens

To train science and technology professionals as well as management personnel and to increase their awareness of global climate change mitigation and greenhouse gas reduction, our city actively participates in various international carbon reduction organizations and related meetings, such as ICLEI and COP conferences. We collect and stay updated with the latest information, and we focus on strategies and actions for low-carbon city governance in response to climate change.

On November 13, 2023, we participated online in the ICLEI Local Climate Action Summit Webinar. Additionally, we took part in the 28th United Nations Climate Change Conference (UNFCCC COP28), held in Dubai, United Arab Emirates, from November 30 to December 12, 2023. At the conference, our city aimed to present at the "Sustainable Cities: Net-Zero Transformation Forum," where we shared our achievements in three main areas.

These include efforts towards a just transition, such as providing employment opportunities for disadvantaged groups, advocating for vocational and digital education, and advancing green energy, digital, and technology industries through the Southern Taiwan Science Park/Sha-Lun dual-engine development. We also addressed low-carbon adaptation measures, including planning for green electricity and recycled water, responding to extreme weather and drought conditions, and implementing a pioneering water-for-water exchange program with a future supply capacity of 83,000 CMD. Lastly, we discussed net-zero sustainability initiatives, such as the electrification of public buses, smart parking systems, the YouBike 2.0 program, the resource recovery from livestock waste and wood residues, and the Clear Sky PLUS program. We shared these strategies and practices for net-zero transformation with the conference participants.



△Discussing with Palau and Experts:  
Tainan's Net-Zero Transformation  
Strategies and Practices





▽Zhuxi Waterfront Park







## CHAPTER 05

### Future Prospects



local review





# 05

## Future Prospects



In 2021, Tainan City launched its first Voluntary Local Review (VLR), focusing on ten priority goals and publicly presenting it on international platforms, contributing to global sustainability efforts. The 2022 VLR further showcased Tainan's achievements in 17 Sustainable Development Goals (SDGs), aligning Taiwan's detailed SDG targets with the city's indicators to ensure that sustainability is embedded in all policies. The 2023 VLR continues to highlight Tainan's progress across these 17 SDGs, communicating the city's process and achievements towards sustainability goals. Moving forward, Tainan will regularly update and submit the VLR, integrating economic, social, and environmental policies with continuous refinement and adjustment of strategies and actions. This iterative process aims to advance Tainan's progress, fulfill global citizenship responsibilities, and steadily move towards the goals of sustainable development and livable cities.







△Sea's Sanctuary: Lin Mo Niang Park









# Appendix





## SDG 01

### Eliminate all forms of poverty everywhere

INDICATORS	UNIT	2021	2022	2023	2030
Community Day Work Facilities for the Physically and Mentally Handicapped (facilities, individuals served) *Annual value	Social Affairs Bureau	31 facilities serving 88,025 individuals	31 facilities serving 88,025 individuals	34 facilities serving 103,377 individuals	serving 91,000 individuals
Calculation formula: Calculated according to the actual services provided					
Reinforcement of student dropout prevention and control programs and rehabilitation measures (schools, institutions) *Annual value	Education Bureau	56 schools Funding support totaling NT\$2,958,885	59 schools Funding support totaling NT\$3,867,164	61 schools Funding support totaling NT\$2,958,885	Annual application
Calculation formula					
Low-income and lower-middle income households and welfare-to-work support measures (person-times) *Annual value	Social Affairs Bureau	A total of 138 referrals were made, benefiting 56 people	A total of 107 referrals were made, benefiting 64 people	A total of 137 referrals were made, benefiting 69 people	A total of 300 referrals were made, benefiting 200 people
Calculation Formula: Calculated according to the actual services provided					
Window Service for Vocational Rehabilitation of the Physically and Mentally Handicapped (Case) *Annual value	Labor Affairs Bureau	500	510	505	500
Calculated according to the actual services provided					
Tainan Social Housing (number of units) *Total accumulated value	Urban Development Bureau	1,185	1,185	3,153	10,000
Calculation Formula: Based on the actual implementation of social housing and medium-to-long-term goals					
Subsidies for the construction and renovation of housing for economically disadvantaged Indigenous People (number of households) *Annual value	Council of Indigenous Peoples	Subsidized the purchase of 7 households and provided repair subsidies for 5 households	Subsidized the purchase of 13 households and provided repair subsidies for 2 households	Subsidized the purchase of 11 households and provided repair subsidies for 5 households	Continuously implementing policies
Calculation Formula: Statistics based on the actual number of public applications received and approved					

INDICATORS	UNIT	2021	2022	2023	2030
Textbook Grants for Children and Teenagers (\$10,000) *Annual value	Education Bureau	NT\$9,807,795	NT\$25,345,743	NT\$28,206,808	Annual application
Calculation Formula: Total subsidy amount for both the first and second semesters					
Promotion of the Resource Care Program (person-times) *Annual value	Environmental Protection Bureau	275	300	286	Annual application
Calculation Formula: Number of individual households that registered and passed the review					
Sunny and Bright Life (Sessions, \$10,000) *Annual value	Labor Affairs Bureau	173 sessions NT\$6,520,000 in revenue	167 sessions NT\$9,720,000 in revenue	241 sessions NT\$8,640,000 in revenue	100 sessions NT\$5,000,000 in revenue
Calculation Formula					
Tainan City Public Welfare Platform (person-times) *Annual value	Social Affairs Bureau	343,612 person-times	444,357 person-times	343,876 person-times	400,000 person-times
Calculation formula: Number of Beneficiaries Receiving Cash or Material Resources in the City					



2 ZERO HUNGER



## SDG 02

### Ensure food security, end hunger and promote sustainable agriculture

INDICATORS	UNIT	2021	2022	2023	2030
Promote Tainan's quality agricultural fresh products and processed agricultural products (pieces) *Cumulative value	Agriculture Bureau	40 pieces of farm-generated fresh produce 55 pieces of processed agricultural products	40 pieces of farm-generated fresh produce 55 pieces of processed agricultural products	110 pieces of fresh farm products 151 pieces of processed agricultural products	200 pieces of fresh farm products 350 pieces of processed agricultural products
Calculation formula: Based on the annual appraisal results, the same items will be deducted if there is a reapplication					
Lunch subsidy for economically disadvantaged students (dollars) *Annual value	Education Bureau	NT\$94,525,013	NT\$1,015,05,393	NT\$98,985,391	100 million
Calculation formula: Total amount of subsidy applied for the first and second semesters					
Food and beverage hygiene certification assessment (home)	Public Health Bureau	Considering the impact of the epidemic, the suspension of the assessment of good food and beverage hygiene certification	302	141	200
Calculation formula: Based on annual assessment results					
Sound public caring storage (Division) *Cumulative value	Social Affairs Bureau	10 Food Bank physical locations 12 Social Welfare Service Center Disbursement Points	15 Food Bank physical locations 15 physical substation distribution points	5 Food Bank physical locations 22 physical substation distribution points	To cooperate with the city's 37 administrative districts to complete the distribution
Calculation formula: Calculated according to the actual services provided					



INDICATORS	UNIT	2021	2022	2023	2030
Set up the food cherishing platform (Division) *Cumulative value	Social Affairs Bureau	16	19	19	Staged evaluation settings
Calculation formula: Calculated according to the actual services provided					
Promote the new farmer plan, conduct courses and mentor new farmers (sessions, people) *Cumulative value	Agriculture Bureau	Up to 35 shows 1,700 people	Up to 45 shows 1,983 people	Up to 85 shows 2,190 people	Up to 150 shows 3,000 people
Calculation formula: Farmer's School curriculum and statistics of youth farmers of the Farmers' Committee					
Promote food and agriculture education and approve subsidies for self-subsidized farm schools (schools, \$10,000) *Annual value	Education Bureau	Count 60 schools 625,000 dollars	Count 62 schools 627,800 dollars	Count 63 schools 623,900 dollars	Annual application
Calculation Formula: Total amount of annual grant applications					
Food waste reduction *Annual value	Education Bureau	536,609.8kg	589,497.3kg	363,912kg (as of the end of June)	5%
Calculation formula: Sum of raw food waste and cooked food waste at each recycling point					
Farmland area (hectares) *Annual value	Agriculture Bureau	91,540	90,859	90,649	90,649
Calculation formula: Annual statistics					



## SDG 03

### Ensure health and promote well-being for all ages

INDICATORS	UNIT	2021	2022	2023	2030
Number of confirmed dengue fever cases (person-times) *Annual value	Public Health Bureau	2	6	21,546	<100
Calculation formula: From 105 to 2020, the average number of confirmed local cases will remain below 100, although the number of confirmed cases in that year will still be considered.					
Pneumococcal polysaccharide vaccination rate in the elderly (%) *Annual value	Public Health Bureau	55	53.53	53.57	65
Calculation formula: Number of seeds received/number of seeds to be received × 100%					
Complete vaccination rate for young children (%) *Annual value	Public Health Bureau	96	92.1	93.7	95
Calculation formula: Number of children under 3 years old in the county of residence for routine vaccination / Number of children under 3 years old in the county of residence					
Healthy Living Environment Program, Percentage of Citizens Engaging in Regular Exercise (%) *Annual value	Public Health Bureau	57	50.9	44.1	35
Calculation formula: Determine if individuals engage in at least 30 minutes of cumulative exercise per day through surveys and interviews					
Mobile hospitals, health screenings (person-times) *Annual value	Public Health Bureau	21,215	20,666	30,045	30,000
Calculation formula: Number of people served					
Dentures for seniors aged 65 and above (person-times) *Annual value	Public Health Bureau	3,178	4,042	3,814	3,000
Calculation formula: Number of completed installations					
Reproductive health interpreter training (hours) *Annual value	Public Health Bureau	8,022	7,502	7,583	7,104
Calculation formula: Conduct one basic and one advanced course to train interpreters for reproductive health for new immigrant women, providing a total of 7,104 hours of interpretation services.					
Establish smoke-free environments (areas) *Annual value	Public Health Bureau	37	37	37	37
Calculation formula: Implement at least one smoke-free environment program in each area					

INDICATORS	UNIT	2021	2022	2023	2030
Calculation formula: Implement at least one smoke-free environment program in each area					
Psychological counseling services (person-times) *Annual value	Public Health Bureau	1,200	1,697	2,820	-
Calculation formula					
Oral health promotion seminars and outreach services (sessions, visits) *Annual value	Public Health Bureau	15 sessions 284 visits	11 sessions 240 visits	13 sessions 240 visits	37 sessions 240.visits
Calculation formula: 1. Number of sessions 2. Number of visits					
Long-term care service coverage rate (%) *Annual value	Social Affairs Bureau	64.68	81.75	91.6	98.6
Calculation formula: Long-term care service coverage rate = (Number of long-term care service users / Estimated annual long-term care demand) × 100%					





## SDG 04

### Ensure inclusive and equitable quality education, and promote lifelong learning

INDICATORS	UNIT	2021	2022	2023	2030
Pre-school children's facility volume supply rate (%) *Annual value	Education Bureau	109.56	119.75	100	99.50
Calculation formula: Total approved enrollment/number of children aged 2-5 in the city					
Citywide participation rate in lifelong learning (%) *Annual value	Education Bureau	9.66	9.17	11.78	13
Calculation formula: Surveyed from the City's adult learning pipeline					
Promoting the universal district digital learning program (classes) *Annual value	Education Bureau	91	76	54	50
Calculation formula: Total approved enrollment / citywide 2-5 years old					
School accessibility funding satisfaction rate (%) *Annual value	Education Bureau	92.04	98.73	96.19	99
Calculation formula: Approved amount / School application amount					
Environmental education facility (site) *Cumulative value	Environmental Protection Bureau	17	19	21	25
Calculation formula: Calculation based on public information on the EPA website					
Low-carbon campus certification mark (school term) *Annual value	Education Bureau	112	82	82	90
Calculation formula: Four-Year Average of Certification Marks + Future Outlook					
Parenting Education Seminars and Parent-Child Activities (events, attendees) *Annual value	Education Bureau	17 events, 666 attendees	26 events, 1,139 attendees	48 events, 2,217 attendees	40 events, 1800 attendees
Calculation formula: actual results and number of participants					

INDICATORS	UNIT	2021	2022	2023	2030
Guidance and support volunteer *Annual value	Education Bureau	37	37	37	Continuously implementing
Calculation formula					
Public provision of early childhood education and care (%) *Annual value	Education Bureau	78.4	93.2	93.7	Stable Service Provision
Calculation formula: total approved enrollment numbers divided by the number of 2-5 year-old children in the city					
Percentage of students placed in schools with special education resources or related special education services (%) *Annual value	Education Bureau	99.5	100	98	99
Calculation formula: Number of Classes Actually Held					
Senior learning center (sessions, participants) *Annual value	Education Bureau	8,117 sessions, 187,470 participants	8,053 sessions, 178,928 participants	8,268 sessions, 201,491 participants	8,270 sessions, 202,000 participants
Calculation formula: actual outcomes and number of participants					



5 GENDER  
EQUALITY



**SDG  
05**

**Realize gender equality and empower women**

INDICATORS	UNIT	2021	2022	2023	2030
Completed the gender map of Tainan City *Annual value	Department of Budget, Accounting and Statistics	6 major categories 138 in 1,528 indicators	6 major categories 161 in 1,771 indicators	Complete the preparation of the annual data by the end of August in the 113th year.	Annual Rolling Review
Calculation formula: Publish various public data					
Five Hearts High Performance Job Search *Annual value	Labor Affairs Bureau	Innolux Corporation			Annual application
		Walsin Lihwa Corporation Yanshui Plant	Cathay Hotel Tourist Business - Hoyi Hotel - Tainan West Gate Pavilion	Sumika Technology Co., Ltd.	
		LandMark Optoelectronics Corporation		Nang Kuang Pharmaceutical Co., Ltd.	
		Taiyen Biotech Co., Ltd.	Kuan Tian Auto & Electric Plant, Taiwan Auto & Electric Co.		
		Sin-Lau Medical Foundation, the Presbyterian Church in Taiwan, Madou SinLau Hospital			
Calculation formula: Statistics based on annual selection results					
Gender-friendly public toilet(seat) *Cumulative value	Environmental Protection Bureau	24	48	65	EPA grant funding until 2024, no subsequent grant funding
Calculation formula: Statistics from the Green Life Network, Environmental Protection Administration, Executive Yuan					
"You Farm, I Farm" Gender equality seminars (sessions, participants) *Annual value	Education Bureau	5 sessions, 208 participants	5 sessions, 243 participants	6 sessions, 400 participants	7 sessions, 450 participants
Calculation formula: Approved amount / School application amount					
Menstrual products donation program (events, participants, funding) *Annual value	Education Bureau	-	248 events, 2,577 participants, \$3,092,400	232 events, 2,130 participants, \$2,556,000	Annual application
Calculation formula					





## SDG 06

### Ensure availability and sustainable management of water and sanitation for all

INDICATORS	UNIT	2021	2022	2023	2030
Sewage treatment rate (%) *Annual value	Water Resources Bureau	58.57	62.07	64.52	70
Calculation formula: Total number of sewerage households x the number of households/total population					
Number of public sewerage connections and penetration rate (number of households, %) *Cumulative value	Water Resources Bureau	172,715 households 24.3%	188,000 households 26.28%	203,029 households 27.94 %	35%
Calculation formula: Number of households connected to public sewers × number of households/total population					
Water consumption per capita (liters/person) *Annual value	Economic Development Bureau	269	280	276	250
Calculation Formula: Water consumption (cubic meters) / number of water supply users per year					
Recycled water(tpd) *Annual value	Water Resources Bureau	0	0.8	4.55	9
Calculation formula: Daily recycled water supply from Anping Water Resource Center and Yongkang Water Resource Center for the current year (million tons/day)					
Number of Water Environment Protection Volunteer Teams *Cumulative value	Environmental Protection Bureau	41	41	43	45
Calculation formula: Machinery statistics					
Severely polluted river segments (%) *Annual value	Environmental Protection Bureau	Jishui River 10.1 Yanshuei River 13.8 Erren River 33.7	Jishui River 13.4 Yanshuei River 14.4 Erren River 30.9	Jishui River 14.1 Yanshuei River 13.6 Erren River 24.3	Jishui River 0 Yanshuei River 0 Erren River 0
Calculation formula: Water quality monitoring data					
Deliver water to rural households *Annual value	Economic Development Bureau	1,113	57	122	80
Calculation formula: International official websites, press releases, meeting minutes					



INDICATORS	UNIT	2021	2022	2023	2030
Install river surface trash interception nets (locations) *Annual value	Environmental Protection Bureau	5	5	5	10
Calculation formula: Agency statistics					
Coastal trash cleanup, stream cleanup, and ocean cleanup activities *Annual value	Environmental Protection Bureau	112.69	3,863.91	2,879.7	3,000
Calculation formula					
Leachate treatment plant (including leachate fertilizer plant) operational management and leachate removal work (m³) *Annual value	Environmental Protection Bureau	131,620.6	142,316.7	104,035.31	103,500
Calculation formula: Generated by comparing inflow meter readings with weighbridge measurements					
Outsourcing of operation and maintenance management for the West City landfill leachate treatment plant *Annual value	Environmental Protection Bureau	Leachate treatment volume: 255,510 m³ Recycled water usage: 30,757 m³	Leachate treatment volume: 256,785 m³ Recycled water usage: 24,980 m³	Leachate treatment volume: 25,5869 m³ Recycled water usage: 27,390 m³	Leachate treatment volume: 256,000 m³ Recycled water usage: 28,000 m³
Calculation formula: Generated by comparing inflow meter readings with weighbridge data					

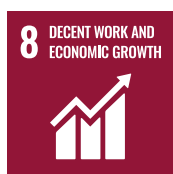


## SDG 07

### Ensure affordable, reliable, sustainable and modern energy for all

INDICATORS	UNIT	2021	2022	2023	2030
Solar power system installed capacity (million kilowatts)	Economic Development Bureau	2.598	3.504	4.17	4.5
*Cumulative value					
Calculation formula: Total installed capacity approved by the Bureau of Energy, Ministry of Economic Affairs (MOEA) or the Ministry (Bureau) for solar power consent filing					
Addition of Sunshine Community (Division)	Economic Development Bureau	105	107	118	121
*Cumulative value					
Calculation formula: Number of Sunshine Community Grant					
Incineration thermal power generation annual capacity (GWh)	Environmental Protection Bureau	250,593.3	271,308	255,395.95	250,000
*Cumulative value					
Calculation formula: Comparison of meter data with Taipower					
Annual electricity generation capacity of the landfill (million kWh/year)	Environmental Protection Bureau	2,000	2,000	1,977	2,100
*Cumulative value					
Calculation formula: Monitoring system					
Reuse of biogas from assisted livestock farms (%)	Agriculture Bureau	24.4	26.9	47.2	40
*Annual value					
Calculation formula: Cumulative per year					
Promote the installation of solar photovoltaic systems (in megawatts) for users with a contracted electricity capacity of 800 kilowatts or more	Environmental Protection Bureau	145	151	152	160
*Cumulative value					
Calculation formula: Energy Administration, Ministry of Economic Affairs, R.O.C.					





## SDG 08

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

INDICATORS	UNIT	2021	2022	2023	2030
High-temperature heat hazard prevention promotion for business units (sessions) *Cumulative value	Labor Affairs Bureau	122	341	455	240
Calculation formula: Number of counseling pieces					
Outdoor high-temperature heat hazard prevention inspection volume (sessions) *Cumulative value	Occupational Safety and Health Department (OSHD), Labor Affairs Bureau of Tainan City Government	194	198	199	220
Calculation formula: Accumulated from information management system statistics					
Number of local SBIRs approved and total project amount (number of cases, billion) *Cumulative value	Economic Development Bureau	828 case 1,698.82 million	875 cases 1,817.88 million	930 cases 1,925.69 million	1,200 cases 2.5 billion
Calculation formula: The data reported by the manufacturer in the effectiveness tracking form					
Organize the development plan of Tainan Industrial Park (billion annual production value)	Economic Development Bureau	The Cigu Technology Industrial Park held its groundbreaking ceremony on November 15, 2021, marking the commencement of the green energy industrial park development	Construction of hypothetical works, soil extraction works and land preparation works in the Cigu Technology Industrial Park  Green Energy Industrial Park application process is underway	Construction of hypothetical works, soil extraction works and land preparation works in the Cigu Technology Industrial Park  Green Energy Industrial Park application process is underway	Developing the Cigu and green energy projects is expected to create 15,040 job opportunities and increase the annual output value by 50.5 billion in the city
Calculation formula: Developed by the city itself					

INDICATORS	UNIT	2021	2022	2023	2030
Enhancing employment and entrepreneurial capabilities for Indigenous peoples *Annual value	Indigenous Peoples Commission	26 sessions with 1,477 participants	34 sessions with 1,573 participants	45 sessions with 1,550 participants	Continuously implementing
Calculation formula: Statistics on the actual number of cases handled and services provided to the public					
Attracting investment to build an economic and industrial hub	Economic Development Bureau				
Calculation formula					
Winwin Innovation & Incubation Center	Economic Development Bureau				
Calculation formula					
Guidance and support volunteer *Annual value	Labor Affairs Bureau	483	428	328	350
Calculation formula					



## SDG 09

### Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

INDICATORS	UNIT	2021	2022	2023	2030
SME credit guarantee loan, approved underwriting amount (dollars) *Cumulative value	Economic Development Bureau	NT\$89.25 million	NT\$98.35 million	NT\$141.80 million	NT\$150 million
Calculation formula: Credit insurance funds provide statements					
Improving road quality	Bureau of Public Works				
Calculation formula					
New-style station signs with solar-powered lighting *Cumulative value	Bureau of Transportation	-	-	253	All new-style station signs have been installed citywide
Calculation formula: Cumulative number of newly installed solar-powered lighting units for station signs					
Newly developed off-street parking lots (number of lots) *Annual value	Bureau of Transportation	25	19	21	20
Calculation formula: Number of off-street parking lots					



**SDG****10****Reduce income inequality within and among countries**

INDICATORS	UNIT	2021	2022	2023	2030
Medical tour service in remote areas (mileage, number of visits, attendance) *Annual value	Public Health Bureau	31 miles, 291 sessions, Service 2,903 visits	14 miles, 242 sessions, Service 2,771 visits	15 miles, 253 sessions, Service 3,034 visits	12 miles, the 230 sessions and Service 2,600 visits
Calculation formula					
Inter-school interaction between Min, Hakka and Yuan *Annual value	Education Bureau	2021/4/21-23: Mountain and Sea Learning, 5 schools to participate	No plan	1. In March 2023, a Min Nan language drama reading tour was organized, visiting 10 schools. 2. In November 2023, Hakka cultural and artistic groups performed and conducted teaching at 13 schools. 3. In November 2023, the Indigenous dance troupe "Saꦱꦺꦴꦥꦺꦴꦤ Dance Group" performed at 16 junior high and elementary schools.	According to the approved plan
Calculation formula					
Conducted New Residents' skills counseling learning courses, family education courses, humanities and arts activities, and multicultural learning activities (number of sessions, attendance) *Annual value	Education Bureau	138 sessions 2,452 attendees	55 sessions 1,027 attendees	84 sessions 1,955 attendees	70 sessions 1,500 attendees
Calculation formula: Number of approved program sessions reported to the Ministry of Education for the fiscal year					



INDICATORS	UNIT	2021	2022	2023	2030
Organize performance venues and school venues to promote diversified arts and culture and cultural equality (number of performances, attendance) *Annual value	Culture Bureau	20 performance venues, 10 school promotions, 19,592 attendees	20 performance venues, 9 school promotions, 25,027 attendees	10 performance venues, 10,836 attendees	Annual application
Calculation formula: Calculated according to the annual processing situation					
Diverse promotion of ethnic and cultural events (number of sessions, attendees, and dollars)	Indigenous People Affairs Commission	14 sessions, 5,634 attendees, 2,250,664 dollars	14 sessions, 12,108 attendees, 2,270,000 dollars	16 sessions, 14,373 attendees, 2,648,000 dollars	Continuously implementing policies
Calculation formula: Statistics of applications received from private organizations and approved cases					
Provide Indigenous People with mic development, new loan approvals and total amount (pieces, million dollars) *Annual value	Indigenous People Affairs Commission	47 pieces, 2,064,000 dollars	28 pieces, 5.95 million dollars	23 pieces, 7.3 million dollars	Continuously implementing policies
Calculation formula					
Sunny Day Workshop Project (hours) *Annual value	Labor Affairs Bureau	34	30	30	Conducting 30 hours of professional skills courses annually to enhance competitiveness
Calculation formula					
Enhance the capacity of rehabilitation bus services (vehicles, trips) *Annual value	Social Affairs Bureau	155 vehicles, 249,845 trips	155 vehicles, 248,344 trips	155 vehicles, 278,698 trips	Enhance the number of vehicles and service trips
Calculation formula: Calculated based on actual implementation conditions					
Women's and Children's Safety Awareness Activities (sessions) *Annual value	Police Department	650	625	984	1,200
Calculation formula: Based on the data generated from applications received from each unit during the fiscal year					
Rehabilitation Bus Service Capacity *Annual value	Bureau of Transportation	21,548	38,675	69,334	86,486
Calculation formula: The volume of rehabilitation bus in the city					



SDG

11

## Promote inclusive, safe, resilient and sustainable cities and human habitat

INDICATORS	UNIT	2021	2022	2023	2030
Increase in park area (hectares) *Cumulative value	Bureau of Public Works	828.6	829.6	829.6	794.512
Calculation formula: Cumulative Park area					
Number of trees planted per 100,000 people in that year (trees) *Cumulative value	Bureau of Public Works	483,044	352,998	212,043	20,943
Calculation formula: (Bureau of Public Works, Agriculture Bureau cumulative planting quantity for the year)/City population*100000					
Enhance the capacity of public transportation in the city *Annual value	Bureau of Transportation	38.4% decline	38% decline	27.7% decline	Growth 25%
Calculation formula: City's bus transportation volume / Base year (2017) public transportation passenger volume of 20.92 million × 100%					
Taiwan Tourist Shuttle ridership (million rides) *Cumulative value	Bureau of Transportation	9.3	4.3	7.1	20
Calculation formula: City's sightseeing bus transportation capacity					
Public Bike Tbike Usage (million trips) *Cumulative value	Bureau of Transportation	353	406	662	3,050
Calculation formula: The amount of public bicycle usage in the city					
Shared green transport service area (km2) *Cumulative value	Bureau of Transportation	58	58	72.4	120
Calculation formula: Shared green transport service area					
Area of new afforestation (hectares) *Cumulative value	Agriculture Bureau	4	6	8	10
Calculation formula: Cumulative per year					
Full electrification of buses (%) *Annual value	Bureau of Transportation	11.74	14	20.13	100
Calculation formula: Number of electric buses / total number of buses in the city × 100%					
Proportion of days with AQI <101 to the total number of days (%) *Annual value	Environmental Protection Bureau	83	90	90.8	82
Calculation formula: Good air quality rate + normal day rate					





INDICATORS	UNIT	2021	2022	2023	2030
Reduction rate of the number of sites with soil and groundwater contamination (%) *Annual value	Environmental Protection Bureau	14	22	36.5	50
Calculation formula: Number of sites (74) in the base year (2019) - Number of sites listed in that year / Number of sites (74) in the base year (2019) × 100%					
Community environment transformation point (Division) *Cumulative value	Urban Development Bureau	73	91	125	293
Calculation formula: Total number of community transformation sites in the city					
Widespread installation of smart parking spaces (spaces) *Annual value	Bureau of Transportation	8,400	9,000	13,000	16,200
Calculation formula: Cumulative number of smart parking spaces (including smart curbside parking payment systems and magnetic sensors)					
Consolidated transportation of tokens and paper money (in ten thousand dollars, metric tons) *Annual value	Environmental Protection Bureau	234.7 ten thousand dollars, 1,344 metric tons	315.6 ten thousand dollars, 1,455 metric tons	369.9 ten thousand dollars, 1,631 metric tons	500 ten thousand dollars, 2,000 metric tons
Calculation formula: Token-based payments: Consolidation of public donations; Paper money consolidated transportation: Statistics of paper money collection volume for the Tainan City Clean and Complete Special Furnace					
Eco-friendly natural burial (%) *Annual value	Bureau of Civil Affairs	7.37	10.05	10.49	13
Calculation formula: (Number of tree burials + Number of sea burials) / Number of deaths					



## SDG 12

### Ensure sustainable consumption and production patterns

INDICATORS	UNIT	2021	2022	2023	2030
Environmental and ecological concept enhancement, space beautification social creation points (Division)	Cultural Affairs Bureau	53	72	75	160
*Cumulative value					
Calculation formula: Cumulative number of social construction sites that have participated in environmental and ecological concept enhancement and space beautification over the years					
Building material bank collar use (pieces)	Cultural Affairs Bureau	6,727	8,127	9,153	15,000
*Cumulative value					
Calculation formula: Based on historical statistics and promotion of target evaluation					
Promotion of organic (friendly) agriculture (hectares)	Agriculture Bureau	721	835	907	1,000
*Cumulative value					
Calculation formula: Cumulative per year					
Green procurement rate of designated projects by government agencies (%)	Environmental Protection Bureau	100	100	100	100
*Cumulative value					
Calculation formula: According to the annual assessment method of the Environmental Protection Administration, Executive Yuan					
City's general waste recovery rate (%)	Environmental Protection Bureau	65.73	62.14	63.5	61
*Annual value					
Calculation formula: (resource recovery + food waste recovery + huge waste recovery and reuse + other items recovery and reuse)/general waste generation					
Business waste recycling rate (%)	Environmental Protection Bureau	72.8	72.4	70.6	70
*Annual value					
Calculation formula: Amount of reusable business waste coupons / Total amount of business waste coupons × 100%					
Wood waste recycling (tons)	Environmental Protection Bureau	-	44.07	6,876	15,000
*Annual value					
Calculation formula: Based on the actual weighed weight of wood waste					



## SDG 13

### Take urgent action to combat climate change and its impacts

INDICATORS	UNIT	2021	2022	2023	2030
Set climate scenarios, improve climate risk assessment mechanisms, implement adaptation plans, and build a resilient city *Annual value	Environmental Protection Bureau	Continuously compile the results of the implementation of the Adaptation Action Plan	Continuously compile the results of the implementation of the Adaptation Action Plan	Climate Change Adaptation Interagency Meeting on December 11th	Set climate scenarios, improve climate risk assessment mechanisms, implement adaptation plans, and build a resilient city
Calculation formula: Based on the actual implementation of the business method of each bureau and office assessment					
District drainage whole treatment rate (%) *Annual value	Water Resources Bureau	40	57.57	64.10	70
Calculation formula: $1 - (\text{subsequent to the total length of the drainage road to be improved} / \text{the total length of the drainage road on both sides of the district drainage}) \times 100\%$					
Organize evacuation and evacuation drills, and promote autonomous landslide prevention communities (sites) *Cumulative value	Water Resources Bureau	42	51	60	123
Calculation formula: fixed number of sessions per year					
Assist in evacuation training, education and drills at public offices (number of sessions, number of people) *Cumulative value	Bureau of Civil Affairs	Up to 209 sessions 35,597 visits	Up to 210 sessions 35,677 visits	Up to 211 sessions 35,757 visits	Up to 218 sessions 36,500 visits
Calculation formula: at least 1 application per year					



INDICATORS	UNIT	2021	2022	2023	2030
Promoting Sustainable Campus Program (School) *Cumulative value	Education Bureau	13	16	20	39
Calculation formula: Calculated according to the number of passe					
Total number of environmental volunteers (person-times) *Cumulative value	Environmental Protection Bureau	5,960	6,395	9,473	10,150
Calculation formula: Annual EPB volunteer insurance plus the number of insured					
Greenhouse gas reduction (%) *Annual value	Environmental Protection Bureau	15.08% increase	18.5% increase	Under investigation	30% reduction
Calculation formula: According to the public data of ministries / base year (2005) greenhouse gas emissions (1,951.04 million tons of CO <sub>2</sub> -e) × 100%					
Promoting Self-Precaution Community Against Flood (Department) *Cumulative value	Water Resources Bureau	Maintain 38 units, establish 3 units	Maintain 41 units, establish 3 units	Maintain 44 units, establish 3 units	Maintain 50 units, establish 3 units
Calculation formula: Based on the reference results report, due to the possibility of communities withdrawing each year, future targets are only estimates					
Promoting Resilience Communities (Department) *Cumulative value	Fire Bureau	Establish 8 units	Maintain 4 units, establish 4 units	Maintain 8 units	Maintain 12 units
Calculation formula: Implementation of the Agency's Plan					
Agricultural Insurance (Number of Cases) *Cumulative value	Agriculture Bureau	4,197	25,696	34,,892	76,000
Calculation formula: Based on the annual implementation status					
Promoting Resilience Communities (Department) *Annual value	Environmental Protection Bureau	7	3	6	20
Calculation formula: Based on the number of Bronze and Silver levels of the Low-Carbon Sustainable Home certification					



## SDG 14

### Conserve and sustainably utilize marine ecosystems to ensure biodiversity and prevent marine environmental degradation

INDICATORS	UNIT	2021	2022	2023	2030
National primary and secondary school lectures on wetland ecology and environment education in schools (number of sessions, attendance) *Annual value	Environmental Protection Bureau	10 sessions 1,200 people	30 sessions 3,000 people	50 sessions 5,000 people	50 sessions 110,000 people
Calculation formula: Calculated according to the annual processing situation					
Marine environmental education and awareness activities and practical training on marine pollution response (Sessions) *Cumulative value	Environmental Protection Bureau	12	12	12	26
Calculation formula: Calculated according to the annual processing situation					
Total amount of waste handled at fishing ports (metric tons) *Annual value	Agriculture Bureau	57.8	174.2	80	75
Calculation formula: Calculated according to the actual weighing situation					
Area of sandbar rehabilitation in coastal areas (hectares) *Annual value	Water Resources Bureau	3	2	2.8	3
Calculation formula					
Wetlands of National Importance Conservation Plan (Case) *Annual value	Agriculture Bureau	3	3	3	Continuous application for central subsidy program
Calculation formula: Calculated according to the annual processing situation					

INDICATORS	UNIT	2021	2022	2023	2030
Bamboo oyster shed recycling and cleaning (tonnage) *Annual value	Agriculture Bureau	3,070.07	3,780.06	3,074.08	Incentives to subsidize fishermen to use new oyster huts to reduce the recycling of bamboo oyster huts
Calculation formula: Based on the actual recovery and subsidy quantity					
Environmental fleet (vessels) *Annual value	Environmental Protection Bureau	390	390	413	500
Calculation formula					





## Appendix



### SDG 15

#### Conserve and sustainably utilize terrestrial ecosystems to ensure biodiversity and prevent land degradation

INDICATORS	UNIT	2021	2022	2023	2030
Organized biodiversity conservation education campaigns, community tours, and environmental education parentchild camps (number of sessions, attendance) *Annual value	Agriculture Bureau	6 sessions 300 people	6 sessions 200 people	8 sessions 2,500 people	Annual application
Calculation formula: Calculated according to the annual processing situation					
Continuous reforestation of flatlands (hectares) *Cumulative value	Agriculture Bureau	63.55	64.99	66.49	88
Calculation formula: Calculated according to the annual processing situation					
Longci Geopark *Annual value	Agriculture Bureau	On July 30, 2021, the government announced 149.0206 hectares of the Longci Badlands Nature Reserve and 132.0258 hectares of the Longci Badlands Geopark on July 30, 2021.	On June 23, 2022, the bid for the "Tainan City Longci Badlands Geopark and Natural Reserve Management Plan" was awarded to National Taiwan University.	1. Develop the "Tainan City Longci Natural Landscape Overall Spatial Planning" project proposal and apply for central government special project funding. 2. The Forestry and Nature Conservation Agency, MOA, Chiayi Branch, approved a total project budget of NT\$5.37 million on January 5, 113 (ROC year). This includes NT\$4.3 million in central government subsidies and NT\$1.07 million in municipal matching funds, with funding allocated over the years 113-114 (ROC year).	To upgrade the quality of trails and facilities within the geopark, and to install related leisure facilities, signage system and enhance in-situ maintenance.
Calculation formula: Calculated according to the annual processing situation					

INDICATORS	UNIT	2021	2022	2023	2030
Biodiversity Conservation and Invasive Species Management Program (hectares, hectares, individuals) *Cumulative value	Agriculture Bureau	Iron powder-coated rice seed: 30 hectares / Invasive plant control: 48.1077 hectares / Green iguana control: 2,155 individuals	Iron powder-coated rice seed: 20 hectares / Invasive plant control: 58.0185 hectares / Green iguana control: 5,941 individuals	Iron powder-coated rice seed: 20 hectares / Invasive plant control: 66.9346 hectares / Green iguana control: 8,014 individuals	Iron powder-coated rice seed: 50 hectares / Invasive plant control: 90 hectares / Green iguana control: 10,098 individuals
Calculation formula: Calculated according to the annual processing situation					
Precious tree conservation (sites) *Cumulative value	Agriculture Bureau	3	3	3	Annual application
Calculation formula: Calculated according to the annual processing situation					



## Appendix



## SDG 16

Promote a peaceful and diverse society, uphold impartiality in the legal system, and implement a reputable and extensive mechanism for public feedback

INDICATORS	UNIT	2021	2022	2023	2030
Integrating the city's emergency relief and central emergency relief resources *Annual value	Social Affairs Bureau	(1) Emergency relief: 2,443 people were provided with a total of NT\$15,912,934. (2) Emergency relief: 351 families were provided with a total of NT\$4,879,317 in relief due to an emergency.	(1) Emergency relief: 1,088 people were provided with a total of NT\$7,027,018. (2) Emergency relief: 181 families were provided with a total of NT\$2,405,800 in relief due to an emergency.	(1) Emergency relief: 2,012 people were provided with a total of NT\$13,155,556. (2) Emergency relief: 425 families were provided with a total of NT\$6,094,307 in relief due to an emergency.	According to the actual regulations
Calculation formula: Calculated in accordance with the actual provisions of the situation					
Promote citizen deliberation, local creation related activities, projects and workshops, and vote on the implementation of proposals (proposals) *Cumulative value	Culture Bureau	8	26	29	Annual application
Calculation formula: Based on the cumulative number of relevant activities in the current year					
Implementing the spirit of civic engagement and deepening the government's ability to think strategically *Annual value	Research and Development Evaluation Committee	Organized the Greater Tainan Bus Urban Bus Route Workshop Series, the Tainan MRT System Planning Workshop, and the Xibei Yanshui District Public 20 Park Special Playground Workshop Series	1.Public Participation: 31 sessions with 4,627 participants. 2.Major Policy Briefings, Public Hearings, and Coordination Meetings: A total of 48 sessions with 1,409 participants.	1.Public Participation: 75 sessions with 11,893 participants. 2.Major Policy Briefings, Public Hearings, and Coordination Meetings: A total of 98 sessions with 18,140 participants.	Enhance the effectiveness of public participation to generate synergy through cooperation between citizens and the government; establish a stable cross-departmental municipal cooperation and communication mechanism.
Calculation formula: Statistics at the end of each year					
Government Data Open Access *Annual value	Research and Development Evaluation Committee	1,596 data sets 7,176 data items, with a total of 7.56 million page views	1,761 data sets 16,620 data items, with a total of 7.56 million page views	1,743 data sets 18,449 data items, with a total of 8.04 million page views	2,400 data sets 32,000 data items, with a total of 11 million page views
計算公式：每年年底統計					



INDICATORS	UNIT	2021	2022	2023	2030
Youth for Good Government Conference Series (Sessions) *Annual value	Research and Development Evaluation Committee	-	10	37	We strive to open up government information, deepen the benefits of citizen participation, and establish a cross bureau cooperation mechanism to promote municipal exchanges.
Calculation formula: Statistics at the end of each year					
Citizens Power Plant promotes the installation of Sunshine Community (Division) *Annual value	Economic Development Bureau	63	105	107	100
Calculation formula: Number of Sunshine Community Grants					
Citizen-Owned Power Plants (Units) *Annual value	Economic Development Bureau	83	94	105	188
Calculation formula: Statistics at the end of each year					



## SDG 17

### Take emergency measures to respond to climate change and its effects

INDICATORS	UNIT	2021	2022	2023	2030
Establishing a fully empowered and dedicated agency to facilitate substantive cross-bureau cooperation *Annual value	Environmental Protection Bureau	1 meeting of the Low Carbon Adaptation Sustainability Committee was held on December 8, 2021	Two meetings of the Low Carbon Adaptation and Sustainability Committee were held on May 25, 2022 and December 12, 2022.	The first meeting of the Low Carbon Adaptation Sustainability Committee was held on December 8, 2021	Establishing a fully empowered and dedicated agency to facilitate substantive cross-bureau cooperation
Calculation formula: Evaluation based on meeting minutes					
Strengthen public-private partnerships to promote sustainable public sector projects through the power of the private sector *Annual value	Environmental Protection Bureau	Conducted 7 community visioning workshops and 7 proposal workshops from August 16 to August 27, 2021, and completed 42 interviews with disadvantaged community members in 7 communities, 3 advanced proposals and 4 basic proposals.	Strengthen public-private partnerships to promote sustainable public sector projects through the power of the private sector	1. The Rende District Office organized the "Fun Tainan, Rende Train" park playground workshop on February 19. 2. The Department of Urban Development conducted four participatory design workshops from July to August, focusing on collaborative design to restore river vitality and create a sustainable, water-friendly environment.	Annual application
Calculation formula: Meeting minutes, application documents, project report					
Number of residents serving as volunteers *Cumulative value	Social Affairs Bureau	52,036	56,905	66,720	55,000
Calculation Formula: Total of report data					

INDICATORS	UNIT	2021	2022	2023	2030
Strengthen international cooperation channels for cities and establish an open collaboration platform *Annual value	Environmental Protection Bureau	<p>1. March 15, 2021, participated in the ICLEI and Taoyuan City's "ICLEI EcoLogistics Community Global Meeting" online conference.</p> <p>2. November 6, 2021, participated online in the "Net Zero Urban Action Forum" at the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26).</p> <p>3. December 21, 2021, Mayor Wong Waichul participated in the "Low Carbon City Conference: Sustainable Supply Chain and Urban Development" and "Sharon Smart Industry Innovation Alliance Signing Conference</p>	<p>1. ICLEI World Congress 2021-2022 online conference from May 11 to May 13, 2022</p> <p>2. ICELI Bold Cities 2022 online conference from October 3 to October 7, 2022</p> <p>3. ICELI Bold Cities 2022 online conference from November 6 to November 18, 2022 Participate in the 27th United Nations Climate Change Conference (UNFCCC COP27) in Sharm El Sheikh, Egypt</p>	<p>1. November 13, 112 (ROC year): Attended the ICLEI Local Climate Action Summit online seminar.</p> <p>2. November 30 to December 12, 112 (ROC year): Participated in the 28th United Nations Climate Change Conference (UNFCCC COP28) held in Expo City Dubai, United Arab Emirates.</p>	Strengthen the city's participation in the international cooperation pipeline and establish an open cooperation platform

Calculation formula: International official websites, press releases, conference proceedings



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