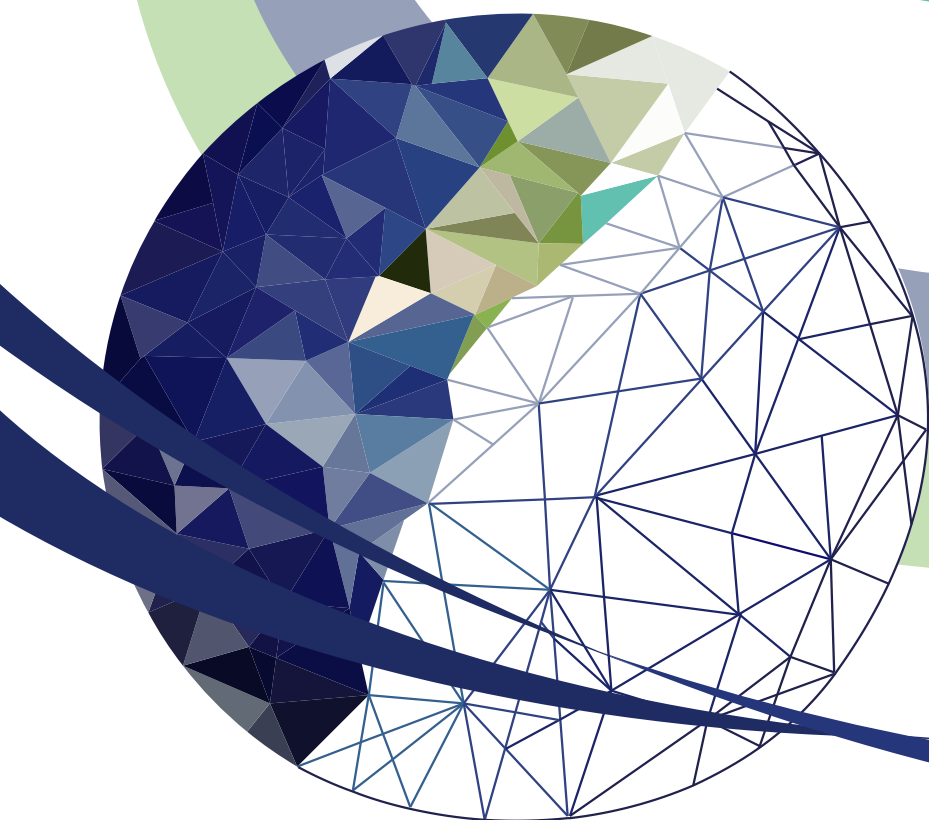




ICDI國際氣候發展智庫  
International Climate Development Institute

# International Climate Development Institute 2015~2019 Yearbook







## **Fulfill the Human Right of Development via Climate Action**

International Climate Development Institute (ICDI) is a non-profit organization. Its core value is to address the human right of development under climate change, which aims to strike a balance between development and needed adaptation and transition to address climate change.

### **Inspired by the United Nations Sustainable Development Goals (SDGs), ICDI actively implement the SDG13 “Climate Action”**

In September 2015, the United Nations (UN) held the UN Summit for Development at its headquarter in New York, announcing the *Transforming our world: the 2030 Agenda for Sustainable Development*. As guiding principles for national development, the 2030 agenda indicated the challenges which all nations around the globe are faced with. It proposed 17 Sustainable Goals (SDGs) based on active implementation of equality and human rights, and suggested 169 follow-up indicators.

From civil organizations to governments, the international community has been inspired by UN SDGs. The co-founders of ICDI put their faith into this new organization as a group of believers in sustainable development and long-term participants in climate change negotiation. ICDI has decided to take SDG13 as its guiding principle, to fulfill the human right of development via climate action.

ICDI is comprised of members of industry, governments, academia, and civil society. Since its establishment, the organization is aimed at international participation and networking, cross-discipline cooperation to combat climate change, and climate project and talent cultivation.



# ICDI 國際氣候發展智庫

International Climate Development Institute

2015~2016

Registered and launched



國際氣候發展智庫  
International Climate Development Institute

2016.11

Built partnerships with ICLEI



2016.07

Became international member  
of Climate Action Network



2016.12

Joined the Taiwan Alliance in  
International Development



2017.11

Signed MOU with Climate Service  
Center Germany



2018.06

Cooperated with Stanford University's  
Summer Intern Program



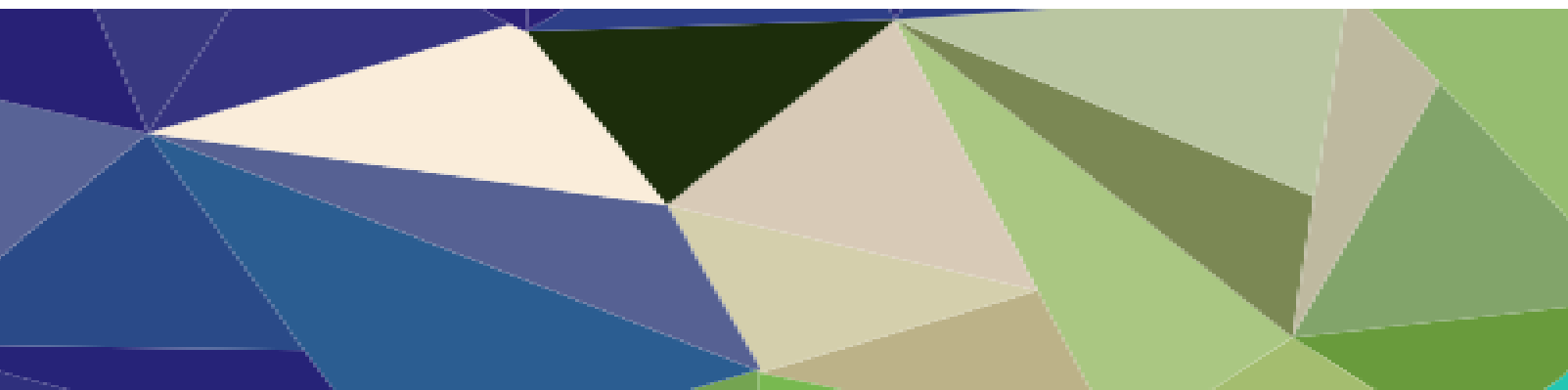
2018.01

Became member of CityNet



2019.03

Signed MOU with WeGO



Partnership with Governments towards Regional  
**Top-Down Climate Policies and  
Actions**

**13** CLIMATE  
ACTION



**17** PARTNERSHIPS  
FOR THE GOALS



1

## Assist South Pacific Island States on Climate Change Adaptation and International Cooperation (2015-present)



As the impact of climate change continues to intensify, assisting the developing countries among our diplomatic allies to mitigate climate change effects on safety, society and the economy, facilitating implementation of these adaptations, and interacting with neighboring countries are the pillars to promote cooperation with international societies on climate change, environment and security issues.

Island States in South Pacific region are one of the most vulnerable groups under global climate change impacts. The Solomon Islands expressed the urgent need for observation system enhancement, forecasting capacity improvement for climate disasters, risk reduction, staff training and climate adaptation development. To fulfill these requirements from the Solomon Islands, ICDI and the Central Weather Bureau (CWB) began

frequent and close communications with the Solomon Islands Meteorological Service (SIMS) and sent professionals to the country to improve its observation and forecasting capabilities and helped establish an early warning system for multi-hazard events, such as tropical cyclones, storms, earthquakes, tsunamis and dengue fever.

During UNFCCC COP23 in 2017, CWB Deputy Director Ming-Dean Cheng and MECDM Permanent Secretary Dr. Melchior Mataka gave presentations on the project result of Dengue Fever Early Warning System during the side event. In addition, the presenters were interviewed and this highlight of the event was included in the COP23 daily video reports on the International Institute for Sustainable Development (IISD) official website, considerably increasing Taiwan's visibility on the global stage.

Supporting the Solomon Islands in its adaptation to climate change not only helps increase diplomatic activities but also enhances ICDI's understanding of climate risk management-related issues in the Pacific region and initiatives undertaken by the World Meteorological Organization.

## 2

Global Climate Change Issues Stocktake  
(2016~2018)

While the impacts of climate change remains transboundary, cooperation to combat with climate change among governments towards regional becomes essential. In order to understand the international trends and development regarding weather technology, climate change and related issues, ICDI collected information from the World Meteorological Organization (WMO), Asia-Pacific Economic Cooperation (APEC), United Nations Framework Convention on Climate Change (UNFCCC), leading national weather agencies and research institutes across the world, providing advice to help the Central Weather Bureau (CWB) and the Taiwanese government to form a basic strategy for participating in inter-national activities.

During 2016 to 2018, our team successfully played the role of a think-tank assisting Taiwan in developing international participation strategies.

Based on the belief that “Climate Change is Boundary-less”, we are dedicated to engaging Taiwan with the international community in a pragmatic way by providing potential directions and neutral pathways. We hope to act as the think-tank of Taiwanese government regarding climate change actions and policy recommendations, so that Taiwan can hold a sustainable future, both in domestic and international arenas and for the betterment of humankind.

In addition, ICDI tries to seek out new pathways, helping Taiwan to interact actively with APEC members, neighboring countries, international research institutes and NGOs. We will conduct a Study of International Cooperation and Development Strategy on Meteorology under Sustainable Development Goal 13-Climate Action”. This will include information collection and research analysis toward UN sustainable development goals, the developments of climate change issues, future trends in meteorology and technology, and the movements of global society.



## Cross-Discipline Climate Service Research (2016-2018)



According to the World Meteorological Organization (WMO), climate services provide climate information to help individuals and organizations make climate smart decisions. The meteorological and non-meteorological data is collected and transformed into customized products such as projections, trends, economic analysis and services for different user communities. Climate services equip decision makers in climate-sensitive sectors with better information to help society adapt to climate variability and change.

ICDI takes stock of national and international cases and policies of climate services. In the recent three year, the research team focused on sectors of “energy”, “public health” and “agriculture and food production”, and reviewed 20 cases of implemented climate services.

ICDI, in cooperation with the Climate Service Center Germany (GERICS), National Development Council (NDC) and National Taiwan University (NTU), conducted a questionnaire survey to climate service providers in Taiwan. The partners co-organized a seminar on climate change adaptation and a workshop on climate service in Taipei in October 2018.

Lecturers from GERICS facilitated the group practice of climate services design. 93 participants were divided into mixed groups with members from governments, industries, academia, and civil society. During discussion, they contributed their knowledge and proposed business plans or ideas for climate service products.

ICDI and the NTU compiled the survey and workshop outcome, and provided advice to help the Taiwanese government to form a strategy for climate service development.



## 4

## Implement, Assess, and Take Stock of Taiwan's National Climate Change Mitigation and Adaptation Policy (2018)



國立臺灣大學  
National Taiwan University

GERICS  
Climate Service Center  
Germany



Eine Einrichtung des Helmholtz-Zentrums Geesthacht



工業技術研究院  
Industrial Technology  
Research Institute

In response to the global trend of climate action and regulatory development, the Executive Yuan of Taiwan approved the *Adaptation Strategy to Climate Change* in 2012. Further in 2015, Taiwan promulgated its *Greenhouse Gas Reduction and Management Act*, which clearly sets out a long-term greenhouse gas reduction target of a 50% reduction of 2005 levels by the year 2050.

Based on ICDI's long-term observation and understanding of domestic climate policies, we provide advice to Taiwanese government. ICDI worked with the National Taiwan University (NTU) to study on information and

national strategies of climate adaptation. During UNFCCC COP24 in 2018, ICDI co-hosted a side event with Cadi Ayyad University of Morocco, shared the outcome of Taiwan's self evaluation on implementation of first-stage climate adaptation action plans.

In cooperation with Industrial Technology Research Institute (ITRI), ICDI conducted the editing of Taiwan's National Communication in 2018. With the experience, ICDI took stock of Taiwan's national climate change mitigation and adaptation policies.



Partnership with Cities

# Cities as the Best Units to Carry out Climate Resilience

**11** SUSTAINABLE CITIES  
AND COMMUNITIES



**13** CLIMATE  
ACTION



## 1 Sustainable City Forum (2017~2019)



**European Bank**  
for Reconstruction and Development



Since 2017, ICDI has co-organized the Smart City Forum with the Taipei Computer Association (TCA) and Taiwan Smart City Solution Alliance under the framework of the Smart City Summit & Expo.

According to Sustainable Development Goal 11, due to rapid urbanization, making cities and human settlements inclusive, safe, resilient, and sustainable has become an important target for city leaders. The Sustainable City Forum was held as one of the major events of the Smart City Summit & Expo to bring together worldwide smart solutions in renewable energy, energy efficiency, eco-mobility, green finance, circular economies and clean-water applications, facilitating urban resilience and sustainability.

In 2018, the forum discussed the role of Green Economy Transition (SDG 8) in Smart City development, highlighting smart solutions in renewable energy, energy efficiency, Eco-mobility, circular economies and clean-water applications. The forum has successfully invited 39 speakers from 12 countries to share their experiences. The audiences amounted to 601 people, including 271 foreigners and 330 domestic audience members.

Currently, ICDI is coordinating with multiple new partners such as CityNet, WeGO, EBRD, etc., to work together on the 2019 Sustainable City Forum, which will take place from March 26<sup>th</sup> to March 29<sup>th</sup>. The 2019 program will be separated into one main forum and four parallel forums, highlighting the topics of smart energy, green finance, circular economies, social innovations, civic engagement and green economic development.



## 2 2019 Global Smart Solution Report: City Challenges and Innovations (2018~2019)



As various factors contribute to the field of Urban Sustainability, “2019 Global Smart Solution Report: City Challenges and Innovations” tries to focus on case studies centering environmental sustainability under the impacts of climate change.

During UNFCCC COP23, global and regional leaders issued the Bonn-Fiji Commitment, signifying the strong commitment and intention of local and regional leaders working in partnership with all levels of government to achieve the goals of the Paris Agreement. With the vision of putting the commitment into practice and living up to sustainable development goals, this report outlines the diverse urban challenges that cities have faced and further provides an overview of practical solutions applied to achieve their goals of inclusive, safe, resilient and sustainable human settlements.

Building on the momentum of the 2018 Smart City Summit & Expo, the report provides a review on 12 geographically and thematically diverse city cases, which serve as examples for innovative practice in achieving urban sustainability.

On December 6<sup>th</sup> 2018, the report draft was pre-launched at COP24 side event. On March 27<sup>th</sup> 2019, the full report will be launched in the Sustainable City Forum.

Currently, ICDI is coordinating with multiple new partners such as CityNet, WeGO, EIB, EBRD, etc., to work together on the 2020 Global Smart Solution Report. The report will become an annual publication which is scheduled to be pre-launched at COP and officially launched at SCSE every year.

The publication of the report can be found here:

<https://www.icdi.network/research>





Partnership with Business

# Technology Innovation and Climate Services

**9** INDUSTRIES, INNOVATION  
AND INFRASTRUCTURE



**13** CLIMATE  
ACTION



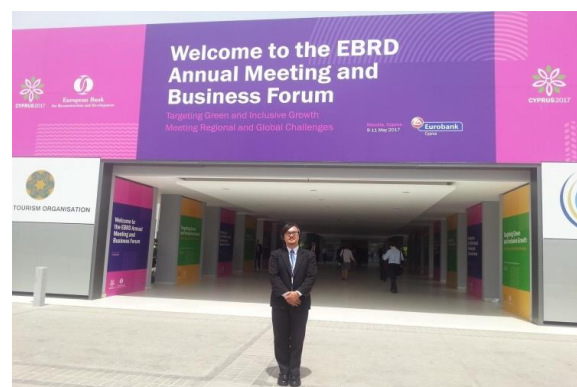
## 1

## International Green Climate Finance Development Research (2016-present)



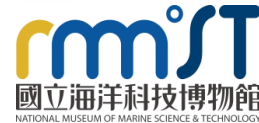
There is a trend in recent years that international businesses have been strengthening their partnerships with various stakeholders such as UN agencies, World Bank Group, UNFCCC secretariat, governments towards regional, and civil society to combat climate change. To explore public-private-partnership (PPP) in climate action, ICDI, with support of the Delta Electronics Foundation, has launched the international green climate finance development research since 2016.

Under the global framework of climate finance, ICDI has been observing the development of the Green Climate Fund (GCF). As observer NGOs, we joined the constituency of civil society organizations (CSO), to raise concerns with civil perspectives and intervene to the Meeting of the Board. ICDI also regularly attends the European Bank for Reconstruction and Development (EBRD) Annual Meeting and Business Forum. The theme of the EBRD Business Forum for recent three years was “Targeting Green and Inclusive Growth. Meeting Regional and Global Challenges”, “Energising Economies” and “Connecting Economies for Stronger Growth.”



## 2

## Green BIM Micro Climate Database Construction Project (2018~2020)



Building energy waste increases as people's demands for better life quality increase. ICDI, in cooperation with the Delta Electronics Foundation, the Central Weather Bureau (CWB), the Taiwan Architecture & Building Center and National Museum of Marine Science & Technology, collected 26 weather stations of all country and produce TMY3 to apply on Building Information Modeling (BIM).

We use weather information to build the "Green BIM Micro Climate Database" website which is available for architectural design planning. This will allow architects to consider the climate and environmental impacts as well as energy waste in preliminary design stages.

- Used 13 weather stations to create TMY3 data, and set up the "Green BIM Micro Climate Database" website in 2017.
- Held a press conference regarding the "Green BIM Micro Climate Database," with 15 print media outlets attending in March 2018.
- Built TMY3 and extreme weather data at 26 weather stations of all country in 2018.
- To adjust energy consumption of building equipment by using weather information in 2019.





3

### UNISDR Resilient Business Training Workshop (2018)



All of society - the public and the private sector – ends up facing the consequences of disasters. It follows that the private sector has a role to play in reducing disaster risk. The adverse affects caused by climate change need not result automatically in disasters. Simple measures can be taken beforehand to prevent the loss of investments and development gains. The private businesses have to protect their assets, workforce, and supply and distribution chains in order for society and the economy to keep functioning.

ICDI has taken part in trainer certificate courses of UNISDR Office in Incheon for Northeast Asia and Global Education and Training Institute (UNISDR ONEA-GETI) since 2016. In cooperation with EY Taiwan, ICDI introduced the visualized and systematic scorecard toolkit to Taiwan's businesses in the 2018 UNISDR Resilient Business Training Workshop. We encourage the private sector to plan and take action for corporate sustainability and disaster resilience under the threats of extreme climate.



Partnership with Academia and Civil Society

# Bottom-Up Climate Action and Capacity Building

**4** QUALITY  
EDUCATION



**13** CLIMATE  
ACTION



## 1

## Research of Community-Based Adaptation in Taiwan: Study on Adaptation Options of Communities and Implementation Strategies (2016~2018)



The status of vulnerable groups generally does not greatly concern climate communities. However, some groups are far more deeply affected than others, and the most vulnerable groups require our attention. How to reflect vulnerable groups' needs and help them adapt to climate change is the key concern of this project.

ICDI, in cooperation with Oxfam, selected Taiwanese urban and rural communities to study the needs of the most vulnerable groups regarding climate adaptation. Community workers are more aware of the disadvantages that underprivileged groups face, including gender issues, so that they can aid in bottom-up community adaptation. Therefore, this project has chosen them to be potential lecturers and to design a set of adaptation course materials based on the results of the preliminary research, focus group discussions and case interviews.

The project is still underway. So far three focus group discussions have been held for community workers in Tainan City and Wanhua, a district in Taipei City. In Wanhua there were an average of 6-7 community workers participating in each event. In Tainan at least 7 community workers participated in each event. Wanhua District and Hualien City each also held a PCVA workshop. More than 30 Hualien community workers joined the workshop; In Wanhua and Hualien each also held an expert consultation; in-depth interviews with 11 Wanhua cases and 15 Tainan cases.

The adaptation course materials contains the teaching material for helping community workers be aware of the concept of climate adaptation and lead vulnerable groups in their adaptation, which includes local adaptation toolboxes, case databases, and more deeply developed PCVA tools.

## 2 Training the Trainers —Climate Change Adaptation and Disaster Risk Reduction Training Workshop (2018)



According to the United Nations Office for Disaster Risk Reduction (UNISDR), disaster risk reduction (DRR) is the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness and early warning for adverse events are all examples of disaster risk reduction.

DRR is everyone's business. It involves every part of society, government, the professional and private sector. Thus, ICDI considers it as a must to hold DRR activities.

With the support of Department of Lifelong Education, Ministry of Education and Ministry of Health and Welfare, ICDI co-hosted with partners from Taipei, Hualien and Kaohsiung four DRR training workshops in 2018 and the beginning of 2019.

ICDI designed the localized training courses with the toolkit of Participatory Capacity and Vulnerability Analysis (PCVA) and UNISDR's Disaster Resilience Scorecard for Cities. Participants from local governments, industries, communities, NGOs and university students were trained to practice the tools for disaster resilience planning.









# Executive Team



**Camyale Kung-Yueh Chao**  
Executive Director

“After extinction, T-Rex became animal fossils underground. As human beings developed fossil fuel industry, fossils indirectly lead to global warming.”



**Robin Chen-Hao Chuang/ Assistant Researcher**

“Taiwan salamander is endemic to Taiwan, where it occurs in the high mountains at around 3,000 m. Its natural habitats might be influenced by climate change.”



**Pin-Han Huang/ Project Manager**

“Formosan clouded leopard was first recorded in 1862. Though the population is listed as extinct on the IUCN Red List, rumors of its existence have still been spread.”



**Reinelle Fu-Jung Yang/ Assistant Researcher**

“Formosan black bear, voted as the most representative wildlife of Taiwan, has been declined in population because of severe exploitation and habitat degradation.”



**Han-Wei Chang/ Assistant Researcher**

“In Taiwan, the primary cause for the decline in leopard cat numbers is habitat loss caused by deforestation and human development in their native regions.”



**Alan Yu-Te Lee/ Assistant Researcher**

“Monarch butterfly may be the most familiar North American butterfly. It has been declined in numbers because of habitat loss on breeding grounds.”



**May Chia-Yen Lin/ Project Specialist**

“The range of Eurasian otter includes Europe, Asia and Africa. It declined in some ranges primarily due to pollution from pesticides, habitat loss and hunting.”



**Joy Yi-Hsin Dai/ Administration Manager**

“The Arctic hare is highly adapted to living in the Arctic tundra and other icy biomes. Under global warming, the icy environment of its habitat might be changed.”



**Bob Cheng-Hsun Wu/ Assistant Researcher**

“The polar bear is classified as a vulnerable species under climate change affects. The key danger posed by climate change is malnutrition or starvation due to habitat loss.”



**Michael Yu-Cheng Chang/ Project Manager**

“Human action presents threats to the green sea turtle's survival. The species is in a vulnerable state because of marine pollution, habitat loss, and beach-front construction.”



**Miya Yi-Ting Liu / Assistant Researcher**

“The humphead wrasse is acknowledged as an umbrella species. To conserve its habitat would not only benefit the wrasse, but also all of the other sympatric species.”



**ICDI**國際氣候發展智庫

International Climate Development Institute

106 台北市大安區金華街 199 巷 5 號 608 室  
Rm. 608, No. 5, Ln. 199, Jinhua St., Da'an Dist.,  
Taipei City 106, Taiwan  
Tel: +886-2-23959570

[www.icdi.network](http://www.icdi.network)

[icdi.secretariat@gmail.com](mailto:icdi.secretariat@gmail.com)

