

# SECONDARY CARBON MARKETS



Many state regulators are considering carbon trading as a compliance option with the Clean Power Plan. An important part of carbon trading is the secondary carbon market—the market among private sector buyers and sellers that arises to provide more efficient price discovery, price-hedging opportunities, and satisfy compliance demand. This fact sheet provides a brief overview of the role of different types of secondary market participants and key policy choices that need to be made to allow secondary markets under the Clean Power Plan.

Under a carbon trading program, the primary market includes the first events in which a carbon allowance changes hands for a price—usually an auction at which the government sells allowances. Since carbon markets to date have all been mass-based, this fact sheet will refer to the traded unit as an allowance, but a secondary market for rate-based carbon trading programs could operate in the same way, with the traded unit being an emission rate credit (ERC) instead.

The secondary market is comprised of all subsequent transactions and can be much larger in terms of volumes (tons) exchanged. Secondary markets arise to meet compliance entities' needs to manage their position (the number of allowances they hold) and reduce their risk to price changes.

## WHAT IS TRADED IN THE SECONDARY MARKET?

Market participants can exchange allowances directly, or they can exchange contracts that specify the terms of a future transaction. These contracts are referred to as derivatives because their value is *derived* from the underlying asset, in this case an allowance. Derivatives contracts play a key role in hedging price risk and allowing companies to manage their compliance positions. The classic example of derivatives trading is a farmer

seeking financial protection against changes in the price of crops. Derivatives are widely traded in commodities markets.

Derivatives can follow a standardized, simple structure or be made more complex. Carbon markets to date have typically used the simpler derivative instruments also common in other commodities markets. One type is a futures contract in which counterparties agree to trade allowances at a certain price on a certain date in the future (the contract's expiration date). The price is locked in on the date at which the futures contract is traded, but the change in ownership of the actual allowance only occurs after the contract expiration date. Allowance futures may be traded many times before being physically settled, that is before the underlying allowances changes ownership. A forward contract has the same structure as a futures contract, but is not standardized like a futures contract, and is therefore regulated differently.

In both futures and forwards contracts, the allowance exchange *must* take place on the expiration date. In another type of derivative, an option, the exchange *may* take place on the expiration date, but there is no obligation that it does so. The holder of an options contract has the option to either buy (a call option) or sell (a put option) at the price agreed upon in the contract. The contract holder pays a premium for this right.

## WHERE DOES TRADING OCCUR?

Trading can either be exchange-based or over-the-counter. Exchange-based trading occurs on financial exchanges – the New York Stock Exchange is a familiar example. Financial exchanges compete with each other for market share, and carbon trading in the U.S. is currently dominated by the InterContinental Exchange (ICE). Exchanges provide price transparency, standardized contracts, and act as a financial intermediary (clearinghouse) for the trade. Sellers and buyers remain anonymous to each other—the exchange always “takes the other side” of a trade in that they are the buyer for every seller and the seller for every buyer. This reduces counterparty risk—the risk that a buyer or seller will default on their contract due to bankruptcy, fraud, or other circumstance. But this lower risk comes at a price. Exchanges typically require participants to pay dues and hold amounts of cash on hand. Exchange-based trading can be efficient for large market players, but it may not be suitable for all needs. For example, some compliance entities may only need small volumes, so the exchange fees make trading there too expensive.

Trading that does not occur on a financial exchange is said to occur over-the-counter (OTC). This includes trades in which participants are known to each other and trades that are mediated by a third party, and in which counterparties remain anonymous. Over-the-counter trades can occur in large or small volumes, and they may use a standardized contract or a contract specified to the counterparties’ needs. Prices are less transparent in the OTC market, because the contract details can vary widely. OTC prices are not typically made public; however, third parties typically collect and share price data, albeit usually for a fee.

## WHO ARE THE KEY PLAYERS IN THE SECONDARY MARKET?

Market participants can either be compliance entities, non-compliance entities, or service providers. Compliance entities under the Clean Power Plan are those electric generating units that have an obligation to surrender allowances or credits. Non-compliance entities are any others who choose to buy or sell allowances. Several large banks currently participate in carbon markets as non-compliance entities, and smaller trading firms take

on speculative positions as well (i.e. they seek to make a profit through the buying and selling of allowances). In some carbon markets today, there are also individuals and organizations that purchase and voluntarily retire allowances in order to force more reductions from compliance entities. The Clean Power Plan does not restrict non-compliance participation, but it does require that any entity holding allowances or credits be registered in an EPA-approved tracking system. States could elect to restrict the ability of non-compliance entities to hold allowances or credits under their implementation plan.

Service providers do not buy or sell allowances or credits, but rather they facilitate these trades in various ways. Brokers facilitate trades by bringing buyers and sellers together, and they typically promote price transparency by collecting and distributing price data for exchange-traded transactions and the OTC market. Consultants and research firms provide price forecasts and other analytic support. Law firms may specialize in writing carbon contracts. The trade press reports on developments that affect prices or compliance requirements. Each of these services may be provided by carbon market specialists, or by larger firms that also have expertise on carbon markets.

## WHAT POLICY CHOICES AFFECT THE SECONDARY MARKET?

As states design their implementation plans, they face a few policy choices that will influence secondary carbon markets that could arise under the Clean Power Plan. For states choosing a mass-based plan, the choice between auctioning and free allowance allocation can influence market dynamics. Auctioning increases price transparency and also ensures a predictable volume of allowances enter the market—each of these encourages secondary market trading. For states choosing a rate-based plan, the timing of ERC issuance could affect secondary trading by determining how frequently new supply is introduced to the market. For either compliance approach, regulators could consider imposing a restriction on the number of allowances or ERCs an entity could hold (a holding limit), in order to prevent a single entity from gaining too much market power and manipulating prices. (More details about Clean Power Plan market oversight provisions are provided in our fact sheet, *Market Oversight under the Clean Power Plan*.) Secondary carbon markets are

currently regulated by the Commodity Futures Trading Commission (CFTC) to prevent manipulation and fraud.

## CONCLUSION

Secondary markets for carbon have been operating in existing U.S cap-and-trade programs, just as they have for other traded commodities, to allow entities to manage their price risk and compliance positions. This infrastructure and institutional know-how—financial exchanges, brokers, and service providers—can all be quickly adapted to any future carbon market resulting from the Clean Power Plan. This will enable covered units to take advantage of the risk mitigating functions of a robust secondary market. Under the Clean Power Plan, states have authority to implement some market oversight provisions, and additional secondary market oversight is provided by the CFTC. Properly regulated secondary markets enable the trading between companies that drives emission reductions toward the least-cost source.

## Other C2ES Resources:

*Distribution of Allowances under the Clean Power Plan*, February 2016.

*Market Oversight Under the Clean Power Plan*, February 2016.

*Market Mechanisms: Understanding the Options*, April 2015.

*Carbon Market Design & Oversight: A Short Overview*, February 2010.



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