North American Carbon Markets

North America features two tradable carbon markets - the Western Climate Initiative (WCI) and the Regional Greenhouse Gas Initiative (RGGI). WCI is the world's fourth largest carbon market and includes an interconnection between California and Quebec. It aims to decrease greenhouse gas (GHG) emissions 16% by 2020 and 40% by 2030 below 1990 levels. Launched in 2013 and covering multiple industries from utilities to industrial plants to fuel distributors, the WCI market cap-and-trade has grown into a \$6.6 billion market.

RGGI is currently made up of ten northeast states in the US and will add Virginia in 2021. It places a cap on generators of 25MW or higher with a goal to reduce emissions 30% between 2020 and 2030. RGGI, the first US mandatory carbon cap-and-trade system, has developed into a market worth more than \$333 million annually.



Market Overviews

Western Climate Initiative

- California Carbon Allowances (CCAs) are the tradable instruments of the Western Climate Initiative and connect with Quebec's market
- Sectors Covered: industrial, transportation, electricity, commercial and residential, agriculture, waste and high global warming potential gas producers
- Launched in 2012, California's emissions cap declines 3% per year
- Each allowance is a permit to emit 1 metric ton of CO2
- The Compliance Instrument Tracking System Service (CITSS) is the market's registry
- In 2017, the program was extended to 2030
- California has allocated \$11.7 billion from auctions since 2014

Regional Greenhouse Gas Initiative

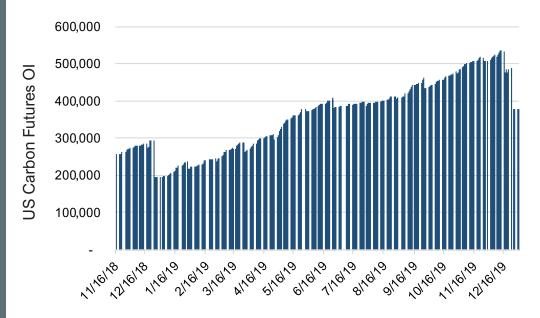
- States: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont, New Jersey
- Launched in 2009, RGGI's emissions cap declines 2.5% per year
- RGGI state emissions have fallen 45% since 2005
- Each allowance is 1 short ton of CO2
- The RGGI CO2 Allowance Tracking System (RGGI COATS) is the market's registry
- In 2017, the program was extended to 2030
- RGGI quarterly auction revenues have totaled \$3.2 billion from 2008 - 2019



A Growing Market

Both CCAs and RGGI futures and options contracts were listed on Nodal Exchange in November 2018 following the partnership between IncubEx and Nodal Exchange.

North American Carbon Open Interest



Market Participants

Western Climate Initiative

- Approximately 700 market participants
- 330 commercial/utilities
- 350+ general market firms, more than three-fold increase since 2014

Regional Greenhouse Gas Initiative

- Approximately 625 market participants
- 220+ compliance entities
- More than 450 general market (non-compliance) accounts

North American Carbon - December 2020 Futures



RGGI Prices in USD