



## CDP Cities 2016 Information Request Pingtung County Government

### Module: Introduction

#### Page: Introduction

**0.1**  
Please give a general description and introduction to your city including your city's boundary in the text box below.

Administrative boundary	Description of city
County	Pingtung County is located in the most southern part of Taiwan. In the past, there are not many major transportation, economic and other public works extending to Pingtung. Therefore Pingtung County's industrial and commercial development is obviously more slowly. Most people concentrate at the west part of the flat Pingtung Plain which area is focused on agricultural and fishery development. Comparing to the west, the east part of the Pingtung plain where covered by hills and mountains is the southern part of the Central Mountain Range. North Da-Wu Mountain is the highest in Pungtung county. The altitude is over 3,000 meters. The southern mountainous terrain plunge and extends to the Hengchun Peninsula. The whole Pingtung County is located at south of the Tropic of Cancer. Except the alpine areas, Pingtung County is tropical monsoon climate, the temperature is stable for year.

**0.2**  
Emissions Accounting Choice

Reporting emissions is optional for all cities. By checking the boxes below you are indicating that you have fuel and/or greenhouse gas (GHG) emissions data to report at this time.

Select 'Government' to report emissions from your local government operations (sometimes referred to as 'corporate' or 'municipal' emissions).

Select 'Community' to report emissions from the entire city area over which the city government can exercise a degree of influence through the policies and regulations they implement (sometimes referred to as 'geographic' or 'city-wide' emissions).

Select both boxes to report fuel and/or emissions for both inventories.

IF YOU HAVE NO FUEL AND/OR GREENHOUSE GAS EMISSIONS TO REPORT DO NOT CHECK EITHER BOX.

Government  
Community

### Module: Governance

#### Page: City Details

**0.3**  
Please provide information about your city's Mayor in the table below.

Leader title	Leader name	Current term start	Current term end	Total time in office (years)
Magistrate	Pan, Men-an	2014	2018	4

**0.4**  
Please provide details of your city's annual operating budget.

Annual operating budget	Currency	Budget year start	Budget year end
919018405	USD US Dollar	Thu 01 Jan 2015	Thu 31 Dec 2015

**0.5**  
Please provide details of your city's current and projected population.

Current population	Current population year	Projected population	Projected population year
840931	2016	763865	2050

**0.6**

Please provide details of your city's GDP.

GDP	Currency	Year of GDP	Source

**0.7**

Please provide further details about the geography of your city.

Average annual temperature (in Celsius)	Land area (in square km)	Average altitude (m)	Longitude (e.g. -120.9762)	Latitude (e.g. 41.25)
25	2775	750	120.29	22.39

## Page: Governance

**1.0**

Please describe the impact of national and/or regional climate change activities on your city's own climate change activities.

1. EPA proposed Low-Carbon Sustainable Homeland Project with six dimensions of low-carbon sustainable action in 2012. Pingtung County Government establishes working group to match the six dimensions.
2. Adaptation: Two cities were chosen by National Development Council of Central Government to promote the city-level climate change adaptation demonstrative project in 2012. Pingtung is the one of demonstrative cities. There is no follow-up project and the related policy is promoted by every department.

**1.1**

Does your city incorporate desired sustainability goals and targets (e.g. GHG reductions) into the master planning for the city?

Response	Description
Yes	Promotion of Low-Carbon City-Town Construction White-Book was proposed in 2012, and reduction and adaptation of promotion direction and project were drafted in this white-book. Pingtung County proposed the reduction goal of GHG emission in 2015. Therefore, the city GHG reduction projects and action plan have been promoted before the reduction goal was proposed. Pingtung County have planned the goal and vision of adaptation in 2012 as following three terms: Short-term : From the prospective of the disaster prevention, the existing plan should be reviewed and discussed to amend those faults. By doing so, it can be easily adopted when facing the Climate change in the near future. Mid-term: The adaptation strategies focus on environmental sensitive areas to discuss how to protect, redevelopment and reuse. The adaptation strategies are not only pursuit the balance between the artificial space and geographical environment but also face social economical issues. The project should be upgraded to central government and review present National Landuse Plan, Coastal Zone Management Act. Long term: Pingtung County climate change adaptation plan is not only promotion of local adaption plan but also precursor of central adaption strategy amendment. The new concept "cohabitation with water" is for Pingtung County even whole nation to pursuit the sustainable development among people, nature and water resource. No matter for short term, midterm or long term, it is an important factor to ask the pubic to join this plan. Climate change should be long term overseen, adjusted and executed so that the government can provide a comprehensive plan.

**1.2**

Please describe how your city collaborates with businesses in your city on sustainability issues or projects?

N/A

## Module: Risks & Adaptation

### Page: Climate Hazards

**2.0**

Has a climate change risk or vulnerability assessment been undertaken for your local government area?

Yes

**2.0a**

Please attach and provide details on your climate change risk or vulnerability assessment.

Publication title	Year of publication	Attach the document	Boundary of assessment	Primary author of assessment	Web link
2012 Pingtung County Climate Change Adaptation Plan	2012	<a href="https://www.cdp.net/sites/2016/47/57347/CDP%20Cities%202016/Shared%20Documents/Attachments/Cities-2.0a-C3-AttachtheDocument/Attach%20a.docx">https://www.cdp.net/sites/2016/47/57347/CDP Cities 2016/Shared Documents/Attachments/Cities-2.0a-C3-AttachtheDocument/Attach a.docx</a>	County		

**2.0b**

Please select the primary process or methodology used to undertake the risk or vulnerability assessment of your city.

Primary methodology	Description
Other:	1. Use the study, data, and statistical model outcome of Taiwan central and regional institution: A study of adaptation capacity of coastal disaster due to climate change in order to strengthen southwest area of Taiwan was done by NCKU Research and Development Foundation (2010). <input type="checkbox"/> The slope land disaster risk map making and application. National Science and Technology Center for Disaster Reduction (2010). 2. Other domestic research.

**2.1**

Do the current and/or anticipated effects of climate change present a significant risk to your city?

Yes

**2.1a**

Please list the most significant climate hazards currently faced by your city and indicate the probability and consequence of these hazards.

Climate hazards	Probability of hazard	Consequence of hazard
Flash/surface flood	Don't know	Don't know
Coastal flood	Don't know	Don't know

**2.1c**

Please identify how you expect climate change to affect the frequency and intensity of the hazards faced by your city and when you expect to experience those changes.

Climate hazards	Change in frequency	Change in intensity	Anticipated timescale
Flash/surface flood	Don't know	Don't know	Current
Coastal flood	Don't know	Don't know	Current

**Page: Climate Hazards II****2.1d**

Please describe the magnitude of the impact of these hazards and identify three critical assets or services that may be most impacted.

Climate hazards	Magnitude of impact	Impact description	Asset or service	Asset or service	Asset or service
Flash/surface flood	Extremely serious	The typhoon has brought more and more rainfall since 2009. Many places were flooded, the agriculture product was damaged and high river tides due to the instant downpours in Hengchun Peninsula. Extreme precipitation has cause the severe damage in Pingtung and the local residence's lives and property safety are threatened.	Food and agriculture	Emergency services	Water
Coastal flood	Serious	Pumping the groundwater has been a way of life for Pingtung County residences, so the problem of ground subsidence becomes worse and worse. The place where lower than sea level would be flooded when typhoon comes. So far, Pingtung County Government plans to build an artificial lake and	Residential	Health and community	Food and agriculture

	wetland on the up and middle stream of Linbian River. To the littoral residences, how to use subsidence land is the root cause of facing flood.			
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## 2.2

**Do you consider that the effects of climate change could threaten the ability of businesses to operate successfully in your city?**

Response	Explanation
Yes	1.The business equipment and commercial activity was damaged because of the flood. The damage of agriculture product increase the risk of logistic and food supply. The turbidity of reservoir increase due to the huge amount sediment and water supply was ceased. The commercial activity is also suspended due to the water supply problem. 2.There is a serious problem of subsidence in Pingtung coastal area and increase the incidence rate and intensity. In order to ease the subsidence, the aquaculture and coastal agriculture cultivation should be controlled or even cannot cultivation.

## Page: Adaptation

## 3.0

**Please describe the process by which the city reviews its progress and manages overall responsibility for climate change adaptation.**

- In 2012, two cities was chosen by National Development Council of Central Government to promote city-level climate change adaptation demonstrative plan and Pingtung County is the one of the chosen city.
- Department of Urban and Rural Development of Pingtung County Government cooperates with central government to integrate every department to promote the project.
- Magistrate convenes the related unit, experts, and consultant team to establish a team during the project execution. Magistrate convenes the meeting regularly to decide the promotion direction, outline, strategies, and action plan.
- Pingtung County Climate Change Adaptation Report was completed in the end of 2012. The project was executed only for a year. There isn't any follow-up project to continue but every department still promote the related policy.
- In the first year(2012) of project execution, there are two major administrative problems and address as below:
  1. Deficiency autonomy of each section. There are on enough staffs to execute the project. The project always binds with one department even though the project is cross-department. When Department of Urban and Rural Development was considered in charge of Pingtung County Climate Change Adaptation Plan, every department only focus on their own business. Any about the work of other department were not understudied by the different department.
  2. Deficiency of holistic thinking- There are a lot of urgent disaster problems for Pingtung County Government. It is hard to internalize the holistic concept of Climate Change Adaptation. The demonstrative project is only a year and many operational problems not well handle.

## 3.1

**Has the Mayor or local government committed to adapting to climate change across the geographical area of the city, town or settlement?**

No

## 3.2

**Does your local government have a plan that addresses climate change adaptation?**

Yes

## 3.2a

**Please provide more information on your plan that addresses climate change adaptation and attach the document.**

Publication title	Year of publication	Attach the document	Scope of plan	Area under your city's control	Primary author of plan
2012 Pingtung County Climate Change Adaptation Plan	2012	<a href="https://www.cdp.net/sites/2016/47/57347/CDP%20Cities%202016/Shared%20Documents/Attachments/Cities-3.2a-C3-Attachment/Attach%20a.docx">https://www.cdp.net/sites/2016/47/57347/CDP Cities 2016/Shared Documents/Attachments/Cities-3.2a-C3-Attachment/Attach a.docx</a>	Other:	Administrative boundary of city governance	Consultant

**3.3**

The Compact of Mayors requires cities to complete [these additional questions](#) on the climate hazards affecting your city and your city's plans to adapt to these hazards. Other cities wishing to disclose further detail about their adaptation efforts are also encouraged to fill out the download.

**3.4**

Please describe the actions you are taking to reduce the risk to, or vulnerability of, your city's infrastructure, citizens, and businesses from climate change as identified on the previous page.

Climate hazards	Action	Action description
Flash/surface flood	Flood mapping	Special Act for Flood Management is conducted by central government Water Resource Agency, Ministry of Economic Affairs in Pingtung County. Pingtung city, Zhutian township, Xinyuan township, Kanding township, Donggang town, Linbian township, Jiadong township, Hengchun town are delimited as water-prone area in Pingtung County. The delimited area is a reference for adaptation project when promoting the way of land use.
Coastal flood	Flood defences – development and operation & storage	Central government Ministry of Economic Affairs proposed “Acceleration Implement of Subsidence Area Drainage Environment Improvement Demonstrative Project”. Water conservancy facilities and higher dikes are constructed in Pingtung County subsidence area. The Sea Water Supply and Management System was constructed in this project, too.

**Page: Social Risks****4.0**

Does your city face any social risks as a result of climate change?

Yes

**4.0a**

Please complete the table

Social risks	Anticipated timescale in years	Impact description
Increased incidence and prevalence of disease	Current	Not only the risk of Insect Borne Diseases and infectious disease has increased but also landscape of dengue fever has expanded northerly and occurred early
Increased demand for public services (including health)	Current	Climate change led to the increase of chronically ill and more medical resources and public services.

**Module: Opportunities****Page: Opportunities****5.0**

Does climate change present any economic opportunities for your city?

Yes

**5.0a**

Please indicate the opportunities and describe how the city is positioning itself to take advantage of them.

Economic opportunity	Describe how the city is maximizing this opportunity
	Pingtung County has the great nature condition to develop the renewable energy. Pingtung County green industry is driven to develop by green energy using promotion actively. The renewable energy innovation application project, proposed by Pingtung County, was awarded Smart Cities Challenge by IBM and this is also the only one chosen city in Taiwan. The outcome were stated as below: 1. Popularize the renewable energy using. Development the wind and solar power generation. (1) Photovoltaic Farming to Reserve Water: Coastal area where were damaged by Morakot promote Photovoltaic Farming to Reserve Water Project. Until 31st Oct. 2012, 23.6289MW were installed by five companies. (2) Assist governmental agency and

Development of new business industries (e.g. clean tech)	private sector to install solar power generation equipment: Idle land was developed and used to combine the agriculture and Photovoltaics. 67MW was installed in private sector and 13.8MW was installed in public sector. The annual estimation power generation will be 106 million kwh. (3) Install the different scale wind power generation equipment: 2MW wind power generator was installed by Tai Power in Hengchun and the wind power generator companies were invited to look for more suitable site to install the wind power generator. In the future, 20 large and 100 small wind power generators will be expected to install. (4) Wasted land reborn. Plan energy crops: Pingtung County Government cooperates with Tsing-Hua Foundation for Web Culture and Education to plan energy corps in wasted landfill. The plan area is 12 hectares. Four hectares have crops with Ricinus and this is the first test area of biodiesel energy corps in Taiwan
Development of new business industries (e.g. clean tech)	Swine industry is the one of major farming industry in Pingtung County. In order to solve the problem of excreta pollution, the government has begun to assist the swine industry to decompose and remove the pollutant and establish the equipment of anaerobic digestion to generate the biogas to keep the river clean since 2013. The biogas power generating equipment is established to reduce the carbon emission. There are 1.2 million pigs in Pingtung. All the excreta can produce 350,000 cubic meter biogas to generate 530 thousand kwh electricity per day( 200 million kwh electricity per year).
Development of new business industries (e.g. clean tech)	Introduce the green business investment of domestic and foreign; develop the green industry park and the green industry settlement; promote the transformation of traditional industry to green industry. Moreover, Pingtung County Government Green Energy Industry Promotion Office was established in April 2016.
Additional funding options	Pingtung County compete financial subsidy depending on the different community development situation of farm village and city to assist the low-carbon sustainable community development in administrative area : 1. Yongle community in Linbian township and Sheding community in Kenting were subsidized by EPA in 2011 to become the low-carbon demonstrative community. They executed the resource recycling and carbon reduction activity. 2. Low-Carbon Sustainable Homeland Project is promoted with EPA and Pingtung County Government strives for two low-carbon demonstrative community installation every year. Two low-carbon demonstrative communities will be selected by Pingtung County Government and the subsidies and incentives would be given appropriately. 3. In the feature, the goal is to achievement one town at least one low-carbon community.
Improved efficiency of operations	1.Promote green building: Build a green building promotion project service team and assist new building to get the green label. 2. Public sector building construction or refurbishment should take the green design and the green label candidate should be applied during the construction.
Increased infrastructure investment	1. Improve sewer construction and enhance the rate of piped swage. 2. Develop the artificial lake: The aquifer is recharged by Linbian river runoff in flood season. The artificial lake area is 300 Ha. To provide the function of controlling groundwater pumping, increasing the capacity of groundwater, improving subsidence of the coastal area and groundwater saltation, adjusting microclimate and provide the eco-tourism. 3. Strengthen the recycling resource: Assist every community and school to promote kitchen waste and defoliation compost and organic waste recycling. Enhance the wasted recycling in traditional market. Recycle the drift wood and huge wasted wood furniture to become regeneration furniture, installation arts and as sub-material composting and boiler fuel.
Increased infrastructure investment	Pingtung County develops low-carbon tourism plan and construction in important tourism area with rich tourism resource. The main transportation would be bicycle and electronic motorcycle in Kenting area. Large parking lot would be constructed near Kenting Forest Recreation Area and the visitor would be advised to park there. To reduce sedans and fuel motorcycle drive into every attraction.
Increased attention to other environmental concerns	County Government efforts to promote green energy, wind energy, solar energy, biomass energy and has become the best demonstration of Taiwan.
Increased attention to other environmental concerns	Carbon reduction has been seen as the first execute priority, with which the administrative unit is highly willing to cooperate.

### 5.1

List any climate change-related projects for which you hope to attract private sector involvement, and provide any details on the estimated cost of the project

Project area	Project description	Cost of project (USD\$)

Other:	The purpose of office is to attract the private business investment of renewable resource. The office also treys to cooperate with related department to research and develop the green resource like tidal power generation, biogas generation and pyroysis. Goal of power generation is 50 mw per year.	150000
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## Module: Emissions - Local Government Operations

### Page: Local Government - Methodology

#### LGO1.0

Please state the dates of the accounting year or 12-month period for which you are reporting a GHG measurement inventory for your local government operations.

Tue 01 Jan 2013 - Tue 31 Dec 2013

#### LGO1.1

Please indicate the category that best describes the boundary of your municipal GHG emissions inventory.

Departments, entities or companies over which operational control is exercised

#### LGO1.2

Please indicate which of the following major sources of emissions are included in your municipal GHG emissions inventory.

Source of emissions	Status
Airport(s)	Not included
Buildings	Included
Buses	Not included
Electricity generation	Not applicable
Electricity transmission and distribution	Not included
Employee commuting	Not included
Incineration of waste	Included
Landfills	Included
Local trains	Not included
Maritime port	Not included
Municipal vehicle fleet	Included
Regional trains	Not included
Roads / highways	Not included
Street lighting and traffic signals	Not included
Subway / underground	Not included
Thermal energy	Not included
Waste collection	Not included
Wastewater treatment	Included
Water supply	Not included
Unknown source	Not included
Total	Not included

#### LGO1.3

Please give the name of the primary protocol, standard or methodology you have used to calculate GHG emissions.

Primary protocol	Comment
Other:	Taiwan EPA GHG Inventory Guidance was applied to collect related information.

#### LGO1.4

Which gases are included in your emissions inventory? Tick all that apply.

CO2  
CH4  
N2O

#### Further Information

### Page: Local Government - Energy Data

**LGO1.5**

Please give the total amount of fuel (refers to Scope 1 emissions) that your local government has consumed this year.

Source	Fuel	Amount	Units
Buildings	Liquefied Petroleum Gas (LPG)	44265.97	L
Buildings	Diesel/Gas oil	130819.25	L
Buildings	Natural gas	15013.00	m3 (cubic meters)
Municipal vehicle fleet	Motor gasoline (petrol)	3880015.77	L
Municipal vehicle fleet	Diesel/Gas oil	551405.37	L

**LGO1.6**

How much electricity, heat, steam, and cooling (refers to Scope 2 emissions) has your local government purchased for its own consumption during the reporting year?

Source	Type	Amount	Units
Buildings	Electricity	34871440	kWh
Wastewater treatment	Electricity	3517622	kWh

**Page: Local Government - GHG Emissions Data**

**LGO1.7**

Please provide total (Scope 1 +Scope 2) GHG emissions for your local government's operations, in metric tonnes CO2e.

149766

**LGO1.8**

If applicable, please provide the following GHG emissions.

Scope 1: All direct GHG emissions

Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

Total Scope 1 activity in metric tonnes CO2e emitted	Total Scope 2 activity in metric tonnes CO2e emitted
129728.48	20039.09

**LGO1.9**

Do you measure Scope 3 emissions?

Yes

**LGO1.9a**

Please complete the table.

Source of Scope 3 emissions	Emissions (metric tonnes CO2e)	Comment
Emissions from Contracted Services	141.84	
Emissions from Contracted Services	92.23	
Emissions from Contracted Services	2191.19	
Emissions from Contracted Services	31.95	
Employee Business Travel	31.70	
Employee Business Travel	80.68	
Other:	0.04	
Other:	0.10	
Other:	0.08	

**LGO1.11**

Where it will facilitate a greater understanding of your government emissions, please provide a breakdown of these emissions by department, facility, source, or by any other classification system used in your city.

Department / Facility / Source / Other	Scope	Emissions (metric tonnes CO2e)
Department-energy	Total figure	31459.01
Department-waste	Total figure	118306.56

**LGO1.12**



Please indicate if your emissions have increased, decreased, or stayed the same from the previous year, and please describe why.

Change in emissions	Reason for change
	No previous year of inventory data

### Page: Local Government - External Verification

#### LGO1.13

Has the GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

No

#### LGO1.13b

Please describe your plans to verify your emissions in the future.

No external verification plan

### Module: Emissions - Community

### Page: Community - Date and Boundary

#### C1.0

Please state the dates of the accounting year or 12-month period for which you are reporting a GHG measurement inventory for your community.

Tue 01 Jan 2013 - Tue 31 Dec 2013

#### C1.1

Please indicate the category that best describes the boundary of your community GHG emissions inventory.

Administrative boundary of a local government

### Page: Community - GHG Emissions Data

#### C1.2

Please give the name of the primary protocol, standard or methodology you have used to calculate GHG emissions.

Primary protocol	Comment
Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC), (WRI, C40 and ICLEI)	

#### C1.3

Which gases are included in your emissions inventory? Tick all that apply.

CO2  
CH4  
N2O

#### C1.4

Please detail total (Scope 1 + Scope 2) emissions for your community, in metric tonnes CO2e and provide a comment on the level of confidence in the accuracy of your community emissions figure.

Total emissions (metric tonnes CO2e)	Attach your inventory	Level of confidence	Comment on level of confidence
4604805		Medium	

#### C1.5

If applicable, please provide a breakdown of your GHG emissions by scope.

Scope	Metric tonnes CO2e	Level of confidence
Scope 1 emissions excluding emissions from grid-supplied energy generation	37046834611	Medium
Scope 1 emissions from grid-supplied energy generation within the city boundary	0	Medium
Total Scope 1 emissions (Row 1 + Row 2)	37046834611	Medium

Total Scope 2 emissions	14354301004	Medium
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**C1.9a**

Please provide a summary of emissions by sector and scope as defined in the Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC), (WRI, C40 and ICLEI). Please complete the corresponding emissions for each row in the table below.

Sector and scope (GPC reference number)	Emissions (metric tonnes CO2e)
Stationary Energy: energy use – Scope 1 (I.X.1)	1085237.76
Stationary Energy: energy use – Scope 2 (I.X.2)	2198731.49
Stationary Energy: energy use – Scope 3 (I.X.3)	
Stationary Energy: energy generation supplied to the grid – Scope 1 (I.4.4)	2646.40
Transportation – Scope 1 (II.X.1)	1376492.51
Transportation – Scope 2 (II.X.2)	2087.80
Transportation – Scope 3 (II.X.3)	1378580.31
Waste: waste generated within the city boundary – Scope 1 (III.X.1)	133162.78
Waste: waste generated within the city boundary – Scope 3 (III.X.2)	
Waste: waste generated outside the city boundary – Scope 1 (III.X.3)	
Industrial Processes and Product Use – Scope 1 (IV)	4573.57
Agriculture, Forestry and Land Use – Scope 1 (V)	168960.78
TOTAL Scope 1 (Territorial) emissions	2768427.40
TOTAL BASIC emissions	4662549.56
TOTAL BASIC and BASIC+ emissions	4667123.12

**C1.9b**

Please provide a breakdown of fuel use and emissions by subsector and scope as defined in the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC), (WRI, C40 and ICLEI) and attach GHG emissions report. Download the GPC Reporting Tool [here](#).

**C1.12**

Please indicate if your emissions have increased, decreased, or stayed the same since your last emissions inventory, and please describe why.

Reason for change	Please describe why
Increased	The main increased department are energy, industry, and waste

**Further Information****Page: Community - External Verification****C1.13**

Has the GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

No

**C1.13b**

Please describe your plans to verify your emissions in the future.

The verification is base on EPA criteria. GPC will be used in the future.

**Module: Strategy****Page: GHG Emissions Reduction - Local Government Operations****6.0**

Do you have a GHG emissions reduction target in place for your local government operations?

No

**6.0b**

Please explain why you do not have a local government operations emissions reduction target.

Only promote reduction plan. There is no reduction goal, so far.

## 6.1

### What actions are you undertaking to reduce your emissions in your local government operations?

<b>Emissions reduction activity</b>	<b>Anticipated emissions reduction – cumulative over the lifetime of the action (metric tonnes CO2e)</b>	<b>Action description</b>
On-site renewable energy generation	52807.4	Pingtung County Government promotes actively in private sector, public office and school to install solar power generation equipment and execute Photovoltaic Farming to Reserve Water.
Green space and/ or biodiversity preservation and expansion	677897	Pingtung County is the important base of Taiwan afforestation. The afforestation area is over 8666ha on the plan and hill. It is good for carbon fixation.
Developing the green economy		Introduce the foreign and domestic investment of green industry, create the green industry park, and establish Pingtung County Government Green Energy Industry promotion Office.
LED / CFL / other luminaire technologies	317.58	Replace 1,389 traditional street light to LED street light.
Improve fuel economy and reduce CO2 from motorized vehicles	81.66	In order to reduce transportation pollution, Liouciou was subsidized to purchase 133 electric motorcycle.
Low or zero carbon energy supply generation	1226.06	Swine industry is the one of major farming industry in Pingtung County. In order to solve the problem of excreta pollution, the government has begun to assist the swine industry to decompose and remove the pollutant and establish the equipment of anaerobic digestion to generate the biogas.
Recycling or composting collections and/ or facilities	7285.8	Execute agriculture wasted recycling and reusing to reduce garbage amount.
	2.48	Power saving lamp using. Household Registration Office LED lamp deprecation. (The achievement rate is 97.75%)
		To approach a low-carbon city, government implements water, electricity, fuel oil and paper reduction in public sector to be a model for citizens and private sectors.

## Page: GHG Emissions Reduction - Community

## 7.0

### Please describe the process by which the city reviews its progress and manages overall responsibility for emissions reduction.

Pingtung County still devotes to GHG emission reduction, though the per capita GHG emission is less than half of national GHG emission. GHG emission sectors are divided three phase ((1) Residential and Commercial, transportation. (2) Waste, agriculture and forestry (3) Industrial process and product using) to draft short, middle and long term reduction strategy. Control targets are proposed in condense with National Energy Conference and Greenhouse Gas Reduction and Management Act. Experts and department representatives are invited to establish "Green Energy Project Promotion Group" and "Pingtung County Low-Carbon Homeland Promotion Group." Self-government ordinance is legislated, i.e., draft of Pingtung County Low-Carbon City-town Development self-government ordinances. Pingtung County Green Energy Project Promotion Office is established to assist the carbon reduction and promotion. In addition, Pingtung County not only promotes Low-Carbon Environmental Education, but also participate in domestic and international conferences. This year, two international conferences are going to convene. Moreover, Pingtung will apply for 100% renewable energy city. Experience exchanging and achievements exhibition are ongoing to encourage public participation and improve the reputation of international city to delicate effort for climate change.

## 7.1

## Does your city have a climate change action plan for reducing GHG emissions?

Yes

## 7.1a

Please attach your city's climate change action plan below.

Publication title	Year of publication	Attach	Web link
2012 Pingtung County Promotion Low-Carbon City-Town White-Book	2012	<a href="https://www.cdp.net/sites/2016/47/57347/CDP%20Cities%202016/Shared%20Documents/Attachments/Cities-7.1a-C3-AttachPlan/Attach%20c.docx">https://www.cdp.net/sites/2016/47/57347/CDP Cities 2016/Shared Documents/Attachments/Cities-7.1a-C3-AttachPlan/Attach c.docx</a>	

## 7.2

## Do you have a GHG emissions reduction target in place for your community?

Yes

## 7.2a

Please provide details of your total city-wide emissions reduction target. In addition you may provide details of your sector-specific targets, by providing the baseline emissions specific to that target.

Sector	Define target boundary	Baseline year	Baseline emissions (metric tonnes CO <sub>2</sub> e)	Percentage reduction target	Target date	Comment
Total	All emissions within the municipality boundary	2013	4600000	30%	2030	Pingtung County set up the GHG emission reduction goal, decreasing 30% by 2030 compared with the emission in 2013.

## 7.3

## What actions are you undertaking to reduce emissions city-wide?

Emissions reduction activity	Anticipated emissions reduction – cumulative over the lifetime of the action (metric tonnes CO <sub>2</sub> e)	Action description
On-site renewable energy generation	52807.40	Solar power generation equipments were established in public sector and school roof by promoting wealthy school project and photovoltaic school project.
Eco-district development strategy		Green Building Service Team was established to plan low-carbon new communities in accordance with urban renewable plan. So far, 28 building award Green Building Label and 100 building award candidate marks.
Eco-district development strategy		Low-Carbon Sustainable Homeland Project was executed in accordance with national low-carbon strategy, ex, six dimensions of low-carbon sustainable action
Green space and/ or biodiversity preservation and expansion		Promoting "Tourism Equipment Construction Project", improving the current landscape equipment and increasing the greening areas.
Green space and/ or biodiversity preservation and expansion	677896.5	Promoting afforestation to decrease the carbon emission. Afforestation area is over 8,666 ha on the plane and mountain. Government provides compensation to aborigines to restrict the deforestation.
Smart grid		Pingtung County cooperates with IBM to build the Smart City. Hope to promote the smart grid project with IBM's cutting-edge technology and international experience.
Developing the		Pingtung County Government integrates the resource and condition to attract foreign and domestic green investment. Green

green economy		Energy Settlement includes Pingtung export zone, Liukuaicuo green industry park and Linbian industry demonstrative area.
Improve fuel economy and reduce CO2 from bus and/or light rail		Set the Taiwan's first 100% low-carbon transportation system, Kenting Express, combined with electric vehicles and charging system.
LED / CFL / other luminaire technologies	317.58	Pingtung County changes high power consumption lights to LED high efficiency lights.
Infrastructure for non motorized transport		By creating Bike Route Guideline Project, four core areas are planned to connect landscapes of country road and train stations.
Infrastructure for non motorized transport		In densely populated area, the walking area is established to reach the outcome of carbon reduction by restrict the entrance of transportation
Recycling or composting collections and/or facilities	1226.06	Set the first self-government ordinances legislated by local government in Taiwan. To decrease live farming pollution, recycle bio-energy and transform the high pollution industry to green industry.
Recycling or composting collections and/or facilities		Promoting actively eco-industrial systems, such as the reuse of agriculture waste, composting and forestry waste.
Wastewater to energy initiatives		Wetland purification creates biodiversity. Promote wetland protection, ecological pool action plan and wetland activation to increase the biodiversity and have environmental education.

## Page: Renewable Energy

### 8.0

Please indicate the energy mix of your electricity at the city-wide scale.

Energy source	Percent
Coal	
Gas	
Oil	
Nuclear	
Hydro	
Biomass	
Wind	
Geothermal	
Solar	

### 8.1

Does your city have a renewable energy or electricity target?

## Page: Water Supply Risks

### 9.0

Do you foresee substantive risks to your city's water supply in the short or long term?

Yes

### 9.0a

Please identify the risks to your city's water supply as well as the timescale and level of risk.

Risks	Timescale	Level	Risk description
Increased water stress or scarcity	Current	Less serious	The water supply ability of Mudan reservoir is almost saturation. The water shortage in high land area occur easily during the holidays.

## Page: Water Supply Management

### 9.1

Please describe the actions you are taking to reduce the risks to your city's water supply.

Risks	Adaptation action	Action description
Increased water stress or scarcity	Conservation awareness and education	1. Enhance the awareness of water saving to increase the demanding of water. 2. During the dry spell, the water company would implement the water rationing base on the regulation. 3. Put more investment on water supply infrastructure to improve the water supply ability and reduce the water supply risk.

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