

# Achieving climate stability

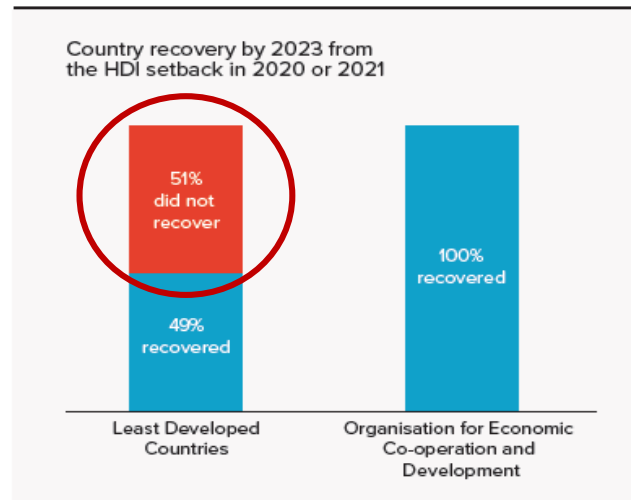
## -Reframing planetary challenges through a global public goods

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23rd May. 2024

## Low recovery rate, Increase inequality, Death rate due to climate change

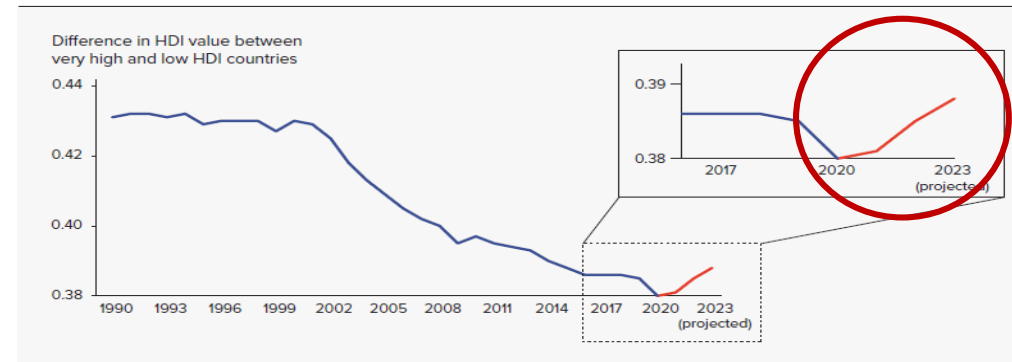
**Figure S.2** Recovery of Human Development Index (HDI) values since the 2020–2021 decline is projected to be highly unequal



**Note:** Least Developed Countries have low levels of income and face vulnerabilities that make them “the poorest and weakest segment” of the international community (<https://www.un.org/ohrrls/content/about-least-developed-countries>). Recovery means that countries that suffered a decline in HDI value in 2020 or 2021 are projected to reach or surpass their pre-decline HDI value by 2023.

**Source:** Human Development Report Office calculations based on data from Barro and Lee (2018), IMF (2023d), UNDESA (2022, 2023), UNESCO Institute for Statistics (2023), United Nations Statistics Division (2023) and World Bank (2023).

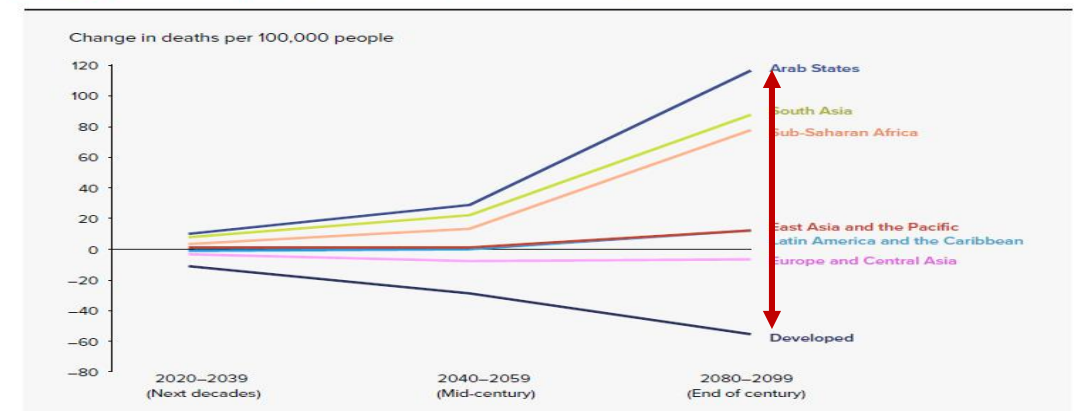
**Figure S.3** Inequality between very high Human Development Index (HDI) and low HDI countries is increasing, bucking long-run declines



**Note:** The difference in HDI values for 2023 is based on projections.

**Source:** Human Development Report Office calculations based on data from Barro and Lee (2018), IMF (2023), UNDESA (2022, 2023), UNESCO Institute for Statistics (2023), United Nations Statistics Division (2023) and World Bank (2023).

**Figure O.2** Climate change could result in an explosion of inequalities



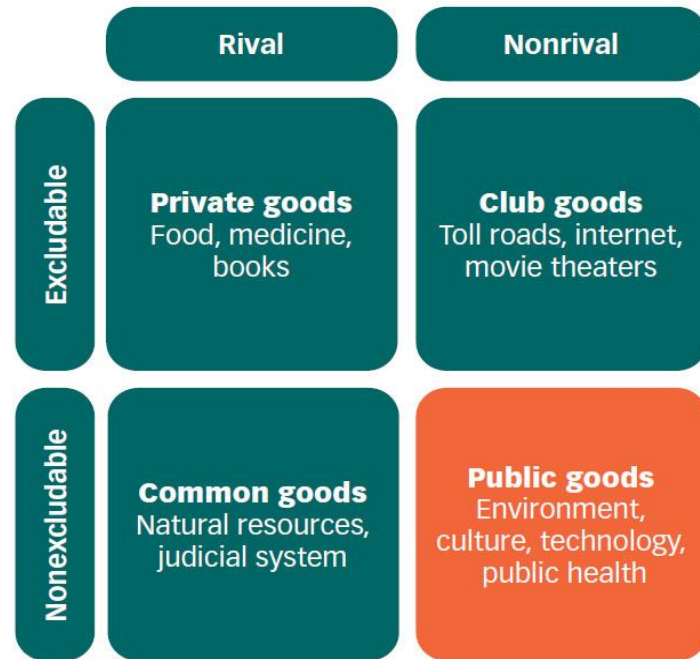
**Note:** Very high emissions scenario.

**Source:** Human Development Report Office based on Carleton and others (2022) and Human Climate Horizons (<https://horizons.hdr.undp.org/>).

# Global public goods, Planetary boundaries

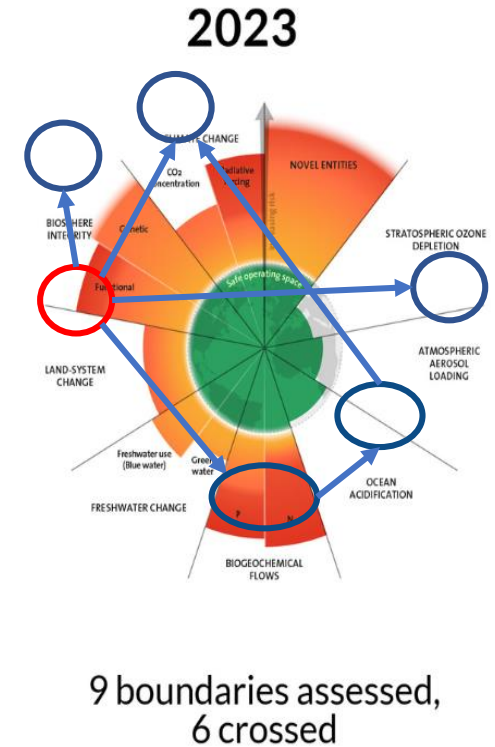
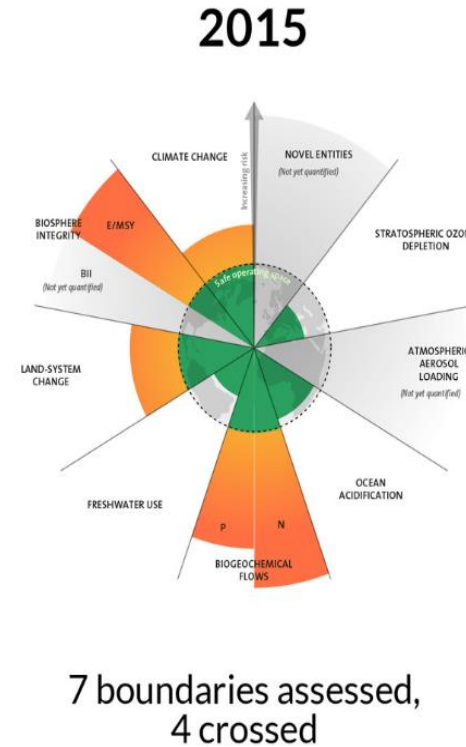
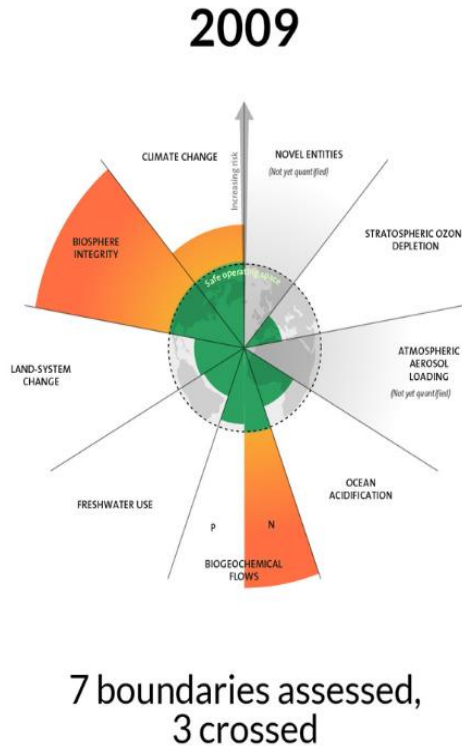
Global public goods : Nonrival, Nonexcludable

- 9 boundaries : Climate change, Biosphere integrity, Land system, Fresh water, Biochemical(P,N), Ocean acidification, Atmospheric aerosol, Ozon depletion



**Note:** Goods listed are examples; this is not an exhaustive list.

Source: IMF(2021)

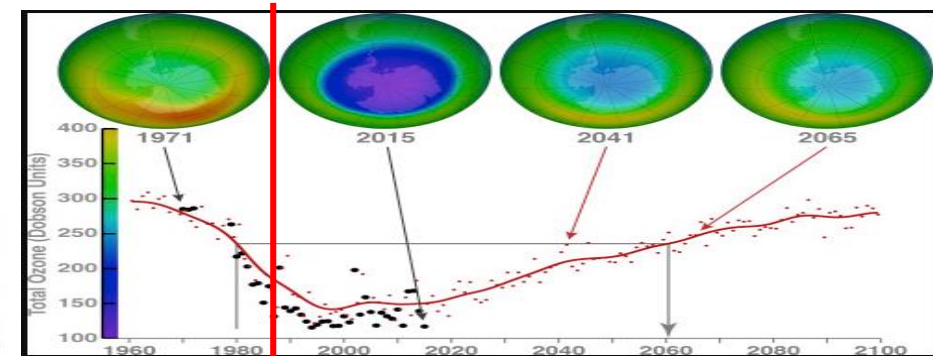
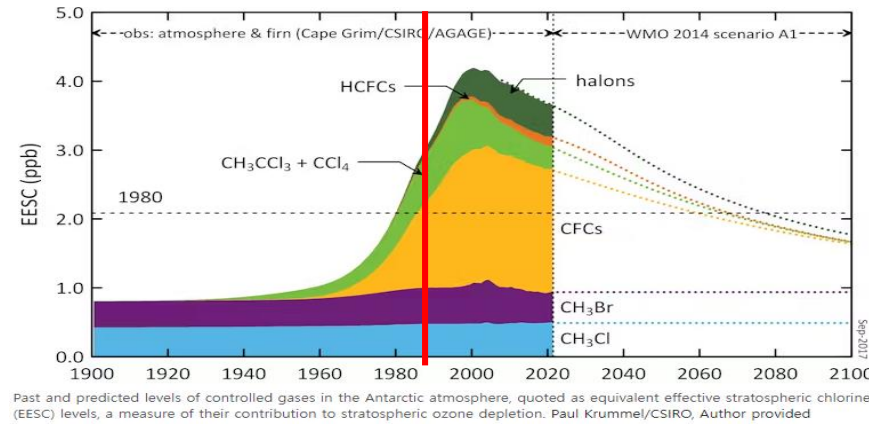
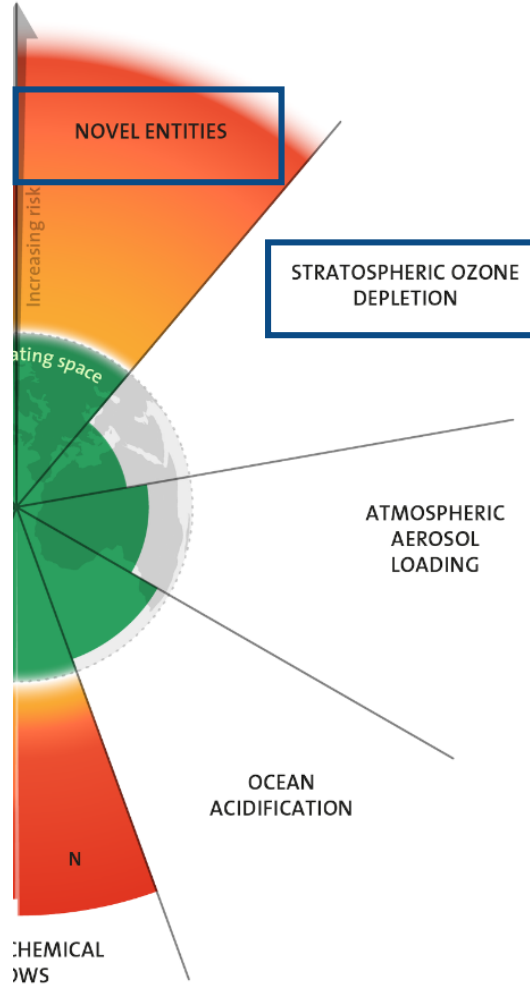


Source: Stockholm Resilience Centre(2023)



# Difficult to reach agreement

Montreal Protocol(Ozone depletion, 1987~), INC(Plastic pollution, Novel entities)

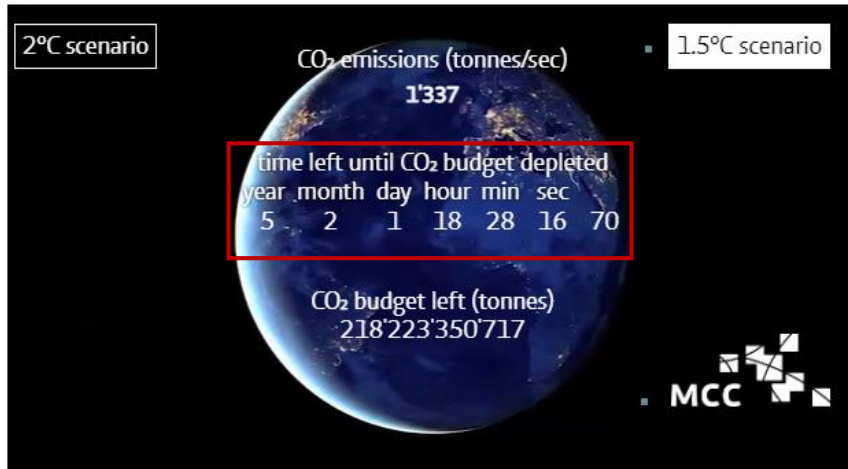


Source: The way forward for Montreal Protocol science, <https://doi.org/10.1016/j.crte.2018.09.001>.

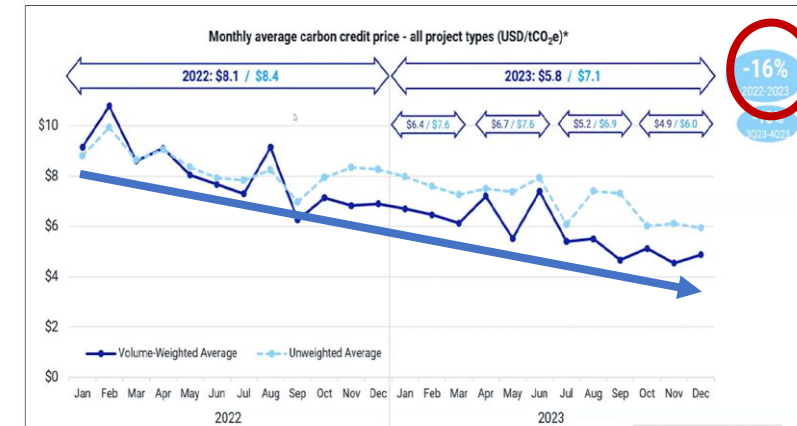
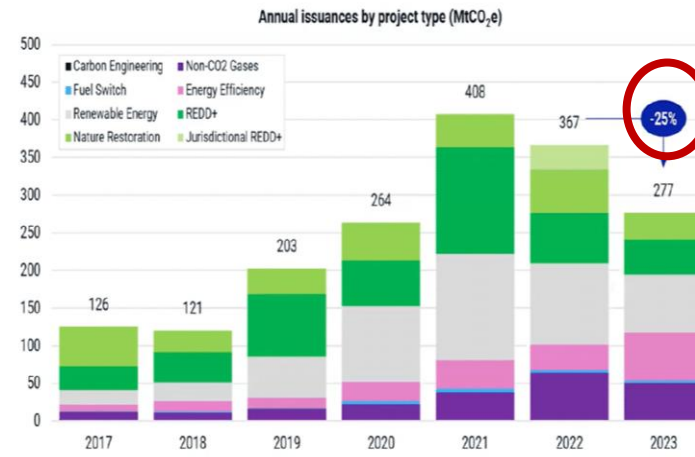
## End Plastic Pollution: Looking forward



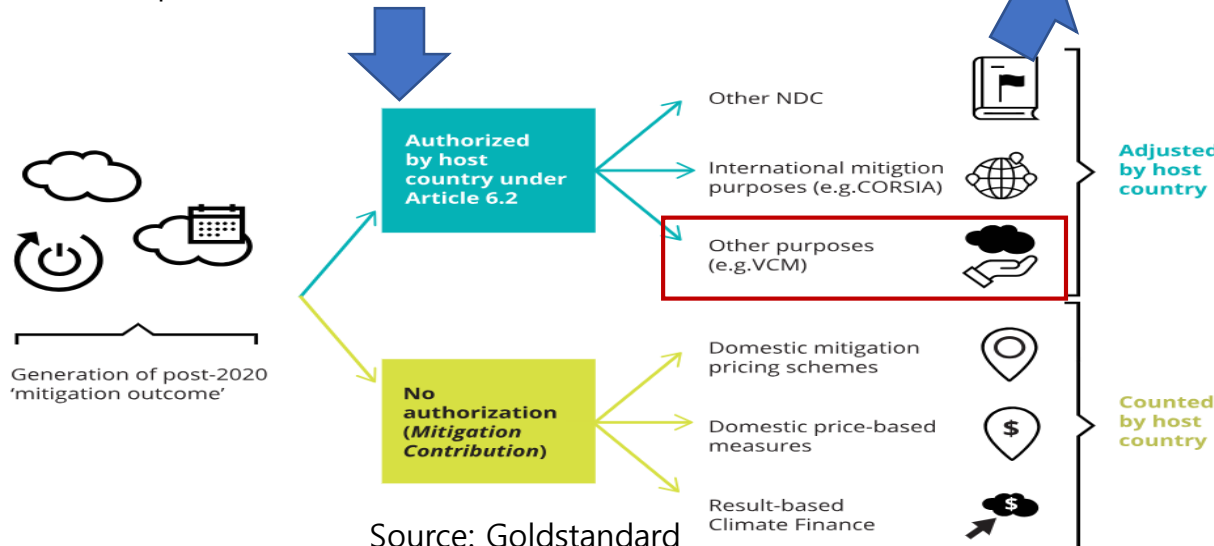
## Carbon Budget, VCM(Voluntary Carbon Market), Reliability, Co-work Public and Private sector



Source: <https://www.mcc-berlin.net/>



Source: carbocredits.com



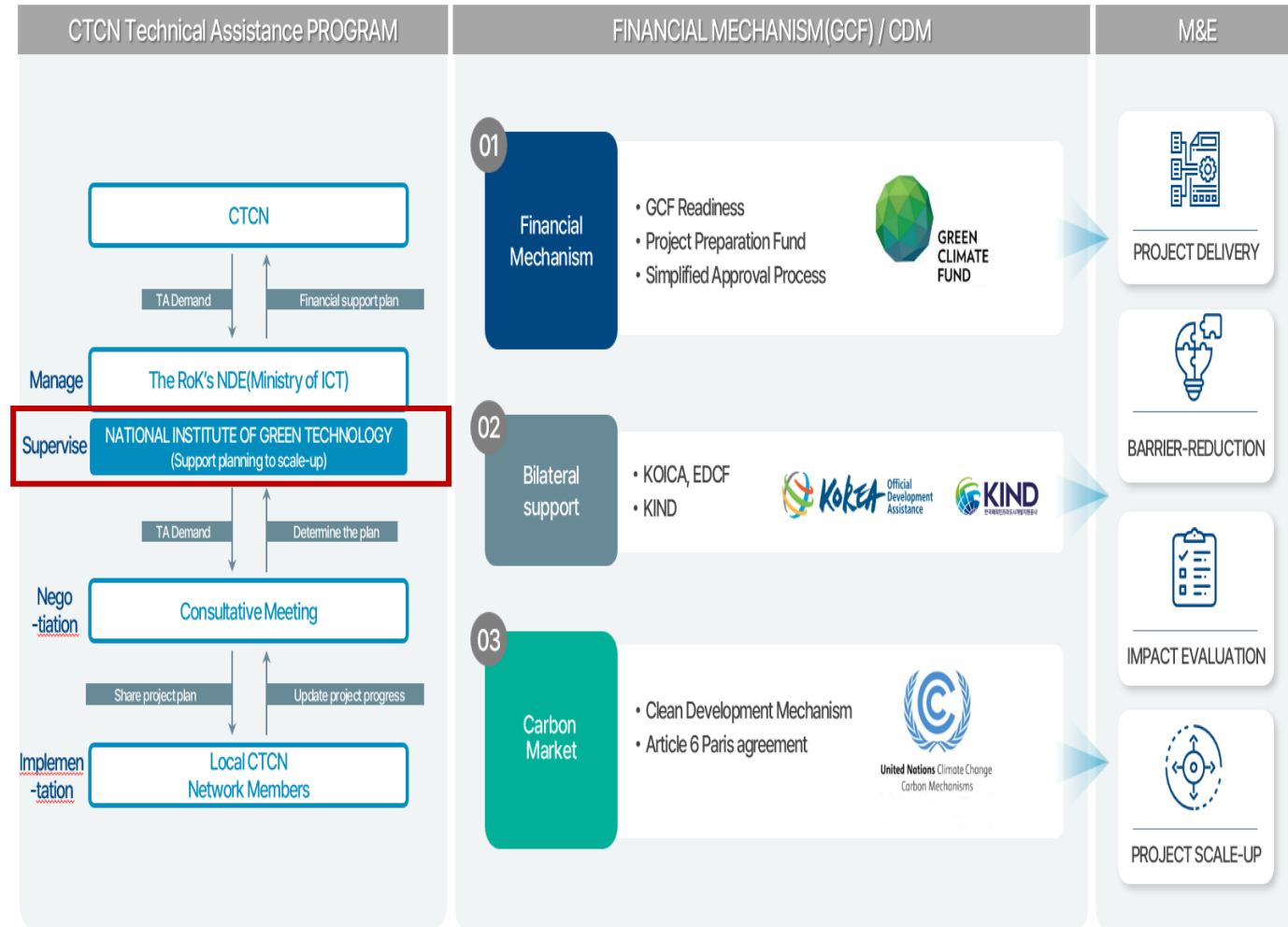
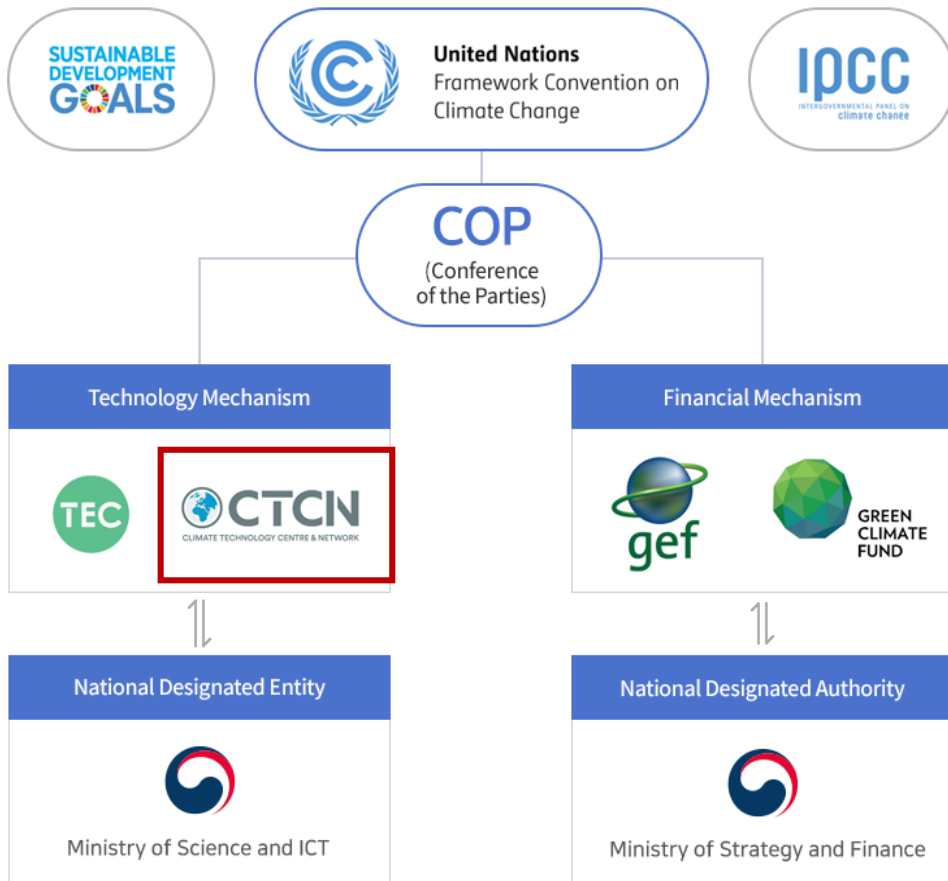
Analysis | Published: 23 January 2024

### Pervasive over-crediting from cookstove offset methodologies

Annelise Gill-Wiehl, Daniel M. Kammen & Barbara K. Haya

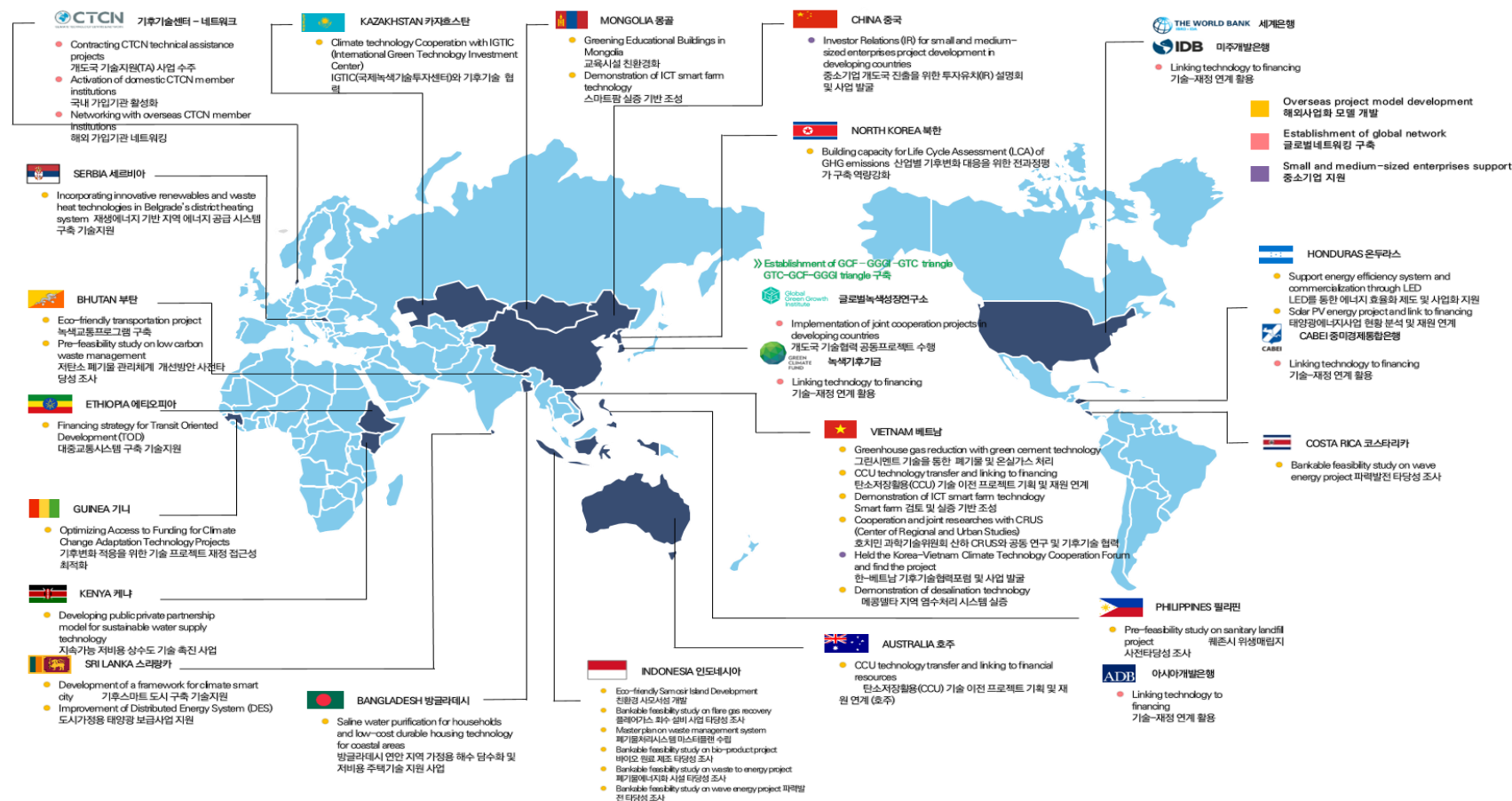
Nature Sustainability 7, 191–202 (2024) | Cite this article

## Support NDE to conduct CTCN TA, link it to financial projects



# Key Achievements of NIGT

56 international cooperation projects in 10 years(mitigation and adaptation area)



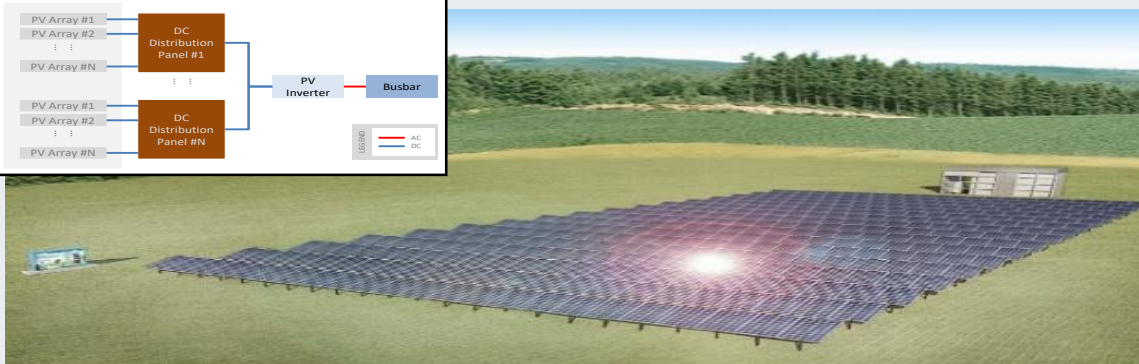
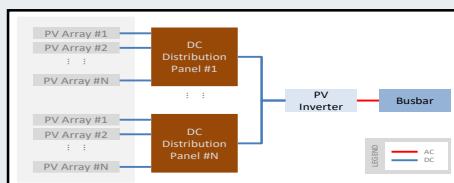


# Key Achievements for Project Development

## Honduras Green Island (Microgrid) Case

Linked  
to ODA

- ❖ Established a **plan for the greening** the Bahia Island in Honduras (K-EXIM's KSP-IDB Joint Consulting Project)
  - Master plan made for greening the island
  - Phase 1 Feasibility study
  - Financial linkage measures and policy suggestions made
- ❖ The financial linkage of \$6.4 million from the Climate Investment Fund is based on the KSP project
  - A Korean company is preparing to **participate in the bidding**
- ❖ MSIT's ODA project is launched to promote the deployment of the Bahia Island's microgrid system and the spread within the Caribbean area ("21.05~")
  - **Development of a business model** for sustainable operation
  - Creating a foundation for the spread of **Korean-style green island models** in the Caribbean region.



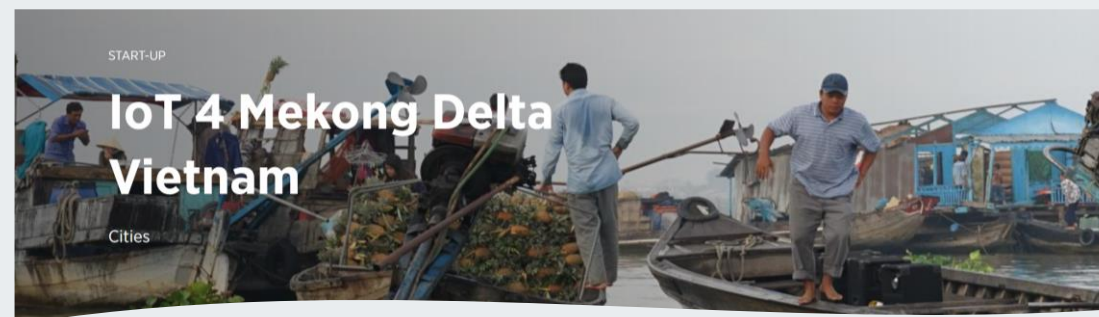
## Using IoT technology to manage the Mekong River basin and improve responsiveness to climate change

Linked  
to ODA

### Partner

- Korea (NIGT, JH Sustain) – Denmark (CLEAN) – Vietnam (CRUS)

- ❖ Developed a solution to improve disaster prediction accuracy and on-site responsiveness.
  - WP 1: Application of real-time intelligence-cooperative IoT sensing technology for flood situation simulation.
  - WP 2: Establishment and development of a commercialization plan for the Mekong Delta local government to apply the solution.
  - WP 3: Planning a large-scale water resource commercialization model between Korea-Denmark-Vietnam and global partners (short/medium/long-term, water/water source management, etc.)
- ❖ Establishing a business model that can scale up across Vietnam.
- ❖ Expanding the number of participating countries and the establishment of a private-led PPP project model in the future based on the design of the technology application project to the Mekong River and nearby rivers





# Key Achievements for decision making

## Development of international **classification system** for climate change **adaptation technology**

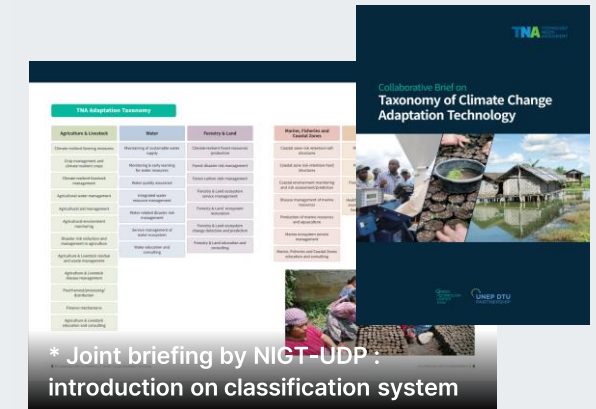
**Climate change adaptation technology classification system in developing countries was nonexistent.**

- UDP(UNEP DTU Partnership), the UN partner organization supporting technology demand assessment in developing countries, proposed joint research.
- Started the development of international classification system on the basis of 'climate technology classification system' in Korea



**Development of classification system applicable to any countries & global and domestic recognition on the superiority of classification system.**

- Joint development of 'international classification system for climate change adaptation technology' in consideration of the economic and social elements in developing countries.
  - Comprising 6 categories, 42 sub-categories and 79 technologies.
  - Prepared the joint publication introducing the classification system. Open verification and publication of the system through joint webinar.
- Selected as the '2020 TNA Top 7 Achievements' by UDP and '2020 Good Achievement by Investment' by NST.



## Communicate with governments, researchers, local residents



# End of Presentation

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