

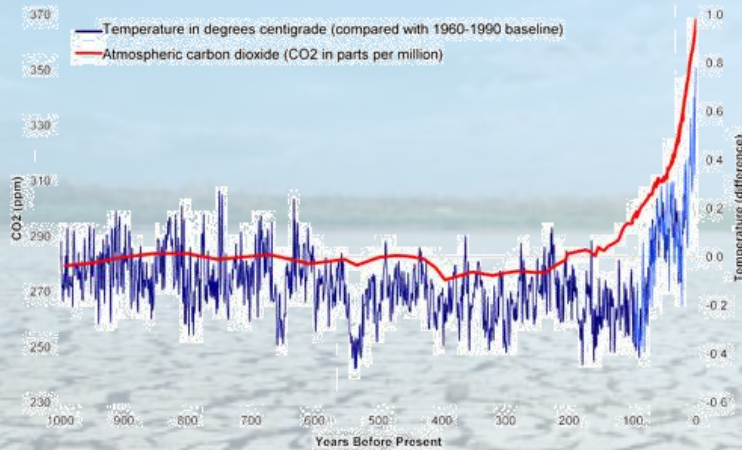


Blue Carbon Policy and Strategy Development in China

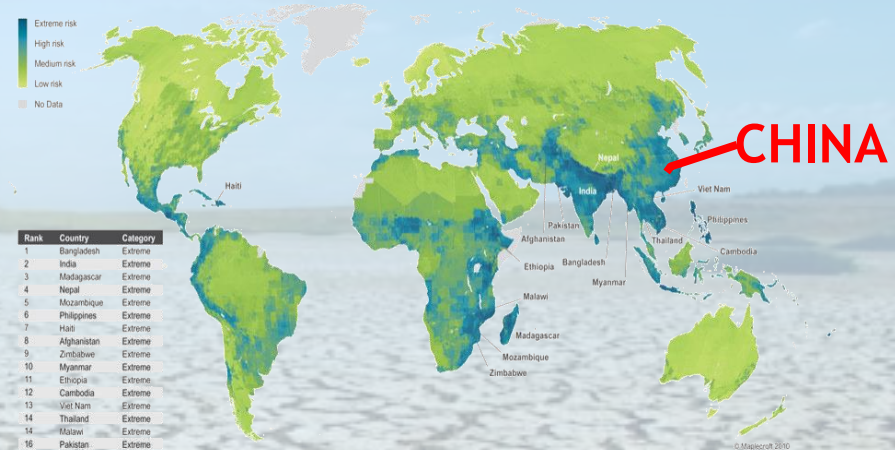
Dr. Zhao Peng

**Fourth Institute of Oceanography
Ministry of Natural Resources, China
Nov 2018, Iloilo, Philippines**

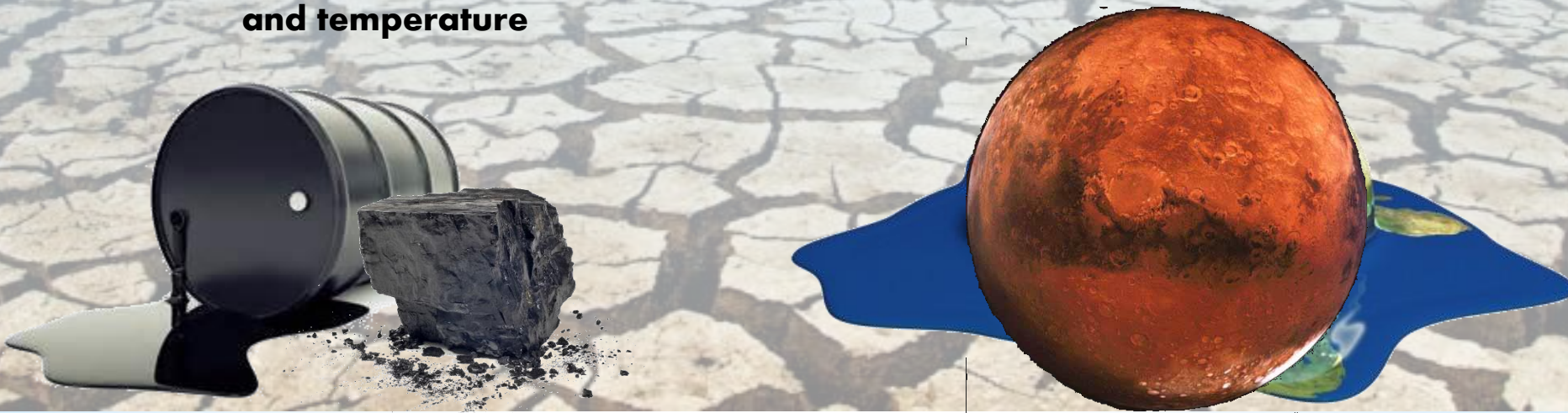
We All Suffer from Climate Change



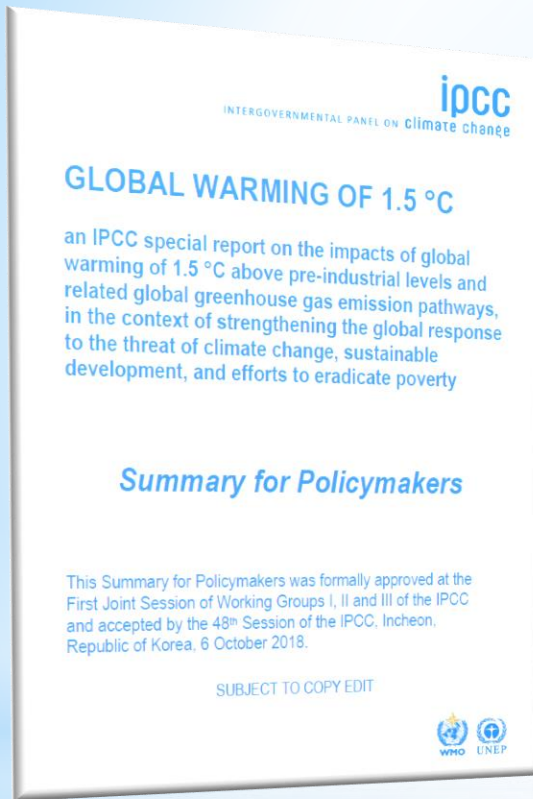
Correlation between CO₂ concentration and temperature



Regions vulnerable to climate change



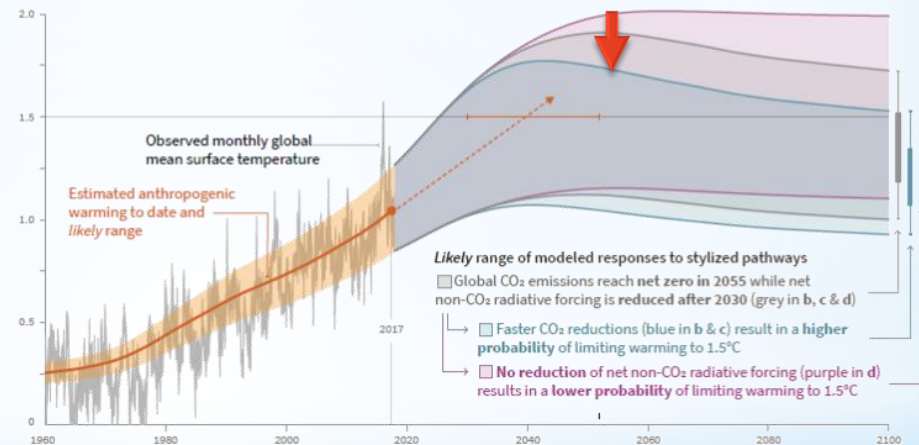
No Much Time Left for Us



Cumulative emissions of CO₂ and future non-CO₂ radiative forcing determine the probability of limiting warming to 1.5°C

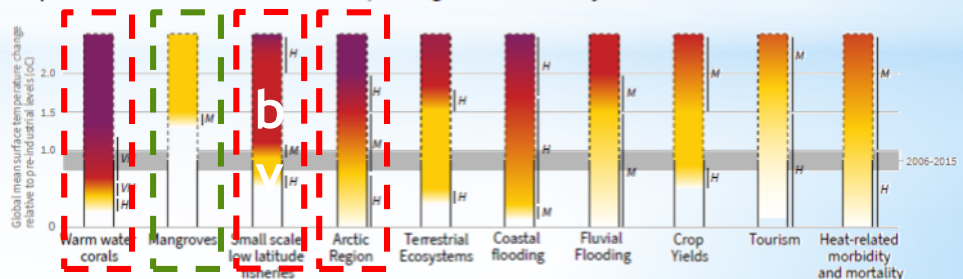
a) Observed global temperature change and modeled responses to stylized anthropogenic emission and forcing pathways

Global warming relative to 1850-1900 (°C)



Net Zero Carbon Emission

Impacts and risks for selected natural, managed and human systems



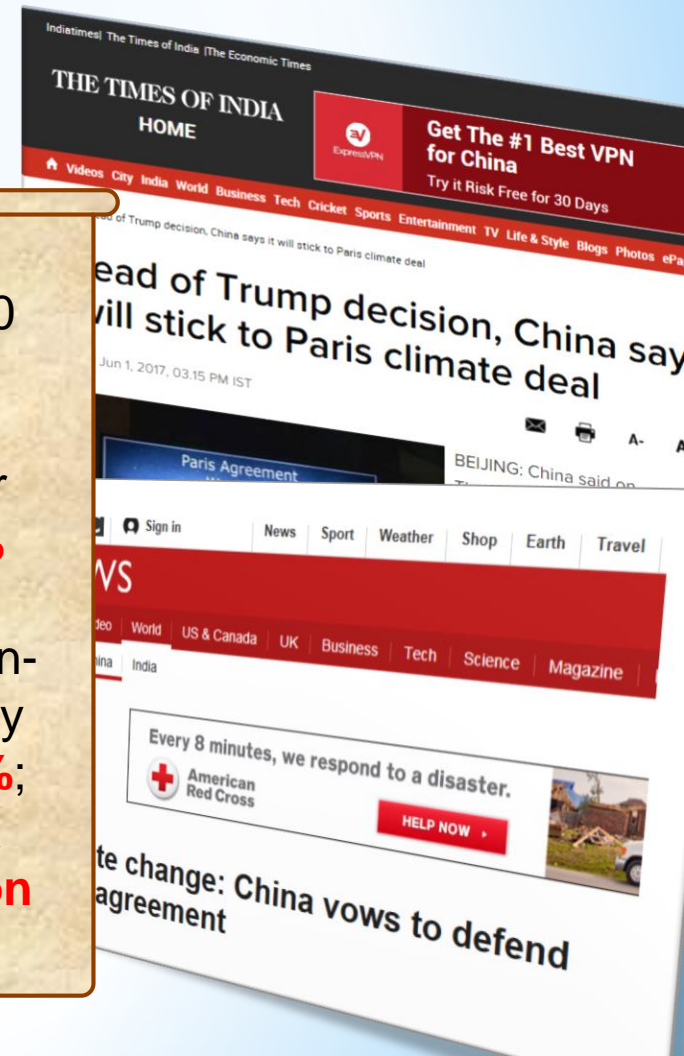
Confidence level for transition: L=Low, M=Medium, H=High and VH=Very high

Avoiding overshoot and reliance on future large-scale deployment of CDR can only be achieved if global CO₂ emissions start to decline well before 2030 (high confidence).

China's Promise for the Future

China's NDCs

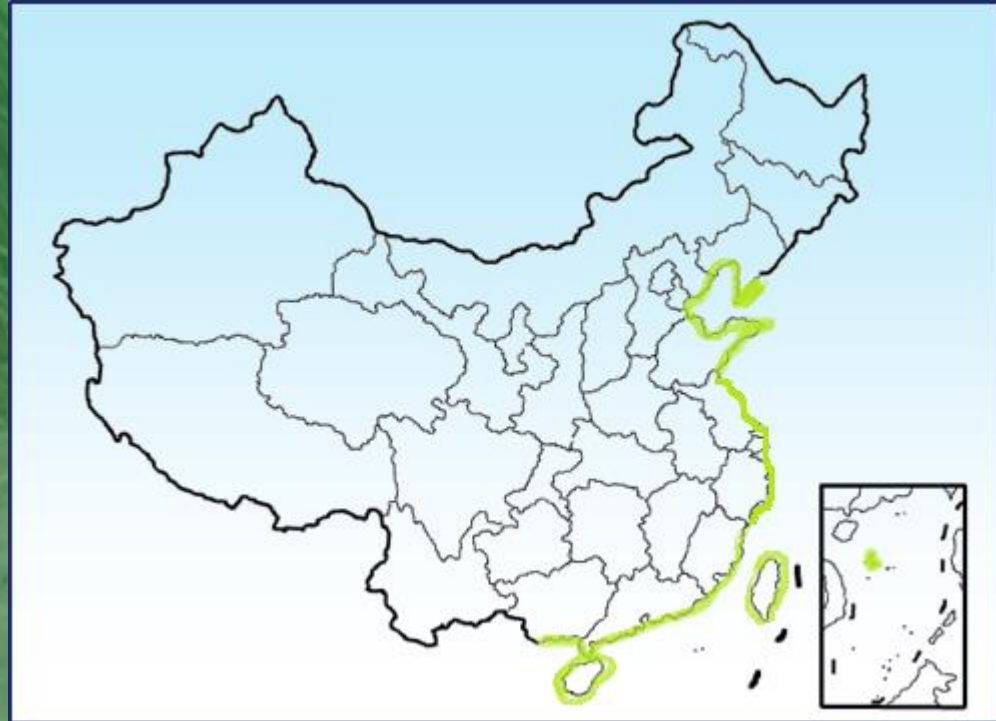
- To achieve the **peaking** of CO₂ emissions around 2030 and making best efforts to peak early;
- To lower CO₂ emissions per unit of GDP by **60% to 65%** from the 2005 level;
- To increase the share of non-fossil fuels in primary energy consumption to around **20%**;
- To increase the forest stock volume by around **4.5 billion m³** on the 2005 level.



Seagrass

China:

- ◆ nation wide distribution
- ◆ About 30 000hm²
- ◆ Over 80% disappeared
(since 1950s)



Mangrove

China:

- ◆ Widespread on coasts to the south of Zhejiang Province
- ◆ 25 000 hm²
- ◆ Over 40% disappeared (since 1950s)

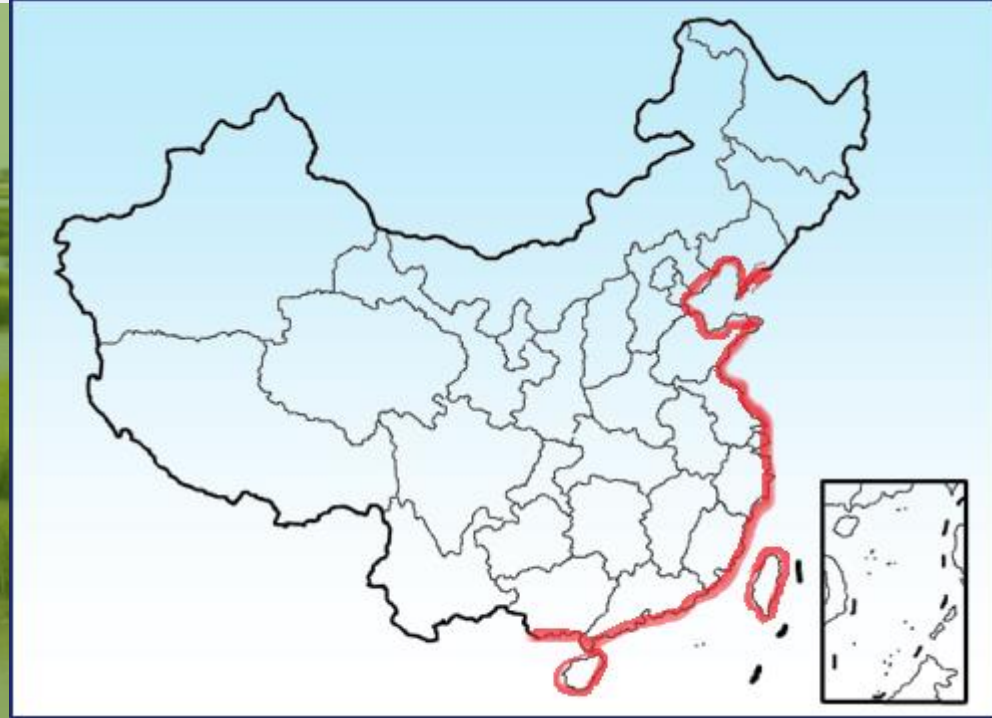


Salt Marsh



China:

- ◆ About 1 207~3 434 km²
- ◆ Nation wide distribution



**Habitat
Damage**



**Rapid Loss
of Blue
Carbon
Ecosystems**



Agriculture



**Water
Pollution**



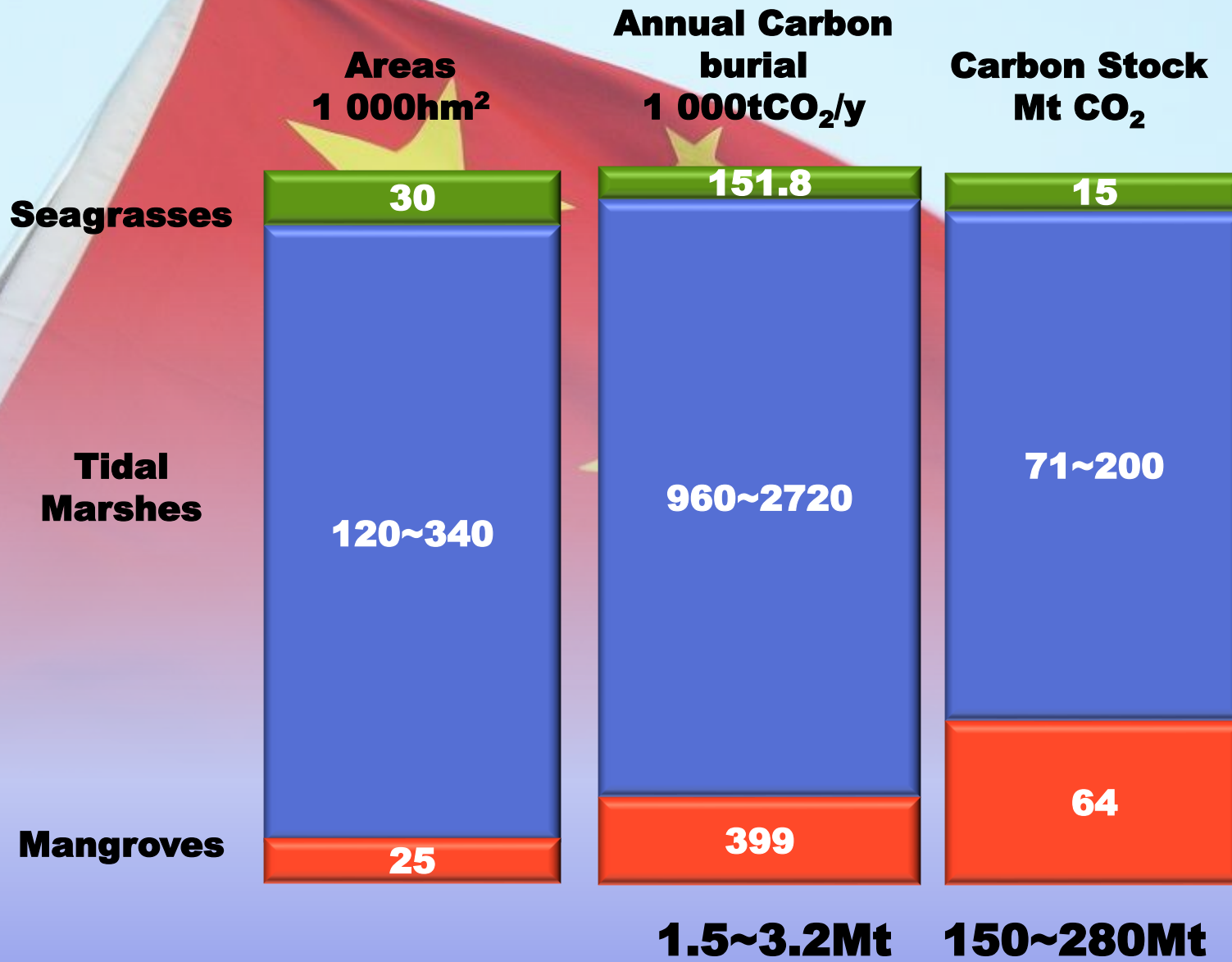
**Coastal
Exploitation**



Overfishing



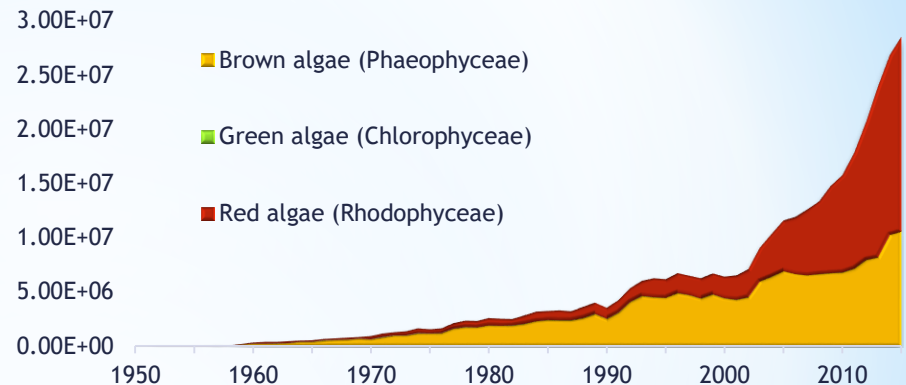
Coastal Blue Carbon Ecosystems in China



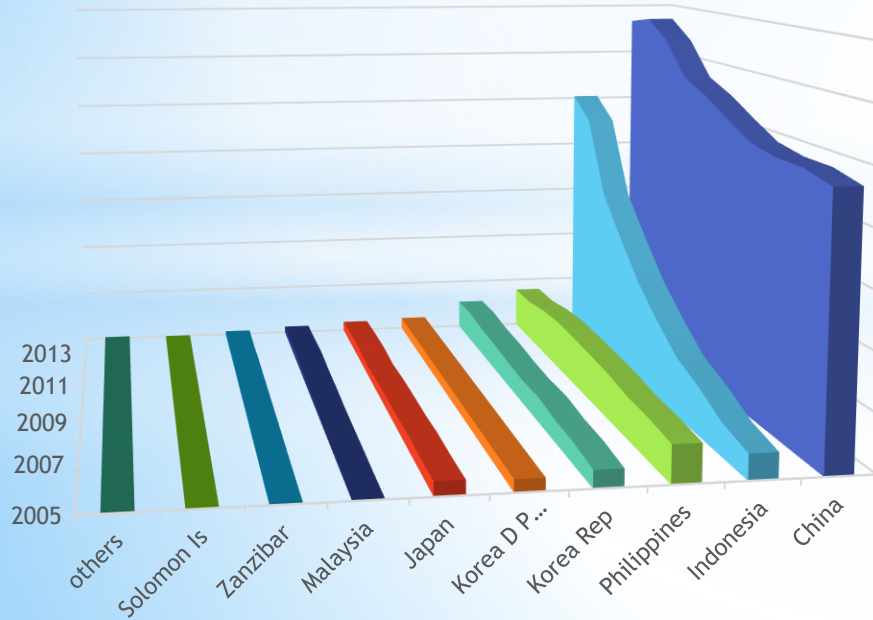
Macroalgae Production from a Regional Aspect



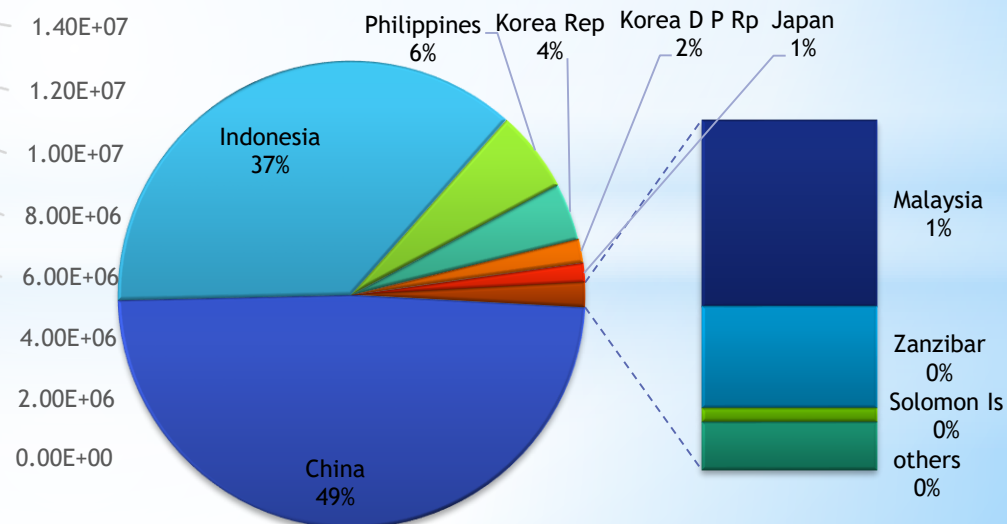
Algae Production Since 1950



Algae Production Change During 2005-2014



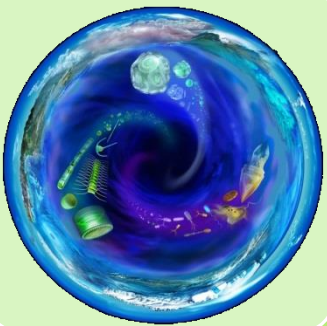
Top 10 Algae Production Countries (2014)



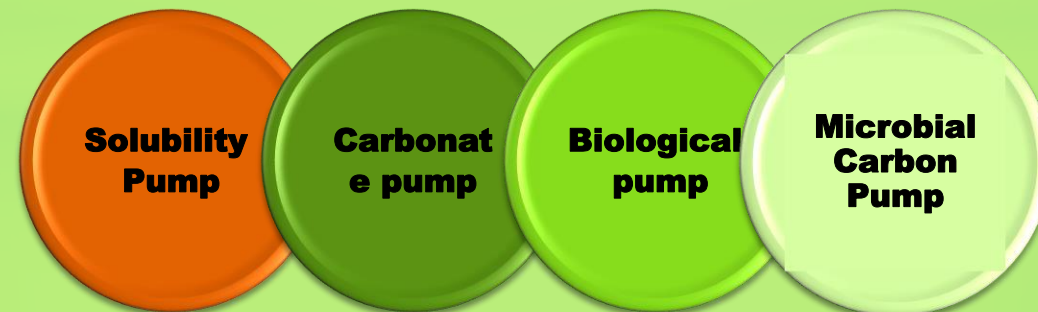
More than Coastal Blue Carbon Ecosystems



Fishery Carbon



Microbial Carbon Pump (MCP)



Blue Carbon in China's National Policies

□ CPC Central Committee and State Council's Opinion on Accelerating Ecological Civilization Building :

Take marine carbon sink as a way to effectively control greenhouse gas emission.

□ The 13th Five-year Plan of China:

Enhancing coastal zone protection and repair, implement south mangrove, north tamarisk Ecological islands, Blue Bays projects

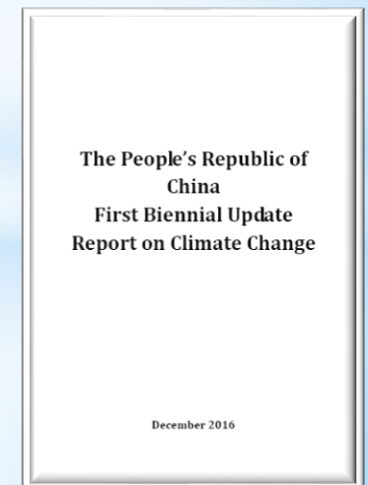
□ The 13th five-year work programme on greenhouse gases emission control

Start pilot scheme on ecosystem carbon sink including the ocean

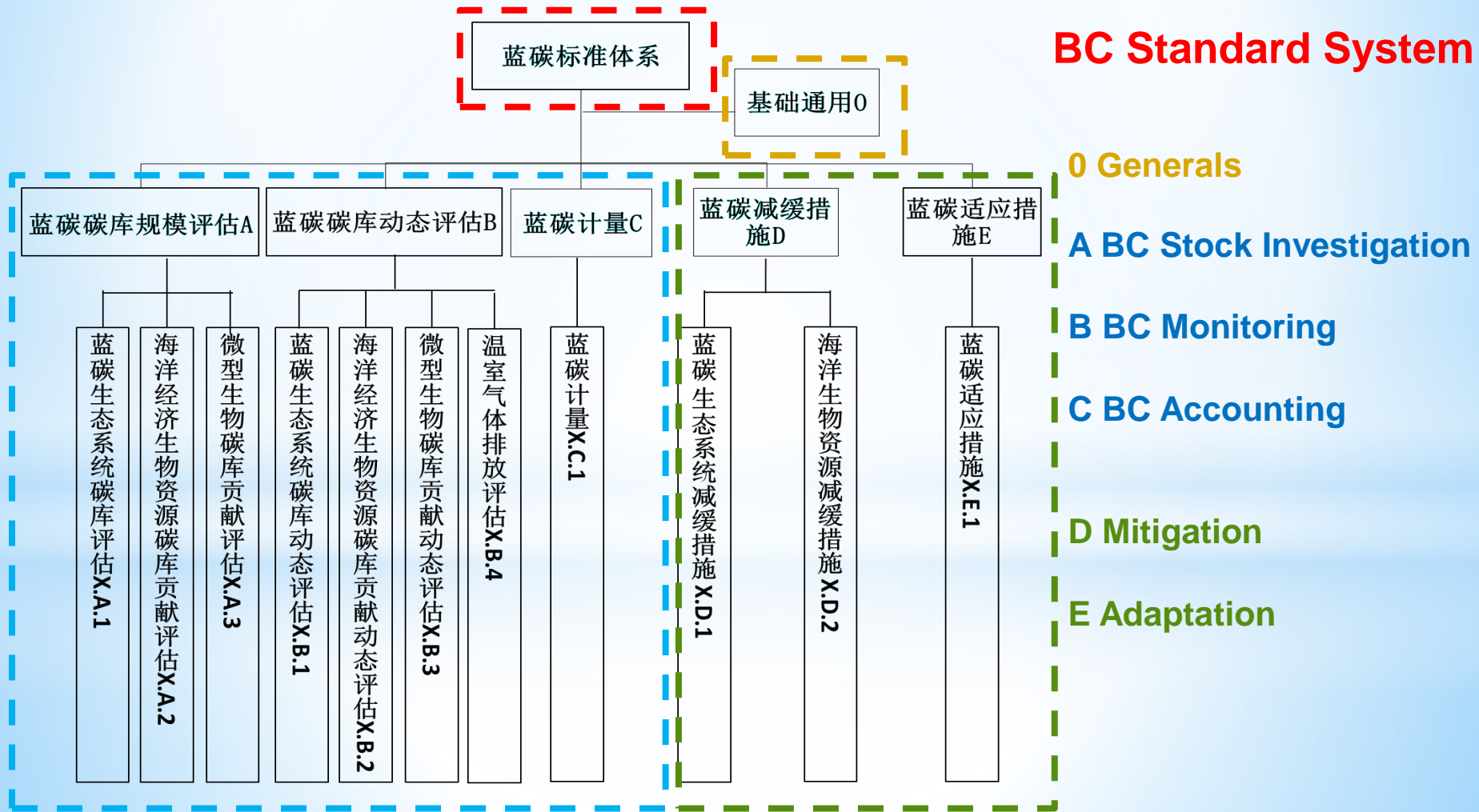
□ Vision on the Belt and Road Maritime Cooperation

China's Progress on Blue Carbon

- Completed a report on blue carbon in China, estimated national carbon storage based on the IPCC Tier 1 standard.
- Blue carbon has been included in China's First Biennial Report on Climate Change submitted to UNFCCC in Jan. 2017.



China 's Blue Carbon Standard System



National Blue Carbon Pilot Scheme



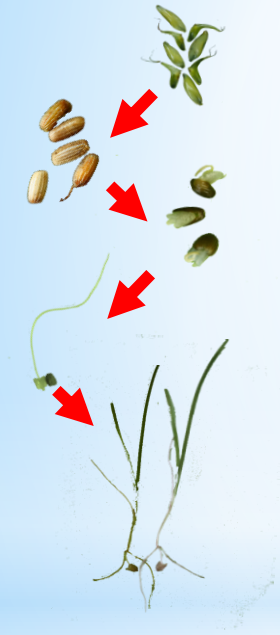
- A **national blue carbon pilot scheme** is under drafting, aiming at promoting the participation of local governments and the private sector.
- national wide sediment core sampling for blue carbon stock estimation under IPCC Tier 2

the Belt and Road Initiative

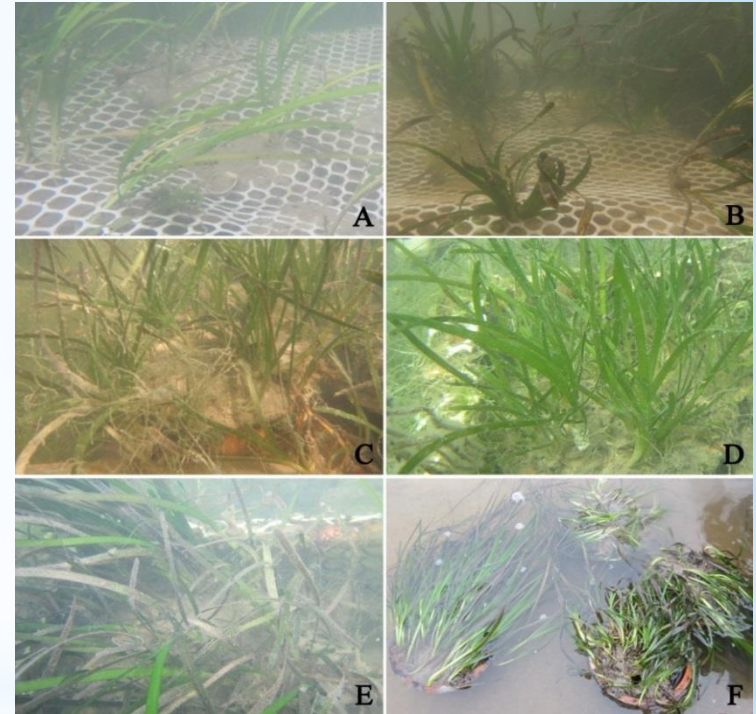
Vision on the Belt and Road Maritime Cooperation

- **Coastal blue carbon ecosystems survey and monitoring**
- **Blue carbon scientific researches**
- **Standards and regulations enacting**
- **International cooperation promotion**

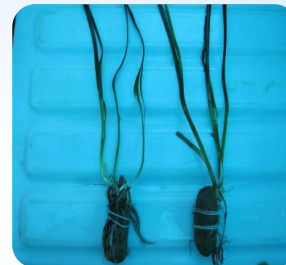
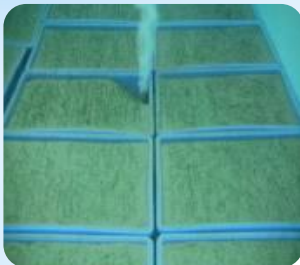
Habitat Restoration: Seagrass



- Seed preservation, nursing seedling and planting techs
- Survival rate > 80%
- Area increased by 40%, biomass increased by 70% (Rongcheng, Shandong)



Zostera marina restoration (1year)



Habitat Restoration : Mangrove

- Beilun Estuary National Natural Reserve
- Survival rate 60%-70%
(3 years after restoration)

Before



5 years after restoration



Nursing Seedlings



Before



After



1 year later



Habitat Restoration : Blue Carbon vs Shrimp Ponds



Suggestions on Regional Blue Carbon Network

- **Regional Working Group-Regional Network-Regional Initiative**
- **Regional Scientific and Policy Report**
- **Blue Carbon Inventory**
- **Mitigation and Adaptation Pilot Projects**
- **Sustainable livelihood based on Blue Carbon enhancement**

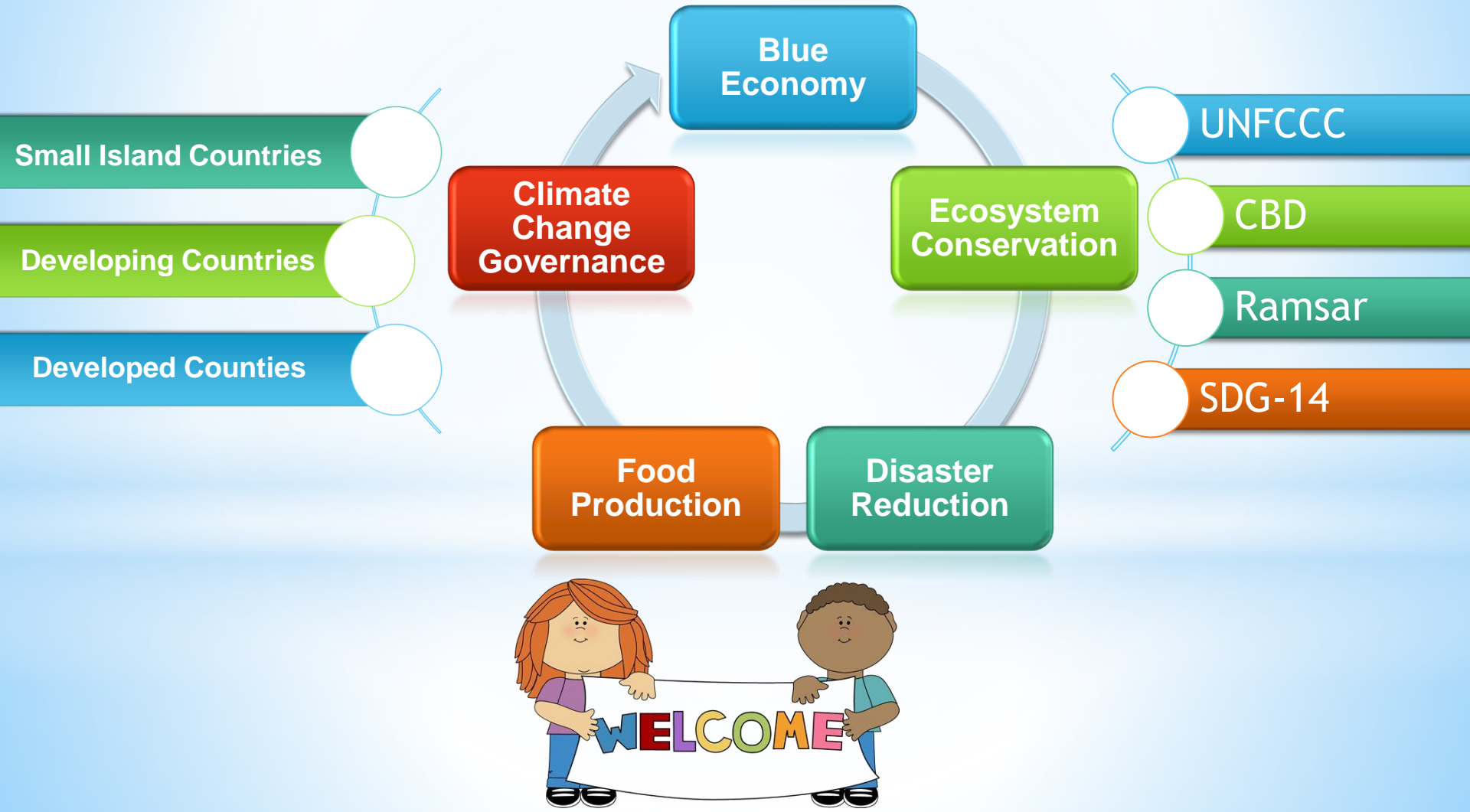
**Mechanism &
Common View**

SDG-13,14,15

**Policy & Pilot
Projects**



More than Carbon



A mangrove tree with its roots reflected in a body of water under a sunset sky. The sky is filled with soft, colorful clouds in shades of pink, orange, and blue. The water is calm, creating a clear reflection of the tree and the sky. The tree has green leaves and a complex root system that is mirrored in the water.

Hands in Hands for a Blue Future

Email: zp-zp@163.com