

## 青年參與及政策倡導

YOUTH PARTICIPATION AND POLICY ADVOCACY

# 氣候行動 青聲不息

氣候立場書撰寫工作坊  
CLIMATE CHANGE POSITION STATEMENT WRITING WORKSHOP



氣候變化的原因及影響  
CAUSES AND IMPACTS OF CLIMATE CHANGE

## 城市綠色轉型及氣候治理

URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE

# LCOY MACAU 2022 FINAL REPORT

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# INTRODUCTION & MISSION

## BACKGROUND

For many young people, the future of our planet is concerning. The IPCC Sixth Assessment Report (AR6) states that there have been more frequent and intense extreme climate and weather events since last reported in 2014, such as heavy precipitation, drought, and wildfire. Climate change impacts are amplifying, and they are hindering the progress toward achieving the Sustainable Development Agenda 2030. According to the Asia and the Pacific SDG Progress Report 2022 by The Economic and Social Commission for Asia and the Pacific (UNESCAP), the Asia-Pacific region will only be able to accomplish all the Sustainable Development Goals (or SDGs) by 2065 - which is 35 years behind the world's set goal. The most alarming phenomenon in the Asia-Pacific is that responsible consumption and production as well as climate action are both regressing severely. For this generation in Macau we have already experienced the drastic damage brought by Typhoon Hato in 2017. More recently, Macau broke 8 records when it comes to extreme weather in 2021 - three out of seven Signal No. 10 typhoons issued since 1968 occurred in the past five years.

For Macau to become a low carbon emission center as mentioned in the Second Five-Year Plan, more awareness, norm-building, and capacity development for sustainable development practices and policies are critical. These green capacities include skills, systems, structures, values, processes, and resources. Given that the International Monetary Fund has recently conditioned Macau's economic outlook to its exposure to climate change for the first time, it is also becoming increasingly evident that negative environmental impacts will also hinder sustainable development in the social and economic realms.

As a local NGO founded nearly two years ago, we started our journey to promote sustainable development through knowledge-sharing and advocacy when we noticed a major gap in societal awareness about the SDGs and their implementations. Since then, we have been committed to localize the SDGs not only through educational events and content production but also through capacity-building workshops for all sectors of society. Fighting against climate change is one of our main focuses. This year, we are really delighted to be hosting the first-ever Local Conference of Youth Macau 2022, thereby creating

meaningful conversations and capacity-building towards climate action. Ultimately, our mission is to shape Macau's societal norms and help frame the direction of policies on green development.

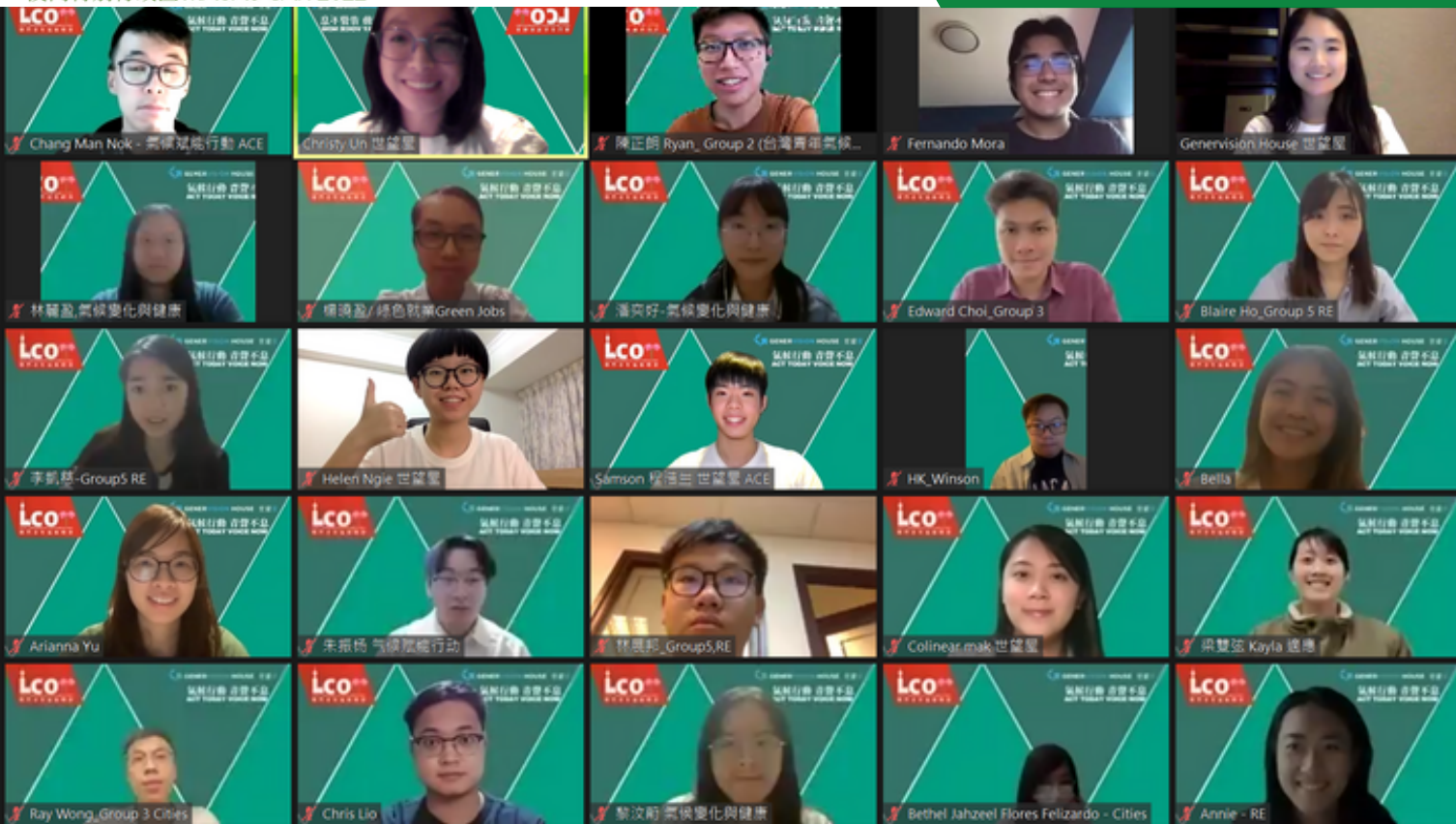
## **OBJECTIVES**

To support our mission, we strive to achieve the following objectives:

- Motivate local youth to participate in Macau's environmental governance and inspire their action in combating climate change;
- Raise public awareness of climate action by providing insights from experts and initiating informed discussions online;
- Achieve a wide media coverage to gain more societal support;
- Co-create knowledge through the Climate Change Position Statement Workshop;
- Submit the Climate Change Position Statement co-written by Macau youths to COP27;
- Produce one meaningful outcome report with inputs from various stakeholders and share with the relevant Macau government departments.

With the exception of the last objective - a separate outcome report to the Macau government is in the process of making, all the objectives and goals of LCOY Macau 2022 were achieved.





## EXECUTIVE SUMMARY

Officially endorsed by the youth constituency of YOUNGO under the United Nations Framework Convention on Climate Change, the Local Conference of Youth (LCOY) Macau 2022 is the first conference of its kind in Macau. The two-day virtual conference centered on the following discussion themes:

- Causes and Impacts of Climate Change;
- Urban Green Transition and Climate Governance;
- Youth Participation and Policy Advocacy;
- and Climate Change Position Statement Writing Workshop.

LOCAL CONFERENCE OF YOUTH MACAU 2022  
澳門青年氣候峰會

22 - 23/10/2022 線上舉行 ONLINE  
22nd 13:40-17:10 | 23rd 13:30-17:55  
報名截止日期 18/10/2022  
DEADLINE FOR REGISTRATION

中文 ENGLISH

**青年參與及政策倡導**  
YOUTH PARTICIPATION AND POLICY ADVOCACY

**氣候行動 青聲不息**

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CLIMATE CHANGE POSITION STATEMENT WRITING WORKSHOP

**城市綠色轉型及氣候治理**  
URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE

**ACT TODAY  
VOICE NOW**

主辦單位  
LEADING ORGANIZATION  
官方支持單位  
OFFICIALLY ENDORSED BY

贊助單位  
SPONSORING ORGANIZATION

Three core values were upheld throughout the organization of the conference. LCOY Macau 2022 is **intergenerational** and **inclusive**, and embraces **diverse views**.

## INTERGENERATIONAL

The conference not only welcomes participants from secondary students to young professionals in the climate change position statement writing workshop, it also allows the general public interested in youth climate action and Macau's green development to attend the other three discussion panels.

## INCLUSIVE

As Macau is a diverse community with Cantonese, Mandarin, English, and Portuguese as the dominant local languages, we arranged translation services in Chinese (Cantonese) and English to cater to our broad range of audiences. Also, the climate change position statement writing workshop organizes participants into three language groups - Cantonese, Mandarin, and English - for better expression of viewpoints.

## DIVERSE VIEWS

A total of 11 speakers from various backgrounds were invited to share their insights in the discussions, ranging from lawmaker and ESG expert to university professors. In addition, three young climate activists from Hong Kong and Macau were also invited to support the position statement writing workshop alongside Genervision House members.



Photo: Event Coverage by Macao Daily News

## MEDIA COVERAGE & SUPPORT FROM STAKEHOLDERS

LCOY Macau 2022 was covered by the Chinese news outlet of Macao Daily News and will also be featured in English platform of Macao News.

Notably, the conference opening ceremony was attended by the Head of the Environmental Planning Office under the Environmental Protection Bureau and the Associate Director Sustainability of Sands China Ltd., of which the latter entity provided sponsorship for our conference.



The conference was also made possible with the support of our endorsing organizations, which are listed as follows:

- British Chamber of Commerce in Macao;
- History and Culture Association of Port of Macau;
- Society of Food and Environmental Health (Macao);
- Geography and Education Research Association of Macau;
- Pan Mac Junior Chamber (JCI);
- Macao News;
- Network of Environmental Student Societies;
- CarbonCare InnoLab;
- Social Responsibility Practitioners;
- The Macao Water Supply Company Ltd.;
- and Guangdong Lingnan Educational Charity Foundation.

During the Climate Change Position Statement Writing Workshop, youth participants came together to discuss their visions for climate action surrounding the following five topics:

- Action for Climate Empowerment;
- Climate Adaptation;
- Climate Change and Cities, and Health;
- Renewable Energy;
- and Green Jobs.

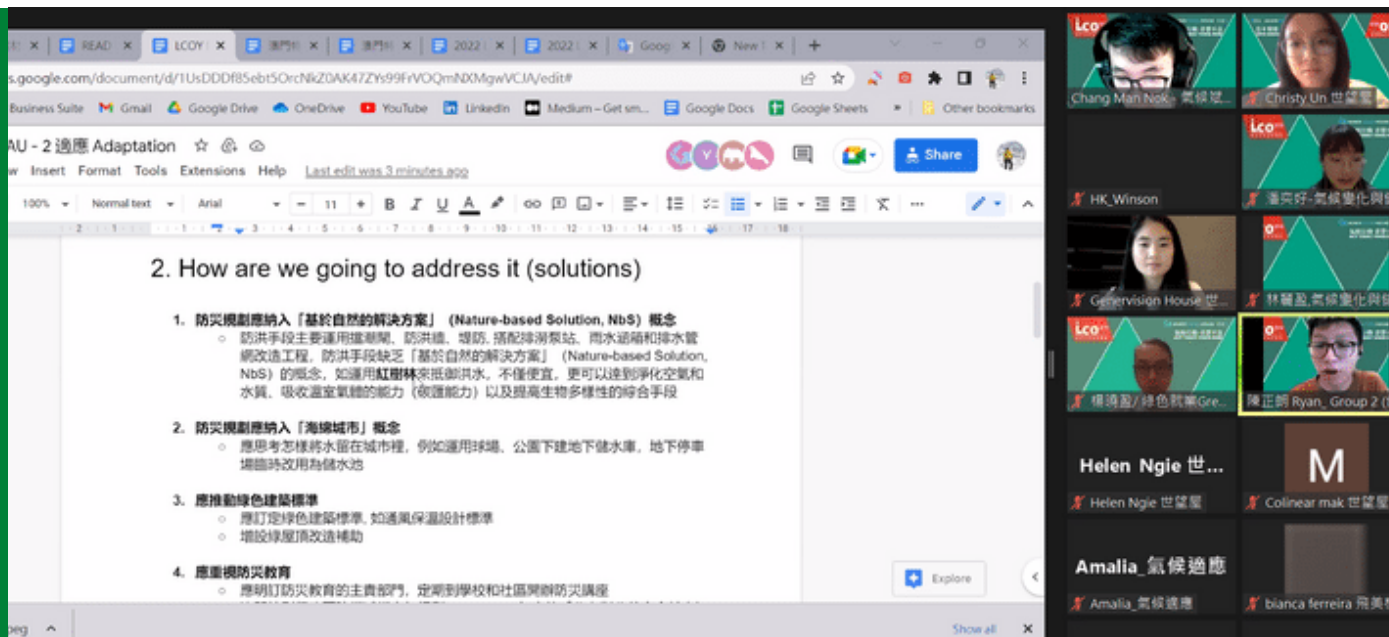


Photo: Climate Change Position Statement Writing Workshop

# METHODOLOGY

## Timeline

### May - June

Submitted LCOY application to LCOY Working Group

Set date and event format

Developed event program and invitation lists

Identified and engaged with guest speakers

### July - August

Confirmed event format and date

Developed advertising materials

Confirmed guest speakers and special guests list

Created applications

### September - Early October

Launched event advertisement and applications

Finalized the guest list

Collated and confirmed event program and schedule

Event walkthrough

Sent final email to guests and attendees

Reviewed roles and responsibilities for working team on event day

### Late October - Event Began

### Post-event Arrangements

Submitted the Climate Change Position Statement from LCOY MACAU 2022 to the LCOY Working Group, thus delivering the output to COP27.

Presented certificates to qualified participants



## PROGRAM

The two-day LCOY MACAU 2022 program was curated by Genervision House's members, with the goal to gather the voices of youth representatives and local experts.

## LCOY ONLINE

The LCOY MACAU 2022 registration was launched via Google Forms, and the event was held on Zoom.

## HUMAN RESOURCES & ADMINISTRATION

13 Working Group members were recruited for LCOY MACAU, who are also members of Genervision House. The different tasks of preparing and hosting LCOY MACAU were assigned based on the members' original roles within Genervision House. Four interpreters volunteered to provide interpretation services during LCOY MACAU.

## ACCESSIBILITY & INCLUSIVITY

The event was held virtually to ensure every interested youth could participate in LCOY MACAU. Interpretation was also provided for guests and participants throughout the event.

## FINANCES

The event received financial support from Sands China Ltd., a local integrated resort operator. The main expenses were incurred on Zoom webinar and advertisement of the event.

## LOGO DESIGN

"LCOY Macau 2022" logo is designed by:  
 Soumyadip Dewanji | Instagram  
 @dewanjiphotography  
 @thecclimate.studio | Twitter  
 @Dewanji2020 | Facebook  
 @soumyadip.dewanji



# DEMOGRAPHICS DASHBOARD



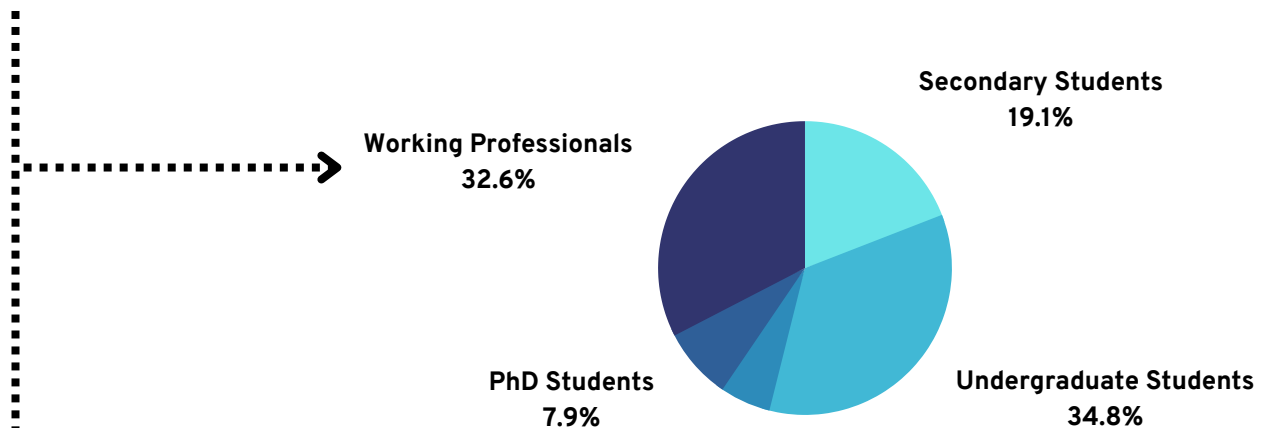
**Location:** Macau SAR  
(Online Conference)



**Organizing Team:**  
**13 Members**

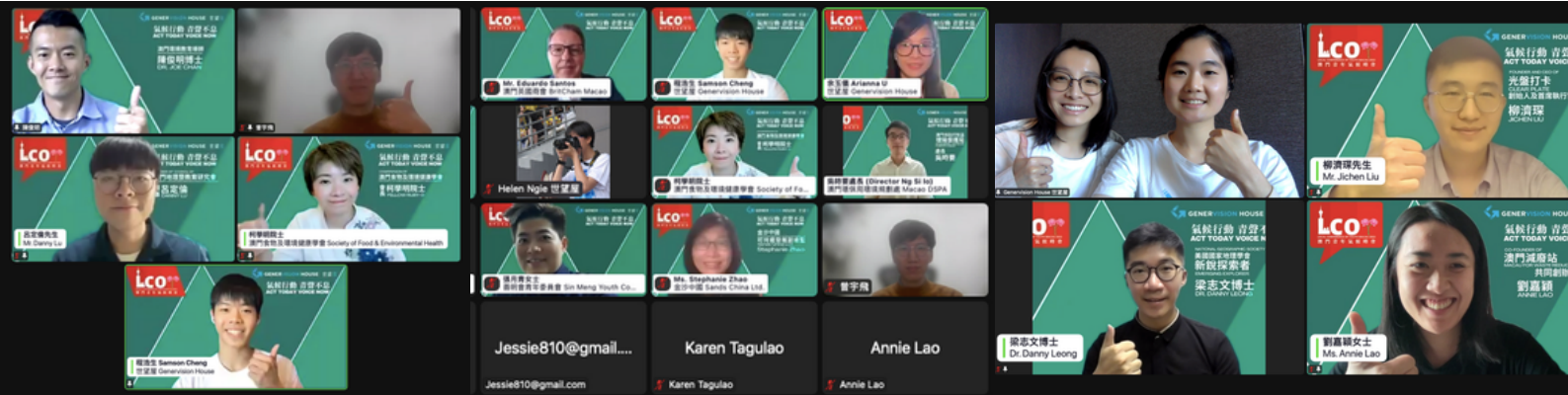


**Number of Attendance:**  
**≈200**



**58 Youths** participated in the  
**Climate Change Position Statement  
Writing Workshop**

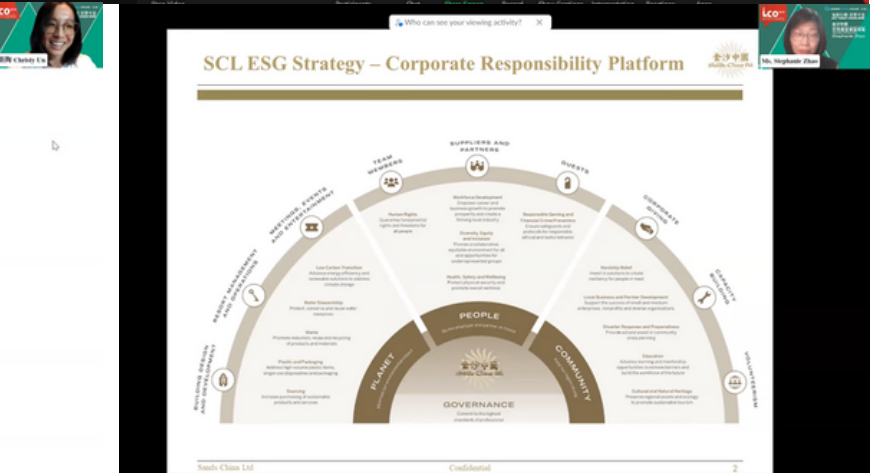
# CONFERENCE HIGHLIGHTS



## 澳門青年氣候峰會 2022

### “雙碳”背景下澳門城市能源轉型及碳中和案例路徑分析

宋慶彬  
澳門環境研究院  
創新工程學院  
澳門科技大學  
2022.10.22



#### 4. 澳門能源角色定位、切入點和政策建議

政策 能源 碳中和

##### 供應

- 能源以進口為主，相對被動，廣東（尤其珠海）保障澳門能源供應穩定安全
- 供給側結構性改革（結構和營運系統優化）

##### 技術

- 先進、綠色技術借鑒引進
- 綠色金融、技術投資

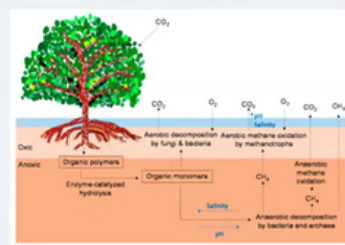
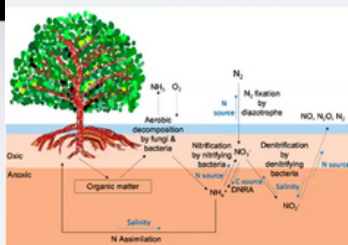
##### 貢獻

- 綠色能源技術和金融投資
- 先進能源管理經驗（交通、建築）
- 綠色低碳（碳中和）城市案例
- “一國兩制”能源合作經驗

■ 角色定位：能源供給側結構性改革，大力發展綠色低碳能源，加快天然氣和可再生能源利用，因地制宜發展太陽能光伏發電和生物質能，不斷提高清潔能源比重，儘快實現城市碳中和目標，起到灣區中心城市的模範示範作用。

■ 切入點：保障澳門能源供給安全、穩定基礎上，儘快制定澳門能源轉型計劃和碳中和方案，推動澳門融入灣區能源轉型和雙碳發展

碳匯 carbon sink: 能夠無限期累積及儲存碳化合物（特別是二氧化碳）的天然或人工「倉庫」



紅樹林土壤具有極高的儲碳能力，有較高初級生產力水準，被認為是全球碳匯量最高的生態系統之一，而且在全球C、N、P、S循環中發揮重要作用

海岸帶藍碳系統的碳埋藏速率是陸地生態系統固碳速率的15倍，海洋藍碳系統固碳速率的50倍左右。

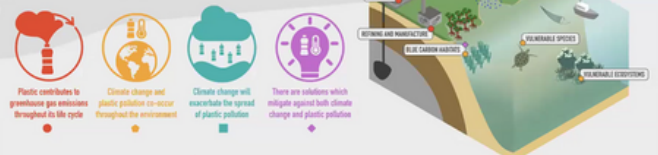
藍碳生態系統僅占地球表面的0.3%以下，但是碳埋藏量達到0.08~0.22x10<sup>9</sup>t。

王沐鑫, 三亞灣紅樹林生態系統固碳匯量及碳匯量研究, 海南熱帶海洋學院, 2022. DOI: 10.27903/16.016.gwby.2022.000066.

#### Climate Change and Plastic Pollution

The fundamental links between climate change and marine plastic pollution

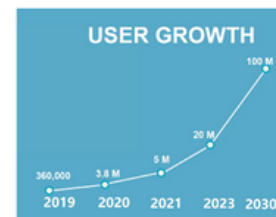
We have collated evidence that marine plastic pollution and climate change are linked in at least three ways.



Source: <https://doi.org/10.1016/j.scitotenv.2021.150392>

#### Impact

|               |               |
|---------------|---------------|
| Total User    | 9 Million     |
| Clear Plate   | 81.6M actions |
| Save Food     | 3100 tons     |
| Reduce Carbon | 11995 tons    |

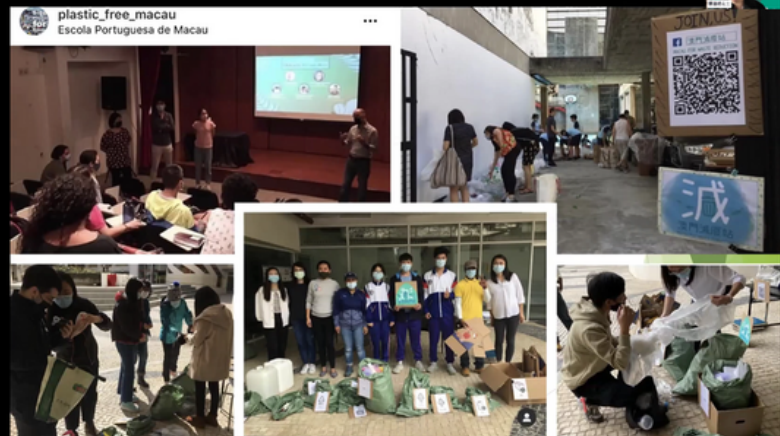


Clear Plate was launched in October 2018. At present, the total users are nearly 9 million. It is expected to grow to 100 million users by 2030.

#### Percentage of User's Age Distribution



ClearPlate



#### Mangroves effectively capture and store Carbon

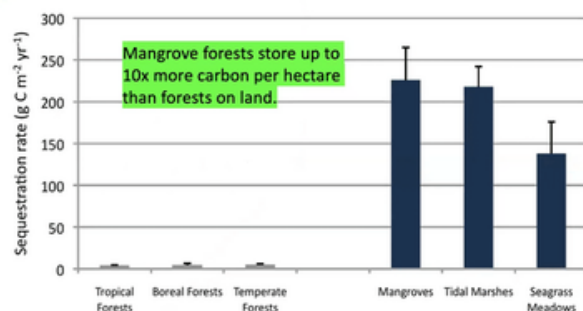


Figure 1. Annual mean carbon sequestration rates for blue carbon habitats per unit area compared to terrestrial forest habitats (error bars indicate standard error). The annual sequestration rate of a given ecosystem is the quantity of CO<sub>2</sub> removed from the atmosphere and/or ocean and trapped in natural habitats (Modified from McLeod et al. 2011).

## TOPICS HIGHLIGHTED IN DISCUSSIONS

- Energy structure and renewable energy;
- Macau's pathway towards carbon neutrality;
- Youth climate activism, e.g. plastic waste and food waste reduction;
- Carbon sinks and climate change;
- Nature-based Solutions (NbS), e.g. mangroves;
- ESG and Corporate Social Responsibility;
- The relations between climate change and biodiversity;
- Macau's policy environment for green urban governance;
- Green career-planning and job market.





# ABOUT GENERVISION HOUSE & LCOY



Genervision House is a Macau-based NGO for knowledge sharing and advocacy, as well as a community that promotes the 17 UN Sustainable Development Goals. We are the first Macau member organization of Sustainable Development Solutions Network (SDSN) Youth and of YOUNGO. Recently, we have also joined the Global Alliance of Universities on Climate (GAUC) to become the co-initiator of the Global Youth Climate Week.

Our organization distinguishes itself with the following five pillars of environment-related work:

- ▶ **Customized SDG workshops for all sectors of society**



*In collaboration with local NGOs*



*Private Sector: Wynn Macau & Sands China*



*Public Utility Service Provider: Macao Water*





Universities: USJ, City University



Period Positivity Workshop x Handmade Sanitary Pads Session

Public-facing Community Events



Eco-friendly Soap Printing



Urban Farm Experience x Sustainable Food System Educational Workshop

Content Production



Genervision Cape Monthly Newsletter



Videos including those touching on environmental issues, e.g. eco-tourism





Storms, floods and deaths on the rise as climate fallout takes shape in Asia

It's no coincidence that we're seeing climate change. Not only do natural disasters cost lives, but they also destroy habitats and increase the risk of future pandemics.

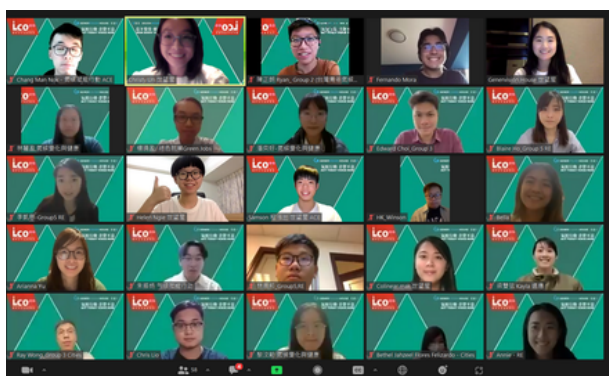


Op-ed pitches & partnerships with local news outlets

### Public Policy Commentaries



### Flagship Conference



LCOY Macau 2022

## ORGANIZATIONAL APPROACH

Our organization focuses on the following five elements in our education, capacity-building, and policy advocacy work:



## WHAT IS LCOY?

The Local Conference of Youth (LCOY) is an event under the umbrella of YOUNGO, the official youth constituency of the United Nations framework Convention on Climate Change (UNFCCC). Launched in 2014, the initiative aims to compile national and regional inputs into positions of global youth, which will in turn be fed into the climate negotiations. This year, the final youth position statement of LCOY Macau 2022 is delivered to COP27 and the 17th Global Conference of Youth (GCOY).

# EVALUATION: STRENGTHS & WEAKNESSES

## STRENGTHS

- Invited guest speakers from various sectoral backgrounds who are active in Macau and mainland China.
- Leveraged the support of other LCOY organizers from Hong Kong; invited several young climate activists from Hong Kong and Macau to help facilitate the Climate Change Position Statement Writing Workshop.
- Secured sponsorship from Sands China Ltd. to cover the operational costs and advertisement fees.
- Obtained the support of various stakeholders for our event, notably the Head of the Environmental Planning Office under the Environmental Protection Bureau.
- Forged extensive outreach partnerships with endorsing organizations at both the local and regional levels.
- Delivered a strong social media strategy to raise our event profile.

## WEAKNESSES

- Our LCOY Macau team did not receive much advance notice about the Global COY and LCOY timelines.
- Due to the uncertainties brought by the COVID-19 pandemic, LCOY Macau 2022 was hosted virtually, which may affect the engagement level of participants.
- Perfect Cantonese and English translation of materials and simultaneous interpretation were made difficult to achieve due to the limited preparation time of volunteer translators and the late submission of speakers.
- The delivery of souvenirs and certificates of participations for youths engaged in the Climate Change Position Statement Writing Workshop was postponed by the COVID-19 pandemic.

# RECOMMENDATIONS FOR THE LCOY WORKING GROUP

- Provide more advance notice about the Global COY and LCOY timelines and logistics. Extend the deadline for the LCOY inputs to be fed into the Global Youth Statement, so as to ensure more buffer time for better quality LCOY/RCOY inputs.
- Create a database to document other LCOYs/RCOYs taking place around the world. This would help us to learn from how the other LCOYs/RCOYs are organized and provide opportunities for collaboration.
- Organize monthly meetings for mutual collaboration and experience sharing as well as for the LCOY Working Group to follow up with the progress of each LCOY/RCOY organizers.
- Provide templates of report and position paper on website with clear guidelines so that organizers with no previous experiences of hosting LCOY can have references.

# CONTACT INFORMATION



Genervision House 世望屋



<http://genervision.org/>



Subscribe to our Newsletter

# APPENDICIES

- Macau Youth Statement Towards Addressing Climate Change
- Speakers' Information





# **Local Conference of Youth Macau 2022**

## **Macau Youth Statement Towards Addressing Climate Change**

### **Youth Collective Position Papers**

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This document was edited by GenerVision House, the organizing unit of LCOY Macau 2022.

We thank the inputs from the following members, in alphabetical order:

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## 1. Introduction

For many young people, the future of our planet is concerning. The IPCC Sixth Assessment Report (AR6) states that there have been more frequent and intense extreme climate and weather events since last reported in 2014, such as heavy precipitation, drought, and wildfire. Climate change impacts are amplifying, and they are hindering the progress toward achieving the Sustainable Development Agenda 2030. For this generation in Macao, we have already experienced the drastic damage brought by Typhoon Hato in 2017. More recently, Macao broke 8 records when it comes to extreme weather in 2021 - three out of seven Signal No. 10 typhoons issued since 1968 occurred in the past five years.

Sustainable Development is a development that meets the needs of the present, without compromising the ability of future generations to meet their own needs. It is clear that the older generations have failed to protect the planet, and the youth will have to pay with their futures. As the largest generation of youth in history and leaders of tomorrow, we have to scale up our efforts to protect our only home and our future.



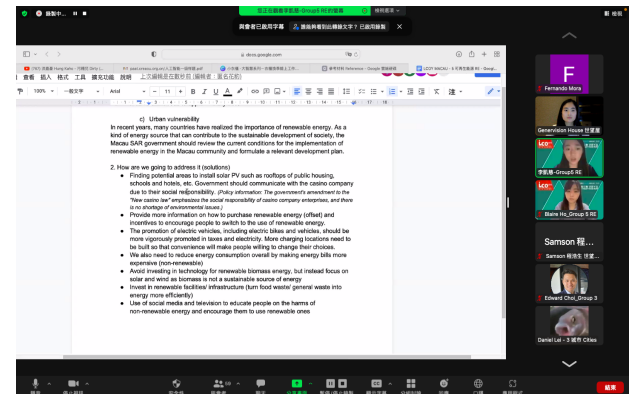
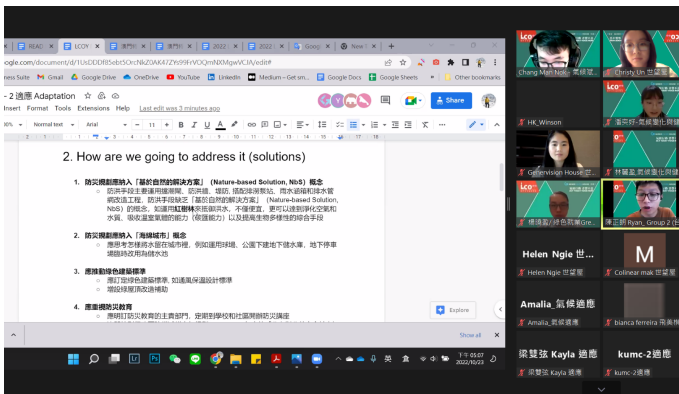
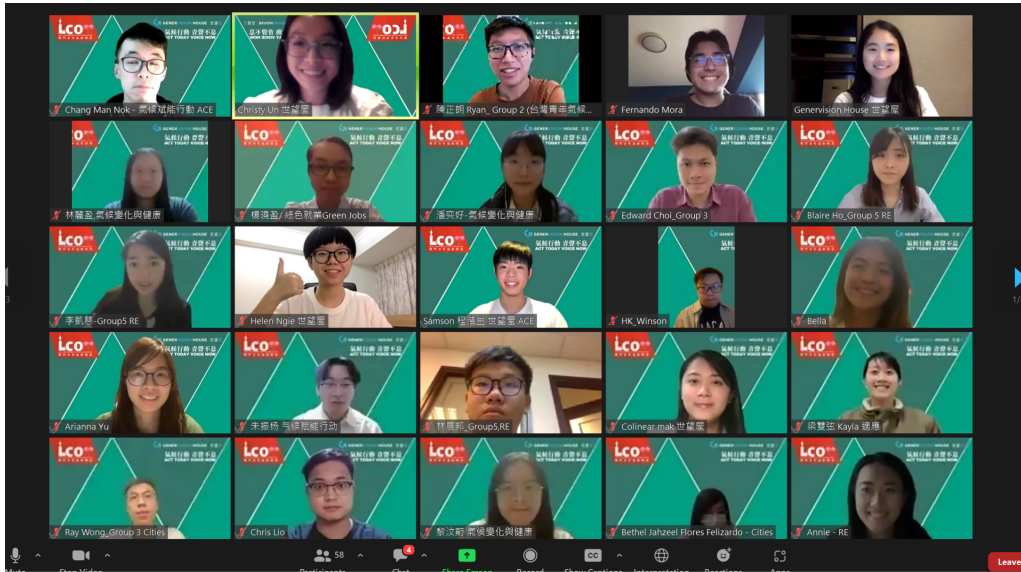
The poster for the LCOY Macau 2022 conference features a green background with a central red circle containing a hand holding a megaphone. Text on the poster includes:
 

- Top left: LCOY LOCAL CONFERENCE OF YOUTH MACAU 2022 澳門青年氣候峰會
- Top right: 22 - 23/10/2022 線上舉行 ONLINE, 22nd 13:40-17:10 | 23rd 13:30-17:55, 報名截止日期 18/10/2022 DEADLINE FOR REGISTRATION, 中文 ENGLISH, and two QR codes.
- Center: 青年參與及政策倡導 YOUTH PARTICIPATION AND POLICY ADVOCACY, 氣候行動 青聲不息, 氣候變化的原因及影響 CAUSES AND IMPACTS OF CLIMATE CHANGE, 氣候立場書撰寫工作坊 CLIMATE CHANGE POSITION STATEMENT WRITING WORKSHOP, ACT TODAY VOICE NOW, 城市綠色轉型及氣候治理 URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE.
- Bottom: 主辦單位 LEADING ORGANIZATION (GENERVISION HOUSE 世望屋), 官方支持單位 OFFICIALLY ENDORSED BY (LCOY a project of YOUNGO), 贊助單位 SPONSORING ORGANIZATION (Sands China Limited).

The Local Conference of Youth (LCOY) is an initiative of YOUNGO & UNFCCC to empower youth and make their voices heard globally. LCOY Macau 2022 is officially endorsed by YOUNGO and sponsored by Sands China Limited. As the first conference of its kind in Macau, the two-day virtual conference centered on the following discussion themes: Causes and Impacts of Climate Change; Urban Green Transition and Climate Governance; Youth Participation and Policy Advocacy; and Climate Change Position Statement Writing Workshop.

The conference attracted nearly 200 participants and featured guest speakers ranging from lawmaker to climate activists and environmental

educators. We aim to create a space for youth to listen to other voices and join the climate dialogue, and to inspire them to take climate actions.



Photos: Climate Change Position Statement Writing Workshop

This is a collective climate change position statement co-written by nearly 60 participants. During the LCOY Macau 2022, they came together to discuss their visions for climate action surrounding 5 topics: Action for Climate Empowerment; Climate Adaptation; Climate Change, Cities, and Health; Renewable Energy; and Green Jobs.

Let's “Act Today, Voice Now”.

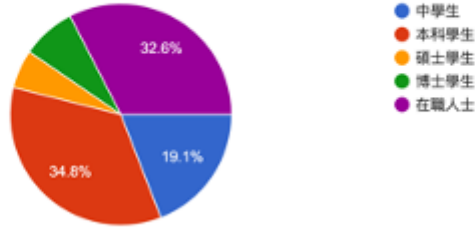


**Guest Speakers of LCOY Macau 2022**

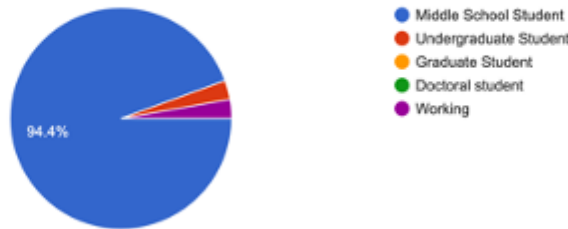
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| <p><b>13:40 - 15:00 23/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>青年參與及政策倡導</b><br/>             YOUTH PARTICIPATION AND POLICY ADVOCACY</p> <p><b>嘉賓講師</b><br/> <b>梁志文博士</b><br/>             Dr. Danny Leong</p> <p>北京師範大學、香港浸會大學<br/>             聯合國際學院地理學助理教授<br/>             Associate Professor of the Beijing International University, Hong<br/>             Kong Baptist University, United International College<br/>             美國國家地理學會新晉探索者<br/>             The National Geographic Society Emerging Explorer</p>   | <p><b>14:10 - 15:30 22/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>氣候變化的原因及影響</b><br/>             CAUSES AND IMPACTS OF CLIMATE CHANGE</p> <p><b>嘉賓講師</b><br/> <b>柯學明院士</b><br/>             Fellow Ruby Q.</p> <p><b>CHAIRPERSON OF</b><br/> <b>澳門食物及環境健康學會會長</b><br/>             CHAIRPERSON OF MACAU FOOD AND ENVIRONMENTAL HEALTH SOCIETY</p> <p>柯學明院士自1988年在海外工作至今，參與多個國際及<br/>             全國性學術及學術論壇等學術組織。為專者及澳門在食安及<br/>             環境健康領域作出諸多貢獻及努力。</p> <p>With over 38 years of experience in her research, she has completed<br/>             approximately 100 papers. She has participated in the national and<br/>             international symposiums, conferences, seminars, and forums, and<br/>             has published a number of scientific papers. She has also been<br/>             involved in various international and local public health projects<br/>             and made breakthrough contributions for the sector.</p>   | <p><b>14:10 - 15:30 22/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>氣候變化的原因及影響</b><br/>             CAUSES AND IMPACTS OF CLIMATE CHANGE</p> <p><b>嘉賓講師</b><br/> <b>陳俊明博士</b><br/>             Dr. Joe Chan</p> <p><b>澳門環境教育導師</b><br/>             Macao Environmental Educator<br/> <b>環保工作者</b><br/>             Environmentalist<br/> <b>澳門科技大學健康科學院公共衛生博士</b><br/>             PhD in Public Health under<br/>             the Faculty of Health Sciences<br/>             at Macau University of Science and Technology</p>   |
| <p><b>14:10 - 15:30 22/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>氣候變化的原因及影響</b><br/>             CAUSES AND IMPACTS OF CLIMATE CHANGE</p> <p><b>嘉賓講師</b><br/> <b>呂定倫</b> Danny Lu</p> <p><b>Member of Council of</b><br/> <b>澳門地理教育研究會理事</b><br/>             MEMBER OF COUNCIL OF MACAU GEOGRAPHY EDUCATION RESEARCH SOCIETY</p> <p>2021年畢業於華英師範大學地理學系，目<br/>             前在華英師範大學中國語文學院地理科上工任職，<br/>             主要負責高中地理學科工作。作為土生土<br/>             長的澳門青年，在有關氣候變化的議題中，比<br/>             較容易理解氣候變化的重要性，特別是對澳門<br/>             居民之影響。</p> <p>In 2021, Danny Lu received his degree in geographic<br/>             science from Saint Joseph's University. He is<br/>             currently responsible for geography teaching in senior<br/>             secondary schools at the Chinese Language Education<br/>             College (Higher Secondary), where he is currently<br/>             working. As a local-born Macanese, he is<br/>             particularly concerned about the damage caused by<br/>             climate change to the environment and the impact on<br/>             local residents.</p>   | <p><b>13:40 - 15:00 23/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>青年參與及政策倡導</b><br/>             YOUTH PARTICIPATION AND POLICY ADVOCACY</p> <p><b>嘉賓講師</b><br/> <b>柳濟琛</b><br/>             JiChen Lu</p> <p>結業大學畢業於香港，中國首創<br/>             合辦特約雜誌編輯員身兼職。入<br/>             籍歸化香港及中國(2008年)。</p> <p>He is also a Submarine Captain at<br/>             Tonghai University and China's First<br/>             Tonghai Journalist. He has published<br/>             several books on the topic of AI and<br/>             AI for the common good.</p> <p>光復打非網創人、CEO，光復打<br/>             非網是一股致力於減少食物浪費、<br/>             促進環保及減少碳足跡的AI應<br/>             用，目前用戶超過80萬。</p> <p>John Lu is the current CEO and<br/>             founder of Green Plate, Green Plate is an<br/>             intelligent "food waste" platform for<br/>             reducing food waste and promoting<br/>             sustainability. It is currently leading in<br/>             intelligence AI application towards a<br/>             low-carbon future. This application<br/>             currently has over 8 million users.</p> | <p><b>13:40 - 15:00 23/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>青年參與及政策倡導</b><br/>             YOUTH PARTICIPATION AND POLICY ADVOCACY</p> <p><b>嘉賓講師</b><br/> <b>劉嘉穎</b><br/>             Annie Lao</p> <p>其職，2019年，她一息一息地與<br/>             朋友成立了「澳門氣候」的社<br/>             區公益改善香港的氣候系統和<br/>             意識。</p> <p>In 2019, she set up "Macao Climate"<br/>             (Macao Climate) as a community<br/>             initiative to improve the climate<br/>             system and raise awareness of<br/>             climate change in Macao.</p> <p>曾在澳洲留學和工作，2015年回<br/>             國，感覺到澳門的環保意識和措施<br/>             不足，2018年八月專職回國上職<br/>             務，及協助澳門政府發展相對<br/>             應的氣候政策。</p> <p>Annie studied and worked in Australia. After<br/>             returning to Macao in 2015, she felt that the<br/>             level of environmental awareness and practical<br/>             measures implemented in Macao were<br/>             insufficient. In August 2018, she took<br/>             the initiative to return to Macao full-time<br/>             to help the government develop<br/>             corresponding climate policies.</p>  |
| <p><b>15:45 - 17:05 22/10/2022</b><br/>             專題演講<br/>             PRESENTATION<br/> <b>城市綠色轉型及氣候治理</b><br/>             URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE</p> <p><b>嘉賓講師</b><br/> <b>林宇滔</b> Ron Lam</p> <p>現任立法委員及澳門城市發展委員會成員。畢業於廣州<br/>             暨大華理大學地理學系及暨大地理學系。曾任廣州暨<br/>             大華理大學地理系副主任及暨大地理學系副主任。曾任<br/>             廣州暨大華理大學地理系副主任及暨大地理學系副主任。<br/>             曾任廣州暨大華理大學地理系副主任及暨大地理學系副主任。<br/>             曾任廣州暨大華理大學地理系副主任及暨大地理學系副主任。</p> <p>Ron Lam is a member of the Macao<br/>             Legislative Assembly and the Urban<br/>             Planning Committee. He graduated from<br/>             the Department of Geography, Sun Yat-sen<br/>             University, and the Department of<br/>             Geography, Sun Yat-sen University.<br/>             He has served as the Deputy Director of<br/>             the Department of Geography, Sun<br/>             Yat-sen University, and the Deputy<br/>             Director of the Department of<br/>             Geography, Sun Yat-sen University.</p>  | <p><b>15:45 - 17:05 22/10/2022</b><br/>             專題演講<br/>             PRESENTATION<br/> <b>城市綠色轉型及氣候治理</b><br/>             URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE</p> <p><b>嘉賓講師</b><br/> <b>海洋生物學家</b><br/>             Marine Biologist<br/> <b>澳門聖若瑟大學教授</b><br/>             Prof. at University of Saint Joseph</p> <p><b>Karen Araujo Tagalo</b></p>  | <p><b>15:20 - 16:40 23/10/2022</b><br/>             工作坊<br/>             WORKSHOP<br/> <b>氣候立法專員撰寫工作坊</b><br/>             CLIMATE LEGISLATION DRAFTING WORKSHOP</p> <p><b>嘉賓導師</b><br/> <b>陳正朗</b><br/>             Ryan Chan</p> <p>台灣青年氣候聯盟<br/>     低碳想創坊<br/>     何紫晴<br/>     Corbin Corbin<br/>     蔡伯賢<br/>     Edward Choi</p> <p>Network of<br/>     Hermia Chan<br/>     Environmental Student Societies</p>  |
| <p><b>15:45 - 17:05 22/10/2022</b><br/>             專題演講<br/>             PRESENTATION<br/> <b>城市綠色轉型及氣候治理</b><br/>             URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE</p> <p><b>嘉賓講師</b><br/> <b>宋慶彬教授</b><br/>             Prof. Song Qingbin</p> <p>澳門科技大學副教授/博士生導師。中國環境科學<br/>             學會理事。曾任中國環境科學學會理事。2015年獲<br/>             中國環境科學學會頒發「2015年中國環境科學<br/>             大會」獎章。曾任中國環境科學學會理事。2015年獲<br/>             中國環境科學學會頒發「2015年中國環境科學<br/>             大會」獎章。曾任中國環境科學學會理事。2015年獲<br/>             中國環境科學學會頒發「2015年中國環境科學<br/>             大會」獎章。</p> <p>Prof. Song Qingbin received his PhD from the University of<br/>             Science and Technology of China. He is currently an<br/>             Associate Professor at the Faculty of Environment and<br/>             Urban Planning, Macao University of Science and<br/>             Technology. He has been a member of the Board of<br/>             Directors of the Chinese Society of Environmental<br/>             Science and Technology since 2015. He has also<br/>             received the award of "2015 China Environmental<br/>             Science Conference" from the Chinese Society of<br/>             Environmental Science and Technology.</p> | <p><b>15:45 - 17:05 22/10/2022</b><br/>             專題演講<br/>             PRESENTATION<br/> <b>城市綠色轉型及氣候治理</b><br/>             URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE</p> <p><b>嘉賓講師</b><br/> <b>楊鎮宇</b><br/>             Zhenyu Yang</p> <p><b>President of</b><br/> <b>澳門生態環境保育協會會長</b><br/>             PRESIDENT OF MACAO ENVIRONMENTAL<br/>             PROTECTION ASSOCIATION<br/> <b>澳門路氹城生態保護區統籌</b><br/>             COORDINATOR OF MACAO PATH AND<br/>             TAUCHANG ECOSYSTEM PROTECTION<br/>             ZONE</p> <p><b>高級碳中和管理師</b><br/>             SENIOR CARBON NEUTRALITY MANAGER</p>   | <p><b>14:10 - 15:30 22/10/2022</b><br/>             圓桌會議<br/>             ROUNDTABLE<br/> <b>氣候變化的原因及影響</b><br/>             CAUSES AND IMPACTS OF CLIMATE CHANGE</p> <p><b>嘉賓講師</b><br/> <b>曾宇飛</b><br/>             Yufei Zeng</p> <p>清華大學環境學院環境生物學碩士研究生，曾<br/>             參與國際第二次青島國際綜合科學考察研究<br/>             項目(青島生物圈)，主要研究與氣候<br/>             變化的關係。在《自然》雜誌發表論文，在<br/> <b>Nature Communication, Environmental</b><br/> <b>Pollution and International Journal of</b><br/> <b>Environmental Research</b>等期刊發表論文。曾<br/>             參與工作人選由我國科技部表彰的青島二次<br/>             科考代表性科研成果。</p> <p>Yufei Zeng is a PhD candidate in environmental<br/>             biology at Tsinghua University, School of<br/>             Environment and Research, participating in the<br/>             second Qingdao International Integrated<br/>             Science Expedition Project (Qingdao<br/>             Biosphere). His research focuses on the<br/>             relationship between climate change and<br/>             the environment. He has published papers<br/>             in <i>Nature</i>, <i>Nature Communication</i>,<br/> <i>Environmental Pollution</i>, and<br/> <i>International Journal of Environmental<br/>             Research</i>. He has also participated in<br/>             the work of the Qingdao International<br/>             Integrated Science Expedition Project,<br/>             which was recognized by the Chinese<br/>             Ministry of Science and Technology as a<br/>             representative scientific achievement.</p> |

**Occupations of the participants (Chinese-speaking & English-speaking participants):**

職業  
89 則回應



Occupation  
36 則回應



**Other Endorsing Organizations:**



## 2. Action for Climate Empowerment

Education, training, public awareness, public participation, public access to information, and international collaboration are the six priority elements under the framework of “Action for Climate Empowerment” (ACE) (UNESCO, 2020). Adopted by the United Nations Framework Convention on Climate Change (UNFCCC) since 1992, the ACE elements are crucial to promoting inclusive community engagement, and fostering a better understanding of, climate change and its response.

We noticed that there is rich biodiversity in Macau with relatively easy access, and our citizens need to build connections with nature, learn to appreciate it, and encourage behavioral changes. However, there is a lack database on Macau’s environment and biodiversity, which makes it hard to advocate for collective and behavioral changes without enough data. There is also a lack of financial resources to develop such databases, and relevant majors in universities or training to nurture talents.

We urge the Macau government to implement the following actions to enhance Action for Climate Empowerment within Macau:

1. To establish a fund for citizens to participate in nature activities. There are a few associations and individuals in Macau specializing in holding local nature activities, yet hard to sustain due to a lack of financial resources. If there is a nature activities fund, schools and local associations can collaborate with those specialists to promote biodiversity and climate actions in Macau, meanwhile incentivizing more youth to learn about this profession.
2. To encourage more international activities in Macau, such as Model United Nations, where students can discuss international topics and raise public awareness on climate topics.
3. To promote environmentally friendly behavior through education and financial incentives. For tourists, the Macau government could provide more subsidies

or favorable incentives to use public transportation instead of private car or taxi. There should be more policies to promote waste management, recycling,

and resource-saving in Macau as well, which can start with university dorms and student societies.

4. To publish data and progress reports on climate actions in Macau periodically and transparently on the one-stop-shop platform for climate information, which we also hope to be presented in a more systematic way and to ease public access to information.

### 3. Climate Adaptation

After Typhoon Hato in 2017, Macao's lack of adaptation to climate change was highlighted. As a coastal city, Macao is at the forefront of climate change, so climate adaptation is both important and urgent.

1. "Nature-based Solutions" (NbS) should be incorporated into disaster prevention planning. Currently, flood control in Macao mainly employs tide gates, flood walls, and embankments, together with drainage pumping stations, rainwater culverts, and drainage network renovation projects. However, it lacks the component of "Nature-based Solutions" (NbS). An NbS flood control can be using mangroves to resist floods. Not only is it affordable, but it can also clean up air and water quality and absorb greenhouse gases (acts as carbon sinks), and it is a way to enhance biodiversity.
2. Disaster prevention planning should incorporate the concept of "sponge city". We should consider how to keep water in the city, such as using permeable pavement for pedestrian walks and roads, building underground storage tanks under football courts and parks, and temporarily converting underground parking lots into storage tanks.
3. Attention should be paid to disaster prevention education. The responsible departments of disaster prevention education should be specified, and regular lectures on disaster prevention should be held in schools and communities. It is difficult to quantify the "awareness rate of the public on basic knowledge of public safety" in the 10-year Plan for Disaster Prevention and Reduction of the Macao Special Administrative Region for 2019-2028. We suggest that the government set short-term and medium-term targets for the number of participants in annual community disaster prevention seminars.
4. Increase funding for academic research on climate adaptation. Enhance academic research and funding for climate adaptation, such as sponge cities and urban drainage systems.
5. Disaster prevention policies should pay attention to climate change and other hazards, such as extreme heat. The 10-year Plan for Disaster Prevention and



Reduction should include other disasters of climate change, such as extreme heat. The countermeasures could include the addition of subsidies for green roof renovation, the establishment of summer cooling centers, and the establishment of high-temperature leaves.

6. Green building standards such as ventilation and insulation design standards should be established.

#### 4. Climate Change, Cities, and Health

Buildings are responsible for a large number of carbon dioxide emissions. And without weatherization and renovation, they will continue to emit CO<sub>2</sub> and we will not be able to achieve the Paris Agreement's 1.5°C target. The majority of the buildings in Macau are built without the consideration of climate adaptation and are in need of renovation.

On the other hand, there are many brownfields in Macau that cannot be used due to the ambiguity of ownership. However, they can be turned into public green spaces that serve as recreational spaces and as well as city carbon sinks.

According to the Report on the State of the Environment of Macao, emissions from land transportation constitute a large part of Macau's greenhouse gas emissions. This necessitates a green transition of public transportation as well as the adoption of private electric vehicles.

If we can solve the above problems, we can greatly reduce greenhouse gas emissions in Macau and also increase the quality of life for its citizens. But there are structural and legal issues that hinder the success of initiatives that aim to solve these problems. For example, despite Macau's urban building regulation dictates building owners should carry out maintenance of their buildings every five years, it imposes no penalty for building owners who fail to conduct maintenance.

1. Transform existing legislation to enable easier and more affordable building renovation. We suggest that the government can review existing legislations that make building renovation difficult and revise them so that buildings can be easily transformed into greener and more habitable environments. Besides, the government and banking institutes can consider putting out mortgage plans that incentivize buildings/homeowners to green their buildings.

2. Put brownfields into use and provide each district/zone with a green space of the same quality with a low cost of use (e.g. time and distance to reach).  
Although the new urban master plan seeks to "complement the lack of green or public open space areas" and enhance their "accessibility and connectivity to residential areas," data and maps from the draft show that residents outside the prescribed areas may not have equal access to green space. So, we suggest the government make full use of the brownfields by revising the existing legislation to enable access to them and encourage public participation during the design stage of green spaces.
3. Develop a transportation plan for pedestrians instead of vehicles. Despite the light rail system was built to decarbonize public transportation, it has not been used as a major transportation tool for the majority of Macau citizens. While buses are still in high demand and traffic still impacts the bus routes each day during peak hours. We suggest that the government can innovate the existing transportation plan from a pedestrian perspective, and create public transportation routes that can allow easy access to low-carbon transportation tools and ones that incentivize people to drive less. For example, building bike lanes in the new urban zone will be a good way for people to commute with low carbon emissions and exercise, which is both good for their health and the environment.

## 5. Renewable Energy

According to the Companhia de Electricidade de Macau (CEM), Macau generates only 5% of the electricity used by the city, with over 90% purchased and imported from Mainland China. This reveals a vulnerability when it comes to energy, one that we experienced during typhoon Hato. Macau purchases a majority of its electricity from China Southern Power Grid, which claims over 50% of its electricity is generated from renewable sources. Yet, it is still unsure how much of the renewable energy gets fed into Macau's power grid each day. Therefore, it is important for Macau to develop its own renewable energy. Despite having published a set of safety and installation regulations in 2015 to encourage the installation of photovoltaic systems, there have only been 5 installations in Macau to this day. The government needs to review the current conditions for the implementation of renewable energy in the Macau community and formulate a relevant development plan.

1. Find potential areas to install solar PV such as rooftops of public housing, schools, hotels, etc. Government should communicate with the casino companies for them to take up their social responsibility (policy information: The government's amendment to the "New casino law" emphasizes the social responsibility of casino company enterprises, and there is no shortage of environmental issues.)
2. Provide more information on how to purchase renewable energy (offset) and incentives to encourage people to switch to the use of renewable energy.
3. The promotion of electric vehicles, including electric bikes and vehicles, should be more vigorously promoted in taxes and electricity. More charging locations need to be built so that convenience will make people willing to change their choices.
4. Reduce energy consumption overall by implementing Tiered Electricity Rates to make it more expensive for consuming large amounts of electricity.
5. Avoid investing in technology for renewable biomass energy, but instead, focus on solar and wind as biomass is not a sustainable source of energy.

6. Invest in renewable facilities/ infrastructure (turn food waste/ general waste into energy more efficiently)
7. Use of social media and television to educate people on the harms of non-renewable energy and encourage them to use renewable ones.
8. As the only power company in Macau, CEM should cooperate with government policies to vigorously develop green and low-carbon energy, and accelerate the use of natural gas and renewable energy.
9. For public utility companies, such as electricity and water supply companies, to come up with a plan for sustainable resource input and development for future discussion.
10. The government needs to make a clear commitment and a goal to build up a renewable energy network in the community. Our proposed goals: increase the use of renewable energy by 10% by 2030; by 50% by 2050; power the city with 100% renewable energy by 2060.
11. Considering that the government has already installed solar power systems at bus stops, consideration can be given to upgrading the power supply system at similar public service facilities such as street lighting.
12. Encourage residents to buy electric vehicles but at the same time limit the growth of vehicles.
13. Achieve Carbon Neutrality/ Net Zero by 2050
14. Generate our own renewable energy, instead of buying and importing from neighboring countries.
15. Require a certain area of the solar power system on the rooftop of new buildings, especially public bureau/service buildings, which is not less than 40% of the open area. Encourage the installation of solar power systems on the rooftops of buildings where the existing conditions permit



## 6. Green Jobs

There is still a long way to realize a positive outlook for Macao's sustainable economic diversification. The development of green careers could bring recovery to the local job market, and the International Monetary Fund has conditioned Macao's economic outlook to its exposure to climate change for the first time. For Macao to become a low carbon emission center as mentioned in the Second Five-Year Plan, industries ranging from stores to hotels need to be greened.

It is crucial to educate the public about green sectors and which topics are related to green jobs to support the growth of green industries in Macao and recruit people to work for them. However, the general public's awareness of the green business is still limited, and many incorrectly think that it is just a traditional industry that has a "direct" connection to the sale of eco-friendly products and the provision of clean energy. However, this only reflects the public's misunderstanding, the lack of social concern, and insufficient government advocacy.

In addition, Macau lacks opportunities for graduates with environment-related academic backgrounds; based on current observations, Macau has adequate measures to support the four key sectors, but the region's emphasis has been primarily focused on these industries in which the demand is too singular. In contrast, environment-related supporting incentives are very limited. Regarding the private sector, green incentives are very much only limited to hotels, such as the Macao Green Hotel Award, thereby lacking the participation of other businesses. Furthermore, the SAR government does not provide adequate subsidies for the green transformation of businesses and industries, nor deliver support to cultivate the talent development of related industries. Similarly, the supporting legislations are also lacking a clear direction, resulting in low efficiency and making it challenging to foster a green economy and related industrial growth.

Green industry promotion cannot and must not rely on a single stakeholder. To promote a variety of environmental protection measures and low-carbon actions, the government must take the lead, with the support and collaboration of all sectors of society. Creating a sustainable society is a difficult endeavor and the development of green industries is only one element of it. We still need to handle concerns such as reducing environmental pollution, conserving energy, and lowering emissions. How

can a goal be attained if we all continue to pursue our individual paths instead of working together?

Against this backdrop, Genervision House has collected relevant suggestions and put forward solutions in the areas as follows.

### **1. Education:**

- To address the public's misunderstanding of the green industry and the low levels of attention paid to this area of concern, Macao should begin with education. The government can incorporate sustainable development courses into the regular educational curriculum of primary and secondary schools, educating students about sustainable development from an early age. In addition, as it may take some time to integrate these topics into the regular curriculum, schools can encourage students to share topics related to the SDGs during morning and weekly assemblies.
- In the meantime, government departments can work together to promote the SDGs via various communication methods. For example, the Environmental Protection Bureau and the Education and Youth Development Bureau could jointly organize competitions and workshops on related topics to improve students' understanding of green industries and work, thereby fostering student interest and understanding of these future industries. In addition, schools and teachers could guide and encourage graduating students to look for more opportunities in their career planning, indirectly encouraging them to pursue their future in the green industries.
- To foster talent in green industries, the government can offer educational scholarships or funds for environment-related subjects. Additionally, providing internships for undergraduates to work at businesses in mainland China and arranging green job matching, thereby not only meeting the demands for green talent but also increasing the competitiveness of Macau youth and providing undergraduates with more employment prospects.
- To better understand how the public perceives the development strategy for Macao's green industries, the Environmental Protection Bureau could also work with the Economic and Technological Bureau to create a mobile application - based on referencing the IAM Connect app - to gather public opinions and feedback on pertinent policies.

### **2. Promoting Economic Diversification:**

The true meaning of promoting green industry is to gather the consensus of all sectors of society, promote the upgrading and transformation of industries, continue to work on greening society, jointly undertake the social responsibility of caring for nature, conserve resources, reduce pollution, recycle and reuse products, practice a green and low-carbon management model, and work together towards the vision of the Environmental Protection Planning of Macao 2021-2025.

Macao can add green elements to existing industries, including politics, education, innovation and science, tourism, retail, finance, construction, logistics, and hospitality, and encourage them to explore the possibilities of various green jobs.

In terms of steering the industry, rather than relying on the industry to carry out the greening industry chain reform and implement corresponding measures, the Government should set up a Business Greening Force Committee, led by the Government's expert advisory team, and influential representatives from various sectors selected by the business community, and monitored by the Municipal Affairs Bureau, the Environmental Protection Bureau and environmental NGOs. The main tasks are as follows: bring together all sectors to ensure that all sectors are on the right track to achieve their goals by implementing the reforms and new measures they have promised to promote; hold a cross-industries work meeting every six months, which is attended by representatives from each industry, sum up the year's environmental work and submit a direction for the next year, promote the communication between the different sectors, such as establishing resource sharing network, setting up incubation center for environmental protection talents, launching cooperation promotion plan, etc., so as to improve work efficiency.

### 3. Green Talent

As aforementioned, developing green industries require an integrated approach. We need to encourage more industries from Macao to become a part of the green industries, which would in turn provide more green job opportunities for the local job market. Every job could also be greened and thereby increase the participation of the general public.

- Although Macao has limited resources domestically, the region could leverage its positioning and resources as a city in the Greater Bay Area and a bridge with Portuguese-speaking countries, in order to develop its green economy by encouraging more talent to go abroad for personal development while also attracting local talent to return to Macao for career development.
- The government could also develop a green talent incubation center, help Small and Medium-sized Enterprises to develop green industries, and increase related job opportunities. Furthermore, the government could align local or overseas green businesses for green job matching.

- In the area of talent admission, the government can broaden the assessment criteria and import talent from green industries. As the latest talent admission scheme will focus on importing talent from the “big health”, modern finance, high and new technology, and culture and sport industries, we advise the government to further integrate green industries and also take greening the four aforementioned industries into consideration. For example, the green finance industry has prospects with high development potential and high and new technology talent could be attracted to develop green asset management and data analysis capabilities through Artificial Intelligence and big data.



# SPEAKERS' INFORMATION

## CAUSES & IMPACTS OF CLIMATE CHANGE



GENERVISION HOUSE 世望屋

14:10 - 15:30 22/10/2022  
 圓桌會議 氣候變化的原因及影響  
 ROUNDTABLE CAUSES AND IMPACTS OF CLIMATE CHANGE



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14:10 - 15:30 22/10/2022  
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嘉賓講師  
 GUEST SPEAKER

柯學明院士  
 Fellow Ruby O

CHAIRPERSON OF  
 澳門食物及環境健康學會會長  
 THE SOCIETY OF FOOD AND ENVIRONMENTAL HEALTH (MACAO)

柯學明院士具超過15年在海外及亞洲的企業擔任質量及安全體系建立及帶動變革等項目管理角色，曾帶領多個企業獲得國際性的認證及獎項殊榮，為業界及澳門在食安及可持續發展領域上創造多項新基準及突破。  
 With over 15 years of experience in leadership roles in complex organisations, Fellow Ruby O has been challenging the status quo and bringing in a range of revolutionary initiatives. In fact, she has created a number of sustainability and food safety pioneer projects and made breakthrough achievements for the sectors and Macao.



經常在不同國際及區域性的主題會議上參與演講者及活動評審角色。工餘時間舉辦培訓活動及工作坊，就澳門的特性帶出糧食教育、循環經濟及SDGs等的意識及關注。  
 In addition to being a regular speaker and event judge at various international and regional conferences, she actively engages and participates in the community in promoting food literacy, circular economy and SDGs awareness.

近年更榮獲英國皇家特許環境衛生學會院士名銜。現職上市公司的可持續發展及環境、社會及管治(ESG)行政總監，負責推動、整合和落實有關環保方面的技術和專案，協助企業應對氣候變化和實現碳目標等承諾。  
 In the recent year, she has been conferred the title of Fellow of the Chartered Institute of Environmental Health UK. Ruby is currently the Executive Director of Sustainability and ESG of a listed company where she promotes the integration of environmental-friendly and socially responsible practices into the operations in order to allow the company to contribute solutions to climate change and deliver on carbon targets commitments.



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嘉賓講師  
 GUEST SPEAKER

陳俊明博士  
 Dr. Joe Chan

澳門環境教育導師  
 Macao Environmental Educator

環保工作者  
 Environmentalist

澳門科技大學健康科學院公共衛生博士  
 PhD in Public Health under the Faculty of Health Sciences at Macau University of Science and Technology



現任澳門聖公會國際中學自然科學及生物導師、澳門綠色未來副理事長，澳門環保學生聯會會長、澳門生態學會環境教育課程導師；前澳門理工學院藝術學院可持續發展課程及生態環保課程講師；前城市大學社會工作學系環境保護課程講師及上海杉達健康科學院環境健康講師。  
 Dr. Joe Chan teaches environmental education at the Macao Ecological Society and teaches biology and natural science at Macao Anglican College. He is the President of the Macao Green Student Union and the Vice President of GreenFuture Macao. He has previously taught Sustainable Development and Environmental Protection at the Macao Polytechnic Institute's Faculty of Arts. He has also served as a lecturer in environmental protection for the City University Department of Social Work and in environmental health for the Shanghai Sanda University.

二十多年來致力推動社會可持續發展及本土環保工作，曾擔任澳門電視台及電台環保節目主持（綠色工房、綠色生活、遊園綠趣、大綠行1、2、3輯）2014-2015離開澳門開展環球之旅，遊歷世界最高、最低、最南、最北、最貧窮及富裕之地，記錄「人和自然共存的故事」回澳後積極推動「地球村」及「共享經濟」的概念。  
 Over the past two decades, he has undertaken proffice dedications to local environmental protection work and sustainable societies. Additionally, he has hosted a number of radio and TV shows for Macao TDM. However admits all of his accolades, he embarked on a worldwide journey in 2014. In 2015, he moved back to Macao and has since dedicated his time to promoting ideas like the 'global village' and the 'sharing economy'. His footsteps are seen to be a testament to how well humans and environment can coexist.

畢拉河的河水反映了天空的顏色

圖片來源：大綠行 II



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嘉賓講師  
GUEST SPEAKER

**呂定倫** Danny Lu  
Member of Council of  
GEOGRAPHY AND EDUCATION RESEARCH ASSOCIATION OF MACAU  
澳門地理暨教育研究會理事

2021年畢業於華東師範大學地理科學系，目前於嘉諾撒聖心英文中學擔任地理科科主任一職，主要負責高中地理教學工作。作為土生土長的澳門青年，在有關氣候變化的議題中，比較關注如超強颱風等極端天氣事件的頻發對澳門造成之破壞。

In 2021 Danny Lu received his degree in geographic science from East China Normal University. He is mainly responsible for geography teaching in senior secondary classes at Sacred Heart Canossian College (English section), where he is currently employed as the subjects director. Being a young man who was born and raised in Macao, he is particularly concerned about the damage caused to Macau by frequent occurrences of extreme weather events such as super typhoons.



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GUEST SPEAKER

**曾宇飛**  
YuFei Zeng

清華大學環境學院環境生態學博士研究生，曾參與我國第二次青藏高原綜合科學考察研究項目(土壤微生物子課題)，主要研究興趣領域為氣候變化與微生物對土壤碳的影響，在 *Nature Communication*, *Environmental Pollution* 等國際頂刊上發表成果數篇，相關參與工作入選由我國科技部表彰的青海二次科考代表性科研成果。

YuFei Zeng is a PhD candidate in environmental ecology at Tsinghua University's School of Environment. He took part in the Second Tibetan Plateau Scientific Expedition and Research, specifically researching the subtopic of soil microbiology, and his work was chosen as a representative scientific research achievement of the Research, commended by the Ministry of Science and Technology of China. The effects of microorganisms and climate change on soil carbon are his key areas of scientific interest. He has published a number of works in renowned international magazines like *Environmental Pollution* and *Nature Communication*.





# URBAN GREEN TRANSITION & CLIMATE GOVERNANCE



15:45 - 17:05 22/10/2022  
 專題演講 PRESENTATION 城市綠色轉型及氣候治理  
 URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE

嘉賓講師  
 GUEST SPEAKER

Karen Araño Tagulao

海洋生物學家  
 Marine Biologist

澳門聖若瑟大學教授  
 Prof. at University of Saint Joseph



15:45 - 17:05 22/10/2022  
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 URBAN GREEN TRANSITION AND CLIMATE GOVERNANCE



Karen Araño Tagulao 是一位海洋生物學家，來自菲律賓，2003年開始和家人居住於澳門，現於澳門聖若瑟大學科學及環境研究所從事教學和研究工作。擁有豐富的海洋植物群知識的Karen教授曾參與多個亞洲、非洲、歐洲的科學研究項目，曾帶領執行以藻類和紅樹林為研究重點的海洋植物生態科研项目。Karen教授也會與本地學校和社區開展科學推廣活動，並定期為本地教師提供科學和環境相關的課程。她目前的研究領域主要集中於濕地利用，尤其是在澳門以紅樹林作為減緩和適應氣候變化以及阻隔微塑料污染的自然解決方案。

Karen Araño Tagulao is a marine biologist who dedicates her time in teaching and research at the Institute of Science and Environment of the University of St. Joseph, Macao SAR. Originally from the Philippines, her expertise on marine flora - seagrass, seaweeds and mangroves - paved the way to scientific research projects in Asia, Africa, Europe, and Macao, where she has been living with her family since 2003. She has lead scientific research projects on the ecology of marine plants with focus on algae and mangroves. She carries out science outreach activities with local schools and the community, and regularly gives science-and-environment related courses to local teachers. Her current research is focused on the use of wetlands, specially mangroves, as nature-based solutions for climate change mitigation and adaptation as well as plastic pollution entrapment in Macao.



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嘉賓講師  
 GUEST SPEAKER

楊鎮宇  
 Zhenyu Yang

2012年底開始生態生涯，至今已有10年時間，2012年12月任澳門路氹城生態保護區主管，後升任統籌員，為保護區帶來優質變化，如生物總量由原來395種上升至1833種，有效防治外來入侵物種對保護區的威脅；十年間參與千餘場生態導賞，合計人數近2萬人。楊鎮宇先生同時幫助學生為解決升學選科等困擾，協助超過100名學生就讀本科、研究生和博士學位。

Mr. Yang started his ecological career at the end of 2012, and it has been 10 years since then. In December 2012, he began working at the Macao Cotai Ecological Zones as a director and was later promoted as the coordinator. He pushed forth high-quality reformation in the Zones, such as increasing the total number of organisms from 395 to 1833, and effectively preventing and controlling alien invasive species. In the past decade, Mr. Yang has led more than 1,000 ecological tours, with a total number of nearly 20,000 participants. Mr. Yang has also helped more than 100 students in choosing their academic course, and helped them to get admitted to undergraduate, graduate and doctoral degrees.



President of  
 澳門生態環境保育協會會長  
 Macao Association of Ecological and Environmental Conservation

澳門路氹城生態保護區統籌  
 Coordinator of Macao Cotai Ecological Zones

高級碳中和管理師  
 Senior Carbon Neutral Manager

楊鎮宇先生的發表和獲得的榮譽包括：2009年獲得國家西紅柿顧問稱號；2022年在ZOOTAXA 聯合發表世界新物種-中國刻翅龍蟲；2017年製作全國首個黑臉琵鷺內臟形態標本；2017年至今參與民航鳥擊防範工作，使用「草坪密集干擾法」，使澳門機場鳥擊數量明顯下降，並擔任中國民航幹部學院客座講師，針對機場生態及機場草坪害蟲預防等做交流分享。

Mr. Yang's publications and honors include: National Tomato Consultant in 2009; jointly published the world's new species -- Chinese Cylindrella bipunctatus in 2022; made the first visceral specimen of black-faced spoonbill in China in 2017; participates in the prevention of bird strikes in civil aviation by using the "lawn intensive interference method" and significantly reduces the number of bird strikes in Macau airport since 2017; serves as a guest lecturer of Civil Aviation Management Institute of China, sharing information and experiences on airport ecology and airport lawn pest prevention.





GENERVISION HOUSE 世望屋

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嘉賓講師  
GUEST SPEAKER

### 林宇滔 Ron Lam

現任立法議員及市政署市政諮詢委員會成員。畢業於廣州暨南大學環境科學專業學士及北京大學國家行政學院合辦公共管理專業碩士。曾在澳門日報擔任經濟版記者及編輯，及後轉職立法議員辦事處任職議員助理，曾任社區服務諮詢委員會中區委員及都市更新委員會委員。多年前已關注本澳的能源政策問題，包括天然氣服務、太陽能發電與電費制度、環保車輛等，都是澳門在減排上所面對的挑戰。

Ron Lam is now a member of the Macao Legislative Assembly and the Macao Municipal Affairs Bureau's Consultative Committee on Municipal Affairs. He graduated from Jinan University in Guangzhou with a bachelor's degree in environmental science and has a master's degree in public administration from a joint program operated by Peking University and the Chinese Academy of Governance. Before transferring to be a deputy assistant, he worked as a writer and the editor of the Macao Daily News' economy section. He also served on the Committee on Urban Renovation and the Consultative Committee on Community Service (central zone). Years ago, he became concerned about Macao's energy regulations, including natural gas service, solar power generation, electricity pricing, and eco-friendly vehicles, all of which present difficulties for the city in terms of lowering carbon emissions.



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嘉賓講師  
GUEST SPEAKER

### 宋慶彬教授 Prof. Song Qingbin

澳門科技大學副教授/博士生導師，中國環境科學學會循環經濟分會副秘書長，2013年獲得澳門大學博士，清華大學博士後。研究方向包括固體廢物全過程管理和資源化技術；城市資源、能源代謝分析；碳排放核算及減排方案；居民綠色低碳行為及意願分析等。主持完成澳門科學技術發展基金、中國工程院院士諮詢項目、廣東省自然科學基金等10多項研究項目。

In 2013, Qingbin Song earned his PhD from the University of Macao. He is an associate professor and doctoral tutor at the Macao University of Science and Technology and the vice secretary-general of the Chinese Society for Environmental Sciences-Circular Economy Branch. His research focuses on the whole process management and recycling technologies of solid waste, particularly e-waste; the resource and energy metabolism of cities; the strategy for reducing urban GHG emissions; the LCA methodology; and the citizens' low-carbon behaviors and their willingness to pay. As the principal investigator, he has completed or is now overseeing more than ten research projects funded by FODT, the Chinese Academy of Engineering, Natural Science Foundation of Guangdong Province, and Macao Municipal Affairs Bureau, among other organizations.



參與“第四次氣候變化國家評估報告”“港澳特別行政區氣候變化特別報告”編制工作。在國際知名期刊發表SCI論文90餘篇，主持和參與了5部論著的編寫工作，Google學術搜索被引用4000餘次，h指數33。兩次獲得中銀學術研究優秀獎，入選World's Top 2% Scientists 2020榜單。He also participated in the development of the Special Administrative Regions of Hong Kong and Macao's Climate Change Review Report. He has authored five books and more than 90 academic articles. In Google Scholar, his works have been cited over 4000 times with a h index of 33. He was chosen for The World's Top 2% Scientists 2020 and twice received the BOC Research Excellence Award.

# YOUTH PARTICIPATION & POLICY ADVOCACY



GENERVISION HOUSE 世望屋

13:40 - 15:00 23/10/2022  
 圓桌會議  
 ROUNDTABLE  
 青年參與及政策倡導  
 YOUTH PARTICIPATION AND POLICY ADVOCACY

清華大學蘇世民學者，中國首位聯合國可持續發展目標青年領袖，入選福布斯亞洲及中國U30榜單。He is also a Schwarzman Scholar at Tsinghua University and China's first Young Leader for the Sustainable Development Goals. He was selected under the 2021 Forbes Asia 30 Under 30 list for social impact.



嘉賓講師  
 GUEST SPEAKER  
**柳濟琛**  
 JiChen Liu

光盤打卡創始人、CEO，光盤打卡是一個致力於減少食物浪費、提倡綠色低碳生活方式的AI應用，目前總用戶超800萬。

JiChen Liu is the current CEO and founder of Clear Plate. Clear Plate is an organization whose commitment is to reduce food waste alongside an advocacy of the green Artificial Intelligence (AI) application towards a low carbon lifestyle. This application currently now has eight (8) million users.



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其後，2019年，與一群志同道合的朋友成立了「澳門減廢站」的社區活動改善澳門的回收系統和促進減廢。

In 2019, she set up "Macau for Waste Reduction" with a group of like-minded friends, a community activity to improve Macao's recycling system and promote waste reduction.



嘉賓講師  
 GUEST SPEAKER  
**劉嘉穎**  
 Annie Lao

曾在澳洲留學和工作，2015年回澳後，感覺到澳門的環保意識和設施不足。2018年八月帶頭發起網上聯署，促請澳門政府立法限制和對即棄塑膠限制使用和徵費。

Annie studied and worked in Australia. After returning to Macao in 2015, she felt that the local environmental awareness and facilities were insufficient. In August 2018, she took the lead in launching an online petition, urging the Macao government to ban single-use plastics.



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嘉賓講師  
 GUEST SPEAKER  
**梁志文博士**  
 Dr. Danny Leong

北京師範大學-香港浸會大學  
 聯合國際學院環境學助理教授  
 Assistant Professor in Environmental Science  
 Programme at the Beijing Normal University-Hong  
 Kong Baptist University United International College

美國國家地理學會新銳探索者  
 The National Geographic Society's Emerging Explorer



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梁志文博士是一位生物科學家，一直致力於有關可持續發展的科學研究和探索，希望透過可持續策略保護生物多樣性以及找到解決環境問題的方案。

Dr. Danny Chi Man Leong is a biological scientist. With an aim to seek a sustainable strategy to protect biodiversity, and seek a solution to environmental problems, he dedicates himself to scientific research and discovery for sustainable development.

曾發佈二十一篇科普文章，涉及多個不同科學領域，包括生態保育、群落生態學、分類學、法醫昆蟲學、基於自然的解決方案、生理學以及城市生態等。現為本科生以及研究生導師，指導領域包括生物多樣性，土地使用的改變以及全球暖化對物種群落的影響。

He has published 21 scientific articles in the field of biological conservation, community ecology, taxonomy, forensic entomology, nature-based solutions, physiology, and urban ecology. He is supervising undergraduate and postgraduate students to study biodiversity and the impacts of land-use change and global warming on species communities.

GENERVISION HOUSE 世望屋



# CLIMATE CHANGE POSITION STATEMENT WRITING WORKSHOP



GENERVISION HOUSE 世望屋

15:20 - 16:40 23/10/2022  
工作坊 氣候立場書撰寫工作坊  
WORKSHOP CLIMATE CHANGE POSITION STATEMENT WRITING WORKSHOP



蔡伯賢 Edward 剛畢業於倫敦經濟學院（歐洲與國際公共政策理學碩士課程），持有香港中文大學社會科學（政治與行政學）學士學位。現在於聯合國環境規劃署（UNEP）日內瓦辦公室擔任環境事務實習生，為綠色經濟行動夥伴關係（PAGE）和可持續基礎設施合作夥伴關係（SIP）所開展的研究工作和國家級項目提供支援。

Edward Choi freshly graduated from the London School of Economics (MSc in European and International Public Policy), and holds a BSc in Government and Public Administration from the Chinese University of Hong Kong. He is currently an Environment Affairs Intern at the United Nations Environment Programme (Geneva Office), supporting the research work and the country-level projects conducted by the Partnership for Action on Green Economy (PAGE) and the Sustainable Infrastructure Partnership (SIP).

在 UNEP 實習前，Edward 曾於北京一家非牟利環保組織和香港一家綠色社會企業工作，負責在內地與香港組織有關能源和氣候變化的教育活動和工作坊。憑藉在環境事務方面的經驗，他於 2021 年獲香港特別行政區政府民政事務局（現為民政及青年事務局）頒發「十大優秀青年」獎項。



GENERVISION HOUSE 世望屋

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Hermia 現正於香港中文大學修讀全球研究。因為意識到香港缺乏了氣候教育，2021 年和夥伴一起共同創辦了香港青年環境網絡 (Network of Environmental Student Societies (NESS))，期望透過該組織提供一個一站式平台用於提升公共意識、建立能力、推動氣候行動並強調氣候變化涉及多個學科知識這一特色。

Hermia is a Global Studies student at the Chinese University of Hong Kong. Noticing the absence of climate education in Hong Kong, she co-founded the Network of Environmental Student Societies (NESS) in 2021, with an aim to provide a one-stop platform for awareness raising, capacity building and driving climate actions with a focus in the interdisciplinary nature of climate change.

Hermia 曾參與在英國格拉斯哥舉行的第二十六屆聯合國氣候變化大會 (COP26)，在德國波恩舉行的《聯合國氣候變化框架公約》附屬機構的第 56 屆會議 (SB56) 在國際上倡導氣候賦權行動。她亦有在多個青年平台的義工經驗，包括可持續發展解決方案青年網絡、全球青年氣候網絡 (Global Youth Climate Network) 以及 ThinkOcean Hong Kong 等。

Hermia attended COP26 in Glasgow, the UK and SB56 in Bonn, Germany advocating for Action for Climate Empowerment internationally. She also has experience volunteering with various youth platforms, such as SDSN Youth, GYCN, and ThinkOcean Hong Kong.



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何紫晴女士於香港中文大學畢業，主修地理及資源管理系。畢業後，現職於低碳想創坊擔任項目主任，負責巴黎氣候監察項目。

何紫晴女士於香港中文大學畢業，主修地理及資源管理系。畢業後，現職於低碳想創坊擔任項目主任，負責巴黎氣候監察項目。

畢業前，她曾協助舉辦香港青年氣候峰會 2020。而且，她擔任「環保觸覺」生態導賞員，推動環境教育。

During her undergraduate study, she assisted in organising and coordinating the Local Conference of Youth Hong Kong 2020. Besides, being an eco-tour guide for Green Sense, she is enthusiastic about promoting environmental education.

另外，她致力提高人們對氣候變化的意識，推動氣候變化教育。她於 2021 年以香港青年代表身份出席第二十六屆聯合國氣候變化大會 (COP26)，推動氣候改革。

Besides, she commits herself to promoting the awareness of climate change and climate education. As a Hong Kong Youth Delegate, she attended the 2021 Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26).

作為心然的創辦人，她曾於 2018 年為香港中文大學學生組織並提供生態遊和工作坊活動。

Moreover, as a co-founder of Heartstrings, she organised eco-tours and workshops for the students of the Chinese University of Hong Kong in 2018.



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陳正朗是台灣青年氣候聯盟 (TWYCC) 的氣候倡議者，畢業於台灣大學地理系學士。曾以台灣青年氣候聯盟談判組組長的身份參與 2021 年聯合國氣候變化大會 (COP26)。曾在 KPMG 台灣擔任永續研究員，主要負責碳管理的專案，例如低碳策略藍圖、碳盤查、氣候相關財務揭露建議 (TCFD) 和科學基礎減量目標 (SBTi)。

Ryan Chan is a climate advocacy activist at Taiwan Youth Climate Coalition (TWYCC) and a graduate geography student in National Taiwan University. He participated in The 2021 United Nations Climate Change Conference (COP26) as the head of the Taiwan Youth Climate Coalition (TWYCC) negotiation team. He used to work in KPMG Taiwan as a sustainability researcher, majorly working on projects related to carbon management, such as low carbon blueprint, GHG inventory, Task Force on Climate-Related Financial Disclosures (TCFD), Science Based Targets (SBTi).