



Greening EU Cooperation

Session 16: Additional Green Financial Solutions

Join the SLIDO

QR CODE



**What other Green
Financial solutions have
you come across?**

Joining Link:

<https://app.sli.do/event/9jvwssanHYrDkjbZiSkkJm>



Greening EU COOPERATION
Integrating environment & climate change



European
Commission

Additional Green Financial Solutions

- Debt for nature swaps
- Carbon Credit
- Parametric Insurance
- Conservation Trust Funds

Note; The list is not exhaustive



GreeningEU COOPERATION
Integrating environment & climate change



European
Commission

Debt for nature swaps:

Turning a Nation's Debt into Environmental Protection 🌳



Greening EU COOPERATION
Integrating environment & climate change

VIDEO LINK

<https://www.youtube.com/watch?v=jfHDVlcHZ8E>



Debt for nature swaps: Two Big Challenges, One Solution

Many developing countries face a double bind:

- High National Debt
- Rich Biodiversity

How can a country pay its debts and afford to protect its environment?

- A debt-for-nature swap is a financial deal that reduces a country's debt in exchange for a commitment to invest in local environmental conservation.



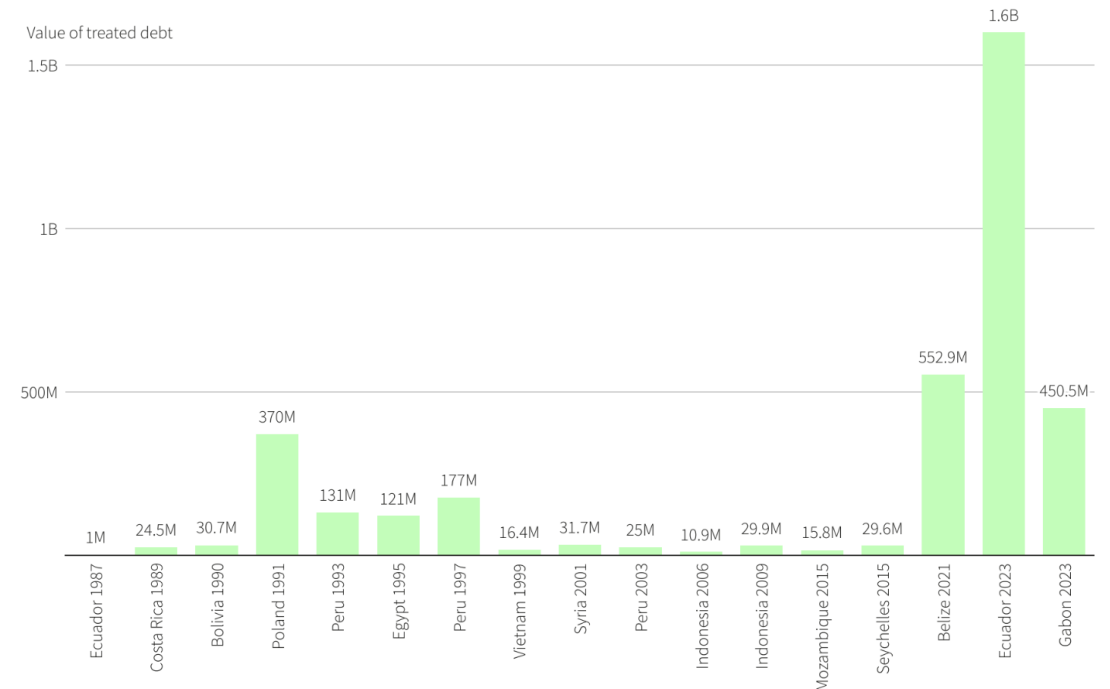
Debt for nature swaps:

Protecting the Galápagos Islands (Ecuador, 2023)

- **The Debt:** Ecuador had over **\$1.6 billion** in commercial debt.
- **The Swap:** converted that debt into a new **\$656 million** "Galapagos Blue Bond" with better terms. This is a 60% discount.
- **The Result:** The swap generates an estimated **\$323 million** dedicated *specifically* to protecting the unique and fragile ecosystems of the Galápagos Islands.
- **The Win:**
 1. Ecuador gets significant debt relief that leads to better debt service and credit rating
 2. long-term conservation funding for Galapagos Islands protection.

Debt-for-nature swaps

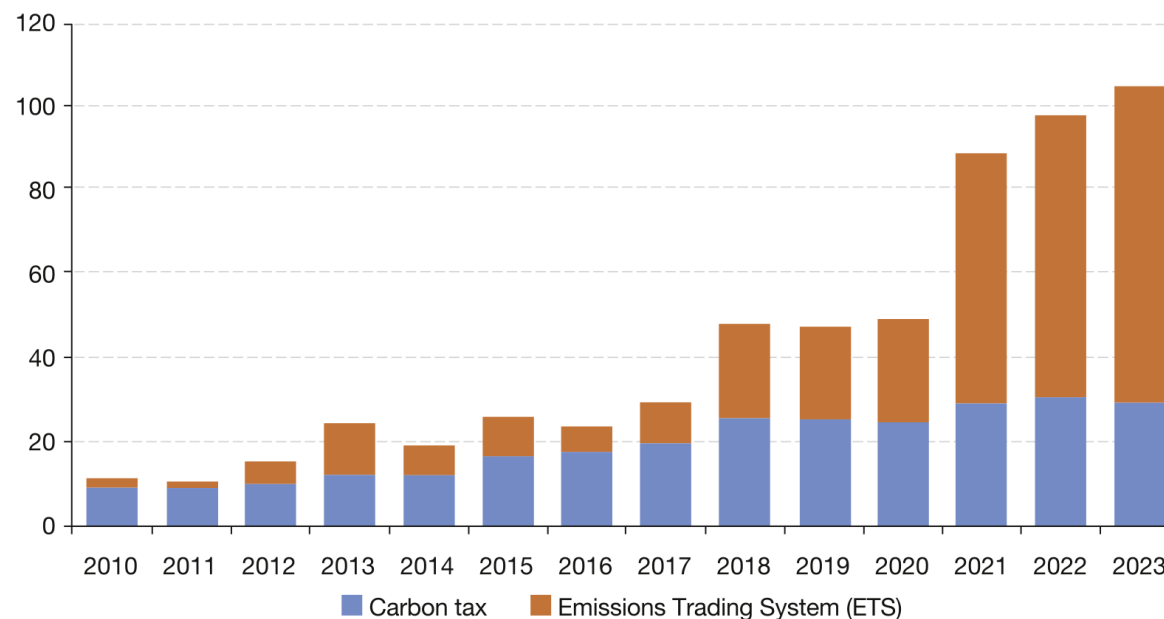
Debt-for-nature swaps first started in late 1980's and are starting to balloon in size



Carbon Credits

EVOLUTION OF REVENUE BY CARBON PRICING INSTRUMENT

In billions of dollars



Source: World Bank 2024

- 1 carbon credit = **1 tonne of CO₂ avoided or sequestered** (1 tCO₂e).
- Carbon credit are generated by projects (reforestation, mangrove restoration etc)
- **Carbon Pricing**: 2 instruments: 1) the carbon tax sets a price per tonne of CO₂,
2) Carbon markets are **trading systems** in which carbon credits are sold and bought => the Emissions Trading System (**ETS**) sets a maximum quantity of allowable emissions.



Carbon pricing

- Carbon tax
- Emissions trading systems
- International aviation (CORSIA)

Accepts
nature-based
solutions

Such as:

Policy
requirements

Carbon markets

Compliance
markets

Voluntary carbon
markets

Credits sourced to
comply with:

National
mitigation targets
Paris Agreement
(NDCs)

Market mechanisms:

Article 6.2

Article 6.4

Fully
operational

Rules defined by:

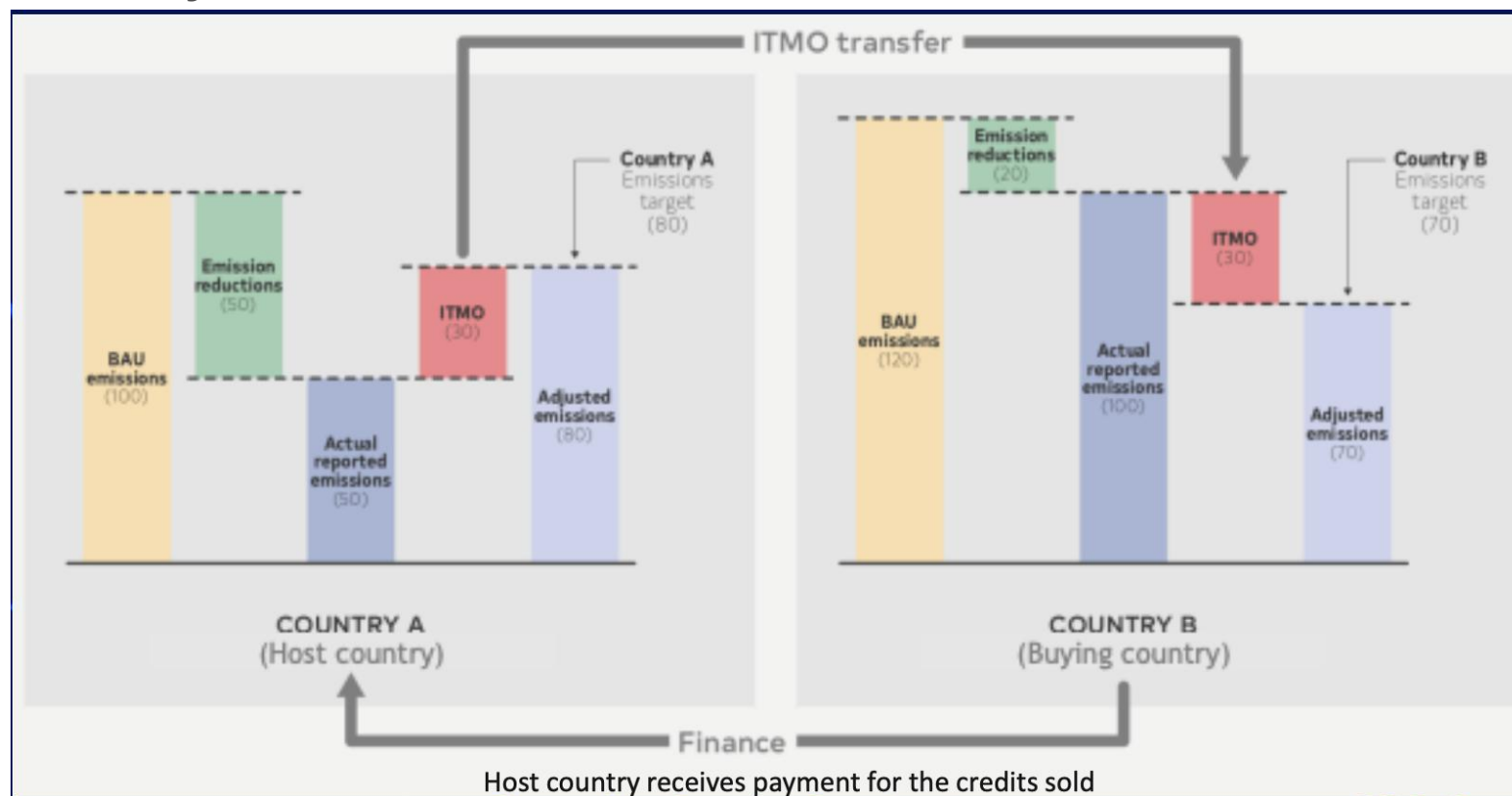
Countries
(bilateral
agreements)

UNFCCC



Corresponding Adjustments

Host countries don't use the GHG emission reductions towards their own target (NDC). Only the buyer country does so.



Design of carbon project

Project Stakeholder

- Carbon project developer
- Owner of facility/land
- Investor
- Community
- Buyer of credits
- Buyer country
- Host Country

Article 6

Carbon Credit Creation

- GHG reductions: 1ton CO₂ = 1 credit
- Process: validation/verification, project documents
- Auditors
- Integrity issues checked:
 - Quantification protocols
 - Meeting additionality
 - Ensuring permanence



Parametric Insurance

Innovative Solutions

Clear Triggers

Fast Payouts



Greening EU COOPERATION
Integrating environment & climate change



European
Commission

Parametric Insurance

Skyrocketing Climate-Driven Losses

- **\$600 billion** Global Climate-related insurance losses in past 20 yrs.
- In 2024, insured natural catastrophe losses exceeded **\$140 billion**
- Now account for **42%** of all claims, up from 31% a decade ago

Rising Premiums

- Premium forecast to rise by 50 percent by 2030
- In some places, insurers have **exited high-risk zones**. This has shifted the financial burden increasingly onto **public authorities**.



What is Parametric Insurance?

- It's about '**what happened**,' not 'what was lost.'”
- Define the area/asset to be covered by insurance
- Based on a specific, measurable event (the 'parameter' or '**trigger**')
- When the event reaches a pre-defined intensity or **threshold**.
- Pays out **automatically** a pre-agreed amount
 - No need for lengthy claims assessments.
 - Lower administrative costs and reduced post-disaster delays



Case Study 1

Coral reef in Mexico (1/2)

Context

- **Location:** 160 km of coastline in Quintana Roo, part of the Mesoamerican Barrier Reef (2nd largest in the world).
- **Economic Value:** Up to **\$10 billion/year** from tourism dependent on healthy reef ecosystems.

Risk Assessment Findings - 2016 TNC analysis showed:

- **Storm damage to buildings could triple** without the reef's natural protection.
- Reefs act as **natural coastal barriers**, absorbing wave energy and reducing storm impact.

• Insurance Mechanism Developed

- **Parametric insurance** model based on economic value of reef.
- **Trigger:** Wind speed exceeding a threshold in a predefined area.



Greening EU COOPERATION
Integrating environment & climate change



European
Commission

Case Study 1

Coral reef in Mexico (2/2)



Funding Model of the parametric catastrophe insurance

- Local government collects fees from Coastal tourism businesses, property owners and local municipalities with a portion going to Coastal Zone Management Trust (CZMT)
- CZMT manages funds for reef protection.
- CZMT has contractual obligations with both the insurance company, which provides the parametric insurance policy, and the reef restoration team 'Brigade',



Real-World Activation: Hurricane Delta (2020) triggered payout.

- **\$800,000** released to CZMT.
- Enabled fund reef recovery and restoration activities, including
 - Deployment of **~80 Brigade members**.
 - **Stabilisation of 1,200 coral colonies**.
 - **Transplanting of 9,000 coral fragments**.



Impact

- Minimise storm damage to coastal communities
- Enhance **reef recovery** whilst being cost-effective
- **Estimated costs of these repairs are lower than artificial measures**, such as building a seawall, but would cost about US\$ 1 million per km.
- **Nature-positive outcomes** and capture opportunities coverage

Case Study 2: Papua New Guinea Telecommunications Infrastructure Against Earthquake Risk

Context & Background

- SOE PNG Co., offers wholesale services to the information and communication industry, including the installation and oversight of **submarine fibre optic cables**
- Vulnerable to earthquakes, and the SOE can't find a private insurer.

PCRIC Parametric Insurance Model

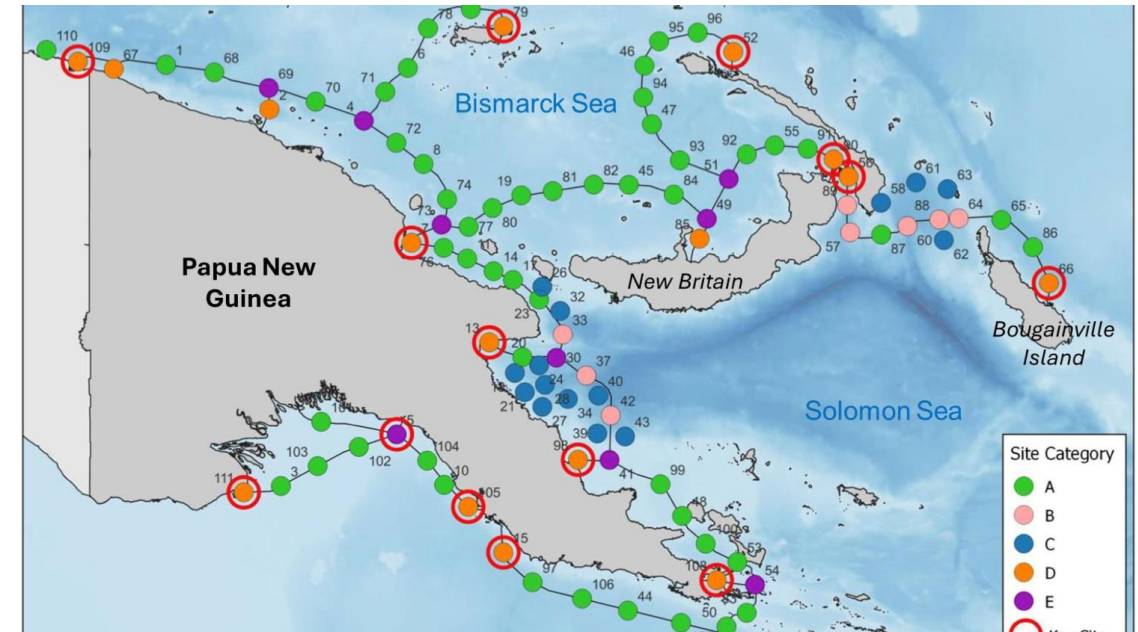
PNG collaborated with

- Pacific Catastrophe Risk **Insurance** Company (PCRIC)
- **Risk** solutions company, Willis Towers Watson
- **Data** from the Global Earthquake Model Foundation

Exposure covered: Event response costs to repair submarine fibre optic cable breakage

Event: Earthquake

Trigger: number of sites affected and surpass their Ground-shaking threshold according to their category.



Papua New Guinea Telecommunications Infrastructure Against Earthquake Risk

The policy uses different site types from A to E, associated with different thresholds to ‘trigger’ :

- A. Shallow water sites
- B Deep water sites where potential debris flow (e.g. submarine landslides)
- C. Sites that are not on the network but correspond to potential debris flow sources
- D. Sites with near-shore cable landing points
- E. Sites at cable junctions.

Ground-shaking threshold (PGA) for each calculation site category				
Trigger Thresholds (indicative MMI equivalent for information only)				
Category A PGA 0.23g ~MMI 7.1	Category B PGA 0.18g ~MMI 6.7	Category C PGA 0.13g ~MMI 6.2	Category D PGA 0.13g ~MMI 6.2	Category E PGA 0.18g ~MMI 6.7

Payouts were validated using historical stress testing. For every event, 1 or more sites could be triggered. Events that are only affecting a few sites are likely to be less impactful and cost less in repairs. As such, the structure corresponds to the following:

- When 2 sites surpass their PGA threshold, then a 10% pay-out is made
- When 5 sites surpass their PGA threshold, then a 40% pay-out is made
- When 8 sites surpass their PGA threshold, then a 70% pay-out is made
- When 12 sites surpass their PGA threshold, then a 100% pay-out is made

Source: https://www.insdevforum.org/wp-content/uploads/2025/04/IDF_Case_Study_PCRIC_PNG_2025-1.pdf



The global parametric insurance market

- Valued at USD 16.2bn in 2024, a **small share of the global insurance market** at more than USD 10tr.
- **CAGR of 12.6%** between 2025 and 2034 to USD 51.3 billion.
- De-risking solution: Potential to unlock billions for nature-based climate solutions.
- **Critical steps:**
 - Identifying exposure to be covered/event/trigger, analysing, and containing these issues
 - Complex risk management approaches.
 - Risk assessment includes advanced models, IOT, other artificial intelligence components and even data mining.
- However, **scaling** parametric solutions will require overcoming hurdles:
 - Precise trigger design
 - Data consistency
 - Risk standardisation.

Source: <https://www.gminsights.com/industry-analysis/parametric-insurance-market>



Greening EU COOPERATION
Integrating environment & climate change



Key Benefits of Parametric Insurance

Speed of Payout

Transparency

Reduced Basis
Risk

Reduced
Disputes

Coverage for
Hard-to-Insure
Risks

Potential to
unlock billions
for nature-based
climate solutions

Flexibility &
Customisation

Pro Active Risk
Management



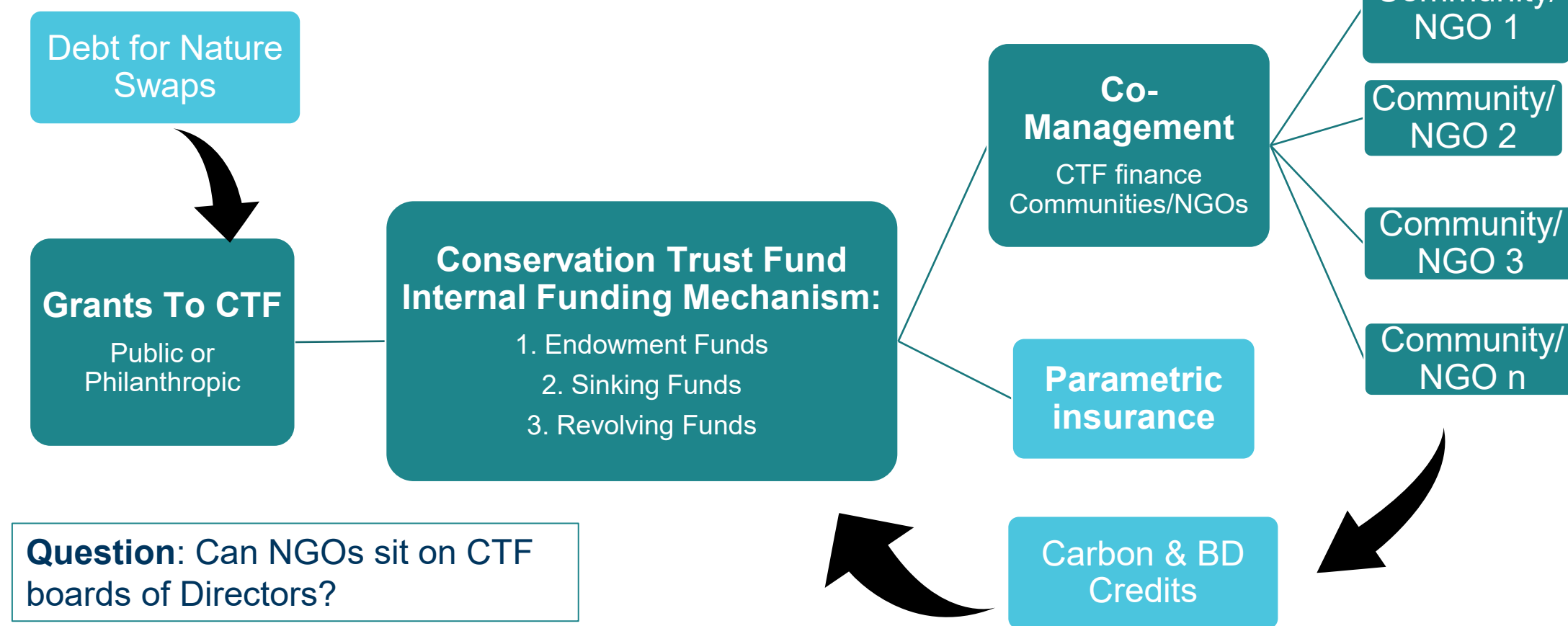
Greening EU COOPERATION
Integrating environment & climate change



European
Commission

Conservation Trust Funds (CTFs)

Provide long-term capital for marine & land conservation projects.



Question: Can NGOs sit on CTF boards of Directors?



Private vs Public Financial Sector Approches

	PRIVATE	PUBLIC
Objectives	<ul style="list-style-type: none">- Opportunity driven- ROI (efficiency) & Shareholder Value- Short-Term Growth- Risk-Adjusted Returns	<ul style="list-style-type: none">- Policies- Public Welfare/ Public Interest- Economic Stability & L-T Growth- Redistribution of Income & Wealth- Address market failures- Fiscal Sustainability
Constraints	<ul style="list-style-type: none">- Market Competition- Access to Capital (Liquidity/CCY, S/H demand)- Regulatory Compliance	<ul style="list-style-type: none">- Political and Social Pressures- Budgetary Limits- Legal and Constitutional Frameworks- Transparency and Accountability- Intergovernmental Relations- Economic Conditions
Timeline	<ul style="list-style-type: none">- Short to Medium Term- Investment Horizons- Flexibility	<ul style="list-style-type: none">- Mid to Long-Term- Budget Cycle- Policy Horizons- Legacy Issues