

# Low-Carbon Tainan Health City- Innovative Achievements



## Introduction

Build Tainan into a low carbon and livable city with local characteristics to effectively mitigate the influence of climate change. When Tainan City worked hard to be selected by Environment Protection Agency (EPA) as low carbon demonstration city in 2011, it committed to draw up Self-Government Ordinance for a Low-Carbon City based on Article 25 & 25 of Local Government Systems Act, drafted on June, 2011, passed the review by City Council's three readings on June 6, 2012, approved by Executive Yuan on Dec.17 and promulgated to be effective on Dec.22.

## Promotion Strategy and Innovative Act

- |  |  |
|--|--|
| <p><b>First in Taiwan</b></p> <ul style="list-style-type: none"> <li>A. Stipulate Self-Government Ordinance for a Low-Carbon City</li> <li>B. Establish Low Carbon Promotion Commission</li> <li>C. Draw up specific indicator for low carbon</li> <li>D. The first carbon neutral and zero-carbon campus</li> </ul> | <p><b>Initiate in Taiwan</b></p> <ul style="list-style-type: none"> <li>A. Low carbon education practice</li> <li>B. Flood control or rainwater storage facilities should be set up for land development and buildings.</li> </ul> |
|--|--|

### The first time to launch in Taiwan

Contractual capacity for large electricity users up to 800 KW and more should set up more than 10% of solar P-V system.

## Methods

### Cross-sector cooperation mechanism

Low carbon city promotion management

Key part of the overall promotion for low carbon strategy in Tainan City in accordance with eight major aspects extending to the development of top ten low carbon cities has the division of labor among 14 related agencies in Tainan City Government to put the goal and management of low carbon city into practice.

<b>Environmental Protection Bureau</b> Environmental education Material cycle Low carbon business	<b>Economic Development Bureau</b> Promote energy saving Low carbon technology Renewal energy	<b>Transportation Bureau</b> Low carbon transportation development & management business	<b>Agriculture Bureau</b> Food mileage Tree planting Wetland protection	<b>Civil Affairs Bureau</b> Temple/old-custom Low carbon activity Propaganda & promotion
<b>Public Works Bureau</b> Civil maintenance Park street lamp Green building	<b>Water Resources Bureau</b> Water resources and civil maintenance Waterway engineering	<b>Tourism and Travel Bureau</b> Low carbon tourism Travel business	<b>Culture Affairs Bureau</b> Historic site facilities Cultural park Art and literature activities	<b>Local Tax Bureau</b> Low carbon Tax relief
<b>Urban Development Bureau</b> Sustainable development Low carbon area Urban plan	<b>Land Administration Bureau</b> Zone expropriation Urban land readjustment Rural readjustment	<b>Education Bureau</b> Environmental education Low carbon campus	<b>Public Health Bureau</b> Low carbon diet promotion	

### Key part of the overall promotion for low carbon strategy in Tainan City

**Low carbon environmental education practice**

Establish Tainan City Environmental Education Review Meeting to set division of labor for each department/office.

**Certification and rating of sustainable low carbon homeland**

Mobilize village, township and local government to accumulate specific effect of energy conservation and carbon reduction from bottom to top by means of certification and rating contests. Tainan city had certification of 6 Silver prize and 17 Shortlisted in administrative districts from 2016 to 2017. And city's administrative villages had certification of 6 Silver prize, 38 Bronze prize and 145 Shortlisted from 2016 to 2017.

### Public participation mechanism and degree of involvement

**Citizen conference on climate change adaptation**

Urban and rural meeting is held by open government with open decision-making to understand the public's intentions and thoughts about climate change.

**Public participation in the amendment of Self-Government Ordinance**

Set up "Tainan Low Carbon City" to allow the public for more understanding and participation in the amendment and review of Self-Government Ordinance for a Low-Carbon City.

- Low carbon environmental education practice**
- A. "CSR Action Alliance" connects in series 27 enterprises and 39 schools, including 12 NPO and 98 volunteers.
  - B. "Yenshui River Happy Platform" organizes 5 NGO, 5 communities, 3 universities, 2 government agencies and 3 elementary schools to build this happy platform.
  - C. "Environmental education promotion": There're more than 20,000 environmental protection volunteers in the city, in which about 70 volunteers were recruited for environmental education in the third term and 1082 sessions of low carbon environmental education propaganda activity organized from 2013-2018, with people in charge of the propaganda up to 420,000 person-time.

### Low carbon environmental education practice



「CSR Happy Alliance」 「Yenshui River Happy Platform」 「Environmental education promotion」

## Results Presentation

### Solar Powered City

In Tainan there has abundant sunlight more than any other cities or counties in Taiwan. Thus, we used extra spaces such as rooftops and underused land to develop solar power system.

We have been encouraging five major applications of rooftop types, including solar panel installations on public buildings, on household rooftops, in communities as well as factories and large agricultural canopies. In the case of land surface type, there are four major applications such as solar panels which are installed in salt production areas, on unproductive farmland, and even in landfills. We also make use of reservoirs and ponds by installing floating panels on top of them.

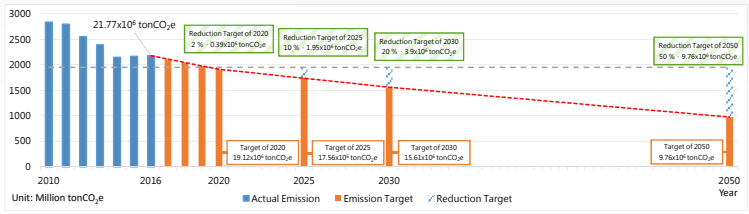
During the past eight years, we have approved a total of 4,650 applications with an installed capacity of over 445MW, generating nearly 576 million KWH of electricity annually. It represents 3 hundred thousand tons of carbon reduction, equal to the CO2 absorption of 937 Tainan Parks. Our mid-term target is to achieve 1GW of installed capacity from solar energy by 2021, so that we can fulfill the target of 20% electricity from renewables by 2025.



Cheng-si Stabilization Plant Jiang-juun Landfill Site Ma-dou Landfill Site

### Emissions and carbon reduction benefits

The GHG emission of Tainan city was 21.77 million tones CO<sub>2</sub>e in 2016. And it reduced 6.61 million tones CO<sub>2</sub>e by 2010 which was 28.38 million tones CO<sub>2</sub>e.



### Emissions and Targets of Tainan from 2010 to 2050

#### National first carbon neutral and zero-carbon campus

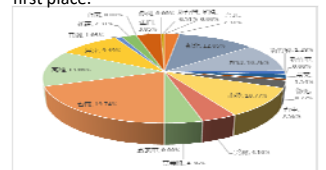
Yuan An Elementary, Houbi District, Tainan City School was certified to pass the completion of carbon neutral by third party in 2015.



National first carbon neutral and zero-carbon campus

#### Product carbon label

There're a total of 390 effective product carbon labels in Taiwan up to end of July, 2018, in which Tainan City's 77 labels account for 19.7% of the country in the first place.



Effective product carbon labels in Taiwan

### Greenhouse gases inventory completed from 2001-2016

Inventory results were also certified by third party to be the first city that obtains international certification of greenhouse gases inventory, and will be continuously updated to review reduction effect.

## Conclusion

Tainan City stipulated Self-Government Ordinance for a Low-Carbon City for the legislation, allowing low carbon environmental education to blossom everywhere. Referred to Taiwan's Greenhouse Gas Reduction and Management Act in the future, Tainan City Self-Government Ordinance for a Low-Carbon City will be amended to be more complete and to achieve the goal of low carbon city.