



Voluntary Carbon Markets – *an Overview*

**Commodity Futures Trading Commission Voluntary Carbon Markets Convening
*Carbon Offsets Standards and Quality Initiatives***

Thursday, 02 June 2022

Ecosystem Marketplace - Profile

World's first, largest, and most comprehensive end-to-end transparency platform for over-the-counter and exchange carbon credit sales data on prices, volumes, projects, contract structure, and counterparties.

Quality & Credibility

~20 Years Globally Recognized and Rigorous Carbon Offset Market Reporting, Price Discovery, Trade Transparency Platform

Data Insights News

High Quality Market & Reference Data, Analysis, and Decision-Useful Publications for Project Developers, Investors, Intermediaries, Civil Society, Governments, Companies, Users

Trusted Relationships

Project Developers, Intermediaries and Investors Disclose Sales, Data is Confidential and Aggregated for Analysis and Reports

Ecosystem Marketplace: Global Platform for Carbon Markets

200+

100+

\$1bn+

All

EM
Respondents
disclosing
VCM carbon
sales
2020-22

Countries of
Carbon
Projects
represented
by disclosed
transactions

VCM Value
recorded for
carbon credit
sales in
2021Q1-3

Carbon
Standards,
Co-benefits,
SDGs
covered by
disclosed
transactions

Major Milestones & Direction of Travel

2006

Volume: **\$31.6 MtCO₂e**
 Market Value: **\$111.3M**
 Average Price: **\$4.10**

15 active standards have already emerged to ensure quality.

2007

Volume: **▲ 69.8 MtCO₂e**
 Market Value: **▲ \$359.0M**
 Average Price: **▲ \$6.10**

The first clean cookstove project issues credits.

2008

Volume: **▲ 134.5 MtCO₂e**
 Market Value: **▲ \$790.2M**
 Average Price: **▲ \$7.34**

ICROA launches its Code of Best Practice. CCX sales surge.

2009

Volume: **▼ 107.2 MtCO₂e**
 Market Value: **▼ \$484.5M**
 Average Price: **▼ \$6.46**

The Voluntary Carbon Standard (VCS) certifies 35% of volume.

2010

Volume: **▲ 131.4 MtCO₂e**
 Market Value: **▼ \$444.1M**
 Average Price: **▼ \$6.00**

Natural Climate Solutions begin to ascend as VCS-certified forestry credits top 14.1 MtCO₂e.

2011

Volume: **▼ 100.0 MtCO₂e**
 Market Value: **▲ \$602.3M**
 Average Price: **▲ \$6.20**

More governments begin to consider voluntary standards for their domestic compliance markets.

2012

Volume: **▲ 102.8 MtCO₂e**
 Market Value: **▼ \$529.8M**
 Average Price: **▼ \$5.87**

Buyers increasingly look to generate positive social impact as well as emission reductions.

2013

Volume: **▼ 68.0 MtCO₂e**
 Market Value: **▼ \$338.5M**
 Average Price: **▼ \$4.93**

Companies that previously offset emissions become repeat customers.

2014

Volume: **▲ 76.8 MtCO₂e**
 Market Value: **▼ \$298.5M**
 Average Price: **▼ \$3.80**

Governments begin stepping up with results-based payments to jurisdictions that reduce deforestation.

2015

Volume: **▲ 84.1 MtCO₂e**
 Market Value: **▼ \$278.2M**
 Average Price: **▼ \$3.26**

Wind overtakes REDD+ as the most-transacted project type.

2016

Volume: **▼ 64.5 MtCO₂e**
 Market Value: **▼ \$199.1M**
 Average Price: **▼ 3.10**

Smaller, more community-focused project types dominate the pipeline.

2017

Volume: **▼ 46.2 MtCO₂e**
 Market Value: **▼ \$145.8M**
 Average Price: **▲ 3.16**

Natural Climate Solutions begin to ascend again.

2018

Volume: **▲ 98.4 MtCO₂e**
 Market Value: **▲ \$295.7M**
 Average Price: **▼ 3.01**

Natural Climate Solutions lead to seven-year high in volume.

2019 - Present

Corporate climate pledges e.g., net zero, carbon neutral rally VCM starting in 2019, despite COVID-19 setbacks.

Interest builds for core carbon principles, additional attributes, and dynamics of carbon credit prices in 2019. Taskforce on Scaling Voluntary Carbon Markets launches in 2020. Initiatives to tackle integrity of VCM supply and demand e.g., VCMI, ICVCM, take shape in 2021.

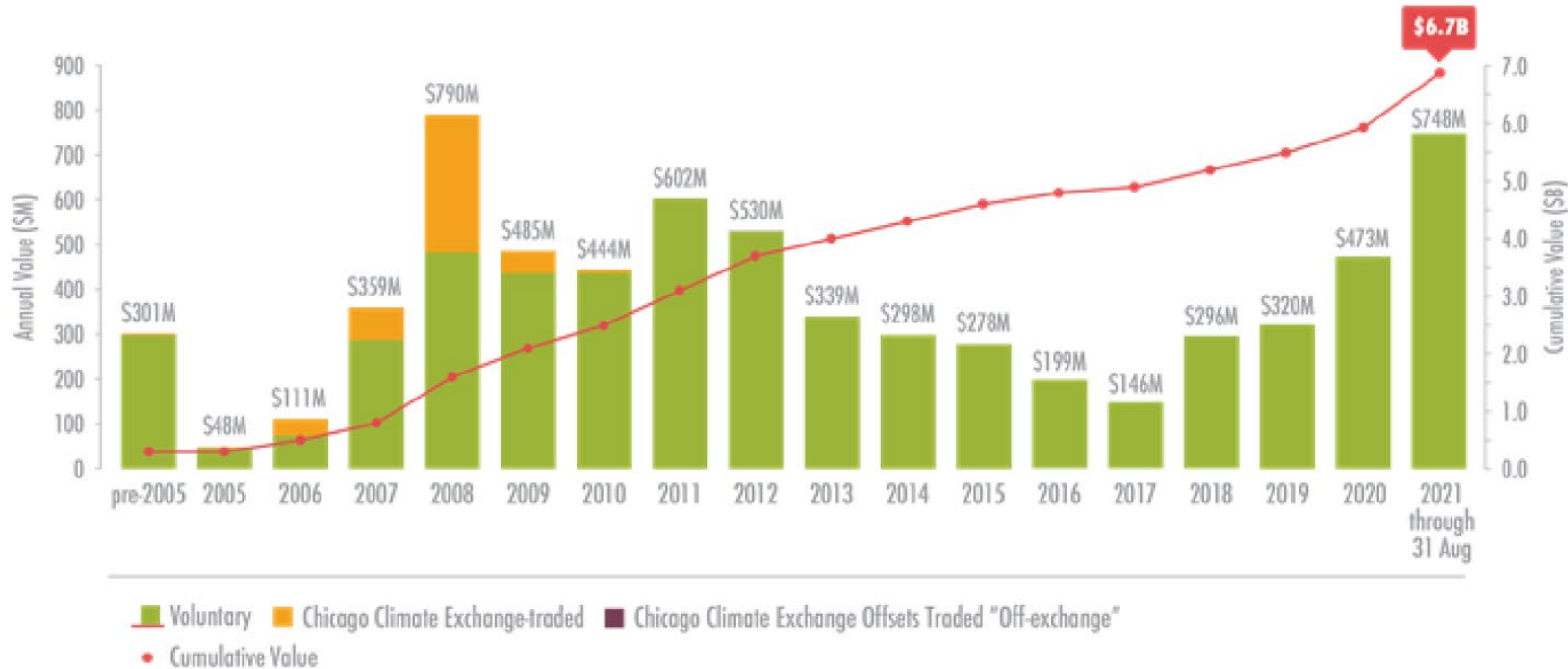
Renewables momentarily takes top spot in 2019, however in 2020 NCS regains leadership position in 2020 and in 2021 continues to pick up momentum in market volume and attracts higher prices.

Private investment surges into carbon market project development and related climate solutions, technologies, companies, and initiatives in 2021 and into 2022.

New supply of credits begins to slow in 2022 while retirements remain consistent with 2021.

Trends in the Voluntary Carbon Market: New Highs in Volume & Value Reached in 2020 and 2021

Figure 1. Market Size by Traded Value of Voluntary Carbon Offsets, pre-2005 to 31 August 2021



2021 Q3 Update: +\$1 Bn
Driven by NCS (61%)
* Projects w/ Co-benefits =
~2.5X price

2021 Q4 & CY Update
Coming soon

Source: Ecosystem Marketplace, a Forest Trends Initiative. *State of the Voluntary Carbon Markets 2021 Report*

Note: Market value is volume weighted based on market data reported by EM Respondents for 2020 and 2021 up until August 31. Throughout the remainder of 2021 and beyond, as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).



Voluntary Market Sales of Carbon Credits: 2021 YTD Split 50/50

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

NATURAL

	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
AGRICULTURE	-	-	-	0.3	-	\$9.23	\$2.8M	3.4	876.8%	\$1.36	\$4.6M

TECHNOLOGICAL

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 SWITCHING	3.1	\$3.87	\$11.9M	31.4	921.0%	\$1.03	\$32.3M	16.1	-48.9%	\$1.57	\$24.2M
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

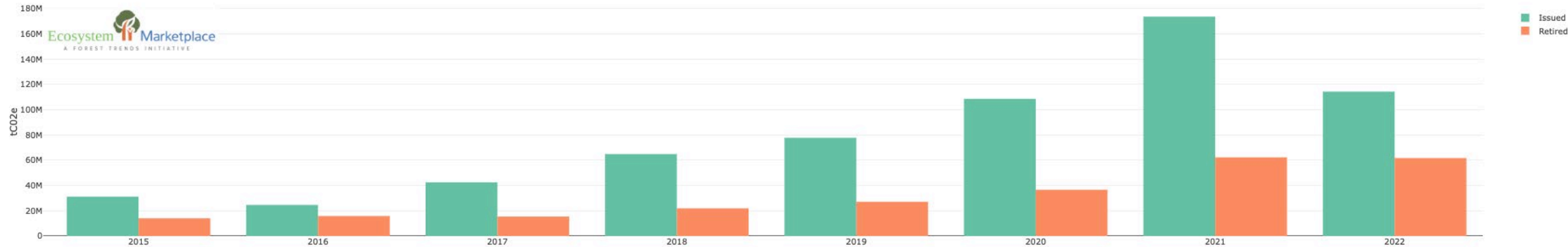
Source: Ecosystem Marketplace, a Forest Trends Initiative. State of the Voluntary Carbon Markets 2021 Report

Note: Volumes are calculated from EM Respondents that reported trade data as of 31 August 2021. Respondents did not always respond to all survey questions; differences in the totals (for example, between the total annual volume and the sum of project category volumes) can be attributed to this. Throughout the remainder of 2021 and beyond as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).

Carbon Credits Issued and Retired by Standards

Select Time Period

Year to Date



Carbon Credit Issuances & Retirements (Independent & Compliance Standards) by Year, 2004 to date. Credit issuances and retirements reported by the American Carbon Registry (ACR), ART TREES, the Climate Action Reserve (CAR), California Air Resources Board (CARB), CDM (for credits issued after 2016), City Forest Credits, Climate Forward, Coalition for Rainforest Nations, EcoRegistry, Global Carbon Council, Gold Standard, Plan Vivo, ProClima, and Verified Carbon Standard (VCS).

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RADICLE





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