

# TAINAN CITY

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## SUSTAINABLE DEVELOPMENT GOALS



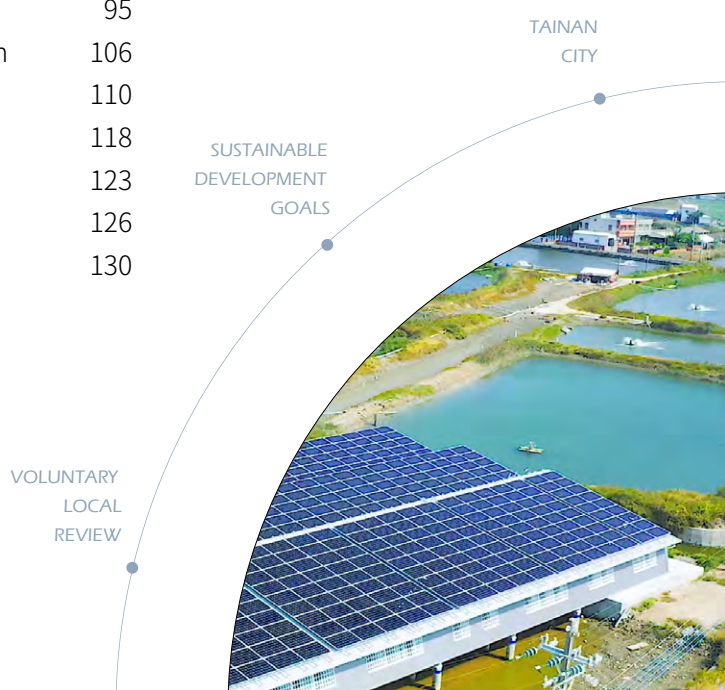
## VOLUNTARY LOCAL REVIEW





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# MESSAGE FROM THE MAYOR

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. This year, Tainan City has continued and expanded its review of the implementation of a total of 17 sustainable development goals, and published a voluntary review report for 2022 to further improve sustainable outcomes.

Tainan is the first city in Taiwan and is about to enter its 400th year of existence. 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 commitments to make Tainan a better city to live in and perpetuate.

With the natural disasters posed by extreme weather, such as the urban heat island effect, water shortages and flooding, we are acutely aware of the threats and impacts of climate change on humanity. The United Nations has called on city leaders to pay attention to the sustainable development of their cities. Therefore, since taking office, he has adopted the "3 Upgrades, 3 Sustainables" policy strategy, including "Economic Upgrading," "Transportation Upgrading," "Health Upgrading," "Environmental Sustainability," "Warmth Sustainability," and "Cultural and Educational Sustainability," considering low-carbon sustainable development as an essential aspect of municipal government, actively promoting green energy and carbon reduction, and making every effort to enable Tainan's citizens to have "abundant clothing, sufficient sustenance, and a happy life."

In the face of the climate crisis and the trend toward net-zero carbon emissions, Tainan officially entered into a declaration of climate emergency in May 2021, setting forth a vision for sustainable development by 2030, including specific goals such as renewable energy capacities, carbon neutral electricity consumption in the residential and commercial sectors, and full electrification of urban buses. On June 1, 2023, the "2050 Taiwan Net Zero - Tainan in Motion" press conference was held. Tainan City's 2050 Net-Zero Roadmap Plan was released at a press conference held, and is being developed based on the existing Tainan Low-Carbon City Municipal Government Ordinance, which covers the six core items of reducing carbon emissions, accelerating the promotion of green energy, optimizing power-saving devices, developing green transportation, enhancing the flexibility of adaptation, and adopting a sustainable lifestyle. The Tainan City Low Carbon Adaptation and Sustainable Development Committee was established in concert with industry, government, academia, and research to oversee the refinement and rolling review of sustainable development strategies, and to accelerate net-zero transformation through a multi-pronged approach of legal and regulatory frameworks and public-private collaboration to create a resilient, low-carbon sustainable city and advance toward the goal of net-zero emissions by 2050.

With an average of over 2,000 hours of sunshine per year, Tainan has a natural advantage for solar power development. We make full use of the abundant sunlight resources and promote the development of renewable energy in line with the national policy, initiating the Sunshine City project to promote rooftop and ground-based solar power. In order



Tainan Mayor

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Huang Wei-Cher



to properly treat wastewater and stabilize water for industrial processes, Tainan City has promoted the construction of a water reclamation plant, so that "one water can be used multiple times" and maximize the efficiency of using water resources. In November 2023, the construction of the project is set to begin, providing the first example of a recycled water exchange for high-end processes in the high-tech industry.

Tainan is Taiwan's "Southern Silicon Valley" and an important base for the development of green industries. In order to assist the departments of housing, commerce and industry to face the international trend of net zero carbon reduction, the city government has established the Tainan City Carbon Inventory Registration Platform to provide enterprises with calculations and registration, combined with experts and scholars in industry, government and academia to form the "Net Zero Guidance Panel" to guide enterprises to lead small and large enterprises to lead the supply chain to implement greenhouse gas reduction together. It also unites six southern counties and cities to establish a southern governance platform to promote voluntary reduction programs across southern counties and cities to achieve net-zero results, exchange and coalesce consensus, integrate resources across regions, and create a new green policy.

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 98 detailed goals, and set benchmarks for rolling review, as a way to take stock of the current status of sustainability in Tainan City and its various bureaus. We are grateful for the efforts of 1.85 million citizens and all of 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.





# 01

## Introduction

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▽ Chi Mei Museum (Photo: Courtesy of the Chimei Museum Foundation)



SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY LOCAL REVI

# 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. In 2015, the United Nations published Transforming our world: the 2030 Agenda for Sustainable Development, which focuses on the critical links between people, planet, prosperity, peace, and partnership, and unifies the many serious challenges facing the world into 17 Sustainable Development Goals (SDGs).

Under each core goal, a number of 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 taking into account 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 GOOD 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, 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.





Tainan City has adopted "3 Upgrades and 3 Sustainables" as its governance strategy to gradually promote its vision of urban development and make every effort to provide its citizens with "abundant food and clothing, and a peaceful and happy life".

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

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



**8 DECENT WORK AND ECONOMIC GROWTH**




**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



**Economic Upgrading**  
Strive to develop local industries and attract Taiwanese businessmen to return and foreign investors to set up factories to create more job opportunities and output value.

**11 SUSTAINABLE CITIES AND COMMUNITIES**



**Transportation Upgrading**  
Integrate green, smart and safe transportation into public transportation and improve access to public transportation in remote areas.

**3 GOOD HEALTH AND WELL-BEING**



**Health Upgrading**  
Develop comprehensive health care systems to protect the healthy lives of our citizens from childhood to old age.

**6 CLEAN WATER AND SANITATION**




**7 AFFORDABLE AND CLEAN ENERGY**



**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**



**11 SUSTAINABLE CITIES AND COMMUNITIES**



**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**



**14 LIFE BELOW WATER**




**15 LIFE ON LAND**



**Environmental Sustainability**  
Safeguard air quality, create a clean environment, and popularize solar power to create a happy and livable city.


**1 NO POVERTY**



**2 ZERO HUNGER**



**11 SUSTAINABLE CITIES AND COMMUNITIES**




**12 RESPONSIBLE CONSUMPTION AND PRODUCTION**



**13 CLIMATE ACTION**



**16 PEACE, JUSTICE AND STRONG INSTITUTIONS**



**17 PARTNERSHIPS FOR THE GOALS**




**Warmth and Sustainability**  
Promote public storage of cherished food, housing justice, social housing, and greening of the environment.

**4 QUALITY EDUCATION**



**5 GENDER EQUALITY**



**10 REDUCED INEQUALITIES**



**13 CLIMATE ACTION**



**Culture and Education Sustainability**  
Maintain the goal of "Tainan Culture for Better Future", emphasize the learning environment for all ages, and ensure appropriate learning for special education.





△ Shalun Smart Green Energy Science City





# 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 Tainan's pride and also a challenge. Tainan is prone to digging up large areas of remains during urban construction and development. Even Nanke, 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", therefore, the city government team is committed to assisting enterprises to invest and set up factories. This will attract young people to return to their hometown and drive the development of the Great Southern 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 trillion and attract top global manufacturers to locate in Tainan, setting up offices and talent training centers in Tainan, such as MediaTek and ASML, and foreign companies such as Applied Materials and Tokyo Electron, 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."







# Tainan Promotes Environmental Sustainability Creating a Lovable City

There is only one planet, thus industrial development must change from a linear mindset to a circular economy. In 2022, the Tainan City Government 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". From January to November 2023, the ratio of blue sky days reached 89.2%, the highest ever for the same period, significantly improving air quality in the city. In the area of waste treatment, the Chengxi sludge treatment plant has received ISO 9001 certification, and a certification system has been introduced for a dedicated plant for controlled low strength materials (CLSM) mixing plant to ensure the quality of reuse of sludge.

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 addition, the city will set up additional pumping stations in Xuejia, Yongkang, and Madou districts to maximize the flood prevention effect by increasing the community drainage capacity.

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, taking into account 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, the current solar power backup capacity has exceeded 3.7GW, which is equivalent to the annual power generation capacity of 17.4 Zengwen hydroelectric power plants. It also promotes the resourceful reuse of animal manure and urine, which can reduce 890,000 tons of waste water and generate 8,464 kWh of biogas, achieving the benefits of water saving and power generation.

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.



# 02

## Sustainable Development Highlights



SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY LOCAL REVIEW

NAN CITY SUSTAINABLE DEVELOPMENT

NAN CITY SUSTAINABLE DEVELOPMENT



▽ Chi Mei Museum (Photo: Courtesy of the Chimei Museum Foundation)





# COVID-19 Anti-pandemic Actions

Given the significant ramifications of the COVID-19 pandemic, the Tainan City Government has taken proactive measures to enhance its administrative operations, implement community and medical-based epidemic prevention strategies, and procure necessary materials to contain the spread of the virus within the community and safeguard public health. These efforts are aimed at effectively mitigating the impact of the pandemic and responding promptly to its dynamic nature.

## 1. In terms of administration and operation:

1. The municipal administration established a COVID-19 Response Team and assembled a panel of specialists and academics to convene daily and deliberate on the progression of the pandemic. The objective was to strategize and implement preventative measures in the domains of sustenance, attire, shelter, and conveyance, with the aim of enhancing public sentiment. As of 2021, a total of five response teams and four expert consultation meetings have been conducted.
2. The COVID-19 Incident Command System (ICS) is compartmentalized into distinct units, with scheduled meetings being conducted in accordance with assigned duties. As of 2021, a total of 101 ICS meetings have been conducted, out of which 77 have been presided over by the Mayor.
3. The city government and health-related agencies have taken measures to address public opinion and misinformation by creating a dedicated section on their websites to

provide information on the city's epidemic situation. They have also expanded the number of extensions and hired more hotline service personnel. Additionally, an official Tainan Epidemic Express LINE@ account has been opened to disseminate information on epidemic prevention policies, press releases, and the latest updates on the epidemic situation in real time to ensure that the public receives accurate and up-to-date information.

4. The Tainan City Government has established the "Tainan Co-Care Cloud" official account to cater to the needs of diagnosed citizens. This platform enables citizens to download home isolation notifications, thereby expediting the related operational procedures. Additionally, the platform offers services such as follow-up treatment of positive screening, video care, and reporting of physical discomfort, among others. The Tainan Co-Care Cloud offers tailored daily communication of current policies from both the Tainan City and central government to cohorts of verified patients and their close contacts, contingent upon the circumstances.
5. In the beginning of 2022, the central government reintroduced the 1922 online appointment platform with restrictions on eligibility for individuals who have received supplementary doses. To further facilitate the scheduling of first and second doses, the Tainan City Government launched the "Tainan COVID-19 Vaccination Appointment System" website on January 27, 2022. The system was extended to medical institutions in the city, and does not require a specific appointment date. Individuals may access the system online at any time, provided that there are available slots.



△OLOCC Meeting

## 2. In terms of community and medical prevention:

### Maintaining Medical Capacity

Tainan City implemented a triage system based on the medical condition of patients. As per the system, individuals who were asymptomatic were directed to centralized quarantine centers, while those with mild and moderate illnesses were referred to regional hospitals. Patients with severe illnesses were either directed to the intensive care units of regional hospitals or transferred to medical centers.

Furthermore, the inaugural OLOCC (On-Line Operations Coordination Center) in the city is a derivative of the OSOCC (On-Site Operations Coordination Center) model utilized by the United Nations Disaster Relief System. The commander has the ability to communicate significant policies to medical facilities and perform live assessments of ward and personnel resources.

### Extensive Screening and Testing Stations

The primary objective is to enhance communal defenses and promptly eliminate the origin of contagion by establishing community screening stations within medical facilities and broadening screening stations in regional healthcare centers. The city has developed a novel approach to community screening by introducing a mobile container screening station, which has proven to be a significant improvement in terms of safety for screening personnel, reduction in protective equipment usage, and enhancement of screening efficiency. Furthermore, screening stations are established in accordance with demand for large workplaces situated in technology parks, with the aim of promptly identifying cases for subsequent treatment. Furthermore, to attain widespread immunization and enhance vaccination rates, diverse opportunities are utilized to advertise and extend vaccination centers, thereby augmenting the public's eagerness and accessibility to receive vaccinations.



△ The mayor inspecting a large-scale vaccination station



### Pandemic Accommodation and Transportation Services

The city has collaborated with various bureaus and departments to establish epidemic-proof lodgings and cabs, which have contributed to enhancing the safety of individuals during the epidemic. These lodgings have provided hoteliers with an opportunity to augment their income during the epidemic, while the cabs have

facilitated transportation for individuals entering the city to quarantine facilities and those who are quarantined at home. As of October 1st, 2021, the city had a total of 40 hotels and 1,154 quarantine lodges, accommodating a combined total of 12,842 individuals. Additionally, quarantine taxis facilitated 7,117 trips during this time period.



△ Featured Vaccination Station - Tainan Art Museum Building 2

### 3. Economic activity recovery and relief assistance:

1. Tainan City is an ancient cultural and historical capital, establish an online touring platform to break the restrictions of physical tourism, and use cloud technology to travel around Greater Tainan.
2. Tainan City is also famous for its food, so it should limit the number of people in restaurants, keep social distance and use partitions so that people can enjoy food without worry.
3. Set up an e-commerce integration platform in Tainan City to coordinate the sale of various products, such as vegetable boxes of local ingredients and fruit boxes of agricultural specialties, so that consumers can choose from them and revitalize the economic development.
4. In terms of relief subsidies, a single window should be set up to handle the relief programs of the central government or the city, so that people can still live normally and revitalize the economy while preventing future pandemics.



△ Tainan agricultural products on the e-commerce platform press conference



# Sunshine Electric City3.0

## Development History

The Sunshine Electric City project was initiated by the Tainan City Government in 2011, and subsequently expanded to the Sunshine Electric City 2.0 project in 2019. This was due to the exceptional "sunshine conditions" of the region, which boasts an average of more than 2,000 hours of sunshine annually.

The Sunshine Electric City 3.0 Project has been rescheduled to achieve the cumulative 3GW of solar power by June 2022, instead of the original target of 2024. The project will focus on energy conservation, energy storage, energy creation, and system integration as the four main axes, with the aim of promoting the balanced development of "green economy, energy transformation, industrial development, and sustainable homes". The project will also prioritize the strengthening and promotion of rooftop solar power installations to further advance Tainan's development. Furthermore, alongside the cultivation of a well-rounded "green economy, energy transformation, industrial development, and sustainable housing", efforts will be made to reinforce and advance the implementation of rooftop solar power. The city of Tainan will persist in its pursuit of energy transformation, while also providing support to businesses in their endeavors to establish green power, thereby instilling fresh impetus into the growth of the economy.

## Top 10 Promotion Strategies and Projects

The year 2019 witnessed the expansion of the Sunshine Electric City 2.0 project, alongside the establishment of a solitary service window. The implementation of demonstration facilities by green energy manufacturers across the upstream,

midstream, and downstream industrial base will be complemented by a range of comprehensive promotion strategies. 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 implementation of solar power is being systematically advanced across five primary roof types and five primary ground types. These include sunlight public housing, sunlight roofs, sunlight communities, green factories, and agricultural sheds, encompassing 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.



## Sunshine Electric City Top 10 Promotion Strategies

<b>Green Roof</b>	<ul style="list-style-type: none"> <li>- Actively 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>
<b>Mandatory by Law</b>	<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> <li>- In accordance with the land control regulations of the Urban Planning Law, the installation of solar power in the Shanhua LM Special Administrative Region will be counted as a capacity incentive, up to a maximum of 30% of the base capacity.</li> </ul>
<b>Grants and Incentives</b>	<p>Set up the "Implementation Plan for Subsidized Installation of Solar Power Systems in 2021"</p> <p>Total amount of subsidies applied: \$15,860,627</p> <p>Number of approved applications: 340</p>
<b>Financing Projects</b>	Actively coordinate with bankers to establish solar power financing projects
<b>Local Application</b>	The first city and county in the country to receive certification for solar power equipment
<b>Promotion and Advocacy</b>	Organizing renewable energy-related presentations, investment meetings, seminars, and visits
<b>Demonstration Setting</b>	<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>
<b>Re-fitting</b>	In accordance with the central government's regulations, the government has issued 268 cases of illegal rooftop installation of solar power to the end of April 2022, with a total of 33MW of approved cases.
<b>Promotion Center</b>	Established "Green Energy Technology Industry Promotion Center Office" to remove barriers to investment
<b>Information Platform</b>	Establishment of Tainan City Renewable Energy Information Integration Platform and Renewable Energy Map



## Green Power Information at a Glance

The municipal administration is prioritizing the elimination of obstacles to eco-friendly energy investments and fostering a conducive atmosphere for such investments as part of its efforts to attain the objective of energy conversion. The municipal administration has effectively utilized information management technology to streamline various processes ranging from information disclosure to internal management and evaluation.

In light of the recent surge in attention towards ecological concerns, the city has implemented a new environmental and social verification map to supplement the existing Grade 1 and 2 environmentally sensitive area maps in the renewable energy sector. This new map is utilized to identify potential development sites by overlapping installation sites with the information provided on the map table, and subsequently utilizing the fast screening process system of environmental and social verification. The aim of this approach is to expedite the installation of photovoltaic power at sites with minimal or no concerns, while also integrating with the power industry's application process. The operation of advisory committees is also in place to ensure the coexistence and co-prosperity of solar power development with society and the environment.





## ▽ Jiufenzi Low Carbon Demonstration Community Solar Panel



### Government Designated Low Carbon

On December 22, 2012, Tainan City became the first city under its jurisdiction to adopt the low-carbon city as a governance standard by implementing the "Tainan Low-Carbon City Self-Governance Ordinance". This was done with the aim of effectively mitigating, responding to, and regulating the effects of climate change, as well as establishing a low-carbon city with adaptive mechanisms. As per the provisions of Article 21 of the Tainan City Low Carbon City Autonomy Ordinance, it is mandatory for newly constructed buildings situated in the areas demarcated by the Tainan City Government to be equipped with eco-friendly energy infrastructure, including solar power. Presently, there exist two such locations, namely Jiufenzi and the specific region of the High Speed Rail.



## Green Energy Leadership Among Major Electricity Consumers

As per Article 23 of the Tainan Low-Carbon City Self-Governance Ordinance, the realization of a sustainable city in Tainan necessitates that "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. The expectation is that the involvement of major users will enable them to discharge their corporate social responsibility and serve as a model for the adoption of sustainable energy practices. This, in turn, will encourage the residents of Tainan to embrace the installation of solar power systems and facilitate the transition towards renewable energy sources.

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

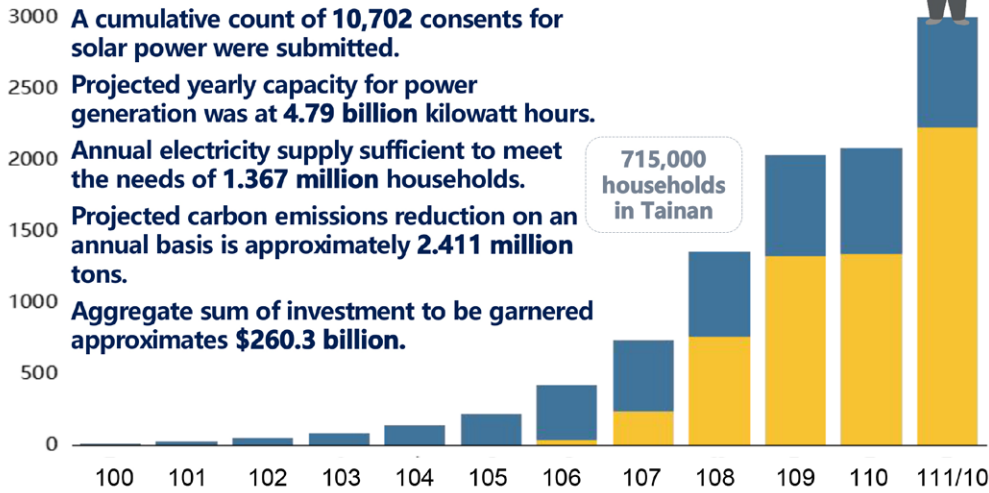
As of October 2022, there were 10,702 instances of solar power consent, with a total capacity of 3,718MW. The estimated annual power generation capacity of these cases is approximately 4.79 billion kilowatt hours, which is equivalent to nearly 17.4 hydroelectric power plants in Zengwen. The proposed investment sum is approximately \$260.3 billion, with the cumulative target of 3GW solar power production, initially set for attainment by 2024, being expedited to be met by the conclusion of June 2022. The prospective projection for the year 2030 with the aim of attaining a cumulative volume of 4.5GW.





### Sunshine City Promotion Achievements

#### No. 1 in the country in terms of capacity of solar installations



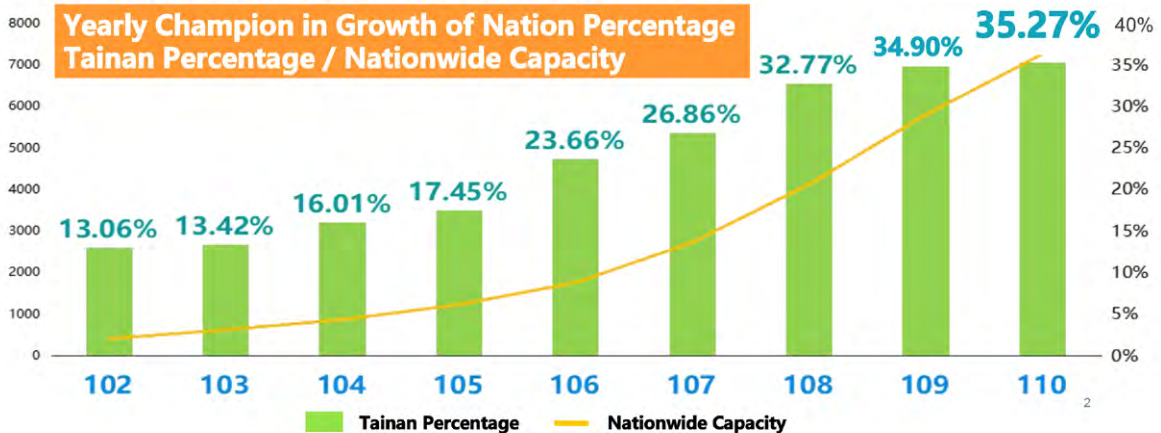
△ Achievements in the promotion of solar power in Tainan

### Tainan Solar Nationwide Ratio Change



#### No. 1 in the country in terms of capacity of solar installations

**3.7 GW as of November 2022 for Tainan**



△ Percentage change of Tainan's solar power nationwide





△ Floating fishery and electricity coproduction



## Technology Manufacturers Returning to Tainan to Set Up Factories

Prominent technology firms, including Innolux, Hannstar, Getek, and Wistron, have been relocating from China to establish operations and invest in solar photovoltaic projects. As of November 2022, the cumulative number of such projects is expected to reach 10,702, with a total capacity of 3,718MW and an estimated annual power generation capacity of 4.79 billion kWh. This figure is comparable to the annual power generation capacity of 17.4 hydroelectric power plants located in Tainan. The proposed project has the capacity to provide electricity to approximately 1,367,000 households annually while concurrently mitigating carbon emissions by an estimated 2,411,000 tons per year. This carbon reduction is equivalent to the amount of carbon that would be offset by 7,412 Tainan parks. The project has garnered a significant investment of approximately 260.3 billion dollars. The target of attaining a cumulative solar power capacity of 3GW by 2024 has been surpassed prior to the projected timeline, as of the conclusion of June 2022. The future objective is to attain a capacity of 4.5GW by 2030.

## 2022 Sunshine Electric City Re-Upgrade

The Sunshine Electric City 3.0 Project aims to enhance the original Sunshine Electric City 2.0 Project by not only promoting its five roof-based projects and five ground-based projects, but also by prioritizing the improvement of 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. The "Shalun Green Energy Science City" has been chosen as a site for the promotion of renewable energy and the establishment of a smart grid, in accordance with the "Foresight Infrastructure Project - Green Energy Construction". This initiative aims to expedite the energy transformation process, which involves energy conservation, energy generation, energy storage, and the integration of smart systems.
3. The communication of sensitive environmental or ecologically contentious sites at a local level is a significant concern. Tainan City, in particular, is a crucial region for the advancement of solar power, while also hosting wetlands of national and international importance. Currently, Tainan City has 11 instances of solar power development projects of significant magnitude, with an initial estimation exceeding 2MW. Additionally, there are 28 instances of land use zoning changes. Whilst the Central Government has established the parameters and components of the environmental and social review mechanism, it is important to note that the principle of grandfathering does not extend to applications that have already been submitted.



# Water for Water

## Development History

Tainan City has been proactively developing a regional industrial ecosystem with the aim of attracting businesses and fostering their establishment within the city. In recent times, the phenomenon of climate change has resulted in occurrences of both droughts and floods. This has posed a significant challenge for the high-tech manufacturers operating in Tainan Science Park, who are increasingly investing in advanced manufacturing processes. As a result, water has emerged as a critical concern for these manufacturers. In accordance with the principles of corporate social responsibility and the prevailing global trend of sustainable development, Tainan Science Park and its advanced processors have pledged to utilize a specific quantity of renewable water resources to ensure a consistent water supply in the region of Tainan, while simultaneously mitigating the potential for water-related conflicts between the industrial and agricultural sectors.

The municipal administration sanctioned the Yongkang Reclaimed Water Project in 2018 to effectively harness water resources. This pioneering initiative is the foremost of its kind in the nation, catering to the demands of sophisticated semiconductor manufacturing procedures. The forthcoming reclaimed water undertakings in Anping and Rende will conform to the Tainan Science Park water project.

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

The municipality of Tainan intends to construct three additional water reclamation facilities with the purpose of providing water to Tainan Science Park. The Yongkang Water Reclamation Center has allocated a budget of \$2.2 billion towards the construction of a novel facility, which is expected to provide a daily supply of 0.8 million tons of reclaimed water by December 2022, and an additional 15,500 tons of water per day by 2024. This water will be utilized by prominent corporations such as TSMC, UMC, and Innolux. The ongoing construction of the Anping Water Reclamation Plant is anticipated to furnish 10,000 tons of reclaimed water daily by March 2023, followed by an increase to 37,500 tons per day in 2024, to cater to the water demands of TSMC. Upon the conclusion of the construction of the three water reclamation facilities, a total of 63,000 tons of recycled water will be made available on a daily basis to support high-tech industries. This development is expected to facilitate the establishment of a circular economy and promote the growth of the recycled water sector.



△Anping Water Reclamation Plant

## 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. The demonstration has established a model for the exchange of recycled water rights, akin to carbon trading, and has created the first "Water for Water" model in Taiwan, based on the principles of "Water and its sustainable management" and "Sustainable consumption and production practices" outlined in item 6 of the Sustainable Development Goals (SDGs).

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

Through the local deployment and use of renewable water sources, we can reduce environmental impact and increase economic benefits. The operation model is that TSMC will transfer 0.8 million tons of its commitment to use the Tainan Rende Water Reclamation Plant to Chi Mei Industrial Corp. and Chi Mei Industrial Corp. will transfer 0.8 million tons of its own tap water to TSMC for use, on the one hand, TSMC can help accelerate the quality improvement of recycled water and industrial development in Tainan City, and achieve the relevant environmental assessment commitments, on the other hand, Chi Mei Industrial Corp. will also fulfill its corporate environmental vision, achieving a win-win situation.



△ Rende Water Reclamation Center Water Discharge Contract



# Net Zero Guidance Panel

## Development History

To promote energy efficiency in the residential and commercial sectors of the city, and to continue to promote the implementation of energy saving and carbon reduction in the residential and commercial 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 and commercial sectors to promote the implementation of carbon reduction and net zero.



△ The Energy Saving Alliance transformation into the Net Zero Guidance Panel

## Industry-Academia Collaboration and Energy Saving Diagnostic Counseling

Most of the energy users in the industrial sector in Tainan are under pressure from the international industrial chain and have been actively improving their energy efficiency. Thus, the Environmental Protection Bureau of Tainan City Government called on the industrial and service sector companies with good energy saving performance to take the lead in the government's efforts to lead a coalition of energy saving companies to provide counseling, so as to change the stereotypical image of large energy users and build a good corporate image together.

At the beginning of its establishment in 2018, Taiwan Semiconductor Manufacturing Corporation, 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 of Science and Technology, and National Cheng Kung University's Energy Technology and Strategy Research Center; in 2021, the team was expanded to include Taiwan Power Co.



△ UMC Energy Conservation Service Team on-site visit



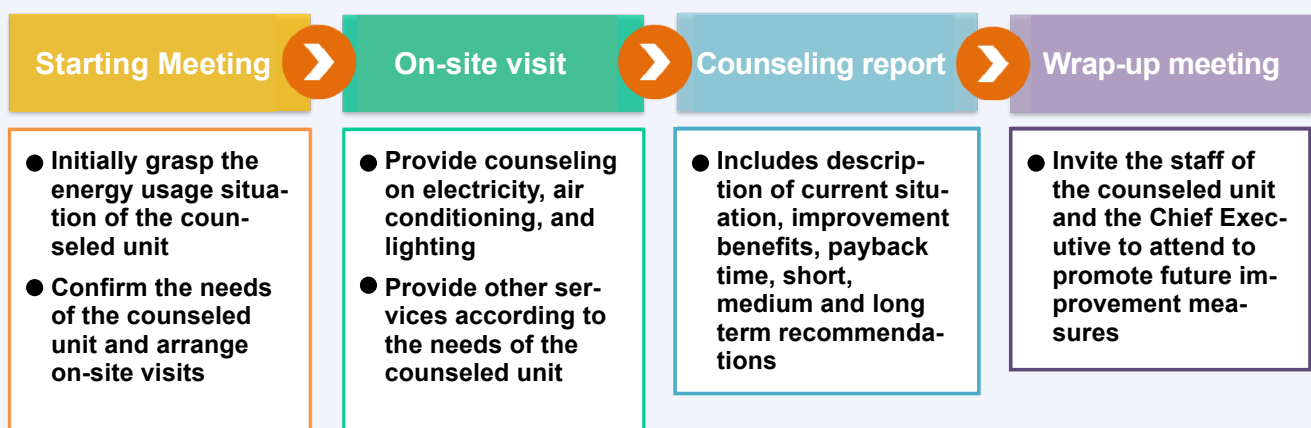
## Net-zero guidance panel: Industrial guidance

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 residential sector can reduce the amount of people in the people, more important. 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 Steering Group", inviting Chi Mei Corporation and Huaxin Lihua Corporation to join, 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

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. In 2022, three social welfare organizations and three residential and commercial units in remote areas were successfully matched as counseled units, namely, the private Guanmiao Community Long-term Care Institution in Tainan City, the private Songbai Nursing Home in Tainan City, and the private One Grain of Wheat Social Welfare Charity Foundation. The One Grain of Wheat Social Welfare Charity Foundation's affiliated private Shanhua Community Long Term Care Institution in Tainan City, the Crowne Plaza Hotel Tainan, the Lakeshore Hotel Tainan, and the Far East Shangri-La in Tainan.

### Power Saving Group Guidance Procedures



## 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 regulating greenhouse gases for over ten years. In the first year of 2011, Tainan City started to implement a series of greenhouse gas reduction and control measures by promoting the "Low Carbon City Construction Project", and in the next year of 2012, Tainan City was the first city in Taiwan to publish the "Tainan Low Carbon City Municipal Government Ordinance", which was the first city in Taiwan to incorporate greenhouse gas control into its governance. "In 2013, the Tainan Low Carbon Adaptation and Sustainable Development Committee was established to promote the construction of a low-carbon city through a dedicated organization.

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

### History of Promoting Greenhouse Gas Reduction

**2011** Promoted low-carbon city construction plan

**2012** Declared the first year of low-carbon city and issued the Low Carbon City Municipal Government Ordinance

**2013** Established the Low Carbon Adaptation and Sustainable Development Committee

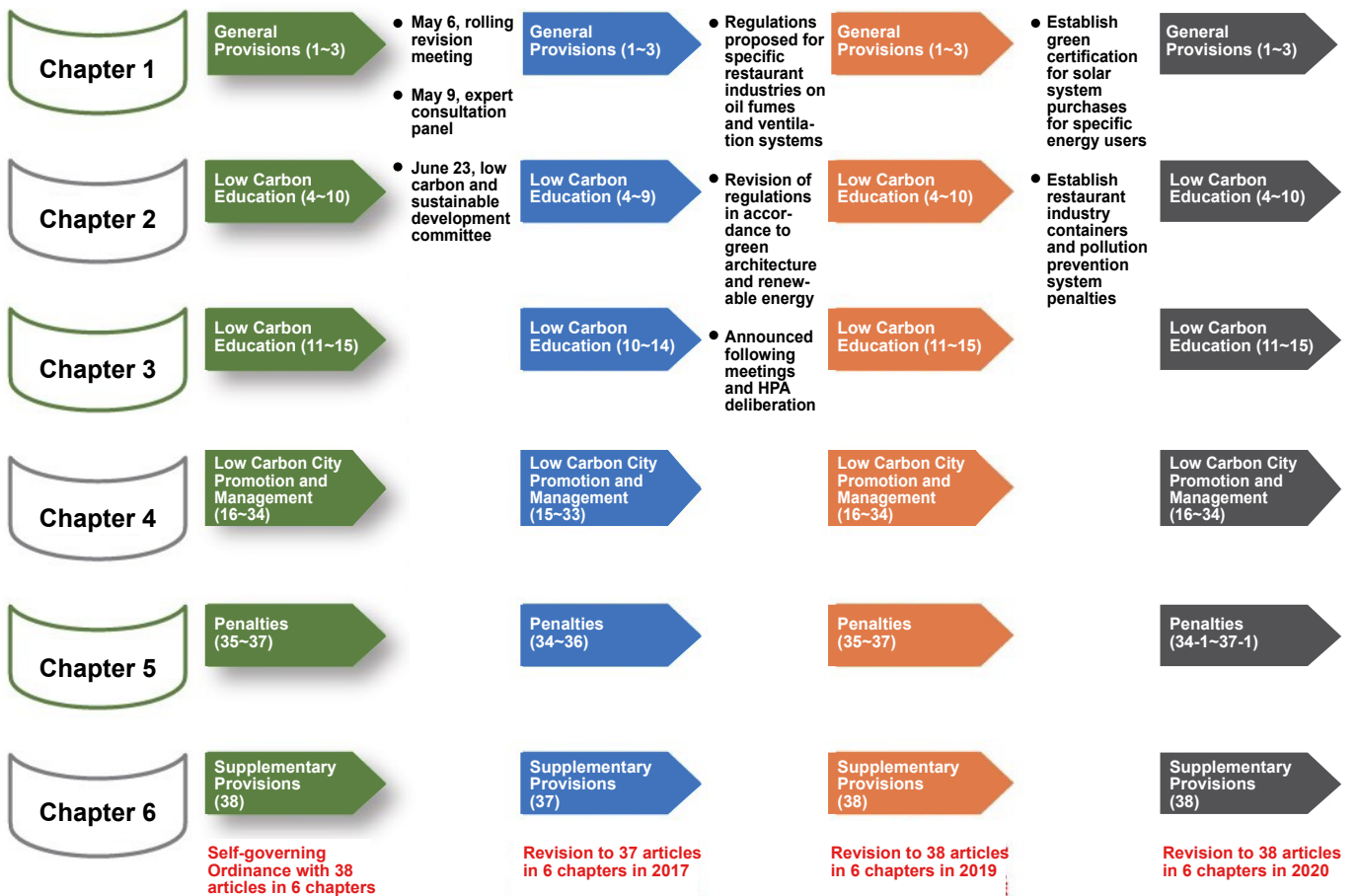
**2019** EPA approved the first phase (2018-2020) of the greenhouse gas control implementation plan

**2021** Signed Climate Emergency Declaration  
Phase I Review of the Greenhouse Gas Control Enforcement Programme  
Sustainable Development Voluntary Review Report (VLR)

**2022** Submission of Phase II (2021-2025) Greenhouse Gas Control Implementation Plan  
Issuance of 2050 Tainan Net Zero Roadmap  
EPB drafted the city's **Net Zero Sustainable City Municipal Government Ordinance**

## Low Carbon City Municipal Government Ordinance

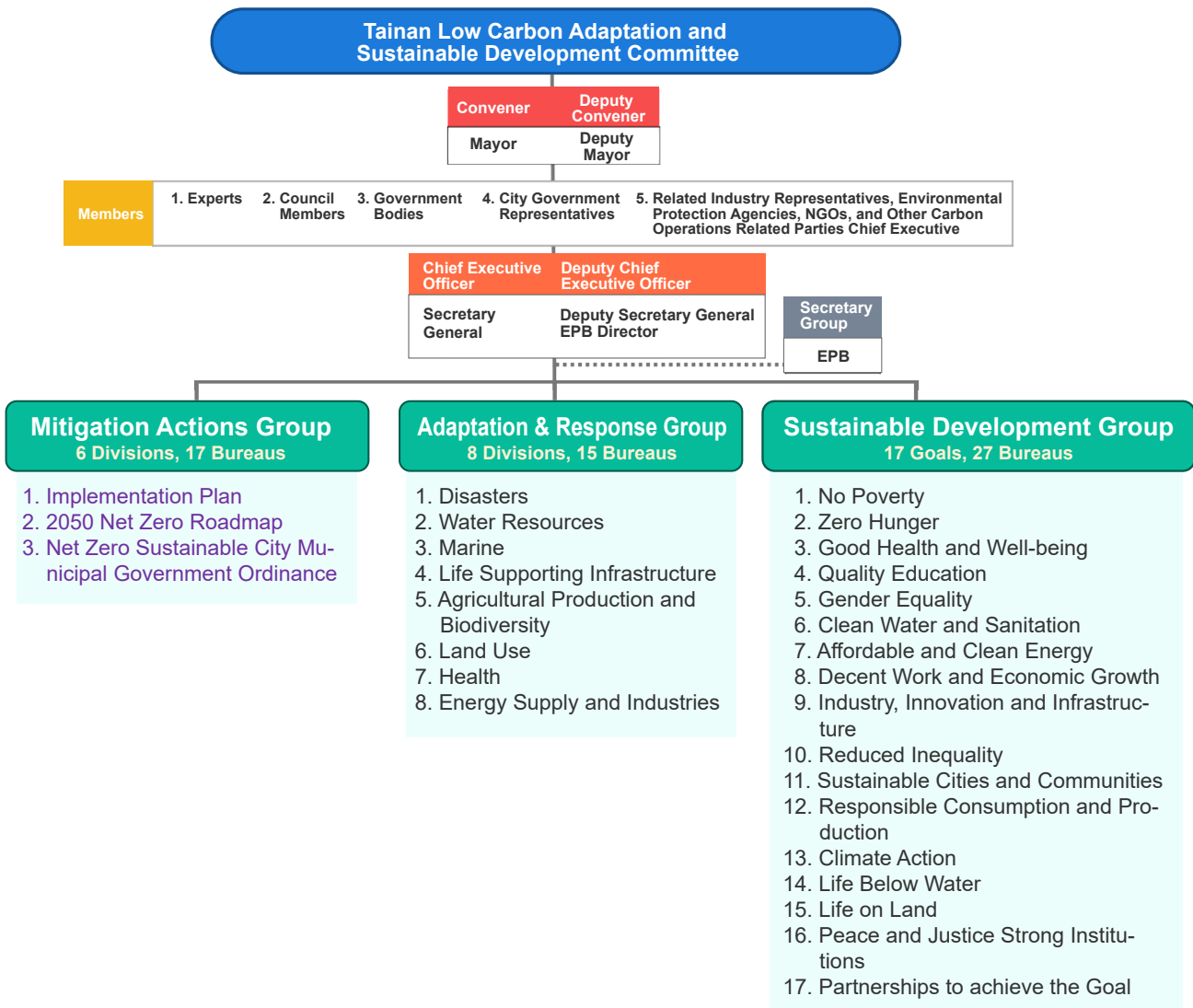
With the goal of establishing a low-carbon city with a happy and healthy population and in line with international standards, Tainan City completed the drafting of the "Tainan City Low-Carbon City Municipal Government Ordinance" in June 2012, which was passed by the Tainan City Council on third reading and approved by the Executive Yuan, and was promulgated and implemented by Decree No. 1011084760A on December 22, 2013. After years of rolling review and amendment, the Tainan City Low Carbon City Municipal Government Ordinance now contains 6 chapters and 38 articles, which are jointly promoted by 14 bureaus and departments of the city.





## Low Carbon Adaptation and Sustainable Development Committee

Apart from the control work carried out by government departments, the Greenhouse Gas Reduction Committee has also received suggestions from various parties. Pursuant to Article 3(2) of the Tainan City Low Carbon City Municipal Government Ordinance, the Tainan City Government has established the Low Carbon Adaptation and Sustainable Development Committee to promote and implement relevant low carbon tasks. At least one meeting of the Tainan Low Carbon Adaptation and Sustainable Development Committee is convened annually, with the mayor as the convener and academics, experts, environmental protection groups, non-profit organizations, government agencies, low-carbon industries and city government representatives as committee members, to review the development of low-carbon strategies and the implementation of low-carbon work on a rolling basis.



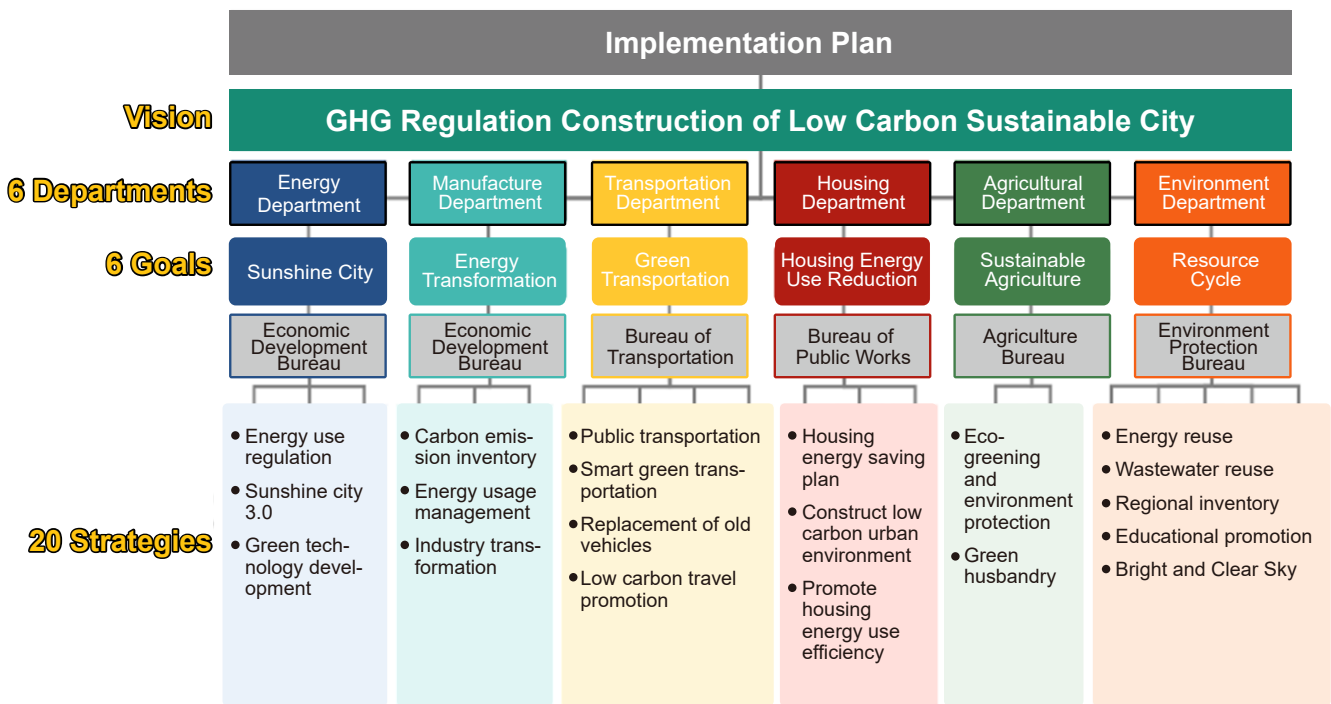
△ Tainan Low Carbon Adaptation and Sustainable Development Committee Organization Structure Diagram

## 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-bureaux horizontal cooperation approach. In the first phase, there are six departmental objectives, 20 main strategies, 30 key performance indicators and 125 promotion methods.

The second phase of Tainan City's greenhouse gas control implementation plan was drafted on May 25, 2022, the 2022 Low Carbon Adaptation and Sustainable Development Committee conducted a project report, and on January 17, 2023, the second phase of the greenhouse gas implementation plan (revised version) was proposed and sent to the Environmental Protection Administration for review. In the second phase, there are six major departmental objectives, 20 key strategies, and 46 key performance indicators.

### Phase II: 20 Strategies and 46 Key Indicators (Phase I: 20 Strategies and 30 Key Indicators)



△ Tainan City Greenhouse Gas Control Implementation Plan Framework



## Effectiveness of greenhouse gas reduction

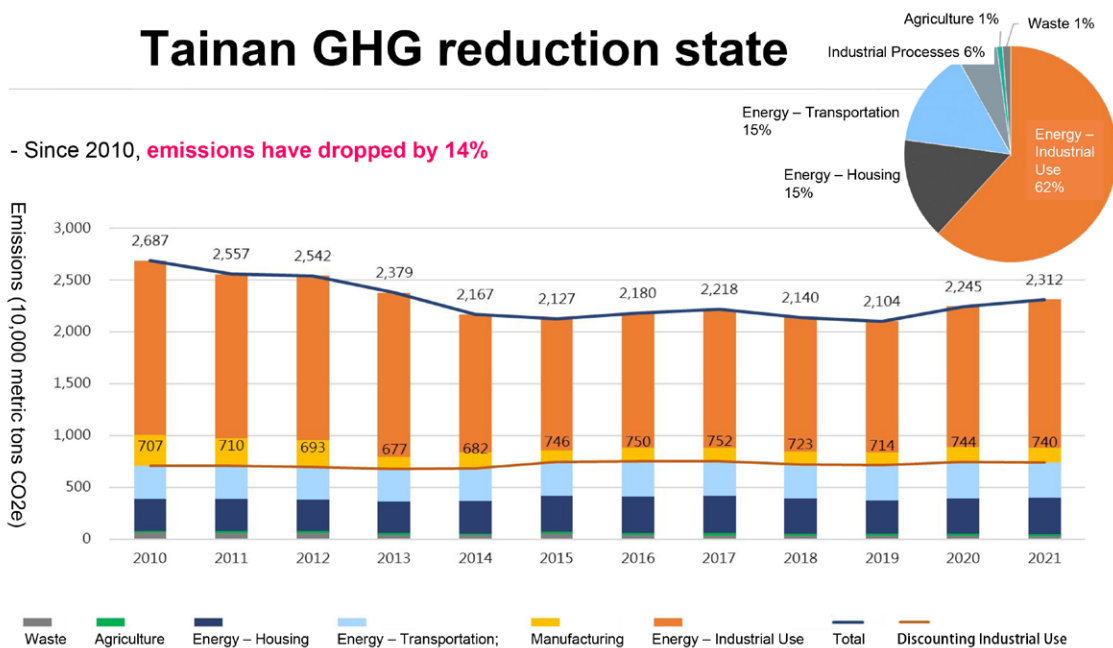
In order to specifically examine the results of greenhouse gas reduction and to take up the global civic responsibility of carbon disclosure, Tainan City will take stock of the total amount of greenhouse gas emissions within its jurisdiction every year, and has actively participated in the Carbon Disclosure Project (CDP) in the last two years, achieving an A rating of only 13.25% of the world for two consecutive years (2019 and 2022). The City then received A- and B ratings for 2021 and 2022, respectively.

According to the results of the inventory, the city's greenhouse gas emissions have been decreasing year by year since 1999, and the total greenhouse gas emissions in 2021 were 23.12 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 1999, the reduction has been 3.75 million tons of CO<sub>2</sub>e, with an improvement of 14%.

## Outlook for 2050 Net Zero Carbon Emission

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.

In the international trend of energy saving 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.



△ Historical changes in greenhouse gas emissions in Tainan City

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 with reference to the

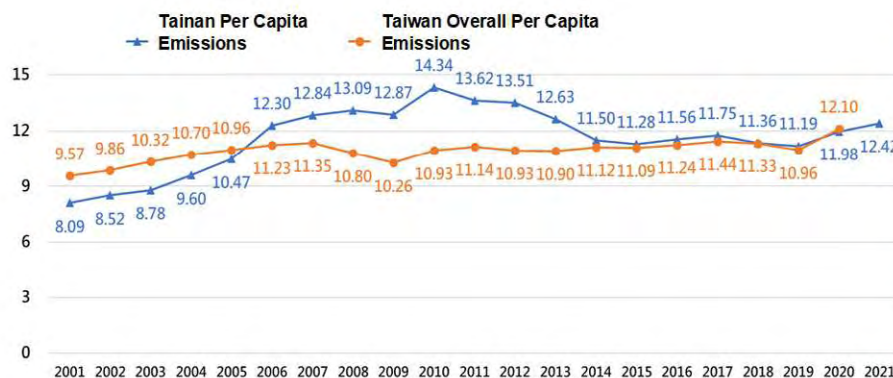
draft Climate Change Response Act of the Environmental Protection Administration, and has held six inter-bureau meetings so far, including the General Provisions, Greenhouse Gas Reduction, Climate Change Adaptation, Circular Sustainability Promotion, Zero Green Living Promotion, Penalties, and Bylaws. A public hearing was held on January 12 of this year to solicit opinions from all sectors of the community, and seminars will continue to be held with stakeholder groups.

3. The second phase of the "Tainan City Greenhouse Gas Control Enforcement Program": Through eliminating items with no real carbon reduction benefits and streamlining and consolidating similar indicators, the second phase of the Greenhouse Gas Enforcement Program (revised version) was proposed in January 2023 and sent to the Environmental Protection Administration for review, and the enforcement situation will be consolidated every six months and an annual report on the results of the implementation will be compiled.

## Tainan GHG – Per Capita

Tainan Per Capita: In comparison of overall domestic

■ - Entailing policy promotion, the city's 2020 per capita emissions at 11.98 co2e/person is the lowest of all municipalities, in addition to being lower than the national average at 12.10



City	Per Capita Emissions CO2e / person
Nation	12.10
Kaohsiung	19.17
New Taipei	13.50
Taoyuan	13.02
Taichung	12.15
<b>Tainan</b>	<b>11.98</b>
Taipei	4.38

Per Capita Emissions (metric tons CO2e / person)

△ Historical changes in per capita emissions of greenhouse gas emissions in Tainan City



# 03

## Sustainable Development Promotion Process

...AN CITY SUSTAINA

...NABLE DEVELOPMENT GOALS ...VOLUNTARY LOCAL REVIEW...





▽ The Tainan Zhuxi Moon-Viewing Bridge Continues the Traditional Design of Wooden Structures in Tainan's Ancient Capital Awarded 2022 Taiwan Light and Environment Award





# 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.

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

Tainan was the first city to incorporate low-carbon urban governance into the law when it was declared a low-carbon demonstration city in the Southern District on December 22, 2012. The "Low Carbon Adaptation and Sustainable Development Committee" was established by the mayor as the convener to implement the goals and management of a low carbon city through the integration of cross-departmental division of labor and the promotion of a complete and dedicated organization.

## **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.

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

In 2017, Tainan City joined the World Council on CityData (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.

### **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.

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

In terms of urban development, the key is to align with the United Nations' SDG11 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 2021, 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 - Silver Award for Sustainability in Asia Pacific:

Tainan City is actively developing energy transformation. 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 2022 Asia Pacific and Taiwan Sustainability Awards - Taiwan Sustainability Award Gold Award:

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.

## The History of Tainan City's Sustainable Development



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

- 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 Release of 2050 Tainan Net Zero Roadmap

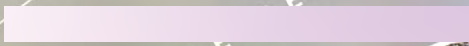
### Tainan Sustainable Development Voluntary Review and Evaluation Report:

Tainan's SDGs are based on the policy direction of "3 Upgrades and 3 Sustainables", including "Economic Upgrading", "Transportation Upgrading", "Health Upgrading", "Environmental Sustainability", "Warmth Sustainability", and "Cultural and Educational Sustainability".

The first edition of the Voluntary Local Review (VLR) of Tainan City's Sustainable Development Goals is presented in the form of the city's 2021 inventory of 10 priority SDGs, which includes "Good Health and Well-Being (SDG3)", "Quality Education (SDG4)", "Clean Water and Sanitation (SDG6)", "Affordable and Clean Energy (SDG7)", "Decent Work and Economic Growth (SDG8)", "Industry, Innovation and Infrastructure (SDG9)", "Sustainable Cities and Communities (SDG11)", "Responsible Consumption and Production (SDG12)", "Climate Action (SDG13)", and "Partnerships for the Goals (SDG17)". In addition, the English version is published on the international web platform of IGES LAB (<https://www.iges.or.jp/en/vlr/tainan>) to highlight the city's achievements in promoting sustainable development goals objectives.

This year, the second edition of Tainan City's Voluntary Review of Sustainable Development Goals was published in conjunction with policy initiatives such as the Policy Plan, Greenhouse Gas Control, Climate Change Adaptation, Healthy City Indicators, and the Climate Emergency Declaration, and in accordance with the United Nations SDGs framework, the 17 SDGs and the city's current development status were comprehensively revealed until the year 2022, and the second edition of Tainan City's Voluntary Review of Sustainable Development Goals was published to regularly self-examine the implementation of the 2030 Sustainable Development Goals. °





IN CITY SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY LOCAL REVIEW





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# 04

## Goals and Achievements of Sustainable Development promotion

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SDG

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01

## No Poverty

**-Eliminate All Forms of Poverty Everywhere**

An examination of Taiwan's economic past indicates that significant events such as the Internet bubble in 2000, SARS outbreak in 2003, financial crisis in 2008, and the recent global 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 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 Developing Communal Facilities for Individuals with 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. Such an approach can effectively mitigate the decline of physical functions in individuals with physical disabilities, while also fostering the acquisition of life skills in children, enhancing their self-care abilities, and facilitating their integration into community life. Additionally, this initiative can alleviate the burden of family caregivers. Furthermore, it alleviates the burden of caregiving from family members.

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



△ 2022 Tainan City Garden Party for the Mentally Disabled

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.

## 1.2 Reducing the Dropout Rate

The statistics for school year 2021 in Tainan City indicate a marginal decrease of 0.01% in the dropout rate, while the resumption rate has shown a significant increase of 7.17%, making Tainan City the leading performer among the six. This progress can be attributed to the collaborative efforts of the city government and schools in providing effective counseling to students at risk of dropping out.

The Tainan City administration has put forth a proposal for an individualized support program (ISP) aimed at addressing the needs of students who are at risk of dropping out due to long-term absenteeism, deviant behavior, or high care requirements. This program involves the integration of resources from various departments and units within the school to develop personalized recovery plans for students who have already dropped out, as well as early counseling programs for those at risk of dropping out. The ISP is set to be implemented from the 2019 school year through the 2021 school year. It is evident that the initial objectives have been attained as there is a gradual decline in the count of students who discontinue their studies each year. The issue of student dropout is multifaceted and complex. It requires continuous communication with students and their families, as well as the provision of relevant resources to address the problem. Despite the challenges and obstacles encountered during the counseling process, the ultimate goal of returning children to school and providing them with renewed hope for their future is a shared aspiration among educational institutions and all related stakeholders.

## 1.3 Enhancing Relief through Employment

The Tainan City Government has initiated a program to aid low-income households and those with low to middle income who are capable of working and aged between 16 and 65 years. The program aims to promote independence and alleviate poverty by employing workers to assist

with various social welfare tasks, including receiving applications, answering phone inquiries, and performing daily labor for environmental clean-up. The program is funded by social welfare funds and is designed to support the implementation of Article 15 of the Public Assistance Act. In the year 2022, a sum of 107 recommendations were extended to households belonging to the low-income and low-middle income categories, with regards to services pertaining to employment, vocational training, and welfare-to-work support measures. This initiative has been successful in providing assistance to 64 individuals.

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

The Tainan City Government offers vocational rehabilitation services to individuals with physical and mental disabilities, as mandated by Article 33 of the People with Disabilities Rights Protection Act. The range of services offered comprises vocational counseling assessment, vocational training, employment services, job redesign, entrepreneurship counseling, and other vocational rehabilitation services. These services are delivered in a case management approach to ensure that individuals with physical and mental disabilities receive services that are suitable and tailored to their specific requirements.



△ Youth Exploration Courses for Teachers and Students



## 1.5 Implementing Housing Justice

### The enhancement of energy efficiency in underprivileged households

The city government is implementing the "Tainan City Home Improvement Program for Disadvantaged Families" to cater to the needs of underprivileged households, including low-income, low- and middle-income, and marginalized families who are officially registered and residing within the city. This initiative is being facilitated through the collaboration of private entities. Between 2009 and August 2022, the city will provide financial assistance for 68 instances of "home improvement for disadvantaged families" and 76 instances of "home and learning equipment subsidies."

Furthermore, the municipal administration provided support to several light and power corporations in 2022 to initiate no less than 20 undertakings aimed at aiding the energy-deprived factions listed in the city's roster of underprivileged groups. The administration also facilitated the enhancement of energy efficiency among the energy-deprived groups by leveraging the influence of industry collectives.

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

The municipal administration is proactively devising strategies to construct social housing that is affordable, secure, and environmentally

sustainable, with the aim of alleviating the public's financial burden and safeguarding their entitlements. This will be achieved by prioritizing the utilization of low-carbon construction materials, implementing intelligent energy management systems, adopting rainwater harvesting mechanisms, and incorporating renewable energy generation equipment, all of which will contribute to reducing the utility expenses of the inhabitants. Currently, the city of Tainan has set a goal of 7,000 public housing units, with 40% of these units being safeguarded by housing legislation. Priority is granted to individuals and families who are economically disadvantaged. The city has announced plans to commence construction on six projects by the conclusion of 2022. These projects include the development of 379 public housing units in Xiaodong Road, North District; 2,021 public housing units in Jingzhong Village, Yongkang District; 75 public housing units in Erkong New Village A, Rende District; 621 public housing units in Xindu, East District; 300 public housing units in Kainan, South District; and 670 public housing units



△ Certificate of Appreciation Gifted to TGSVGNPO



△ Erkong New Village A Youth Public Housing Model

in Xincheng, New City, New Urban District. The total number of households to be accommodated by these projects is 2,155.

### Subsidy for Construction and Renovation of Housing for Economically Disadvantaged Indigenous People

In an effort to enhance the residential conditions of the socioeconomically challenged indigenous population in Tainan, the municipal administration of Tainan has augmented the financial assistance for home acquisition from \$200,000 to \$220,000 and the financial assistance for home renovation from \$100,000 to \$110,000 for qualifying beneficiaries in the year 2021. The benefits were received by a collective of 11 households. In the coming years, the funding requirements for the central government will be raised annually to facilitate the provision of residential care for the members of the clan, based on the current year's figures for households and beneficiaries.

## 1.6 Provision of Educational Assistance to Children and Adolescents

Tainan City has implemented textbook remission measures to prioritize the care of disadvantaged students, including those from low-income, low- and middle-income, indigenous, physically and mentally challenged, and families experiencing sudden changes. These measures aim to enhance the social competitiveness of disadvantaged students and provide them with adequate educational support.

## 1.7 Providing Assistance to Marginalized Populations

As of June 15, 2022, 1,029 individuals who are considered disadvantaged have been provided with counseling to participate in the Resource Recycling Care Program. These individuals are eligible to receive a recycling subsidy of up to \$5,000 per month, which is higher than the typical market

rate. Additionally, they will receive an extra subsidy of \$1,000 from November to December 2021. Furthermore, a total of 329 individuals will receive a monthly recycling subsidy of up to \$6,000 per person.

Furthermore, the practice of recycling resources Individuals who engage in the collection of recyclables by traversing the streets and alleys can be regarded as front-line leaders in environmental protection. A "micro-insurance" program is set to be launched in March 2022, in collaboration with insurance companies, facilitated by the central and local parties. The public sector will bear the annual premium of \$223 per person, providing up to \$30,000 in out-of-pocket medical coverage. In the event of accidental disability or death, insurance coverage ranging from \$100,000 to \$500,000 can be applied for, thereby mitigating the impact of accidents. This program aims to provide basic protection, enhance the sense of security of individual households, and demonstrate the government's concern for the disadvantaged. The current 332 caring individual households will continue to be insured.



△ Xuejia District Cleaning Team “at-the-house” Collection of Garbage





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02

## 2.1

### Promote Branding of Quality Agricultural Products

#### Improving the Best Product of Tainan Certification

The city's Quality Agricultural Products Brand Mark underwent a renaming process in 2021, whereby it was changed from its initial designation of Tainan Shangqing Mark to the Best Product of Tainan Certification, following a series of enhancements. The primary regional manufacturing channel remains intact while the fundamental values of safety, hygiene, and traceability inherent to the brand are reinforced. Additionally, a selection process has been implemented to identify superior agricultural products within the urban area. The redefinition of Tainan's quality agricultural products' brand image places greater emphasis on the principles of "local production, safety and hygiene, and traceability". To ensure the safety of consumer food products and preserve the integrity of the seal certification, it is recommended to enhance the seal and quality control sampling measures. Furthermore, we will offer marketing and counseling support to individuals who have successfully obtained the seal certification. This support will encompass various promotional activities such as channel media, exhibitions, and sales initiatives. Additionally, these certified individuals will receive integrated exposure on the official website, with the aim of achieving a

## Zero Hunger

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

The attainment of Zero Hunger is a crucial prerequisite for a nation's progress, and the underlying causes of hunger can be attributed to two factors, namely, supply and access. The former pertains to the efficient flow of food through the supply chain, while the latter concerns the accessibility of food to consumers.

In recent times, the issue of potential food crisis has gained significant importance owing to the impact of epidemics and international conflicts. The Tainan City Government has implemented various policies to address the issue of "uneven food distribution". These policies include the construction of public storage facilities, subsidizing lunch fees for economically disadvantaged students, and promoting the New Farmer Project to modernize agriculture and ensure stable productivity. Additionally, the government is supplementing education and promotion of downward roots to reduce unnecessary food waste.



△ Logo of the "Best Product of Tainan Certification" label for quality agricultural products in Tainan

comprehensive marketing and counseling impact for high-quality agricultural products within the city.

#### Holding Evaluation Sessions for Diversified Marketing and Promotion

Following the "Guidelines for the Issuance and Management of Quality Certification Seals for Tainan City's Best Products," two rounds of evaluations were conducted resulting in 74 products receiving appraisal and 170 products obtaining certification seals by 2022. Furthermore, we have facilitated the participation of 9 certified products in exhibitions and sales events across various regions and cities. Additionally, we have organized channel matching meetings to connect 14 farmers with 7 physical and e-commerce channels, thereby enabling the promotion and marketing of the city's superior agricultural products through diverse avenues.



△ 2022 Certification Event

## 2.2 Lunch Subsidy for Economically Disadvantaged Students

To safeguard the well-being of students, the City takes measures to prevent the occurrence of financial constraints that may impede their access to school lunches, thereby potentially compromising their physical and psychological health and academic performance. The City has undertaken measures to disseminate information regarding the subsidy application process to schools, including a pre-semester letter outlining the relevant procedures and considerations. Furthermore, the City has engaged in targeted outreach efforts by promoting the subsidy during public meetings with school principals, directors, and dietitians in recent times. In the first and second half of 2022, the aggregate sum of lunch subsidies allocated to students from economically disadvantaged backgrounds amounts to \$101,505,393. This figure marks a \$6.98 million rise from the lunch subsidies of \$94,525,013 granted in the first and second half of 2021.

## 2.3 Improvement of Food and Beverage Sanitation

Due to the pandemic's repercussions, the certification process for exceptional food and beverage hygiene was halted in 2021. However, with the resurgence of domestic tourism, the Tainan City Government conducted the "2022 Tainan Food Safety and Hygiene Management System Project Results Presentation and Certification Event for Excellent Food and Beverage Hygiene Stores and Low Carbon Restaurants" on November 3. The objective was to guarantee transparency, safety, and environmental friendliness throughout the entire production and marketing process, from farm to table.

The year 2022 saw the conferment of the city's excellent food and beverage hygiene certification to a total of 296 restaurants, comprising 257 establishments classified as "excellent" and 39 classified as "good". Furthermore, we offer assistance to restaurant proprietors within the urban area in creating and verifying low-carbon meals. Presently, there are 140 "Low Carbon Diet Action Restaurants" available for consumers to prioritize. Moving forward, our organization will persist in pursuing certification for exceptional food and beverage hygiene. This endeavor aims to underscore the significance of food safety, furnish patrons with a secure and sanitary setting for their selections, and elevate the city's reputation for food and beverage hygiene.



## 2.4 Establishment of Public Caring Depository

### Establishment of a Food Bank

Since 2013, the Tainan City Government has been operating a Food Bank with the aim of offering multiple welfare options to disadvantaged and marginalized households. The Food Bank provides in-kind payment services to individuals in need. To expand the bank's service coverage in 2022, the city will be partitioned into five primary districts, namely Yong Hua, Yong Kang, Xin Feng, Xin Ying, and Yu Jing. Each district will cater to six to seven administrative districts and will be delegated to private social welfare organizations to offer services at three tiers, namely physical stores, cooperative stores, and physical branches. As of 2022, a total of NT\$55.27 million worth of goods and services have been dispensed, resulting in a positive impact on the lives of 402,979 individuals.



△ Food Bank Active Recruitment of Volunteers

### Establishing Food Care Platform

The Tainan City Government has established the city's inaugural "food cherishing platform" at the East Market in 2019, as part of its commitment to the principles of valuing and appreciating food. This initiative involves the installation of a designated refrigerator at the market, where vendors can deposit surplus, yet still usable, ingredients at the end of each day. The city government team then coordinates with local social welfare organizations and community feeding points to distribute the donated ingredients, thereby minimizing waste and ensuring that each ingredient is utilized to its fullest potential. This platform facilitates the sale of excess ingredients as a means of promoting altruism and fostering a virtuous cycle of reciprocity.

The municipality has established 19 food donation platforms, resulting in the accumulation of 36 metric tons of donated ingredients from 2019 to 2022. This has provided assistance to 178,320 individuals, representing a significant achievement. The municipality intends to identify appropriate markets for the establishment of additional food donation platforms in the future, with the goal of generating further food recovery outcomes.



△ Food Bank- Yongkang Branch

## 2.5 Attracting New Farmers

### New Farmers Program

The challenges of an aging farmer population and a shortage of agricultural labor are prevalent issues encountered in the advancement of agriculture across all regions of Taiwan. The agricultural sector in Tainan was primarily managed by small-scale farmers during its early stages of development. However, due to the absence of fundamental financial incentives for agricultural production and the migration of rural youth to the northern regions, the population has been declining and aging annually. Presently, the average age of farmers is 63 years old. Consequently, it is imperative to explore strategies that encourage the involvement of young farmers in agricultural production, processing, and marketing to ensure the sustainable development of agriculture in Tainan.

The Tainan City Government has implemented the New Farmer Program as a means of enticing prospective farmers to invest in agricultural industries with growth potential. The program

aims to attract a younger demographic to the field of farming, enhance the structure of the agricultural labor force, elevate the overall quality of agricultural operators, address the issue of an aging farming population, and expedite the modernization of agriculture.



△ Huweiliao Market Food Care Platform



△ List of the 6th Top 100 Young Farmers Award Winners



### Establishment of Tainan Farmers Association

It is anticipated that the Tainan City Farmers Association will be established through the Farmers' Association of each district. The association will utilize social gatherings as a means of fostering interaction and skill-sharing among farmers, with the aim of enhancing the cohesion of young farmers in the region. Additionally, the association will seek to address the challenges faced by young farmers in their agricultural pursuits, thereby mitigating the risks associated with farming and enabling young farmers to focus on production. As of December 2022, the total number of chapters has reached 32.

### Farmers' School Course to Improve Agricultural Skills

To fulfill the demands of contemporary health and environmental standards, professionals and academics from diverse sectors of industry and government are invited to impart practical

knowledge through pedagogy grounded in theoretical frameworks. The designated theme for 2021 is "Fruit Tree Cultivation and Management." A total of ten courses have been scheduled, encompassing various topics such as fruit tree cultivation and management, crop disease management and prevention strategies, crop nutrient requirements, and the utilization of organic fertilizers. These courses offer a comprehensive and diverse range of content.

## 2.6 Food and Agriculture Education

Tainan is a municipality that boasts a significant agricultural sector. Annually, a minimum of 60 schools receive financial assistance to offer agricultural experience courses. Additionally, schools are encouraged to utilize available open spaces on their campuses to establish self-sufficient farms. To achieve this, schools can collaborate with various sectors such as farmers' associations and agricultural improvement farms,



△ Marketing Press Conference for Female Youth Farmers



and incorporate local agricultural characteristics into their curricula. The schools aim to promote the concepts of three seals and one Q, which include school ingredients, a balanced nutritious diet, local sales and consumption, and a sustainable environment. Each school develops lesson plans and activities that align with their local and school characteristics, with the goal of instilling in students the values of food conservation, gratitude, and proper food concepts from an early age. This approach aims to promote food and agriculture education at the grassroots level.

In the year 2022, a sum of 65 educational institutions will receive subsidies with the aim of promoting the "from production to table" concept. This will be achieved by integrating environmental education, local ingredients, and food education programs through various farming techniques such as general farming, organic vegetable gardening, miscellaneous food school, fish and vegetable symbiosis, and duck-paddy rice. The ultimate goal of this initiative is to achieve energy conservation, carbon reduction, and foster a sense of environmental stewardship.

## 2.7 Mitigating Food Waste and Educating on Waste Reduction

The city of Tainan offers courses on diet, nutrition, and hygiene to foster the idea of reducing food waste among its staff, students, and parents. Additionally, the city provides education to students on recycling and resource recovery, while promoting the procurement of organic or production and marketing history vegetables (cut vegetables). This is achieved by enhancing the quality of school lunch ingredients, minimizing the quantity of raw food waste, and delivering cooked food waste to authorized recycling organizations. Based on the reported average monthly food waste quantities by schools, it is projected that there will be a reduction of 48,524.3 kilograms of raw food waste in the year 2021, representing a decrease of 39%. Additionally, there is expected to be a reduction of 76,339.1 kilograms of cooked food waste, which is a decrease of 14.2%. The combined reduction of both raw and cooked food waste is estimated to be 124,863.4 kilograms, representing an overall decrease of 18.9% from the previous year.



△ Dongshan Elementary School Food and Agriculture Education





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03

## Good Health and Well-being

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

Tainan City prioritizes the safeguarding of the physical and mental well-being of individuals across all age groups. To achieve this, the city emphasizes the importance of universal access and fair allocation of medical care, establishes various channels for active health education communication, disseminates accurate information on preventive vaccination, and constructs a comprehensive and amicable medical care system. This is accomplished through the promotion of E-based health education, the consolidation of medical institution resources, and the integration of resources from inter-ministerial units. By combining these resources, the city aims to establish a flawless and hospitable medical care service system.

### 3.1

## Reducing the Number of Confirmed Dengue Fever Cases

### Establishing Preventive Measures

Tainan City has identified five significant factors that contribute to the proliferation of mosquitoes. These factors include global climate change, which alters the ecology and distribution of vector mosquitoes, urbanization and population density, which hasten the spread of disease, inadequate prevention capacity, insufficient public awareness of the importance of self-management in dengue fever prevention and control, and the characteristics of vector mosquitoes and the inconspicuousness of infection, which cause the epidemic to persist undetected in the community.

The city government has collaborated with Linker (Bao Yun Linke Intelligent Technology Co., Ltd.) to develop the "Dengue Fever AI Prevention and Control for All" LINE Bot prevention platform. The platform aims to enhance public awareness of dengue fever prevention, reinforce medical staff's TOCC inquiries and NS1 rapid screening test setups, and effectively utilize the vector mosquito surveillance system to identify high-risk areas. The platform was inaugurated on July 21, 2022, with the aim of utilizing the collective potential of the community to mitigate the likelihood of dengue fever incidence or transmission.



△ Tainan City AI Dengue Fever Prevention PK Competition Launch Press Conference

### Health Education and Training

As of 2022, there have been 408 teams of volunteers established for the purpose of dengue prevention across 37 districts. These teams have been mobilized an average of 5.3 times per month, and have educated a total of 508,270 individuals. The School Container Reduction Program has undertaken 3,230 health education campaigns in the year 2022, with a cumulative total of 846,517 visits, as a means to establish a firm foundation for the prevention and control of dengue fever. In 2022, Tainan City has reported 0 cases of dengue fever have been confirmed to be locally acquired and 2 cases of dengue fever have been imported from foreign regions. There have been no native cases of dengue fever for 3 consecutive years.

## 3.2 Elderly Vaccination Promotion

### Coordinate with Central Government to promote left-flu right-Pneumo

The administration of the pneumococcal vaccine is considered the most efficacious measure in preventing pneumococcal infection. The municipality endorses the pneumococcal polysaccharide vaccine in conjunction with the influenza vaccination on an annual basis. Consistent with the directives of the central government, the municipality advocates the catchphrase "left-flu right-Pneumo," which stipulates that the influenza vaccine be administered to the left arm and the pneumococcal polysaccharide vaccine to the right arm, with the aim of augmenting the vaccination coverage of the elderly population.

### Pneumococcal Polysaccharide Vaccination

As per the statistics retrieved from the Infectious Disease Statistics Query System of the Department of Disease Control (CDC), the incidence of invasive pneumococcal infection in the city was recorded to be 69 in the year 2008. The city of Tainan is actively promoting the administration of the 23-valent pneumococcal polysaccharide vaccine to individuals aged 65 and above. This effort is being carried out in conjunction with the public provision of the same vaccine by the CDC to individuals aged 71 and above. Additionally, the city intends to procure an additional 320,000 doses of the pneumococcal vaccine for individuals aged 65 and above, with the aim of increasing their access to the vaccine and encouraging greater uptake.



△ Vaccination of Young Children



△ Mayor Shows His Concern for Elderly Vaccination

## 3.3 Immunizations for Pediatric Populations

### Establishing Preventive Measures

The city has implemented a program aimed at mitigating the risk of infection among infants and young children residing within its jurisdiction. This initiative involves the provision of complimentary oral rotavirus vaccination to low and middle-income households with infants and young children. The city has allocated funds from its budget to procure the oral rotavirus vaccine for this purpose.

### Cooperate with Central Government to monitor the vaccination status every month

The Public Health Bureau conducts monthly liaison meetings for routine vaccinations of children under the age of 3, in alignment with the central government's assessment target. The agency utilizes the nationwide preventive vaccination information management system to review the list of overdue vaccinations and sends reminders and postcards to the health clinics under its jurisdiction. Nurses working in health clinics also engage in the practice of conducting telephone or home visits to provide close monitoring of children's vaccination status.





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04

## Quality Education

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

Education is a fundamental cornerstone of a nation, and a high-quality education is the sole means of fostering a superb future generation. In recent times, the right to education of students has been jeopardized owing to the global proliferation of COVID-19. This has resulted in the suspension of physical education and the adoption of online education, with some instances of school closures. Tainan City endeavors to enhance the education of its populace by not only furnishing educational prospects for school-going children but also prioritizing lifelong learning for the same demographic. Furthermore, the city is committed to reinforcing the right to education for students residing in remote areas and those with special needs, thereby ensuring equitable and impartial access to education for all citizens.

### 4.1

#### Enhance the Percentage of Volunteer Residents

##### Create a Warm and Friendly Volunteer City

The advancement of the municipal government is contingent upon the involvement of volunteers, who are utilized by various bureaus to aid in the development of the municipality. This approach prioritizes the utilization of volunteer manpower over individual planning and promotion by the authorities in charge, with the ultimate goal of realizing the shared vision of volunteer



△ O Young Volunteer Group

service, namely, "spreading love with both hands, public welfare for good - Volunteers for Greater Tainan". The Tainan City Welfare Volunteer Team Project has successfully integrated the city's public service manpower to establish a volunteer resource platform aimed at promoting happiness in Tainan. This platform comprises the Neighborhood Volunteer Team, the Companion Volunteer Team, and the Safety Guard Volunteer Team. As of December 31st, 2022, a total of 3,031 volunteers have conducted 195,471 care visits and 316,699 telephone care services.

## "O Yong Volunteer Corps "Hands on Love, Happy Aging

At the conclusion of 2019, the O~young Volunteer Corps is set to be established with the aim of constructing a public welfare society that prioritizes "serving the elderly with the elderly". This initiative will enable younger seniors to provide assistance to those who require it. The e-Attendance System is a tool utilized for the purpose of accumulating the service hours of volunteers belonging to the Evergreen Volunteer Corps. This is achieved through the use of a card-swiping mechanism, which is designed to provide convenience to elderly volunteers. Additionally, the system aims to promote greater participation among elderly individuals by integrating the volunteer feedback mechanism of the Evergreen Volunteer Corps with 19 city government bureaus. As of December 2021, there was present a total of 42 volunteer teams comprising 1,352 individuals who dedicated their time and efforts. These teams collectively undertook 243,708 volunteer trips, contributing to a cumulative total of 336,056 service hours.



△NCKU Non-Profit Preschool

## 4.2 Institutional Services for Preschoolers

Beginning in 2020, Tainan City has implemented an expansion of its public kindergarten offerings, resulting in the addition of 76 classes and 2,011 places. Furthermore, there are now 144 prospective public kindergartens with a total of 19,306 places, in addition to 25 affordable kindergartens that have added 2,307 places to the city's early childhood education system. With regard to the aggregate provision of preschool services, Tainan City accommodates a total of 55,079 children aged 2-5 in the year 2022. Out of this figure, 65,956 children are currently enrolled in both public and private preschools, thereby yielding an overall supply to demand ratio of 119.75%.

Although the preschool population is declining, there has been a notable increase in the proportion of Tainan children enrolled in kindergartens, suggesting a growing demand for childcare services among parents. Consistent with the national government's initiative to tackle the matter of child rearing, our efforts will persist in broadening the availability of public child care services, augmenting the quantity of specialized classes for 2-year-olds, and establishing workplace mutual aid child care centers, complemented by a quasi-public kindergarten framework, to expedite the provision of reasonably priced child care services and alleviate the strain on parents.



## 4.3

### Lifelong Learning Engagement

#### Diversified Promotion of Lifelong Learning

In contemporary times, with a growing population of elderly individuals, the advocacy for continuous education throughout one's lifetime has emerged as a crucial means of augmenting individuals' cognitive abilities. Tainan City Government has established various adult learning channels to foster lifelong learning and provide diverse learning opportunities to the public. These channels include the "Adult and New Residents Education Classes" that concentrate on teaching literacy, the "National Primary and Secondary Schools" that offer compulsory education for out-of-school citizens, the "New Resident Learning Center" that provides diverse learning opportunities for new residents, the "LOHAS Learning Center" that facilitates active learning for the elderly, the "Digital Opportunity Center" that promotes digital application learning for individuals in rural areas, and the "Community College" that encourages public participation.

#### LOHAS in the District

The incorporation of LOHAS education holds significant value in the development of a "lifelong learning city" and the establishment of a "age-friendly society". The city boasts a total of 38 Lingering Learning Centers that are distributed across 37 administrative districts. It is noteworthy that the city has achieved a remarkable feat by establishing a LOHAS Center in each district, which is a first for Taiwan. Furthermore, the city has made available campus space and equipment resources to serve as a community learning and enjoyment venue. This initiative involves a collaborative effort between public and private entities to integrate school and community resources, thereby providing senior citizens with a diverse and enriching learning environment that fosters their continued education. In 2022, classes will be suspended from May to August due to the covid-19. LOHAS Center in each district of the city still continue to use technological software such as Facebook, youtube, line, and Google meet to conduct short video recording and remote teaching to maintain learning capacity. In 2022, a total of 6,232 classes will be held, with a total of 135,481 participants.



△ LOHAS English Learning Express - Appointment with Foreigners

## Enhancing the Efficacy of Digital Opportunity Centers in Rural Regions

The municipality is equipped with 11 Digital Opportunity Centers (DOCs) that offer information courses to rural inhabitants, design courses and activities to foster the growth of rural areas, and enhance the visibility of local features in rural areas through digital networks. Additionally, the

municipality promotes the Digital Opportunity Center Mobile Accessibility Program in collaboration with the Foresight Project, proactively providing courses at community activity centers and extending tablet loan services.



△ Image Exhibition of the Changchun Xinhua Fruit and Vegetable Market



△ Elderly Learning Tablet Usage



## 4.4 Placement of Students with Physical and Mental Disabilities

### Allocation of Resources for a Well-Balanced Education

The allocation of classes in each administrative district is dynamically adapted based on the identification rate of students with physical and mental disabilities, with the aim of facilitating the proximity of pre-school and school-age children to educational facilities. Our organization offers financial support for academic counseling and on-site visits by special education teachers to rural schools, with the aim of ensuring that students with physical and mental disabilities receive the necessary special education services.

The objective of the City is to furnish a comprehensive and tailored educational milieu for pupils with varying degrees of disabilities, spanning from early childhood education to vocational education in high school. This is aimed at promoting effective learning and mitigating absenteeism, while also ensuring that every child has boundless prospects for development.



△ Special Education Visiting Counselor Accompanies Special Education Students During the Pandemic

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

The timely identification, prompt intervention, and timely medical care are particularly advantageous for children who experience physical impairments. Hence, it is imperative to offer a range of placement options in preschool settings to enable parents to make informed decisions based on the educational requirements of their children with special needs.

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

It is recommended to schedule periodic visits by special education teachers to both resource and regular classes within each school. This is to ensure that specialized teaching services are provided to students with physical and mental disabilities, and to assess the suitability of special education-related services for these students.

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

Information sessions and recruitment activities are utilized to disseminate the philosophy and distinctive features of each educational institution, furnish students with the necessary foundation to make informed placement decisions, debunk common misconceptions held by parents regarding school selection, and facilitate the placement of students with physical and mental disabilities by devising an appropriate mechanism.

## 4.5 Environmental Education Facility Sites

### Diversified Development and Field Linkage

The city provides guidance to communities, private organizations, and private businesses with environmental education characteristics to apply for environmental education facility certification, and provides guidance and establishes a companion mechanism according to the characteristics of the applicants to help them improve their professional knowledge of environmental education. In 2022, the Niupu Mudstone Soil and Water Conservation Educational Park and International Jane Goodall's Roots & Shoots Eco-Center have been certified as environmental education facilities. By the end of December 2022, the number of environmental education facilities in Tainan City has reached 19, ranking first in southern Taiwan.

### Creating Demand for Environmental Education and Promoting Diversity

To enhance the advancement of environmental education in Taiwan, environmental education facility sites have been established to facilitate environmental educators in elucidating environmental concepts, devising environmental education programs and outdoor activities, and formulating eco-friendly facilities. Furthermore, the initiative aims to encourage schools within the city to incorporate certified sites in their annual outdoor education programs, thereby augmenting the number of students who visit certified sites for learning and catering to the outdoor recreation requirements of local citizens.

The "Tainan Environmental Education Facilities Learning Program" offers financial support to educators and students in upper secondary schools and below, enabling them to engage in outdoor learning activities at environmental education facilities located in Tainan. The program aims to facilitate the promotion of environmental education in schools and to advance the government's vision of energy conservation, carbon reduction, and sustainable development.



△ Environmental Education Train Visits Zengwen Reservoir



## 4.6

## Low Carbon Campus Certification

Tainan City has demonstrated a longstanding dedication to promoting low-carbon sustainability education. The objective of this initiative is to encourage both teachers and students to engage in civic actions that promote a sustainable environment. The ultimate goal is to cultivate a collective consciousness among citizens regarding environmental preservation and to realize the vision of a sustainable and habitable city. The "Low Carbon Demonstration Campus Certification Program" was instituted in 2015 with the aim of facilitating the transformation of educational institutions into low carbon education demonstration and promotion centers that would contribute to the realization of a low carbon city.

The accreditation program comprises five distinct categories, namely Electricity Saving Campus, Water Resource Campus, Resource Recycling Campus, Sustainable Green Campus, and Low Carbon Living Education. Academic version: Esteemed scholars in the field of environmental education, along with seasoned environmental professionals, are being called upon to act as

evaluators in order to showcase the legitimacy of the accreditation process. This initiative aims to motivate educational institutions to actively foster the development of a low-carbon environment and curriculum, and to attain the prestigious distinction of being recognized as a "Low Carbon Demonstration Campus" upon successfully acquiring five labels within a four-year timeframe.

In 2022, a total of 9 schools were honored as low-carbon model schools, including Yufong Elementary School, Taikang Elementary School, Jiajhong Elementary School, Yushan Elementary School, Danei Junior High School, Dujia Elementary School, Nanhsing Elementary School, Simen Experimental Elementary School, and Chonghe Elementary School. Among them, Yushan Elementary School, Danei Junior High School, and Simen Experimental Elementary School have been certified as model schools for two consecutive years.



△ Low Carbon Demonstration Campus Award Ceremony

## 4.7 School Accessibility Improvement

The provision of barrier-free facilities is necessary for ensuring accessibility and usability of buildings by individuals with mobility disabilities, thereby facilitating their inclusion in the built environment. This requirement applies to new constructions or any additional buildings. To attain the objective of establishing an inclusive educational setting, educational institutions annually submit an application that takes into account the requirements of their students with physical and cognitive disabilities. The National Education Agency approves the grant after conducting an initial assessment, which is followed by a review by the National Hemi Experimental School. The year 2019 saw the inauguration of the inaugural inclusive playground at Degao Elementary School, which has garnered positive feedback. The city authorities have furthered their efforts to construct six additional school-based inclusive playgrounds

in the year 2021, namely Dacheng, Daqiao, Xinjin, Xiejin, Dongguo Fuxing, and Anqing Elementary Schools, all of which have centralized resource classes. Additionally, the eighth school-based inclusive playground is slated to be designed at Yongkang Elementary School in Yongkang District in 2022. The children's playground will be accessible to students who have physical and mental disabilities, particularly those with physical disabilities. The design of inclusive playgrounds aligns with the United Nations Convention on the Rights of the Child and the Convention on the Rights of Persons with Disabilities. These conventions acknowledge the entitlement of children to leisure and rest, advocate for their full participation in cultural and artistic activities, and guarantee equitable opportunities for children with disabilities to engage in recreational activities, sports, and play.



△ The First Astronomy Playground in Tainan's Fuxing Elementary School





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05

## Gender Equality

### -Realize Gender Equality and Empower Women

As per the findings of the 2022 Global Index of Women's Work report, the transition towards net zero emissions may lead to a surge in employment prospects. However, in the absence of measures aimed at augmenting the representation of women in relevant sectors, this transition may also exacerbate the gender-based employment disparity. Specifically, the report suggests that the employment gap between men and women may widen from 20.8% in 2020 to 22.5% in 2030. It is imperative for both governmental bodies and corporations to implement additional measures aimed at bolstering support for women and assuming a pivotal role in the net zero transition.

The Tainan City Government has been striving to establish a gender-friendly environment and eradicate all forms of gender discrimination against women, in response to the growing awareness of women's rights. This initiative aims to eliminate unfair treatment of women based on their inherent gender and promote complete gender equality.

### 5.1 Tainan City Gender Portrait Compilation

Annually, statistical data on gender-related matters are gathered from central government ministries and city departments. These data are categorized into six major areas, namely "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", in accordance with the Gender Equality Policy Framework's promotion strategy. The information is then presented through statistical charts and textual descriptions, with an analysis of trends over time. In the year 2021, the Gender Statistics Graphic Design team successfully compiled a total of 1,528 indicators across six primary categories and 138 subcategories. To enhance the accessibility and comprehension of the data, the team employed the Power BI visualization tool to construct an interactive chart titled "Gender Statistics Indicators" for the City. This chart offers visually appealing and comprehensible images, thereby facilitating the interpretation of the data and enabling the utilization of various value-added applications. This approach enhances the comprehensibility of the data and enables its utilization in various value-added applications through the provision of lucid and straightforward graphics. The visualization tool was utilized to generate an interactive chart that displays the "gender indicators" of the city, thereby enhancing its comprehensibility and enabling various value-added applications.



## 5.2 Incentives for Women's Clean Energy Entrepreneurship

### Protecting Women's Labor Rights

Tainan City boasts a rich cultural heritage and a favorable environment that appeals to numerous enterprises. Creating a congenial and conducive work environment is a crucial factor in attracting skilled personnel and fostering a high-quality employment atmosphere. Mayor Huang has implemented the "Tainan City Five Hearts Workplace Certification Program" with the aim of fostering a congenial work atmosphere in Tainan. This initiative is intended to encourage greater commitment among young professionals to their parental responsibilities and to remain in the workforce. Since the inception of the program in 2019, a total of 16 exceptional enterprises have been chosen. These enterprises have been recognized for their commitment to fostering a friendly workplace environment through various activities. By prioritizing the creation of a positive work culture, these enterprises aim to enhance their competitiveness and transform into happy enterprises.

The Cathay Hotel Tourist Business "Hoyi Hotel - Tainan Ximen Hall" and the Taiwan Auto Electric Co. have been chosen as the recipients

of the 2022 Tainan City Five Hearts Workplace Outstanding Units award. Cathay Hotels and Tourism Business, specifically "Hoyi Hotel - Tainan West Gate Hall," not only offers active subsidies for employee skill improvement but also incentivizes employees to start families through various childbirth and marriage benefits. The promotion rate of female supervisors in the area of Gender Equality has reached 40%. The corporate culture of the company places a strong emphasis on occupational safety, as evidenced by its impressive track record of zero occupational accidents over a period of 25 years. Additionally, the company is committed to returning profits to its employees, as demonstrated by its consistent salary increases over the past four years. Notably, the company's director compensation rate is capped at the employee compensation rate, which has contributed to a low turnover rate and even a 0% turnover rate in 2021. The company also prioritizes gender equality, with a 40% promotion rate for female supervisors. Finally, the company has a high rate of reinstatement for employees who require baby care.



△ 2022 Tainan City Five Hearts Workplace Outstanding Units



## Clear Sky Creative Dream Workshop Project

The project seeks to enhance the self-sufficiency of individuals facing physical and mental disabilities, new residents, targeted workers, and vocational trainees who are disadvantaged. This will be achieved by encouraging them to showcase their creative works through the establishment of an information platform and related marketing and promotional activities. Additionally, the project aims to establish barrier-free demonstration

points and expand employment opportunities for physically disabled groups and vocational training trainees in the city, ultimately promoting self-reliance. The project facilitated the participation of 325 partners in the year 2022, with a majority of 279 being women. The initiative resulted in a noteworthy economic gain of \$7.21 million and served as a viable platform for underprivileged women to enhance their familial circumstances.



△ Clear Sky Workshop Artworks in Confucius Temple Shopping Area "Feng° Handicraft"



△ Clear Sky Creative Dream Workshop Official Website

## 5.3

### Gender-friendly public toilets

#### Advocate for Gender-Inclusive Restrooms

On November 2, 2021, a review meeting was held by the City to assess the quality of public toilets and the overall aesthetic of the environment in 2021. As part of the meeting, Assistant Professor Li Mengjie from National Taiwan University of Science and Technology delivered a lecture on the design of senior-friendly and gender-friendly toilets. Additionally, the City's public toilet renovation units for 2022, including the Sports Department, the Marketing Department, the Funeral Management Office, the Central and Western District Office, the Shanhua District Office, the Dongshan District Office, the Longqi District Office, the Liuying District Office, the Shanhua, and Houbi District Offices, were instructed to incorporate the concept of gender-friendly toilet design into their renovation plans.

#### Seeking Central Funding to Renovate Old Public Toilets

The public toilet management unit of the city has been proactively pursuing a funding amounting to NT\$23,280,000 from the Environmental Protection Administration. The said funding will be allocated for the refurbishment of 52 antiquated public toilets in the year 2022. Among these, four public toilets situated at the Yong Hua Athletic Field under the Tainan City Sports Bureau and one at the Longqi District Office will be transformed into gender-friendly public toilets. It is anticipated that the quantity of restrooms accommodating individuals of all gender identities will surpass 60 by the year 2024.



△ Tainan City Government EPB 3F Gender Friendly Toilet





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06

## Clean Water and Sanitation

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

Despite Tainan's annual precipitation rate surpassing the global average by 2.6 times, with an average of over 2,500 metric tons, the region experiences an unequal distribution of rainfall. Additionally, the ratio of precipitation during peak and low water storage rates is approximately 9 to 1, resulting in a scarcity of water during the dry season. Hence, the municipality is dedicated to promoting the notion of environmental education, fostering the practice of "water conservation, water preservation, and water safeguarding", and repurposing water from communal wastewater facilities to furnish reclaimed water for the purpose of securing the water provision.

### 6.1

## Sewage Treatment

### Sewage Treatment Rate

The term "sewage treatment rate" encompasses the combined values of the "public sewer penetration rate," "dedicated sewer penetration rate," and "building sewage treatment facilities installation rate." With the exception of the "public sewerage penetration rate," which is mandated by county and city governments, the "private sewerage penetration rate" and "building sewage treatment facilities installation rate" are determined by private citizens and are influenced by factors such as building type, real estate, and population size. The majority of structures in Tainan City are constructed in the "dome house" style, resulting in comparatively low rates of sewage installation and building sewage treatment facilities.

To expedite the installation of the sewerage system and account for the incorporation of adjacent systems, the water recycling facility's range will be enlarged. Starting January 1, 2021, the City intends to broaden the range of its customer drainage equipment plan review in order to expedite customer takeover and enhance the overall sewage treatment rate. The projected sewerage rate is expected to reach 62.07% by the conclusion of 2022, with a 3.50% increase anticipated for the year. This increase marks a significant milestone for the City, as it is the first among six cities to demonstrate a proactive and diligent approach to sewerage construction.

## Sewer Connection Rate

The construction of sewerage systems is an essential component of public infrastructure in contemporary urban areas, serving as a measure of the standard of living. Through the individualized completion of sewerage connections for each user and the establishment of a comprehensive infrastructure for community livelihood, the municipality can enhance the overall sanitation of the local backstreets, substantially ameliorate the water quality and odor of the community's drainage systems, and advance public health and elevate the standard of living.

The municipality is presently advocating for the establishment of seven sewerage systems in Anping, Huwei-Liao, Rende, Liuying, Guantian, Yongkang,

and Annan BOT, which have been gradually acquired over a span of several phases and years. As of the conclusion of 2022, Tainan City had a cumulative count of 188,000 households with access to public sewerage, resulting in a public sewerage penetration rate of 26.28%. Notably, 15,930 households were newly incorporated into Tainan City's public sewerage system in 2021, marking the highest annual increase to date. The observed rise in the rate of public sewerage penetration is noteworthy as it contributes to the provision of a superior standard of living for citizens. This development also promotes the maintenance of clean river water, which in turn enhances the overall health and aesthetic appeal of the urban landscape.



△ Waste Water Sewer



## 6.2

### Water Resources

#### Long-term Water Supply and Water Conservation

Despite the copious precipitation in Taiwan, the marginal discrepancy between the abundance of rainfall and the capacity of rivers precludes the efficient storage and utilization of water resources. The anticipated daily per capita domestic water usage in Tainan for the year 2022 is 280 liters. Notably, Taipei City is expected to have the highest consumption rate of 336 liters.

The municipality has implemented measures to enhance water monitoring, adopt judicious scheduling, and encourage water conservation, with the overarching objective of ensuring a sustainable and uninterrupted supply of high-quality water. This strategy, which is premised on the principles of "conserving more water," "discovering new sources of water," and "transferring water more efficiently," is a direct response to the water conservation policy.

#### Water Conservation

Our organization provides support to major industrial entities in their efforts to enhance water conservation through technology counseling. This counseling aims to optimize the utilization of water resources by the counseled units, thereby improving their overall efficiency. Our organization arranges lectures pertaining to water and energy conservation, targeting businesses, households, and communities. Additionally, we facilitate on-site visits by manufacturers who have been recognized for their excellence in waste water recycling. These visits aim to provide guidance to citizens and organizations in promoting water conservation and the rational and efficient use of water resources.



△ Road Cleaning Street Washing Trucks Using Recycled Water

## Finding Water

A total of 19 wells intended for drought relief have been identified, each capable of producing 30,000 metric tons of water on a daily basis. The Shuya Park houses a substantial water treatment facility that has the capacity to treat 800 tons of secondary treated drainage water on a daily basis. As a result of this treatment, the facility is able to generate 430 tons of water and facilitate the operation of 26 agricultural wells. The water resource centers have the capacity to offer 16,800 tons of water on a daily basis for the purpose of reuse. The sand filtration facilities installed for groundwater treatment in the construction of the Dali project in Guijin District and the parking lot in Shuiping Park in the Southern District have a projected daily water production of 300 tons each. This water can be utilized by both the authorities and the public for obtaining secondary water that is not in direct contact with humans, such as emergency water for firefighting, road dust prevention, and road tree watering. An estimated daily production of 300 tons of water is anticipated.

Utilizing the treated water discharge from the Water Reclamation Center as the primary water source for the reclaimed water plant is imperative and essential. This measure will ensure a consistent supply of process water and enable the augmentation of backup water capacity during water shortage emergencies. Moreover, the establishment of a dedicated reclaimed water plant will provide a new water source for the Tainan Science Park, thereby reducing competition with the local populace's water requirements. The municipality of Tainan intends to construct three additional water reclamation facilities with the purpose of providing water to Tainan Science Park. The Yongkang Water Reclamation Center is scheduled to provide a daily supply of 0.8 million tons of reclaimed water by December 2022, as well as an additional 15,500 tons of water per day in 2024, to TSMC, UMC, and Innolux. Furthermore, it is anticipated that the Rende Water Reclamation Center will provide Chi Mei Corporation with 0.8 million tons of reclaimed water daily by 2024.



△ Yongkang Water Resource Center



△ RO Reverse Osmosis Equipment in Anping Water Reclamation Plant





△ Rendez Water Recycling Center – Model



△ Water Tankers Dispatched in Emergency to Support Gas Stations

### Additional Water Transfer

In response to changes in water conditions, the Tainan City Government has been gradually reducing the supply of other non-essential water, such as car washers, and instead dispatching emergency water trucks to car washers who need recycled water to ensure that the supply of water for people's livelihoods is safe.

## 6.3 Water Environment Protection Volunteers

### Caring for Rivers: Our Responsibility

The city has implemented the River Watch patrol team as a means of counseling to encourage ongoing public engagement in water environment patrol, thereby fostering environmental concern and self-protection. This initiative, entitled "From Caring to Action," aims to promote community involvement in the preservation of the environment. The involvement of the general public in river pollution surveillance and water quality assessment can foster a sense of connection with the environment, facilitate engagement between the government and the populace, and leverage local knowledge to provide timely and relevant information to environmental officers for effective river management.





△ Water Environment Volunteers Clean Streams and Water Quality Monitoring Activities

### Volunteers Ahead - Protection of Rivers

The municipality's volunteer teams dedicated to water and environmental protection have implemented a robust operational strategy by enhancing the retirement mechanism and providing ongoing guidance to teams with low engagement to retire, while simultaneously extending invitations to new teams to participate in river patrol activities. In the year 2022, a total of 40 volunteer teams dedicated to water and environmental protection, comprising 1,134 volunteers, have been officially registered.

Thirteen teams affiliated with educational institutions are tasked with educating students on the importance of protecting the water environment and guiding them in the regular monitoring and documentation of local river water quality to enhance their understanding of water environment education. Additionally, twenty-three teams associated with community organizations are responsible for conducting surveillance of local rivers and reporting any instances of pollution. Finally, four teams representing corporate entities are responsible for monitoring the waters surrounding their respective enterprises as part of their social enterprise obligations.

### Public-Private Partnership for River Improvement

The provision of education, training, and activities to patrol teams enables them to acquire a comprehensive understanding of the pollution reporting process. Additionally, the inspection maps of river patrol teams within the Water Environment Protection Network are regularly updated. Volunteers from each river basin's patrol teams are also assigned to accompany joint inspection projects conducted by environmental inspection police. This approach leverages the local volunteers' familiarity with the environment to enhance the government's knowledge of the pollution situation in rivers. Consequently, the government can promptly track and handle pollution cases.

Collectively, we identify instances of pollution, including but not limited to unmarked drainage pipes, concealed pipes, and inadequately treated wastewater. These instances are then reported for legal reprimand and remediation. In the year 2022, a total of 150 instances of pollution were reported, out of which 16 cases were reported for further investigation, and 5 cases were subjected to punitive measures.



## 6.4 Remediation of Polluted Rivers

### Clear Water for Sustainable Tainan

The Tainan City Government is currently engaged in promoting the sustainable use of water resources and emphasizing the importance of drinking water. This is being achieved through active measures to remediate water pollution within the city. To this end, the government has formulated a policy aimed at accelerating river remediation and promoting water conservation. The policy is being implemented through the adoption of integrated watershed management strategies.

Apart from conducting routine inter-county, inter-agency, and civil society gatherings, the Tainan City Government evaluates the quantity of work objectives and devises inventive measures based on the outcomes of the meetings and suggestions of on-site experts and scholars, with the ultimate goal of realizing the vision of "clear water and fish for a sustainable Tainan" by integrating the division of labor among the proficient authorities and accountable units in the city's rivers.



△ Remediation of the Upper Sanyi Creek has been completed

## Overseas Pollution - Difficult Challenges

Tainan City is a metropolis characterized by thriving industrial and commercial sectors, as well as a rich cultural legacy. The city has identified the Kushui River, Yanshui River, and Eren River as priority rivers for remediation in order to promote economic development while preserving a visually appealing water-friendly environment. The city aims to reduce the percentages of serious pollution in these rivers to 13.8%, 10.7%, and 28% respectively by the year 2022.

The rivers in Tainan City are subject to pollution from two primary sources: Bajia Creek in Chiayi County and Erren Creek in Kaohsiung City. The presence of illegal wastewater discharges is a common occurrence, particularly when such discharges cross county and city boundaries. To address this issue, inter-jurisdictional meetings and other forms of communication are necessary to prevent irregular wastewater discharges that are difficult to manage. Overall, controlling the sources of pollution in these rivers is a complex and challenging task.

## Catering Industry Pollution Reduction Strategies

Tainan City has implemented the "Regulations on Oil and Water Separation Facilities for Catering Industry in Tainan City" on December 13, 2021, in compliance with Article 26-1 of the Tainan Low-Carbon City Self-Governance Ordinance. The objective of these regulations is to regulate the discharge of oil and water from the catering industry within Tainan City and to promote environmentally sustainable night markets and shopping areas. The regulations mandate that catering industries of the announced scale must install appropriate oil and water separation facilities. According to regulations, catering

establishments of a specified scale are obligated to possess oil and water separation facilities that conform to the prescribed standards. Furthermore, these facilities must be regularly cleaned and maintained while in operation.

The regulatory framework was unveiled on May 4th, 2022, outlining the scope of its implementation. (1) The ability to accommodate seating arrangements for a minimum of 300 individuals and a maximum of 500 individuals concurrently for catering purposes. (2) The food and beverage service area is characterized by a size range of over 1,000 square meters but less than 1,500 square meters. Commencing on January 1, 2023, the Environmental Protection Bureau shall enforce the aforementioned declaration. In the event that the oil and water isolation facilities are found to be non-compliant with the regulations by the Bureau's inspection, and the necessary improvements are not executed by the stipulated deadline, a monetary penalty ranging from NT\$5,000 to NT\$50,000 may be imposed. Additionally, penalties may be imposed on a per-round basis. On May 31, 2022, the Environmental Protection Bureau (EPB) organized an informational meeting targeted towards the food and beverage industry. A significant number of the 17 listed food and beverage operators, such as Jiangnan Hotel and Les Hotel Tainan, ensured their staff's attendance at the meeting. Each individual in attendance actively participated in the event and attentively absorbed the information presented regarding the legal regulations aimed at mitigating the influx of oil and debris into the drainage system. This measure is intended to prevent the obstruction of water flow, which can result in unpleasant odors, unsanitary conditions, and the proliferation of vermin and insects.



### Livestock Farming Pollution Reduction Strategies

The municipality advocates for the utilization of livestock excreta as a valuable resource and employs it as a means of fertilizing arable land. On October 20, 2022, a groundbreaking ceremony was held for the Tainan City Bawongli Livestock Manure and Urine Resource Center in Liuying District. This facility is the first and largest centralized treatment plant for livestock manure and urine in the area. It is designed to treat waste water from 3,563 cattle and cattle from 21 farms in the Bawong Cheese Farming Area, which accounts for 40% of the total volume in the area. The facility will process 327.3 tons of manure and urine waste water per day. The forthcoming stage of the project will encompass the treatment of manure and urine from all 53 livestock farms situated in the Bawong Cheese Farm vicinity. It is anticipated that the initial stage of the project will yield approximately 40 metric tons of digestate and 280 metric tons of methane on a daily basis. These resources can be utilized to fertilize roughly 60 hectares of wolf tail grass fields in the vicinity, thereby mitigating the need for chemical fertilizers. Additionally, the wolf tail grass produced can be utilized as feed for livestock and cattle, thereby achieving the objective of resource recycling with zero waste. Furthermore, it is anticipated that the centralized treatment facility will generate up to 7,277 kilowatt hours of electricity per day through the utilization of biogas produced by the electricity generator. This amount of electricity has the potential to supply power to 713 households.



△ EPB Sewage Inspection



△ Tainan City Livestock Manure and Urine Resources Policy Promotion Website

## 6.5 Sustainable Water Management Construction

### 2022 National Award for Excellence in Construction

The municipal administration of Tainan has proactively advocated and integrated the ethos of water environment into diverse water management initiatives, as part of its endeavor to execute the "environmental sustainability" policy. Furthermore, apart from the sustained allocation of funds by the city towards water management, there will be a concerted effort to secure subsidies from the central government to facilitate the advancement of flood prevention initiatives.

The City's submission of eight major water management projects for the 2022 National Award for Excellence in Construction was acknowledged and commended by the organizers and judges. The projects received a total of "2 gold and 6 high quality" awards, setting a new record for the number of awards received and demonstrating the fruitful outcomes of the City's efforts.

"The Tainan City Huwei-Liao Sewerage System Pipeline Project's initial bid and the New Construction of the Municipal Rezoning Pumping Station in Madaou Industrial District, Tainan City were awarded the Gold Award for Best Construction Quality and the Quality Award, respectively. The project successfully addressed challenging obstacles such as variances in terrain in the eastern

region of the city, the need to excavate wells exceeding 15 meters in depth, and the pipeline's intersection with Zhongshan High School. As a result, the project has facilitated the provision of a standard sewage connection to 1,400 households for future use. Furthermore, the construction of a new pumping station in the Madaou Industrial District of Tainan City has been finalized. This development aims to enhance the flood control measures and optimize the pumping and drainage operations in the Madaou District.

The "Water Quality Purification Plant of the Gangwei Ditch" was constructed by the city in 2014 to enhance the water quality of the Eren River system. The plant has a design capacity of 13,000 CMD. The stated design capacity of 13,000 cubic meters per day (CMD) has the potential to significantly enhance the mitigation of pollution in the tributaries that feed into the Eren River.

The projects titled "Gueizi Harbor Drainage Shore Protection Project (3K+943~4K+241)", "Drainage and Pumping Equipment Renewal Emergency Project of Shiziase in Dane District", "Salt Water Drainage Treatment Project Phase I (Salt Water District)", "New Treatment Project of Haidong D2 Pumping Station in An-Nan District" and "Tainan City Ren-De District Sewerage System Phase II Branch Pipe Network and Customer Connection Project, Bid No. 9" were recognized with the "Best Planning and Design" award and quality accolades.

The "Gueizi Harbor Drainage Shoreline Treatment



△ Panoramic Aerial View of Gangwei Ditch Stream Water Quality Purification Site



Project (3K+943~4K+241)" is a systematic effort to enhance the shoreline of the upstream section of the Xinwen Bridge. The project involves the construction of a 596m flood wall and the implementation of slope work, ecological vegetation slope, and L-shaped flood wall for widening and reconstruction. The primary objective of this project is to mitigate the risk of flooding in Liuying and Liuchia districts.

The "Daini District Shiziase Drainage Pumping Equipment Renewal Emergency Project" aims to address the issue of inadequate drainage behind the embankment by constructing a pumping station on the left bank of Shiziase Drainage.

The Salt Water Drainage Treatment Project Phase I, also known as the Salt Water District project, aims to safeguard cultural artifacts. This is in response to the discovery of the presumed remains of Fanzicuo at the junction of the Salt Water Drainage. The excavation will be conducted in collaboration with cultural resource authorities. Upon completion, the entire stretch from the Salt Water Drainage to the Old Ying Bridge (Taiwan Route 19) will be addressed, thereby mitigating the risk of flooding in the region due to the insufficient confluence section.

Furthermore, the municipal administration is currently engaged in the "An-Nan District Haidong D2 Pumping Station New Construction Project" aimed at ameliorating the persistent issue of flooding in the Ben-Yuan-Liao and Xixin-Liao localities of An-Nan District. It is anticipated that this project will be finalized prior to the onset of the flood season in 2024, thereby enabling the effective operation of the pumping and draining system.

The ninth tender for the Rendezvous District Sewerage System pertains primarily to the erection of the primary and secondary trunk pipelines, as well as the establishment of customer connections for the aforementioned system. According to estimates, the construction of 2,428 meters of branch pipes and 8,244 meters of alleyways with connections is anticipated. Additionally, it is projected that 1,060 households will be immediately connected, thereby enhancing the environmental hygiene and quality of life for the residents.



△Gueizi Harbor Drainage Shoreline Treatment Project (3K+943~4K+241)



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07

## Affordable and Clean Energy

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

In recent years, Taiwan has placed greater emphasis on the advancement of renewable energy in response to the growing environmental consciousness. This has entailed a shift towards renewable energy sources as a substitute for conventional power generation techniques, such as coal and oil, which are known to have high carbon emissions. Tainan is actively promoting the Sunshine Electric City Project, which is the first of its kind in the country. This project capitalizes on Tainan's natural advantage of having a high number of sunshine hours. To ensure the successful implementation of this project, a task force has been established to facilitate coordination among various sectors. The ultimate goal is to complete the green industry chain and transform Tainan into a green energy 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 general 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 the issue of insufficient capital and enhance the feasibility of the policy, we have been devising subsidy schemes and allocating funds to incentivize the establishment of solar power financing initiatives. Additionally, we have been collaborating with financial institutions to establish solar power financing programs.



## 7.2 Expansion of the Sunshine Electric City Project 2.0

### Implementation of Green Rooftop Power Generation

The municipality is advocating for a total of ten significant projects, comprising five rooftop-based and five ground-based initiatives. Additionally, the Green Rooftop for All Project is being highlighted as an exemplar urban center for the national government's policy. The government is set to facilitate the creation of a consultation platform aimed at overseeing the installation of unauthorized solar power systems by government agencies, as well as the validation of equipment with a capacity of less than 2,000 kilowatts.

### Proposed Subsidy Program to Encourage Installation

The municipal administration has allocated a sum of \$25 million in subsidies for the installation of solar power systems on the rooftops of legitimate private buildings and newly constructed communities within the city in the year 2022. The "Green Rooftop for All" initiative is open to participation by citizens and enterprises, among others. The eligibility requirements for subsidies are categorized into ten distinct groups, including but not limited to the expenses associated with

Taipower-related lines, communities with ample sunlight, and systems designed for self-use or storage. The subsidies have been categorized into ten distinct groups, including but not limited to Taipower-related circuit fees, sunshine community, self-use type, and energy storage type.

### Establishment of a Violation Consultation Line

Following consultation with the government, the installation of solar power systems necessitates approval by a qualified technician and adherence to structural safety standards. However, it is important to note that the installation of solar power systems on roof decks and buildings with two or more floors that are deemed illegal and pose a threat to public safety remains prohibited. The Tainan City Government has released information regarding the parameters and methods of consultation for the installation of solar photovoltaic facilities on the roofs of legally sanctioned buildings within Tainan City. Additionally, an unauthorized consultation hotline has been established to provide guidance and support. 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.

▽ Taipower Solar Power System



### 7.3 Incineration Thermal Power Generation

Apart from the availability of ample incineration feedstock, the utilization of thermal energy derived from incineration facilities for electricity production is not subject to climate regulation. Moreover, the yearly thermal energy production potential of the incineration plants situated in Tainan remains consistent. Tainan is home to two waste incineration facilities, located in Yongkang and Chengxi. As of 2022, these plants have a combined annual capacity of 271,308MWh, which is sufficient to provide energy for 68,700 households for a full year. The target of producing 250,000MWh of thermal power through incineration annually, which was initially set for 2030, has been attained ahead of schedule in 2021.

#### Incineration Plant Renovation and Maintenance Works

The Chengxi Waste Incineration Plant has been operational for over two decades. Between September 17, 2020 and November 4, 2020, the facility underwent a renovation initiative. The maintenance of key components of the incineration plant, including the turbine generator, instrumentation air compressor, and boiler system, has been identified as a crucial factor in enhancing power generation capacity by approximately 25%.

Furthermore, the Yongkang waste incineration facility conducts biannual maintenance to uphold the condition of its boilers, turbine generators, and other apparatus. In the latter half of 2021, the facility will undertake a comprehensive maintenance operation that involves the disassembly of gas turbine generators to enhance the efficiency of power generation.

In the forthcoming period, our intention is to expand the services offered by the existing incineration facility located in the western region of the city. Additionally, we aim to construct a novel furnace at the second designated location within the plant. This will be executed with the objective of replacing outdated equipment with more advanced technology. Prior to the incineration of waste, we will establish pre-treatment facilities for waste. These facilities will employ various procedures, such as crushing, sieving, and magnetic separation, to segregate food waste, moisture, and unsuitable materials from the waste stream. This will enhance the calorific value of the waste. Finally, we will install the planned power generation equipment at the terminal stage. The power generation efficiency of the proposed facility is greater than or equal to 25%, surpassing that of current local waste incineration facilities. This will result in increased energy generation and a reduction in carbon emissions. The facility's energy efficiency in waste-to-power conversion, low pollution levels, and competitiveness in carbon reduction are expected to be fully realized in 2026.



△ Yongkang Incineration Plant



△ Chengxi Incinerator



### 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 is presently enhancing and modernizing its SNCR (selective non-catalytic denitrification) system and CEMS system equipment to enhance the caliber of air pollution emissions and uphold the environmental quality surrounding the incineration plant during high power generation efficiency.

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

### The Development of Renewable Energy through Landfill Power Generation

Tainan City is proactively pursuing the advancement of renewable energy sources by positioning itself as a model city for landfill power generation. This involves repurposing decommissioned landfills into renewable energy facilities and constructing solar power systems on the surface of landfills located in the Annan and Sinying districts of the city in collaboration with Yudin Electric Co. The projected goal of achieving a total annual energy output of 21 million kWh by the year 2030 has been surpassed earlier than anticipated, as it has been successfully attained in the year 2021.

▽ Landfill Power Generation





### Public-Private Partnership on Green Energy Policy

The closed landfill's land is leased by the government to a private enterprise for the purpose of constructing, funding, and upkeeping a solar power infrastructure, thereby facilitating a mutually beneficial outcome for the advancement of the eco-friendly energy agenda. The aspiration is that the model and exchange of experiences presented can serve as a point of reference for other counties and cities seeking to utilize landfill sites as a means of cultivating sustainable energy and establishing a low carbon urban environment.

## 7.5

### Counseling Livestock Farm Biogas Reuse

The byproducts generated from livestock farms not only result in wastage but also contribute to issues of olfactory nuisance and environmental contamination. The utilization of biogas derived from livestock manure in livestock farms can facilitate the collection of energy for power generation and fertilizer for livestock manure, thereby promoting the recycling of livestock waste. This approach can foster a circular economy, generate benefits, and enhance the environmental conditions.

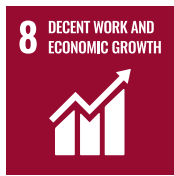


△Houbi District Jingliao Landfill Power Plant



△Biogas Digestate Collection Vehicle





# SDG — 08

## Decent work and Economic Growth

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

The COVID-19 pandemic and the instability of the international landscape have led to a heightened severity of the global economic recession and inflation in recent years. As a result, governments worldwide are facing mounting pressure to avert further economic deterioration. Tainan City has made a dedicated effort to safeguard labor rights and safety, extend requisite support to businesses, and foster industrial advancement and novelty, thereby establishing a congenial milieu for employment prospects and surroundings.

### 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

In recent times, there has been a consistent increase in global temperatures, resulting in frequent and prolonged periods of high temperatures in Taiwan. The elevated temperature and arid climate can potentially expose workers to heat-related hazards in the workplace, leading to various heat-related illnesses such as heat stroke, heat exhaustion, heat syncope, heat edema, and heat spasm. These illnesses can impair the cognitive and physical abilities of workers, leading to errors in judgment or negligence that may result in occupational accidents. Individuals who are employed in outdoor work environments. The city conducts occupational safety and health counseling visits to outdoor workplaces with the aim of safeguarding the health of workers. The primary objective of these visits is to promote early warning and prevention of high temperature heat hazards.



△ Occupational Safety and Health Counselor Education Training in 2021

#### Occupational Safety and Health Disaster Prevention Visits

To enhance the workplace environment and safeguard the well-being of employees, the city conducts annual meetings with occupational safety and health disaster prevention and counseling groups. The objective of these meetings is to communicate the city's policies and enhance the professional expertise of group members. This collaborative effort aims to establish a promising community for "Tainan's good life and Tainan's gluttonous road", in line with the mayor's vision. It is anticipated that a total of 240 meetings will be conducted by the year 2030.

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

The municipality has initiated inspections aimed at preventing heat hazards in outdoor workplaces, including but not limited to construction sites and road work, across the eight industrial zones within its purview. As of the close of 2022, the number of inspections conducted had reached 198, with projections indicating an anticipated increase to 220 by 2030.



△ Heat Hazard Site Inspection

### Establishing Effective Measures for Thermal Hazards by Employers

The objective of the annual target progress control schedule is to encourage employers in the local area to implement effective measures to prevent heat hazards through labor inspections, with the aim of safeguarding the safety and health of outdoor workers and preventing the onset of heat-related illnesses. This initiative is intended to foster a culture of occupational safety in Tainan City, thereby creating a conducive environment for the well-being of outdoor workers.

#### 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

The Executive Yuan has spearheaded an initiative to transform Shalun in Tainan into a green energy science city, with the aim of realizing a non-nuclear home park and incorporating the green energy technology industry into the "five plus two" innovative industry policies. This effort involves collaboration among the Ministry of Economic Affairs, the Ministry of Science and Technology, the Atomic Energy Council, the Tainan City Government, as well as industry, academia, and research entities. Shalun is slated for transformation into a green energy science city, with the aim of becoming a central hub for the advancement of green energy in Taiwan. This development will facilitate the promotion of research and development initiatives, as well as demonstration programs, focused on green energy. These efforts will be centered around four key areas: energy generation, energy efficiency, energy storage, and system integration. The overarching objective is to stimulate the growth and progress of the green energy industry within Taiwan.

### 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 11 years, a cumulative total of 875 cases have been sanctioned, resulting in the generation of 8.6 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.



△ Win Win Innovation & Incubation Base

### 8.3 Industrial Zone Development Plan Comprehensive Review of the City's Industrial Zones

The municipality has established proprietary industrial parks with the aim of expediting industrial growth, generating economic advantages, and furnishing prospects for job creation. Aligned with the contemporary land planning paradigm, the municipality has adopted a proactive stance towards conducting a comprehensive evaluation of the industrial zones within its jurisdiction. This evaluation aims to devise measures that support the transformation and development of these zones, thereby addressing the issue of stagnation that some of these zones are currently experiencing.

#### Development of Industrial Areas

By the conclusion of July 2021, the government has finalized the establishment of four distinct industrial zones, specifically identified as the Shugu Park, Liuying Technology Industrial Zone, Yongkang Technology Industrial Zone, and Xinji Industrial Zone. The Seven Units Technology Industrial Park is currently undertaking the hypothetical project, land extraction project, and land preparation project in response to the demand for the return of Taiwanese businessmen and the need for mass production bases around the Shalun Science City. Additionally, the Green Energy Industrial Park is in the process of undergoing its application process.

### 8.4 Tainan Forward-looking Industry Development

The industrial clusters in the city are becoming more comprehensive, owing to the Tainan Science Park and the Shalun Smart Green Energy Science City. Furthermore, the municipal administration is actively collaborating with the federal government to advance national strategic initiatives such as 5G, digital transformation, and AIoT. These efforts aim to facilitate the local industry's transformation and enhance its overall capacity, thereby contributing to the pursuit of sustainable development objectives. Furthermore, the municipality proactively attracts industries with low pollution, low water and energy consumption, and high value-added potential for investment. Notably, the metal products, machinery and equipment, plastic products, and foodstuffs sectors are among the most sought-after industries for investment. Apart from the semiconductor industry, Tainan has also been successful in attracting prominent manufacturers and service providers to invest in the city, indicating their positive outlook towards Tainan's economic growth and positioning it as the most promising investment destination in Taiwan.



△ Sampo's factory in Tainan Science Park





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.



△ Shalun Green Energy Technology Demonstration Site

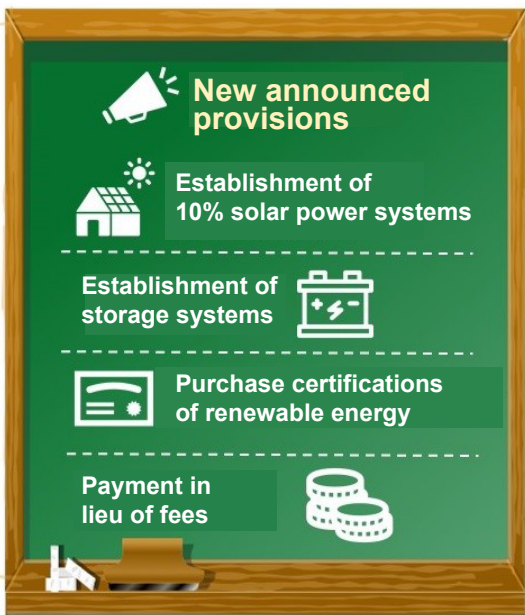
## 9.1 Installation of a Percentage of Renewable Energy

### Promote Green Plants Promote the Implementation of Solar Renewable Energy Sources

The widespread installation of solar power, wind power, and energy storage is imperative for the construction of non-nuclear homes and the acceleration of economic growth and energy transformation. Consequently, the municipality implements a variety of adaptable strategies to oversee and direct significant consumers possessing a contracted capacity ranging from 800 kilowatts to 4,999 kilowatts, in order to facilitate the utilization or acquisition of a specific proportion of sustainable energy.

### Provide Companies with Diverse and Flexible Measures and Options

In order to facilitate the installation process and eliminate obstacles, the municipality is collaborating with the federal government to revise legislation and expand the range of sustainable energy alternatives available to manufacturers who are unable to implement solar photovoltaic systems. These options were formally introduced in March of 2020 and are supported by four implementation strategies.



As of July 7, 2023, a total of 606 companies have successfully submitted their filings, with 364 of them being under review and 242 under elimination. Additionally, 41 companies are currently undergoing counseling, with 34 of them in the preparation stage and 7 in the evaluation stage. The implementation rate stands at 93.66%, and the total installed capacity has exceeded 151MW.



△AU Optronics Corp.



## 9.2

### Assist SMEs with Credit Guarantee Loans

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

The City has established a service window with an integrated counseling program to aid youth and enterprises in obtaining funds, innovation, and development opportunities. This initiative includes a youth entrepreneurship and SME credit guarantee loan review, which provides comprehensive entrepreneurship counseling, incentive grants, financing and loan applications, training courses, and other entrepreneurial resource referrals. Additionally, one-on-one counseling and other diversified counseling services are available to assist enterprises. This program was launched in September 2020. Small and medium-sized enterprises, which typically have limited resources, can concentrate on technological innovation and advancements within their respective industries, thereby stimulating industrial expansion.

#### Arranging Onsite Visits to Enterprises

Aligned with the execution of the "Tainan City Government Youth Entrepreneurship and SME Credit Guarantee Loan Program" and the Taiwan SME Joint Counseling Foundation's strategy, our team has facilitated on-site consultations for enterprises to diagnose their cases. In 2022, we have received 46 applications, all of which have been completed, indicating a 100% completion rate. The aggregate sum of applications that underwent review was \$47,200,000, out of which \$9,100,000 was granted approval, signifying a 29.73% approval rate (approved amount divided by the sum of approved and unapproved amounts, which is \$21,500,000).



SDG

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10

## Reduced Inequalities

### -Reduce Income Inequality Within and Among Countries

The provision of cultural opportunities is a fundamental entitlement of individuals, and it is incumbent upon the government to take affirmative measures to prevent cultural disparities arising from factors such as identity, age, gender, region, ethnicity, physical and mental disabilities, and the like. The Tainan City Government endeavors to establish a cultural environment that fosters acceptance and appreciation of diverse ethnic groups, while mitigating instances of discrimination and prejudice. This is achieved through the promotion of cultural equality and the equitable allocation of resources, which ensures equal opportunities for all individuals and minimizes inefficiencies resulting from resource overlap.

#### 10.1

### Mobile Medical Services

To address the healthcare needs of individuals residing in remote regions and mitigate the challenges posed by inadequate medical resources, efforts have been made to enhance the accessibility and quality of medical services. This has been achieved through the provision of mobile medical services in remote areas, as well as the promotion of the "Universal Health Insurance Improvement Program for Areas with Insufficient Western Medical Resources" among health clinics. By the year 2030, it is anticipated that health centers situated in remote regions will conduct 230 medical rounds and facilitate 2,600 attendances within a 12-mile radius. This measure aims to ensure equitable distribution of medical resources and enable residents in remote areas to access medical services that are effective, safe, and of high quality.



△ New Station in 2022 for Medical Touring in Tuchi Village

#### 10.2

### Arts and Culture in Splendid Fashion

#### Multicultural Learning

The city of Tainan is actively promoting the implementation plan for "Shanghai Co-education - Ethnic Mainstreaming Education," which aims to facilitate multicultural co-learning activities for both teachers and students. By means of cultural exchange and experiential activities, students can expand their cultural perspectives, augment their awareness of ethnic diversity, demonstrate reverence for the cultural attributes of varied ethnic groups, and foster inter-school interaction and exchange among Min, Hakka, and Yuan schools, thereby stimulating teachers' ingenuity in pedagogy and implementing the notion of collaboration for the greater good.



△ Atayal Bamboo Rice Making



From April 21 to 23, 2021, the 2021 Shanhai Co-education Ethnic Mainstreaming Education - Ethnic Exchange Experience took place, featuring the involvement of five schools: Chigu Elementary School located in Chigu District, Guangrong Elementary School situated in Zuozen District, Causeway Elementary School (Hakka) located in Causeway Township, Miaoli County, Wenshui Elementary School (Atayal) situated in Taian Township, and Leiyu Elementary School (Bazai) located in Sanyi Township. The educational institution is committed to the cultural attributes of the diverse ethnicities within the region of Fujian Province.

### The Diversity of Arts and Culture

In 2011, a merger between the county and city prompted the Tainan City Government to initiate the "Art in the District" 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.

From August 27th, 2022, to present, a total of 20 outdoor performances and 9 campus promotions have been conducted, with a cumulative participation of 25,027 individuals. The implementation of a "online registration" system was utilized as a means to promote the acquisition of firsthand information via online channels. During the previous twelve-year period, a cumulative total of 367 events have been organized in Tainan, offering local residents an extensive exposure to diverse forms of performing arts activities. This has resulted in a substantial audience turnout of over 250,000 individuals and a fan base exceeding 17,000.



△ NSO Greenfield Concert "Summer Time"



△ Diabolo Dance Theatre "Beautiful Island"

## Replicating the Splendor of Silaya

Upon assuming office, Mayor Huang Wei-Che has been actively involved in the investigation of Silaya cultural assets. To this end, National Cheng Kung University has been commissioned to undertake the "Silaya Cultural Assets of the Beitou Yang Tribe - Dutch Wells Investigation and Research Project" as well as the "Silaya Beitou Yang Tribe Fei Fan Tomb Investigation and Research Project". Additionally, a funding of \$580,000 has been secured from the central government for the 2022 "Silaya Kuva and Traditional Beliefs Investigation Project North of Zengwen Creek". The proposed project will center on the conservation of the primary communal structures and A-Lip-Tsoo beliefs of the Silaya community. Additionally, it will involve strategizing the submission of intangible cultural assets, such as oral traditions and folklore, for registration and evaluation.

Tainan City will provide support to Silaya communities and organizations in facilitating cultural industry counseling, promotion, and study activities with the aim of fostering a local community culture. The city of Tainan has announced its intention to provide subsidies to Silaya groups for the purpose of organizing a series of 15 night festivals, language promotion events, cultural festivals, and other related activities in the year 2022. The total number of participants expected to attend these events is 10,250, and the total amount of the subsidy is \$1.13 million. Furthermore, a cultural park has been established in Beitouyang with the aim of exhibiting the distinctive ecology of the Silaya community in Beitouyang and advancing the conservation and promotion of the community's culture holistically.



△ Silaya A-Lip-Tsoo Night Festival in Fanzaitian



△ Learning from the Bunun and Puyuma Event by the people of Hsiao Long She



### 10.3 Social Integration Assistance for New Residents

#### Further Development of New Residents' Education

Tainan City has established the New Residents Learning Center in Dagang Elementary School and Dongshan Elementary School with the aim of enhancing the adaptability of new residents to society and life, fostering their potential and cultivation, promoting cultural exchange and respect, and strengthening the family education network of new residents. The center offers a range of educational programs, including community education, language learning, humanities and local culture, family education, general knowledge of laws and regulations, and diversified education. The New Residents Learning Center is situated at Tagang Elementary School and Dongshan Elementary School, and encompasses seven primary programs, namely community education, language acquisition, humanities and local culture, family education, general knowledge of laws and regulations, multi-dimensional training, and other programs or educational activities that cater to the requirements of national policy development.

#### Development of Second Expertise in Training Programs

The Tainan New Residents Learning Center has been offering training courses to new residents through various modes such as lectures, seminars, workshops, and visits, both in-person and online, synchronously or asynchronously, catering to the specific requirements of the clients for several years. The program conducted a total of 91 sessions in the year 2022, with a participation rate of 2,161 individuals.



△ New Residents Learning Center at Dongshan Elementary School Promotes Multiculturalism as part of a Festival

### 10.4 Indigenous People Career Development Financial Knowledge Seminar: Building Correct Consumer Attitudes

The Tainan City Government organizes three seminars on financial literacy program in 2022. The objective of this initiative is to foster financial prudence, including credit upkeep and debt management, while also promoting a healthy approach to financial consumption and imparting financial knowledge.

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

The Tainan City Government offers two distinct loan services to assist Indigenous People business owners or loan recipients in securing the requisite funds for initiating or expanding their economic ventures. These services include 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. On a monthly basis, the Tainan City Government dispenses letters of notification pertaining to the rights and interests of both new borrowers and those who have been delinquent for a period exceeding three months. Additionally, the government offers subsequent counseling services. In the year 2022, a total of 28 loan applications were granted approval, with a cumulative value of \$5.95 million. Two counseling applications were submitted by savings cooperatives in relation to the Relief 4.0 program. These applications were specifically directed towards obtaining small revolving project loans and business start-up project loans for Indigenous People. There are a total of 27 beneficiaries who have received loan counseling and overdue loan counseling services, with a cumulative count of 170 visits.



△ Financial Literacy Program Campus and Community Outreach Activities





SDG

11

## Sustainable Cities and Communities

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

Tainan City is committed to preserving air quality, establishing a hygienic environment, disseminating the use of solar energy, advancing urban development with a "global mindset and local implementation" approach, and embracing "low-carbon living" and "sustainable management" as its business principles. The city aims to realize "environmental sustainability" as a policy objective and progress towards a low-carbon and sustainable Greater Tainan.

▽ Canal Star Diamond Bright Spot-Daliang Eco Park

### 11.1

#### Low Carbon City Green Life

##### Establishing the Green Xanadu

To facilitate the development of a low-carbon green city and promote the construction of a high-quality green urban environment, the city is proactively pursuing a park green space development initiative. This effort includes bolstering the construction of existing parks, expanding park areas, enhancing park aesthetics, and renovating aging park facilities. The objective is to augment the total parkland by 10 hectares and cultivate 20,943 trees by 2030. Additionally, there is a concerted effort to encourage the development of verdant parks and landscaping in the metropolitan region. This initiative aims to not only efficiently diminish carbon emissions and enhance the aesthetic appeal of the city, but also to furnish easily accessible green spaces that cater to the public's fundamental sentiments of amicability and contentment.





### Advocating the Distinctive Parks of Tainan

Parks serve as rejuvenating oases within urban environments, affording individuals the opportunity to temporarily set aside their concerns and bask in the tranquility of natural surroundings. Following the implementation of the "special park" policy, Tainan City has augmented its inventory of parks. To date, a total of 16 distinct parks have been constructed, among them the "Healthy Oasis Park" situated in the South District Public 61. This park is expected to be finalized by the conclusion of 2021, and will feature a theme centered around 1661 Taiwanese boats.

Furthermore, it should be noted that the Anping District Harborfront Historical Park holds the distinction of being the initial site for a unique playground exhibit. The planning and design direction of the special park was determined through online voting, with the entire public participating in the decision-making process. The Deep Sea Adventure emerged as the most

popular choice, reflecting the public's preferences and needs. Experts and scholars will engage in a discussion regarding the playground to ensure that the design outcomes align with the unique play environment that children envision.

Moving forward, the municipality will persist in identifying appropriate zones and evaluating the requirements of the populace, enhancing their quality of life through a diverse range of amenities and undertakings, and establishing multiple green spaces within the urban landscape.

### Sustainable Afforestation, Create Urban Lungs

The city is collaborating with the Forestry Bureau of the Council of Agriculture to implement the "Sustainable Forestry Multi-Counseling Program" as a means to mitigate the escalation of atmospheric carbon dioxide levels, enhance carbon sequestration, and facilitate the ecological functions of afforestation sites, including water conservation and biodiversity. This program offers



△ South District Public 61 "Healthy Oasis Park"



△ Tainan City Anping District Harborfront Historical Playground

comprehensive counseling services to experienced foresters who have engaged in incentive plantations for a minimum of two decades. Furthermore, the Council of Agriculture has incentivized foresters to increase their utilization of domestically sourced timber through the provision of complimentary seedlings and annual afforestation incentives. This initiative has provided numerous benefits for individuals interested in engaging in afforestation.

The municipality's initiative to reforest the flatlands of Tainan has been ongoing, with a focus on nurturing and reforesting 2 hectares of land in 2022, bringing the total area reforested to 6 hectares. The ultimate objective of the program is to plant over 10 hectares of land by 2030, with the aim of promoting greenery and fostering opportunities in the city, safeguarding the ecological environment, and contributing to a more promising future.

### Emerging Prospects for Community Development

Community building aims to empower individuals to participate in shaping their living environment, enabling them to select and establish their preferred lifestyle. It also fosters a sense of attachment to one's hometown among community members, encouraging them to voice their perspectives on their living environment. The primary objective of community building is not solely to construct a physical environment, but rather to establish a cohesive community and elevate the standard of living through the active engagement of community residents.



△ World Environment Day Tree Planting Activity





2022 Architecture and Landscape Award in the category of Community Cultural Landscape Creation - "Secret Garden of the Short and Growing Trees" in the Houbi Dingchang Community, Transforming Abandoned Old Buildings and the Surrounding Landscape





## Community Environmental Transformation

The municipality employs the approach of "community environmental transformation" as a means of transitioning from "community creation" to "place creation". This involves training "community planners" to educate individuals across all age groups, from youth to the elderly, and to lead the local community in addressing community issues, participating in community activities, and exerting their influence to contribute to the creation of "sustainability" and "creativity" within the local community. Ultimately, this approach aims to shape the urban and rural areas of the local community.

The city is prioritizing the "Tainan Architecture Corner Creative Creation Project" and the "Green Community Development Project" as the primary initiatives for fostering a creative atmosphere and space within the local community. These endeavors aim to engage individuals of all ages, including recent college and university graduates, newcomers, young adults, senior citizens, retirees, and other interested parties, in promoting local development. This approach aligns with the broader goal of advancing the urban and rural landscape of Tainan City. The plan has undergone incremental enhancements and its contents are centered on topics such as urban aesthetics, environmental sustainability, and ecological conservation. From 2011 to the present, Tainan City has completed 226 "community environmental space transformation" projects. These projects involve the integration of diverse creative aesthetics and low-carbon greening construction methods, as well as the promotion of community construction. The ultimate goal is to establish Tainan City as a sustainable and livable urban center.



△ Golden Award of Architectural Landscape Award - "Chengju" created by Xinying Gushi Community Development Association and Feng Chia University students



△ Green Community Development Project won a special award - "Madou-Social School" in Madou District



## 11.2

### Constructing Quality and Sustainable Public Transportation

#### Enhancing the Bus Network

The city has implemented measures to enhance the capacity of its public transportation system, improve the quality of its services and environment, and promote low-carbon transportation. To achieve these objectives, the city has adopted the principles of universal design and incorporated the feedback of users, including direct suggestions from passengers and input from local ward leaders and public representatives. The city has also utilized actual traffic data from its bus e-ticket system to optimize and rationalize its bus route schedules. These efforts have taken into account the needs of an aging population. On November 16, 2022, the Chu Bin Bus Route 901 and 902 were introduced with the aim of enhancing the accessibility and convenience of public transportation services for commuters and students residing in recently rezoned regions. The routes also aim to reduce traffic congestion and the use of private transportation in urban centers by maintaining route stops in downtown areas. Additionally, the implementation of the Little Yellow Bus service in remote areas of the city is intended to bridge the gap between public and private transportation and offer flexible reservation services. By 2023, there will be a total of 31 bus routes in yellow color that will be operational, covering a span of 20

administrative districts. The objective is to augment the capacity of public transportation by 25% in the year 2030, relative to the year 2017, with the aim of enhancing the mobility and quality of life of the urban populace.

The urban bus system has experienced a decrease in capacity since 2020 as a result of the epidemic. The forthcoming year is anticipated to witness a more severe local epidemic, which will further delay the return of passengers to utilizing the city's buses. This delay is attributed not only to the changes in the epidemic but also to the city's plan to review and modify its bus network from 2021 onwards. Additionally, the city will continue to reinforce its epidemic prevention measures and implement fare concessions to restore passenger confidence and encourage the resumption of bus usage.

#### Taiwan Tourist Shuttle

The Taiwan Tourist Shuttle is a bus service that has been specifically designed for tourism purposes. It operates by transporting passengers from Taiwan Railway and High Speed Rail stations located near major scenic spots in Taiwan to other major sightseeing spots in the country. This service is particularly beneficial for individuals who prefer not to drive long distances or participate in tour groups, and it aligns with the contemporary trend of promoting energy-saving, carbon-reducing, and eco-friendly tourism.



△ Tainan City Bus Route Optimization Results and Press Conference for the Launch of Chubin Bus 901 and 902



△ Taiwan Tourist Shuttle “Linbo-Guantian Route”

The Taiwan Tourist Shuttle employs a feedback mechanism from its users, which is further supplemented by the actual traffic data obtained from the city's bus e-ticket data. This analytical approach is utilized to assess the performance and rationality of the route network schedule, and subsequently make optimization adjustments. The overarching objective of this initiative is to achieve a target of 280,000 passengers by the year 2030. The Taiwan Tourist Shuttle has experienced a notable decline in traffic volume since 2020, primarily attributed to the ongoing pandemic. It is anticipated that the local epidemic will intensify in 2021, as the demand for non-essential sightseeing excursions is often curtailed due to public health concerns. Additionally, tourist buses are enclosed spaces where visitors are required to coexist with unfamiliar individuals, further contributing to the reduction in demand. Our organization will persist in enhancing our epidemic prevention measures and implementing diverse fare concessions and marketing initiatives to restore the trust of tourists and encourage them to resume utilizing our services.



△ Public Rides Self-Driving Buses

## Self-driving Bus Experimental Project

The passenger transportation sector has been persistently confronted with challenges such as a scarcity of drivers and extended working schedules. The implementation of autonomous driving technology is expected to have a transformative impact on urban transportation, particularly with respect to driver scarcity, driving time, safety, vehicle allocation, and rural mobility.

The Ministry of Economic Affairs granted approval for the extension of the experimental project in April of 2021, resulting in a two-year experimental period that concluded on April 6, 2022.

During the period spanning from February to March 2021, a series of ten test rides were conducted with the aim of bolstering public acceptance. These test rides garnered participation from over 800 individuals, who had the opportunity to experience the rides firsthand. The majority of participants expressed favorable sentiments, providing positive feedback regarding their experiences. The "Tainan City Smart Vehicle Infrastructure Application" presentation and expert seminar took place on December 16, 2021. The event featured a report on the outcomes by the construction company, as well as the participation of smart vehicle teams and private enterprises in the ensuing discussion. In the forthcoming times, the smart roadside facilities' specifications can be implemented via a "open API" for all vehicle types. The research findings can serve as a foundation for the subsequent development and dissemination of roadside facilities, thereby augmenting road performance and service standards, and elevating the safety and efficiency of road users.

The primary obstacle to the promotion of autonomous buses is the requirement for significant financial resources. The substantial expenses associated with electric buses and autonomous technology pose a significant challenge. Should the sole source of funding for operational losses be limited to the municipal government, potential investors may be deterred from engaging in such ventures. Hence, optimal



planning, allocation of resources, and provision of subsidies by the federal government, coupled with the cooperation and aid of the regional government, are imperative for the seamless execution of the project. The municipality extends an invitation to manufacturers who express interest in advancing intelligent autonomous driving systems to utilize the designated experimental site for practical application, and offers corresponding administrative support.

### 11.3

## Tainan Riding Trail - Green Transport

### Promoting Tainan City's T-Bike

Tainan City has implemented a public transportation system and bicycle road network with bicycle rental station service to promote the use of bicycles as a means of short-distance transportation. This initiative aims to encourage the public to utilize low-pollution, low-energy consumption public bicycles, thereby reducing and shifting the ownership and use of private motor vehicles. The ultimate goal is to improve urban road traffic congestion, environmental pollution, energy consumption, and complete the last mile of public transportation. The primary objective of this service is to enhance the state of urban road traffic congestion, environmental pollution, energy consumption, and the final leg of public transportation.

Commencing operations in August 2016, Tainan City T-Bike has since expanded its services to encompass 13 administrative districts within the city, with a total of 77 stations and 1,824 bicycles currently in operation. The average monthly ridership has been recorded at approximately 50,000 individuals. By the end of 2022, there have been 4.06 million rides, and the staged tasks have been completed. From 2023, it has been converted to the YouBike 2.0 system. As of June 2023, there are 161 stations, covering 15 administrative districts of Tainan City, and the cumulative number of users will exceed 450,000. Thereby achieving

the objectives of energy conservation, carbon reduction, and expansion of public transportation services. So that citizens and tourists can enjoy more high-quality and convenient public self-service vehicle services. The ultimate goal is to ensure the sustainable operation of public bicycles.

### Increase Service Area of Shared Green Transport

The aim is to decrease private transportation ownership by offering individuals adaptable transportation alternatives through shared green transportation. This approach can accommodate multiple users, thereby mitigating parking demand and compensating for the inadequacy of public transportation. The ultimate objective is to conserve energy and reduce carbon emissions.

The urban area is endowed with a plethora of historical edifices, landmarks, shrines, indigenous celebrations, picturesque landscapes, ecological habitats, agricultural delicacies, culinary offerings, commercial districts, and other distinctive tourist attractions, and persistently endeavors to foster the advancement of associated scenic destinations. As of 2022, the urban area has successfully implemented a cumulative area of 57 square kilometers dedicated to shared green transportation services. The objective is to further extend the coverage of shared green transportation services to a total of 65 square kilometers by the year 2030.



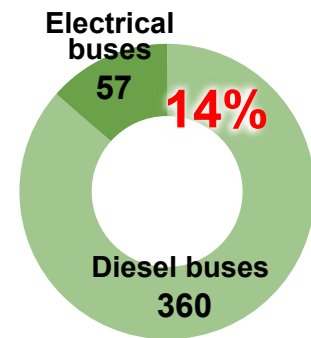
△ YouBike in Tainan City

### Total Electrification of Buses

Over the past few years, there has been a growing awareness of the need for environmental protection. As a result, there has been a trend towards reducing carbon emissions through the electrification of transportation. This has led to an increase in the number of individuals purchasing electric cars and motorcycles to replace their diesel-powered vehicles. Additionally, there has been a growing call to replace diesel buses with electric buses, which has been a priority for city officials.

The Executive Yuan has established a policy objective of achieving complete electrification of public transportation buses by 2030. In response, the city government has been actively promoting the advancement of electric buses since 2019. The government intends to gradually substitute the current vehicles on urban buses, as well as trunk and feeder bus routes, with low-floor electric buses. The city currently possesses a fleet of 417 buses, with 57 of them being electric, representing a proportion of approximately 14%. It is evident that there exists considerable potential for further expansion in this domain. The implementation of electrification in urban buses is anticipated to result in the replacement of 30 electric low-floor buses annually, accompanied by a minimum increase of 7% in the proportion of electric buses. This measure is expected to yield a reduction of 1,746 tons of carbon emissions per annum, with the ultimate objective of replacing all buses with electric low-floor buses by 2030.

Passenger transportation service providers have a significant impact on the advancement of the electric bus policy. Apart from fulfilling their corporate social responsibility towards energy conservation and carbon emission reduction, they are also inclined towards the potential advantages and cost savings associated with the substitution of diesel buses with electric buses. The Tainan City government has implemented a subsidy program called the "Tainan City Urban Passenger Transportation Industry Subsidy for the Purchase of Low Carbon Vehicles" to incentivize the acquisition of low carbon vehicles. Additionally, a reasonable operating loss subsidy benchmark has been established based on the operational features of electric buses. The aim of this initiative is to alleviate the financial burden of operators and encourage their participation in the electrification of urban buses. Ultimately, this program seeks to foster a more favorable, eco-friendly, and sustainable public transportation environment in Tainan City.



△ Electric bus ratio



△ Electric Bus Brown Line Launching Ceremony



## 11.4 Protecting the Environment and Creating a Comfortable City

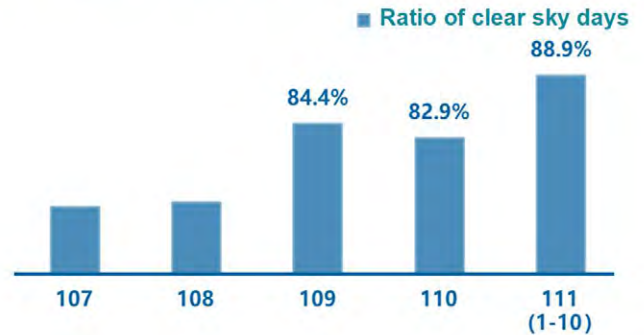
### Clean Air and Clear Skies

The issue of air pollution is a matter of public concern within the community. The urban environment is subject to the influence of topographical and meteorological factors, as well as poor atmospheric diffusion conditions during the autumn and winter seasons. These factors, combined with local and upwind pollution, contribute to suboptimal air quality. To address

this issue, the city launched the "Bright and Clear Sky Project" in 2014, aimed at implementing air pollution control and management measures. The first phase of this initiative (2015-2019) seeks to achieve a reduction in PM2.5 levels to below the red alert threshold ( $PM_{2.5} \geq 54\mu g$ ) within a five-year timeframe. The achieved results demonstrated a 76% success rate, indicating the effectiveness of the implemented measures in enhancing pollution source management and addressing various behavioral aspects. Consequently, a subsequent phase is proposed. The proposed initiative, known as the "Bright and Clear Sky Project PLUS" second phase, aims to enhance pollution source management and control measures to mitigate air pollution emissions. The ultimate objective is to attain a minimum of 80% of blue sky days (AQI<101) by 2024. The objective is to enhance the level of source control pertaining to air pollution by means of cross-bureaucratic division of labor. Additionally, the aim is to sustain the efforts towards air quality maintenance and pollution control, with the ultimate goal of improving the air quality in Tainan.



### Growth in Terms of Clear Sky Days



△Tainan Blue Sky

## Clean Soil, Clear Water, and Green Homes

For several years, the Tainan City Government has been actively monitoring the quality and enhancement of soil and groundwater. To this end, the government has established the Tainan City Government Soil and Groundwater Pollution Site Improvement Promotion Group, which comprises experts and scholars. The group is responsible for closely scrutinizing the progress and effectiveness of improvement efforts, as well as strictly supervising polluters. Additionally, the Tainan City Government has set up the Soil and Groundwater Contaminated Sites Improvement Promotion Team, which convenes experts and academics to rigorously assess the progress and effectiveness of the remediation efforts. The team also closely monitors the implementation of contamination remediation by the polluters or related parties to ensure that the remediation goals are achieved.

The city has implemented a rigorous monitoring and supportive counseling strategy to oversee the 74 contaminated sites identified in 2019 (the reference year) that are currently undergoing remediation, with the ultimate goal of restoring them to their original purpose. Over the course of 2014 to the conclusion of 2022, a cumulative sum of 250 meetings for expert review will be conducted. The identified 23 sites in the urban area with stagnant agricultural land types will undergo suitable improvement measures in the contaminated area. Moreover, landowners will receive subsequent counseling to facilitate the reuse of the land in various adaptive ways. By the conclusion of 2022, the 26 sites will undergo de-registration while the listed sites will receive rigorous monitoring to enhance pollution control as planned. This will facilitate the restoration of land quality and the attainment of the objective of clean soil and water.



△ Groundwater Monitoring by Monitoring Wells in Industrial Areas



△ Supervision of Site Pollution Remediation





# SDG

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# 12

## Responsible Consumption and Production

### -Ensure Sustainable Consumption and Production Patterns

The contemporary quest for economic expansion is heavily dependent on the utilization of natural resources for both consumption and production purposes, leading to persistent and severe harm to the worldwide ecosystem. Apart from advocating for waste reduction at the source, Tainan City endeavors to encourage recycling as a means of enhancing the value and reusability of resources, thus fostering the development of a sustainable, low-carbon urban environment.

### 12.1

#### Promote Community Building through the Green-Friendly Concepts

The Guantian District Office has been engaged in community building efforts for seven years, commencing in 2014 with the implementation of the "diamond charcoal" axis. Following the identification of a significant accumulation of diamond horn shell waste in the region, the district office has endeavored to engage the collaboration of various stakeholders, including industry, academia, agriculture, and society, to effectively devise diamond horn charcoal technology, promote the local diamond horn industry, and enhance environmental education. The "100 Kinds of Charcoal Life" event is scheduled to take place between August and October 2021. Its primary objective is to identify 100 distinct types of diamond horn charcoal development products that can be applied in daily life. The event also aims to showcase the transformative power of "waste materials into gold" and offer seven training courses for the social creation series. These courses will focus on innovating and expanding the application of "diamond horn kernel," "diamond horn shell," and "diamond horn charcoal." The overarching goal of the event is to significantly reduce waste generation through prevention, reduction, recycling, and reuse, promote green economy, and achieve sustainability.



△ Diamond and Charcoal Diffuser-Volcano



△ Black Gold Gift Box (Mask Snap + Natural Essential Oil)

## 12.2 Effective Reuse of Building Materials

### Promote Sustainable Recycling of Old Materials

The "Tainan Cultural Assets Building Materials Bank" was established in July 2017 by Tainan, with financial support from the Cultural Assets Bureau of the Ministry of Culture, as a means of spearheading the promotion of the recycling of used building materials. In 2022, 9 cases of used material donation and 19 cases of used material application were completed. The market value of donated used materials was about 2.17 million, and the market value of used materials applied for was about 3.27 million.

The Construction Materials Bank has conducted an initial sorting and selection of the old materials it has collected. This process has enabled the identification of materials that would have otherwise been deemed scrap. These materials can now be repurposed for a variety of applications, including use in monuments, historical buildings, the renovation of old houses, daily maintenance, and artistic endeavors. The practice of reusing old materials in construction projects can facilitate the regeneration of said materials in alternative structures, thereby promoting sustainable consumption and production patterns and advancing the principles of a circular economy. Additionally, this approach can effectively reduce

the carbon footprint associated with construction projects.

The municipality has implemented a pioneering systematic management mechanism nationwide, which has resulted in an increased reuse rate of building materials. This has been achieved through diversifying the usage paths of building materials, educating and promoting the recycling of used materials, and providing consultation and counseling services on material reuse at all levels. Additionally, the municipality has actively promoted the reuse of building materials to the public and community, combining it with the creative value-added of traditional techniques to enhance the concept and standard of heritage preservation. The overarching objective is to amass a total of 15,000 utilized items by the year 2030.



△ "Sweetness in Tainan - Sugar Art Rooting Project" Madou Junior High School and Wang Ruiheng Artist Co-creation Project



△ Yenshui Huan Ya Elementary School Original Auditorium and Clock Tower Restoration Project - Restoration of Auditorium Window Glass



## 12.3

### The Promotion of Organic Agriculture Cultivation

#### Advocate for Organic and Environmentally Friendly Farming

The city is taking proactive measures to address the issue of ensuring the safety and healthfulness of crops for consumption, given the susceptibility of the farming environment to fragmentation and contamination from temporary fields. The practice of organic-friendly environmental farming is based on the principles of recycling and sustainable utilization of natural resources. Its objective is to produce natural and safe agricultural products while promoting green, safe, and healthy organic agricultural products for consumers. This approach aligns with the policy of ecological greening and environmental conservation.

In order to safeguard the soil and water resources, ecological environment, biodiversity, animal welfare, and consumer rights, the city is actively promoting organic-friendly farming practices. This is being achieved by reducing the usage of chemical pesticides and fertilizers through the provision of guidance to farmers on how to improve their production and processing equipment, as well as 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 will increase annually from 420 hectares to 835 hectares by 2022.



△ Tainan's Largest Organic Farmland - Shisheng Sustainable Farm

## 12.4

### The Promotion of Green Procurement The Leadership of the Government

Tainan City Government is proactively promoting green procurement practices to foster a green economy and ensure sustainable consumption and production patterns. This entails prioritizing green products with lower environmental impact and reducing the usage of plastics and harmful substances. The ultimate goal is to mitigate environmental pollution through an environmentally friendly and moderate consumption pattern. Over the past decade, the city government has consistently achieved a 100% rate of green procurement for designated projects, beginning in 2012 and continuing through 2021. During this period, the procurement amount has risen from \$176,411,393 to \$251,315,403 in 2015, reflecting a commitment to supporting environmentally-friendly products and realizing the advantages of environmental protection through concrete actions.

#### The Promotion of Green Office

The municipality has enhanced its environmental education efforts to advance and execute the Green Office program, which encompasses five key initiatives: energy conservation, waste reduction, sustainable procurement, ecological landscaping, and public outreach. To date, the campaign has garnered participation from 194 institutions and 308 schools, with the aim of extending the reach of the Green Office initiative. The objective is to encourage businesses to adopt environmentally-friendly practices, beginning with the procurement and utilization of products that bear the green label. This approach takes into account corporate social responsibility and helps to establish a positive environmental image. The objective is to encourage the enhancement of environmental protection policies, with the aim of engaging the city administration and private enterprise entities in eco-friendly procurement practices. This would result in a mutually beneficial outcome for both the economy and the environment, and establish a sustainable, low-carbon domicile for all.

## 12.5

### Waste Treatment

#### Enhance the General Waste Recycling Rate

Tainan City has demonstrated a proactive approach towards resource recycling and has introduced novel source reduction strategies. These include the recycling of women's undergarments, the re-tendering of restored waste furniture at the Hidden Gold Pavilion, and the establishment of a high-speed fermentation plant for food waste. With a 63% resource recovery rate for Tainan in 2022, a significant increase from 54% in 2019, the City has commended by the Executive Yuan President and is set to be promoted as the Tainan model for nationwide implementation. It is hoped that individuals will persist in incorporating environmental preservation into their daily routines and proactively encourage their acquaintances to participate in the endeavor of establishing a sustainable and aesthetically pleasing urban environment with minimal carbon emissions, ultimately striving towards achieving a zero-carbon emission status by the year 2050.



△ Underwear Recycling Policy



△ Food Waste Fertilizer "Shanghao Fertilizer" Produced from Raw and Cooked Food Waste

#### Enhance the Recycling Percentage of Commercial Waste

The escalating generation of commercial waste in Taiwan and the gradual imposition of intake restrictions by incineration plants in different counties and cities have impeded the disposal of combustible commercial waste. Tainan City is actively engaged in the promotion of resource recycling and has also taken measures to enhance the utilization of combustible waste as a source of energy. Solid Renewable Fuel (SRF) is a type of fuel that is produced from combustible and non-hazardous materials, including wood, paper, plastic, and other types of wood fiber waste. The production process involves recycling these materials. This fuel possesses three significant benefits, namely, reduced environmental impact, cost-effectiveness, and high energy efficiency. It is suitable for application in high-efficiency boilers and combustion facilities, among others. In contrast to coal, the utilization of solid renewable fuels has been found to be more effective in attaining carbon reduction outcomes.

#### Waste Reduction from the Source

Tainan City has taken the lead in advocating for the collection of bags in industrial zones within the country. This initiative represents a pioneering effort in the nation to encourage the collection of bags containing household waste generated by employees in industrial zones. The program employs a market-based economic incentive mechanism to encourage businesses to reduce waste production at its source, thereby circumventing the escalation of waste removal costs. The program effectively promotes the reduction of waste and enhances the rate of resource recovery.

By 2022, bag collection and transportation of approximately 482,804 kg of general waste will be implemented in eight industrial zones, namely Tainan Science Park, Anping Industrial Zone, Jutouliiao Industrial Zone, Baoan Industrial Zone, Liuying Environmental Protection Park, Xinji Industrial Zone, Guantian Industrial Zone, and Shugoku Industrial Zone. The implementation of this measure would effectively mitigate the influx of resource waste into the incinerator, thereby prolonging the lifespan of the incinerator and diminishing the expenses associated with waste removal. This would result in a mutually beneficial outcome for the general public, the industrial sector, and the governing authorities.





SDG  
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13

## Climate Action

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

Tainan City is proactively enhancing the adaptability and resilience of its populace and urban infrastructure to minimize the adverse effects of disasters and expedite the post-disaster recovery process. This is aimed at mitigating the impact of climate change and natural disasters and reducing associated damages.

### 13.1 Adaptation and Mitigation Climate Change Adaptation Plan

The city has proposed a "resilient city" as its vision in the climate change adaptation plan, in response to the global trend of climate change. This proposal is based on the planning and decisions made by various bureaus, professional planning teams, and platform meetings. Additionally, information from domestic and international conferences on climate change adaptation plans and recommendations from experts and scholars have been taken into account. The city has formulated a climate change adaptation plan in accordance with the "National Climate Change Adaptation Policy Framework".

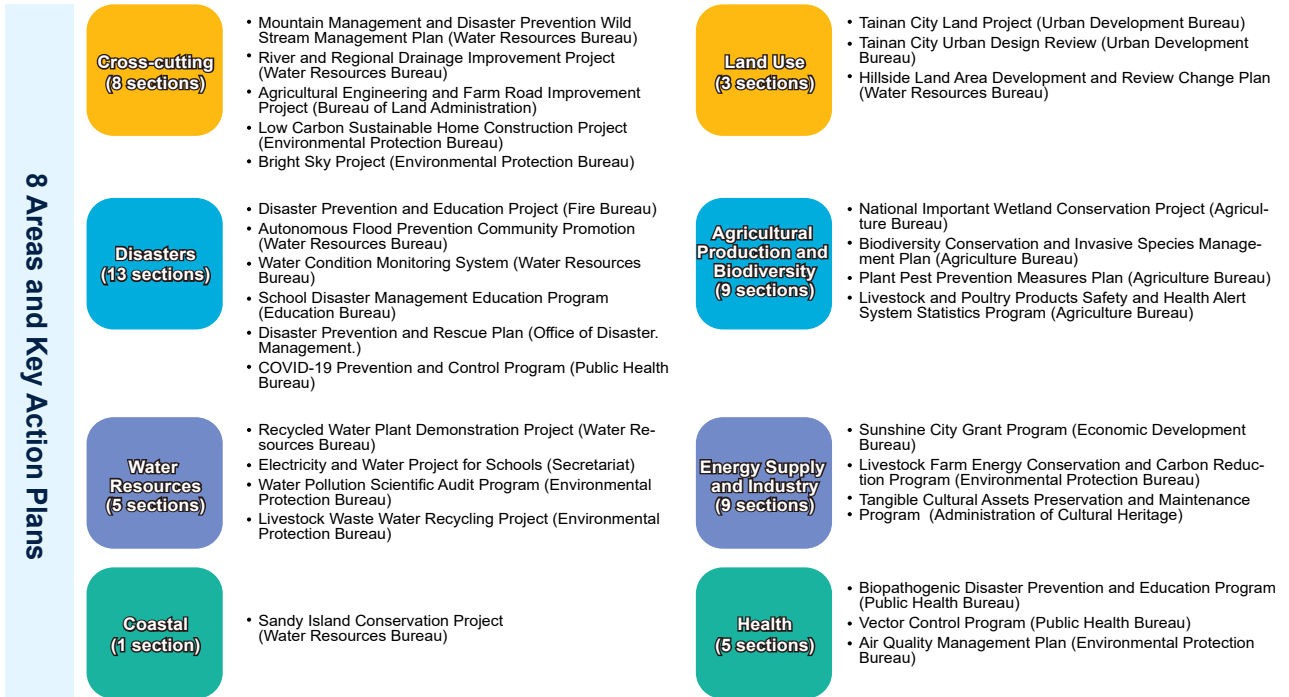
The initial iteration of the Climate Change Adaptation Plan was introduced by the City in 2015. This plan encompasses a total of 83 action plans that are categorized into eight primary areas of focus. These areas include disaster management, water resource management, coastal management, land use planning, agricultural production and biodiversity, energy supply and industry, health management, and cross-cutting areas. The implementation and oversight of these plans are the responsibility of various departments within the City. The year 2019 and 2020 witnessed a comprehensive evaluation of amendments, the implementation of UNDRR contingency management and urban vulnerability assessment tools, as well as the organization of consultation and integration working meetings in eight specific domains, resulting in the development of 53 adaptation action plans.

An inter-bureau meeting regarding climate change adaptation was convened on August 30, 2021. Fifteen bureaus and departments were extended invitations to explicate the comprehensive framework of the adaptation plan, the mechanism for managing and scrutinizing its progress, and the present state of its implementation. Furthermore, to incentivize the relevant units to effectively carry out the diverse projects, specific quantitative Key Performance Indicators (KPIs) have been developed for the years 2025 and 2030. These KPIs serve as a means to monitor the progress towards the attainment of the implementation objectives, ultimately contributing to the realization of the overarching goal of establishing a city that is both sustainable and resilient.



△ Meeting Procedures

## Implementation Plan for Tainan City's Climate Change Adaptation Action Plan



### 13.2 Strengthen Disaster Response

#### Increase the Rate of Drainage Improvement

To enhance the effectiveness of water management and achieve the objective of reducing flood losses, comprehensive flood control projects and stringent flood control measures are implemented to improve the city's regional drainage and flood control functions. The objective is to preserve the initial flood control purpose of the 163 designated district drains totalling 623 kilometers as well as small to medium-sized drains. This will be achieved through collaboration with the Water Resources Agency's subsidized infrastructure project, aimed at boosting the regional drainage control rate to over 40% by 2030. The intended outcome is to enhance local economic growth, provide effective protection of human lives and properties, and improve the overall quality of life.



△ Tainan's Largest Flood Storage Pond - Su Chu Flood Storage Pond



The municipality has allocated significant financial resources towards water management initiatives aimed at overseeing and regulating the county and municipal river systems, as well as enhancing regional drainage infrastructure. The approved budget for these endeavors amounts to \$8,456,176,000, which has been allocated towards a total of 97 projects. Of these projects, 69 have been successfully completed, 13 are currently under construction, and 15 are yet to be awarded. Following their completion, the projects have successfully mitigated the risk of flooding in areas of the city that are prone to such events. Additionally, they have enhanced the flooded region by approximately 12,000 hectares, thereby safeguarding the lives and assets of the populace.



△ View of the Pumping System of the flood storage pond in operation



△ The General Guangshan Flood Storage Pond, with the Appearance of a Giant Christmas Boot

## The Implementation of Disaster Prevention Awareness Measures

The escalation in both frequency and magnitude of disasters in recent years has been attributed to global climate change. Consequently, disaster prevention has become more crucial than disaster relief, and disaster evacuation has been deemed superior to disaster prevention. In this regard, "preventive evacuation" has emerged as a significant disaster prevention strategy for foreseeable disasters.

Furthermore, the urban area's capacity to prepare for and respond to disasters was reinforced via the establishment of LINE groups dedicated to disaster preparedness and response, the creation of disaster maps and routes, the provision of evacuation shelters and disaster prevention resources, and the execution of rainfall monitoring and disaster prevention patrols at soil and rock flow inspection sites. Furthermore, the municipality will organize community-based drills and hands-on activities aimed at acquainting residents with evacuation procedures and establishing a grassroots disaster prevention and relief framework that emphasizes disaster mitigation, alongside the enforcement of red and yellow alerts.



△ Community Drills for Landslide Disaster Prevention

The city has planned to conduct 9 evacuation and protection events in the year 2022, with a total of 46 activities scheduled to ensure the safety of its residents. The City has set a goal to conduct 90 evacuation and disaster prevention activities by the year 2030. This objective is intended to enhance the self-sufficient disaster prevention and mitigation mechanism and minimize the loss of life and property within the local communities.

Moreover, to facilitate the smooth execution of evacuation procedures and prevent any disruption to business operations resulting from changes in personnel responsibilities, routine training sessions are conducted to provide practical instruction on the operation of radio equipment. These sessions ensure that trainees are proficient in utilizing the various function keys, knob controls, and proper calling protocols, as well as in utilizing the "channel search" feature for switching between roaming and single-station connections. By doing so, civil affairs personnel stationed in different areas of the city can leverage the benefits of digital roaming and serve as a contingency for one another in the event of a disruption to formal communication channels such as local telephone or fax. This enables them to serve as a vital lifeline for disaster prevention and relief efforts.



△ Teaching the Operation of Wireless Electrical Equipment



## 13.3

### Environmental Sustainability

#### Education Promote Sustainable Campus

To create a conducive learning environment that is both progressive and promotes safety, sanitation, health, and humane practices, it is necessary to incorporate the community's common sense, establish a community-style, and expand eco-tourism. This will transform the campus environment into a public activity space with community characteristics. Additionally, the application of green technology on campus can be utilized to transform related industries in Taiwan, thereby increasing the benefits of green industry promotion.

The government is actively promoting the "Sustainable Recycling Campus Exploration and Demonstration Project" initiated by the Ministry of Education to facilitate the attainment of sustainable development objectives. The project aims to establish a high-quality outdoor educational environment beyond the confines of the classroom, enabling students to appreciate the aesthetic appeal of the campus while immersing themselves in local culture and creativity. This

initiative aligns with the 12-year basic national education concept, which emphasizes the development of appropriate talent, balanced five education, and lifelong learning. The objective of the project is to execute the notion of a 12-year fundamental national education program that encompasses a well-suited and proficient, equitable education and continuous learning. As of 2021, a total of 13 educational institutions have submitted their applications for the program. It is anticipated that educational institutions will be incentivized to participate in the program in the forthcoming years, with a minimum of three schools submitting applications annually. By 2025, the aggregate number of schools enrolled in the program is projected to reach 24, and by 2030, it is expected to increase to 39.

The Colorful façade of Yan Hsing Junior High School, Which Was Awarded the 2022 Landscape Award in the Campus Architecture Category





## Expanding the Network of Environmental Protection Volunteers

The topic of environmental protection is intricately linked to various aspects of human existence, including but not limited to environmental sanitation, urban aesthetics, resource reuse, atmospheric contamination, river preservation, and the phenomena of global warming and climate change. The subject matter of environmental protection has a profound impact on the daily lives of individuals. The promotion of volunteer services for environmental protection is expected to increase participation in environmental protection efforts, harnessing the potential of public welfare and altruism. This initiative also aims to enhance the capacity of community services by leveraging both private and public resources, and adopting a multi-faceted approach to environmental protection. The initiative is grounded in environmental education, with a focus on cultivating a deep-seated appreciation for the environment and rural areas. The ultimate goal is to promote environmental protection for all, with the vision of creating a sustainable and environmentally-friendly community, thereby

improving the quality of urban living and fostering a clean and eco-friendly home.

To enhance the environmental protection capacity of local communities and facilitate environmental education, it is recommended that local communities establish self-initiated environmental volunteer teams. This approach aims to promote environmental protection within the community. In the year 2022, the city witnessed the actions of 613 environmental volunteer teams, comprising a collective membership of 25,986 individuals. These teams actively engaged in environmental cleanup and maintenance activities, undertaking over 20,000 trips on a monthly basis. Furthermore, their efforts resulted in the sweeping of more than 20,000 kilometers of streets annually.

The government conducts annual environmental volunteer training sessions, comprising 11 sessions, with the aim of promoting environmental volunteer certification, augmenting volunteer participation, and enhancing their professional expertise in environmental conservation. In the



△ Environmental Volunteer Training



△ Mayor Puts Honorary Vest on 94-year-old Evergreen Volunteer, Ms. Chen Weng-zhu



year 2022, a comprehensive series of 18 sessions were conducted, resulting in the training of a total of 531 individuals. Additionally, concerted efforts were made to provide active guidance and counseling to volunteers, with the aim of facilitating their transition into cohesive volunteer teams. By the conclusion of the calendar year 2022, it is projected that there will exist a cumulative sum of 255 volunteer teams, comprising a total of 6,395 individuals who have willingly offered their services without remuneration. The aim is to augment the number of environmental volunteers to 6,600 by 2030 by means of amicable training, service awards, and acknowledgement of service narratives, with the aspiration of attracting more senior citizens to join the environmental volunteer cohort. The ultimate goal is to foster a sustainable environmental community and safeguard our habitats.

## 13.4 Greenhouse Gas Reduction

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

The "2050 Tainan Net Zero Roadmap" was made public by the Tainan City Government on June 1, 2022. This document outlines the objectives, schedule, and particulars of the Tainan Net Zero Roadmap. The primary sources of greenhouse gas emissions in Tainan City are industry/energy, transportation, and residential sectors, accounting for 60%, 16%, and 15% respectively. Over the course of the next three decades, there will be a concerted effort to undertake a series of initiatives aimed at reducing carbon emissions. These initiatives will focus on energy transformation, the promotion of low-carbon green transportation, the enhancement of residential and commercial energy efficiency, the adoption of circular economy principles, and the promotion of green living. It is anticipated that within a brief span of 5-10 years, there will be a reduction of 30% in greenhouse gas emissions by 2030 in comparison to the reference year of 2005. Furthermore, a reduction of 65% is expected by 2040, with the ultimate objective of achieving net zero emissions by 2050.

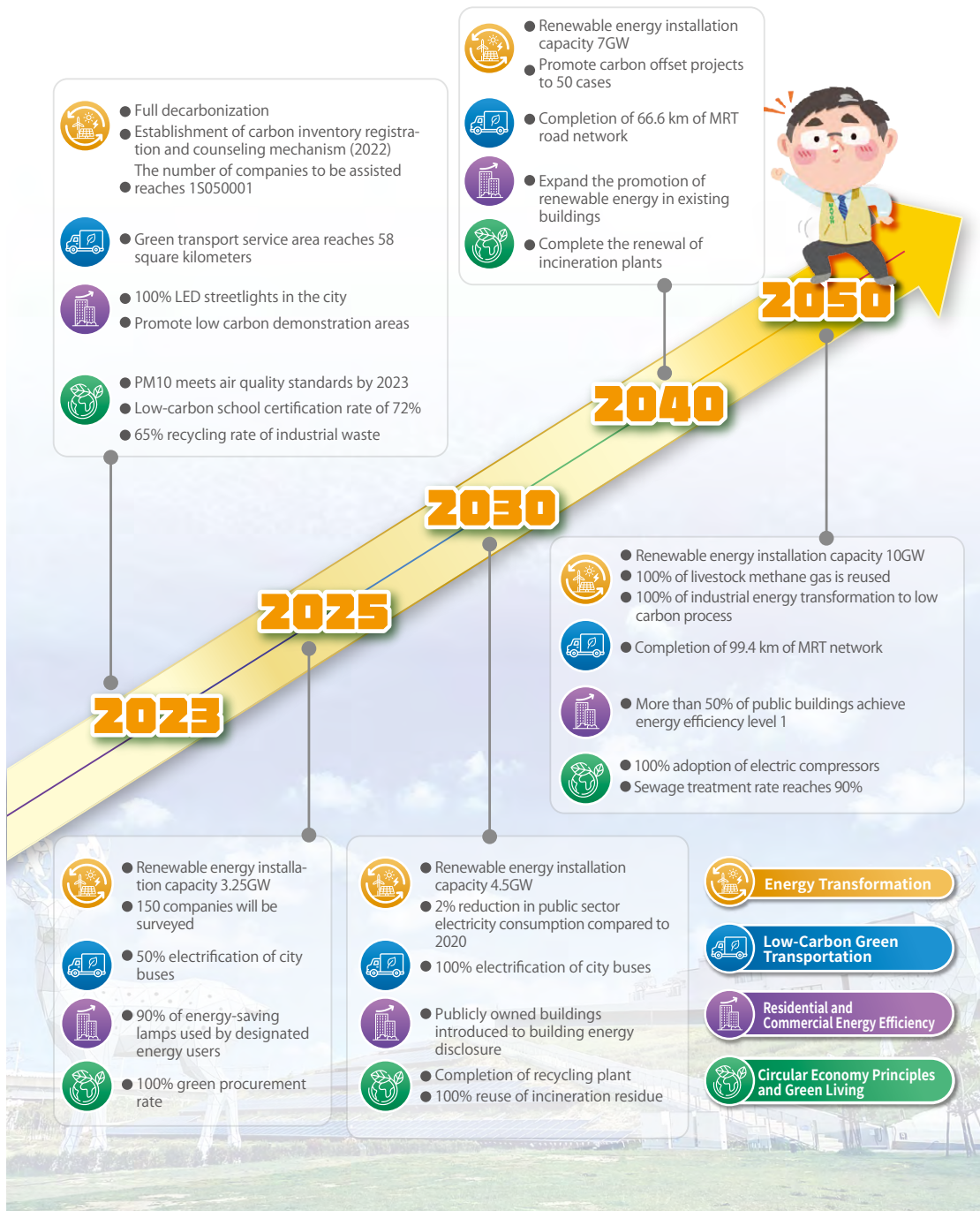


△ "2050 Taiwan Net Zero - Tainan in Motion" Press Conference

### Visible Carbon Reduction Effects

The metropolis has exhibited a downward trend in its greenhouse gas emissions since 2010, with an anticipated aggregate of 23.12 million tons of CO<sub>2</sub>e for the year 2021. The reduction of 3.75 million

tons of CO<sub>2</sub>e, as compared to the 2010 emissions of 26.87 million tons of CO<sub>2</sub>e, indicates the efficacy of the diverse reduction strategies implemented by the city.



△ Tainan 2050 Net Zero Roadmap





# SDG — 14

## Life Below Water

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

The city of Tainan places emphasis on the prevention of marine pollution and the implementation of sustainable management practices for marine and coastal environments. Apart from the customary yearly beach cleaning events, the municipality also organizes military chess exercises to prepare for contingencies arising from marine pollution. Furthermore, it persists in preserving wetlands, coastal beaches, and sandbars, with the aim of achieving equilibrium between economic progress and the ecological milieu.

### 14.1 Marine Ecology and Environment Education

#### Lectures on Wetland Ecology in Schools

Since 2018, our organization has consistently implemented environmental education programs with an emphasis on ecology in elementary and middle schools within the city. By the year 2022, a total of 394 lectures will have been conducted, with over 30,000 participants having been exposed to the intricacies of wetland ecology and the diverse range of species that inhabit these ecosystems. The lectures aim to foster an understanding of the concept of Life Below Water and promote the sustainable use of marine ecosystems.

#### Marine Environment Promotion Activities

Eleven campaigns pertaining to marine environmental education have been conducted as of the year 2022. Various channels, including but not limited to presentations, website interfaces, do-it-yourself handicrafts, and beach clean-up initiatives, can facilitate the public's comprehension of the phenomenon whereby improper waste disposal leads to marine debris as a result of ocean currents and sea conditions. The objective of the course is to impart knowledge to students on the practical application of marine environmental education in their routine activities.

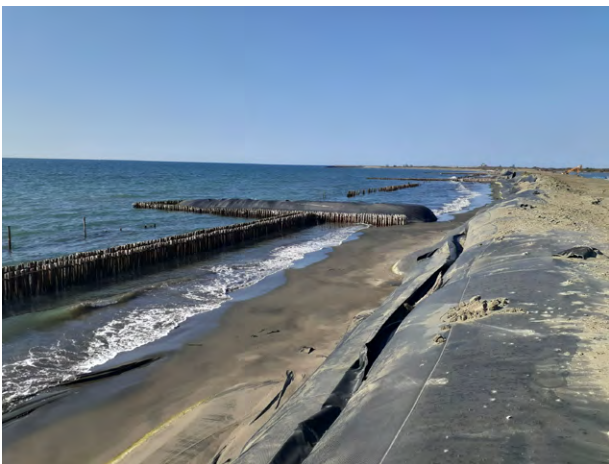


△ Student Participation



△ Submarine Operations to Salvage Marine Debris

Furthermore, Tainan City proactively engages in annual marine debris removal initiatives. In the year 2022, a total of 7 events were conducted, resulting in the successful removal of 723 pieces of waste weighing 260.62 kg. The three most substantial waste items, in terms of weight, were identified as 11 pieces of fishing nets (including oyster ropes) weighing 73.6 kg, 492 pieces of oyster bottles weighing 47.5 kg, and 43 pieces of glass bottles weighing 24.2 kg. The aspiration is that individuals will refrain from littering on beaches, thereby obviating the necessity for beach clean-up initiatives.



△ Bamboo Piles and Sandbags Replace Concrete to Reduce Carbon Emissions



△ Restoration of Bamboo Fences and Windbreaks

## Marine Pollution Prevention and Response

A marine pollution emergency response drill was conducted by the government on May 19, 2022, with the participation of 28 individuals. A group of 13 response unit members were selected to partake in a practical training session focused on the operation of oil pollution response equipment. The aim of this training was to improve the response units' capacity to manage marine pollution incidents.

### 14.2 Fishing Port Waste Disposal

The city has established "temporary marine waste disposal areas" at Anping, Jiangjun, Qingshan, Beimen, and Oyster Liao fishing harbors to facilitate the proper disposal of marine waste, including fishing nets, from vessels to shore, while an additional holding area (320m<sup>2</sup>) in Jiangjun Fishing Harbour was planned for 2022. This centralized temporary disposal and removal system aims to aid fishermen in their waste management efforts.

### 14.3 Beach and Sandbar Conservation Project

The city has planned to undertake three sandbar restoration projects in the year 2022, aimed at restoring 2 hectares of sandbars and dredging 30,000 cubic meters of lagoon earth. The primary objective of these projects is to address the issue of coastal erosion and lagoon terrestrialization in an effective manner. The construction procedure was implemented through the utilization of eco-friendly techniques, wherein bamboo piles and sausage bags were utilized as substitutes for concrete to minimize carbon emissions. Additionally, bamboo fences were installed to restore windbreaks, thereby achieving both disaster prevention and ecological sustainability.



## 14.4

### Wetland Conservation Plan

Wetlands serve a dual purpose of providing clean water and supporting the cultivation of various food types, thereby fostering a diverse and thriving ecosystem. Additionally, they play a crucial role in mitigating climate change and resisting natural disasters, making them indispensable. Tainan City provided subsidies for three projects, namely the Erren River Wetland Conservation Action Plan, the Tainan City Khun-sin Lake Ecological Resource Survey and Conservation Promotion Plan, and the Tainan City Shuangchun Eroded Coastal and Stratigraphic Subsidence Area Background Environmental Organisms and Ecological Conservation Action Plan. These projects encompassed activities such as ecological background surveys, on-site communication, and environmentally friendly publicity efforts. The implementation of wetland conservation measures is expected to result in an improvement of the ecological integrity and biodiversity of the wetlands. Additionally, the introduction of suitable

leisure and recreational activities is anticipated to provide the public with opportunities to experience and appreciate the natural wonders of the wetlands firsthand.



△ Wetland's Rich Ecological Diversity Provides a Good Place for Bird Watching



△ Tainan City's Kunshen Lake





△View of the Eren River Wetland (Photo: courtesy of Taiwan Wetland Protection Alliance)



## 14.5 Implementation of Oyster Shed Management

### Oyster Shed Recycling

To mitigate the potential environmental impact of oyster farming, Tainan City has proposed a plan to recycle 3,807.06 tons of oyster sheds in 2022. The recovered oyster sheds will undergo crushing and processing before being repurposed as fuel for boilers and organic fertilizer. Furthermore, agricultural reform farms are supplied with bamboo charcoal powder for the purpose of conducting soil improvement experiments aimed at enhancing the recycling process through various means.

### Research and Development of New Oyster Farming Facilities

The Tainan City Government is currently engaged in the proactive development of novel oyster farming facilities. In this regard, the government is advocating for the avoidance of the use of conventional materials such as bamboo and polystyrene



△ Recycle Oyster Shed Operations

floating gear during the trial phase. Additionally, the government is emphasizing the importance of incorporating features such as wave resistance, typhoon avoidance, and environmental protection in the design of these facilities. The ultimate goal of these efforts is to enable fishermen under the jurisdiction of the Tainan City Government to continue to apply for trials of new oyster huts or oyster farming facilities. Nineteen groups will be established for the purpose of oyster cultivation, with nine oyster huts being subsidized for trial prior to 2022 and an additional ten locations being made available by the Fishery Association in 2022.



△ EPP Foamable Polypropylene Floating Gear Sea Trial Experiment



SDG

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15

## Life on Land

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

The city of Tainan places emphasis on the preservation and responsible utilization of land-based ecosystems, sustainable forestry practices, the management of biodiversity, and the control of exotic species. These efforts are aimed at promoting the diversity of terrestrial ecology while simultaneously fostering economic growth.

### 15.1 Biodiversity Promotion Activities

The Tainan City Government is persistently advocating for the significance of ecological education and conservation. This initiative aims to encourage interested citizens to engage in educational and enjoyable activities while simultaneously contributing to environmental preservation. Throughout the year 2022, a series of eight events were organized to promote biodiversity education, including community tours and environmental education parent-child camps. These events attracted over 250 participants and aimed to increase public awareness of ecological conservation, while striving towards the goal of sustainable development of people, land, and ecology. Additionally, these events provided participants with a better understanding of local industries.

### 15.2 Flatland Afforestation Project

The City intends to persist in its efforts to encourage incentive reforestation and greening initiatives, with the objective of expanding the area of incentive reforestation by a minimum of 3 hectares annually and greening 5 communities to establish a multifaceted and high-quality living and recreational environment.



△ Ecological Environmental Education



### 15.3 Longqi Geopark

Longqi Geopark In order to protect the natural landscape ecology, topography and geomorphology of the original environment, the government announced on July 30, 2021 the designation of the "Longqi Badlands Nature Reserve" and the " Longqi Badlands Geopark", with an area of 149 hectares in the reserve and 132 hectares in the geopark. The Board of Agriculture, on September 14, 2021, reached a consensus to subject the designation to a review process.

The Tainan Geopark Association is set to be established on April 23, 2023, with the aim of fostering community involvement and promoting local development. This will mark the third geopark association in Taiwan. The association will organize guided tours for participants to gain firsthand experience of the historical ecological environment.

Moving forward, the municipality intends to persist in the formation of community-based organizations within the Longqi Niupu Geopark and Tainan City's nature reserve. Additionally, restorative measures



△ Mudstone Geology of Liuqi

will be implemented to enhance the condition of the geopark's roadways, improve the quality of its trails and facilities, and establish supplementary leisure amenities, as well as indicator systems, to augment local maintenance. These efforts are aimed at facilitating the Longqi Geopark's capacity to serve as both an educational and recreational resource.



△ Liuqi Geological Park



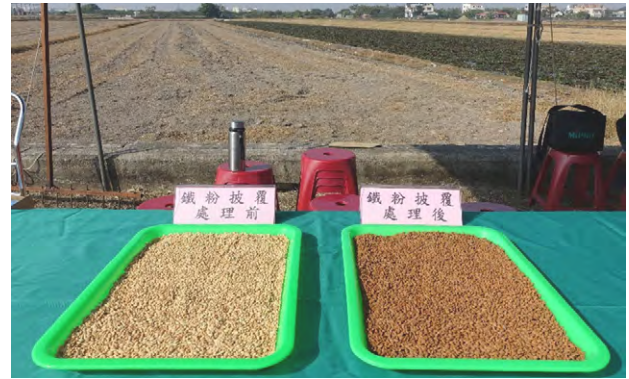
## 15.4 Biodiversity Conservation and Invasive Species Management Plan

Over two decades ago, the wetland ecosystem that served as the habitat for the water pheasant in Tainan City underwent a decline in its diamond horn production, leading to its disappearance. In an attempt to mitigate bird damage, farmers resorted to the use of pesticides such as Gabaofu and Tofuson, which inadvertently resulted in the poisoning of numerous water pheasants. Additionally, some of these birds were also found to have perished due to entanglement in bird nets. Following two decades of concerted endeavors, the population of pheasants in Tainan has surpassed 2,000, representing the most substantial figure nationwide.

The government is currently engaged in the active promotion of a 20-hectare demonstration area that showcases friendly farming practices. This area features the utilization of bird balls and iron powder-coated rice in hanging areas. By deterring avian predation of rice seeds, this measure also safeguards the well-being of waterfowl and other avian species residing in the same ecological niches.



△ Water Pheasant Dad Protecting His Eggs



△ Before and After Iron Powder Coating Treatment of Rice Seeds



△ Iron Powder Coating of Rice Seeds





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**

Tainan City aims to establish a credible and widely accepted system that promotes a peaceful and pluralistic society by means of opening up government information and encouraging citizen participation in public policy.

### 16.1 Enhancing the Effectiveness of Emergency Aid

In order to provide prompt aid to financially vulnerable individuals and families affected by emergencies, the city intends to enhance its localized mutual aid notification system, proactively identify those in distress, and offer rapid assessment and payment to alleviate emergency situations. Additionally, the city aims to connect economically vulnerable families with professional assessment and case management mechanisms of social workers to improve their abilities and access resources, ultimately promoting self-sufficiency.

The City introduced the Strengthening the Social Safety Net - Emergency Relief Implementation Program in 2022, previously referred to as the Horses Care Emergency Relief Implementation Program. The program aimed to provide financial assistance to 350 households who were experiencing hardship due to an emergency situation. The total subsidy allocated for this purpose amounted to \$4,572,158, with the primary objective of supporting families in need. Our efforts will persist in advancing the execution of the initial two aid mechanisms.

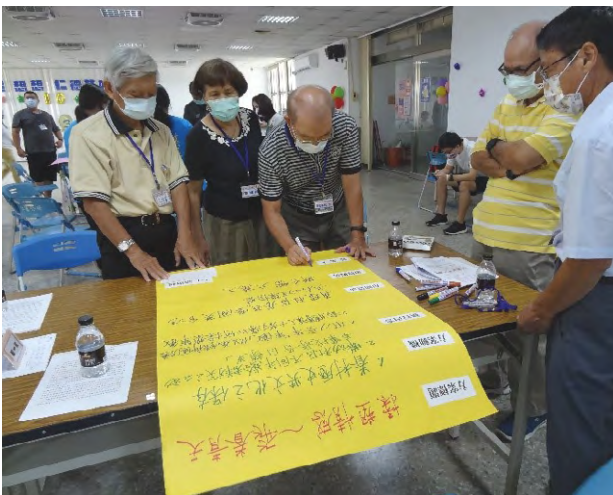


△ The Social Affairs Bureau Provides Relief Counseling Services

## 16.2 Implement Citizen Participation

### Promoting Cultural Governance through Citizen Deliberation

The civic deliberation process in Tainan City is facilitated by a team of professional counselors from the Ministry of Culture, as well as the Cultural Affairs Bureau's deliberation and social construction counseling team, and various public offices. This process involves disseminating information through multiple channels, including public presentations, the city's LINE broadcast system, news media reports, and distribution of literature. Additionally, public participation is encouraged through coordinated efforts with related activities, such as the 2020 Rendezvous Street Parade and the 2021 Night Market. The year 2022 will witness the implementation of the participatory budgeting program by three district offices in Rendezvous, Central and Western, and Anping. The program will be tailored to local conditions, with varying discussion topics and modes of operation. More than 3,000 people participated in these events.



△ Rende District Resident Assembly

### Deepening the Government's Strategic Thinking

By means of facilitating citizen participation activities, we have enhanced the efficacy of citizen engagement and instituted a mechanism for interdepartmental collaboration to foster municipal exchanges and augment the government's strategic acumen. In the context of urban bus route planning for the Greater Tainan Bus, a citizen learning workshop was conducted in collaboration with Tainan Community University to cater to the transportation requirements of citizens residing in newly rezoned areas and new community developments. To gather feedback on Tainan's transportation system, suggestions were solicited from the public through citizen transportation workshops, the Department of Transportation's FB fan page, and other communication channels. The outcome will be a transportation environment that is characterized by enhanced user-friendliness and convenience.



△ Public Workshop on Urban Bus Network Design - Citizen Learning Workshop



### Government Information Disclosure

As of the end of December 2022, the platform currently hosts 1,761 open data sets and 16,620 data items, with a total of 7.56 million visitors. Notably, the platform has maintained a 100% compliance rate with the 3-star open data standard, indicating that the data can be edited without the need for specialized software. The platform received recognition from the Government Open Data Award in 2021, specifically the "Gold Award for Open Data - 3rd Place for Local Government in Group 1," for its exemplary performance in open data. There are currently 201 open datasets with a rating of 4 stars, as well as a single example of open data cross-linking that has received a rating of 5 stars. The platform achieved a perfect score of 100% for the open data gold medal and garnered 250.7 points. Moving forward, the platform aims to continue its efforts in opening up data on matters that are pertinent to the public's well-being, thereby contributing to the advancement of the local data economy.

### Governance for the Youth

The year 2022 witnessed the organization of 30 events and gatherings aimed at fostering good governance among the youth. These events will encompass a range of activities such as working group meetings, municipal visits, workshops, youth exchange and sharing sessions, and consensus seminars, all tailored to the needs of youth members. By means of meetings, exchanges, and discussions, young members will acquire the ability to comprehend each other's ideas and engage in interactive exchanges with city government offices. This will serve as a point of reference for future policy promotion.



△ Tainan City Government Information Open Platform Website



△ Let's Talk "Demystify! How to deal with social anxiety?" Youth Deliberation Activities



## 16.3 Community Renewable

In response to the "Green Roofs for All" program, the "Amendment to the Renewable Energy Development Ordinance", and the "Promoting the Installation of Green Power Generation Equipment Demonstration Grants in Remote Areas by Private Organizations" initiated by the central government, the Tainan City Government is actively promoting energy conservation and renewable energy development to revitalize the green energy industry, enhance energy efficiency, mitigate greenhouse gas emissions, foster universal participation, and establish a comprehensive decentralized power generation system. The Tainan City Government is committed to achieving the goal of low-carbon and sustainable homes through the aforementioned measures.

The objective of advocating for citizen power plants is to facilitate the engagement of citizens in the process of renewable energy development and enable them to partake in the benefits thereof. The achievement of decentralized energy, promotion of energy transformation, and encouragement of renewable energy development can be facilitated by citizen participation in renewable energy power generation. This approach can also contribute to the attainment of energy self-sufficiency, autonomy, and the principle of "local power generation and local electricity consumption".



△ Green Roofing in Tainan City's Annan District





SDG

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17

## Partnerships for the Goals

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

As a constituent of the worldwide populace, Tainan is unable to remain passive, nor can it engage in solitary combat. Hence, apart from fostering tangible collaboration among local administrative divisions, Tainan city proactively reinforces the potential of public-private partnership and engages with the global society to efficiently confront the adversities posed by the phenomenon of climate change.

### 17.1

## Low Carbon Adaptation and Sustainable Development Committee

### Fully Empowered to Promote Cross-Bureau Cooperation

Tainan City has pledged to cultivate a contented, robust, and industrious populace as a means of competently addressing and managing the consequences of climate change. The Tainan Low-Carbon City Self-Governance Ordinance was formulated in June 2011 with the aim of creating a city that is low in carbon emissions, while also promoting the well-being of its inhabitants and ensuring that it is compatible with international standards. The ordinance was subsequently approved by the Tainan City Council on its third reading, and later by the Executive Yuan on December 22, 2012, through Decree No. 10202184760A. Tainan City has recently implemented the low-carbon city as its governance standard, making it the first municipality under the jurisdiction of Tainan City to do so. Additionally, the city has established the Low-Carbon Adaptation and Sustainable Development Committee in accordance with Article 3, Item 2 of the Tainan Low-Carbon City Self-Governance Ordinance. The committee's primary objective is to promote and execute relevant low-carbon tasks. Currently, the Tainan City Low Carbon Adaptation and Sustainable Development Committee conducts biannual meetings.

The Tainan City Low Carbon Adaptation and Sustainable Development Committee convenes biannually to assess the progress of low carbon strategies and the execution of low carbon adaptation and sustainable development initiatives in a continuous manner. On May 25, 2022, the inaugural session of the "2022 Tainan City Low Carbon Adaptation and Sustainable Development Committee" was convened to devise a strategy for advancing the second phase of the implementation plan for greenhouse gas regulation. On December 12, 2022, the second meeting of the Low Carbon Adaptation and Sustainable Development Committee was held to deliberate on the draft of the "Tainan City Net-Zero Sustainable City Management Self-Governance Ordinance". This ordinance is built upon the foundation of the existing "Tainan City Low Carbon City Autonomy Ordinance". The Self-Governance Ordinance encompasses six fundamental components, namely the reduction of carbon emissions, the acceleration of green energy promotion, the optimization of electricity-saving facilities, the development of green transportation, the enhancement of adaptability, and the promotion of sustainable living through recycling.

## The 6 cores of the Net Zero Sustainable City Self-Governance Ordinance

Covering urban governance policy and sustainable development planning - integrated into 6 core items for promotion



△ The Six Cores of Tainan City's Clean and Sustainable City Management Ordinance

### 17.2 Public-Private Partnership Proposal

#### Participatory Budgeting: The People Take Charge

The community is urged to engage in deliberations aimed at integrating low-carbon sustainable homes and climate change adaptation strategies. The objective is to foster communal efforts towards planning for climate change adaptation solutions in the face of potential extreme climate risks. The discussions will also focus on identifying adaptation models that enhance social connections among residents and promote the local economic culture. It is recommended that communities put forward proposals for local action plans aimed at achieving the city's objectives of low-carbon sustainability and flood prevention through measures such as greening, cooling, insulation, ventilation, flood prevention, and drought relief.



△ Proposal Workshop in Dazhi Vil., East District



As a consequence of the COVID-19 pandemic, the Visioning Workshop and Proposal Workshop will be administered by professionals and facilitators who will travel to communities seeking to undergo community transformation in a single day. During this time, they will offer instruction on the course and implementation of proposals. This marks the first occasion in 2021 that such workshops will be conducted in this manner. The proposal workshop will entail a comprehensive discussion and presentation of targeted solutions to the identified problems.



△ Interview with the Climate Disadvantaged

### Conversations with the Susceptible Communities

The purpose of the interviews was to gain insight

into the adaptation status and specific requirements of the underprivileged members of the community in the face of climate change. This was done with the aim of upholding the fundamental principles of participatory budgeting and social equity for this group. A total of 42 individuals were subjected to an interview process. The study found that disaster areas were the primary concern among respondents in relation to the eight areas of climate change adaptation. This was followed by water resources, health, agricultural production, and biodiversity. These results suggest that these areas are of significant importance to individuals and have a more immediate impact on their lives.

## 17.3 Examining Tainan through a Global Lens

### ICLEI World Congress 2021-2022

Tainan City partook in the ICLEI World Congress 2021-2022 virtual conference, took place from May 11 to May 13, 2022. The conference centered on five key themes, namely urban climate neutral strategies and technologies, resilient community building with nature, strategies for creating just and compatible communities, climate finance, and sustainable urban development. The conference aimed to examine fundamental concerns and remedies pertaining to the establishment of sustainable urban areas.

### 2022 ICELI Bold Cities

Participated in the virtual conference of the International Conference on Environmental and Landscape Issues (ICELI) Bold Cities, scheduled from October 3 to October 7, 2022, with the theme "The current challenge: Taking on the climate emergency." The present challenge of addressing the climate emergency has been significantly influenced by the widespread effects of the COVID-19 pandemic, which has resulted in substantial alterations to various aspects of society across the world. These changes have had a profound impact on the short-, medium-, and long-term strategies for mitigating climate change. Metropolitan areas globally are required to reallocate their resources towards sustainable development in order to guarantee the prompt safeguarding of individuals' fundamental means of subsistence.

## UNFCCC COP27

Tainan City was in attendance at the 27th United Nations Climate Change Conference (UNFCCC COP27) held in Sharm El Sheikh, Egypt, from November 6 to November 18, 2022. During the event, Tainan City showcased six notable accomplishments in waste recycling at the Thutmose Pavilion located within the COP premises. These achievements included the transformation of food waste into organic fertilizer, repurposing of incinerated residue, recycling of waste furniture, utilization of thermal energy from incinerators, repurposing of waste branches, and landfill management. The Thutmose Pavilion served as the venue for a gathering aimed at discussing the most recent policy trend pertaining to climate change. The event was intended to disseminate information regarding Tainan's endeavors in carbon reduction and adaptation to a global audience.



△ Group Photo with St. Christopher and Nevis Guests and Experts



△ The booth showcases the image of Tainan City and the promotion results of sustainable development



# 05 **Future Prospects**

SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY LOCAL







The year 2021 marked the inauguration of the initial iteration of the Voluntary Review Report by Tainan City, which centered on ten prioritized objectives. The report was subsequently submitted to the international platform for public dissemination, as part of a collaborative endeavor to advance worldwide sustainable development.

The Tainan City Voluntary Review Report for the current year provides additional evidence of the city's attainment of 17 sustainable development objectives. This aligns with the diverse indicators of Taiwan's sustainable development goals, thereby guaranteeing the integration of sustainable development principles across all policy domains. Tainan City has expressed its commitment to consistently updating and submitting the voluntary review report in the future. By means of yearly improvements and modifications, Tainan City will concomitantly incorporate economic, social, and environmental policy measures, instigate novel modes of cognition and action, and adapt the city's tactics and undertakings, thereby enabling Tainan City to persist in advancing, fulfilling its responsibilities as a worldwide member, and gradually progressing towards the objective of sustainable development and a habitable metropolis.





▽ ModelT Electric Bus







CAL REVIEW





LINAN CITY X SUSTAINABLE DEVELOPMENT GOALS VOLUNTARY

LOCAL REVIEW

# Appendix







## SDG 01

Eliminate all forms of poverty everywhere

INDICATORS	2020	2021	2022	2030	UNIT
Community Day Work Facilities for the Physically and Mentally Handicapped (number of visits) *Annual value	Provided services to 543 people, benefited 92,003 people	537 people served, 86,753 beneficiaries	491 people served, 74,957 beneficiaries	Provided services to 600 people, benefited 91,000 people	Social Affairs Bureau
Calculation formula: Calculated according to the actual services provided					
Reinforcement of student dropout prevention and control programs and rehabilitation measures (%) *Annual value	The total repetition rate was 89.31%. Total dropout rate 44.03%	Total Repetition Rate 96.48% Total dropout rate 42.96%	In the calculation	Total Repeat Rate 95% Total dropout rate of 40%	Education Bureau
Calculation formula: total return to school rate = number of people who dropped out of school and returned to school during the statistical period + number of people who dropped out of school before the statistical period and returned to school during the statistical period) / (number of dropouts during the statistical period + dropped out of school during the non-statistical period and the initial period of the statistical period number of dropouts))					
Low-income and lower-middle-income households and welfare-to-work support measures (person-times) *Annual value	492	707	A total of 107 referrals were made, benefiting 64 people	A total of 300 referrals and 200 beneficiaries	Social Affairs Bureau
Calculation formula: Calculated according to the actual services provided					
Window Service for Vocational Rehabilitation of the Physically and Mentally Handicapped (Case) *Annual value	550	500	510	500	Labor Affairs Bureau
Calculation formula: Calculated according to the actual service provided					
Upgrade the energy efficiency of home appliances for vulnerable households *Annual value	-	-	21 households, estimated to save about 40,000 kWh of electricity	According to the approved plan	Social Affairs Bureau
Calculation formula: Calculated according to the actual service provided					
Net Zero Social Housing Demonstration Area (number of households) *Cumulative value	4,229	6,480	7,000	10,000	Urban Development Bureau
Calculation formula: Actual promotion of social housing and medium- and long-term goals					
Subsidies for the construction and renovation of housing for economically disadvantaged Indigenous People (number of households) *Annual value	13 households approved for residential subsidies for building and purchasing 3 households were approved for the renovation and purchase of housing subsidies	Approved 7 households for building and purchasing residential subsidies 5 households were approved for the renovation and purchase of housing subsidies	Approved 10 households to build and purchase residential subsidies 1 household was approved for the renovation and purchase of a home	Continuous Application Policy	Indigenous People Affairs Commission
Calculation formula: Statistics on the actual number of applications received from the public and the number of approved cases					
Textbook Grants for Children and Teenagers (\$10,000) *Annual value	7,787,141	9.8 million \$795	2,534,000\$5,743	Annual application	Education Bureau
Calculation formula: Total amount of subsidy applied for the first and second semesters					
Promote the care program (attendance) *Annual value	275	278	300	Continuous Application Policy	Environmental Protection Bureau
Calculation formula: Number of enrolled and audited individual households					



## SDG 02

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

INDICATORS	2020	2021	2022	2030	Unit
Promote Tainan's quality agricultural fresh products and processed agricultural products (pieces) *cumulative value	Farm produce 15 pieces of fresh products Processed agricultural products 4 pieces	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	200 pieces of fresh farm products 350 pieces of processed agricultural products	Agriculture Bureau
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 (yuan) *Annual value	9,992,000 \$9,684	\$9,452,000 \$5,013	\$115,055,393	100 million	Education Bureau
Calculation formula: Total amount of subsidy applied for the first and second semesters					
Food and beverage hygiene certification assessment (home) *Annual value	276	Considering the impact of the epidemic, the suspension of the assessment of good food and beverage hygiene certification	302	To be processed in accordance with the annual plan and enrollment status	Public Health Bureau
Calculation formula: Based on annual assessment results					
Sound public caring storage (Division) *cumulative value	4 Food Bank physical locations 12 Social Welfare Service Center Disbursement Points	10 Food Bank physical locations 12 Social Welfare Service Center Disbursement Points	15 Food Bank physical locations 15 physical substation distribution points	To cooperate with the city's 37 administrative districts to complete the distribution	Social Affairs Bureau
Calculation formula: Calculated according to the actual services provided					
Set up the food cherishing platform (Division) *cumulative value	15	16	19	Staged evaluation settings	Social Affairs Bureau
Calculation formula: Calculated according to the actual services provided					
Promote the new farmer plan, conduct courses and mentor new farmers (sessions, people) *cumulative value	Up to 20 shows 1,562 people	Up to 35 shows 1,700 people	Up to 45 shows 1,983 people	Up to 200 shows 4,000 people	Agriculture Bureau
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	School 71 710,000	Count 60 schools 625,000 Yuan	Count 62 schools NT\$627,800	Annual application	Education Bureau
Calculation formula:					
Food waste reduction *Annual value	661,473.2kg	536,609.8kg	273,142.48kg	5%	Education Bureau
Calculation formula:					





## SDG 03

Ensure health and promote well-being for all ages

INDICATORS	2020	2021	2022	2030	Unit
Number of confirmed dengue fever cases (number of visits) *Annual value	7	2	6	<100	Public Health Bureau
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	51.06	55	53.53	65	Public Health Bureau
Calculation formula: Number of seeds received/number of seeds to be received × 100%					
Complete vaccination rate for young children (%) *Annual value	94.7	96	92.1	95	Public Health Bureau
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					



## SDG 04

Ensure inclusive and equitable quality education, and promote lifelong learning

INDICATORS	2020	2021	2022	2030	Unit
Number of Residents as Volunteers *Cumulative value	52,036	56,905	66,720	55,000	Social Affairs Bureau
Calculation formula: Total report data					
Pre-school children's facility volume supply rate (%) *Annual value	93.3	109.56	119.75	99.5	Education Bureau
Formula: Total approved enrollment/number of children aged 2-5 in the city					
Citywide participation rate in lifelong learning (%) *Annual value	11.84	9.66	9.17	13	Education Bureau
Formula: Surveyed from the City's adult learning pipeline					
Percentage of students placed in schools with special education resources or related special education services (%) *Annual value	96.9	99.5	100	99	Education Bureau
Calculation formula: Total approved enrollment / citywide 2-5 year olds					
School accessibility funding satisfaction rate (%) *Annual value	91.49	92.04	98.73	99	Education Bureau
Calculation formula: Approved amount / School application amount					
25 environmental education facility sites by 2030 *Cumulative value	14	17	19	25	Environmental Protection Bureau
Calculation formula: Calculation based on public information on the EPA website					
Obtained a low-carbon campus certification mark *Cumulative value	288	317	317	280	Education Bureau
Calculation formula: According to the list of schools that have passed the mark					



## SDG 05

### Realize gender equality and empower women

INDICATORS	2020	2021	2022	2030	Unit
Completed the gender map of Tainan City *Annual value	7 major areas 136 Medium 1,524 indicators	6 major categories 138 in 1,528 indicators	6 major categories 138 in 1,528 indicators	Annual Rolling Review	Department of Budget, Accounting and Statistics

Calculation formula: Release of various public information

Five Hearts High Performance Job Search *Annual value	Chi Mei Hospital, Chi Mei Medical Corporation	Shugoku Branch, Chunghwa Optoelectronics Co.			
	Taiwan Tobacco and Liquor Corporation Shanhua Brewery	Brine Plant of Huaxin Lihua Co.	Cathay Hotel Tourist Business - Hoyi Hotel - Tainan West Gate Pavilion		
	Tainan Chenggong Branch, Far Eastern Department Store Co.	United Asia Optoelectronics Industrial Co. taiyan industrial co.	Kuan Tian Auto & Electric Plant, Taiwan Auto & Electric Co.	Annual application	Labor Affairs Bureau
	Guotai Health Management Consulting Co. Global Steel Technology Co.	Presbyterian Church (Taiwan) Hsin Lau Medical Foundation, Madaou Hsin Lau Hospital			

Calculation formula: According to the annual selection results statistics

Gender-friendly public toilet (seat) *Cumulative value	19	24	48	EPA grant funding until 2024, no subsequent grant funding	Environmental Protection Bureau
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Calculation formula: Statistics from the Green Life Network, Environmental Protection Administration, Executive Yuan

The project of "Sunny Day Creative Dream Workshop", assisting with virtual and physical exhibition and sale activities (sessions, \$10,000) *Annual value	284 sessions Sales of \$8,361,766	173 sessions Sales of \$6,522,036	200 sessions Sales of \$5.5 million	216 sessions Sales of \$5.94 million	Labor Affairs Bureau
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Calculation formula: 1% increase in number of shows and turnover per year





## SDG 06

Ensure availability and sustainable management of water and sanitation for all

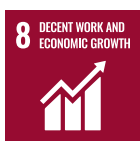
INDICATORS	2020	2021	2022	2030	
<b>Sewage treatment rate (%)</b> *Annual value	51.68	58.57	62.07	65	Water Resources Bureau
Calculation formula: Total number of sewerage households x the number of households/total population					
<b>Number of public sewerage connections and penetration rate (number of households, %)</b> *Cumulative value	156,785 households 22.24%	172,715 households 24.3%	188,000 households 26.28%	30%	Water Resources Bureau
Calculation formula: Number of households connected to public sewers × number of households/total population					
<b>Water consumption per capita (liters/person)</b> *Annual value	279	269	280	250	Economic Development Bureau
Calculation formula: Domestic water consumption (cubic meters)/number of water supplied in a year					
<b>Recycled water (tpd)</b> *Annual value	0	0	8,000	50,000	Water Resources Bureau
Calculation formula: Daily recycled water supply from Anping Water Resource Center and Yongkang Water Resource Center for the current year (million tons/day)					
<b>Number of Water Environment Protection Volunteer Teams</b> *Cumulative value	42	41	41	45	Environmental Protection Bureau
Calculation formula: Machinery statistics					
<b>Severely polluted river segments (%)</b> *Annual value	Rushwater Creek 15.7 Saltwater Creek 5.7 Erren Creek 24.1	Rushwater Creek 10.1 Saltwater Creek 13.8 Erren Creek 33.7	Rushwater Creek 13.8 Saltwater Creek 10.7 Erin Creek 28.0	Rushwater Creek 0 Saltwater Creek 0 Erinxi0	Environmental Protection Bureau
Calculation formula: Water quality monitoring data					



## SDG 07

Ensure affordable, reliable, sustainable and modern energy for all

INDICATORS	2020	2021	2022	2030	Unit
Solar power system installed capacity (million kilowatts) *Cumulative value	2.103	2.598	3.827	4.5	Economic Development Bureau
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) *Cumulative value	63	105	107	100	Economic Development Bureau
Formula: Number of Sunshine Community Grants					
Incineration thermal power generation annual capacity (GWh) *Cumulative value	248,199.6	250,593.3	271,308	250,000	Environmental Protection Bureau
Calculation formula: Comparison of meter data with Taipower					
Annual electricity generation capacity of the landfill (million kWh/year) *Cumulative value	1,900	2,100	2,100	2,100	Environmental Protection Bureau
Calculation formula: Data analysis					
Reuse of biogas from assisted livestock farms (%) *Annual value	24	24.4	26.9	40	Agriculture Bureau
Calculation formula: Cumulative per year					



## SDG 08

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

INDICATORS	2020	2021	2022	2030	Unit
High-temperature heat hazard prevention promotion for business units (sessions) *Cumulative value	111	122	71	240	Labor Affairs Bureau
Calculation formula: Number of counseling pieces					
Outdoor high-temperature heat hazard prevention inspection volume (sessions) *Cumulative value	185	194	198	220	Occupational Safety and Health Department (OSHD), Labor Affairs Bureau of Tainan City Government
Calculation formula: Accumulated from information management system statistics					
Number of local SBIRs approved and total project amount (number of cases, billion) *Cumulative value	780 cases 1,576.87 million	828 case 1,698.82 million	875 cases 1,817.88 million	1,200 cases 2.5 billion	Economic Development Bureau
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) *Cumulative value	Currently, the annual production value of the Liuzhou Science and Technology, Shugoku, Xinji and Yongkang Science and Technology Industrial Zones has increased by 230.9 billion yuan.	Groundbreaking ceremony for the Seven Units Technology Industrial Park on November 15, 2021 Green Energy Industrial Park Launch Report	Construction of hypothetical works, soil extraction works and land preparation works in the Seven Units Technology Industrial Zone Green Energy Industrial Park application process is underway	Green energy and seven-unit development plan to increase annual production value by \$50.5 billion	Economic Development Bureau
Calculation formula: Developed by the city itself					



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

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

INDICATORS	2020	2021	2022	2030	Unit
Promote the installation of solar photovoltaic systems (megawatts) for customers with electricity contract capacity of 800 kilowatts or more *Cumulative value	140	145	151	160	Economic Development Bureau
Calculation formula:					
SME credit guarantee loan, approved underwriting amount (yuan) *Cumulative value	8,495,000	8,925,000	9,835,000	150 million	Economic Development Bureau
Calculation formula: Credit insurance funds provide statements					

10 REDUCED  
INEQUALITIES**SDG 10**

Reduce income inequality within and among countries

INDICATORS	2020	2021	2022	2030	Unit
Medical tour service in remote areas (mileage, number of visits, attendance) *Annual value	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	Public Health Bureau
Calculation formula:					
Inter-school interaction between Min, Hakka and Yuan *Annual value	109/6/17-19: Mountain and Sea Learning, 5 schools participated	2021/4/21-23: Mountain and Sea Learning, 5 schools to participate	No plan	According to the approved plan	Education Bureau
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	239 sessions 4,272 attendees	138 sessions 2,452 attendees	91 sessions 2,161 attendees	Annual application	Education Bureau
Calculation formula:					
Organize performance venues and school venues to promote diversified arts and culture and cultural equality (number of performances, attendance) *Annual value	33 sessions 25,953 visits	30 sessions 19,592 visits	29 sessions 25,027 visits	Annual application	Culture Bureau
Calculation formula: Calculated according to the annual processing situation					
Subsidize Silaya groups to organize night festivals, language promotion, cultural festivals and related activities to recreate the beauty of Silaya (number of events, number of people, million dollars) *Annual value	12 sessions 4,134 visits Total grant funding of \$960,000	12 sessions 4,134 visits Total grant funding of \$960,000	15 sessions 10,250 visits 1.13 million in total grant funding	Continuous Application Policy	Indigenous People Affairs Commission
Calculation formula: Statistics on the number of applications received and approved by civil organizations					
Provide Indigenous People with mic development, new loan approvals and total amount (pieces, million dollars) *Annual value	38 pieces 13.54 million	47 pieces 2,064,000	28 pieces 5.95 million	Continuous Application Policy	Indigenous People Affairs Commission
Calculation formula: Statistics on the number of applications received and approved by civil organizations					



## SDG 11

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

INDICATORS	2020	2021	2022	2030	Unit
Increase in park area (hectares) *Cumulative value	798.693	817.114	Fill in the form	794.512	Bureau of Public Works
Calculation formula: Cumulative park area					
Number of trees planted per 100,000 people in that year (trees) *Cumulative value	21,458	29,640	Fill in the form	20,943	Bureau of Public Works
Calculation formula: (Bureau of Public Works, Agriculture Bureau cumulative planting planting quantity for the year)/City population*100000					
Enhance the capacity of public transportation in the city *Annual value	Decline of 12.1%	38.4% decline	38% decline	Growth 25%	Bureau of Transportation
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	21	32	36	28	Bureau of Transportation
Calculation formula: City's sightseeing bus transportation capacity					
Self-driving bus experiment project *Annual value	The Ministry of Economic Affairs has not yet approved the carriage of passengers	10 test rides with 877 passengers	Closed on 2022.4.6	According to the approved plan	Bureau of Transportation
Calculation formula: Number of passengers					
Public Bike Tbike Usage (million trips) *Cumulative value	307	353	406	703	Bureau of Transportation
Calculation formula: The amount of public bicycle usage in the city					
Shared green transport service area (km <sup>2</sup> ) *Cumulative value	55	58	58	65	Bureau of Transportation
Calculation formula: Shared green transport service area					
Area of new afforestation (hectares) *Cumulative value	2	4	6	10	Agriculture Bureau
Calculation formula: Cumulative per year					
Full electrification of buses (%) *Annual value	4.49	11.74	14	100	Bureau of Transportation
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	84	83	90	82	Environmental Protection Bureau
Calculation formula: Good air quality rate + normal day rate					
Reduction rate of the number of sites with soil and groundwater contamination (%) *Annual value	8	14	22	50	Environmental Protection Bureau
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	43	73	93	293	Urban Development Bureau
Calculation formula: Total number of community transformation sites in the city					





## SDG 12

### Ensure sustainable consumption and production patterns

INDICATORS	2020	2021	2022	2030	Unit
Environmental and ecological concept enhancement, space beautification social creation points (Division) *Cumulative value	36	53	72	160	Culture Bureau
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) *Cumulative value	2,625	6,727	8,127	15,000	Culture Bureau
Calculation formula: Based on historical statistics and promotion of target evaluation					
Promotion of organic (friendly) agriculture (hectares) *Cumulative value	690	721	835	1,000	Agriculture Bureau
Calculation formula: Cumulative per year					
Green procurement rate of designated projects by government agencies (%) *Cumulative value	100	100	100	100	Environmental Protection Bureau
Calculation formula: According to the annual assessment method of the Environmental Protection Administration, Executive Yuan					
City's general waste recovery rate (%) *Annual value	62.22	65.73	62.14	61	Environmental Protection Bureau
Calculation formula: (resource recovery + food waste recovery + huge waste recovery and reuse + other items recovery and reuse)/general waste generation					
Business waste recycling rate (%) *Annual value	67.28	70.68	75.9	70	Environmental Protection Bureau
Calculation formula: Amount of reusable business waste coupons / Total amount of business waste coupons × 100%					



## SDG 13

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

INDICATORS	2020	2021	2022	2030	Unit
Set climate scenarios, improve climate risk assessment mechanisms, implement adaptation plans, and build a resilient city *Annual value	Completed the revision of Tainan City Climate Change Adaptation Plan (2020 revised version)	Continuously compile the results of the implementation of the Adaptation Action Plan	Continuously compile the results of the implementation of the Adaptation Action Plan	Set climate scenarios, improve climate risk assessment mechanisms, implement adaptation plans, and build a resilient city	Environmental Protection Bureau
Calculation formula: Based on the actual implementation of the business method of each bureau and office assessment					
District drainage whole treatment rate (%) *Annual value	24	40	57.57	75	Water Resources Bureau
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	28	37	46	90	Water Resources Bureau
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	Up to 208 sessions 35,517 visits	Up to 209 sessions 35,597 visits	Up to 210 sessions 35,677 visits	Up to 218 sessions 36,500 visits	Bureau of Civil Affairs
Calculation formula: at least 1 application per year					
Promoting Sustainable Campus Program (School) *Cumulative value	8	13	16	39	Education Bureau
Calculation formula: Calculated according to the number of passes					
Total number of environmental volunteers (person-times) *Cumulative value	5,696	5,960	6,395	6,600	Environmental Protection Bureau
Calculation formula: Annual EPB volunteer insurance plus the number of insured					
Greenhouse gas reduction (%) *Annual value	Increment 15.08%	18.5% increase	Under investigation	30% reduction	Environmental Protection Bureau
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) $\times 100\%$					





## SDG 14

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

INDICATORS	2020	2021	2022	2030	Unit
National primary and secondary school lectures on wetland ecology and environment education in schools (number of sessions, attendance) *Annual value	33 sessions 2,406 visits	10 sessions 1,200 people	30 sessions 3,000 people	50 sessions 3,000 people	Agriculture Bureau
Calculation formula: Calculated according to the annual processing situation					
Marine environmental education and awareness activities and practical training on marine pollution response (Sessions) *Annual value	9	12	12	26	Environmental Protection Bureau
Calculation formula: Calculated according to the annual processing situation					
Total amount of waste handled at fishing ports (metric tons) *Annual value	Completed the installation of temporary areas for marine waste in Anping and Tseung Kwan O fishing ports	57.8	174.2	75	Agriculture Bureau
Calculation formula: Calculated according to the actual weighing situation					
Area of sandbar rehabilitation in coastal areas (hectares) *Annual value	3	3	2	3	Water Resources Bureau
Calculation formula:					
Wetlands of National Importance Conservation Plan (Case) *Annual value	1	3	3	Continuous application for central subsidy program	Agriculture Bureau
Calculation formula: Calculated according to the annual processing situation					
Bamboo oyster shed recycling and cleaning (tonnage) *Annual value	1,547.33	3,070.07	3,780.06	Incentives to subsidize fishermen to use new oyster huts to reduce the recycling of bamboo oyster huts	Agriculture Bureau
Calculation formula: Based on the actual recovery and subsidy quantity					



## SDG 15

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

INDICATORS	2020	2021	2022	2030	Unit
Organized biodiversity conservation education campaigns, community tours, and environmental education parent-child camps (number of sessions, attendance) *Annual value	4 sessions 510 people	6 sessions 300 people	6 sessions 200 people	Annual application	Agriculture Bureau
Calculation formula: Calculated according to the annual processing situation					
Continuous reforestation of flatlands (hectares) *Cumulative value	174.77	174.77	145.78	180	Agriculture Bureau
Calculation formula:					
Planning and optimization of Ryuzaki Geopark *Annual value	Completed "Geological Survey of Ryuzaki Industrial Area" 1 type	On July 30, 2021, the government announced 149.0206 hectares of the Longqi Badlands Nature Reserve and 132.0258 hectares of the Longqi Badlands Geopark on July 30, 2021.	On June 23, 2022, the bid for the "Tainan City Longqi Badlands Geopark and Natural Reserve Management Plan" was awarded to National Taiwan University.	To upgrade the quality of trails and facilities within the geopark, and to install related leisure facilities, signage system and enhance in-situ maintenance.	Agriculture Bureau
Calculation formula: Calculated according to the annual processing situation					
Biodiversity Conservation and Invasive Species Management Program, Friendly Application Area (hectares) *Annual value	20	30	30	50	Agriculture Bureau
Calculation formula: Calculated according to the annual processing situation					





## 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	2020	2021	2022	2030	Unit
Integrating the city's emergency relief and central emergency relief resources *Annual value	(1) Emergency relief: 3,064 people were provided with a total of NT\$19,376,401. (2) Emergency relief: 514 families were provided with a total of NT\$7,350,335 in relief due to an emergency.	(1) Emergency relief: 2,443 people were provided with a total of NT\$15,912,934. (2) Emergency relief: 466 families were provided with a total of NT\$5,313,520 in relief due to an emergency.	(1) Emergency relief: 2,126 people were provided with a total of NT\$13,699,404. (2) Emergency relief: 350 families were provided with a total of NT\$4,572,158 in relief due to an emergency.	According to the actual regulations	Social Affairs Bureau
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	9	17	26	100	Culture Bureau
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	Organized a series of workshops at the Harborfront Historical Park's special playground and a civic forum on opening decisions at the South Hill Cemetery	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	Fill in the form	We strive to open up government information, deepen the benefits of citizen participation, and establish a cross-bureaux cooperation mechanism to promote municipal exchanges.	Research and Development Evaluation Committee
Calculation formula: Statistics at the end of each year					
Tainan City Hall Open Platform *Annual value	1,126 datasets 4,995 data items	1,596 data sets 7,176 data items	1,761 data sets 16,620 data items	We strive to open up government information, deepen the benefits of citizen participation, and establish a cross-bureaux cooperation mechanism to promote municipal exchanges.	Research and Development Evaluation Committee
Calculation formula: Statistics at the end of each year					
Youth for Good Government Conference Series (Sessions) *Annual value	7	25	30	We strive to open up government information, deepen the benefits of citizen participation, and establish a cross-bureaux cooperation mechanism to promote municipal exchanges.	Research and Development Evaluation Committee
Calculation formula: Statistics at the end of each year					
Citizens Power Plant promotes the installation of Sunshine Community (Division) *Annual value	63	105	107	100	Economic Development Bureau
Formula: Number of Sunshine Community Grants					

17 PARTNERSHIPS FOR THE GOALS



## SDG 17

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

INDICATORS	2020	2021	2022	2030	Unit
Establishing a fully empowered and dedicated agency to facilitate substantive cross-bureau cooperation *Annual value	One meeting of the Low Carbon Adaptation and Sustainability Committee was held on September 11, 2020.	1 meeting of the Low Carbon Adaptation and 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.	Establishing a fully empowered and dedicated agency to facilitate substantive cross-bureau cooperation	Environmental Protection Bureau
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	<p>1. 2 Community Climate Adaptation Visioning Workshops on September 14-15, 2020</p> <p>2. 2 community climate adaptation proposal workshops will be held on 21-22, 2010, and 7 proposals will be completed.</p>	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.	Continuously track the maintenance status of the subsidized proposal units	Strengthen public-private partnerships to promote sustainable public sector projects through the power of the private sector	Environmental Protection Bureau
Calculation formula: Meeting minutes, application documents, project reports					
Strengthen the city's participation in the international cooperation pipeline and establish an open cooperation platform *Annual value	<p>1. On September 10th, 2020, the signing ceremony of the Memorandum of Understanding between European Business Association in Taiwan, National Cheng Kung University and Shalun Smart Industry Innovation Alliance and Low Carbon City Seminar was held.</p> <p>2. From September 7th to October 28th, 2010, we participated in the 2020 ICELI Bold Cities Online Conference.</p> <p>3. On September 29th, 2010, the 2020 International Climate Finance and Industry Conference was held in Incheon, Korea.</p> <p>4. Completed the 2020 CDP online conference and received an A grade on 16, 2011.</p>	<p>1. March 15, 2021, participated in the ICLEI and Taoyuan City's "ICLEI Eco-Logistics 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 Wai-chul 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>	Strengthen the city's participation in the international cooperation pipeline and establish an open cooperation platform	Environmental Protection Bureau
Calculation formula: International official websites, press releases, conference proceedings					



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