

# 2022-2023 Year Book



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# **Preface**

### Mr. Chiou Chyi-Rong, President of ICDI

In 2022, as the world recovers from the pandemic, it will be confronted with war, energy crisis and high inflation, which will pose major challenges to the transition to net zero. At the same time, various disasters caused by extreme climate are also coming, causing social and ecological system turmoil. At this time of both life and crisis, it is imperative that we recognize that a healthy natural ecosystem is the cornerstone of stable economic and social development, and that the public and private sectors work together to find new solutions to climate and ecological crises.

In the Glasgow Leaders' Declaration on Forest and Land Use adopted at COP26 in 2021, 137 countries have pledged to end deforestation by 2030 and to actively conserve forests and land. The United Nations Conference on Biological Diversity (COP15), which just concluded at the end of 2022, adopted a new version of the Global Biodiversity Framework, in which countries pledged to protect 30% of land and oceans by 2030, require governments and corporations to disclose their biodiversity impacts, and call for the sustainable use of nature and ecosystems. At the end of last year (2022), the European Union also announced a new policy to ban the import of primary and end products involved in the deforestation chain into its territory.

Nature can play a positive role in addressing the climate crisis and sustainability challenges, depending on whether human initiatives are taken: restoring rivers, forests and wetlands, reducing greenhouse gas emissions from agriculture, forestry and other land use areas (AFOLU), and harnessing the carbon sequestration potential of ecosystems can all contribute to climate change mitigation and adaptation. Nature-based Solutions (NbS) is an approach to achieve sustainable climate, ecological, social and economic development by maximizing the function of ecosystems. [1] The United Nations Climate Change Conference (COP27) in 2022 included Nbs in its resolution for the first time, calling on countries to actively adopt a nature-based and ecosystem-based approach to climate change adaptation.

[1] The International Union for Conservation of Nature (IUCN) , 2020. "IUCN Global Standard for NbS."

In the light of the international trend of NbS implementation, in addition to the cooperation between governments and the private sector, it is of great concern how enterprises can assess the nature-related risks in their operations, re-understand the natural resources they rely on and the ecological costs they incur in their operations, and seek a growth path that is economically and ecologically efficient. The Taskforce on Nature-related Financial Disclosures (TNFD) has become a new trend after the Taskforce on Climate-related Financial Disclosures (TCFD): In October 2022, a number of large corporations and financial institutions from 52 countries signed the COP15 Business Nature Initiative (BNA). In October 2022, a number of major corporations and financial institutions from 52 countries signed the COP15 Business For Nature\_Make it Mandatory, which calls for global corporations to publicly disclose their biodiversity impacts; the 2022 COP15 resolution also includes the implementation of a mandatory TNFD disclosure mechanism by 2030. In 2022, ICDI established the Nature-based Solutions Center (ICDI-NbSC) to introduce the latest international trends in NbS, actively assist in building and implementing domestic NbS capacity, and promote the international linkage of corporate NbS.

Since its establishment in 2015, the International Climate Development Institute (ICDI) has taken the implementation of human rights to the environment and development as its mission, and hopes to promote ecosystem and local community-based solutions to climate issues through the discussion and promotion of climate issues, implementation of climate services and climate actions, linking international, city and local communities, creating multiple partnerships, and constructing a new blueprint for sustainability. By compiling ICDI's 2022 implementation plan and reviewing the results of cross-disciplinary cooperation over the past year, we hope to encourage more stakeholders to join the ranks of climate action, so that the vision of sustainable development can grow and flourish in Taiwan and around the world.



# About International Climate Development Institute

International Climate Development Institute is a non-profit organization that focuses on climate change, human rights, intergenerational justice, and developing rights, and actively participates in international activities. The core belief of the organization is the concern for climate change and the right to human development.

Our climate action direction covers: Taiwan's climate policy and practice, Taiwan's climate action and international links, climate talent cultivation and climate education; and we are also committed to climate service industry promotion, climate finance and green economy transformation. Through publications, policy research, technology innovation, and social engagement, we promote climate change issues in a variety of ways, with local base and an international perspective.

### Enlightened on Sustainable Development Goals

In September 2015, when the United Nations held the "United Nations Development Summit" (Rio+20) at New York headquarters, member unanimously adopted the "2030 Agenda for Sustainable Development". The 17 Sustainable Development Goals (SDGs) are expected to serve as a guide for sustainable development globally in the next 15 years.

# Make vigorous effort to implement SDG13 Climate Action

A group of partners in various fields have decided to "Take urgent action to combat climate change and its impacts," which is based on the 13th sustainable development goal, as the core value of the organization, to implement the human right to development through "climate action".

Team members in ICDI vary from industry, government, academia, to the private sector. Since its establishment, ICDI has actively participated in "International Participation and Network Building", "Climate Change interdisciplinary Cooperation" and "Project Implementation and Talent Cultivation" to improve Taiwan's visibility in the field of international climate change.

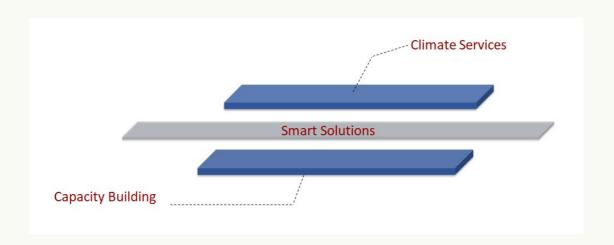
2015 Climate Action Network Forum



### **Core values: Climate service**

According to the definitions of the World Meteorological Organization (WMO) and the Global Framework for Climate Services (GFCS), Climate Service provides climate information to assist individuals and organizations in making a smart climate decision. Climate Service is regarded as a decision-making assistance as well. Under the trend of global warming, climate services will play an important role gradually.

The International Climate Development Institute committed to developing climate services and assisting decisionmakers to make appropriate climate decisions from the top to down; at the same time, the institute works with local governments, community colleges and other units to actively build climate resilience of communities to respond to climate change from the bottom to up.





Mr. Lin Tze-Luen, President of ICDI, held the side event at COP21 in Paris, 2015

## **Milestone**





# **Policy Solutions:**

Promoting institutional progress and development through policy research





# Local Energy Governance Rating Systems (LEGRS)

Partners | CLE





In view of city as the hotspot of energy consuming and the GSH emission, and also on purpose to giving response on the international sustainable development initiative, ICDI has worked with ICLEI KCC and ITRI to developing the Local Energy Governance Rating Systems (LEGRS), expecting to establish a set of policy guidelines for local governments to promote energy transformation.

The core missions of LEGRS are: Promoting industrial development, accelerating energy transformation, and building local energy governance capacity.

The main purpose of the LEGRS is not to establish an independent international certification system, but as an important tool for local governments to connect with the international sustainable city initiative certification, to accelerate local governments' efforts to promote energy transformation, and to implement the energy and climate goals of local governments.

(From left) James Wang
, Chairman of green
Energy and Environment
Resaerch Labs Institute,
Gino van Begin, Secretary
General of ICLEI, and
Camyale Kung-Yueh
Chao, Executive Director
of ICDI, jointly signed the
" Mou on Local Energy
Governance."





### 2 Research of international climate service

合作夥伴



In response of the international netzero trend, ICDI providing professional policy suggestions by the comparative case study of international climate service and netzero transition cases.

(1) Research project: Study of international partnership for meteorology in response to the Paris Agreement targets (1/3)

The goal of this research project is to help the CWB understand its own development space by collecting and understanding the international development trends, including the international case studies of climate services in the areas of renewable energy, climate change adaption and mitigation, and climate finance. (2) Research project: The case studies of international climate service

purpose of improving Taiwan's climate service policies and boosting the development of domestic meteorological industry, **ICDI** executing the CWB's research project: The case studies international climate service. refering the international climate service policies, the meteorological industry in other countries, sort out development pulse of meteorological industry in other countries, and knowing the strategies of other countries on promoting climate service policies.

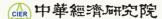


2022 Seminar of Green Finance: The TCFD and climate service under climate change.

## 3 Participate in the 5th Climate Service Workshop

合作夥伴







The purpose of the establishment of the "Taiwan Climate Services Partnership (TCSP)" is to gather stakeholders from Taiwan's meteorological industry chain and value chain, including suppliers and demanders of meteorological information or services from upstream to downstream.

It is to achieve the business clustering effect for the development of the meteorological industry, and promote climate services and effective utilization of meteorological information.

Since 2018, the International Climate Service Workshop has promoted the development of the meteorological industry and exchanged domestic and foreign meteorological cases.

On September 28, 2022, hosting by the CWB, co-organized by TCSP and Chung-Hua Institution for Economic Research, the "111th Workshop on Cross-Disciplinary Application of Meteorological Information Services in Green Energy and the 5th Workshop on Climate Services", this year's Workshop on Climate Services was themed on the application of meteorological information in green energy.



2023.09.28 Participated in the fifth Climate Service Workshop.

# **Technology Solutions:**

Introducing cross-disciplinary adaptation solutions through research and innovative technologies





# 4 2022 Climate Service Application for Green Building

合作夥伴

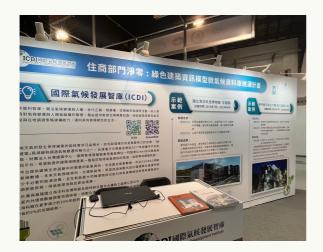






As energy consumption in commercial buildings increases, much proportion of that is wasted. To optimize energy efficiency, ICDI builds the "Green BIM Micro Climate Database" website in cooperation with the Delta Electronics Foundation, the Central Weather Bureau and the Taiwan Architecture & Building Center by collecting weather information.

This project aims to assist architects to take into account the climate and environmental impacts as well as energy waste in preliminary design stages. The "Green BIM Micro Climate Database" establishes a climate data database and combines various climate information, including TMY3 data of standard meteorological year in each county and city, ASHRAE standard climate statistics design historical data statistics meteorological bureau stations, and future weather forecast data, etc. It also applies the weather data to the air conditioning scheduling of buildings, demonstration cases include Keelung Haike Museum and Shulin Arts and Culture Complex.



GreenBIM project implementation results showcased at the 2022 Taiwan Climate Action Expo



The Green BIM Micro Climate Database Resourses

Results of the project in 2021-2022:

1. Meteorological Information Applied to Office Building Energy Conservation Results Published in SCI Journal:

One of the results of the 2021 demonstration site meteorological data energy saving trial was published in the SCI International Journal of Building and Environment in August 2022.

See the article below:

https://doi.org/10.1016/j.buildenv.2022.109 280

2.Collaboration with the CWB's Innovative Solutions Program

Through more detailed meteorological data, we strengthen the application of energy saving in the maintenance phase, which is the most energy-consuming phase of the building, and use local climate data for energy saving to achieve the sustainable goal of building energy saving.

3.Collaboration with the ITRI BESTAI team:

The Building Energy Saving System for Artificial Intelligence (BESTAI) platform adopted and updated its climate zone data as TMY3 data for each county and city in the GreenBIM platform.



4.Course sharing and application promotion

The promotional courses include "2022 Leader Architect Green Training Workshop - Net Zero Emission and LEED ZERO Zero Carbon Building Workshop" and "2022 Energy Conservation Manager Online Training Course", and the online presentation of the results of the Arborist Building Energy Efficiency Trial at the "Climate Salon IPCC Carbon Conference" Reduction Code Press organized by Delta Electronics Foundation. The exhibition of entityrelated issues will participate in the Climate Action Expo 2021 and 2022 and the Smart City Expo 2021 to 2023, and the results of this project will be exhibited at the event.

5.Taiwan BETTER: Building energy efficiency improvement analysis system promotion plan:

In 2022, GreenBIM established formal contact with the Berkeley National Laboratory to introduce the Building Efficiency Targeting Tool for Energy Retrofits (BETTER) tool to create a local building energy efficiency improvement analysis tool Taiwan BETTER that meets Taiwan's national conditions. At this stage, we are continuing to build Taiwan's localized building energy efficiency database. We sincerely invite you to join us and contribute to the realization of net-zero carbon reduction for Taiwan's residential and commercial sectors!

More Informations about Taiwan BETTER:

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### 2020-2022 Belmont Forum Project Addressing Extreme Weather Related Diarrheal Disease Risks in the Asia Pacific Region (AWARD-APR)(I)

**Partners** 

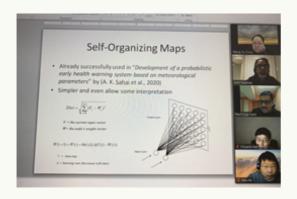




Diarrhea, highly associated with ambient rainfall and temperature, is the second leading cause of death in children under the age of five. This study, under Belmont Forum 'Climate, Environment and Health' Collaborative Research Action, proposal "Addressing Extreme Weather Related Diarrheal Disease Risks in the Asia Pacific Region (AWARD-APR)", aims to evaluate the associations among extreme weather events, El Niño Southern Oscillation phenomenon, and mortality from and morbidity of diarrhea in the multinational consortium, including Taiwan, India, China, Vietnam, Nepal, Bangladesh, and Indonesia.

Result of the project in 2020:

- collected and collated meteorological data for Taiwan, Indonesia, India, Malaysia, Vietnam, Nepal, China, and South Pacific island countries.
- Due to the impact of Covid-19, currently only the health data of Taiwan, Indonesia, India, South Pacific island countries and Nepal were collected and compiled.
- By the end of 2020, our team used negative binomial regression (NBR) and generalized additive model (GAM) to analyze and study the correlation between the collected health data and meteorological data.



About AWARD Team: https://vinnyv28.github.io/AWARD-APR/teamUMD.html



# **Knowledge Solutions:**

Translating international sustainability trends and climate issues to provide a trusted knowledge platform for industry and all.





## 6 Publications and E-newsletter

With people's attention to climate issues increasing, ICDI publishes E-Newsletter to introduce major international climate developments, looking forward to promoting citizens' climate change literacy.

Bimonthly report

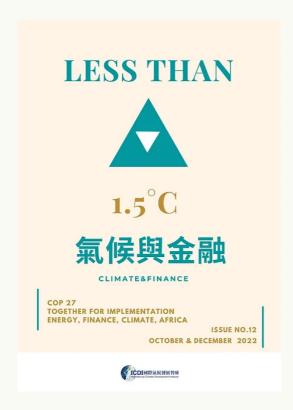
### Climate and Finance

#### **Partner**



The publication aims to provide the latest global trend of climate safety, sustainable development, and green economy issues, such as of Task Force on Climate-related Financial Disclosures (TCFD)'s reports, in order to make Taiwan more resilient.

Since debuted on December 2020, Climate and Finance is recognized by experts and is shared by Facebook users.

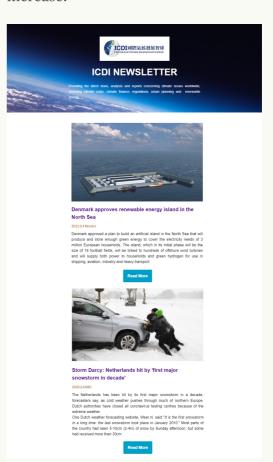


#### Daily news

### ICDI newsletter

International Climate Development Institute publishes "ICDI E-Newsletter" to introduce major international climate developments, looking forward to promoting citizens' climate change literacy, and learning from foreign climate change actions.

Subscribed readers are from academic institutions, civic groups and private enterprises, etc., and continues to increase.

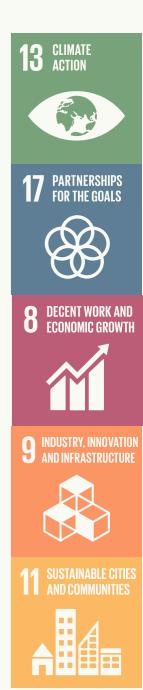




# **City Solutions:**

# Promoting International Exchange and Sustainable Development Linkage





## 2022 Global Smart Solution Report











During COP23, global and regional leaders have issued the Bonn-Fiji Commitment, signifying the strong commitment and intention of local and regional leaders working in partnership with all levels government to achieve the Paris Agreement.

This report, building the momentum of Taipei Smart City Summit & Expo 2018 (SCSE), aims to showcase selected smart city achievements around the world.

With the vision to put the commitment into practice and live up to sustainable development goals, this report outlines the diverse urban challenges and provides practical solutions applied to achieve their goals of inclusive, safe, resilient and sustainable human settlements.

2022



Download the 2022 Global Smart Solution Report



SCSE STATE COUNTY OF THE PROPERTY LIGHT WITH COUNTY OF THE PROPERTY LIGHT **Global Smart Solution Report 2021 Eco-Mobility & Eco-Logistics** 

Download the 2021 Global

Smart Solution Report



Mar W G

2021 GSSR awards ceremony



# **8** 2022 Sustainable City Forum













The Sustainable City Forum is one of the major annual events of Smart City Summit & Expo (SCSE). Since its first event in 2017, the forum has received worldwide responses every year.

With an aim to achieve SDG11, the organizers hope to bring together the smart solutions in renewable energy, energy efficiency, green finance, circular economy, and Eco-mobility via this platform.

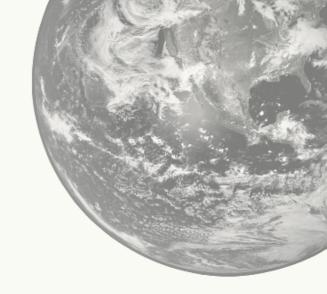




The Sustainable City Main Forum is held on March 23rd, 2022. The theme of this year is "Towards a Sustainable Diversified City". The forum plans two keynote speeches and two panel speeches. The keynote speeches share experiences on the solutions for sustainable urban resilience in the post-epidemic era, and the main axis of the European Bank's investment policy in green city infrastructure from a global perspective and international trends. The panel discussion focused on "SDG VLR Voluntary Local Review" and "Eco-Logistics", and invited representatives to share how to participate in the global implementation of SDGs as local governments, and to discuss how to implement and strengthen the Public-Private Partnership promoting sustainable urban development ecologistics and transformation.

The Secretary General of ICLEI Gino Van Begin, Executive Director of IGES Yasuo Takahashi, Secretary General of WeGO Jung Sook Park, Secretary General of CityNet Vijay Jagannathan, Deputy Head SI3P and Co-Lead EBRD Green Cities Lin O' Grady, representatives of several countries in Taiwan and private sectors are invited to the Forum to share their experiences in promoting the theme of this year, "Towards a Sustainable Diversified City".



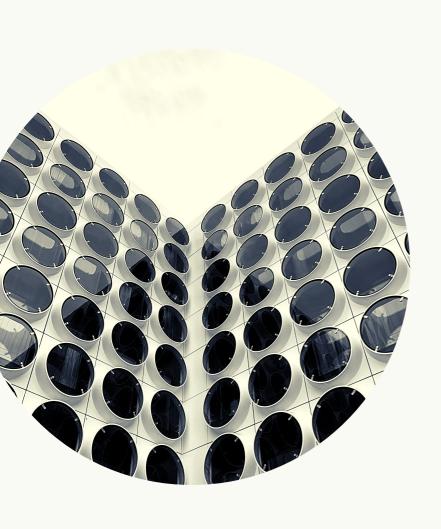


CLIMATE ACTION

PARTNERSHIPS FOR THE GOALS

# **Enterprise Solutions:**

Advisory services toward decarbonization and net zero development for industries





# **9** Established the Nature-Based Solution Center (ICDI-NBSC)

Partners 生物多樣性研究中心

In 2022, ICDI has established the Nature-Based Solution Center (ICDI-NBSC), hopes to involving the NBSC as a intermediary of international NBS trend and involving the initiative TNFD. In the future, it will continue to promote the international connection of corporate NBS and further assist Domestic NBS capacity building and implementation.



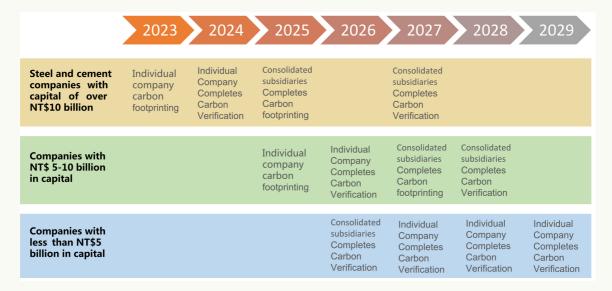
December 28, 2022, ICDI-NBSC and the Biodiversity Center of National Taiwan University co-organized the "Post-COP27 Forum on Trends of Nature-based Solution Parties' Carbon Trading" at the Chi-Si Conference Center of NTU.

On December 28, 2022, ICDI-NBSC and the Biodiversity Center of National Taiwan University co-organized the "Post-COP27 Forum on Trends of Nature-based Solution Parties' Carbon Trading" at the Chi-Si Conference Center of NTU. Invited the Director of Climate Change Office Environmental Protection Administration, Ling-Yi Tsai and the Deputy CEO of Office of Energy and Carbon Reduction, Executive Yuan, Tzu-lun Lin to deliver speeches before the event. Professor Ling-Ling Lee from the Institute of Ecological Evolution, National Taiwan University, Director Chiu Chih-Jung from the Biodiversity Research Center, National Taiwan University, and President Shih Hsin-Chih from Yung Chi Consulting Co. The seminar brought the latest international trend of NBS back to Taiwan. The Director of Water Resources Department, Ministry of Economic Affairs, Mr. Lai Chien-hsin, and the Deputy CEO of the Net Zero Office, Mr. Liu invited share Yuwen, were to the government's practices and plans for implementing nature-based solutions in Taiwan on behalf of the public sector, and to discuss the building of domestic NBS capacity through interactions.





# 10 Consultation and advisory services of net-zero path and sustainable development planning



In March 2022, Financial Supervisory Commission issued a road map for sustainable development of listed companies, requiring listed companies and the steel and cement industries to complete carbon inventory consultation and disclosure in accordance with the law

ICDI has been helping Taiwan in connecting international sustainability trends, providing a series of consultation and advisory services related to climate sustainability and carbon management to help public departments and enterprises effectively achieve reduction and net-zero goals, and has set up special departments to assist in: organizational greenhouse gas verification, product carbon footprint, the measure of mitigation and netzero roadmap. Also introduce reduction solutions such as nature-based solutions (NBS), renewable energy certificates, climate services, and smart buildings to help companies meet the requirements of CDP, TCFD, TNFD, SBTi, and other international exposures, providing the most complete and innovative net-zero path and sustainable development planning.



ICDI providing a series of consultation and advisory services related to climate sustainability and carbon management to help public departments and enterprises effectively achieve reduction and net-zero goals



# Community Solutions: Building Community Resilience and Promoting Just Transition





CLIMATE ACTION

## 11 Community-Based Adaptation in Taiwan

### **Partners**

























Since 2016, ICDI has cooperated with local governments, community colleges and civil communities to provides assistance of capacity building, energy transformation, and development of adaptation strategies to vulnerable groups to help them move towards a sustainable life with climate resilience.

ICDI has implanted the 2022, Community-Based Adaptation work in Wanhua District, Taipei; Citong Township, Yunlin County; Youchang St., Nanzi Dist., Kaohsiung City. Through a participatory approach, ICDI has worked with local seniors and community members to discuss the specific impacts of climate change on the social, economic, environmental, and cultural aspects of local communities, and to develop local context-based adaptation action plans.







Published the results of community-based adjustment work in Wan-Hua

In 2022, this project achieved the following results.

- Community-based climate adaptation work was carried out Wanhua District, Taipei; Citong Township, Yunlin County; Youchang St, Nanzi Dist, Kaohsiung City, with 60 participants and a total of 240 people.
- They led local seniors and community members to discuss the "participatory" and "communitybased" adaptation plan of action, and reported on stage the results of their own group's inventory.
- In 2022, a total of 12 action plans were produced in North, Central, and South of Taiwan, and dialogues were held with local county government teams, river bureaus, water bureaus, and legislators. This will give the people's opinion a chance to come true.



Published the results of community-based adjustment work of Citong Township, Yunlin County



Published the results of community-based adjustment work of Youchang St, Nanzi Dist, Kaohsiung City



**Action Solutions:** 

# **Towards the "Climate Action from All"**





12

### 2022 Taiwan Climate Action Keynote Speech

**Partners** 











The International Climate Development Think Tank will hold six "2022TWCAE Taiwan Climate Action Keynote Speech" from July to October 2022. By inviting experts and scholars from related fields to provide innovative solutions in six areas, including economic, regulatory, local, financial, corporate, and marine, we will understand the various climate actions taken by Taiwan in response to climate change from multiple perspectives.



The lecture series invited Director Lu Zhenghua from the Industrial Development Bureau, Ministry of Economic Affairs, and Director Tsai Lingvi from the Environmental Protection Administration to analyze the country's industrial transformation towards zero, as well as the latest regulatory policy developments including the Climate Change Response Act; Director Liu Ming-lung from the Taipei Environmental Protection Bureau shared the blueprint of the zero pathway planning for the first good city from the municipal perspective; the industrial sector was presented by Cathay Financial Holdings' investment director Sophia Cheng, who brought to light how the company has demonstrated the impact of climate change through financing. The Chairman of Riversoft Information, Mr. Alex Kuo, demonstrated the integration of meteorological information into tourism, using cloud services and artificial intelligence and other innovative technologies consumer-oriented launch integrated tourism services, demonstrating the business opportunities for enterprises to combine services with sustainable transformation. We call on all people to join in protecting the ocean and the environment.

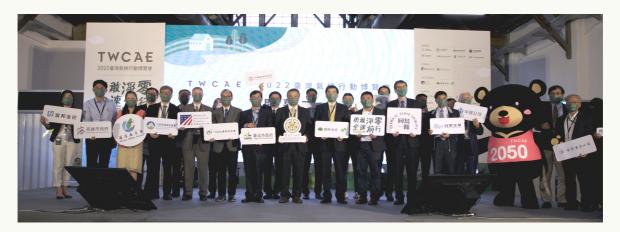
The 2022 Climate Action Keynote Speech is a series of cross-disciplinary issues sharing, reflecting the diversity of climate issues, and hoping to trigger discussions and concerns from all walks of life to warm up for the 2022 Climate Action Expo.

## 13 2022 Taiwan Climate Action Expo



The International Climate Development Institute (ICDI) has been organizing the "Taiwan Climate Action Expo" since 2021, hoping to become a mini-COP in Taiwan, showcasing the specific actions of carbon reduction and adaptation promoted by central ministries and local governments, and linking the energy of private sector, academic and research institutions and civic organizations for climate action, establishing platform exchange and dialogue, and driving the overall atmosphere of the society, so as to start a We will establish a platform communication and dialogue, and then lead the whole society to take action to reverse the possible impact of climate change in the future.

TWCAE Taiwan Climate Action Expo 2022 will have "Race to Zero" as the main theme of the event, in line with the global goal of "Race to Zero" in 2050, leading all sectors of society in Taiwan to respond to the 2050 net-zero goal. In addition, the expo and forum will link the international trend and the theme of COP27, setting the first day as Adaptation Day, the second day as Decarbonization Day, and the third day as Education Day, to explore the topic of climate action. The theme of the forum was to explore the core concepts, knowledge and actions of climate action.



The opening ceremony of 2022 Taiwan Climate Action Expo (TWCAE)

The exhibition area is divided into three pavilions: "Public Sector", "Business", and "Academia and Citizen", inviting all sectors of society to realize the need for multi-stakeholders to link up and move forward in climate action. In addition to the forum and exhibition booths, this year's expo also features the Talanoa Dialogue (TD) space, where 7+2 events was held, to create an open space for all to interact with each other, and receiving an enthusiastic response from the public.

The achievements of the expo are as follows: 65 booths were set up with 32 organizations organizations and participating in the physical activities; 20,000 people participated in the threeday expo and forum activities. Media exposure: 83 media/platforms reported the event. There were 141 pre-show publicity, 10/5 pre-show press conference and post-show news reports, covering TV, print and electronic media, and 12 media LIVE broadcasts. The cumulative number viewers total of was approximately 273,180; the estimated number of TV news (first broadcast and re-broadcast) approximately was 5,000,000.







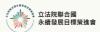






### **Partners**

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Hosted By





Co-hosted  $\mathbf{B}\mathbf{y}$ 



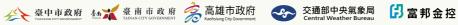






























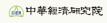


















# **Executive Team**







# **Executive Team**



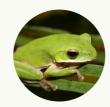
### Camyale Kung-Yueh Chao / Executive Director

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



### Michael Yu-Cheng Chang Senior 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.



# Jessica Yang Director for Program Development

Inhabitant in Chiayi, Taiwan, the small treefrog loves to live closer to the border of humans and nature. Occurring in disturbed lowland (elevations below 1,000 m) agricultural areas where traditional farming practices prevail



### Manager for Administration Affairs

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.



### Reinelle Fu-Jung Yang Assistant Researcher

Formosan black bear, voted as the most representa-tive wildlife of Taiwan, has been declined in population because of severe exploitation and habitat degradation.



# Rebeca Zhang Project Manager

The dugong has been hunted for thousands of years for its meat and oil. Its current distribution is fragmented, and many populations are believed to be close to extinction.



### Miya Yi-Ting Liu Project Manager

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.



# Vandon H.W. YU Project Manager



Meerkats are gregarious animals. While, climate change and environmental development have caused habitat changes and diseases. The desert eventually became an arena for greed and overconsumption.



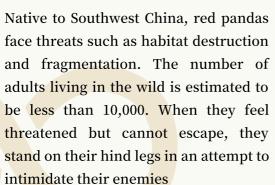
### Assistant Researcher

Chia-Yi Lee

The collared owl is one of the twelve species of owls in Taiwan; however, affected by human development and urbanization, it has gradually lost its place of reproduction.



Aurora Fei
Executive Assistant
to the Executive Director





Sam Lin
Assistant Researcher

The mountain mammal is a subspecies endemic to Taiwan and is the smallest of the deer family in Taiwan. 2019, the Forestry Bureau adjusted it from a conservation species to a general wildlife species due to the stability of the population in the wild.



### Lynn Assistant Researcher

Coral reefs are found in tropical and subtropical waters around the world and are an important part of marine providing ecosystems, rich biodiversity, coastal protection and tourism. However, climate change has led to rising sea temperatures, acidification and sea level rise, exposing coral reefs to massive coral bleaching. vulnerability and increased risk of disease and biological invasion.



### Shine Jen Assistant Researcher

Eurasian otters are distributed throughout Asia and Europe. Due to the destruction of their habitats, they have become extinct in Taiwan. Only about 200 otters remain in Kinmen. Their survival is always threatened by water pollution, roadkill and stray animals.



Rachel Chang Intern

Orcas, recognisable of its black and white colouring, belong to the oceanic dolphin family. They are at the top of the food chain and have no predators.



### Olive Huang

### **Project Manager**

There is a black-billed crested tern known as the "mythical bird". Due to its rarity and few sighting records, its existence is as surprising and expected as mythical



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