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Emissions-Linked Trading in the US and EU

26 September 2023

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Introductions

Tim Baines
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Tim Baines is a partner in the London environmental and planning team of Mayer Brown. Tim has a particular interest and background in advising companies and financial institutions in the real estate, energy and sustainability sectors. He has considerable knowledge of UK planning and environmental regimes, renewables incentives regimes, and emissions and climate-related matters.

Tim studied at the London School of Economics and Political Science and at the Sorbonne, and speaks fluent French. He has worked as a lawyer in London and Paris in leading UK and US firms. He has lectured on a range of UK environmental law and renewable energy topics at The School of Oriental and African Studies (SOAS, University of London). According to Who's Who Legal he has a "well-deserved marketplace reputation for achievement".

Matt Kluchenek
Partner, Chicago
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Matt Kluchenek is a partner in Mayer Brown's Litigation & Dispute Resolution practice, Co-Head of the firm's Financial Markets Regulatory & Enforcement practice, and a member of the Derivatives and Fintech practices. He has a broad-based financial services practice in which he counsels financial institutions, asset managers, trading advisors, trading firms, fintech companies, multinational corporations, brokers, exchanges and financial service technology providers with respect to regulatory, transactional and enforcement matters involving derivatives, securities and cryptocurrencies.

Prior to joining Mayer Brown, Matt was a partner at a large law firm and served as associate general counsel of CME Group, Inc., as well as the general counsel of a global high-frequency trading firm. Matt serves as an adjunct professor at the Northwestern University Pritzker School of Law, where he teaches the course on Derivatives Law and Practice.

Ed Parker
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Ed is the global practice head of Derivatives & Structured Products at Mayer Brown and previously served on the Firm's partnership board. Ed's work covers all aspects of derivatives at the highest levels. He has been nominated as Global Derivatives Lawyer of the Year, a reflection of his technical excellence in this field.

He advises on complex OTC and structured credit, equity, FX and commodity derivatives, as well as insurance and pensions-linked derivative structures. He advises on distressed derivatives, together with our litigators and insolvency colleagues; as well as advising on central clearing issues and derivatives regulation, together with our regulatory team. (see Experience). He has notable experience in global initial margin regulation projects related to EMIR and other regimes, and large projects driven by regulation.

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Documentation Platforms for Emission Linked Trading - ISDA, IETA and EFET Platforms

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Use of Derivatives in Carbon Markets

Options

- Options are bilateral contracts between an option holder and an option writer. The option writer, in consideration for a premium, grants the option holder the right but not the obligation, to buy or sell an agreed quantity of carbon credits at a fixed price on a future date.
- The most common options are "**put**" and "**call**" options.
  - **Put option holders** have the right to sell or deliver carbon credits at an agreed price on a future date.
  - **Call option holders** have the right to buy or receive carbon credits at an agreed price on a future date.
- The most commonly used types of carbon derivatives in the OTC market include forwards, option and swaps.

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Use of Derivatives in Carbon Markets

Forwards

- In forward and futures contracts, the parties agree to buy and sell carbon credits at a future date at an agreed price.
- Forwards differ from options in that the buyer of a forward contract is obliged to pay the agreed purchase price even if the carbon credits are worth less than the purchase price on the settlement date, while the buyer of an option is not obliged to exercise the option and pay the purchase price.

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Use of Derivatives in Carbon Markets

OTC Trading

- When entering into a carbon trade in the OTC markets, parties have three options as regards the documentation platforms they use:
  1. ISDA,
  2. IETA, and
  3. EFET.

Trading through climate exchanges

- The development of exchange trading is helping the carbon credit market to reduce credit risk by providing a central counterparty, as well as liquidity, through matching counterparties, trading standardised and simple contracts, and publishing prices.
- There are currently more 10 European exchanges with exchange traded allowance contracts, and nearly 40 worldwide. These include the European Climate Exchange in the United Kingdom, Powernext in France and Nordpool in Germany.
- The European Climate Exchange coordinates the marketing, listing and sales of ECX Carbon Financial Instruments: futures and cash contracts for EU ETS allowances. These are listed on ICE Futures (an electronic trading platform). Trades are cleared through LCH. Clearnet Ltd, which acts as a central counterparty guaranteeing financial and physical performance.

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Use of Derivatives in Carbon Markets

Carbon Pools

- Carbon pools are spot trading platforms. Their members are small emitters that have been allocated allowances under the EU ETS. The pool matches their buy and sell orders together in an order book. After placing an order, the parties transfer their funds or allowances into their pool account and these are then transferred within the pool.
- Advantages of carbon pools include:
  - counterparty anonymity;
  - the grouping of small buy and sell orders into larger orders together; and
  - increased liquidity.

Structured Notes:

Types of transactions, issues related to taking securities, use of custodians.

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OTC Trading: Documenting Emissions Trading Transactions

ISDA Safe, Efficient Markets

ISDA has over 1000 member institutions from 79 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers.

IETA

IETA is a non-profit organisation representing businesses committed to smart, well-designed and effective carbon markets to help achieve the goals of the Paris Agreement and reach net-zero emissions by 2050.

EFET European Federation of Energy Traders

EFET was established in 1999 and since then our membership, and we would like to think our impact, has grown.

Our mission is to promote competition, transparency, and open access in the European energy sector.

We work to build trust in power, gas and carbons markets across Europe, so that they may underpin a sustainable, efficient and secure energy supply and enable the transition to a carbon neutral economy.

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ISDA

(Multicurrency — Cross Border)

ISDA®

International Swap Dealers Association, Inc.

MASTER AGREEMENT

dated as of ....

.... and ....

have entered and/or anticipate entering into one or more transactions (each a "Transaction") that are or will be governed by this Master Agreement, which includes the schedule (the "Schedule"), and the documents and other confirming evidence (each a "Confirmation") exchanged between the parties confirming those Transactions.

Accordingly, the parties agree as follows: —

1. Interpretation

(a) ***Definitions***. The terms defined in Section 14 and in the Schedule will have the meanings therein specified for the purpose of this Master Agreement.

(b) ***Inconsistency***. In the event of any inconsistency between the provisions of the Schedule and the other provisions of this Master Agreement, the Schedule will prevail. In the event of any inconsistency between the provisions of any Confirmation and this Master Agreement (including the Schedule), such Confirmation will prevail for the purpose of the relevant Transaction.

(c) ***Single Agreement***. All Transactions are entered into in reliance on the fact that this Master Agreement and all Confirmations form a single agreement between the parties (collectively referred to as this "Agreement"), and the parties would not otherwise enter into any Transactions.

2. Obligations

(a) ***General Conditions***.

(i) Each party will make each payment or delivery specified in each Confirmation to be made by it, subject to the other provisions of this Agreement.

(ii) Payments under this Agreement will be made on the due date for value on that date in the place of the account specified in the relevant Confirmation or otherwise pursuant to this Agreement, in freely transferable funds and in the manner customary for payments in the required currency. Where settlement is by delivery (that is, other than by payment), such delivery will be made for receipt on the due date in the manner customary for the relevant obligation unless otherwise specified in the relevant Confirmation or elsewhere in this Agreement.

(iii) Each obligation of each party under Section 2(a)(i) is subject to (1) the condition precedent that no Event of Default or Potential Event of Default with respect to the other party has occurred and is continuing, (2) the condition precedent that no Early Termination Date in respect of the relevant Transaction has occurred or been effectively designated and (3) each other applicable condition precedent specified in this Agreement.

(Multicurrency — Cross Border)

ISDA®

International Swap Dealers Association, Inc.

SCHEDULE
to the
Master Agreement

dated as of ....

between .... and ....
("Party A") ("Party B")

Part 1. **Termination Provisions.**

(a) ***"Specified Entity"*** means in relation to Party A for the purpose of: —

Section 5(a)(v), ...
Section 5(a)(vi), ...
Section 5(a)(vii), ...
Section 5(b)(iv), ...

and in relation to Party B for the purpose of:—

Section 5(a)(v), ...
Section 5(a)(vi), ...
Section 5(a)(vii), ...
Section 5(b)(iv), ...

(b) ***"Specified Transaction"*** will have the meaning specified in Section 14 of this Agreement unless another meaning is specified here ....

(c) The ***"Cross Default"*** provisions of Section 5(a)(vi) will/will not * apply to Party A
will/will not * apply to Party B

If such provisions apply:—

"Specified Indebtedness" will have the meaning specified in Section 14 of this Agreement unless another meaning is specified here ....

* Delete as applicable.

2005 ISDA Commodity Definitions & User's Guide

ISDA

EU & UK Emissions Allowance Transaction Documents

ISDA

2022 ISDA Verified Carbon Credit Transactions Definitions

ISDA

EU & UK Emissions Allowance Transaction Documents

The EU Emissions Allowance Transaction document is intended for use in privately negotiated, physically settled transactions in European Union emissions allowances. The document is intended to be adopted as part of a Schedule to an ISDA Master Agreement and is the latest product of industry efforts to harmonize documentation approaches with other association-sponsored documentation. The 2021 version of the forms include various updated provisions, including on linking to non-EU ETS. A separate ISDA template has been produced for trading of allowances in the new UK ETS which is in force since the end of the Brexit transition period on 31 December 2020. These are also available below.

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Form of Part [7] to the
Schedule to an ISDA Master Agreement
for EU Emissions Allowance Transactions (incorporating options)
(Version 7: April 30, 2021) (Modified for Phase 4 delivery)

Part [7]. EU Emissions Allowance Transactions

(a) Scope

The provisions of this Part [7] apply solely in respect of Transactions that (i) are identified in the related Confirmation as EU Emissions Allowance Transactions or as otherwise being subject to the terms of this Part [7] and (ii) specify in the related Confirmation the Fourth Compliance Period as the applicable "Specified Compliance Period" (each such Transaction, an "**EU Emissions Allowance Transaction**").[1]

Form of Part [7] to the
Schedule to an ISDA Master Agreement
for UK Emissions Allowance Transactions (incorporating options)
(Version 2: 3 March, 2022) (For use during the First Trading Period)

Part [7]. UK Emissions Allowance Transactions

(a) Scope

The provisions of this Part [7] apply solely in respect of Transactions that are identified in the related Confirmation as UK Emissions Allowance Transactions or as otherwise being subject to the terms of this Part [7] and (ii) specify in the related Confirmation the First Trading Period as the applicable "Specified Trading Period" (each such Transaction, an "**UK Emissions Allowance Transaction**").[1]

(b) ISDA Definitions

The definitions and provisions contained in the 2006 ISDA Definitions, as published by the International Swaps and Derivatives Association, Inc. (the "**2006 ISDA Definitions**"), are incorporated into this Part [7]. In the event of any inconsistency between those definitions and provisions and this Part [7], this Part [7] will govern.

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Areas Covered by Part 7 to Schedule

How to buy, sell and physically settle transactions

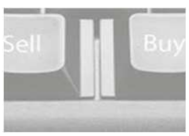
Fallbacks for when settlement is disrupted or suspended

Terms and fallbacks for when the seller fails to deliver the allowances and/or this results in the buyer being fined

What happens if only some of the allowances are delivered?

What happens if the EU ETS is abandoned?

Warranties, representations, taxes, provisions and definitions



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Settlement Disruption

Fallbacks for failed settlement/ delivery

Failure to deliver

Suspension Events

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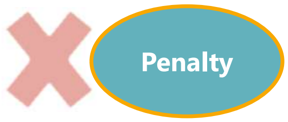
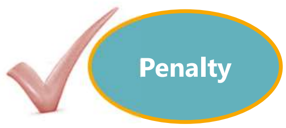
Calculation of Replacement Cost Where There is Failure to Deliver: Three Possible Elections



- **Election 1**
  - Excess emissions penalty does not apply



- **Election 2**
  - Excess emissions penalty does apply

- **Election 3**
  - Failure to deliver (alternative method)

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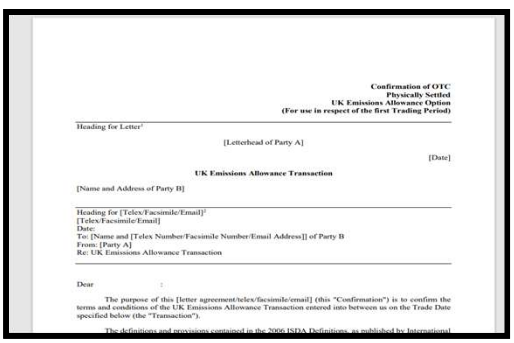


Confirmation of OTC
Physically Settled
UK Emissions Allowance Option
(For use in respect of the first Trading Period)

Heading for Letter[1]

[Letterhead of Party A]

[Date]

UK Emissions Allowance Transaction

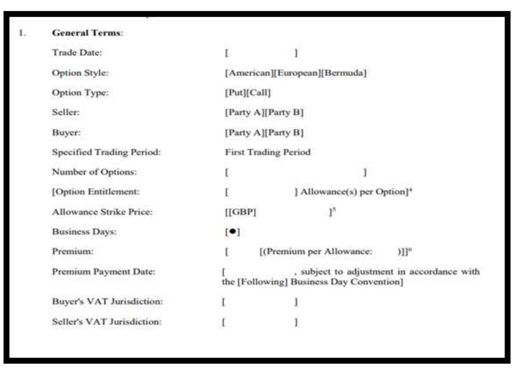
[Name and Address of Party B]

Heading for [Telex/Facsimile/Email][2]
[Telex/Facsimile/Email]
Date:
To: [Name and [Telex Number/Facsimile Number/Email Address]] of Party B
From: [Party A]
Re: UK Emissions Allowance Transaction

Dear :

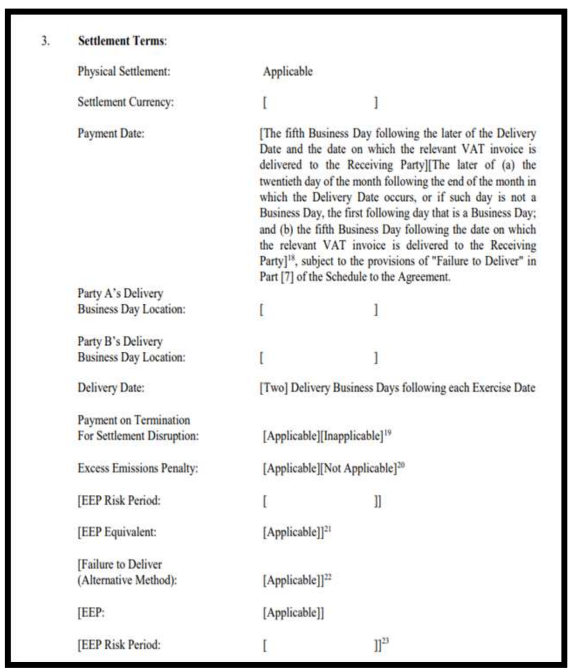
The purpose of this [letter agreement/telex/facsimile/email] (this "Confirmation") is to confirm the terms and conditions of the UK Emissions Allowance Transaction entered into between us on the Trade Date specified below (the "Transaction").

The definitions and provisions contained in the 2006 ISDA Definitions, as published by International



1. **General Terms**:

Trade Date:	[ ]
Option Style:	[American][European][Bermuda]
Option Type:	[Put][Call]
Seller:	[Party A][Party B]
Buyer:	[Party A][Party B]
Specified Trading Period:	First Trading Period
Number of Options:	[ ]
[Option Entitlement:	[ ] Allowance(s) per Option][4]
Allowance Strike Price:	[[GBP]][5]
Business Days:	[●]
Premium:	[[(Premium per Allowance:)]][6]
Premium Payment Date:	[, subject to adjustment in accordance with the [Following] Business Day Convention]
Buyer's VAT Jurisdiction:	[ ]
Seller's VAT Jurisdiction:	[ ]



3. **Settlement Terms**:

Physical Settlement:	Applicable
Settlement Currency:	[ ]
Payment Date:	[The fifth Business Day following the later of the Delivery Date and the date on which the relevant VAT invoice is delivered to the Receiving Party][The later of (a) the twentieth day of the month following the end of the month in which the Delivery Date occurs, or if such day is not a Business Day, the first following day that is a Business Day; and (b) the fifth Business Day following the date on which the relevant VAT invoice is delivered to the Receiving Party][18], subject to the provisions of "Failure to Deliver" in Part [7] of the Schedule to the Agreement.
Party A's Delivery Business Day Location:	[ ]
Party B's Delivery Business Day Location:	[ ]
Delivery Date:	[Two] Delivery Business Days following each Exercise Date
Payment on Termination For Settlement Disruption:	[Applicable][Inapplicable][19]
Excess Emissions Penalty:	[Applicable][Not Applicable][20]
[EEP Risk Period:	[ ]]
[EEP Equivalent:	[Applicable]][21]
[Failure to Deliver (Alternative Method):	[Applicable]][22]
[EEP:	[Applicable]]
[EEP Risk Period:	[ ]][23]

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2022 ISDA Verified Carbon Credit Transactions Definitions

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2022 ISDA Verified Carbon Credit Transactions Definitions

The 2022 ISDA Verified Carbon Credit Transactions Definitions are in the form of a standard definitional booklet for physically settled secondary market Verified Carbon Credit (VCC) transactions and are accompanied by template confirmations for VCC spot, forward and option transactions. The ISDA VCC Definitions are designed to be incorporated into a confirmation for a physically settled spot, forward or option VCC transaction. Consistent with the approach for other ISDA definitional booklets, this means that different governing laws can be applied whilst the terms of the transaction remain as standardized as possible. The ISDA VCC Definitions are intended to operate as a global document, they are intended to be used by market participants in any region and in respect of VCCs issued by different carbon standards globally. The ISDA VCC Definitions are designed to be used not only as a set of standardized terms as a liquid secondary market continues to develop but also as a means of documenting bespoke transactions. There are a number of elections that parties can make in order to reflect their preferred approach. A number of provisions have been drafted generically, so that the ISDA VCC Definitions are carbon standard and registry agnostic. This means that the ISDA VCC Definitions do not need to be updated when a carbon standard or registry amends its rules. As the ISDA VCC Definitions can be used for physically settled spot, forward and option VCC transactions, the Definitions provide for either physical delivery of VCCs from the Delivering Party's registry account to the Receiving Party's registry account; or retirement of the VCCs by the Delivering Party on behalf of the Receiving Party. In light of the carbon and registry agnostic approach taken, the ISDA VCC Definitions ultimately defer to any requirements for delivery or retirement set out in the relevant carbon standard rules and registry rules.

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Revised US Emissions Allowance Transaction Documents

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Revised US Emissions Allowance Transaction Documents

(published September 2, 2010)

The U.S. Emissions Allowance Transaction Annex to the ISDA Master Agreement together with a confirmation template are intended to apply to transactions for the purchase, sale or exchange of an emissions product on a spot ("Immediately-Delivered Emissions Transaction") or forward basis, or as option to purchase, sell or exchange of an emissions product. The new publication is structured as an annex to the ISDA Master Agreement Schedule. Emissions products covered by the Annex include emissions of nitrogen oxide; emissions of sulfur dioxide and any emissions allowance or credit created under a US regional carbon dioxide trading schemes and voluntary emissions products. The list of emissions products covered by the Annex is designed to be updated as new emissions products, such as renewable energy credits, gain liquidity in the market.

Free downloads (2)

ISDA.

International Swaps and Derivatives Association, Inc.

U.S. EMISSIONS ALLOWANCE TRANSACTION ANNEX

to the Schedule

to the ISDA Master Agreement

dated as of.. ("Effective Date")

between .... ("Party A") and .... ("Party B")

Part [-] – U.S. Emissions Allowance Transactions

This U.S. Emissions Allowance Transaction Annex ("Emissions Annex") supplements, forms part of, and is subject to the above-referenced Agreement and is part of the Schedule thereto.

(a) Emissions Transactions under this Agreement; Credit Support Documents

(i) Emissions Transactions. The provisions of this Emissions Annex apply solely to transactions between the parties for the purchase, sale or exchange of an Emissions Product (as defined below) on a spot or forward basis, or as an option to purchase, sell or exchange an Emissions Product (collectively, "Emissions Transactions"). All Emissions Transactions are deemed to have been entered into in accordance with the terms of this Agreement and are Transactions for the purposes hereof. A subsequent agreement between the parties to settle an Emissions Transaction other than by physical delivery of an Emissions Product will not affect its status as an Emissions Transaction under this Emissions Annex. In the event of any inconsistency among or between the other provisions of this Agreement and this Emissions Annex, this Emissions Annex will govern with respect to Emissions Transactions.

The terms of the particular Transaction to which this Confirmation relates are as follows:

Buyer:
[Option Buyer]

Seller:
[Option Seller]

Trade Date:

Deal Number: ________

Emissions Product:

Applicable Emissions Law:

If not specified, the Applicable Emissions Law set forth in the Emissions Product Definitions Annex for the applicable Emissions Product shall be deemed to apply.

Tracking System:

If not specified, the Tracking System set forth in the Emissions Product Definitions Annex for the applicable Emissions Product shall be deemed to apply.

Vintage:

Term:

[Strike] Price: [US Dollars $ per unit]

Delivery Date:

Quantity:

[Option Premium] [$_____ per Emissions Product ($__________ total) due from Buyer within two (2) Local Business Days of the Trade Date]

[Expiration Date(s)] [Date of expiration of option(s)]

[Option Exercise] [If exercising the option, Option Buyer will contact ________ on or before [1:00 p.m.] E.P.T. on [or before] the above Expiration Date(s) ("Exercise Date")].

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IETA

EUROPEAN UNION EMISSIONS TRADING SCHEME (EU ETS) DOCUMENTATION

EU ETS – PHASE 4

- IETA Single Trade Agreement (STA) v. 6.0: PDF Word
- IETA Emissions Trading Master Agreement (ETMA) v. 4.0: PDF Word
- IETA Emissions Trading Master Agreement (ETMA) v. 4.0: Schedules 2, 3A & 3B PDF Word

IETA is a market leader in providing standardised documentation for emission trading. IETA provides a suite of documents that span primary and secondary OTC emission markets. Through the Secretariat and its specialist members, IETA maintains, updates, and develops new contracts that are recognised for their clarity, conciseness and focus on carbon market details. Please find our current suite of standardised documentation below.

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IETA cont'd

IETA
CLIMATE CHALLENGES
MARKET SOLUTIONS

Version 6.0 2019

EMISSION ALLOWANCES
SINGLE TRADE AGREEMENT FOR PHASE IV
OF THE EU ETS©

Version 6.0 2019

This draft Agreement has been developed by the International Emissions Trading Association (IETA) to facilitate trading under the EU emissions trading system. IETA encourages the use of this document by all interested parties.

5.4 **Suspension Event**

(a) Upon the occurrence of a Suspension Event, the Party affected by the Suspension Event shall, as soon as practicable by written notice, notify the other Party of the commencement of the Suspension Event. To the extent available to the Party affected by the Suspension Event, it shall also provide details of the Suspension Event including a non-binding estimate of the duration of its inability to perform its obligations due to the Suspension Event.

(b) Where a Suspension Event occurs, the obligations of both Parties, which would otherwise be required to be performed under this Agreement, shall be suspended for the duration of the Suspension Event. Subject to paragraph (c) below, upon the Suspension Event ceasing to exist both Parties will resume full performance of their obligations under this Agreement (including for the avoidance of doubt any suspended obligations) as soon as possible but no later than the day that is ten (10) Banking Days thereafter or, if earlier, three (3) Banking Days prior to the End of Phase Reconciliation Deadline (such date being the "**Delayed Delivery Date**"). For the avoidance of doubt, where a Delivery Date is adjusted in accordance with this clause 5.4(b), then the use of the term "Delivery Date" elsewhere in this Agreement shall be construed to be a reference to the Delayed Delivery Date.

(c) In the event that Allowances are Transferred to the Receiving Party on or before the Delayed Delivery Date following the occurrence of a Suspension Event as contemplated by paragraph (a) above, the Receiving Party agrees to pay the Delivering Party the Periodic Purchase Price adjusted by the Cost of Carry Amount.

(d) Where a Suspension Event continues to exist on the Long Stop Date then either Party may, by written notice to the other Party terminate this Agreement. If this Agreement is terminated in accordance with this clause 5.4(d), the Parties' corresponding Transfer and acceptance obligations under this Agreement shall be released and discharged.

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IETA cont'd

IETA
CLIMATE CHALLENGES MARKET SOLUTIONS

IETA ETMA Version 4.0
Schedules 2, 3A and 3B

SCHEDULE 3A
FORM OF CONFIRMATION FOR SPOT/FORWARD TRANSACTIONS

This Confirmation evidences the terms of the binding agreement between the Delivering Party and the Receiving Party named below regarding the Transaction described in this Confirmation. This Confirmation is subject to, and supplements the Emissions Trading Master Agreement (the "**Agreement**") entered into between the Delivering Party and the Receiving Party and dated [●].

PART A	
Delivering Party and contact person:	[ ] Party A; [ ] Party B
Receiving Party and contact person:	[ ] Party B; [ ] Party A
	As specified in Schedule 2 (*Elections*) of the Agreement, or if different, as follows:

IETA
CLIMATE CHALLENGES MARKET SOLUTIONS

IETA ETMA Version 4.0
Schedules 2, 3A and 3B

SCHEDULE 3B
FORM OF CONFIRMATION FOR OPTION TRANSACTIONS

This Confirmation evidences the terms of the binding agreement between Party A and Party B regarding the Option Transaction described in Part A below, together with the terms and conditions of the Transaction described in Part B below, to be entered into in the event that the Buyer exercises its right under the Option Transaction.

This Confirmation evidences a Transaction under the Emissions Trading Master Agreement entered into between the Seller and Buyer dated as of [•] (the "**Agreement**").

This Confirmation is subject to, supplements and forms part of the Agreement.

PART A:	
Seller and contact person:	[ ] Party A; [ ] Party B
Buyer and contact person:	[ ] Party B; [ ] Party A
Trade Date and Time Transaction agreed:	
Option Style:	American / Bermudan / European
Option Type:	Put / Call

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EFET European Federation

STANDARDISATION

Allowances Appendix (Power) ("Phase IV (Power) Appendix") Version 6.1/November 4, 2021 to General Agreement Concerning the Delivery and Acceptance of Electricity Version 2.1(a)/September 21, 2007

EFET • 04-11-2021

STANDARDISATION

UK ETS Allowances Appendix (Gas) - Version 1.0/December 13, 2021

EFET • 13-12-2021

STANDARDISATION

UK ETS Allowances Appendix (Power) - Version 1.0/July 29, 2021

EFET • 29-07-2021

STANDARDISATION

Allowances Appendix (Gas) ("Phase IV (Gas) Appendix") Version 5.1/November 4, 2021 to General Agreement Concerning the Delivery and Acceptance of Gas Version 2.0 (a)/May 11, 2007

EFET • 04-11-2021

STANDARDISATION

Allowances Appendix (Power) ("Phase IV (Power) Appendix") Version 6.1/November 4, 2021 to General Agreement Concerning the Delivery and Acceptance of Electricity Version 2.1(a)/September 21, 2007

EFET • 04-11-2021

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EFET European Federation cont'd

UK ETS ALLOWANCES APPENDIX (POWER)

to the
EFET General Agreement
Concerning the Delivery and Acceptance of Electricity
Version 2.1/December 20, 2000 and Version 2.1(a)/September 21, 2007
(the "Allowances Appendix")

Part II:

ELECTIONS FOR CUSTOMIZATION OF PROVISIONS IN THE ALLOWANCES APPENDIX:

§ 4
Primary Obligations For Delivery and Acceptance of Allowances

§ 4.3 Physical Settlement Netting:

[ ] § 4.3 shall not apply, or

[ ] § 4.3 shall apply,

and the Physical Settlement Netting Accounts for Party A and for Party B shall be as follows:

Party A: Account Number: [ ], and

Party B: Account Number: [ ], or

[ ] § 4.3 shall apply not apply as stated in Part I of this Agreement, but shall apply as follows:

with the requirements of the Payment Cycle selected by the Parties in respect of § 13.2 *(Payment)*.

§ 7.5 Suspension Event.

(a) **Definition of Suspension Event. "Suspension Event"** means the occurrence of any of the following events which makes it impossible for a Party affected by the Suspension Event (the **"SE Affected Party"**) to perform its Transfer or acceptance of Transfer obligations in accordance with the terms of the Allowance Transaction and the Applicable Rules:

(i) absence of Registry Operation; or

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Key Differences Between ISDA, IETA and EFET Platforms

- Excess emissions penalties
- Force majeure
- Settlement disruption and failure to deliver
- Differences in payment and delivery dates
- Opting out of physical settlement of delivery obligations
- Suspension events

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IETA cont’d

CALIFORNIA TRADING DOCUMENTATION

- California Emissions Trading Master Agreement (CETMA) v. 1.1
- California Emissions Trading Master Agreement (CETMA) v. 1.1 (Word version)

Please note that the CETMA files provided on this page include the following items:

- Introduction and Explanatory Notes
- Master Agreement
- Schedule 1 (Definitions)
- Schedule 2 (Elections)
- Exhibit A (Form of Allowance Confirmation)
- Exhibit B (Form of Offset Confirmation)

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An overview of carbon markets

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Why?

Global risks ranked by severity over the short and long term

"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period"

	2 years		10 years
1	Cost-of-living crisis	1	Failure to mitigate climate change
2	Natural disasters and extreme weather events	2	Failure of climate-change adaptation
3	Geoeconomic confrontation	3	Natural disasters and extreme weather events
4	Failure to mitigate climate change	4	Biodiversity loss and ecosystem collapse
5	Erosion of social cohesion and societal polarization	5	Large-scale involuntary migration
6	Large-scale environmental damage incidents	6	Natural resource crises
7	Failure of climate change adaptation	7	Erosion of social cohesion and societal polarization
8	Widespread cybercrime and cyber insecurity	8	Widespread cybercrime and cyber insecurity
9	Natural resource crises	9	Geoeconomic confrontation
10	Large-scale involuntary migration	10	Large-scale environmental damage incidents

Source: World Economic Forum

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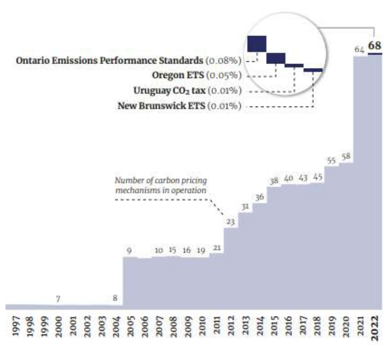
Recent updates

- There had been some recent years of impressive growth **global** markets for CO_2
- 164% to a record 760 bn euros in **2021**
- Macroeconomic challenges
- **Revenues** from carbon taxes **and** ETS grew by over 10% in **2022** (almost USD 95bn globally)
  - Increasing number of compliance carbon programs are expected to be implemented in the coming years
  - New investors / products / service providers
  - Rise of voluntary initiatives
  - Corporate demand for voluntary offsets



Source: World Bank, State and Trends of Carbon Markets, 2022

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Kyoto Protocol vs. Paris Agreement

Kyoto Protocol	Paris Agreement
Reduction of emissions of 5% (2008-2012) and 18% (2013-2020), in relation to 1990 emission levels	Containing global warming at well below 2ºC, in relation to pre-industrial levels, with efforts to limit global warming to 1,5ºC
Top-down: Mandatory goals (for industrialized countries – Annex I), actual Carbon Budget	*Bottom-up*: Nationally Determined Contributions (NDC)
• **Emissions Trading, Joint Implementation** and **Clean Development Mechanism** ("**CDM**") • Assigned Amount Units ("**AAU**"), Emission Reduction Unit ("**ERU**") and Certified Emission Reduction ("**CER**")	**Art 6**

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Carbon Pricing

- Price per tonne of CO_2e
- Social Cost of Carbon
- Tragedy of the Commons
- Polluter pays principle
- Internalization of climate externality
- Alternatives: taxation or market?
  - Smaller transaction costs in taxation vs. Greater institutional cost in markets (monitoring, reporting, verification)
  - Price vs. reduction target
  - What to do with the income?
  - The choice is a matter of technical opinion and political economics

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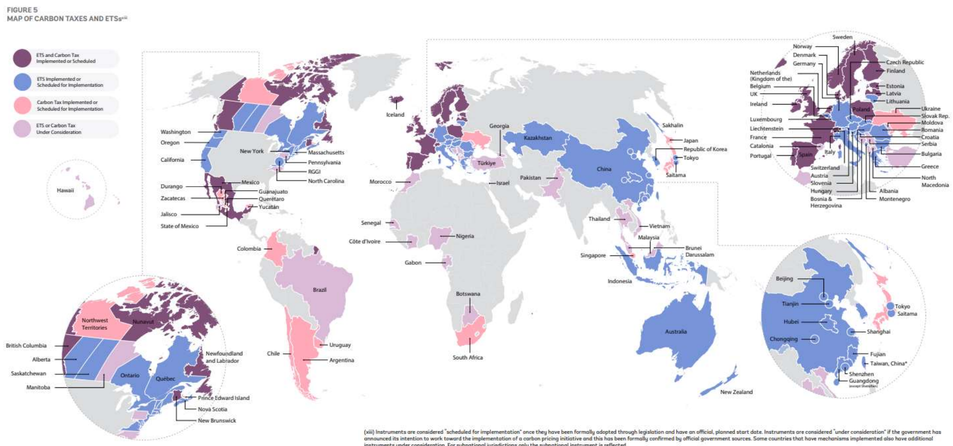
Carbon Pricing Initiatives (including markets)



Source: The World Bank, State and Trends of Carbon Markets, 2023

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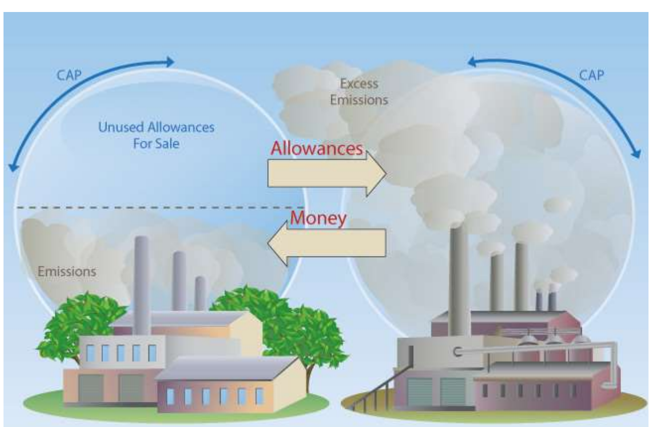
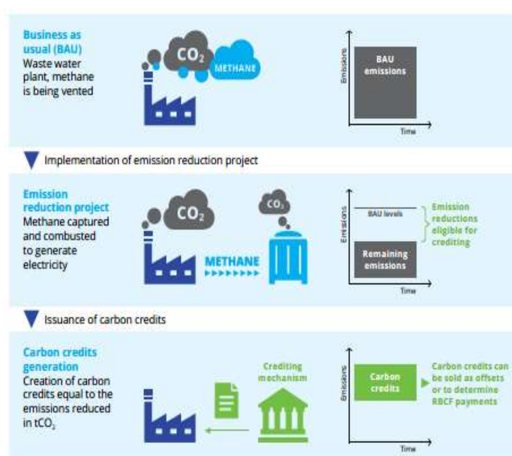
Emissions Trading vs. Carbon Crediting



Source: Vox



Source: The World Bank, State and Trends of Carbon Markets, 2020

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Regulated Carbon Markets: EU ETS

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European Carbon Market (EU ETS)

- *European Union Emissions Trading System* (EU ETS): launched in **2005**
  - Other than countries from the European Union, Iceland, Liechtenstein and Norway also participate
  - Over 10,000 installations (**power plants and industrial plants**), as well as aircraft operators operating within the EU
  - **45% of the total GHG emissions** of the European Union
- Typical "*cap and trade*"
  - A maximum threshold of emissions was established, and this "cap" reduces over time
  - **1 allowance corresponds to 1 tonne of CO_2e**
  - Compliance entities (and third parties) trade allowances, which can be bought by those who do not have enough allowances
  - A fine will be applied (100 euros per ton of CO_2) if a compliance fails to surrender an allowance for every tonne of its emissions

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EU ETS – compliance cycle

Source: Environment and Climate Regional Accession Network (ECRAN)

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EU ETS – First and Second Phases

- **First Phase (2005 - 2007)**
  - 3 year long pilot project (“learning by doing”)
  - Broad range of sectors (energy sector and high emitters, no transport)
  - The fine for failing to surrender allowances was of 50 euros per tonne of CO_2
  - Allowances were over-allocated (for free) and the price fell to zero
- **Phase 2 (2008 - 2012)**
  - Cap 6.5% lower in relation to 2005
  - The fine for failing to surrender allowances rose to 100 euros per tonne of CO_2
  - Companies were authorized to buy carbon credits from international project sunder the Kyoto Protocol in order to meet their targets (1.4 billion tons of CO_2e)
  - The 2008 crises led to a reduction on CO_2 emissions, which led to a surplus of carbon credits and allowances in the market, which lowered prices

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EU ETS – Third and Fourth Phases

- **Phase 3 (2013 - 2020)**
  - EU-wide allocation and caps, rather than national plans
  - Allowances distributed mainly through **auctions**, but there still was still free allocation of allowances to some sectors, especially industrial sectors subject to carbon leakage
- **Phase 4 (2021-2030)**
  - Steeper reductions in cap
  - Creation of the **Innovation and Modernization Fund**, which focus on the market transitioning to a low-carbon economy
- **Phase 4 (recent changes)**
  - Reduce emissions by 62% by 2030 (from a 2005 baseline)
  - Phase in emissions from the maritime industry between 2024 and 2026
  - Changes to aviation coverage
  - Free allowances phased out
  - Carbon Border Adjustment Mechanism
  - New ETS II will cover fuels for transportation and heating

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Voluntary Carbon Markets

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Voluntary Carbon Markets - Background

- Voluntary carbon markets allow companies, private investors, governments, and NGOs to acquire carbon credits in order to compensate for or offset their emissions
  - Many companies cannot fully reduce their own emissions
  - Reputational and socio-environmental concerns – Supplementarity Role?
  - Finance projects aimed at GHG reductions
  - Carbon credits can also be acquired as a form of investment

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Voluntary Carbon Markets - Facts and figures

Table 4. Voluntary Carbon Market Size by Project Category, 2019 - 31 August 2021

	2019			2020				2021 (through August)			
	Volume (MtCO2e)	Price per ton (USD)	Value (USD)	Volume (MtCO2e)	Volume % Change from Prior Year	Price per ton (USD)	Value (USD)	Volume (MtCO2e)	Volume % Change from Prior Year	Price per ton (USD)	Value (USD)
FORESTRY AND LAND USE	36.7	$4.33	$159.1M	48.1	30.9%	$5.60	$269.4M	115.0	139.4%	$4.73	$544.0M
RENEWABLE ENERGY	42.4	$1.42	$60.1M	80.3	89.4%	$0.87	$70.1M	80.0	-0.3%	$1.10	$88.4M
ENERGY EFFICIENCY/ FUEL SWTICHING	3.1	$3.87	$11.9M	31.4	921.0%	$1.03	$32.3M	16.1	-48.9%	$1.57	$24.2M
AGRICULTURE	-	-	-	0.3	-	$9.23	$2.8M	3.4	876.8%	$1.36	$4.6M
WASTE DISPOSAL	7.3	$2.45	$18.0M	8.3	13.0%	$2.76	$22.9M	2.7	-67.5%	$3.93	$10.6M
TRANSPORTATION	0.4	$1.70	$0.7M	1.1	165.2%	$0.64	$0.7M	2.1	99.3%	$1.00	$2.1M
HOUSEHOLD DEVICES	6.4	$3.84	$24.8M	3.5	-45.4%	$4.95	$17.3M	1.8	-49.8%	$5.75	$10.4M
CHEMICAL PROCESSES/ INDUSTRIAL MANUFACTURING	4.1	$1.90	$7.7M	1.3	-68.7%	$1.90	$2.5M	1.1	-11.2%	$3.22	$3.5M

Source: *Ecosystem Marketplace, a Forest Trends Initiative.*

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Voluntary Carbon Markets - Standards

- Verified Carbon Standard / Verra
- Gold Standard
- American Carbon Registry
- Climate Action Reserve
- Plan Vivo

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Project cycle

Methodology
- Select a methodology for proposed project
- Procedures for quantifying the real GHG benefits of a project
- Assessment of additionality ("but for" test)
- Many different sectors eg energy / waste / agriculture

Validate
- Project proponents develop a project description using template
- Validated by an approved validation/verification body
- Determines whether a project meets all rules

Verify
- Project proponents monitor and measure GHG emission reductions or removals
- Monitoring report must be verified by an approved verifier

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Project cycle

Registry

- Projects must open an account and submit all required documents to registry operator in order to be registered on the registry
- Projects can register upon validation or wait until they are ready to issue credits

Issuance

- Reviews of issuance request from project proponent
- Units credited to account

Transfer/ Retirement

- Once issued, credits can be transferred / retired

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Voluntary Emissions Reduction Purchase Agreement (VERPA)

	Project Owner	Project Developer
Due diligence CPs	X	X
No other VERs sold to 3rd parties	X	
Environmental impact assessments, consultations, technical / legal feasibility (costs)	X	
Development of PDD	X	X
Validation / registration	X	X
Monitoring / verification	X	X
Running project	X	
Transfer of credits	X	
Payment		X

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Paris Agreement: Article 6

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Paris Agreement: Article 6
Cooperation in the Implementation of NDCs

- Article 6.2
  - Internationally Transferred Mitigation Outcomes *(*"**ITMOs**")
  - Transferring of Mitigation Units between countries
- Article 6.4
  - Mechanism ("**SDM**")
  - Transferring of mitigation units from projects conducted by private entities to countries or other private actors
- Corresponding adjustment: assures environmental integrity and that no double counting is conducted; sturdy accounting system

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Recent developments

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Recent trends

- What is "net zero"?
- Greenwashing
- Climate Transition Plans
- Sustainability Disclosures
- Controversies
- Increasing scrutiny of VCM

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The CFTC's Role in the Voluntary Carbon Markets

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Voluntary Carbon Markets (VCMs)

- Compliance markets refer to cap-and-trade systems regulated by national, regional, or international carbon reduction regimes (e.g., the Kyoto Protocol), while VCMs function outside of the compliance market where participation is voluntary. VCMs use a project-based system, rather than a cap-and-trade system.
- VCMs allow carbon emitters to offset their emissions by purchasing carbon credits emitted by projects targeted at removing or reducing GHG from the atmosphere.
- Each credit can be used to compensate for the emission of one ton of CO2 or equivalent gases. When a credit is used for this purpose, it becomes an offset and is moved to register for retired credits. It is no longer tradable.
- VCMs include brokers and traders, like other commodity markets. Traders, for example, purchase credits directly from the supplier (sometimes via a broker), and may bundle those credits into portfolios, and then sell the credits to buyers (either those who need the credits or other traders).
- Many such transactions are executed in the OTC market and documented via ISDA master agreements, but exchanges also exist, such Xpansiv CBL, as well as futures exchanges, such as ICE and CME Group.
- The voluntary carbon credit market is currently estimated to be $2 billion and is forecasted to grow to $250 billion by 2050, according to Morgan Stanley.

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CFTC's Focus on VCMs

- VCM regulation and enforcement is a major priority for the CFTC. According to CFTC Chairman Rostin Behnam:
  - "The ***CFTC is one of the regulators at the forefront of climate-related risk management*** as firms and individuals will ***increasingly turn to the derivatives markets to manage and mitigate climate change-induced physical and transition risk***. We are making great progress at the CFTC to better understand our role in adapting the derivatives markets to withstand increasing climate-related financial risk."
  - "The voluntary carbon markets are at a ***critical point in their development***. The CFTC has an important policy responsibility to promote product innovation, price discovery, and liquidity for high-quality carbon credits that are the underlying commodity for derivatives products listed on CFTC-registered exchanges. The CFTC also has an increasingly critical role in policing for fraud and manipulation in underlying and related markets."

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Role of CFTC

- The Commodity Futures Trading Commission (CFTC) regulates "commodity interest" transactions and activities—that is, the CFTC may establish and require compliance with registration and day-to-day obligations.
  - "Commodity interests" include swaps and futures contracts, among other products. (Derivatives)
  - Example: CME's Voluntary Carbon Emissions Offset futures contracts
- The CFTC does not regulate, but has enforcement authority over, spot and forward (non-derivative) transactions involving a "commodity" (or a commodity interest) if the CFTC believes that fraud or manipulation may be involved.
  - Why? Because spot prices may impact/inform the prices of commodity interest.
  - A "commodity" is broadly defined to include various agricultural products and "and all services, rights, and interests (except motion picture box office receipts, or any index, measure, value or data related to such receipts) in which contracts for future delivery are presently or in the future dealt in."

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Carbon as a Commodity

- Based on the definition of a "commodity," the CFTC treats environmental carbon products as a commodity within its jurisdiction.
  - The CFTC recognizes that this market is growing quickly and is seeking to define its role. The voluntary carbon credit market is currently estimated to be \$2 billion and is forecasted to grow to \$250 billion by 2050, according to the Morgan Stanley.
- CFTC Chairman Behnam has proposed that the CFTC follow a similar oversight and approach to environmental products as those adopted for digital assets.
  - This would include education related to the qualities of a high-quality carbon credit, asserting the CFTC's anti-fraud legal authority, including in spot carbon credit markets, increasing intelligence in the market, robust enforcement, and government-wide and international coordination.
  - Also, the CFTC should adopt a heightened review framework of any self-certified environmental products that are listed on exchanges, including those related to carbon credits, as it has done for digital asset derivatives.

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CFTC Carbon Trading Initiatives

- 2011 – Joint CFTC/SEC Product Release, which discussed the regulatory characterization of carbon products.
  - Certain carbon products may be forwards rather than swaps if there is an intent to make and take delivery, a transfer of ownership, and consumption of the commodity.
- 2019 – CFTC Report of the Climate-Related Market Risk Subcommittee, Market Risk Advisory Committee of the Commodity Futures Trading Commission—"Managing Climate Risk in the US Financial System"
  - Consider appropriate and targeted exemptions to promote market development.
  - Support the study and adoption of alternative execution methods, such as block trading, auction style markets, or incentive programs, to attract liquidity providers to make climate-related markets.
  - Coordinate with other regulators to support the development of a robust ecosystem of climate-related risk management products.

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CFTC Carbon Trading Initiatives

- 2021 – Climate Risk Unit, which seeks to support the CFTC's mission by focusing on the role of derivatives in understanding, pricing, and addressing climate-related risk and transitioning to a low-carbon economy.
- 2022 – the CFTC hosted its first Voluntary Carbon Markets Convening and followed it with a Commission issued Request for Information on Climate-Related Financial Risk.
  - Since then, the CFTC received comments from over 80 stakeholders expressing views from members of Congress to farmers, ranchers, and others along the traditional agricultural value and supply chains, as well as from traditional financial market participants.
  - According to CFTC Chairman Behnam, two main takeaways from the input the CFTC received are:
    - the CFTC should use its anti-fraud and anti-manipulation enforcement authority to the fullest extent possible; and
    - the CFTC should support the development of standards to promote the growth of high integrity carbon offsets.

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CFTC Carbon Trading Initiatives

- 2023 – the CFTC took an important step forward in promoting the integrity of spot voluntary carbon markets by announcing an Environmental Fraud Task Force. The Task Force:
  - sits within the Enforcement Division.
  - addresses fraud and other misconduct not only in regulated commodity interest markets, but also in relevant spot markets (such as voluntary carbon credit markets), relating to purported efforts to address climate change and other environmental risks.
  - Examines fraud with respect to the purported environmental benefits of purchased carbon credits, as well as registrants' material misrepresentations regarding ESG products or strategies.

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Takeaways

- Carbon trading is and will continue to be a high priority for the CFTC.
- The CFTC wants to have a more significant role in the voluntary carbon trading market.
- The CFTC believes that additional regulatory oversight is needed—and sees a framework developing that is similar that of digital assets. However, a formal agency rulemaking does not appear likely in the near-term.
- The CFTC intends to develop and bring more enforcement actions. Expect the Task Force to produce robust enforcement actions involving spot carbon transactions.
- Expect the CFTC to team with the DOJ (Main Justice) on appropriate matters (akin to actions involving commodities insider trading, spoofing and digital assets).

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Resources

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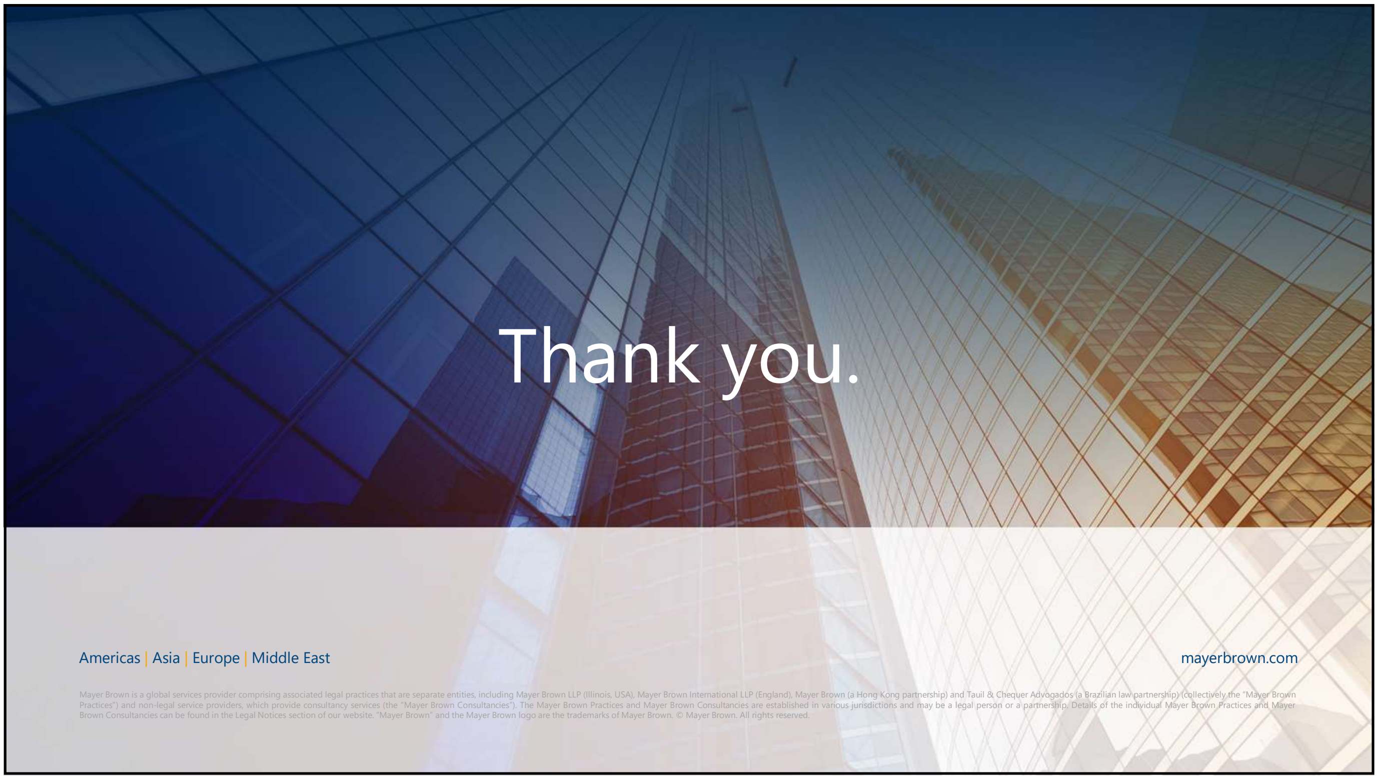

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