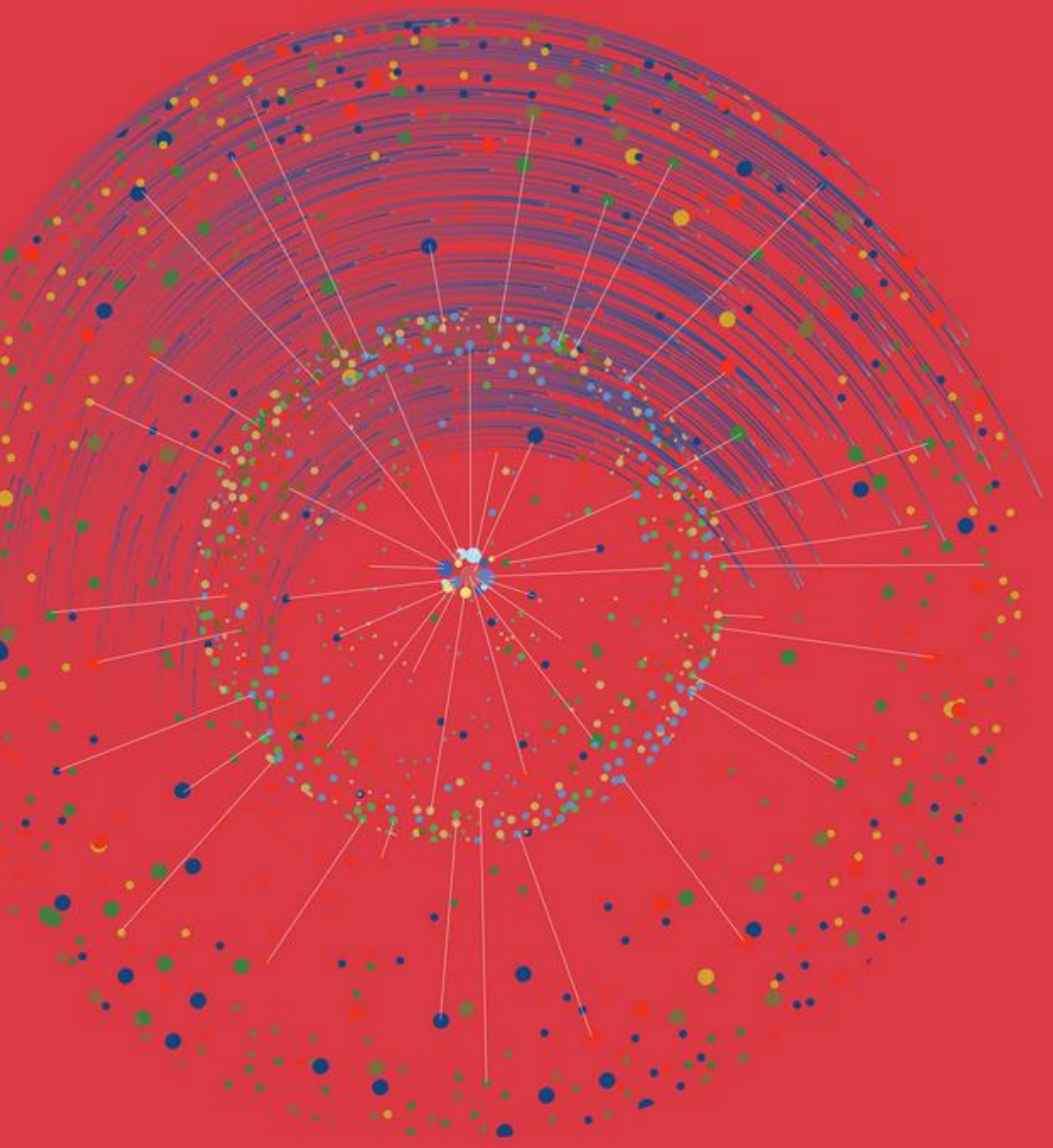

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Welcome to the RCC Caribbean Week

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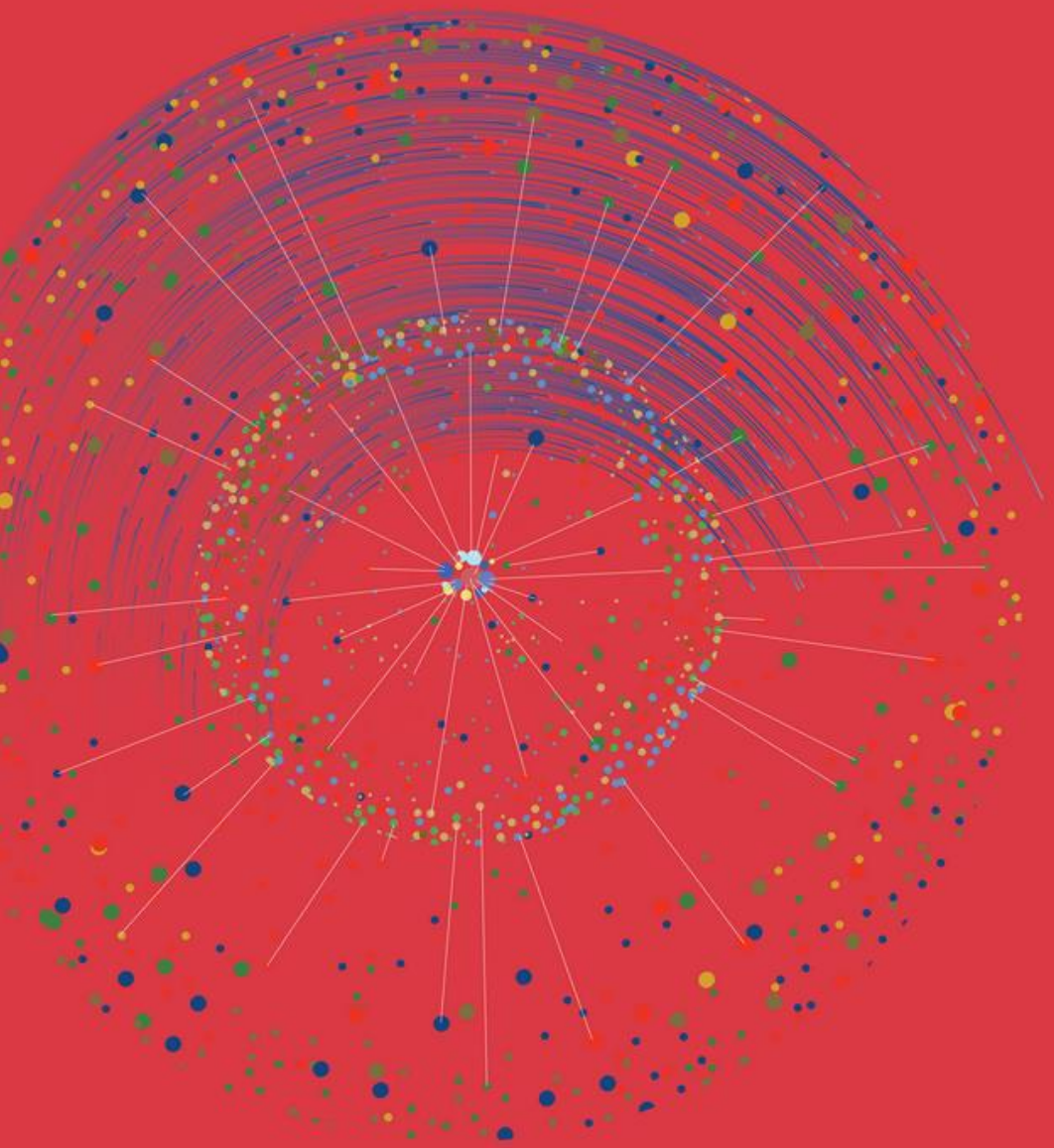

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Welcome Remarks

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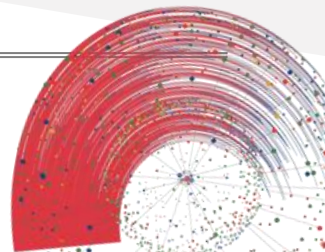
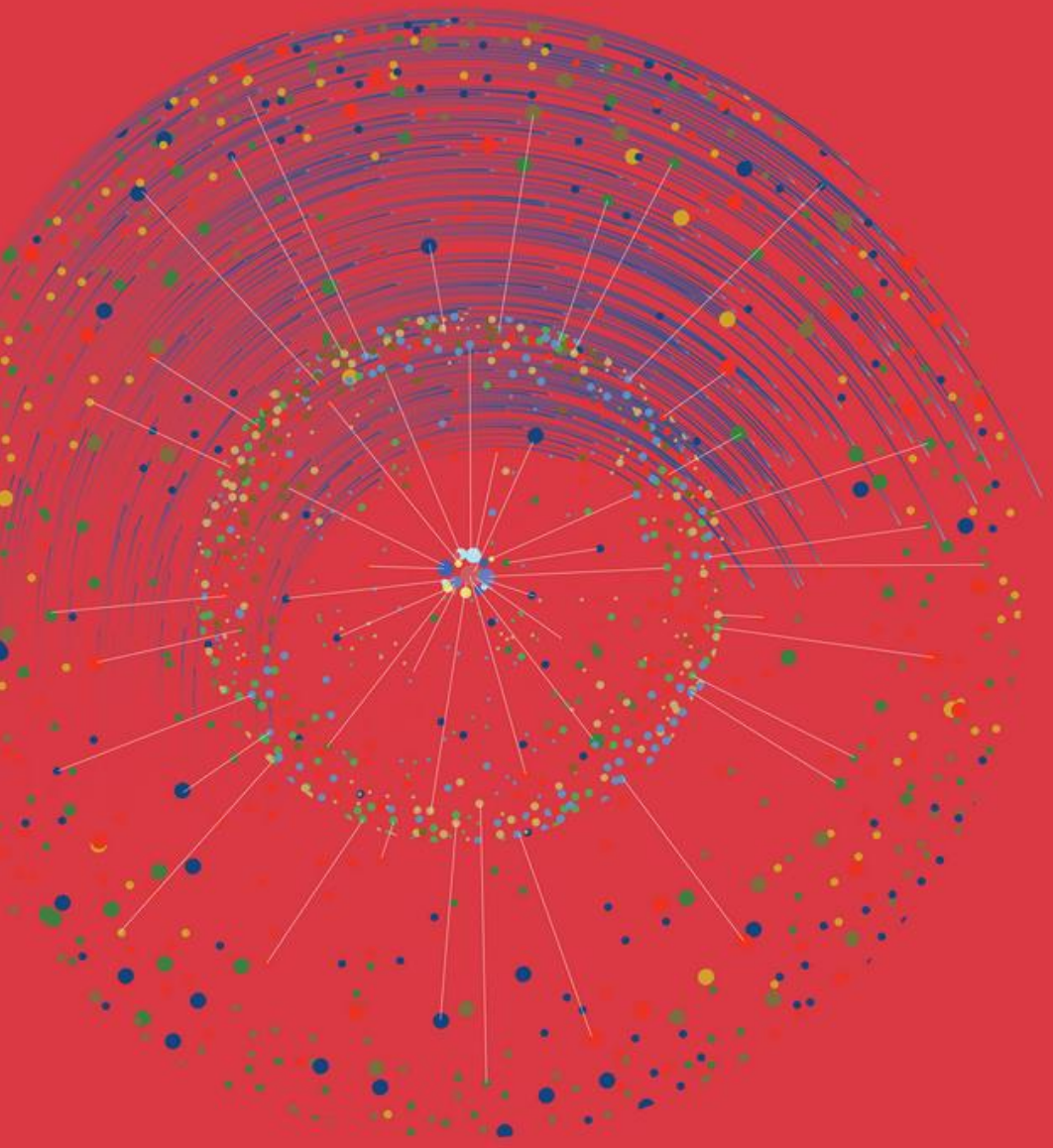
Daily Agenda

Day 1	14 Oct 2024	Regional Dialogue on Carbon Pricing
Day 2	15 Oct 2024	Training on Article 6 of the Paris Agreement
Day 3	16 Oct 2024	Training on Article 6 of the Paris Agreement
Day 4	17 Oct 2024	NDCs 3.0 & Thematic Areas
Day 5	18 Oct 2024	Climate Finance & Enablers Clinic





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Welcome to the Caribbean Dialogue on Carbon Pricing

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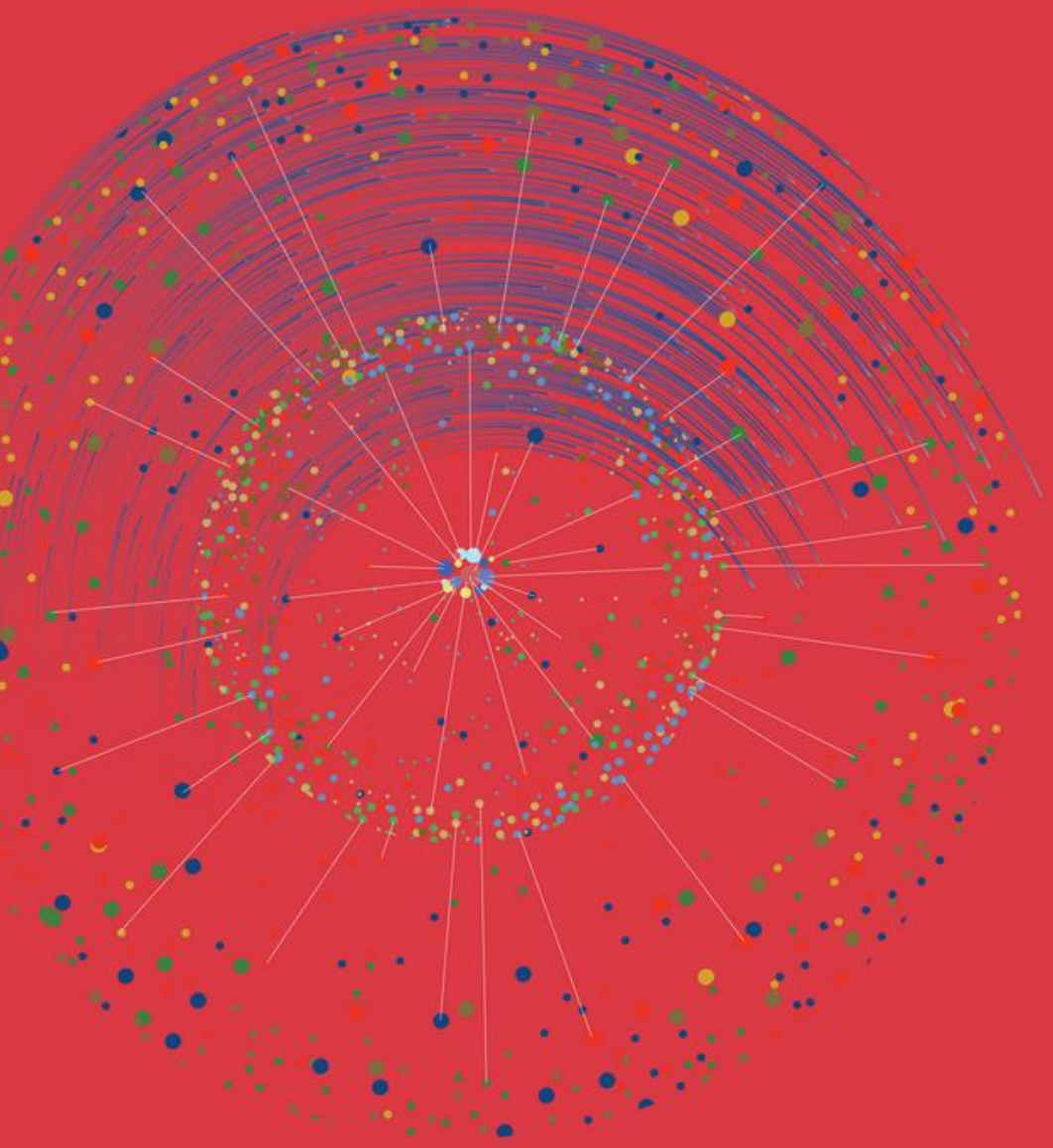

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Introduction: *A little bit about Me…*

Speed Networking with a Twist

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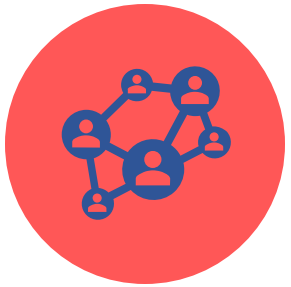
Speed Networking with a Twist

Instructions:

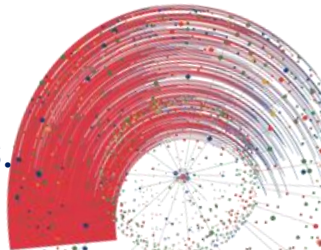
1. **Roam the Room** and find a partner.
2. Each pair will have **2 minutes** to introduce themselves and answer one of the provided questions.
3. After the 2 minutes are up, **find a new partner and repeat** the process.

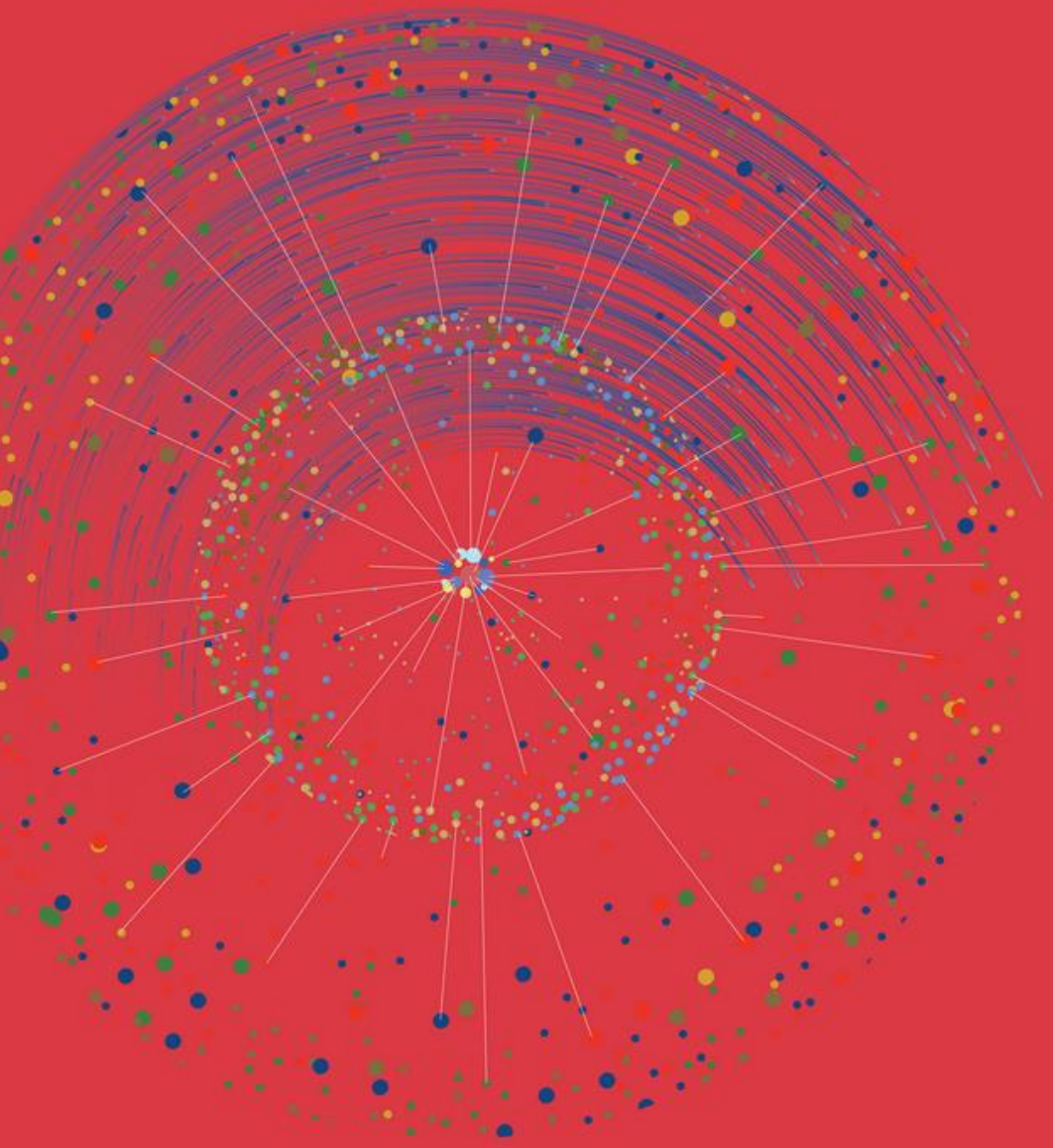


Choose from the following questions:

1. **If you could have dinner with anyone, living or dead, who would it be and why?**
2. **If you won 10 Million dollars tomorrow, what would you do?**
3. **If you could live anywhere in the world for just a year, where would it be?**

Remember, the goal is to make meaningful connections while enjoying light, engaging conversations.





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Agenda

RediCAP

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RediCAP: SESSIONS

Taking stock of the Carbon Markets - Main Instruments and Trends

Leveraging Carbon Policies for NDC achievement and progression

Implementing Carbon Pricing for Climate Action

Carbon Markets & Article 6 Cooperative Approaches

Voluntary Carbon Markets

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Collaborative instruments for ambitious climate action (CiACA)

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Ci-ACA

Objective:

"To **assist Parties** in the development of **carbon pricing approaches** for implementing their **NDC** under the Paris Agrement and **foster collaboration**

- *Consultations*
- *Studies*
- *Training*

→ In accordance with needs
→ On a purely voluntary basis

Also groups of Parties

- *Carbon tax*
- *Emission Trading Systems*
- *Hybrid systems*

- *Also for future NDCs*
- *Also for LEDS*

- *Cooperative approaches*
- *South-south exchange/learning*

Ci-ACA. Regional Dialogue on Carbon Pricing

Latin America

RCC Latin America
Collaboration for Climate Action

South Asia

RCC MENA and South Asia
Collaboration for Climate Action

Africa

RCC East and Southern Africa
Collaboration for Climate Action

RCC West and Central Africa
Collaboration for Climate Action

Caribbean

RCC Caribbean
Collaboration for Climate Action

Ci-ACA. Example of Support

Dominican Republic

Emission Trading System

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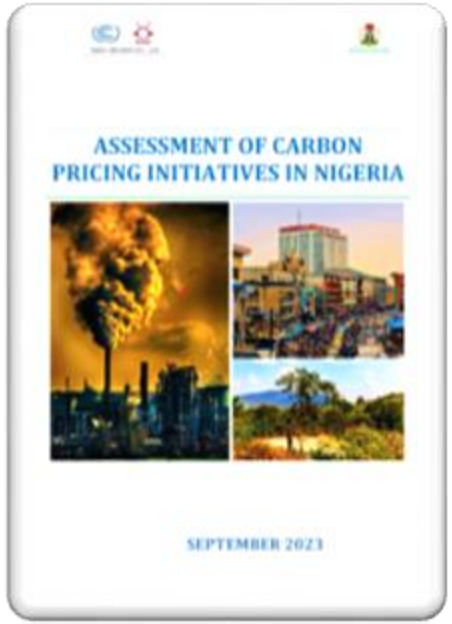
Collaboration for Climate Action

Nigeria

Carbon Pricing Assessment

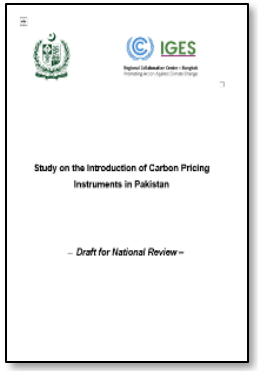
RCC West and Central Africa
Collaboration for Climate Action

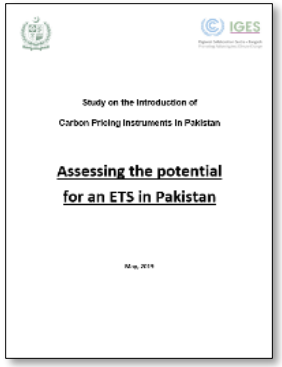


Pakistan

Opportunity for domestic carbon pricing

RCC Asia and the Pacific
Collaboration for Climate Action





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Scene Setting: Leveraging Carbon Pricing Policies for NDC achievement

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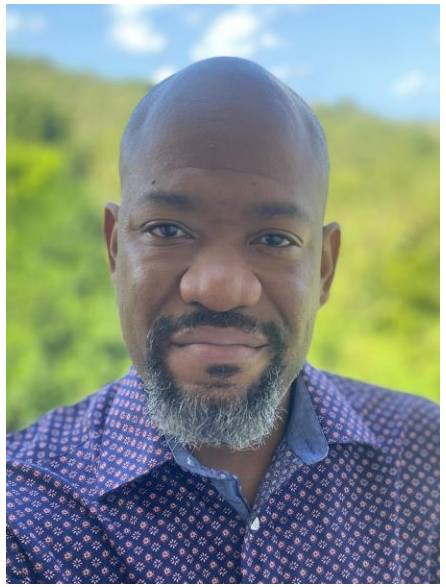


Jason Williams

NDC and LT-LEDS Regional Specialist
UNFCCC RCC Caribbean

Regional Collaboration Centre - UN Climate Change

- **RCC Asia-Pacific** supports 40 countries in Asia and the Pacific (in coordination with IGES)
- **RCC MENA and South Asia** supports 22 Arab States and 8 South Asian countries (In coordination with WGEO)
- **RCC East and South Africa** supports 19 countries in Southern and East Africa (In coordination with EADB)
- **RCC Central and West Africa** supports 26 countries in 15 Member States of the Economic Community of West African States (ECOWAS) and 11 French-speaking countries (in coordination with BOAD))
- **RCC Latin America** provides support to 17 countries in Latin America (In coordination with UNEP).
- **RCC Caribbean** supports 16 countries in the Caribbean region (In coordination with WINDREF).

Global Presence

RCC Latin America
Collaboration for Climate Action

RCC Caribbean
Collaboration for Climate Action

RCC West and Central Africa
Collaboration for Climate Action

RCC East and Southern Africa
Collaboration for Climate Action

RCC MENA and South Asia
Collaboration for Climate Action

RCC Asia and the Pacific
Collaboration for Climate Action

Regional Collaboration Center for the Caribbean (RCC Caribbean)

14 CARICOM Countries
(Including Cuba and Dominican Republic)

Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St Lucia, SKN, SVG, SL, Suriname, Trinidad and Tobago

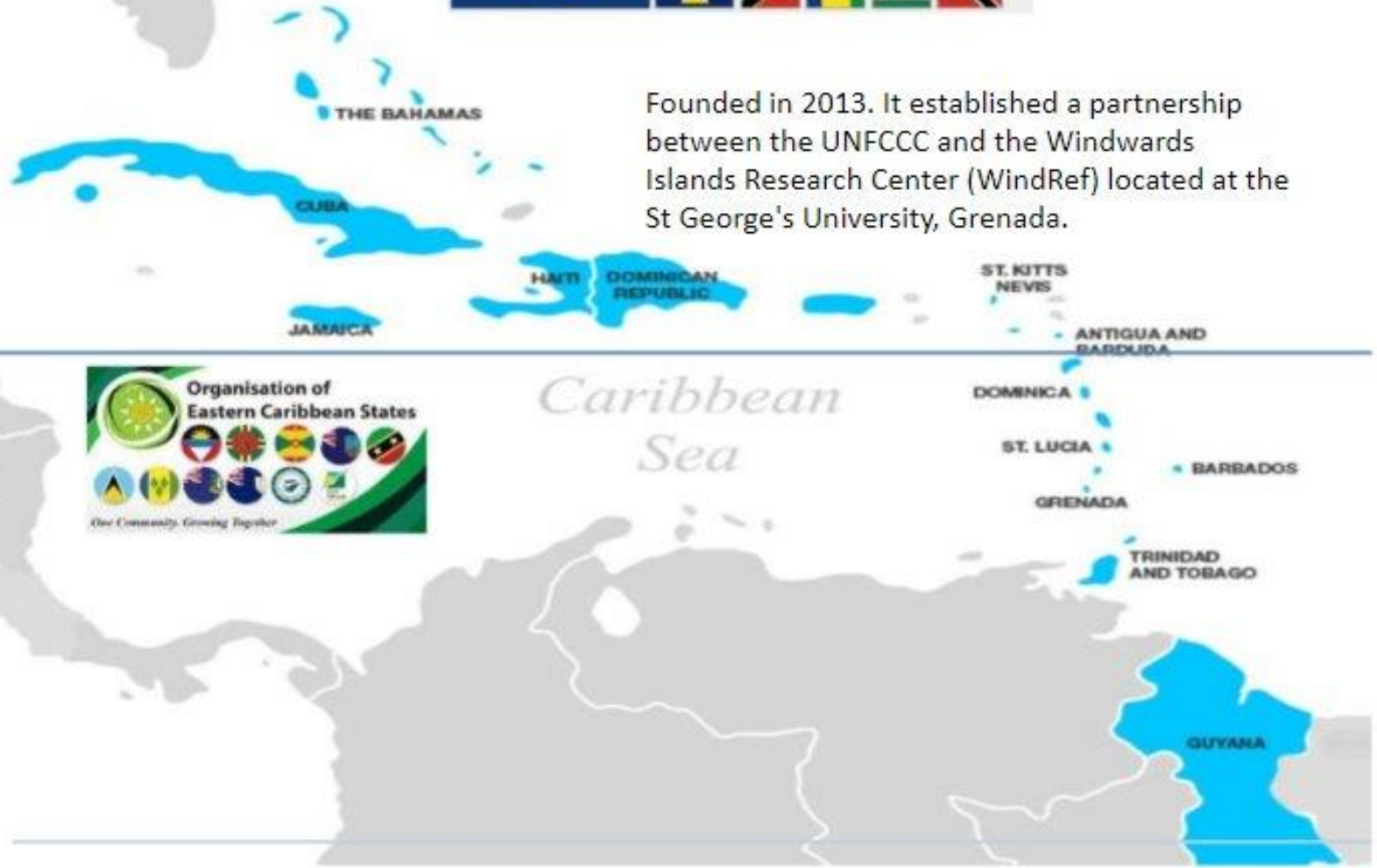
Founded in 2013. It established a partnership between the UNFCCC and the Windwards Islands Research Center (WindRef) located at the St George's University, Grenada.

6 OECS Member States

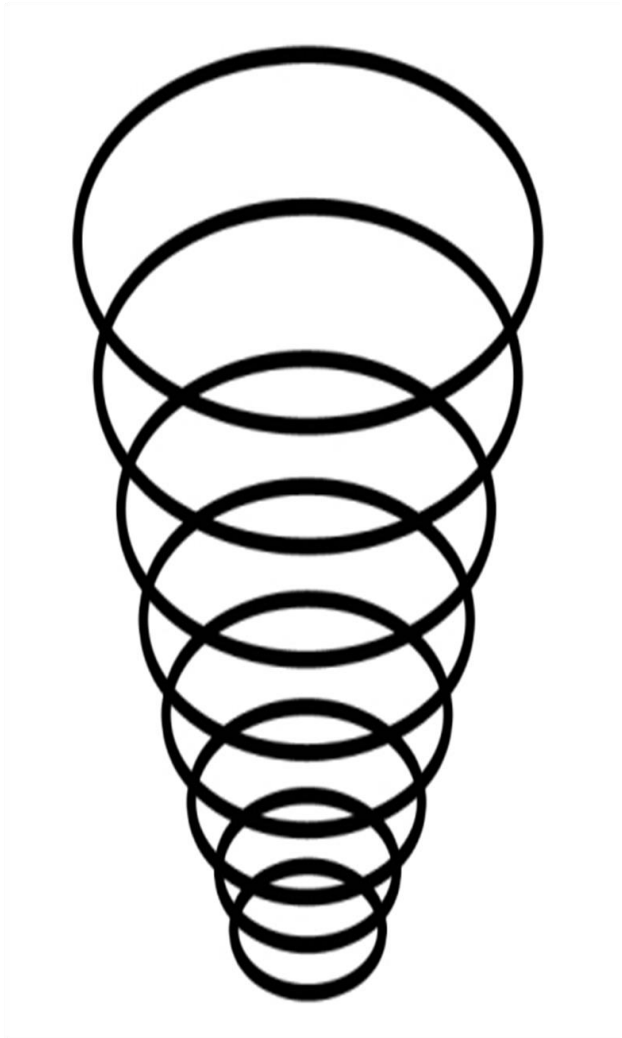
Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, St Vincent and the Grenadines and St Lucia

Organisation of Eastern Caribbean States

Our Community Growing Together



Increasing ambition over time - Reaching the long-term objectives



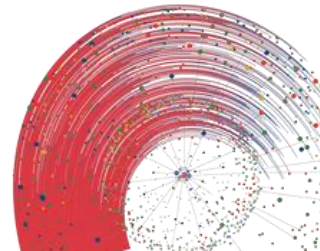
The Paris Agreement recognizes that its objectives will be achieved **through time**

It builds on aggregate and individual **progression/ambition**

It establishes a **mandatory cycle of NDCs:**

- First submission by **2015**
- Updated submission by **2020 with 2030 targets**
- Enhanced ambition submitted **every 5 years**
- **Next NDCs are due in 2025**

- Feedback Mechanisms
  - Global Stocktake
  - Enhanced Transparency Framework



Arrangements of the Paris Agreement

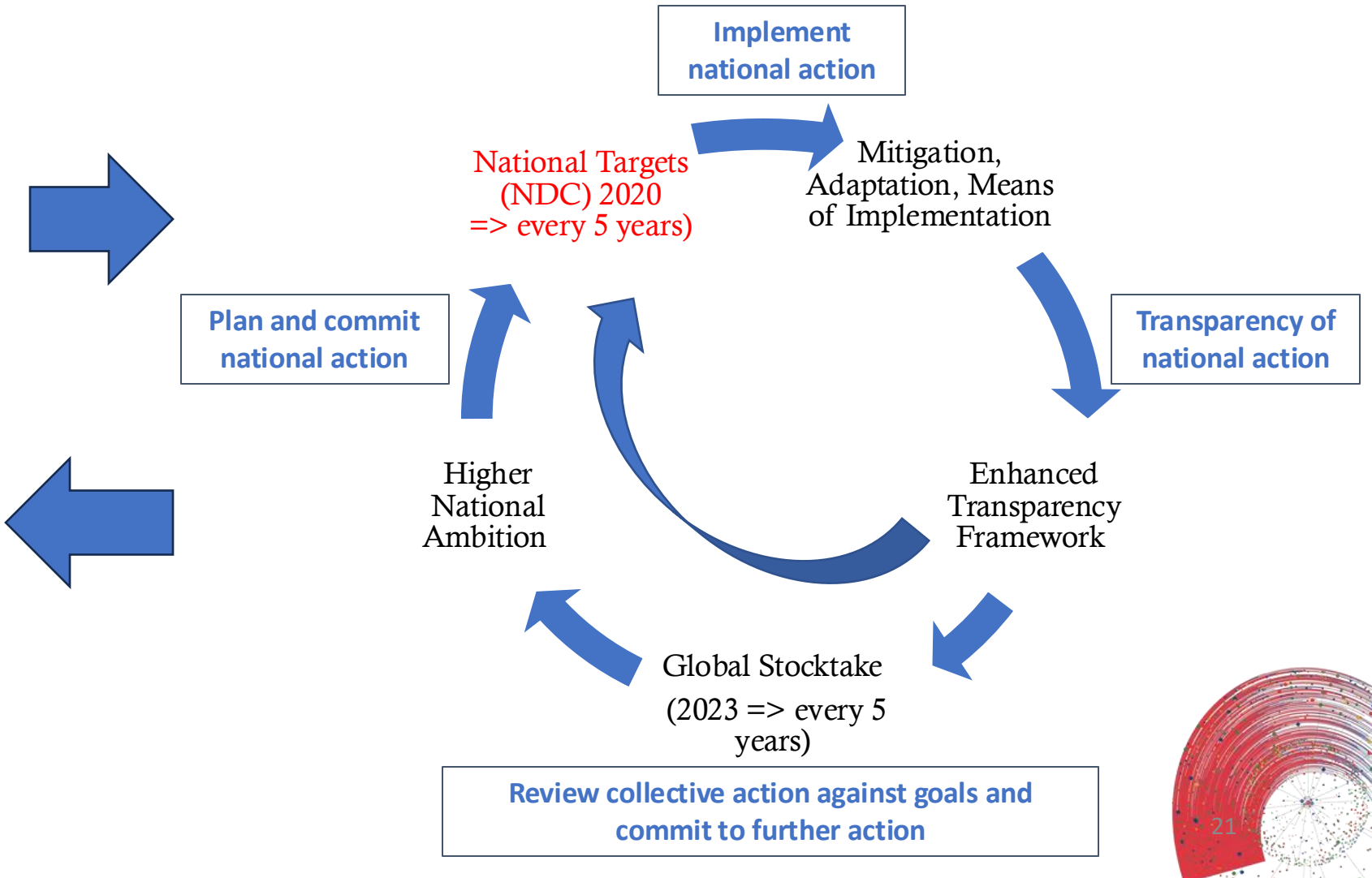
Paris Agreement Goals

Mitigation
keep temperature increase to well below **2 °C and 1.5 °C**

Adaptation
increase the ability to **adapt and foster resilience**

Finance flows **consistent** with path to low GHG emissions and resilient development

Ambition Cycle



Overview of Global Stocktake Outcome (2023) Decision 1/CMA.5

Collective progress and informing action and support

Mitigation: Keep 1.5 °C in reach, Urgent deep GHG emissions reduction, Encourage economy wide NDCs, Transitioning away from fossil fuels, Tripling Renewable energy & Doubling energy efficiency by 2030, Preserve and restore ocean and coastal ecosystem, Transition to sustainable consumption and production

Adaptation: Incremental, multisectoral and transformational actions, Universal Early Warning Systems, Adaptation targets to reach global goal on adaptation,
Enhance national adaptation plans and adaptation communications

Means of Implementation: Scaling up mobilization, $100bn Commitment, doubling adaptation finance, Support New Collective Quantified Goal on Finance, Technology Implementation Programme,
Enhanced capacity building support

Avert and minimize **loss and damage**
Data management

Advances **Just transition** and consideration of **response measures**

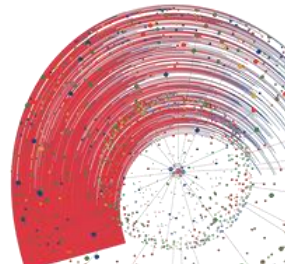
Guidance and way forward

- **Mainstreaming GST** Outcomes
- Dialogues on GST, Finance, Mountains and Children
- Revised **NDC** and **Long-term Strategies**
- **UN Secretary General Event**
- Communicating **Biennial Transparency Report**

International cooperation

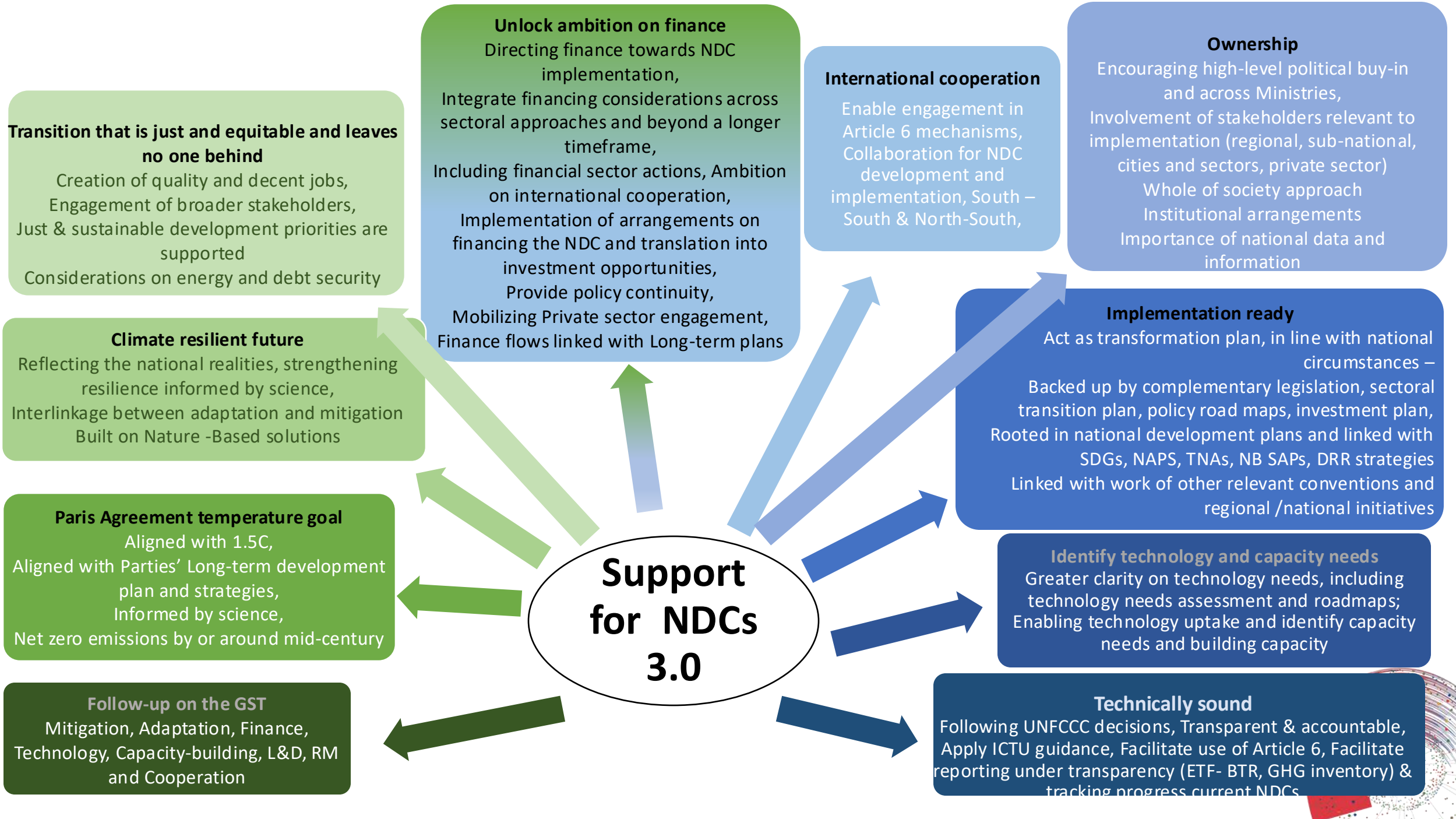
Cross-cutting

Urgency for action, equity, best available science, sustainable development



Global Stocktake Guidance for NDCs

- Encourages Parties to come forward in their next NDCs with **ambitious**, **economy-wide emission reduction targets**, covering all GHGs, sectors and categories and **aligned with limiting global warming to 1.5 °C**, as informed by the latest science, in the light of different national circumstances
- Developed country Parties should continue **taking the lead** by undertaking economy-wide absolute emission reduction targets, and that developing country Parties **should continue enhancing their mitigation efforts** and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances
- Notes the importance of aligning NDCs with LT-LEDS, and encourages Parties to **align next NDC with LT-LEDS**
- Recalls the NDC process for new 2025 NDCs (NDC 3.0):
  - ✓ Submission of **new NDCs by 2025 (NDC 3.0)** – *mandatory for all*
  - ✓ 2025 NDCs to be submitted **9 to 12 months in advance** of the CMA 7 → **10 February 2025**
  - ✓ 2025 NDCs with an **end date of 2035** – *encouraged*
  - ✓ 2025 NDCs to be a **progression** beyond the Party's current NDC and reflect its highest possible **ambition** – *mandatory for all*
  - ✓ 2025 NDCs to provide **ICTU** information – *mandatory for all*
  - ✓ 2025 NDCs to use adopted **accounting** approaches – *mandatory for all*
  - ✓ 2025 NDCs to provide information on **how the preparation of the NDC has been informed by the outcomes of the GST** – *mandatory for all*
- Notes the capacity challenges of the **LDCs and SIDS** related to preparing and communicating NDCs


Support for NDCs 3.0
Unlock ambition on finance
Directing finance towards NDC implementation,
Integrate financing considerations across sectoral approaches and beyond a longer timeframe,
Including financial sector actions, Ambition on international cooperation,
Implementation of arrangements on financing the NDC and translation into investment opportunities,
Provide policy continuity,
Mobilizing Private sector engagement,
Finance flows linked with Long-term plans
International cooperation
Enable engagement in Article 6 mechanisms, Collaboration for NDC development and implementation, South – South & North-South,
Ownership
Encouraging high-level political buy-in and across Ministries,
Involvement of stakeholders relevant to implementation (regional, sub-national, cities and sectors, private sector)
Whole of society approach
Institutional arrangements
Importance of national data and information
Transition that is just and equitable and leaves no one behind
Creation of quality and decent jobs,
Engagement of broader stakeholders,
Just & sustainable development priorities are supported
Considerations on energy and debt security
Climate resilient future
Reflecting the national realities, strengthening resilience informed by science,
Interlinkage between adaptation and mitigation
Built on Nature -Based solutions
Implementation ready
Act as transformation plan, in line with national circumstances –
Backed up by complementary legislation, sectoral transition plan, policy road maps, investment plan,
Rooted in national development plans and linked with SDGs, NAPS, TNAs, NB SAPs, DRR strategies
Linked with work of other relevant conventions and regional /national initiatives
Paris Agreement temperature goal
Aligned with 1.5C,
Aligned with Parties' Long-term development plan and strategies,
Informed by science,
Net zero emissions by or around mid-century
Identify technology and capacity needs
Greater clarity on technology needs, including technology needs assessment and roadmaps;
Enabling technology uptake and identify capacity needs and building capacity
Follow-up on the GST
Mitigation, Adaptation, Finance, Technology, Capacity-building, L&D, RM and Cooperation
Technically sound
Following UNFCCC decisions, Transparent & accountable,
Apply ICTU guidance, Facilitate use of Article 6, Facilitate reporting under transparency (ETF- BTR, GHG inventory) & tracking progress current NDCs

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General Introduction to Carbon Pricing

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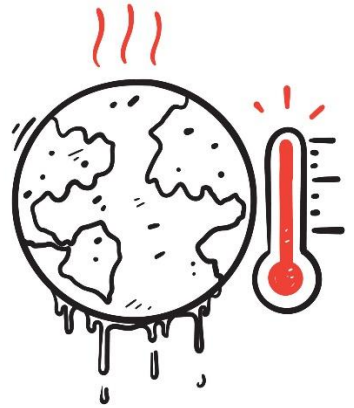
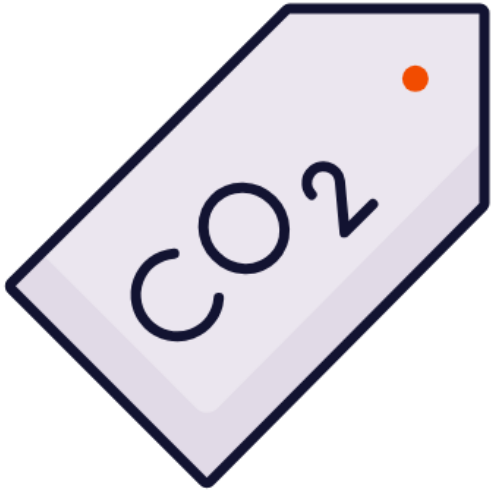
Carlos Essus
Technical Advisor, GIZ

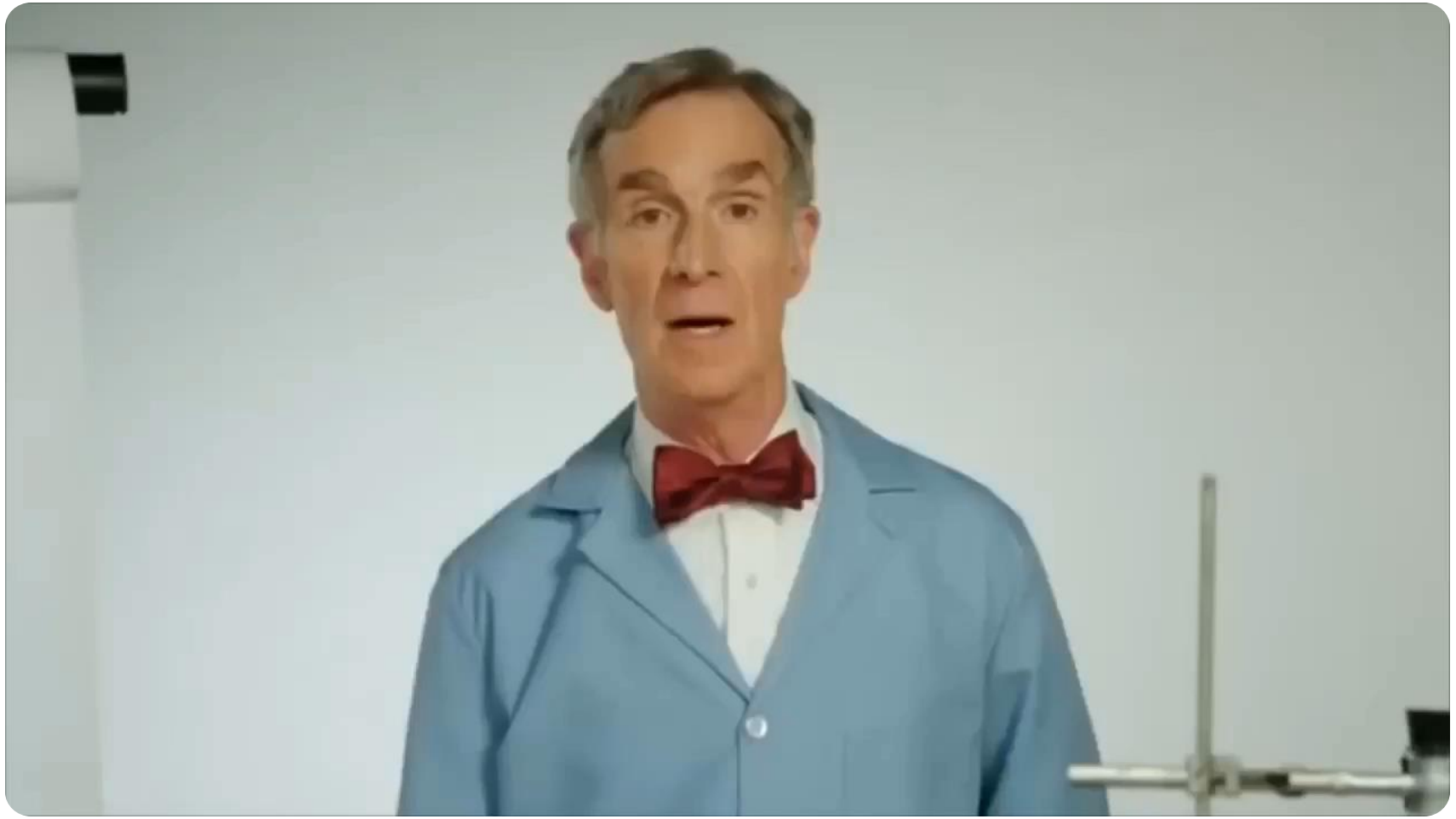
Economic Instruments to incentivize GHG emission reduction



1. **Carbon Pricing**:
   - Carbon Taxes:
   - Cap-and-Trade Systems
2. **Subsidies and Incentives**:
   - Renewable Energy Subsidies
   - Energy Efficiency Incentives
3. **Green Bonds**:
   - Climate Bonds: Feed-in Tariffs
4. **Public-Private Partnerships (PPPs)**:
5. **International Climate Finance**
6. **Technology Transfer Agreements**
7. **Tax Credits and Deductions**
8. **Tradable Renewable Energy Certificates (RECs)**
9. **Ecosystem Service Payments**

What is carbon pricing?





How carbon pricing works

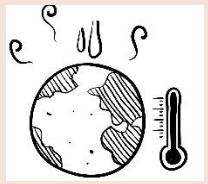
Initial situation: World without Carbon Pricing

Cost of GHG damage is not incorporated into the economy

Atmosphere = “free dumping ground for carbon pollution

GHG intensive development

Climate crisis



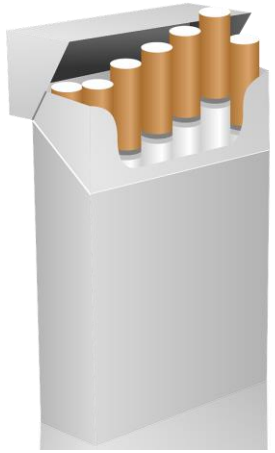
Associated pollution

Cost of air pollution:
4.2 million deaths /year;
3 trillion USD/year economic cost

How carbon pricing works

A few considerations:

- Governments require tax income to be able to operate
- Carbon pricing is **not about increasing taxes**
- Carbon pricing is about **taxing the "bads"** (pollution) instead of taxing the "goods"



(e.g. tobacco products)

Response to signal	No response to signal
↑Reduces the associated health costs ↑Reduces associated import costs	↑Creates revenues

Price signal on carbon emissions

Carbon Price:

Price signal on greenhouse gases (GHG) emissions: **X$ per tCO_2e**

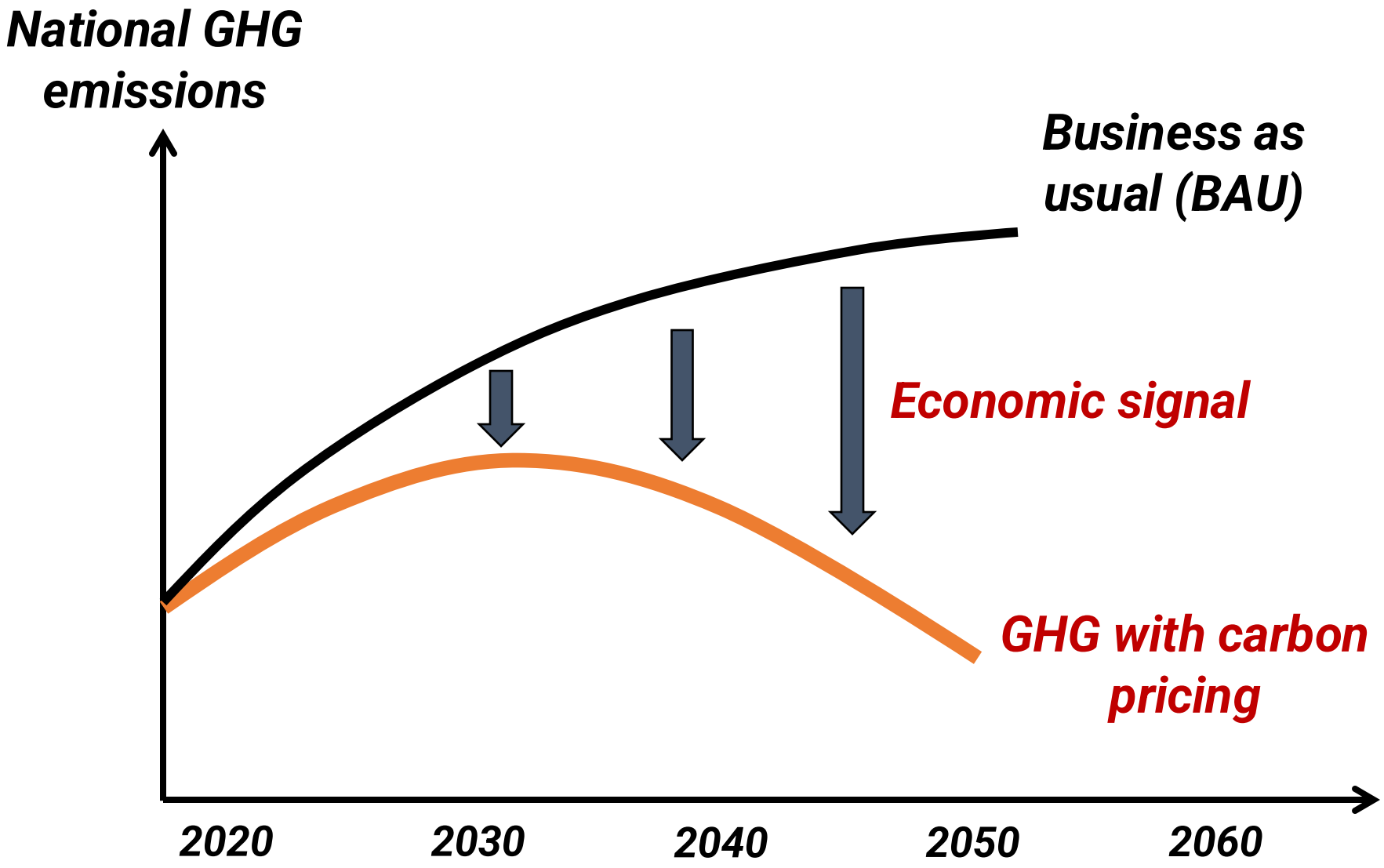
To take into account [all of] [part of] the **cost of carbon pollution** (social cost of carbon) in decisions (planning, investments, operations, etc.).

Recognized by most economist as the **simplest**, most **straightforward** and most **cost-effective** way to address GHG emissions.

"Putting a price on carbon is the only effective way to curb emissions to combat climate change"

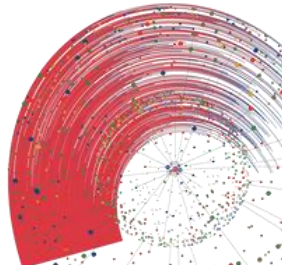
Jean Tirole (2014 Nobel Price in Econom[illegible])

Price signal on carbon emissions



Instruments to create a price signal on carbon

Energy-sector-only instruments	Pricing on GHG emissions
Fossil fuel tax Tradable energy efficiency certificates	Carbon tax Emission trading system (ETS)
Payments for renewable energy Tradable renewable energy certificates	Payments for emission reductions (e.g., CDM; carbon funds; etc.) Payments for REDD activities *(forestry)*
Incentivizing clean energy	Incentivizing emission reductions and carbon stocks



Co-benefits of carbon pricing

- Reduce emissions
- Encourage action by peers

- Environmental and health benefits
- Economic diversification / job creation
  - Penetration of new technologies
  - Attracting investments
- Raises revenue for other purposes
  - Investments / cutting inefficient taxes
- Increased energy security
- Reduced waste
- Reduce the cost of fossil fuel subsidies
- Reduced exposure to carbon border measures

Issues to discuss about carbon pricing

- *Initial introductory price may not be sufficient for putting countries on a path towards achieving the Paris Agreement*

  - Carbon pricing alone may not be sufficient

    Complementary measures may be needed (e.g., setting standards)

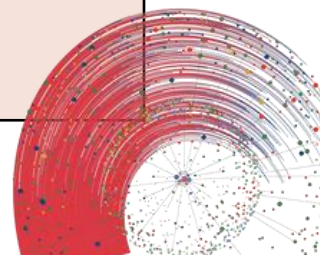
  - Economic actors however understand (and often expect) that carbon pricing will increase over time → planning for future higher carbon prices

  - Carbon pricing is a flexible instrument; its stringency and coverage can be revised up over time (e.g., along with climate commitments)

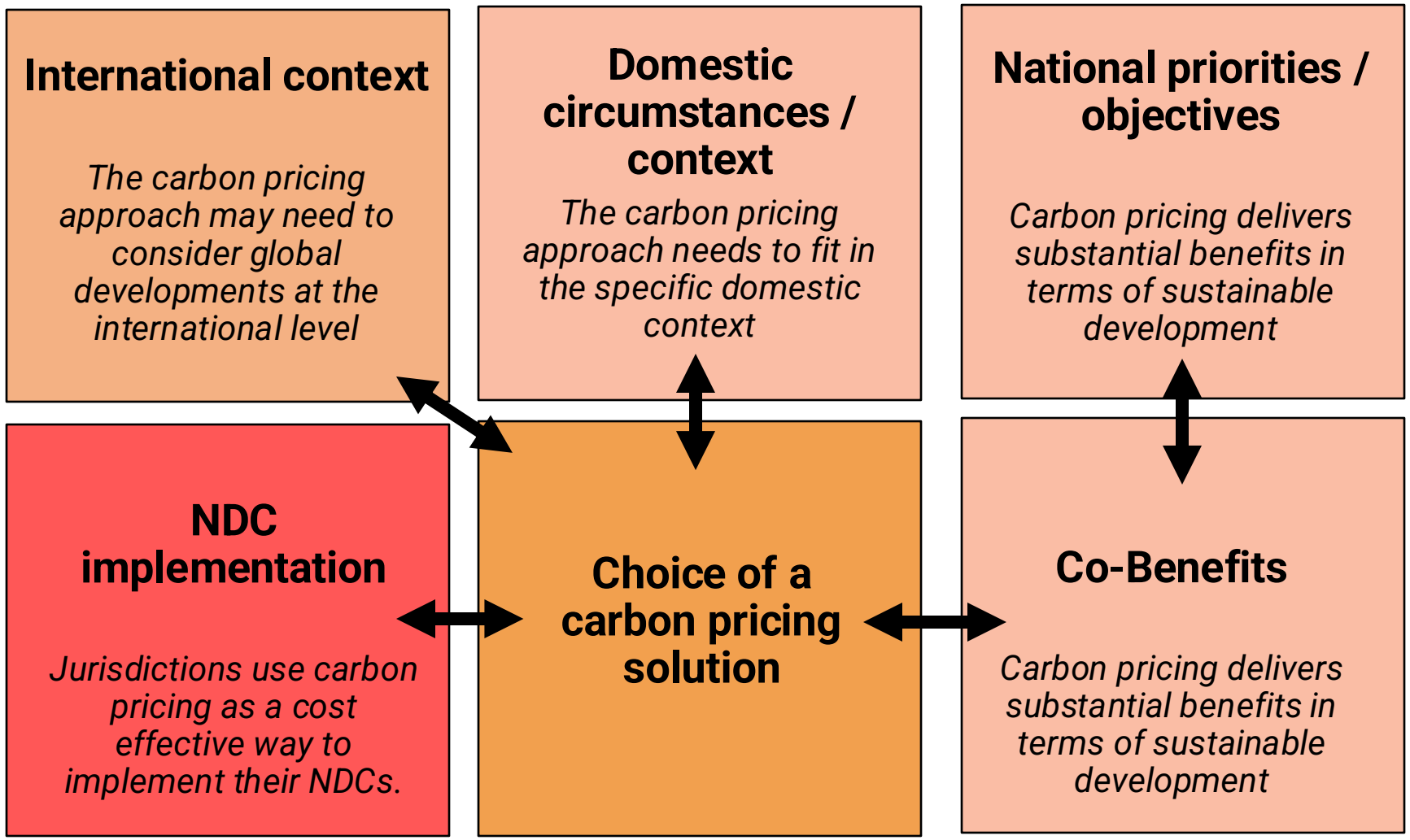
  - **Long-term:** Carbon pricing is an important tool for managing GHG emissions for as long as there are GHG emissions to manage

Achieving National Priorities

Objective / priority	Solution
Trigger investments	Revenues from carbon pricing to give loan guarantees for investors (e.g. in sustainable energy projects)
Limit trade exposure from pricing carbon	Provide large discounts and compensations to entities covered (e.g. free allowances under ETS)
Reduce poverty	Focus reinvestments in job creation
Increase energy access	Reuse income to fund/support sustainable decentralized energy access
Increase income equality	Redistribute the proceeds on a per capita basis
Improve business climate/competitiveness	Use revenues to cut taxes which hinder wealth creation (income tax / capital gain tax)
Ensure adaptation	Investments in adaptation measures
Increase energy independence	Reinvest in measures which reduce energy imports



Choice Of A Carbon Pricing Solution



Common themes & Key aspects to consider

- Scope & coverage: which sectors/GHGs to include? Which threshold?
- Governance and oversight: which are the institutional arrangements?
- MRV and enforcement: who is in charge of MRV? Where does it take place?
- Revenues: how are revenues used?
- Flexibility and linking:
- Stringency setting (cap or price level): how to set it? When should it be revised?
- Discount or allocation of emission rights: yes or no? on which basis?

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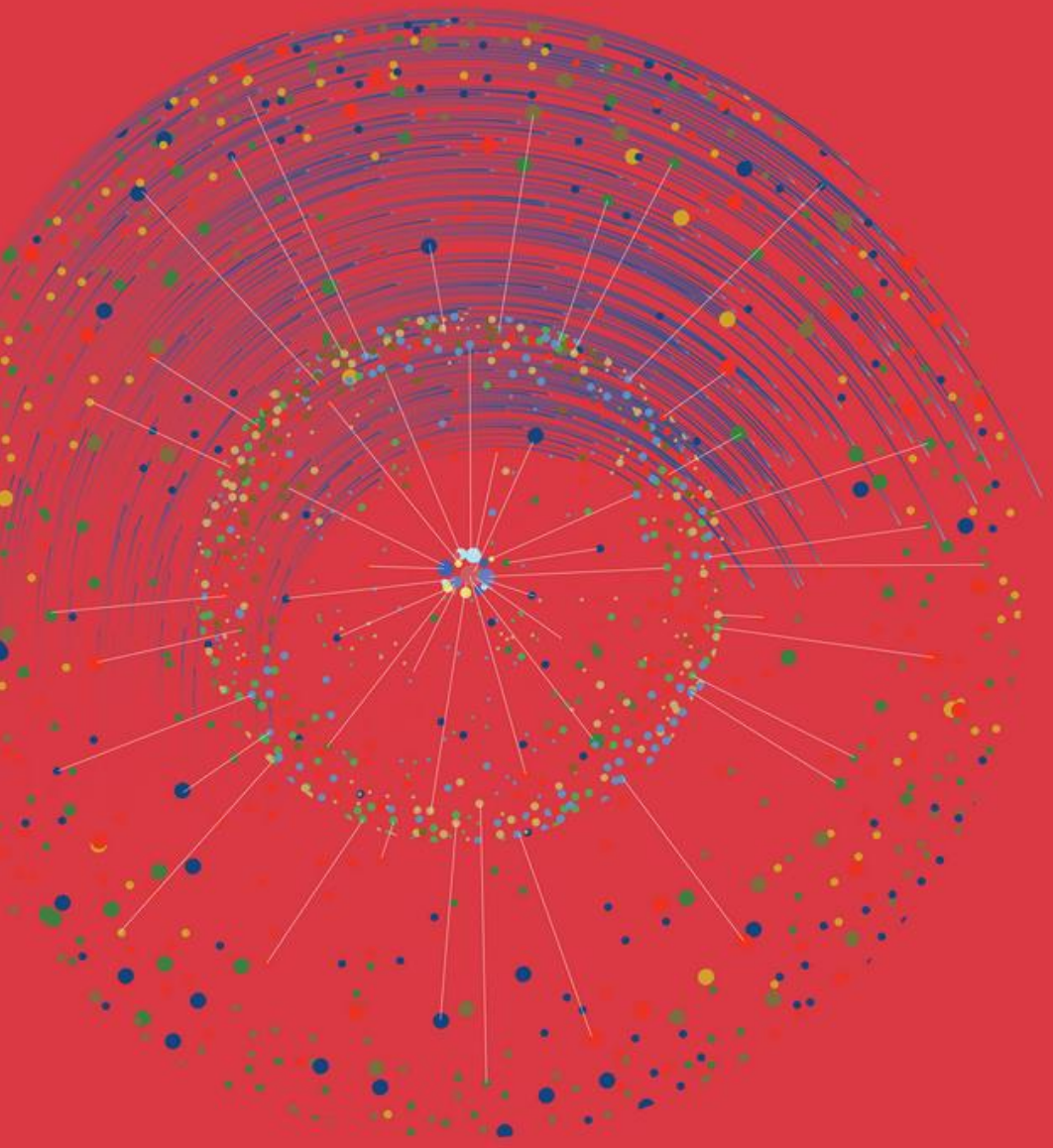

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Carbon Pricing Instruments

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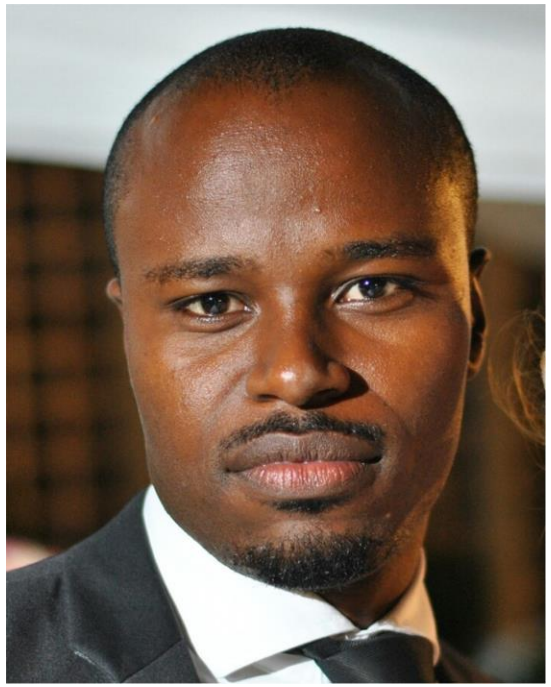
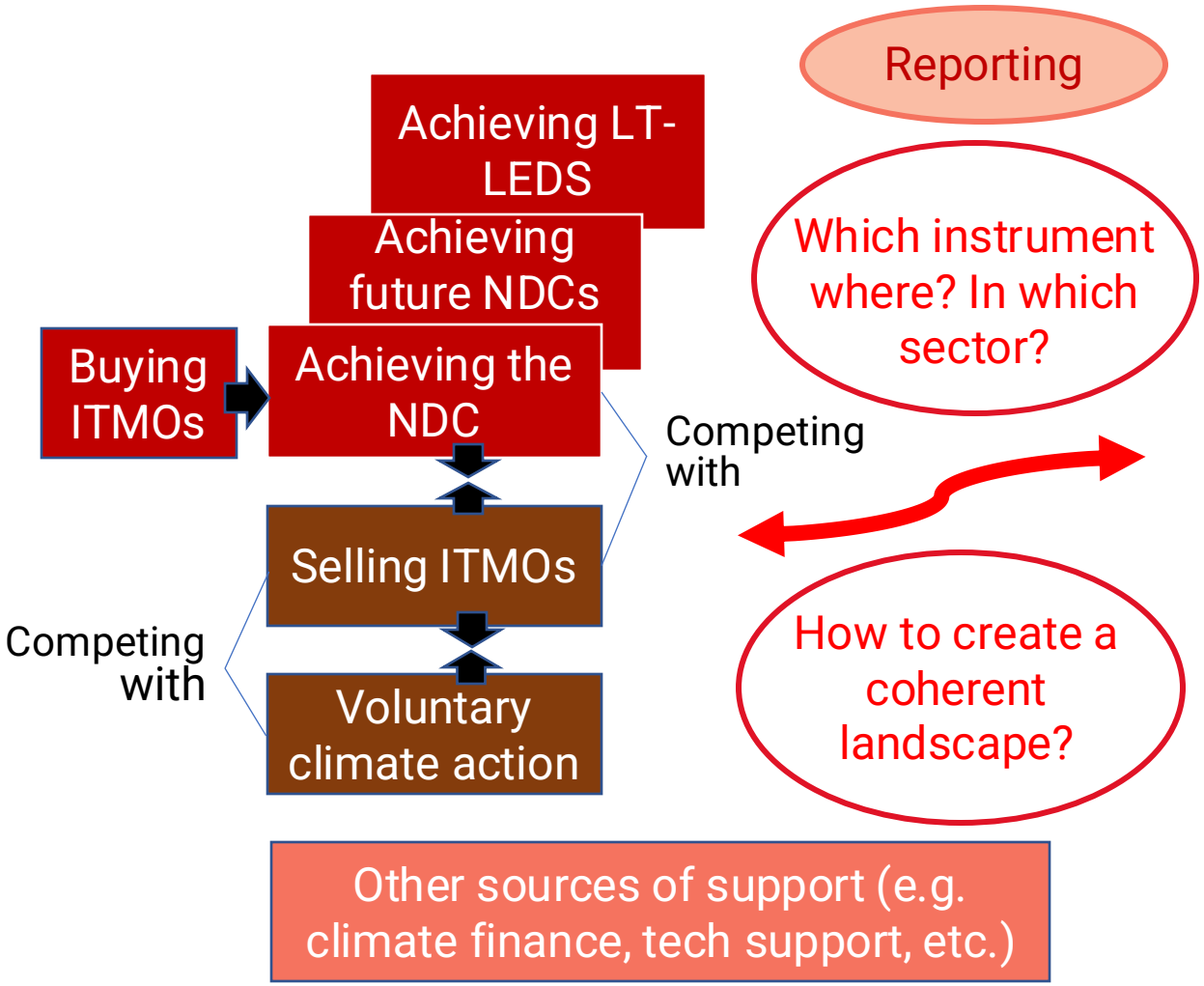


Patrick Munyaneza
Article 6 and Carbon Pricing Expert
RCC Caribbean

Landscape of Instruments



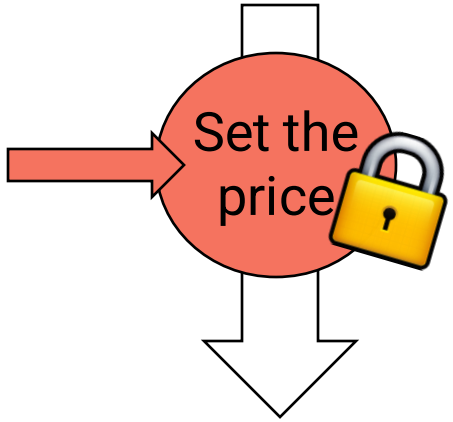
Which measures have which cost/effort?

GHG/Efficiency targets	RE support: Others, RECS, Obligations, FIT	
Various policies	GHG/Efficiency standards	EV / road policy
ETS	Carbon tax	National climate fund
Programme-based activities	Fossil fuel taxation (or subsidies)	REDD+
Project-based activities	Fee-bates	

Pricing Carbon Emissions: Major Approaches

Carbon tax

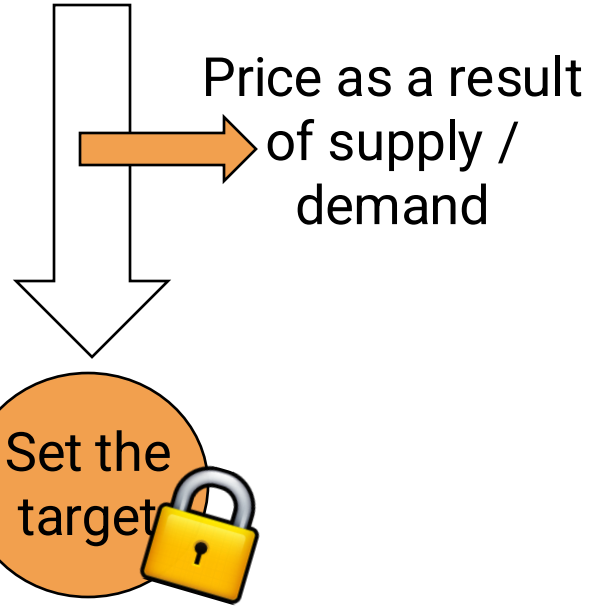
Baseline emissions



Impact (unknown)

Emission Trading System (cap-and-trade)

Baseline emissions



Pricing carbon emissions: carbon taxes

Carbon taxes

- Tax-free threshold can be applied to protect trade-exposed sectors
- Flexibility and linking (with other countries) is also possible
  - For example, participants in South African carbon tax can lower their taxable emissions by acquiring “emission reduction units” from activities outside the scope of the tax (e.g., afforestation activities, reduction of methane emissions from landfills)
- Major difficulty: assessing the impact of the carbon tax
  - Impact = actual GHG – baseline GHG

    Difficult to determine
  - *What GHG emissions have been in the baseline scenario? (without the tax)*

Pricing carbon emissions: ETS

Emission Trading systems *(cap-and-trade)*

Principle: Tradable-permit system for GHG emissions

- Aggregated limit (the cap) on GHG emissions which can be emitted

  - The number of emission units available is limited and reflects the size of the cap in the ETS

  - Guarantees that aggregated emissions from all participants will remain within the level set by the cap

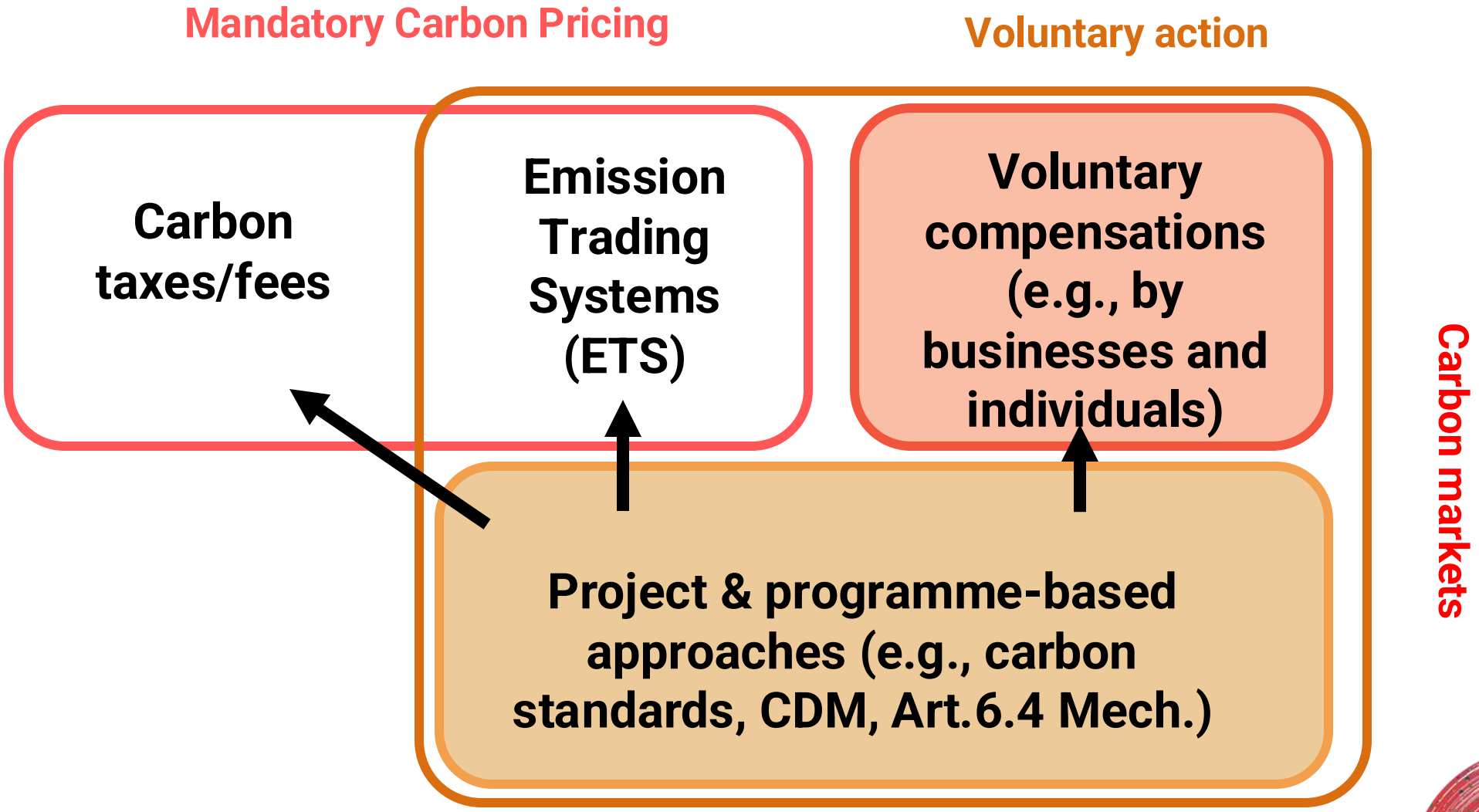
- Entities covered by the ETS need to hold one emission unit (allowances) for each tonne of GHG emitted but can buy / sell units

- **Price on carbon:** will depend on the balance of the demand (the total of GHG emissions) and the supply (the size of the cap and corresponding number of emission units) in the ETS.

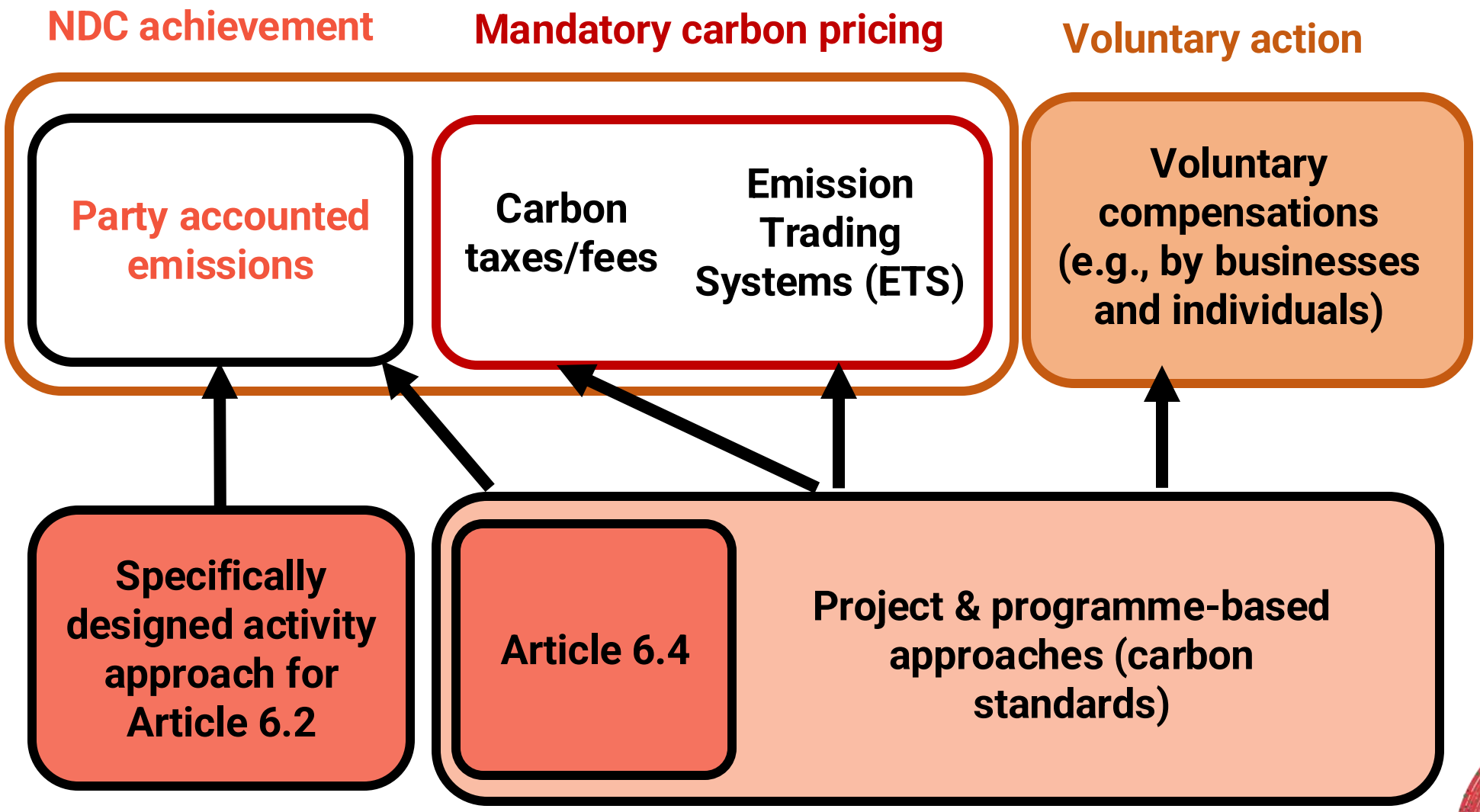
Carbon Tax and Emission Trading: Commonalities and Differences

- Both are regulated by the government
- Both put a price on carbon and thereby help to make low-carbon alternatives more attractive, changing consumption patterns and supporting low-carbon investments.
- Individuals and firms can decide how best to respond to the price
- Generate public revenue that can be used, for example, to invest in climate and energy measures
- A carbon tax can be easier to implement (no new infrastructure required)
- ETS provides more flexibility (e.g., offsets, banking, extending ETS across borders by linking with other systems)
- Hybrid: *Carbon tax and ETS are not mutually exclusive*
  - possibility of complementary ETS and carbon taxes covering different sectors.
  - implement carbon tax as a step towards establishing an ETS
  - e.g., price floors and ceilings in an ETS; offset certificates instead of paying the carbon tax.

About Carbon Pricing and Carbon Markets



About Carbon Pricing and Carbon Markets



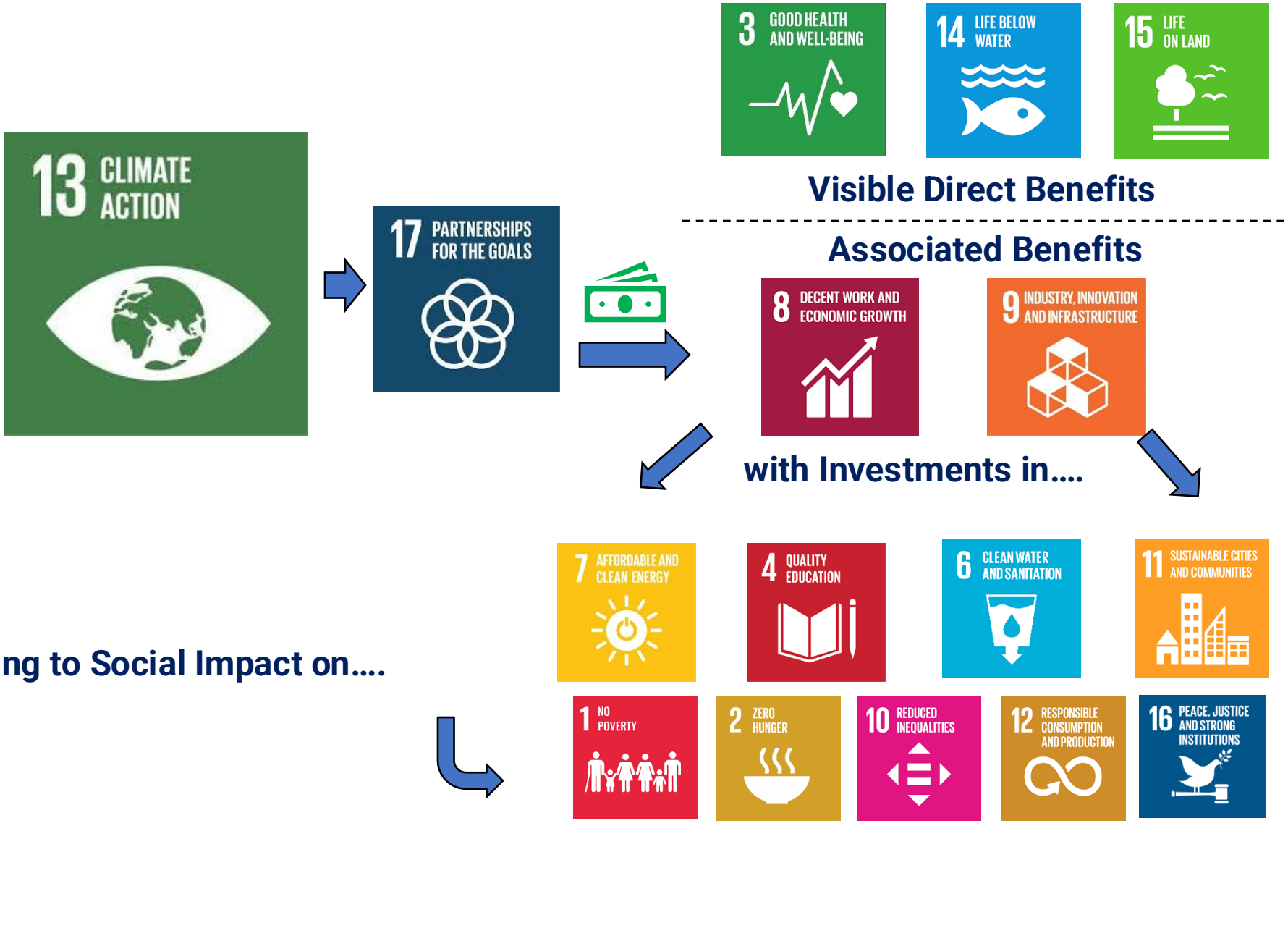
Relation to the Paris Agreement

Potential roles for carbon pricing

- For achieving successive NDCs (adjustable policy which can be revised over time)
- For LT-LEDS (long-term economic signal)
- Also, potentially for cooperative mitigation action under Art. 6

- Carbon pricing can play an important role in realizing the ambitions of the Paris Agreement and implement the Nationally Determined Contributions (NDCs).
- Article 6: Establishes the potential of trading emission reduction credits across borders, between nations or jurisdictions. This can encourage the linking of carbon pricing approaches across countries and jurisdictions resulting in the reduction of emissions by a magnitude greater than what is possible solely domestically or nationally.
- Para. 136 of the first COP 21 Decision (1/CP.21 Adoption of the Paris Agreement): recognizes the important role of providing incentives for emission reduction activities, including tools such as domestic policies and carbon pricing.
- Two-thirds of all submitted Nationally Determined Contributions (NDCs) under the Paris Agreement consider the use of carbon pricing and carbon markets to achieve their emission reduction targets

Carbon Pricing Co-Benefits against UN's SDGs



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Thomas Singh
University of Guyana

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A Carbon Tax at the Wellhead in LAC "Oil & Gas" Countries as Carbon Pricing

Thomas B. Singh

October 14, 2024

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Outline

PART 1: The Logic

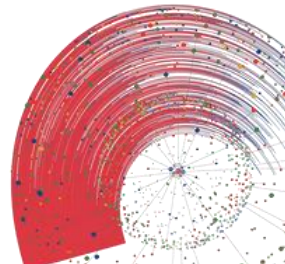
- Externalities as the Key Analytical Problem (KAP)
- Damage from CO_2 Emissions as the Social Cost of Carbon; Integrated Assessment Models
- Carbon Pricing as the "Pigouvian" Solution to KAP

PART 2: Policy Proposal and Policy Process

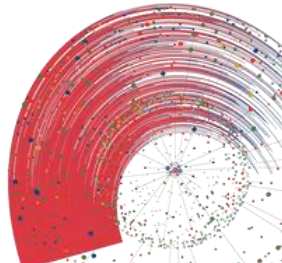
- Carbon Taxation as a form of Carbon Pricing (in a world with voluntary contributions and geoengineering)
- Science and Economics of (Upstream) Carbon Taxation at the Wellhead
- "Case Study" of Guyana

PART 3: CT Design & the Nesting of (Vested) Interests

- Guyana's Net Zero Claim
- Carbon Pricing in the World and the EU's CBAM
- International Cooperation: International Transfers & Climate Clubs

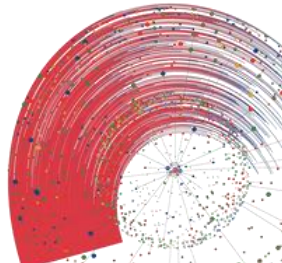


1. The Logic … and the World's Greatest and Widest-Ranging Market Failure



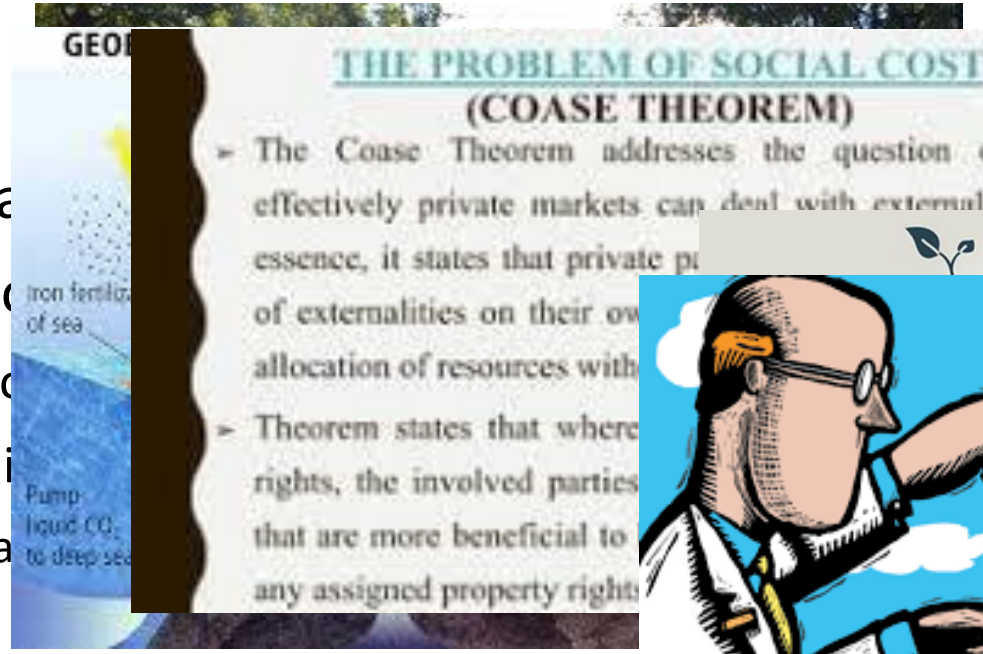
Externalities

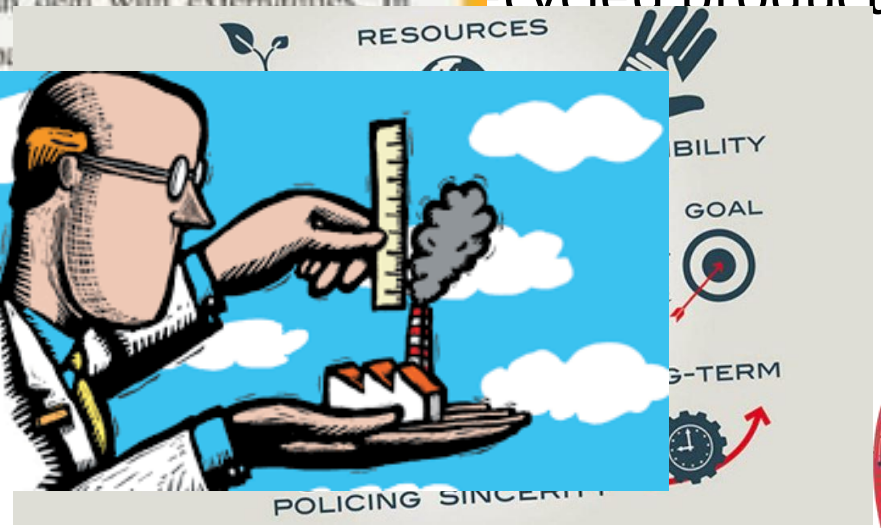
- Externalities – positive or negative - occur when the decisions or choices of one economic actor affect the profits or well-being of others “for free”
  - Oil companies, for example, decide how much oil to produce, affecting untold number of others
    - Positively, if shareholder returns increase (but this is not a market failure)
    - Negatively, if there is **damage** from the production and use of fossil fuels
- Stock externality: The damage is due to accumulation of ‘flow’ externalities
  - i.e., It is the cumulative stock of long-lasting CO_2 emissions in the atmosphere
- Basic problem is that the generator of the negative externality decides how much of the externality to produce but is not taking into account the effects of the externality on others.



Types of Public/Social Interventions

- There are six broad classes of public/social/private solutions:
  - Moral suasion – e.g., Greta Thunberg (and even the Paris Agreement
  - Direct production of environmental quality – e.g., Geoengineering
  - Coasian bargaining
  - CSR, related in a way ehavior
  - The emergence of ma ecycled products
  - Government regulatio
    - Command and contro
    - Economic or market i
      - (Article 6 of the Pa instrument)





Economic Instruments: Compliance Carbon Markets

1. European Union Emissions Trading System (EU ETS)

- **Established**: 2005
- **Region**: European Union
- **Scope**: Covers energy-intensive industries, the power sector, and commercial aviation within the EU, Norway, Iceland, and Liechtenstein.
- **Mechanism**: Cap-and-trade; companies receive or purchase allowances and must surrender enough allowances to cover their annual emissions. Companies can trade allowances, creating a financial incentive to reduce emissions.

2. California Cap-and-Trade Program

- **Established**: 2013
- **Region**: California, USA
- **Scope**: Covers major industrial sources, electricity generators, and fuel distributors.
- **Mechanism**: Cap-and-trade; companies are allocated or purchase allowances, with a decreasing cap on total emissions over time. This program is also linked with Quebec's carbon market.

3. Regional Greenhouse Gas Initiative (RGGI)

- **Established**: 2009
- **Region**: Northeastern and Mid-Atlantic states in the USA (10 states as of 2023)
- **Scope**: Primarily targets CO_2 emissions from the power sector.
- **Mechanism**: Cap-and-trade; power plants must purchase allowances for each ton of CO_2 they emit. States auction these allowances and use the revenue for renewable energy projects, energy efficiency, and other climate initiatives.

4. Chinese National Emissions Trading Scheme (China ETS)

- **Established**: Launched nationwide in 2021
- **Region**: China
- **Scope**: Initially covers the power sector, with plans to expand to other industries.
- **Mechanism**: Cap-and-trade; power plants receive allowances based on carbon intensity benchmarks. Companies can trade allowances within this national market. This system builds on prior regional pilot programs in seven Chinese cities and provinces.

5. Korea Emissions Trading Scheme (KETS)

- **Established**: 2015
- **Region**: South Korea
- **Scope**: Covers multiple sectors, including power, industry, building, and waste.
- **Mechanism**: Cap-and-trade; companies are allocated allowances based on benchmarks and historical emissions. Companies can trade these allowances, with the government gradually reducing the cap over time.

7. New Zealand Emissions Trading Scheme (NZ ETS)

- **Established**: 2008
- **Region**: New Zealand
- **Scope**: Covers multiple sectors, including forestry, waste, industrial processes, and agriculture (with modified requirements).
- **Mechanism**: Cap-and-trade; companies must obtain and surrender New Zealand Units (NZUs) equivalent to their emissions. Forestry offsets are also integrated into the system, allowing for reforestation as a means of compliance.

8. Quebec Cap-and-Trade System

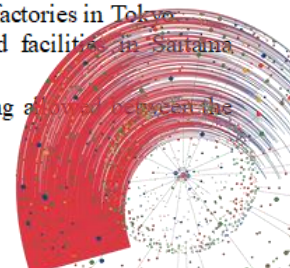
- **Established**: 2013
- **Region**: Quebec, Canada
- **Scope**: Covers industries such as electricity production, fossil fuel distributors, and large emitters.
- **Mechanism**: Cap-and-trade; companies purchase allowances and rade them to comply with emissions targets. Linked with California's cap-and-trade program, allowing for cross-border trading.

9. Swiss Emissions Trading Scheme (Swiss ETS)

- **Established**: 2008 (linked to the EU ETS in 2020)
- **Region**: Switzerland
- **Scope**: Covers large energy-intensive industries and aviation (since linkage with EU ETS).
- **Mechanism**: Cap-and-trade; companies receive allowances based on benchmarks and trade them as necessary. The linkage to the EU ETS allows for greater market integration and flexibility.

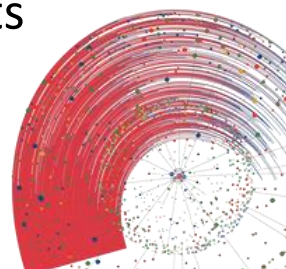
10. Japan's Regional Carbon Markets

- Japan does not yet have a national cap-and-trade system, but **Tokyo** and **Saitama** have implemented regional programs:
  - **Tokyo Cap-and-Trade Program**: Established in 2010, targeting large buildings and factories in Tokyo.
  - **Saitama Prefecture Program**: Established in 2011, covering large buildings and facilities in Saitama Prefecture.
- These programs focus on energy efficiency improvements and emission reductions, with trading allowed between the two



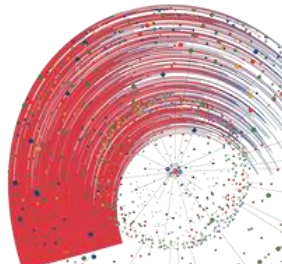
Economic Instruments: Compliance Carbon Markets

- Markets for CO_2 emissions (the externality) created by regulatory agencies
  - Regulatory agency/market authority that sets a "cap" on total allowable CO_2 emissions
  - The commodity that is traded is the "right" or permit to emit 1 ton of CO_2
  - Total number of permits = aggregate allowable emissions or cap
  - Market authority allocates (freely) an equal number of "tradeable emissions permits" to each company
  - Once the cap is **less** than the total CO_2 emissions companies will rationally emit in aggregate, there will be a market or demand for permits
    - Buyers: Those firms that find themselves emitting more than their allocation of permits
    - Sellers: Those firms that find themselves emitting more than their allocation of permits



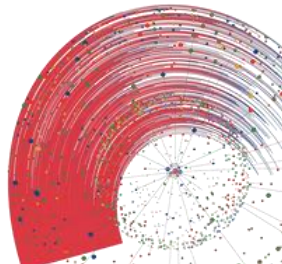
Compliance Markets Put a Price on Emissions

- The interaction of buyers and sellers in the market for pollution rights gives rise to a market-clearing price
  - This is the price of the externality; it is a price on carbon
  - A well-designed compliance market causes firms to *internalise* the damage done by producing products that are otherwise wholly beneficial
- Putting a price on carbon results in an "optimal" amount of CO_2 emissions
  - The cost of [fossil fuels] rises because a price has been put on *emissions*
  - Companies can avoid the increased costs by reducing output; using alternative processes and inputs; "add-on" technologies (e.g., CCS)
  - Firms have different abatement capabilities; emissions reduction is cost effective
  - Consumers react to the higher prices by reducing consumption
    - **This is the mitigation effect of carbon pricing**

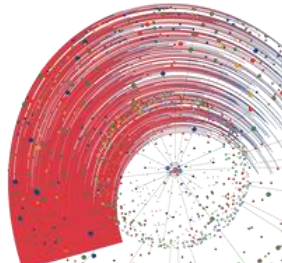


Voluntary Carbon Markets

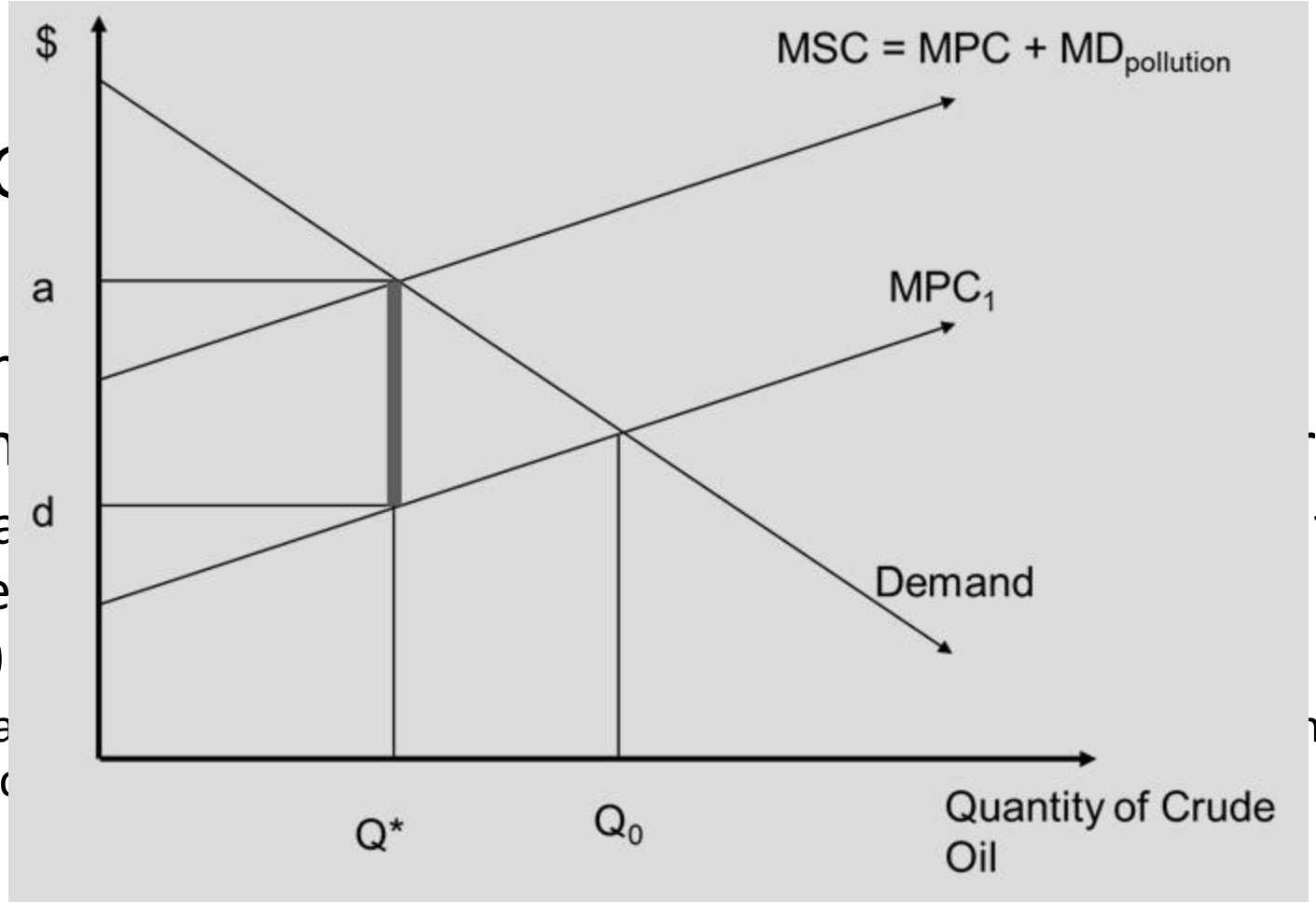
- Participants to *offset* their emissions (anywhere in the world) by supporting projects (anywhere in the world) that **reduce** or **remove** $CO_2$from the atmosphere
  - Forestry & land use, renewable energy, energy efficiency, carbon capture & storage, methane capture
  - Each offset purports to represent a metric ton of CO_2 equivalent (tCO_2e) avoided or removed from the atmosphere
- Third party certification standards & trust required
  - Market are fragmented
  - Information asymmetries and uncertainty are pervasive
  - Incentives are not (necessarily) aligned
  - Double-counting, leakage and additionality concerns



2. Policy Proposal: Carbon Taxation as Carbon Pricing

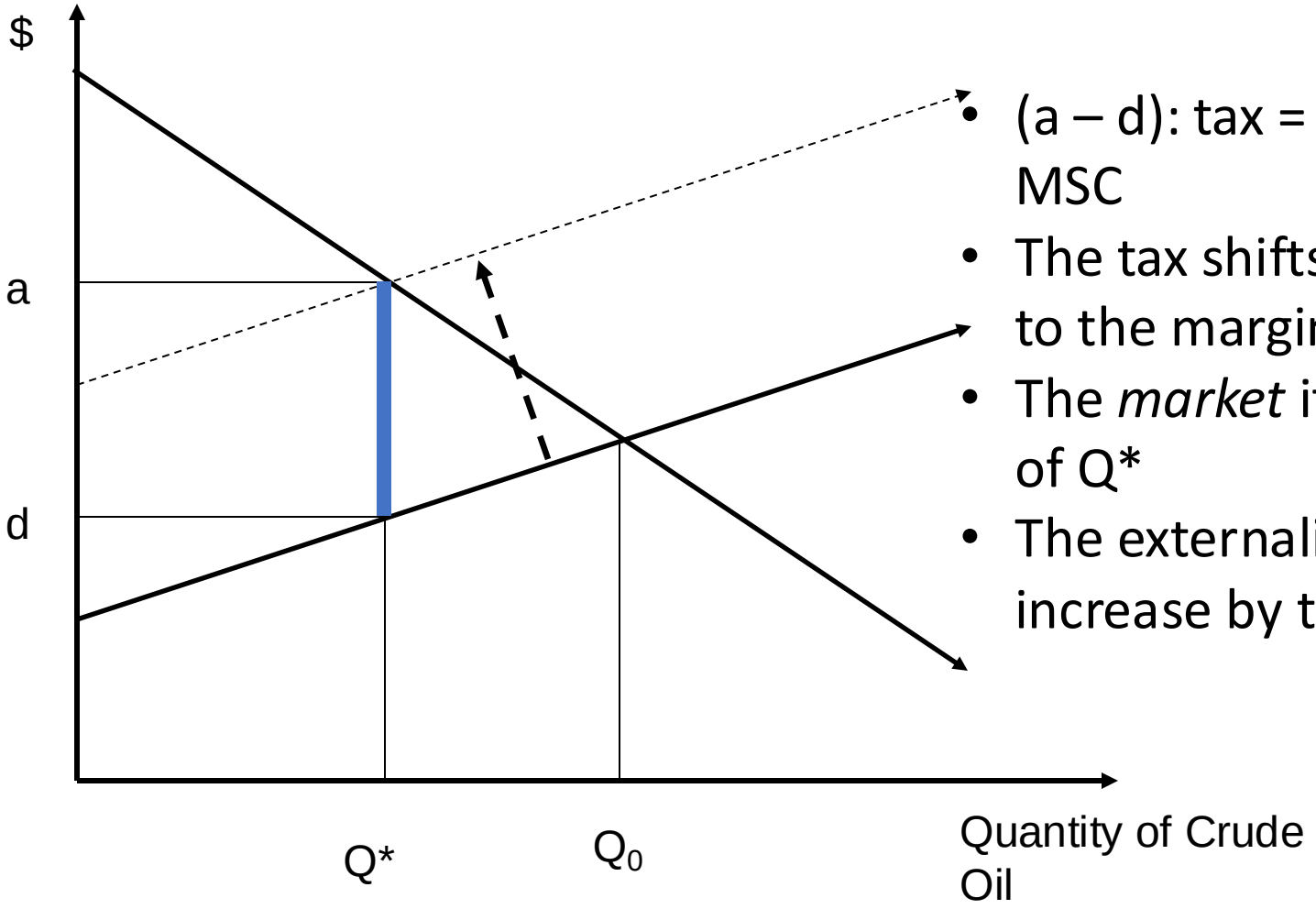


A "Pigo Pricing



- A carbor nlike the emission rnality
  - With a to the divergence betwe Social Costs (MSC)
    - Ma ns between buyers and

- Q_0 represents the market equilibrium (where MPC=MPB), and
- Q* represents the optimal level of output (where MSC=MSB)
- Output is lower, environmental damage is optimal



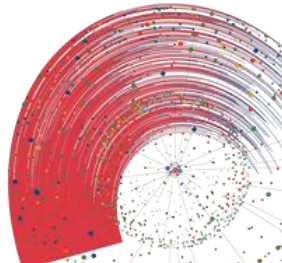
- (a – d): tax = to the divergence between MPC and MSC
- The tax shifts the MPC curve by an amount equal to the marginal damage of CO_2 emissions
- The *market* itself arrives at an optimal equilibrium of Q*
- The externality is *internalized;* firms' private costs increase by the "carbon price"

- Government is now earning tax revenues
  - Give back to the consumer?
  - Finance the provision of environmental goods?

A Carbon Tax at the Wellhead

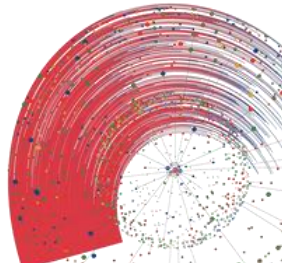
The UCT-W is a carbon tax that rests on two indisputable principles:

- A physical principle: A unit of fossil fuel will emit the *same* amount of carbon wherever and whenever it is burned
- An economic principle: The incidence of a tax (i.e. who 'really' pays the tax) is unrelated to the point of collection of the tax or who pays the tax
  - "Irrelevance of Who Pays the Tax" affirms salience of the relative elasticities of demand and supply
- . As such, an upstream carbon tax in Guyana will achieve the same emissions reduction results as at tax imposed at (say) the pump in the United States

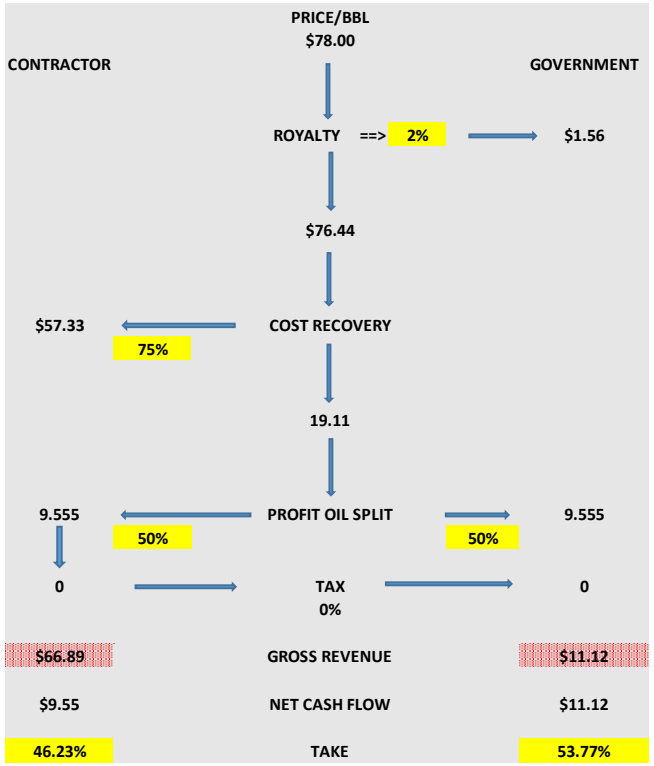


A “Guyana” UTC-W

- Tax the *carbon content* of oil and gas produced in Guyana:
  - Specify a carbon tax rate of (say) $50 per metric ton of CO_2 emissions
  - Apply this rate to the CO_2 emissions sequestered in every barrel of oil.
    - 0.433 metric tons of CO_2 emissions will be released when a barrel of oil is combusted
- The tax liability on every barrel of oil
  - $50 X 0.433 X [No. of Barrels of Oil]
  - This amount accrues to the GoG
  - The burden of the tax would be the same if the tax were levied on the consumers “at the pump” in developed countries
- Where does the $50/metric ton of CO_2 come from?
  - **The Social Cost of Carbon (SCC)**



No. of Barrels/Day	CO2 Content - Daily Output	Carbon Price ($US/ton)	Daily Revenues from UTC-W	Annual Revenues from UTC-W	Annual Revenues from Fiscal Regime in Current PSA (US78/barrel)
380,000	164,540	50	8,227,000	3,002,855,000	1,541,650,500
380,000	164,540	190	31,262,600	11,410,849,000	1,541,650,500
600,000	259,800	50	12,990,000	4,741,350,000	2,434,185,000
600,000	259,800	190	49,362,000	18,017,130,000	2,434,185,000
1,000,000	433,000	50	21,650,000	7,902,250,000	4,056,975,000
1,000,000	433,000	190	82,270,000	30,028,550,000	4,056,975,000



- Profit-to-be-shared after royalty (2%) and cost recovery (75%) 0.25
- Profit share to each party 0.12
- Govt. take (%) 0.14

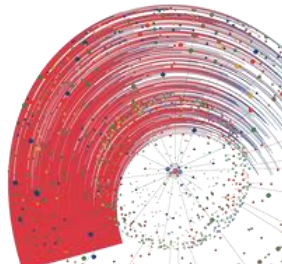
Estimating the Social Cost of Carbon (SCC)

- Three general steps in estimating the social cost of carbon:

1. Predict impact of 1 extra ton of CO_2 on climate using a climate forecasting model

2. Measure impacts of changes in climate on economic productivity, health, property damage, etc.

3. Calculate current social cost by converting future costs to current dollars (discounting)

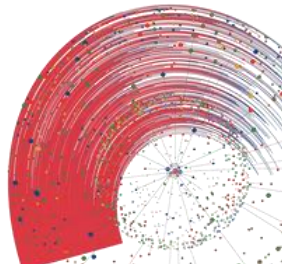


The “US” Social Cost of Carbon (SCC)

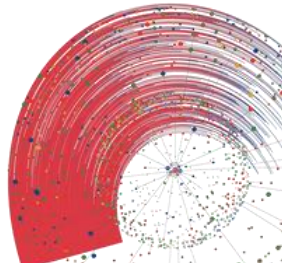
- Putting together all of these estimates, what is the social cost of carbon?
- Obama Interagency Working Group on Social Cost of Carbon was tasked with answering this question
- Compiled data on estimated impacts of carbon emissions
- Applied a discount rate of 3% to future costs

→ Social cost of carbon set at $51 per ton of CO_2 emitted

- This number is now used in numerous policy decisions, ranging from fuel-economy rules for cars to regulations on power plants



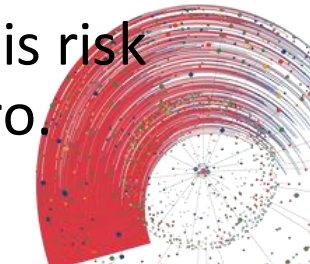
3. CT Design & the Nesting of (Vested) Interests



Guyana's "Net Zero" Claim

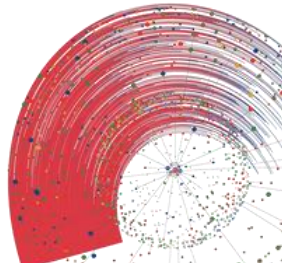
youtube.com/watch?v=2rJ3yjJNQdU&list=PPSV&t=9s

- Guyana claims that its forests
  - Store over 19.5 gigatons of carbon dioxide and
  - Captures 154m. metric tons each year
- Production, refining and combustion of 1 mpd:
  - Approximately 157m. tons of carbon dioxide emissions annually
- Net Zero?
  - What matters is the stock of CO_2 emissions
  - Before oil production started in Guyana, this stock threatened the achievement of the Paris Agreement goals
  - With oil production, refining and combustion of Guyana's fossil fuel exports, this risk is now greater, regardless of the fact that Guyana as a country might be net zero.



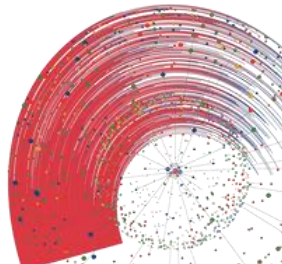
The EU's CBAM

- Border adjustments guarantee that all countries will have to price carbon
  - The list of products that will be covered will expand
  - Challenges at the WTO have not been successful
- Countries that have a carbon tax will avoid the CBAM
- If the CBAM is expanded to include petroleum products, developing countries will have to pay this tariff to EU countries
  - A UTC-W will avoid this transfer of revenues to the EU



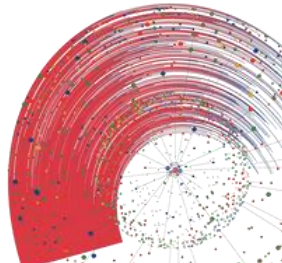
Stock Externalities and International Transfers

- The stock of cumulative emissions will keep on rising without reduction of new emissions and removal of existing already released emissions
- Both reductions and removals are in the nature of international public goods that must be financed if they will be provided
- All countries, including those “less” responsible, bear the costs of warming
  - Vulnerable, developing countries require climate financing for adaptation and resilience are also public goods
- Climate justice requires that climate financing be available as transfers from those “more” responsible to those less responsible
- The UCT-W ‘effects” this international transfer



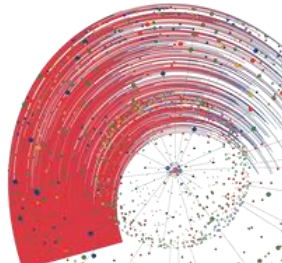
International Cooperation on Carbon Pricing

- Climate Club of developing oil-exporting countries that implement a UCT-W
  - Collaborative approach for these nations to manage carbon
  - “Self-financing” of adaptation and resilience building
  - Financing for research and development on CCS, renewable energy solutions, and sustainable land management practices
- Alignment on Trade and Carbon Border Adjustments
  - Collectively negotiate responses the border adjustments
- Crowding in of carbon pricing and emissions reductions among oil exporting countries
  - Non-members face a natural punishment



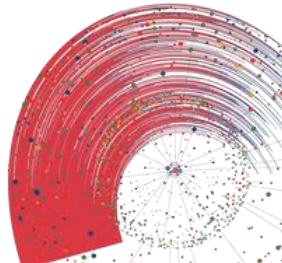
Brief History

- Kyoto Protocol agreed to create a world **carbon dioxide emissions markets**
  - Countries and companies could buy and sell certificates of emission
  - European Union Emissions Trading System is the largest carbon market in the world, **representing more than three quarters of the international trade in carbon**
- The Canadian province of British Columbia in 2008 **set a carbon tax and reduced fuel consumption seven times more than the local government expected**
- Some 50 countries have a carbon pricing scheme in some form. But the global average carbon price is currently only $2 a ton, far below what the planet needs

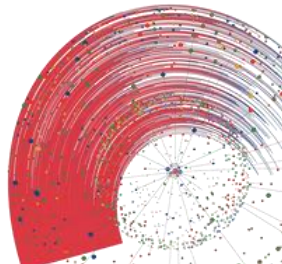


Concluding Remarks

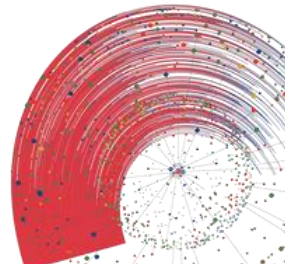
- Many countries and many oil companies have “signed on” to the carbon tax
- It will more than likely be introduced “at the pump” in developed countries
- Guyana stands to lose significant revenues and to lose an opportunity to give leadership to nudging the world to adopting a common price on carbon – unless it acts now as suggested in the UGGI Policy Brief.

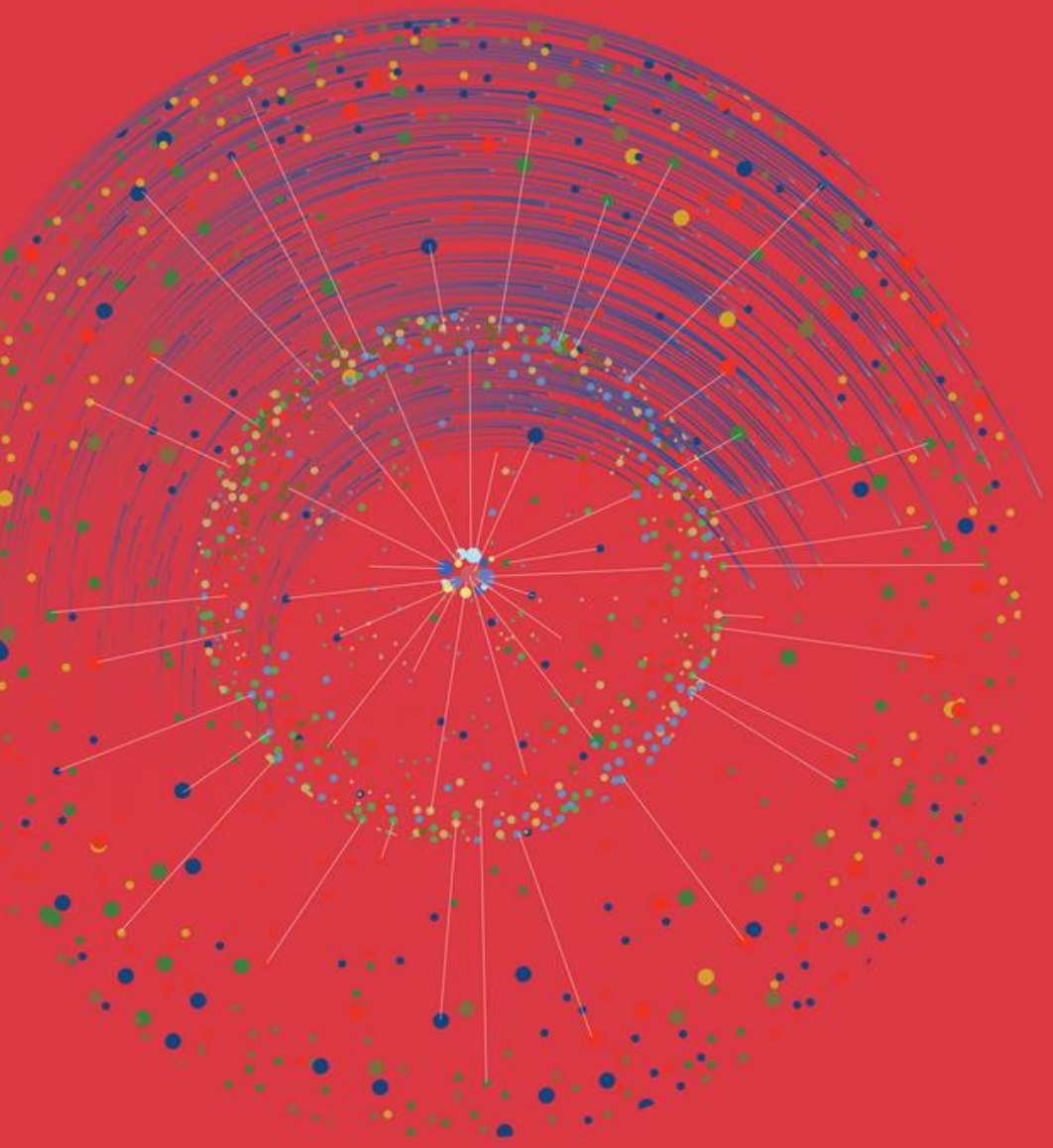


- Carbon pricing, based on Article 6 of the Paris Agreement, is here.
- Border adjustments guarantee that all countries will have to price carbon
- UCTW addresses both climate mitigation and adaptation, and climate finance. It will get us to cooperate with each other.
  - Regional Fund for Climate Adaptation and Loss & Damage
- Resolves 'deep paradox' of rich biodiversity and oil & gas production
  - Investors will not be deterred from oil & gas development in LAC
  - Other countries will be unable to block/retaliate against UCTW
- UCTW is superior to other proposals on many grounds
- Can be used by countries in the NDCs
- Consistent with notions of a "just transition" and "climate justice"



- Consistent with Article 6, but as a “non-market” approach
  - Concern: Article 6 draft rulebook only accommodate downstream CT
- Internationally transferred mitigation outcomes (ITMOs) incentivise and facilitate participation
  - 4.a: “To promote the mitigation of greenhouse gas emissions while fostering sustainable development”
  - 8.a: “To promote mitigation and adaptation ambition”
- UCTW generates revenues that can be used for mitigation and adaptation – so fully consistent with Article 6
  - UCT-W revenues must be used to finance NDCs
  - Emissions reductions achieved the UCTW can be incorporated into the ITMO framework
  - Total of UCTW and price of ITMOs to add up to SCC or net-zero ‘warranted price’





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Q&A

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SESSION 2 – Carbon Pricing in the Caribbean: A Snapshot

Country Experience

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Dominican Republic. Emission Trading System

CI-ACA in Dominican Republic

Phase I

2017

- National Consultation on Carbon Pricing Instruments

2018

- Study for the Evaluation of Carbon Pricing Instruments in the Dominican Republic

Phase II

2019

- Roadmap for the Implementation of a Domestic ETS and its Potential Linkage with a Renewable Energy Certificate Scheme

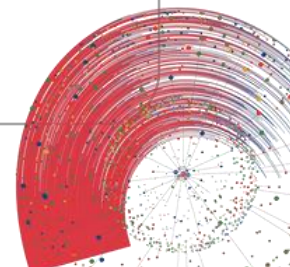
2023

- Carbon Market Simulation Training Exercise

Phase III

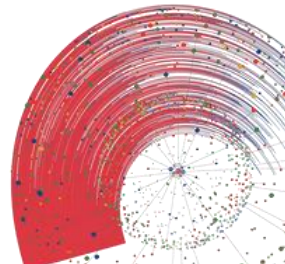
2024

- Emissions Trading Scenarios in the Dominican Republic, Supply and Demand; Carbon Market Pilotage

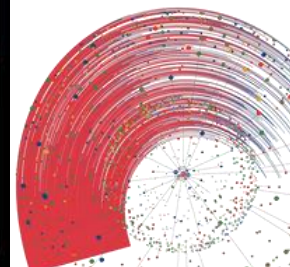


Phase 1. Carbon Pricing in the Dominican Republic

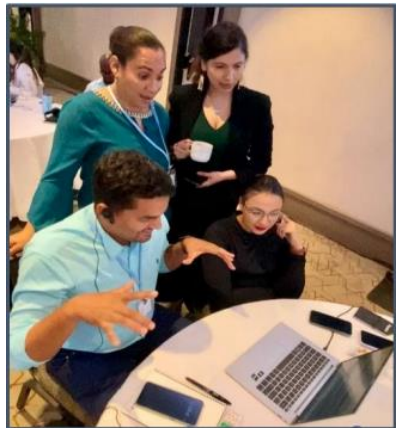
- Through MexiCo2, a mapping of actors and a survey of existing information and legal framework was carried out.
- Interviews were conducted with key actors and interested parties.
- As a result, a feasibility assessment of the different instruments for setting a price on carbon was carried out.



Mecanismo/ Instrumento	Objetivo principal	Pros	Contras	Viabilidad técnica	Viabilidad política	Aceptación del sector privado	Aceptación del sector público
Impuesto al carbono	Reducciones de emisiones	• Fácil comprensión. • Bajo costo de implementación. • Fuente de ingresos para gobiernos. • Certeza sobre precios (precio fijado por gobierno). • Puede utilizar infraestructura administrativa actual. • Permite el uso de compensaciones.	• La efectividad depende de la tasa del impuesto (generalmente debe ser alta). • Difícil de vincular internacionalmente • Incertidumbre sobre reducciones de emisiones. • Otorga menos tiempo para adaptación de las empresas. • La fuga de carbono es difícil de gestionar.	Alta	Muy baja	Muy baja	Media a baja
Sistema de Comercio de Emisiones	Reducciones de emisiones	• Fuente de ingresos para gobiernos. • Relativamente fácil de vincular internacionalmente. • Certeza sobre reducciones de emisiones. • Permite el uso de compensaciones. • Fugas de carbono son relativamente fáciles de gestionar.	• Más difícil de comprender por el gobierno y entidades cubiertas. • La efectividad depende del diseño del SCE. • Alto costo de implementación. • Incertidumbre sobre precios. • Usualmente requiere nueva infraestructura y estructuras administrativas. • Otorga más tiempo para adaptación de empresas. • Requiere número alto de participantes (entidades cubiertas).	Media a baja	Media a alta	Alta	Alta
Instrumento híbrido	Reducciones de emisiones	• Diseñado para necesidades específicas de la jurisdicción. • Usualmente permite el uso de compensaciones.	• Más difícil de comprender. • Alto costo de implementación. • Usualmente difícil de diseñar debido a la convergencia con otros instrumentos. • Posibles costos más altos para las entidades cubiertas (en comparación con un SCE).	Media	Media a baja	Media	Media a alta
Certificados Verdes	Energías renovables	• Fácil comprensión. • Certeza relativa sobre generación de energías renovables. • Mayor capacidad de generación eléctrica.	• Incertidumbre sobre reducciones de emisiones. • Posibilidad de superposición con otras políticas.	Media	Media	Alta	Alta



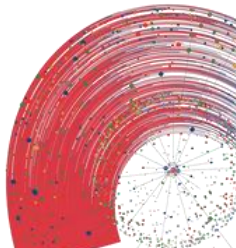
Phase 2. Roadmap for the Design of an Emissions Trading System in the Dominican Republic



- **SCE** was the most highly valued option in phase 1, and the feasibility of its application was further investigated.
- A Strategic Steering Committee (Key Actors) was created, and the following were also involved: private companies, associations, civil society, academies, international entities and other government entities outside of the main ones identified in phase 1.
- Carbon Market Simulation Training Exercise, September 2023.

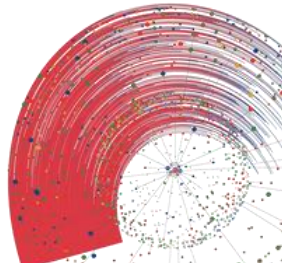
Phase 3. Initial Consultation and Launch of stakeholder engagement process in the design of the Dominican Republic ETS

- Work Plan
- Desk Review
- Virtual Consultations
- Detail Design of the ETS Pilot
- Validation Workshop



Recommendations

- Scope of Application
- Emissions Cap
- Allocation of emission permits
- Carbon Leakage
- Use of certified emissions reductions/offsets
- Monitoring, Reporting and Verification (MRV) System
- Temporal Flexibility
- Price predictability and cost containment
- Potential links with other ETS
- Stakeholders, communication and capabilities



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Trinidad and Tobago: devising a carbon pricing approach

Kishan Kumarsingh

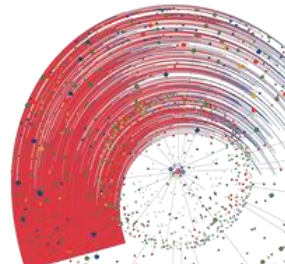
BACKGROUND/RATIONALE

Reducing global temperature increase to under 2 degrees Celsius has been the backdrop of global climate policy for the last few years, mostly driven by the Paris Agreement.

Achieving this objective involves the development and implementation of low emission development strategies.

Exploring approaches for cost effective implementation to reduce emissions

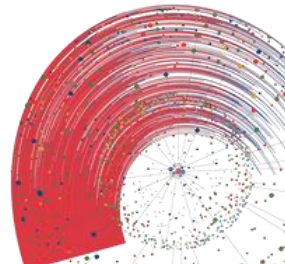
Trinidad and Tobago is the most industrialized economy in the English-speaking Caribbean region. Trinidad and Tobago also exports manufactured goods, including ammonia, methanol, urea, fertilisers etc. Oil and gas, and petrochemicals is the dominant economic sector.



BACKGROUND/RATIONALE

Advantages:

- Implementing a carbon pricing mechanism is vital for achieving net-zero emissions, as it provides clear financial incentives for businesses and consumers to reduce their carbon output and invest in renewable technologies.
- By internalizing the cost of emissions, it encourages sustainable practices, supports long-term planning, and generates revenue that can be reinvested in initiatives facilitating the transition to a low-carbon economy.
- It fosters accountability, promotes cross-sector collaboration, and aligns economic activities with climate commitments, ultimately driving collective action toward net-zero goals.
- Discourages free carbon pollution and sending the policy signal
- Fit for purpose – no “one-size-fits-all”
- Maintaining the ability to meet the country’s socio-economic needs and sustainable development objectives
- Impact on exports – carbon border adjustment measures (CBAM)



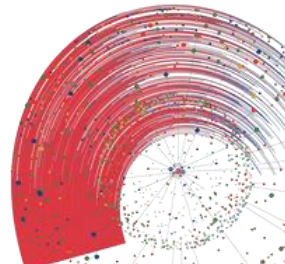
POLICY CONTEXT

The existing environmental policy and legislative framework incorporates the **“polluter-pays-principle”**

National Environmental Policy
Environmental Management Act
Subsidiary legislation under the Act

Nationally Determined Contribution

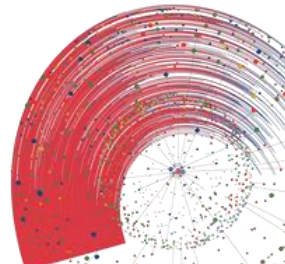
The NDC has also explicitly stated that the country is looking at developing a feasible carbon trading scheme to reduce emissions in the industrial sector. A carbon pricing system that is appropriately designed to fit a country’s specific domestic circumstances can play a role in decarbonization if it sufficiently incentivizes low-carbon action by placing a price signal on economic activity that is linked to fossil fuel intensive investments, thereby internalizing the cost of GHG emissions.



PRELIMINARY STUDY

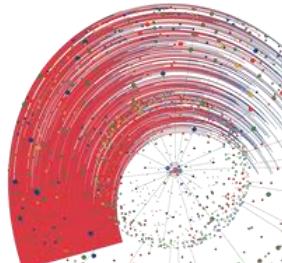
The study aimed to identify the opportunities for the development of a carbon pricing policy in Trinidad and Tobago, and design a policy instrument that provides a price signal on carbon emissions, to contribute to the achievement of the NDC of the country in the Paris Agreement and in conjunction with other national priorities.

The main activities were focused on identification, analysis, and making recommendations of the most appropriate carbon pricing instruments that can assist in mitigating GHG emissions in Trinidad and Tobago, foster sustainable development and place the country on a low emission pathway. The activities were primarily descriptive and qualitative in nature.



PRELIMINARY STUDY - POSSIBLE APPROACHES

- Facility based carbon tax
- Emissions Trading Scheme
- Green Fund restructure

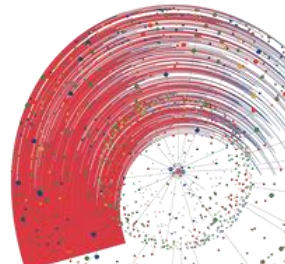


NEXT STEPS - NET ZERO PATHWAY

Development of a national carbon-pricing mechanism to support long term financing of NZNP plan.

Activities include:

- Review of the existing approaches of carbon-pricing mechanisms (particularly in the region)
- Consultation workshops and discussions with the relevant stakeholders on the scope of carbon-pricing mechanism
- A national carbon-pricing mechanism based on the consultation workshops and provide recommendations on its implementation.



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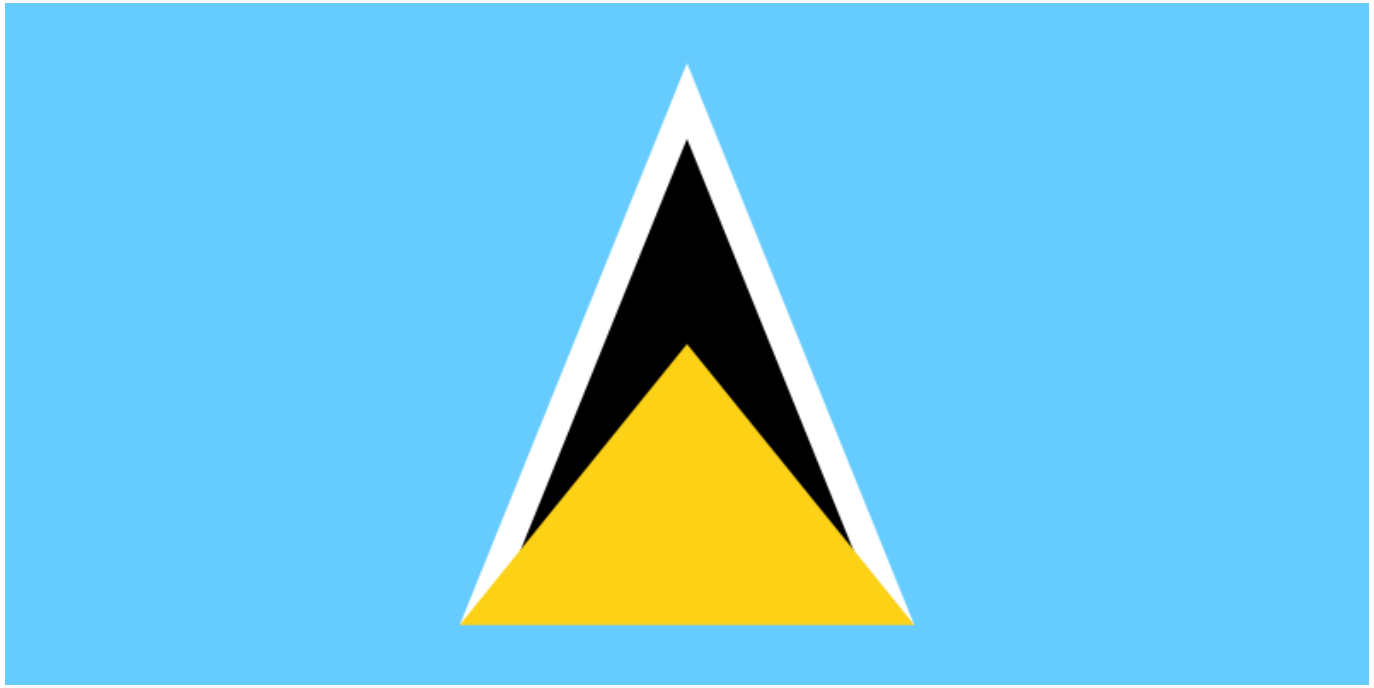
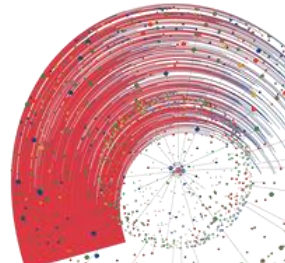
St Lucia. REDD+ Journey & Future Carbon Pricing Initiatives



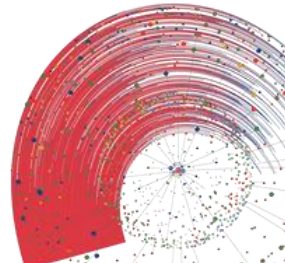
IN THIS PRESENTATION:

- Why Redd+
- Progress so far
- Future Plans
- Proposed Carbon Pricing Initiatives



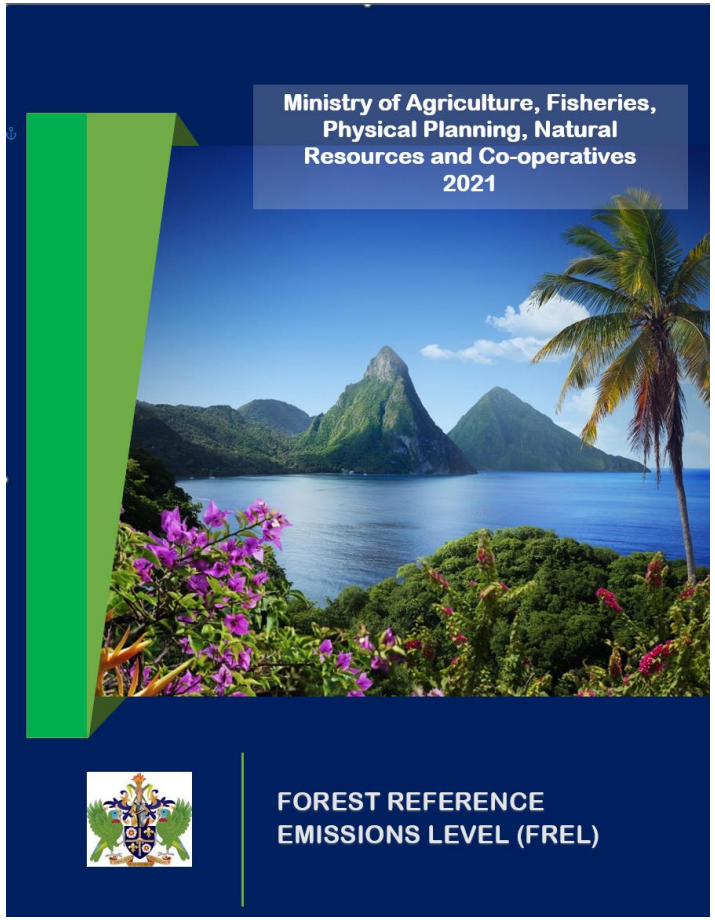
WHY REDD+

1. To Encourage Private Land-Owners to keep their lands under forests
2. To Assist with meeting Saint Lucia’s NDC targets
3. To Assist with meeting LDN targets
4. To bring in revenue for Saint Lucia (CARBON TRADING)
5. To encourage more reforestation and afforestation programs



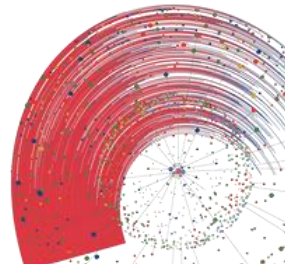
PROGRESS SO FAR

- REDD+ Roadmap completed (2017)
- GHG Inventory for the FOLU sector (2020)
- FREL (2020) (2024)



FUTURE PLANS

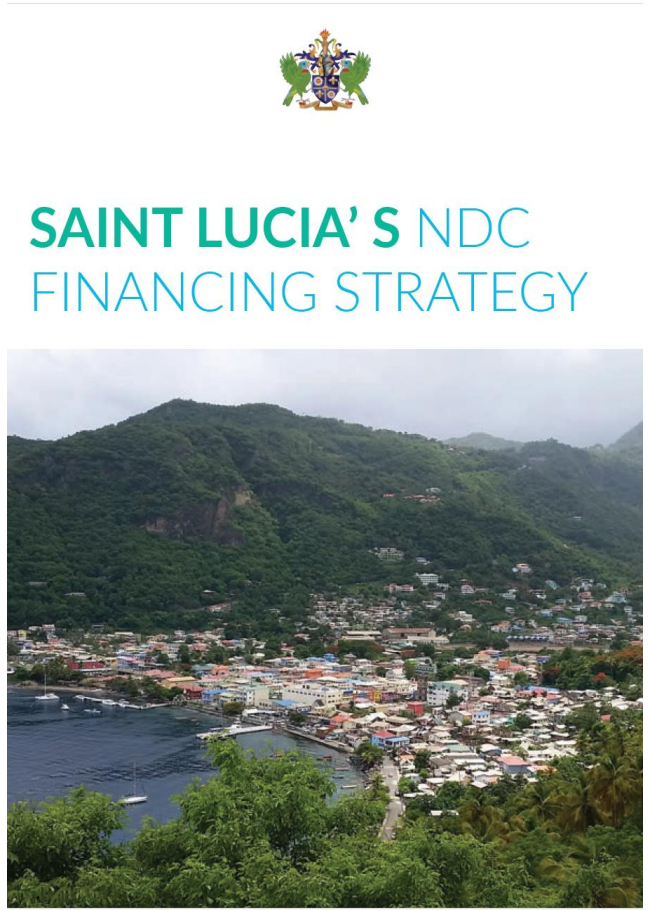
- Upgrade the Roadmap into a full-fledged REDD+ strategy
- Develop the Technical Annex to include in upcoming BTR
- Develop ground based permanent sample plots to increase accuracy of results
- Collaborate with the other agencies needed for the implementation of REDD+ (e.g. Economic Development, Sustainable Development)
- Development of a policy to determine how payments are to be utilized.



PROPOSED CARBON PRICING INITIATIVES

- Carbon Tax

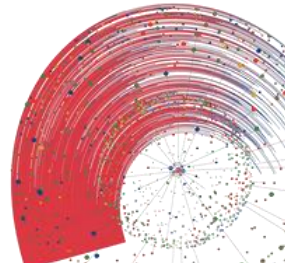
- This involves a tax on all fossil fuels
  - To assist in meeting the goals of the NDC
  - To assist in the financing of other aspects of the NDC



PROPOSED CARBON PRICING INITIATIVES

- Carbon Offsets

- Using the tourism industry by implementation of creative programs to have visitors offset their carbon footprint
- SLUNCF – Carbon Off-set program with Wayaj travel agency



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Implementing Carbon Pricing in the Caribbean

World Café Dynamic

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Instructions

Stations (8-10 participants)

Belmont Station

- **Focus:** Carbon Tax
- **Country:** Trinidad and Tobago

Grenville Station

- **Focus:** ETS
- **Country**: Dominican Republic

Carriacou Station

- **Focus:** REDD +
- **Country:** St Lucia

*•Each station will have a round **of discussions of 10 minutes**. After every round, groups move to the next station.*

*•At the end of each station, there will be 5 minutes to **report to the audience**. Station representative.*

•Use flip chart/board: content discussion.

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Lunch Break
(1hr and 45 minutes)

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Session 3: Article 6 of the Paris Agreement - Converging local actions and global markets

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NDC financing and costs

5.8 trillion dollars per year

This is the approximate cost of the financial needs expressed in the NDCs of 78 countries by 2021.

UNFCCC

387 billion per year

Estimated to be the cost of national adaptation priorities for all developing countries, for the period 2021 to 2030.

UNEP

International financial assistance will have to be increased, restructuring new sources of public and private capital through mechanisms that reduce the cost of capital.

UNEP

Financial flows for mitigation must increase by 3 to 6 times to meet the average annual needs between 2020 and 2030

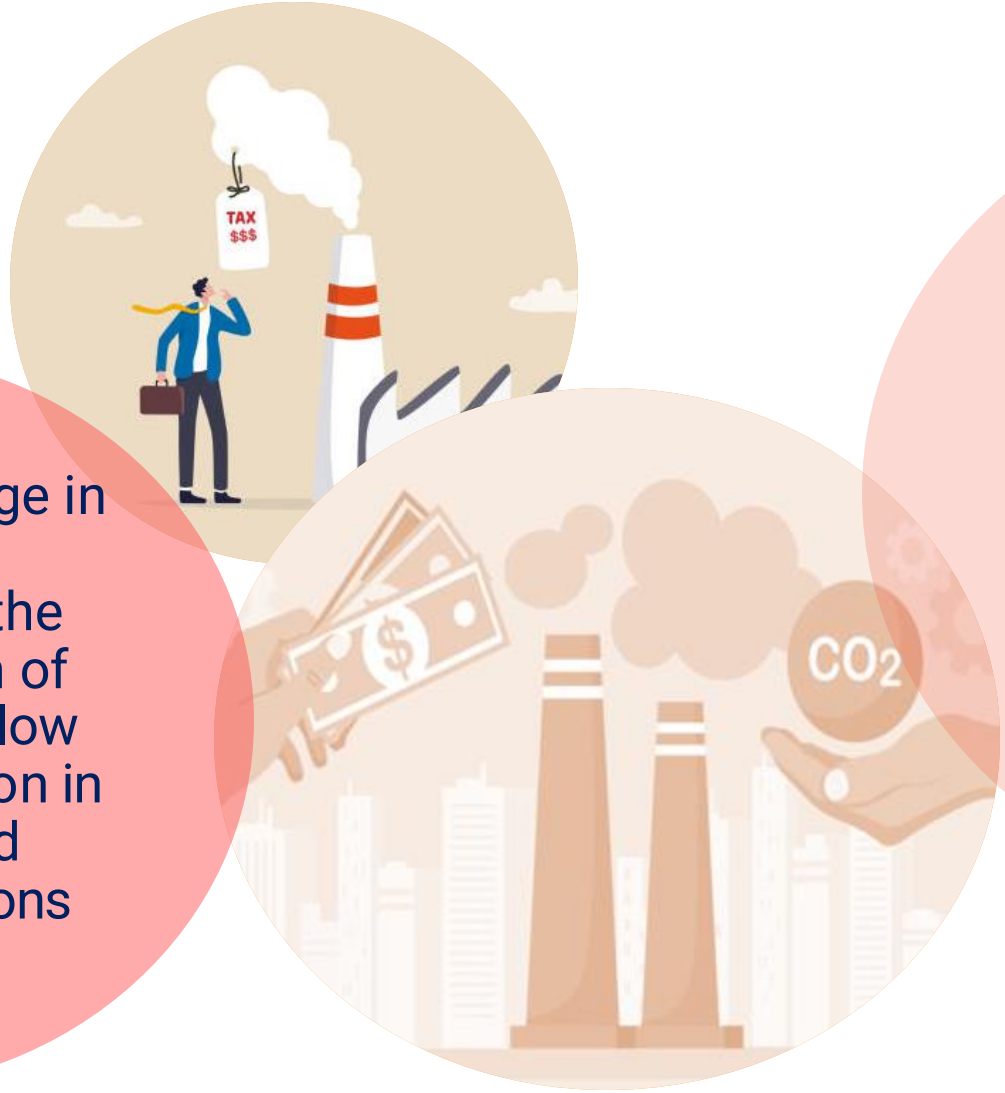
IPCC

Carbon Pricing Policies for NDC achievement

Carbon pricing has proven to be one of the most effective tools to unlock potential from the private sector, companies, as well as investors.

It is therefore an important part of the toolkit available to policy makers, both to achieve current NDCs at least cost and to encourage greater ambition in future

Carbon Pricing Policies for NDC achievement



Parties can engage in cooperative approaches in the implementation of their NDCs to allow for higher ambition in mitigation and adaptation actions

Two-thirds of all NDCs consider the use of carbon pricing to achieve their emission reduction targets, through international trading of emissions, offsetting mechanisms, carbon taxes, and other approaches

Carbon Pricing Policies for NDC achievement

13

Countries in the Caribbean Region have expresssed in their NDC their interest in the use of Market Mechanisms

32%

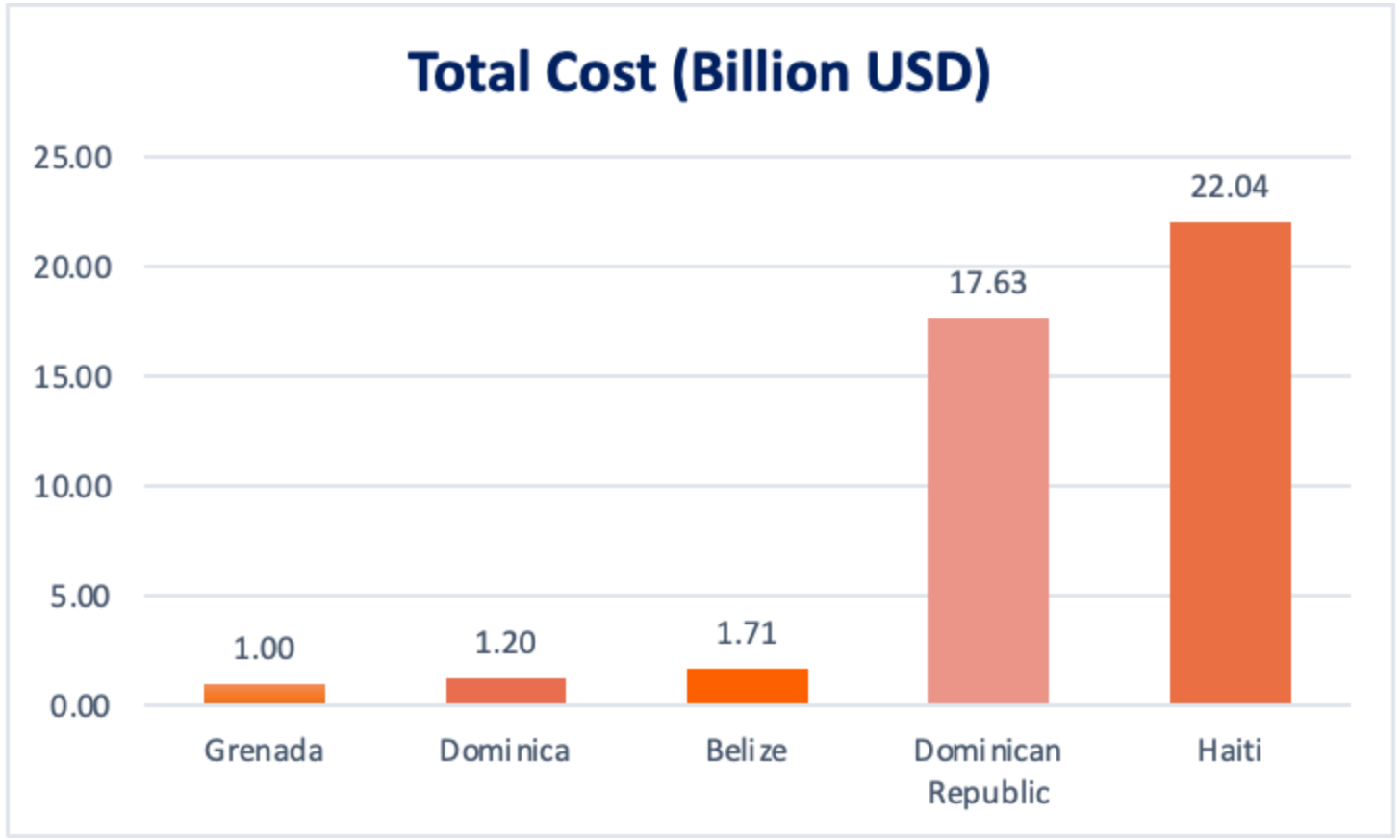
of the climate change mitigation cost could be reduced using carbon pricing approaches to meet the emission reduction targets set in NDCs, according to the World Bank

77%

of Parties to the Paris Agreement stated that they plan to or will possibly use at least one type of voluntary cooperation under Article 6 of the Paris Agreement.

NDC Cost of Implementation. The Caribbean.

Total Cost of NDC Implementation by 2030 (selected countries)



Carbon Markets

Article 6 can be used for both compliance and voluntary

Voluntary market	Compliance market	Article 6 market
For compensating emissions as part of **net-zero or climate neutral targets**	For achieving **NDCs domestically**	For achieving **NDCs cooperatively**
Motivation = self-set targets	Motivation = compliance with **mandated pricing instrument** (carbon tax, ETS, etc.)	Motivation = to increase NDC ambition / achieve NDCs more flexibly
Buyers = corporates / individuals	**Buyers** = compliance entities (corporates)	**Buyers** = Parties
Units: voluntary credits/Article 6.4 MCUs	Units: emission allowances & offset credits	Units: Internationally Transferred Mitigation Outcomes (ITMOs)
Self-regulations – codes of best practice emerging	Domestic or sectoral regulations	International oversight/ rules

Overview: Sources of demand

NDC Compliance

Article 6.2 & Article 6.4

Sectorial Compliance

ICAO's CORSIA

VCM

Independent Crediting Mechanisms

Domestic Compliance

Carbon Tax, ETS, Domestic Carbon Standards

Article 6 of the Paris Agreement

It lays down the foundation for cooperative approaches among countries to achieve their **Nationally Determined Contributions (NDCs)** and increase the ambition of these targets, focused on **sustainable development and poverty eradication.**

Additionally, **Article 6 Cooperation seeks:**

To incentivize and facilitate the participation of public and private entities in greenhouse gas emissions (GHG) mitigation and within the implementation of NDCs.

To Promote regional and international cooperation for ambitious climate action.

Participation in cooperative approaches under Article 6 of the Paris Agreement

Parties to the Paris Agreement may choose to pursue voluntary cooperation in the implementation of their climate actions (Nationally determined contributions: NDCs) to allow for:

- **Higher ambition** in their mitigation and adaptation actions;
- To promote **sustainable development**; and
- To promote **environmental integrity**.

Higher ambition

- ❑ **Cost- effective mitigation actions,**
- ❑ **Access to low-carbon technologies,**
- ❑ **Carbon finance, and capacity building.**

Sustainable development

- ❑ **Environmental, economic and social co-benefits for the Host Country.**
- ❑ Progress towards **Sustainable Development Goals (SDGs).**

Environmental integrity

- ❑ **Robust, transparent governance** and the **quality of mitigation outcomes.**

Source: Information extracted from the A6IP Capacity Building Tools, Paris Agreement Article 6 Implementation Partnership Center, June, 2024.

Article 6 of the Paris Agreement: Cooperation Towards NDCs

Host country transfers Article 6.2 units (ITMOs) to **buyer country** through a bilateral agreement

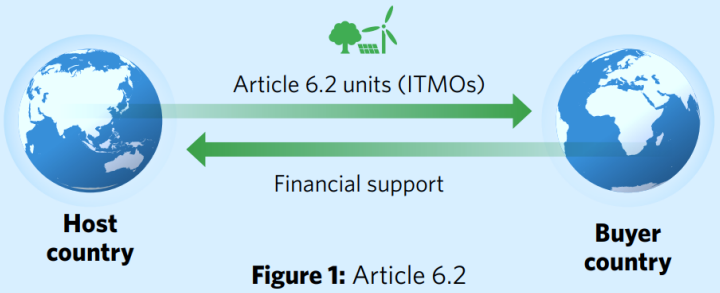
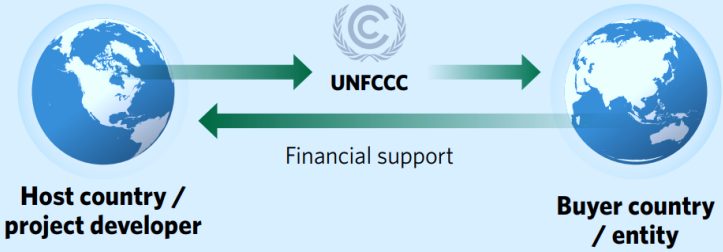


Figure 1: Article 6.2

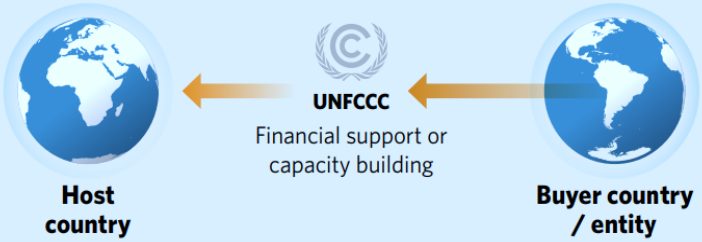
Article 6.2
(market)

Host country generates units through a UNFCCC centralized mechanism and transfers them to buyer country and other buyers



Article 6.4
(market)

UNFCCC web platform could be voluntarily used to facilitate matching projects with financial and technical support available in several focus areas



Article 6.8
(non-market)

Source: The Nature Conservancy. Article 6 Explainer. 2023

Article 6 Activities Type

Trading of Mitigation Outcomes

Art 6.2 and Art 6.4 (markets)

Sustainable Forest Management
Conservation of forest carbon stocks

Enhancement of forest carbon stocks
(Reforestation/Afforestation)

Removals

Emissions Reductions

Transition to renewable energy

Carbon Removal Technologies

Mitigation Activity

E-mobility

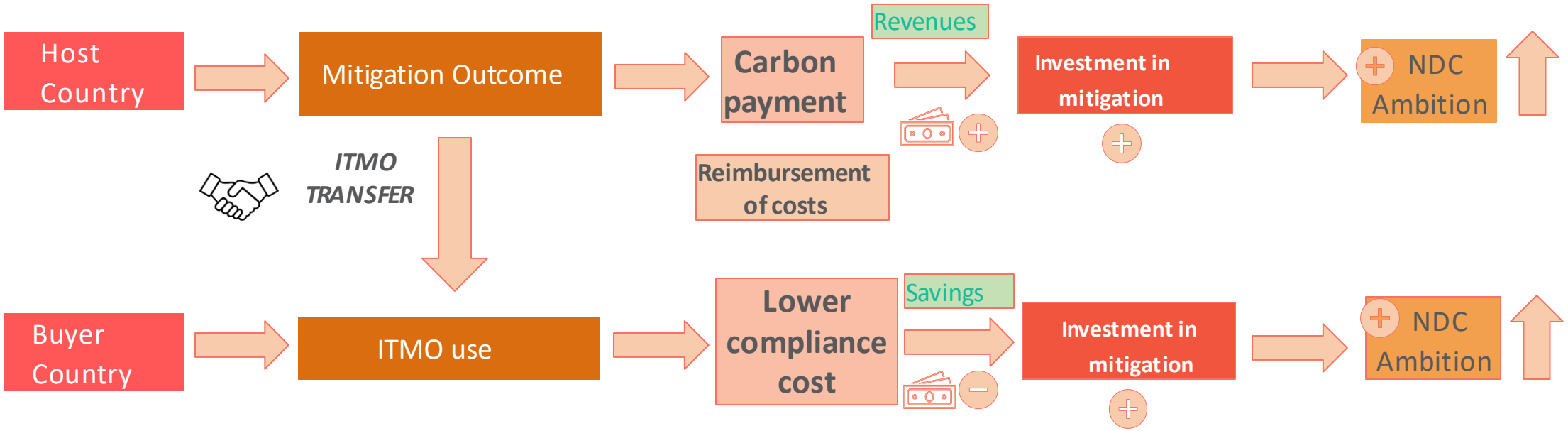
Energy Efficiency

Art 6.8

No Trading of Mitigation Outcomes

Adaptation, Mitigation and/or Means of Implementation Activities
without transfer of mitigation outcomes

Raising ambition through Article 6



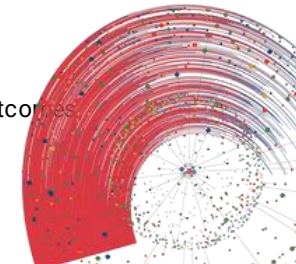
Source: Illustration extracted from the SPAR6C Program, Carbon Markets and Article 6 of the Paris Agreement, 2023.

What is an ITMO?

ITMOs: **I**nternationally **T**ransferred **M**itigation **O**utcome**s**

- Real
  Verified
  Additional
- Emission reductions and removals
- Measured in tCO_2 eq. or on metrics other than GHG
- Must be generated from 2021 onwards
- Authorized for use towards an NDC
- Authorized for use for other international mitigation purposes (OIMP)
- Authorized for other purposes

Source: Decision 2/CMA.3 Guidance on cooperative approaches referred to in Article 6, paragraph 2 of the Paris Agreement, Annex 1. Internationally Transferred Mitigation Outcomes paragraph 1. https://unfccc.int/sites/default/files/resource/cma2021_10_add1_adv.pdf#page=11



Raising ambition through Article 6

Benefits

Mobilizes support for actions with limited resources.

Increases National Revenues.

Direct access to private investment.

Access to the best technologies available locally.

Additional co-benefits (jobs, air quality, energy security).

Risks

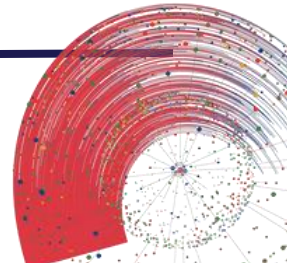
- Overselling.
- Double Counting.
- Opportunity Cost
- Management and Infrastructure costs.

United Nations
Climate Change

RCC Caribbean
Collaboration for Climate Action

WINDWARD ISLANDS RESEARCH & EDUCATION FOUNDATION

Q&A



United Nations
Climate Change

RCC Caribbean
Collaboration for Climate Action

WINDWARD ISLANDS RESEARCH & EDUCATION FOUNDATION

SPECIAL SESSION **-** Harnessing Voluntary Carbon Markets for NDC Implementation

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Supported by:

Federal Ministry for Economic Affairs and Climate Action

on the basis of a decision by the German Bundestag

NDC PARTNERSHIP

UNDP
Empowered lives. Resilient nations.

Harnessing the VCM for NDC implementation

Regional Capacity-Building Workshop on Carbon Pricing and Article 6 Training for the Caribbean

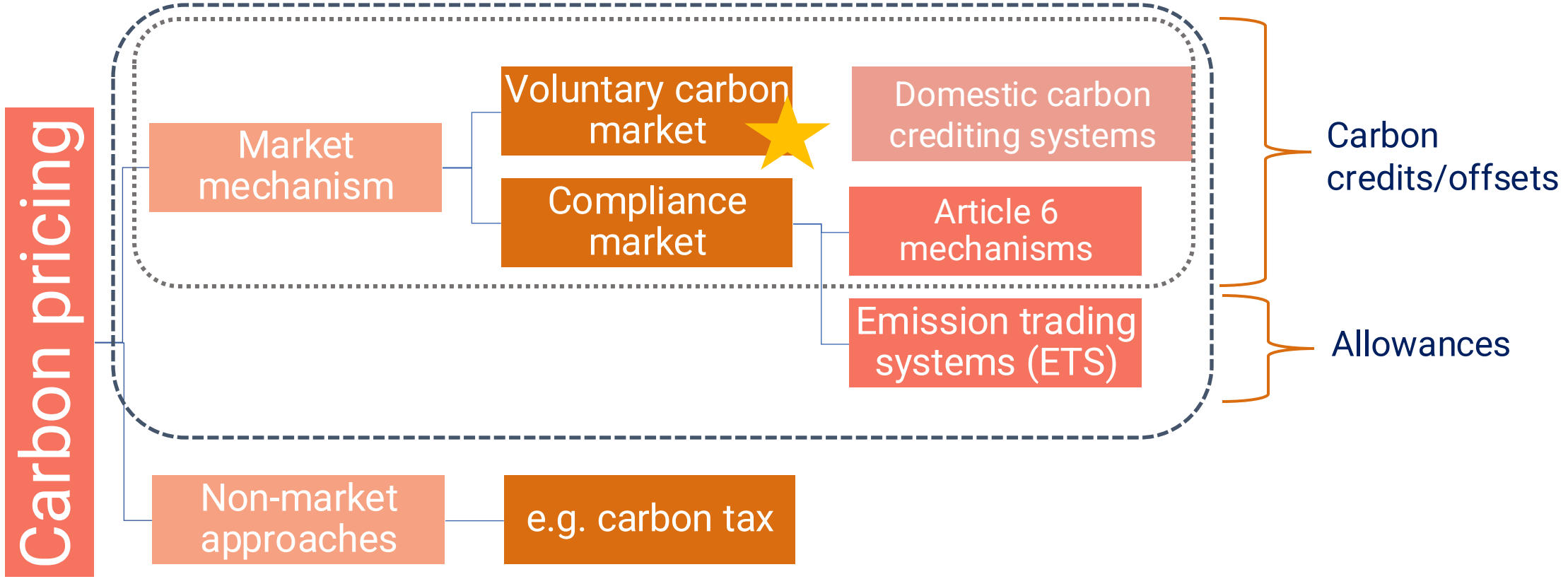
14 October 2024

Carlos Essus

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

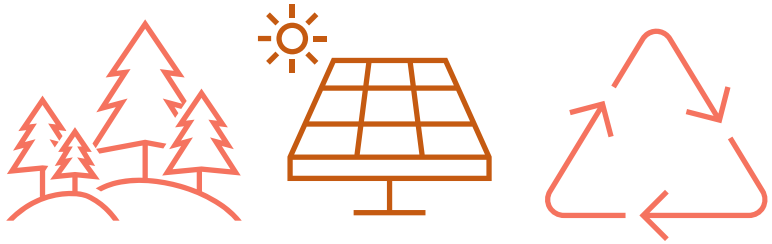
Part I – Introduction to the Voluntary Carbon Market

Instruments to put a price on CO_2

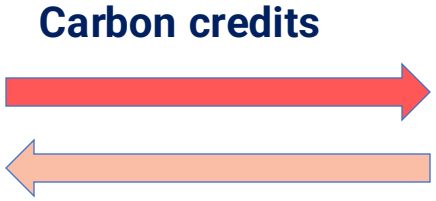


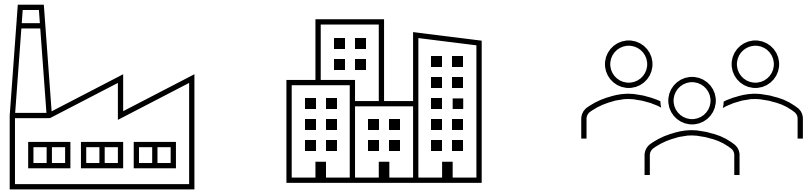
What is the VCM?

- Marketplace where emission certificates are traded outside of regulated markets. It allows companies and individuals to voluntarily offset their greenhouse gas emissions.
- Primary purpose → to provide a mechanism for organizations and individuals to compensate for their **unavoidable** emissions through the purchase of carbon credits.
- Crucial → the VCM is not intended as a substitute for direct emissions reductions. Rather, it serves as a complementary tool to support organizations in their journey towards net-zero goals, ideally used in conjunction with robust emissions reduction strategies.



Activities generating emission reductions or removals as a result of carbon finance incentive





Organisations / individuals willing to pay voluntarily for certified emission impacts

A self-regulated market

- Self-regulated market: generation of emission reductions under the VCM is governed by GHG protocols, programs, and methodologies that are administered by independent or national standards.

Key principles

1. Additionality
2. Permanence
3. No leakage
4. Real and verified
5. Uniquely claimed

1. Prioritisation of internal reductions/avoidance
2. Transparent and credible claims
3. Responsible purchasing

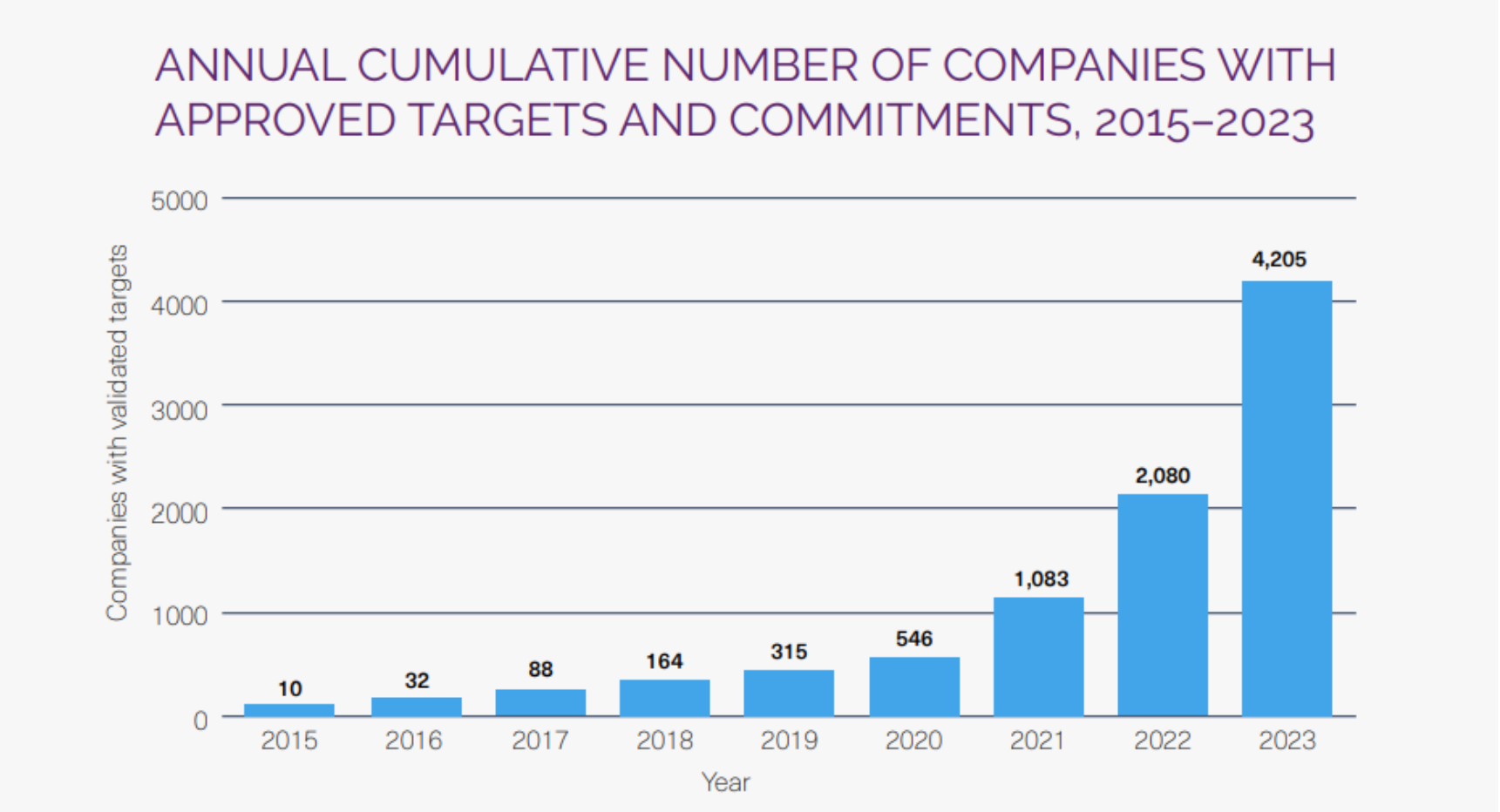
VERRA

Gold Standard
Climate Security & Sustainable Development

Snapshot of key types of actors in the VCM

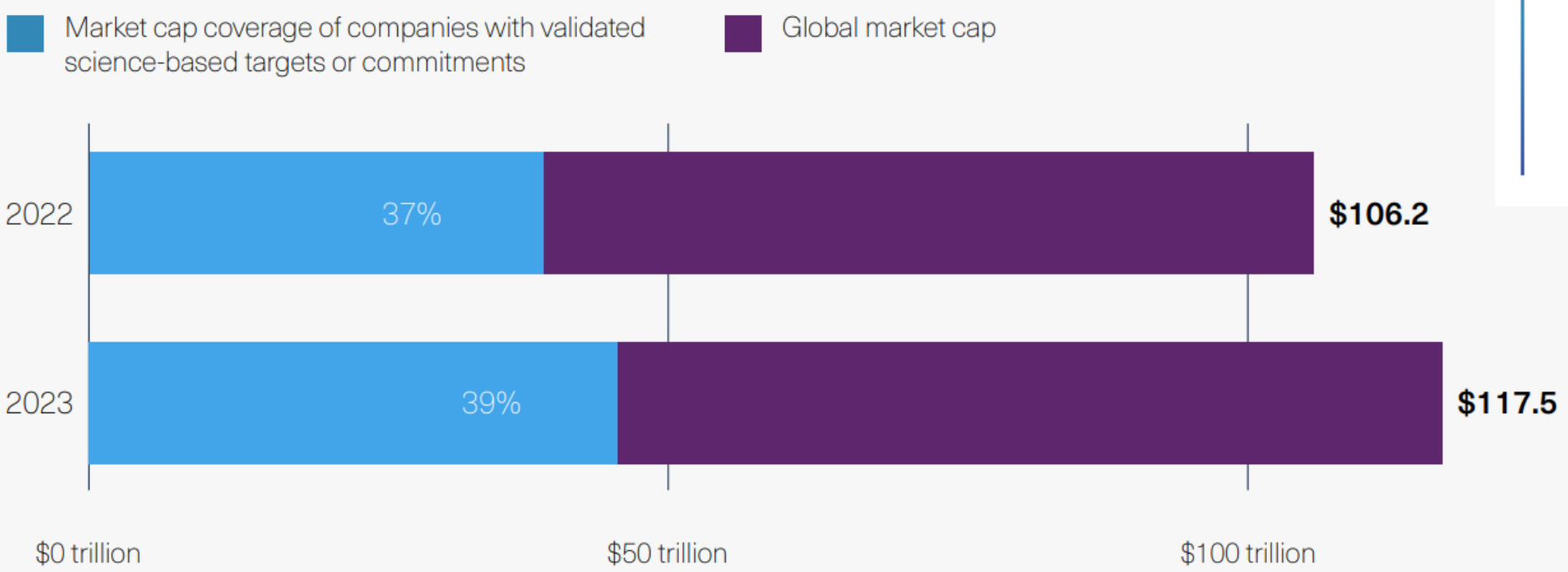
Includes examples of each type of actor, not an exhaustive list

Corporate climate pledges are on the rise



Source: SBTi Monitoring Report 2023

MARKET CAPITALIZATION PENETRATION OF COMPANIES WITH SCIENCE-BASED TARGETS OR COMMITMENTS VS. GLOBAL DATA



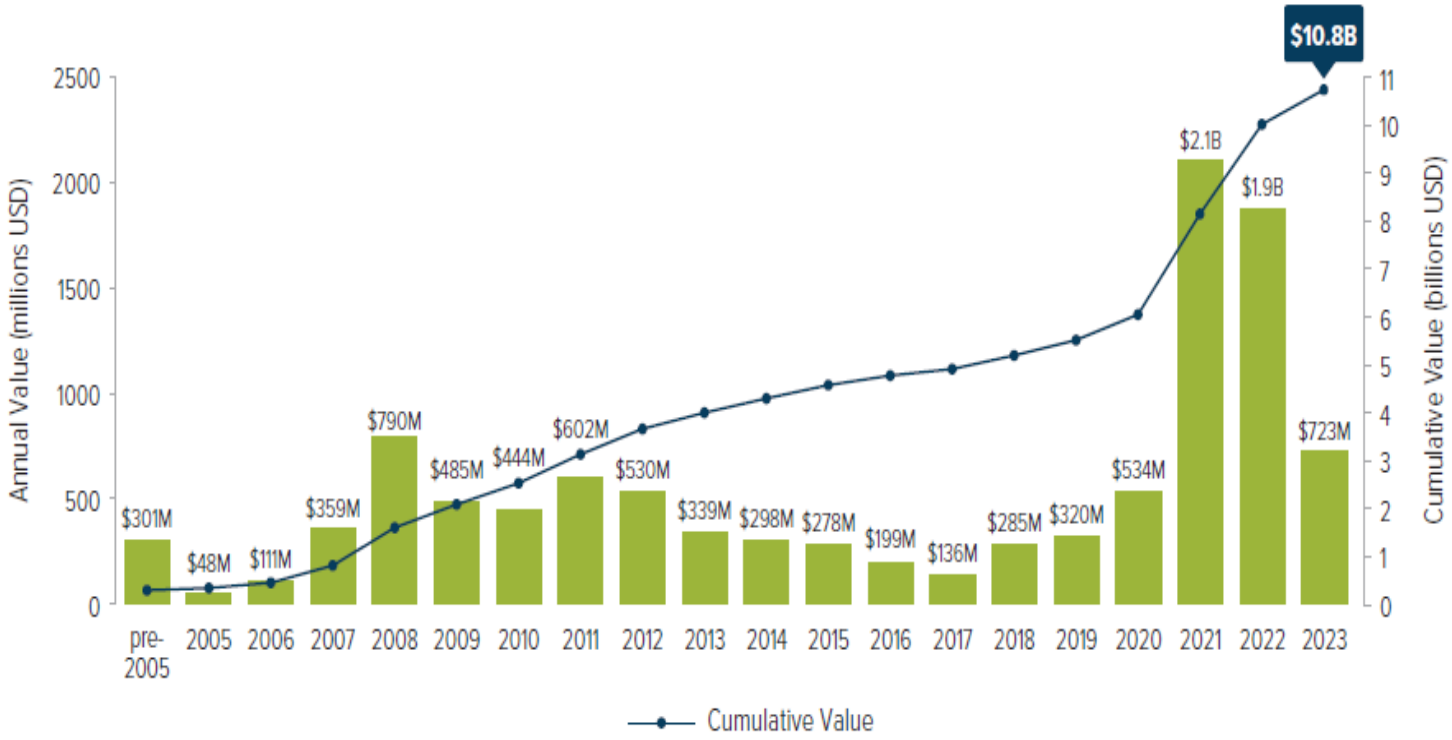
39%

By the end of 2023, companies with science-based targets or commitments represented 39% of the global economy by market capitalization.

Source: SBTi Monitoring Report 2023

Status of the VCM

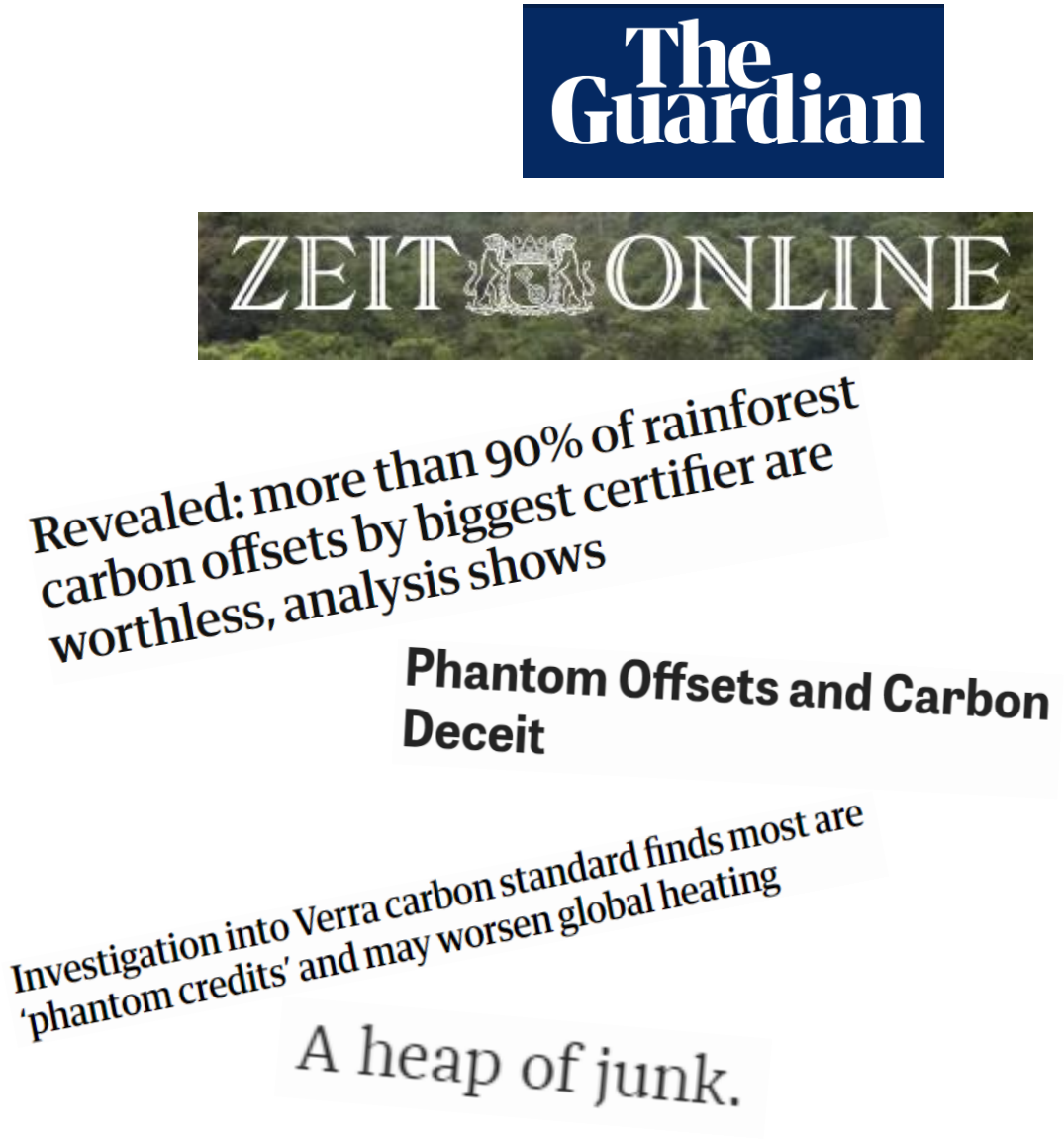
Figure 1. Voluntary Carbon Market Size, by Value of Traded Carbon Credits, pre-2005 to 2023



Source: Forest Trends' Ecosystem Marketplace, State of the VCM 2024

VCM in turmoil

- On 19 January 2023, the Guardian and Die Zeit published the results of a joint investigation on the VCM accusing Verra—the world's premier certifier of carbon credits—of grossly overstating the emissions reductions associated with its "avoided deforestation" credits.
- It found that by using an unrealistic, unverifiable reference case (baseline), unjustifiably high emission reductions were certified and marketed. This caused immense reputational damage to the voluntary market.



Initiatives **that address integrity issues**

- In response to these concerns, a set of integrity initiatives have stepped in to play a market governance role and set clear, high standards for quality both on the supply and demand sides.
- Some initiatives cover the **demand side** and focus on how companies should set credible and ambitious reduction targets and when and how carbon credits should be used.
- Others set quality criteria for carbon market activities, targeting the **supply side** of the market.

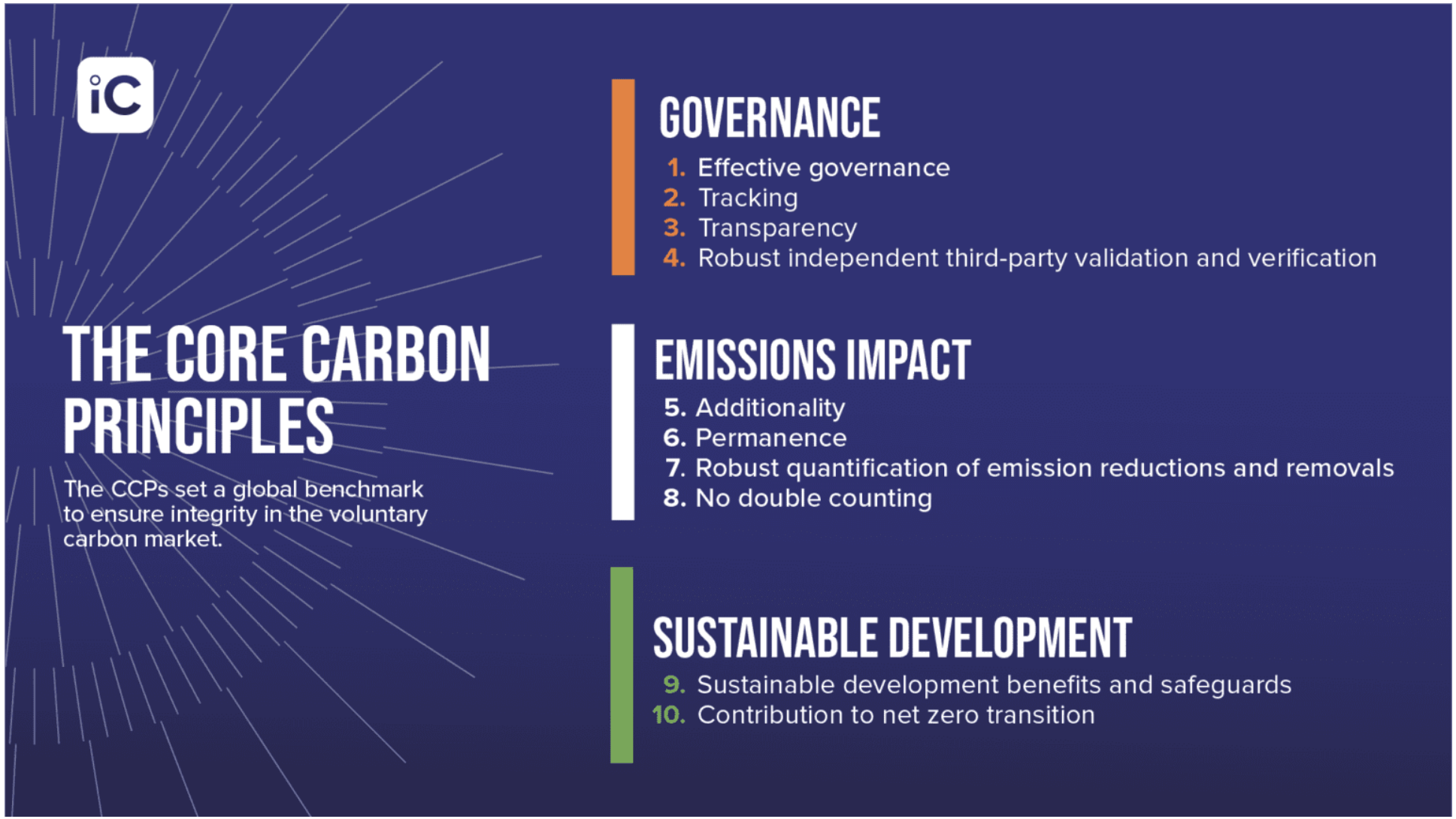
SCIENCE BASED TARGETS

VCMI Voluntary Carbon Markets Integrity Initiative

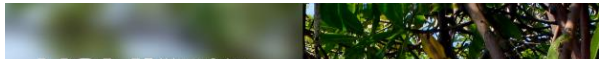
iC | THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET

CCQI Carbon Credit Quality Initiative

Supply side integrity



Demand side integrity



01 Comply with the Foundational Criteria

1. Maintain and publicly disclose an annual greenhouse gas emissions inventory
2. Set and publicly disclose science-aligned near-term emission reduction targets, and publicly commit to reaching net zero emissions no later than 2050
3. Demonstrate that the company is making progress on financial allocation, governance, and strategy towards meeting a near-term emission reduction target
4. Demonstrate that the company's public policy advocacy supports the goals of the Paris Agreement and does not represent a barrier to ambitious climate regulation

01 Comply with the Foundational Criteria

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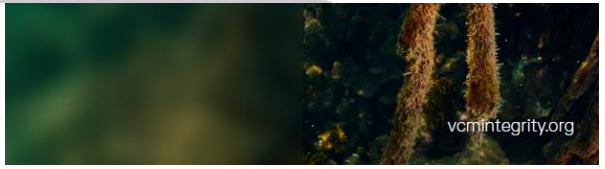
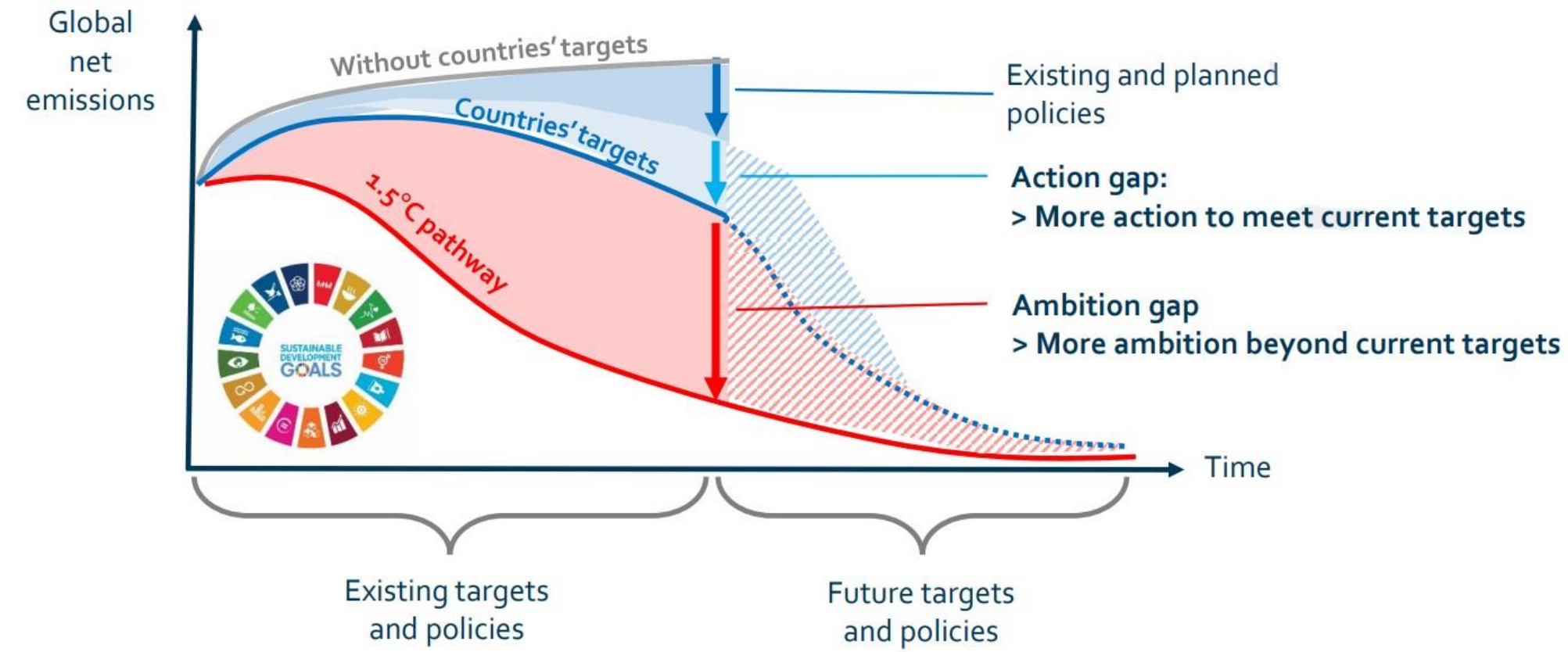


04 Obtain third-party assurance following the VCMI MRA Framework

To substantiate a VCMI Claim, it is essential that companies provide information relating to the Foundational Criteria and claim-specific requirements, including information relating to the retirement of high-quality carbon credits. The VCMI MRA Framework outlines procedures for reporting and independent third party assurance of key metrics which companies shall adhere to in order to make a VCMI Claim.

Why is the VCM important?



Adapted from: Laine et al., 2023: Guide to good practices for voluntary carbon markets

Source: Perspectives Climate Group 2023

United Nations
Climate Change

RCC Caribbean
Collaboration for Climate Action

Coffee Break
(15 minutes)

Supported by:

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Federal Ministry for Economic Affairs and Climate Action

on the basis of a decision by the German Bundestag

NDC PARTNERSHIP

UNDP Empowered lives. Resilient nations.

Discussion:

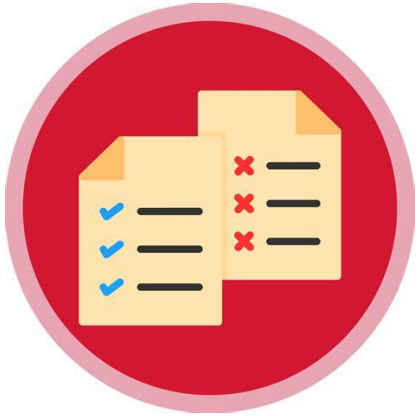
How should host-countries guide VCM-investors to enhance NDC-implementation?

Different roles of host countries

• Governments can engage with carbon markets in a variety of ways: as regulators, activity proponents, or facilitators.

Responsibilities include:

- Designing regulations that ensure that projects align with national priorities and observe appropriate safeguards
- Possibly directly implement or finance programs or project activities (e.g., through Public agencies)
- Put in place incentives that attract carbon investments, thereby also focusing on directing investments into priority sectors



Implementation of National Voluntary Carbon Footprint Programs (NVCFP) in Latin America

Connections to Voluntary Carbon Markets (VCM) in the context of the Paris Agreement

Gianluca Merlo

CLIMATE PROMISE UNDP
A SAFE AND SUSTAINABLE FUTURE THROUGH BOLD CLIMATE ACTION

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
based on a decision of the German Bundestag

Federal Ministry for Economic Cooperation and Development

Sverige

Sida

aecid Spanish Agency for International Developement Cooperation

MINISTERO DELL'AMBIENTE E DELLA TUTELA DEL TERRITORIO E DEL MARE

+ UNDP's Core Donors

UNDP, NVCFP and VCM

- Key private sector role for the implementation of National Determined Contributions (NDC).
- NVCFP - Mechanism to encourage and organize active participation from companies.
- The connection with VCM as a key element for aligning with NDCs and Long-Term Strategies (LTS) .
- The UNDP's Climate Promise initiative have contributed to the establishment of the first NVCFP experiences in Latin America (Chile, Peru, Panama, Dominican Republic and Ecuador).
- Experiences have been systematized by the UNDP in the "**Guidance for the Implementation of National Voluntary Carbon Footprint Programs in Latin America**". 2022
- The Guidance have been adapted to create a self-guided course. 2023

  https://www.learningfornature.org/en/courses/implementation-of-national-voluntary-carbon-footprint-programmes-in-latin-america-nvcfp/

NVCFP in LAC supported by PNUD in operation

HuellaChile - **2013 Chile**
+ 2300 organizations registered

Reduce Tu Huella Corporativo – Carbono – **2021 Panama**
+ 100 organizations registered

Huella de Carbono Perú - **2019 Perú**
+1800 organizations registered

Programa Ecuador Carbono Cero (PECC) **2021 Ecuador**
+ 370 organizations registered

The most recent program (**2022**) is 'Empresas por el Clima' in the **Dominican Republic**, which is unique in being a private sector initiative promoted in partnership with the government. It currently has 70 registered companies

Objectives of a NVCFP:

Promote the participation of the private sector in the implementation of the NDCs.

Motivate the quantification and reporting of GHG emissions according to national needs

Provide transparent and standardized tools to prepare a comparative and real GHG inventory.

Provide recognition for voluntary management of GHG emissions

Contribute to the monitoring of NDC and Long-Term Strategies (LTS) measures

Contribute to the scaling and growth of the ambition of the NDC and LTS goals. (Socialize the NDCs).

Identify and support the establishment of new GHG reduction and carbon neutrality strategies

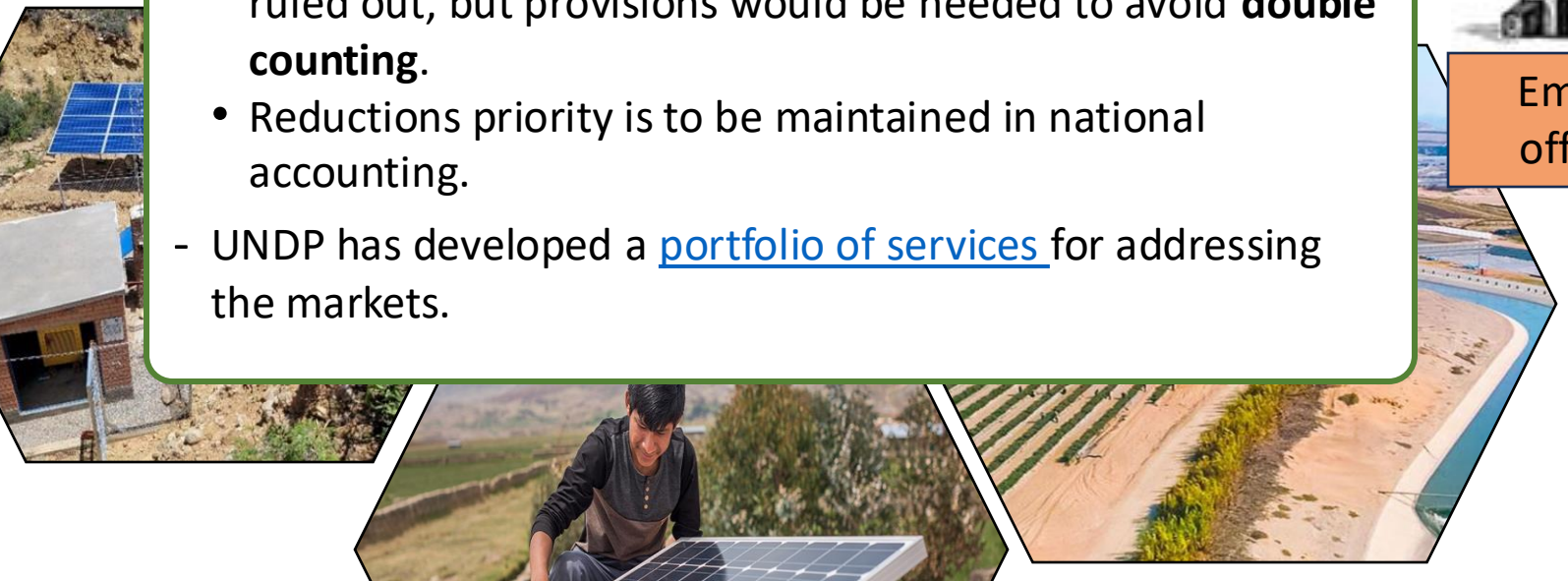
Support the construction/development of capacities on carbon management.

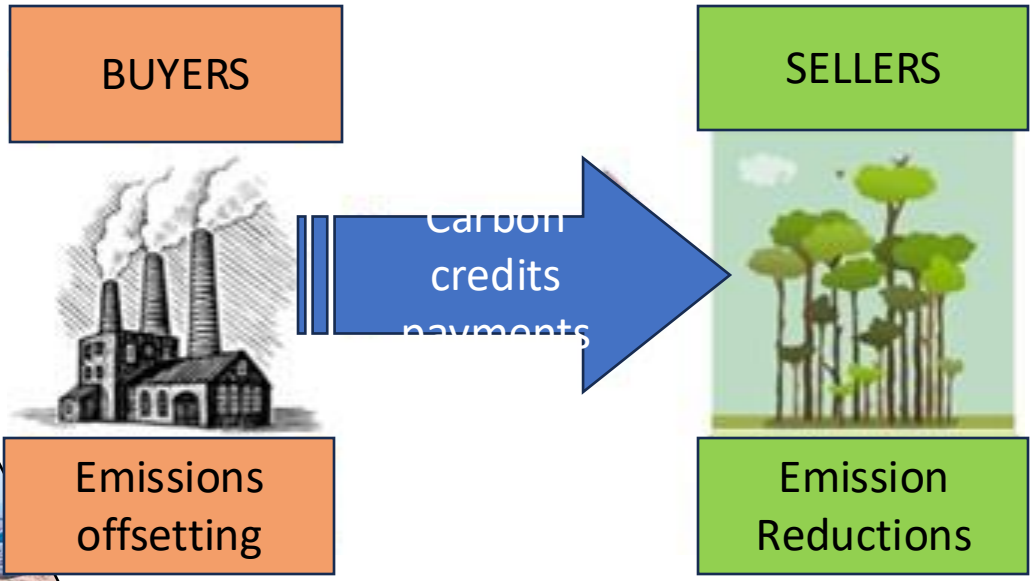
Leverage private financing including the use of domestic **voluntary carbon markets**.

NVCFPs and carbon neutrality through voluntary carbon markets

Carbon Markets

- Offset emissions by financing the equivalent amount of carbon dioxide reduced through a mitigation activity.
- The NVCFPs of Peru, Panama, Chile, and Ecuador* promote the creation of national voluntary carbon markets (**compensation mechanism*):
  - National mitigation efforts are funded.
  - International carbon credits still an option possible, not ruled out, but provisions would be needed to avoid **double counting**.
  - Reductions priority is to be maintained in national accounting.
- UNDP has developed a portfolio of services for addressing the markets.





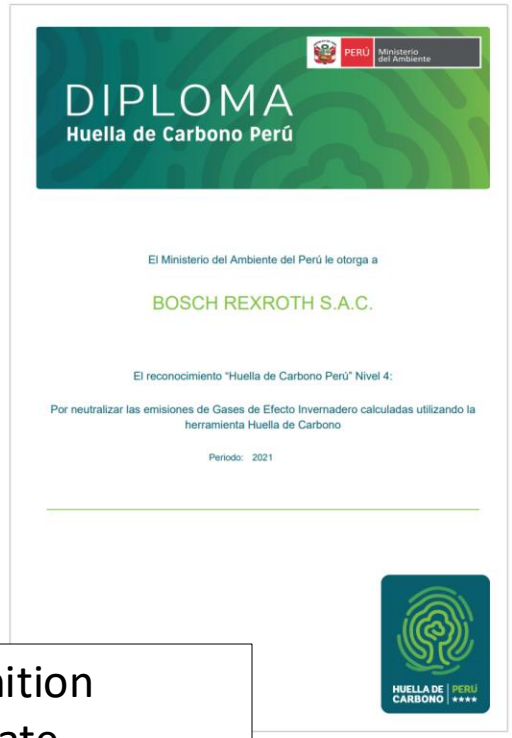
NVCFPs and carbon neutrality through voluntary carbon markets (Cont.)

- The carbon neutrality schemes of Chile, Panama, and Peru **use recognized voluntary standards** such as the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), and Gold Standard.

- **They only accept national projects to boost investment within the country and support the implementation of the NDCs.**

- Due to certain regulatory restrictions on carbon market development, **Ecuador has designed alternative mechanisms to carbon markets**. This is the case of the Ecuador Zero Carbon Program (PECC) with its **National Compensation Scheme**.

Example: Peru's carbon Footprint program


PERÚ Ministerio del Ambiente

DIPLOMA
Huella de Carbono Perú

El Ministerio del Ambiente del Perú le otorga a

BOSCH REXROTH S.A.C.

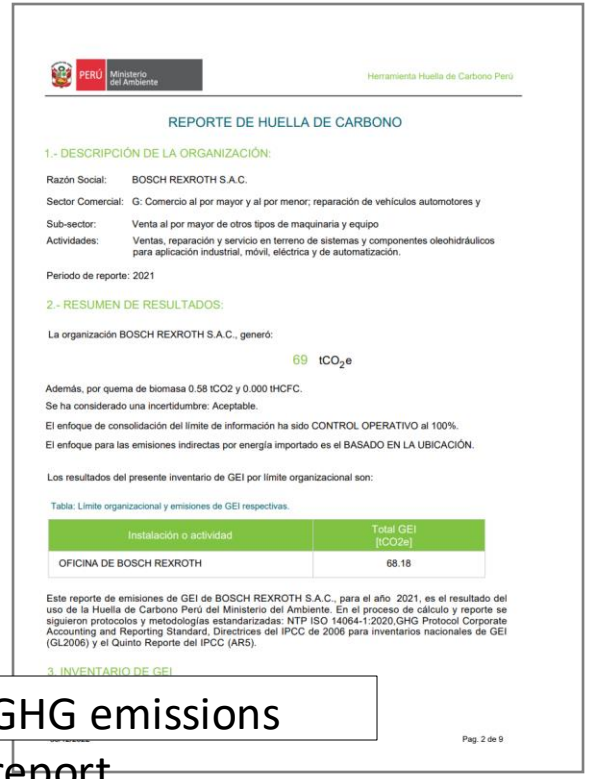
El reconocimiento "Huella de Carbono Perú" Nivel 4:

Por neutralizar las emisiones de Gases de Efecto Invernadero calculadas utilizando la herramienta Huella de Carbono

Periodo: 2021

HUELLA DE CARBONO | PERÚ ****

Recognition certificate neutralization


PERÚ Ministerio del Ambiente

Herramienta Huella de Carbono Perú

REPORTE DE HUELLA DE CARBONO

1.- DESCRIPCIÓN DE LA ORGANIZACIÓN:

Razón Social: BOSCH REXROTH S.A.C.

Sector Comercial: G: Comercio al por mayor y al por menor; reparación de vehículos automotores y

Sub-sector: Venta al por mayor de otros tipos de maquinaria y equipo

Actividades: Ventas, reparación y servicio en terreno de sistemas y componentes oleohidráulicos para aplicación industrial, móvil, eléctrica y de automatización.

Periodo de reporte: 2021

2.- RESUMEN DE RESULTADOS:

La organización BOSCH REXROTH S.A.C., generó:

69 tCO_2e

Además, por quema de biomasa 0.58 tCO2 y 0.000 tHCFC.

Se ha considerado una incertidumbre: Aceptable.

El enfoque de consolidación del límite de información ha sido CONTROL OPERATIVO al 100%.

El enfoque para las emisiones indirectas por energía importado es el BASADO EN LA UBICACIÓN.

Los resultados del presente inventario de GEI por límite organizacional son:

Tabla: Límite organizacional y emisiones de GEI respectivas.

Instalación o actividad	Total GEI [tCO2e]
OFICINA DE BOSCH REXROTH	68.18

Este reporte de emisiones de GEI de BOSCH REXROTH S.A.C., para el año 2021, es el resultado del uso de la Huella de Carbono Perú del Ministerio del Ambiente. En el proceso de cálculo y reporte se siguieron protocolos y metodologías estandarizadas: NTP ISO 14064-1:2020,GHG Protocol Corporate Accounting and Reporting Standard, Directrices del IPCC de 2006 para inventarios nacionales de GEI (GL2006) y el Quinto Reporte del IPCC (AR5).

3. INVENTARIO DE GEI

Pag. 2 de 9

GHG emissions report


icontec Inventarios de GEI

El presente anexo forma parte integral del reporte de Inventario de Gases de Efecto Invernadero a nivel organizacional Compañía BOSCH REXROTH S.A.C. Año 2021.

ICONTEC confirma, con base en lo indicado en la norma ISO 14064-3: 2019

1. El objetivo de la actividad fue verificar la cuantificación de emisiones de GEI de la organización BOSCH REXROTH S.A.C de las instalaciones cubiertas en Oficinas administrativas y productivas ubicadas en Avenida. argentina No 3618 Parque Industrial provincia del Callao Perú
2. Los criterios de la verificación se aplicaron de acuerdo con lo establecido en la norma ISO 14064-3: 2019 y se cumplen los requisitos establecidos por ISO 14064-1 Versión 2020.
3. El alcance de la verificación se limita a la información y datos correspondientes a la organización BOSCH REXROTH S.A.C ubicada en la Avenida. argentina No 3618 Parque Industrial provincia del Callao Perú durante el 01/01/2021 al 31/12/2021 donde se manejan los datos del periodo del año 2021 como año base.
4. El nivel de aseguramiento es Razonable para la información reportada y verificada en esta declaración.
5. La verificación realizada por ICONTEC se basó en información descrita en el Inventario de Gases de Efecto Invernadero a nivel organizacional Compañía BOSCH REXROTH S.A.C. Año 2021 de la organización y que fue emitido en el año 2021 del cual se tomaron las fuentes, tipos de GEI y demás aspectos relevantes. Adjunto a esta declaración se encuentra el informe mencionado en cuyo numeral de resultados se indica el reporte de GEI efectuado por la organización.
6. Los datos e información entregadas por la organización, al equipo verificador son de naturaleza histórica y junto con las evidencias recopiladas durante la verificación en sitio suministran los insumos requeridos para generar la declaración de la cuantificación de GEI.
7. El conocimiento evidenciado frente a los requisitos y directrices establecidos para el cálculo del inventario de GEI del personal responsable de la organización respalda la información descrita en el informe y el concepto emitido por ICONTEC en esta declaración.
8. Durante el ejercicio de verificación del informe de gases de efecto invernadero realizado por ICONTEC, tuvo lugar una visita de campo realizada a las instalaciones cubiertas por el alcance de la verificación, donde el equipo verificador realizó un reconocimiento del flujo completo de las actividades reportadas en el informe de GEI de la organización.
9. El informe de verificación de reportes de inventario de GEI de la organización concluye una opinión No modificada con los requisitos establecidos en la Norma ISO 14064-1. Gracias a las actividades realizadas por el equipo verificador según el plan de verificación, se obtuvieron los insumos requeridos para generar esta declaración de los GEI, bajo el límite del informe de la organización BOSCH REXROTH S.A.C.

Fecha de aprobación: 02/01/2023
Declaración Nro. VER-GEI-INVENTARIO-2023-64193

Andres Fernando Gil
Verificador Lider

Verification report


PERÚ Ministerio del Ambiente

Herramienta Huella de Carbono

1.Descripción de la organización

Razón Social: BOSCH REXROTH S.A.C.

2.Datos históricos

Las emisiones GEI de los dos últimos años se presenta a continuación:

Año	Emisiones GEI [tCO2e]
2021	68.18
2020	77.82

Diferencia anual: -9.64 tCO2e

3.Indicadores de desempeño

En la siguiente tabla se presentan los indicadores evaluados y analizados, para identificar si la organización ha logrado reducir sus emisiones GEI.

Año	Descripción	Indicador
2021	No hay indicador	0.00
2020	No hay indicador	0.00

Diferencia anual: 0.00

Nota: Considerar la reducción cuando se analice el mismo indicador por año.

Emissions Reduction report


VERRA

Verified Carbon Standard

Certificate of Verified Carbon Unit (VCU) Retirement

Verra, in its capacity as administrator of the Verra Registry, does hereby certify that on 26 Oct 2022, 72 Verified Carbon Units (VCUs) were retired on behalf of:

Bosch Rexroth S.A.C.

Project Name
Forest Management to reduce deforestation and degradation in Shipibo Conibo and Cacataibo Indigenous communities of Ucayali region

VCU Serial Number
11835-361881876-361881947-VCS-VCU-576-VER-PE-14-1360-01072019-30062020-1

Additional Certifications
CCB-Climate Gold; CCB-Community Gold

Powered by PX

Carbon Credits retirement certificate

Reducing the risk of greenwashing

Greenwashing : "dissemination of false or incomplete information by an organization /jurisdiction/product/person to present an environmentally responsible public image".

NVCFPs uphold high environmental integrity in VCM by preventing greenwashing

Communication

An NVCFP should provide guidance to prevent organizations from:

- ❑ Be unclear in communicating your actions and achievements.
- ❑ Use the recognitions obtained to cover up non-eco-friendly production processes.
- ❑ Improperly use the seals and/or diplomas awarded.
- ❑ Disclose false data justified in their participation in a NVCFP

Verification

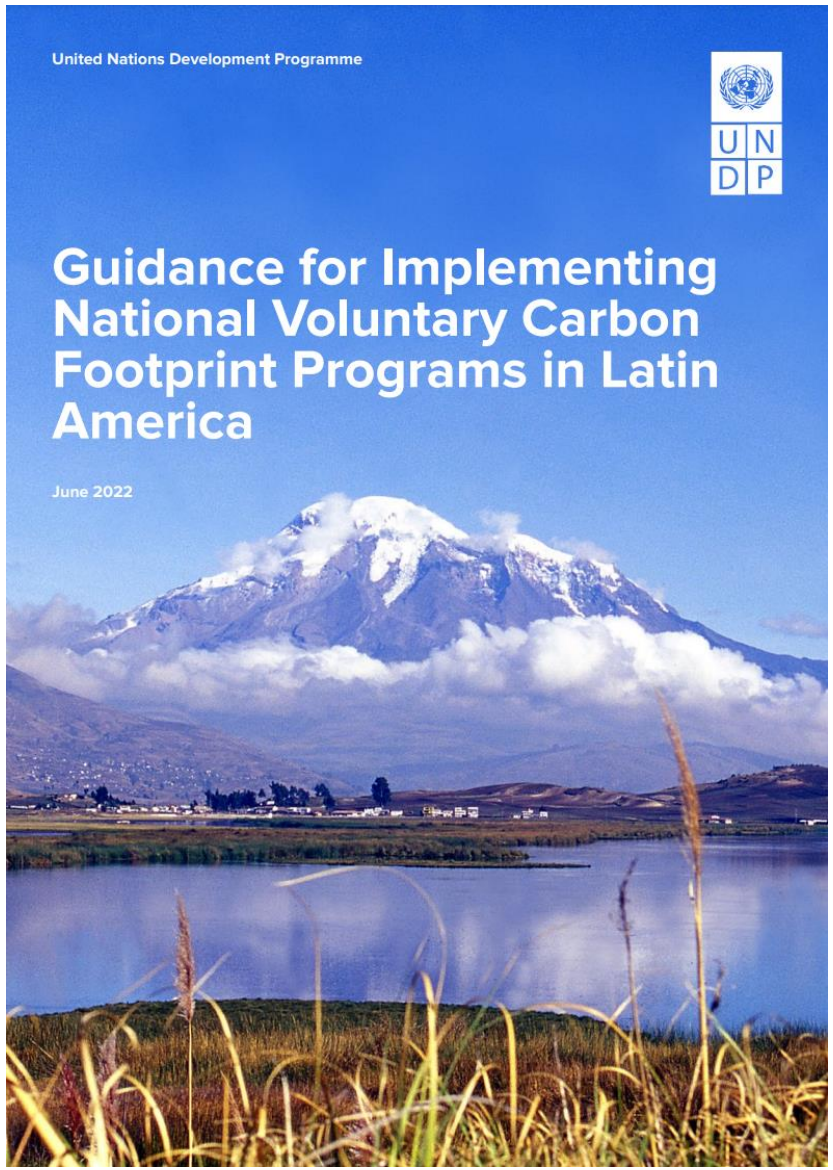
- ❑ Mitigation priority in carbon footprint management:

  First <u>Reduction</u> and then <u>Offsetting</u>

- ❑ It is important that NVCFPs reports on GHG generated by their participants have been subject to a third-party verification process to avoid greenwashing

Environmental practices

- ❑ Only **organizations with a current environmental operating permit** can register with the NVCFP and apply for its recognition.
- ❑ No companies can be in litigation with the competent authority for the commission of an environmental infraction or crime cannot access the recognition of a NVCFP, even if they are registered in it.



Guidance for Implementing National Voluntary Carbon Footprint Programs in Latin America

English: https://climatepromise.undp.org/research-and-reports/guidance-implementing-national-voluntary-carbon-footprint-programmes-latin

Spanish: https://www.undp.org/es/latin-america/publicaciones/guia-para-la-implementacion-de-programas-nacionales-voluntarios-de-huella-de-carbono-en-america-latina

French: https://www.undp.org/sites/g/files/zs[illegible]04/PNUD-final-FR_lowres.pdf

E-learning course: Implementation of National Voluntary Carbon Footprint Programmes (NVCFPs) in Latin America

English:
https://www.learningfornature.org/en/courses/implementation-of-national-voluntary-carbon-footprint-programmes-in-latin-america-nvcfp/

Spanish:
https://www.learningfornature.org/es/courses/implementation-of-national-voluntary-carbon-footprint-programmes-in-latin-america-nvcfp/

French:
https://www.learningfornature.org/fr/courses/implementation-of-national-voluntary-carbon-footprint-programmes-in-latin-

Station	Guiding questions
Greenville: **Supply and demand side – what do we need for a trusting market?**	1. How can we ensure transparency and credibility in the VCM to build trust among buyers and sellers of carbon credits? 2. How can we establish effective and credible Measurement, Reporting, and Verification (MRV) mechanisms in the Voluntary Carbon Market (VCM) to ensure the reliability and authenticity of carbon credits?
Carriacou: **How should host-countries guide VCM-investors to enhance NDC-implementation?**	1. What policy frameworks and regulatory incentives can host-countries implement to attract and engage VCM-investors in projects that align with their National Determined Contributions (NDCs) and climate goals? 2. How can capacity building and knowledge sharing between host-countries and VCM-investors be fostered to create an enabling environment for VCM investments and enhance NDC implementation?
Belmont: **How can host-countries attract private sector to engage in the VCM?**	1. What strategies and financial incentives can host-countries offer to attract private businesses and industries to actively engage in VCM projects and support climate actions aligned with National Determined Contributions (NDCs)? 2. How can public-private partnerships, capacity building, and knowledge sharing be leveraged to foster collaboration and trust between host-countries and private sector stakeholders, encouraging greater participation in the VCM and the implementation of climate actions?

Part II – Guiding principles for GIZ‘s engagement in carbon markets

- Guiding principles offer orientation and ensure credibility and impact of GIZ’s engagement in carbon markets.

i
Help raise ambition

- Focus on high-hanging fruits
- Align with ambition raising of NDC
- Align with SBTi requirements

ii
Apply robust methodologies

- Apply robust quantification methodologies
- Use conservative baseline setting
- Develop stringent monitoring and reporting frameworks

iii
Ensure generation of high-quality carbon credits

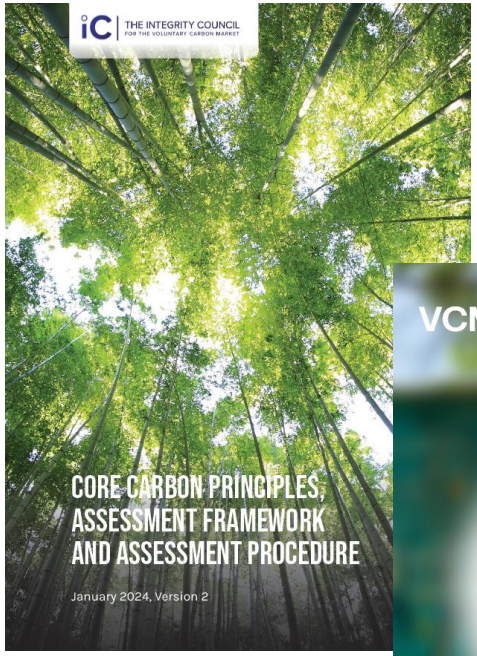
- Test additionality
- Ensure permanence
- Rule out double counting
- Avoid leakage

iv
Seek additional benefits

- Create co-benefits
- Ensure benefit sharing
- Implement environmental and social safeguards
- Consider contribution claims

Current developments

- **Initiatives** to address challenges and risks:
  - Integrity Council for the Voluntary Carbon Market (ICVCM)
  - Voluntary Carbon Market Integrity Initiative (VCMI)
  - Carbon Credit Quality Initiative (CCQI)
- **Conversion of voluntary and compliance markets** (rules and criteria for VCM need to align with rules of Paris Agreement)
- **Beyond Value Chain Mitigation (BVCM) and Contribution Claims** (buyers do not claim compensation but contribute to emission reductions beyond value chain/ a country's NDC)



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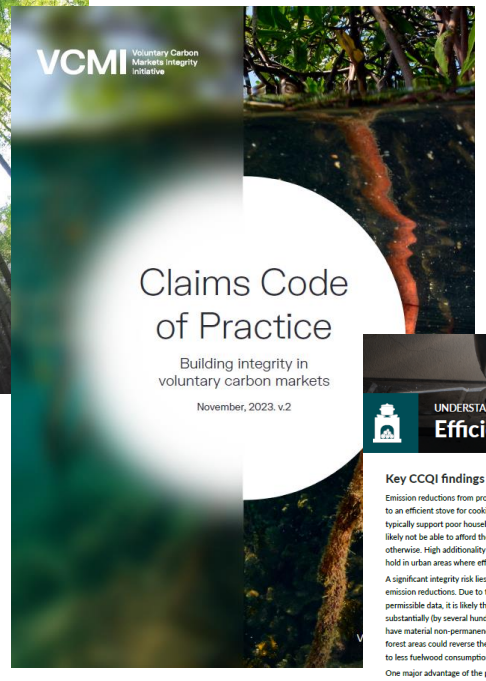

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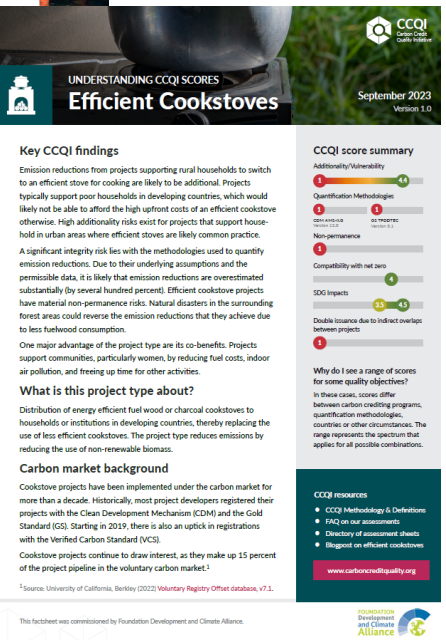

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THANK YOU FOR YOUR ATTENTION

Please feel free to reach out to us

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United Nations
Climate Change

RCC Caribbean
Collaboration for Climate Action

WINDWARD ISLANDS RESEARCH & EDUCATION FOUNDATION

RediCAP Evaluation

Supported by:

Federal Ministry for Economic Affairs and Climate Action

on the basis of a decision by the German Bundestag

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

NDC PARTNERSHIP

UNDP *Empowered lives. Resilient nations.*

RCC Caribbean

Collaboration for Climate Action