



# Opportunities in Renewable Energy and Carbon Transactions

Opportunities await firms that pursue renewable energy projects. Get savvy on emerging products based on sustainable development goals so no opportunities go to waste.



# Presenters

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# Agenda

- 1: Overview of Commodities for Sustainable Development Goals
  - Commodities in a Changing Environment
  - Familiar Products
  - New Uses of Familiar Products
  - New Products
  
- 2: Transaction Documentation
  
- 3: Clients and Their Concerns



# Overview of Commodities for SDG

## Commodities in a Changing Environment:

- Commodities markets offer tremendous growth potential in light of corporate sustainability initiatives
  - Development of new markets in new sustainable or renewable products
  - Development of new client relationships from shared sustainable development goals
  - Development of new transaction types to capitalize on opportunities supporting sustainable development goals
- Although markets for conventional energy sources remain active, an increased focus on sustainability initiatives encourages development of emerging markets for different renewable commodities
  - Derivatives help to increase price transparency and liquidity of underlying commodities markets
- Increasing development of derivatives products in these markets is key to facilitate transition towards a more sustainable economy
  - Developing new transaction structures and variety of solutions
  - Refining documentation architecture to support optionality



# Overview of Commodities for SDG

## Familiar Products:

### Voluntary Carbon Markets / Verified Carbon Credits

- Voluntary Carbon Markets (VCMs) are marketplaces in which entities can sell/purchase verified carbon credits (VCCs) to offset greenhouse gas emissions
  - VCMs are different from mandatory/compliance carbon markets that apply to specific industry sectors and are imposed for regulatory compliance schemes
- Each VCC corresponds to one metric ton of CO<sub>2</sub> (or other greenhouse gas) and can be used to offset emissions of one metric ton of CO<sub>2</sub> (or other greenhouse gas)
  - VCCs may come from avoidance projects (projects that avoid emitting CO<sub>2</sub>, such as renewable energy projects) and from removal projects (projects that capture CO<sub>2</sub>, such as reforestation and wetland management)
  - VCCs can be standardized (generally the case on exchanges) or customized (in over-the-counter transactions to address specific characteristics required by the purchaser of such VCC)
  - VCCs are certified by standards set by organizations that set out methodologies or metrics for measuring and valuing the underlying CO<sub>2</sub> and related number of VCCs for each project



# Overview of Commodities for SDG (continued)

## Familiar Products: (continued)

- How the VCM works:
  - Project Developers develop avoidance projects or removal projects that issue VCCs
  - Independent organizations certify VCCs issued by Project Developers based on strict methodologies set forth by carbon standard setters
  - Traders purchase VCCs from Project Developers and sell VCCs to End Users either over the counter or on exchanges
  - Once a VCC is purchased for offsetting, such VCC is retired and removed from the relevant carbon market
- Concerns
  - Greenwashing: participation in VCMs and purchase of VCCs can make organizations seem more sustainable than they are in practice
  - Lack of consistency in methodology among carbon standard setters
  - Carbon offsetting may disincentivize reduction in emissions



# Overview of Commodities for SDG (continued)

## Familiar Products: (continued)

### Energy Tax Credits

- Tax credits are available for certain renewable energy projects and are transferable under the Inflation Reduction Act (IRA)
  - Production-type tax credits include clean electricity production credits (Sec. 45 and 45Y), credits for manufacturing of green energy components (Sec. 45x), among others
  - Investment-type tax credits include clean electricity investment credit (Sec. 48 and 48E) and advanced energy project credit (Sec. 48C) and refueling property credit (Sec. 30C)
- Conditions to transfer: can only be transferred once, must be transferred for cash, payments received are excluded from seller's taxable income and amounts paid by borrower are not deductible
- Issues under the CEA
  - Do tax credits under IRA constitute commodities?
  - Do tax credit sale transactions constitute swaps or off-exchange futures contracts?
  - Do tax credit sale transactions constitute forward contracts?



# Overview of Commodities for SDG (continued)

## Familiar Products: (continued)

- Transaction may be structured as a direct forward contract or intermediated forward contract
  - Issues include regulatory and enforcement risk that CFTC decides these are swaps
  - Direct forward contract has less risk, but intermediated forward contract as an overall structure may raise questions and carry increased regulatory and enforcement risk (particularly where the buyer pays the fee to the intermediary given the potential gain by intermediary of the difference between the specified price and the backstop price)
- Transaction may be structured as swap by doing an intermediated tax credit transaction in which a buyer pays fee to counterparty, as the transaction between the seller and the counterparty is treated as a swap (mitigating regulatory and enforcement risk of relying on forward contract exclusion) and the transaction between the seller and the buyer is treated as a forward contract
  - Issues include regulatory and enforcement risk if the transaction is viewed by the CFTC as a swap, as well as complications, costs and regulatory burdens of swap transactions generally. Unique swap structure increases complexity and risk





# Overview of Commodities for SDG (continued)

## New Uses of Familiar Products:

### Carbon Intensity Attributes

- Carbon intensity (CI) is the number of grams of CO<sub>2</sub> that are released to produce a kilowatt hour of electricity
  - Electricity generated by fossil fuels (such as oil and gas) generates significant CO<sub>2</sub> emissions, and has a high carbon intensity
  - Electricity generated by renewable sources (such as wind, solar or hydro power) generates minimal CO<sub>2</sub> emissions, and has low carbon intensity
  - CI scores are not the same for all fossil fuels or all renewable sources as a group, but instead vary based on individual source (e.g. a wind source might have a different CI score than a solar source)
  - CI scores can help organizations assess impact of operations from a sustainability perspective
- Electricity with a lower CI score helps to reduce CO<sub>2</sub> and is attractive for sustainable development goals and leveraging CI scores may provide trading advantages in the commodities markets



# Overview of Commodities for SDG (continued)

## New Uses of Familiar Products: (continued)

### Produced Water from Oil and Gas

- Natural gas and oil resources use water for purposes of drilling wells and fracturing, and produced water is a co-product of drilling and fracturing. Produced water is not just H<sub>2</sub>O but contains dissolved minerals or other organic materials (including acids, waxes, mineral oils) or inorganic compounds (including heavy metals or radioactive materials). Produced water is therefore expensive to treat using conventional wastewater treatment methods.
  - Produced water can be treated and reused to supplement or offset demands for fresh water
  - Metals in Produced Water can be recovered and for other uses
  - Possible future voluntary credit market for produced water credits?



# Overview of Commodities for SDG (continued)

## New Products: Hydro Power

- Hydroelectric power is a renewable energy source generating power using natural water flow by converting kinetic energy from the flow of water into electricity
  - *Reservoir / impoundment* – a dam stores river water in a reservoir, and water released from the reservoir flows through a turbine, which activates a generators and produces electricity
  - *Run-of-river / diversion* – a diversion diverts a naturally flowing body of water through a canal or pen that diverts water through a turbine, which activates generators and produces electricity
  - *Pumped storage* – similar to a battery, water is pumped from a low elevation reservoir to a high elevation reservoir during periods of low electricity demand, and water is released from the high elevation reservoir to the low elevation reservoir during periods of high electricity demand
- Hydropower requires investment to modernize existing facilities to ensure reliability (particularly given risk of drought) and have attributes that make them attractive (similar to battery storage) but at a low operational cost with large storage capacity
  - Disadvantages include slow development (due to risks related to permitting process and environmental assessment)



# Overview of Commodities for SDG (continued)

## New Products: (continued)

### Biogas

- Biogas is a renewable energy source that is produced when organic matter (like food or animal waste) gets broken down by microorganism through anaerobic digestion (in an enclosed environment without oxygen). Biogas is a combination of methane and carbon dioxide, which can be modified to fuel vehicles or treated to become biomethane that can be used to replace natural gas
  - Biogas can be modified to replace other forms of vehicle fuel
  - Biogas can be converted to biomethane that can be used to replace natural gas



# Transaction Documentation

## Document Concerns:

**How do we document commodities transactions for these types of products?**

- Much is built from scratch though combining elements of industry form documentation and bespoke over the counter transaction documentation
- Sources for Building Blocks include ISDA forms (e.g. VPPA and RECs)
- Documentation is highly customized to address client needs and specifics of the underlying commodity
- Documentation for these products remains largely unstandardized

## **Representations & Warranties**

- [please provide one or two examples from experience]

## **Affirmative & Negative Covenants**

- [please provide one or two examples from experience]

## **Events of Default / Termination Events**

- [please provide one or two examples from experience]



# Clients and Client Concerns

**Types of Clients:** Which types of clients are looking for these types of products?

- Primarily corporate clients and trading firms looking to address sustainability goals through customized solutions
- Trading firms or financial institutions looking to create template documentation for frequently traded products
- [any specific industries or participant types? Who are we catering to?]

**Primary Concerns:**

**What are clients' primary concerns?**

- Regulatory concerns
  - CFTC
  - SEC
  - FINCEN
  - [other than classification as a commodity and/or swap, anything else? Specific regional or global concerns you're aware of?]



# Clients and Client Concerns (continued)

Primary  
Concerns:  
(continued)

What are clients' primary concerns? (continued)

- Market Integrity
- Asset use/purpose
- VCM vs. SBTi
- Reputational risks
- [Any other concerns or hypothetical examples we can provide?]