

### MAKING NET ZERO POSSIBLE: THE ROLE OF CARBON MARKETS OCTOBER 2023

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# ABOUT IETA



#### ABOUT IETA

# WE ARE THE TRUSTED BUSINESS VOICE ON MARKET-BASED CLIMATE SOLUTIONS

- Non-profit industry association founded in 1999 with over 300+ business members representing the entire market landscape
- Empowering the private sector to engage in climate action, by supporting the establishment of effective market-based trading systems for greenhouse gas (GHG) emissions and removals that are environmentally robust, fair, open and efficient





- Shaping policy, providing thought leadership, carbon market intelligence
- A number of special initiatives and high-level events







### IETA MEMBERSHIP



# SIZE & TRENDS IN THE CARBON MARKET



# <u>A tool</u> to deliver climate action where it is most effective

- A way to incentivize emission reductions (by giving them a price/value)
- Recognizing that...
  - We urgently need to reduce global emissions
  - It does not matter <u>where</u> those emissions reductions take place (allowing for trade)
  - We need an increase of more than 590% in <u>annual</u> climate finance (including both public, private and international sources)



# **Stronger ambition is needed** to align many countries' NDCs with their own net zero pledges





### <u>Carbon</u> markets to:

- Allow for increased ambition
- Enable netzero

- Cap-and-trade carbon <u>allowances</u> = tradable permits to emit (polluter pays principle)
- Baseline-and-credit carbon <u>credits</u> = verified emission reductions or removals, can be used to offset emissions

Carbon credit use cases:

- o Offsets in cap-and-trade systems
  - California, China ETS (domestic), Korea ETS
- o Offsets in carbon taxation schemes
  - Colombia, South Africa (domestic), Singapore
- o Voluntary offsetting
  - Both domestic and international





# CARBON CREDIT MARKETS ARE STILL SMALL RELATIVE TO OTHER CARBON PRICING INSTRUMENTS

- In 2022, ETSs reached over USD 65 billion in annual revenue and over 9 Gt CO2-eq in GHG emissions coverage,
- and carbon taxes amounted to USD 29 billion in annual revenue and almost 3 Gt CO2-eq in GHG emissions coverage;
- compared to USD 1.3 billion and 0.17 Gt CO2-eq respectively in carbon credit markets.





### Early carbon markets

Clean Development Mechanism (CDM) led to a wave of compliance carbon market activity.

## Continuity with Voluntary carbon markets

After CDM demand collapsed, voluntary carbon market (often modelled on CDM) grew

#### Towards a new carbon boom?

Following COP26 breakthrough on Article 6 and thousands of corporate net zero targets, many expect growth for both voluntary and compliance markets



#### Project investment by project type (\$bn)



#### Project investment by region (\$bn)





#### Expected annual carbon reductions from registered projects (MtCO<sub>2</sub>e/yr) $^{(2)}$

Since 2020 over 1,500 new carbon credit projects have been developed and registered with the five main registries. This is equivalent to around 520 new projects a year. The rate of new project registrations in the last three years is 160% of the rate from 2012 to 2020. The new projects added since the start of 2020 claim to save an additional 300MtCO2e/yr of carbon emissions – roughly the same as the annual carbon emissions of the UK.

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Carbon credits certified under Verra's VCS represented 72% of total issuance recorded in 2022,

followed by the Gold Standard at 16%

the ACR at just under 8%

and CAR at 3.5%, Plan Vivo at 0.6%, and GCC at 0.15%.





Voluntary demand scenarios for carbon credits, gigatons per year

### WHERE IS THE DEMAND COMING FROM?



Driven mainly by <u>voluntary</u> commitments to reduce greenhouse gas emissions - stakeholders

IN RECENT NEWS...

### Environmentalists sue Dutch airline KLM for 'greenwashing'

# Carbon credit speculators could lose billions as offsets deemed 'worthless'

Many credits in the voluntary market going unused, with study finding some offsetting could make global heating worse

The age of extinction is supported by



Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

### EU to ban 'climate neutral' claims by 2026

Brussels to crack down on greenwashing of consumer products

Stories > Energy | Nature

# **Carbon offsets are a scam**

orld's biggest companies, from Netflix to Ben & Jerry's, are pouring billions into an offsetting industry whose climate claims appear increasingly at odds with reality

The Carbon Con

"the number of credits retired by companies fell 6-8% in the first half of 2023"





Xpansiv CBL, the world's largest spot carbon exchange (2023). Exists largely in the absence of mandatory legislation

- Driven by voluntary commitments to reduce greenhouse gas emissions - stakeholders
- Can help to finance climate action and sustainable development, especially in developing countries
- Should lead to an **increase** in global climate action







more likely than non-buyers to have an approved sciencebased climate target

more likely than non-buyers to be decarbonizing year-over-year



Median rate of emission reductions among 350 firms that voluntarily use 'material' quantities of carbon credits is roughly twice that of 3800 firms that do not use carbon credits.

## ~6% internal reductions for credit users

VS

~3% internal reductions for nonusers

### Expense from voluntary purchase provides financial motivation to reduce emissions



Distribution of annualised scope 1 & 2 emissions change (%)

### Supply-side integrity

- 1 credit ≤ 1 real tCO<sub>2</sub>e avoided / removed / reduced
- Effective use and no double counting of CO2 and \$
- Do no harm to social and environmental objectives

### **Market integrity**

- Reduce information
  asymmetries
- Interoperable, liquid and standardised markets
- Importance of governance

### **Demand-side integrity**

- Prioritise mitigation over offset use
- High-quality, uniquely claimed credits
- Claims should be credible
- Transparent reporting

### **Credit supply**



(OECD, 2022)

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### Unimpeachable quality

Promote social and environmental integrity in the generation of carbon credits by developing a Core Carbon Principle (CCP) threshold standard for what constitutes a high-integrity credit, along with governance to ensure proper oversight. ICROA

International Carbon Reduction & Offsetting Accreditation



### Honest claims

Ensure integrity in the use of carbon credits by defining **high-integrity corporate claims** and creating norms around their use in the context of a robust net-zero pathway

G7 Principles for High-Integrity Carbon Markets, Call for Paris Aligned Carbon Markets, UN HLEG, *Article 6 of the Paris Agreement...* 

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# THE CORE CARBON PRINCIPLES

The CCPs are a set of interlinked principles to define a threshold standard to ensure integrity in the voluntary carbon market.

# **EMISSIONS IMPACT**

- 1. Additionality
- 2. Permanence
- **3**. Robust quantification of emission reductions and removals
- 4. No double counting

# GOVERNANCE

- **5.** Effective governance
- 6. Tracking
- 7. Transparency
- 8. Robust independent third-party validation and verification

# SUSTAINABLE DEVELOPMENT

9. Sustainable development benefits and safeguards10. Contribution to net zero transition

~80% of participants believe corresponding adjustments will be active within 5 years



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PRESENTATION SLIDE



Annual supply and demand – all credits (MtCO<sub>2</sub>e/yr)<sup>(1)</sup>

Source: Trove Research analysis

1. Demand includes potential demand from corporates net zero targets (SBTI and non-SBTI approved), carbon neutral claims, CORSIA, compliance schemes, and governments under Art 6.2/6.4. Supply includes registered and pipeline projects. By 2030 roughly half of credits supply will come from registered and half from pipeline projects. 13 September 2023 Trove



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#### Cumulative demand and supply of credits and capital investment needed to 2050



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### The Evolving Voluntary Carbon Market

### Purpose: Shed light on how the VCM is evolving

• The mosaic of opportunities / Issues and uncertainties

### Why the VCM?

- To provide a robust mechanism for corporates to reduce or remove emissions beyond their value chain in support of science-aligned net zero pathways.
- To channel finance to where it is desperately needed, including to LLMIC, removals, forest conservation and delivery of the UN SDGs.
- To pave the way towards compliance markets

### **Call to action:**

IETA want to see the pace of investment in VCM increase at this critical time when the world rapidly inches closer to the 1.5 degree C warming above pre-industrial average limit



# Investment trends and outcomes in the global carbon credit market

13 Sept 2023



With support from





🗘 Sylvera





# ARTICLE 6: STATE OF PLAY & POTENTIAL



**80%** of countries signalled their intention to use international market mechanisms or broad international support to meet their NDCs or increase ambition

### Over 20% of countries

actively engaged in at least one cooperative approach through bilateral agreements, MOUs or participation in pilot projects.

Considers broad international support for achieving its NDC or increasing its climate ambition

Considers or intends to use international market mechanisms to achieve its NDC or increase its climate ambition

Already engaged with some sort of cooperation to implement cooperative approaches (MOUs, pilot projects, etc.)

- Does not mention or consider using international carbon market mechanisms
- Already Authorizing and Transacting ITMOs
- Has not delivered the NDC or without information



Updated: May 2023

### Why the private sector cares about Article 6

### Investment opportunities in mitigation projects

Energy; transport; waste management; agriculture, forestry and land use (AFOLU); etc.

NDCs and political momentum on climate change

### Access to cheaper abatement options

To be used as offsets in domestic carbon tax or <u>or</u> cap-and-trade schemes

Moderate growth; carbon pricing schemes on the rise globally, but use of int'l offsets not always allowed



Dramatic growth in last 2-3 years; trend expected to continue

### Voluntary emission reduction objectives

Offsetting claims



# \$250 billion a year in savings by 2030 when

implementing NDC using Article 6 vs. independent implementation.

### Reduction of 5Gt CO2eq. per year by 2030 if savings

are invested in additional mitigation activities.

Up to \$1 trillion a year by 2050 in international financial flows towards emission reduction and removal activities.









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### **1. INTENTION**





### 2. AUTHORIZATION





 private sector is encouraged to engage
 Model letter of authorisation to streamline and standardise the process

 NDC conditionality = what is eligible for Article 6? Clear guidance needed, avoid policy uncertainty

Whitelists of sectors or activity types where

**Pragmatic approach** – look beyond current NDC cycle:

- Article 6 as a tool to finance NDCs and long-term decarbonisation strategies
- Impact of authorized activities at the end of crediting period

| Project type         | Project subtype                                    | Total costs<br>(\$/tCO <sub>2</sub> e) |
|----------------------|--|--|
| Carbon               | Carbon Capture and Storage                         | 50 to 130                              |
| Engineering          | Biochar  | 10 to 60                               |
| Energy<br>Efficiency | Clean Cooking                                      | 3 to 15                                |
|                      | Afforestation/reforestation/revegetation           | 5 to 30                                |
|                      | Agricultural Land Management                       | 10 to 70                               |
| Nature               | Avoided Conversion of Grasslands and<br>Shrublands | 4 to 40                                |
| Restoration          | Mangroves  | 10 to 45                               |
|                      | Peatlands  | 5 to 25                                |
|                      | Seagrass Meadows                                   | 100 to 500                             |
|                      | Improved Forest Management                         | 5 to 20                                |
|                      | Landfill Gas                                       | 1 to 20                                |
| Non-CO2 Gases        | Waste Management                                   | 0 to 15                                |
|                      | Fugitive Emissions                                 | 0 to 20                                |
| REDD+                | Various  | 10 to 20                               |
| Renewable<br>Energy  | Various  | 1 to 20                                |

### **3. TRANSPARENCY**



## Elaborate policy framework and operational procedures on:

Framework agreements with other countries

Eligible standards and crediting mechanisms

Volume and types of credits

Programme and national registries, infrastructure to track and report transfers

How authorizations and corresponding adjustments will be implemented

How compliance and voluntary markets will interact

How standalone projects and nesting will interact

Applicable taxation related to transfers and any other levy or mechanisms that may impact the project's economics

### Articulate how the use of Article 6 will:

- Allow for higher ambition
- Promote sustainable development and environmental integrity

### Minimise perverse incentives:

- Overselling
- Lower ambition in NDC setting

### **4. INTEROPERABILITY**



Establish an effective interaction between compliance instruments and the voluntary carbon market (VCM)

- Article 6 guidelines do <u>NOT</u> directly regulate the VCM
- Reductions related to voluntary activities remain in host country's GHG emission inventory and can count towards its NDC
- VCM credits may be subject to corresponding adjustment if developer requests it and host country authorises – in this case reductions will <u>NOT</u> count towards the host country's NDC
- Different types of credit should be clearly identified as such, and will have different market value

Support the emergence of a widely accessible traded market for carbon credits



### **5. ACCOUNTABILITY**



# Ensure a suitable digital registry for carbon accounting and reporting is in place

- Sound accounting and reporting is integral to the effective and credibility of Article 6
- Provisions on reporting, recording and tracking in Article 6.2 guidelines are basic requirement – greater transparency and data availability will boost credibility and investor confidence
- Technology provides effective solutions at moderate cost

Identify key risks in activity cycles and mechanisms to reduce them

- Private sector exposure may extend throughout the full lifecycle of the project
- Significant sovereign/country risk, for instance:
  - Delay, denial, retraction of letter of authorisation
  - Lack of ITMO issuance
  - Lack of corresponding adjustment
  - Various types of policy changes
- Clarity on investor recourse and liabilities
- Political risk insurance products may be needed

### 6. CAPACITY BUILDING





- Needed at both government level and among market participants (project developers, MRV, investors, traders)
- Inform market participants about the opportunities that exists and how to access them
- Identify partnerships with international organisations, academia and industry bodies (e.g. UNFCCC, GGGI, IETA)
- Set up clear pathway for receiving questions and provide guidance on engagement
- Allow for bottom-up ideas to come through and mechanisms to consult with private sector





### **ONGOING ARTICLE 6.2 IMPLEMENTATION**



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Last updated on 06/10/2023

### CASE: SINGAPORE CARBON TAX

### What is it?

- Tax on GHG emissions pursuant to Carbon Pricing Act 2018\*
- Covers 80% of SG's total GHG emissions from approx. 50 facilities in the manufacturing, power, waste, and water sectors

### 2 What's interesting about it?



### **3** What's the opportunity here?

 Purchase 'eligible international carbon credits' at a lower price than the price of payable carbon tax for a specific year







Article 6 does not regulate the VCM – but likely to have a material impact; methodologies, authorization, share of proceeds...



### STRATEGIES TO ENGAGE WITH INTERNATIONAL MARKETS



### SWITZERLAND

**Buyers**: Fossil fuel importers in Switzerland (must obligations under the Swiss Law)

**Bilateral agreement:** Through it, Switzerland and the seller country authorize proposed activities.

**Corresponding adjustments:** The seller country must authorize and cancel domestic units from a domestic registry system for all transactions.

**Klik Foundation**: it is the non-profit foundation that supports projects for fossil fuel companies to meet their obligations in Switzerland

**Project developers:** can be either local or international project developers.



SOURCE: Own adaptation / TNC

## 1st authorized programme in Asia under Art 6 framework

- Thailand-Switzerland cooperation framework
- The mitigation outcomes units from this program are inside Thailand's NDC and surplus to its unconditional NDC
- By purchasing the resulting emission reductions, the KliK Foundation provides the necessary financial contribution to make the programme financially viable.
- Purchase Agreement between KliK Foundation and Thai company Energy Absolute signed in June 2022
- Term: Oct 2022 Dec 2030
- ITMO volume: min. 500'000 tCo2e
- Number of buses: minimum 1900 e-buses on 122 (existing and new) privately operated bus routes
- Further information: <u>https://www.international.klik.ch/news/publications/bangkok-</u> <u>e-bus--337</u>

#### Bangkok Post City's first public EV buses start rolling

#### City's first public EV buses start rolling

WRITER: POST REPORTERS

11 2 **f y o** D

PUBLISHED : 20 AUG 2022 AT 04:00



Bangkok's first 40 electric public buses begin service today, said Transport Minister Saksayam Chidchob, adding that it marks an important shift away from polluting diesel engines.



### THAILAND'S AUTHORIZATION FRAMEWORK



- Increasing convergence between voluntary (independent), compliance and international markets
- Increasing quality and integrity of projects, including sustainable development co-benefits (CCPs, ratings, gov intervention)
- Increasing importance of durable removals as we move towards net-zero
- Increasing carbon prices due to more limited supply (CA, quality) and continued demand



- $1^{st}$  Global Stocktake  $\rightarrow$  what role for carbon market in NDCs?
- Busy agenda for Article 6 negotiators...
  - Finalise reporting requirements and review rules
  - Rules on interoperability of registries
  - Recommendations on authorization (timing, changes, revocation...)
  - Definition and treatment of "emissions avoidance"
  - Methodological requirements, removal activities
- Article 6.4 Supervisory Body must operationalise requirements for methodologies before market participants can credit activities under the Art. 6.4 Mechanism
- UNFCCC Secretariat to build IT infrastructure for ITMO tracking: Art. 6.4 registry, international registry, Centralized Accounting and Reporting Platform (CARP), Article 6 database

PRESENTATION SLIDE

Capacity building in host countries (and for private sector)







# **THANK YOU!**

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# Connecting carbon markets through open data

Climate Action Data Trust (CAD Trust) is a decentralised metadata platform that links, aggregates and harmonises all major carbon registry data to enhance transparent accounting in line with Article 6 of the Paris Agreement.

The CAD Trust open-source metadata system uses blockchain technology to create a decentralised record of carbon market activity with the aim to avoid double counting, increase trust in carbon credit data and build confidence in carbon markets.









### **Current Challenges**



- Fragmentation across standards
- Lack of centralised registries between voluntary and compliance markets
- No joint reference data
- Lack of pricing transparency
- Limited visibility of project lifecycle
- Unclear link of credits to the NDCs

### Key Value Propositions

#### COMMON DATA MODEL

Enable reconciliation of data from registries and facilitate peer-to-peer connection among registries through blockchain technology.

#### TRANSPARENCY

Enhance transparency and trust among market participants and enable tracking of carbon credits and reduce the risk of doublecounting.

### CORRESPONDING ADJUSTMENTS

Provide visibility into corresponding adjustment procedures and the lifecycle of carbon credits from issuance to retirement, safeguarding against double counting and simplifying reporting requirements.

#### **INFORMATION & STATUS**

Surface publicly available information on carbon credits and record status changes to provide information on how the credits are used.

#### ARTICLE 6

Help to operationalise processes under Article 6 of the Paris Agreement such as compliance reporting and registry data model development.

### **Key Benefits for stakeholders**



#### **BUYERS & TRADERS**

- Aggregated trustworthy data to search through
- Easier access to project developer information

#### PROJECT DEVELOPERS

 Building trust in the accounting of MOs will enable transparency and trade, benefiting project developers

#### EXCHANGES

- Decreases market fragmentation and eases integration
- Promotes standardisation and asset integrity
- Adds information security to the data needed from registries for transactions
- Increases volume of standard asset types

#### GOVERNMENTS

- Increases visibility and credibility of a country's climate activities
- View MOs to potentially purchase
- Promotes new project activity
- <sup>•</sup> Can increase market participation of private sector
- Can provide an aggregate view of projects within their
- jurisdiction, ability to identify duplicative projects
- Increases accountability

#### UNFCCC

Aggregate reporting

#### INDEPENDENT STANDARDS

- Reduces burden on monitoring external systems for due diligence processes because of the ease of aggregating information together
- Facilitates trust and transparency between systems

#### **VERIFICATION BODIES**

 Access to aggregated information, ability to audit transactions and changes to data







A common data taxonomy that enables reconciliation of data from registries. Through blockchain technology, it facilitates a peer-to-peer connection among decentralized registries with the aim to link, aggregate and harmonize the underlying data



**Provide visibility into corresponding adjustment procedures and the lifecycle of carbon offsets** from issuances to retirement, which will safeguard against double counting and ease reporting requirements.



Surface publicly-available information on MOs and record status changes to provide information on how MOs are used.



Enhance transparency and trust among market participants and enable tracking of MOs and reduce double counting risk. CAD Trust would not hold assets or directly facilitate.



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