

Genervision Cape

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The Ocean and I: Macau Ocean's Past and Future

During the 3rd Macau Ocean Culture Festival, Genervision House was delighted to be invited by the History and Culture Association of Port of Macau to produce a video on exploring the relationship between the ocean and us. From the perspectives of Macau's fishing industry, sustainable seafood, ocean economy, biodiversity loss and Macau's food consumption culture, we at Genervision House as well as Joe Chan, an environmental educator, and Ruby O, Chairperson of the Society of Food and Environmental Health, shared our insights on Macau's ocean ecosystem.

Globally, our ocean is facing a multidimensional crisis caused by pollution, habitat loss, overfishing, invasive species, and climate change. The ocean economy is estimated to account for \$2.3 billion per year in market goods and services. Besides, the ocean also has an important role in climate regulation. Unfortunately, Sustainable Development Goal 14 (Life Below Water) is estimated to be the least invested of all the 17 SDGs. What can we do at the individual and policy levels? Don't miss out the video!

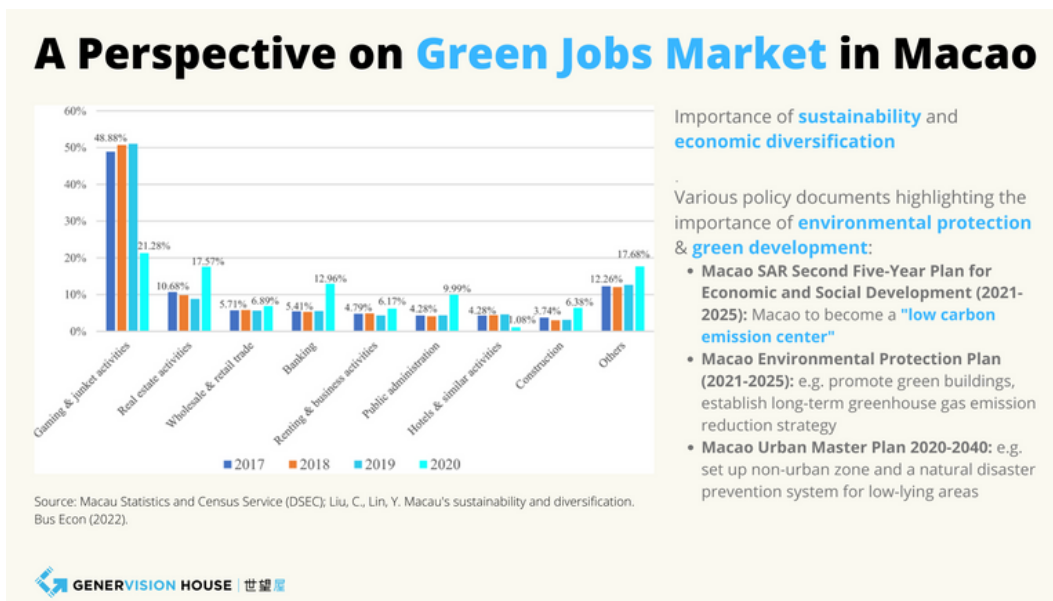


A Knowledge Cape For Development Updates

Featured Articles

A Perspective on Green Jobs Market in Macao: Potentials and Challenges

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 Interational Monetary Fund (IMF) 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. Here is a primer on the current situation and potential ways forward for Macao's green market development.



Importance of **sustainability** and **economic diversification**

Various policy documents highlighting the importance of **environmental protection** & **green development**:

- Macao SAR Second Five-Year Plan for Economic and Social Development (2021-2025): Macao to become a "low carbon emission center"
- Macao Environmental Protection Plan (2021-2025): e.g. promote green buildings, establish long-term greenhouse gas emission reduction strategy
- Macao Urban Master Plan 2020-2040: e.g. set up non-urban zone and a natural disaster prevention system for low-lying areas

This presentation was delivered at the end of August by our Co-Founder and Chief Operating Officer, Christy Un, to university students in Hong Kong during the Human Library and Roundtable Networking International Session of The Green Roller Project - an initiative organized by the Climate Incubator.

A Perspective on Green Jobs Market in Macao

Current Situation



Public Policy

- **Collaborating regionally and globally:**
 - MIECF exhibition to promote green business matching
 - Guangdong-Hong Kong-Macau Pearl River Delta Regional Air Quality Monitoring Network



Green Finance

- **Chongwa (Macao) Financial Asset Exchange Co., Ltd. (MOX):**
 - cooperates with Macao SAR government in developing different types of green and sustainable financial products in the GBA;
 - issues bonds to support long-term project financial for green and sustainable development
- **The Bank of China's Macau Branch** issues advanced unsecured green bills denominated in RMB with the theme of biodiversity, in order to provide financing and refinancing for biodiversity-related qualified green projects.

Potential Ways Forward

- **Prioritize education:** e.g. scholarship options for funding environmental and political science university degrees
- **More forward-looking and ambitious environmental planning and enforcement: only 3 binding indicators out of a total of 10 indicators under the Macau Environmental Protection Plan (2021-2025)**
 - e.g. The need for practical solutions to reduce ozone concentration
- Enrich and innovate green finance and ESG investment products; improve environmental information disclosure. Anchor these to the carbon neutrality goal.
 - e.g. MOU between EY China and China Emissions Exchange
- Explore Macao's potential to set up a **carbon emission trading center** as a Sino-Portuguese financial platform in Hengqin In-Depth Cooperation Zone
- Guangzhou municipal government is currently exploring establishing GBA carbon emission trading market.
- **Leverage technologies** such as AI and Big Data for green asset management and data analysis

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Current Situation



Green Hotels

- **Macao Green Hotel Award:** over 70% of the hotels in Macao, as of 2019, have developed/implemented one or several environmental protection strategies (Luo & Fan, 2019)
- **Corporate Social Responsibility:**
 - All 6 gaming companies issue sustainability reports every year



Renewable Energy

- Regulation on Safety and Installation of Photovoltaic Solar Energy Interconnections has been in force since 2015, but only 5 cases of photovoltaic interconnections with sale of electricity completed as of June 2021.
- 90% of local public buses to be moved by 'new energies' by 2025
- CEM aims to replace the power capacity Macau imports from CSG with its installed capacity from clean energy in GBA by 2030.



Potential Ways Forward

- As of 2018, the gaming industry contributed to 38% of GHG emissions. ESG reporting needs to be more thorough.
- Greater efforts for waste reduction and working with local SMEs.
- In 2021, 91.9% of Macao's electricity was purchased from outside, while local production of electricity accounted for 5.1% of the total, of which natural gas generation accounted for 4.4%.
 - Thus, greater investment needed to investigate potential of solar energy and offshore wind farm in its 85 km² of territorial waters.
- The market share of electric vehicles in Macau was only 0.55% in 2020. Thus, need to reduce cost and increase charging facilities.
- Leverage Hengqin cooperation zone to develop green technology



Melco Resorts & Entertainment Limited cooperates with local SMEs to develop the largest solar power system in Macau.



Hotels under different gaming operators - Sands China, Wynn Macau, and Melco - are adopting AI solution to food waste problem.

Current Situation: Emergence of zero-waste businesses in the past few years



Zero Waste Lifestyle



Source: Macao News
Mailon Store (米厘雜貨店): Locally produced foods & natural products



Source: Mighty Greens Macau
Mighty Greens Macau: provides local microgreens through urban farming and education to local community



Source: Chazene 茶莊
Chazene 茶莊: turning recycled tea leaves into new materials for buildings or daily products



En Masse: The in-store O.N.E brand is a vegan leather bags and accessories brand



Current Situation



Waste Management

- Macao's solid waste management has improved following the rollout of important polluter-pays regulations:
 - e.g. Prohibition of Import and Transshipment of Disposable Styrofoam Tableware to the Macao Special Administrative Region
 - e.g. Construction Waste Management System
- The Environmental Protection Bureau launched the "Recycling Food Waste is Very Easy" program and "Program for the Recycling of Electronic and Electrical Equipment"



Natural Disaster Risk Management

- According to Chinese Academy of Sciences, a medium-emission scenario would see a rise of 34cm in water levels in Macao by 2060, which would be about 20% higher than the global average.
- Macau Disaster Prevention and Reduction Plan (2019-2028): 12 Action Plans for Flood Control and Drainage Facilities.
- CSR: e.g. Sands China partnered with the Macau Red Cross to offer free disaster preparedness seminars to members of social organizations.

Potential Ways Forward

City	Year	Environmental Challenge
Beijing	2014	Addressing the State of the Environment of Beijing 2014
Guangzhou	2017	Addressing the State of the Environment of Guangzhou 2017
Shanghai	2019	Addressing the State of the Environment of Shanghai 2019
Chengde	2020	Addressing the State of the Environment of Chengde 2020
Xi'an	2020	Addressing the State of the Environment of Xi'an 2020
Wulumuqi	2020	Addressing the State of the Environment of Wulumuqi 2020
Yincheng	2020	Addressing the State of the Environment of Yincheng 2020
Yulin	2020	Addressing the State of the Environment of Yulin 2020
Zhangjiakou	2020	Addressing the State of the Environment of Zhangjiakou 2020

Source: Report on the State of the Environment of Macao 2021 (ESPA)

- 72% of restaurants treat food waste as regular domestic waste (Liang et al., 2021)
- Increase education on recycling, especially food waste as it is the biggest source of municipal solid waste
- Integrate long-term planning with suitable technology & infrastructure use

- Weatherize old buildings against climate change
- Need clear timeline for planning and better cross-department coordination mechanisms for timely implementation
- Increase community knowledge on natural disaster risks



What Is Going On Now In 2022?

As we enter the final quarter of the year, a quick recap of where we are seems appropriate.

Millions of people around the world have been driven further into extreme poverty as a result of the pandemic, and the gap between developed and developing countries is widening. In the meantime, the effects of carbon emissions on the environment are still being felt around the world, and a geopolitical crisis is fueling refugee flows, such crisis is seriously disrupting global supply chains for necessities, and increasing food poverty.

Due to the long-standing backlog of public debt, along with rising interest rates in the face of global inflation, developing nations face a significant obstacle in the cost of debt repayments, one in five of the least developed nations and other low-income States are expected to still be below pre-pandemic levels by the end of 2023, according to projections.

All in all, there are significant indications that we are deviating from the path of sustainable development goals.



APAC Is Unlikely To Achieve SDGs By 2030

The United Nations Economic and Social Commission for Asia and the Pacific published the “Asia and the Pacific SDG Progress Report 2022: Widening disparities amid COVID-19” in March 2022, which indicates the situation of achieving the SDGs in APAC is moving backward.

As the pandemic goes on, there are 3 main trends found in the APAC that are slowing down the progress on SDGs:

1. A slow development pace : man-made crisis and severe disaster appear
2. Going in the opposite direction to achieve the Sustainable Development Goals
3. Emerging social gaps and vulnerabilities

An unstoppable pandemic severely slows down the progress on achieving the SDGs. But if we do nothing right now, what about 5 years later? or 10years? A sustainable world will be even further away from our reach.

Do you want to live in a world like this? You are the one to change our world!





亞太經社會發佈的《進展報告》指出了三大趨勢
ESCAP "SDG PROGRESS REPORT"
POINTS OUT 3 MAIN TRENDS

1

發展速度慢:人為危機
和自然災害令實現目
標困難

SLOW DEVELOPMENT PACE:
MAN-MADE CRISES AND
NATURAL DISASTERS MAKE IT
DIFFICULT TO MEET TARGETS

按目前發展情況,預計只能2065年前實現17項可持
續發展目標

BASE ON THE CURRENT PACE OF DEVELOPMENT,
IT IS PREDICTED THAT APAC CAN ONLY ACHIEVE
ALL THE SDGS IN 2065



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亞太經社會發佈的《進展報告》指出了三大趨勢
ESCAP "SDG PROGRESS REPORT"
POINTS OUT 3 MAIN TRENDS

2

實現可持續發展目標
的道路走相反方向

APAC IS ON THE
OPPOSITE TRACK TO
ACHIEVING SDGS



氣候問題變得嚴重的同時,目標
12和13同時出現倒退情況
WHILE CLIMATE CHANGE
EXACERBATE, SDG 12 AND 13'S
PROGRESS ARE GOING
BACKWARD



雖然目標7和9的情況沒有出現倒
退,但還未達到2030年目標速度
ALTHOUGH GOALS 7 AND 9 AREN'T
GOING BACKWARD, THEY ARE NOT
PROGRESS AT THE PACE NECESSARY
FOR THE 2030 DEADLINE

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亞太經社會發佈的《進展報告》指出了三大趨勢
ESCAP "SDG PROGRESS REPORT"
POINTS OUT 3 MAIN TRENDS

3

社會內差距擴大以及社會的脆
弱性增加

WIDENING DISPARITIES WITHIN
SOCIETIES AND INCREASING
SOCIAL VULNERABILITY



弱勢群體:婦女、兒童、殘疾人、移民和難民、農村人
口和貧困家庭,都是不可持續發展社會中的受害者
DISADVANTAGED GROUPS INCLUDING WOMEN,
CHILDREN, THE DISABLED, IMMIGRANTS, REFUGEES,
RURAL RESIDENTS AND POOR FAMILIES ARE THE
VICTIMS OF AN UNSUSTAINABLE SOCIETY



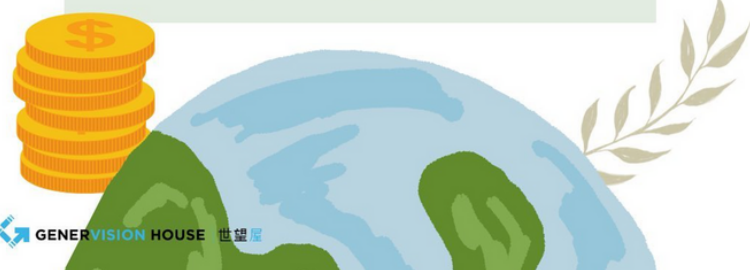
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疫情後經濟復甦 V.S 可持續發展目標
POST PANDEMIC ECONOMIC RECOVERY V.S SDGS

如果只注重疫情後經濟復甦,會減慢實現可持
續發展目標的進程。2030年議程應為社會和
經濟發展作指導作用,共同創建可持續社會

IF WE ONLY FOCUS ON ECONOMIC RECOVERY POST
PANDEMIC, IT WILL SLOW DOWN THE PROCESS OF ACHIEVING
THE SDGS. THE 2030 AGENDA SHOULD BE A GUIDELINE FOR
SOCIAL AND ECONOMIC DEVELOPMENT POST PANDEMIC
AND SUSTAINABLE SOCIETIES CONSTRUCTION



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A Healthy, Sustainable Environment Declared A Universal Human Right

On July 28, 2022, the UN declared the access to a "clean, healthy and sustainable environment" a universal human right.

Despite having 161 countries' backing, this declaration is not legally binding. And the definition of a "clean, healthy and sustainable environment" remains vague.

Universal human right applies to all people in the world. It is not legally binding, but it lays foundation for many national legal frameworks and international treaties. For example, the UN Declaration on the Rights of Indigenous Peoples has been used by Indigenous groups in Canada to develop their own decision-making mechanisms over land and resources management in their land.

So how is this declaration going to change our lives?

As people around the world face environmental crises, especially climate change, biodiversity loss, and pollution, their rights to life, dignity and health can be undermined. Although it is not legally binding, like many of the precedents, this new declaration can be an important tool for us to demand more actions from governments and corporates to protect our well-being.



10 Daily Actions To Promote Peace and Justice

Peacebuilding seems a distant subject from us and for many people it may be the agenda of governments and non-/intergovernmental actors at the international level. However, there are, in fact, everyday actions that we as individuals can take to promote peace and justice.

Here are the 10 actions we can do in our day-to-day life:

1. Make your voice heard and vote in your country's elections
2. Participate in your country's decision-making processes in an informed manner
3. Stop violence against women. If you see it happening, report it
4. Find value in different demographics, thoughts and beliefs for an inclusive society
5. Demonstrate a peaceful environment at home
6. Be passionate about your country's decision, and remain peaceful when standing up for what you believe in
7. Read, write or make a video to stand up for peace
8. Spend some time each week quietly reflecting on how you would like to relate to others
9. Volunteer at local anti-violence organisations and outreach programmes
10. Host or participate in local community events to get to know one another in a safe environment. This can be at sports events, barbecues, festivals and so on



Plaxtil Gives Discarded Disposable Masks A Second Life

Since the outbreak of the COVID-19 pandemic, masks have become indispensable to us. But have we thought about where they have gone after being discarded? A study from the National Center for Biotechnology Information reports that 3.4 billion face masks or face shields are discarded every day. Normally discarded masks used by ordinary people are sent directly to be burnt or to the landfill due to some problems like the danger of transmission, the difficulty of recycling and the cost of recycling.



Unfortunately, a part of them has entered the natural environment, namely the ocean, because of mis-discarding. An article published by National Geographic pointed out that scientists have recorded the presence of disposable masks on South American beaches, river outlets in Jakarta Bay, on the coast of Kenya, and on the uninhabited Soko Islands in Hong Kong. These masks not only lead to pollution, but also threatening the underwater life and many birds' life. What is inspiring is that the French start-up Plaxtil has found a way to transform the masks into recyclable plastic, which can be used to make different daily items. Let's see what Plaxtil's magic is!

Plaxtil 是一間法國初創公司，2019年11月成立於法國西部小城 Châtelleraut。起初，該公司專門從事回收舊衣，然後把布料轉化成一種類似塑膠的物料，該物料亦叫做“Plaxtil”。該物料可以代替以石油為主要原料的塑膠，並且可以被回收以及完全生物降解。新冠肺炎疫情爆發後，公司意識到有大量的口罩被棄置在街道和自然環境中，造成污染，於是研究出把即棄口罩轉化為Plaxtil物料的方法。

什麼是 PLAXTIL?

Plaxtil is a French start-up established in November 2019, in Châtelleraut, a small town in west France. In the beginning, the company specialized in collecting old textile and transforming it into a material called Plaxtil. This material is similar to plastic and can replace petroleum-based plastic. It is also recyclable and biodegradable. Since the outbreak of the COVID-19 pandemic, the company has noticed that many disposable masks were discarded on the streets and in nature, which has led to pollution. Therefore, they found a way to transform disposable masks into Plaxtil.

從廢棄口罩到實用物品

From discarded masks to useful items



在商場、超市、藥房門口設置回收口罩點
setting masks collecting points in front of shopping malls, supermarkets and pharmacies

口罩隔離至少四天後，會被切成碎片
the collected masks will be quarantined for at least 4 days before being shredded

紫外線燈確保完全殺菌
subjected to ultraviolet light to ensure the masks are completely decontaminated

口罩固定器
mask fastener



一些可由Plaxtil製成的物品
some products that can be made from Plaxtil

結合黏合材料製成Plaxtil
mixing the pieces with a binding material to become Plaxtil

How Can Credit Cards Promote Low-Carbon Development

1. Should we provide discounts or double rewards points for public transportation, shared bicycles, and electric vehicle charging?
2. Do not count rewards points for gas or oil consumption?
3. Should we calculate the carbon footprint of consumers' credit card consumption and set a carbon footprint upper limit, or would it be that the lower the carbon footprint, the higher the rewards points can be earned?
4. Should credit card companies donate/invest 5% of their profits to green companies?



Will these measures attract or lose more customers?

In fact, many credit card companies and banks are already doing this. Recently, on August 8, the China CITIC Bank Credit Card Center and Visa, a global digital payment company, jointly announced that they will practice the concept of financial responsibility and green finance, jointly support and help the development of sustainable business, and develop sustainable business and low-carbon economy. It will work with green innovation to broaden the cooperation ecology, give full play to the synergistic effect of the industrial chain and the ecological circle, and promote the transformation of social life to green and low-carbon.

How Much Do You Know About The Concept Of Humanitarian In UN?

The UN's work is guided by 4 humanitarian principles: 1. Humanity, 2. Neutrality, 3. Impartiality, and 4. Operational Independence.

These principles provide the foundations for humanitarian action and are essential elements of effective coordination.

It takes a village to raise a child, it also takes a village to support people living through a humanitarian crisis. The number of people who need humanitarian assistance has never been higher, because of conflicts, climate change, COVID-19, poverty, hunger and unprecedented levels of displacement." said UN Secretary - General Antonio Guterres. Far from the headlines and out of the spotlights, however, brave humanitarians work amidst natural disasters, conflicts and other crises, risking their lives to help others, despite multiple challenges and threats.

It takes a village of humanitarians to deliver life-saving assistance every hour of every day - from healthcare workers and psychologists to drivers and emergency responders.

Let's send our gratitude on this special World Humanitarian Day and follow the principles above in our daily lives.



Macau Climate Youth Takes the COP26

Previously, our Chief Climate Officer, Samson, introduced us to climate negotiation and showed us around the Bonn Climate Change Conference. This time, we are very honored to have invited Ryan Chan, a Macau climate youth who had partaken in the UN Climate Change Conference in Glasgow (COP26), to share his experience at COP with us!

What is COP? and what is it like inside? What role does climate youth advocate have in COP? Scan the QR code below and watch this video to find out!

Here is an announcement from us! Genervision House has officially become a member organization of YOUNGO, a youth constituency under United Nations Framework Convention on Climate Change (UNFCCC)!



Founders

Arianna U & Christy Un

Graphic Designers

Dino Mok, Gladys Ng, Christy Un

Content Contributors

Christy Un, Bella Wu, Gladys Ng, Dino Mok, Samson Cheng, Giovanna Lei, Colinear Mak, Charlotte Leong

Editing Assistant

Samson Cheng

Contact Us

Email: info@genervision.org

Subscription Form: <https://bit.ly/3sxOYWZ>

Website: <http://genervision.org>

