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State of the Voluntary Carbon Markets 2011

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Ecosystem Marketplace is financially supported by organizations such as the Norwegian Agency for Development Cooperation, the John D. and Catherine T. MacArthur Foundation, the Skoll Foundation, UNDP, the Global Environment Facility, the David and Lucile Packard Foundation, and the Gordon and Betty Moore Foundation.

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Back to the Future

State of the Voluntary Carbon Markets 2011

A Report by Ecosystem Marketplace & Bloomberg New Energy Finance

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June 2, 2011

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Acknowledgments:

This report is a compilation of the insights of a wide range of individuals across several continents. It would not be possible without the more than 280 individuals who shared valuable information about their organizations. This report is publicly available due to support from our premium sponsor Carbon Trade Exchange; and sponsors ClimateCare, Climate Friendly, Det Norske Veritas (DNV) and Emergent Ventures International (EVI).

The creation of this report has also required insights, time, and support from dozens of people. They include David Antonioli, Evan Ard, Kathy Benini, Eron Bloomgarden, Sean Carney, Sarah Chapman, Chongying Chen, Ben Dappen, David Diaz, Greger Flodin, Gary Gero, Mary Grady, Sophy Greenhalgh, Katherine Graham, Lucy Goodman, Edward Hanrahan, Lenny Hochschild, Lisa Hodes-Rosen, Makoto Kato, Alex Kossoy, Timothee Lazaroo, Grattan MacGiffin, Stephen McComb, Brookly McLaughlin, Pieter van Midwoud, Robert Parkhurst, Adam Raphaely, Adrian Rimmer, Mike Robinson, Richard Saines, Rishi Seth, Jerry Seager, Freddy Sharpe, Wayne Sharpe, Joanna Silver, Michael Streck, Tim Stumhofer, Anne Thiel, Andrea Welsh, and Zubair Zakir.

A special thank you also to Michael Jenkins for his guidance as well as Maud Warner and the staff at Forest Trends Ecosystem Marketplace and Bloomberg New Energy Finance.

Cover:

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Executive Summary

For five years, Forest Trends' Ecosystem Marketplace and Bloomberg New Energy Finance have published the *State of the Voluntary Carbon Markets Report*s to shed light on trading volumes, credit prices, project types, locations, and the motivations of buyers in this market. Every year's marketplace seems more complex than the one before, as actors continually refine their programs, businesses, and investments in search of a more perfect future – for their projects and the planet.

In 2010, suppliers that weathered the previous year's storm of political and economic uncertainty transacted the largest market-wide volumes (131 $MtCO_2e$) ever tracked in this report series.[1] Success was built on a refined understanding of what turns the markets on or off.

Voluntary buyers continued their offsetting commitments – or made new ones – after reclaiming their CSR (Corporate Social Responsibility) dollars from the recession. Many new buyers took the "tried-and-true" approach to investments in project types like renewable energy and with a focus on sustainable development. For other offset backers the future was in the forests. The lungs of the earth breathed life into the voluntary market in 2010 when project developers were given new tools to unlock forestry's potential as a large-scale climate solution. The Global South took some ownership of these trends as governments, foundations, and buyers built local markets to foster domestic development and trades.

The year of 2010 was a bumpy ride for suppliers in the US, where the federal government's inability to reach a climate solution hastened the closure of the Chicago Climate Exchange (CCX) as well as several state-side trading desks. It also turned up the heat on regional markets like the emerging compliance programs in California and the Western Climate Initiative. Both of these impending markets stood as beacons for those suppliers generating pre-compliance credits.

Embracing the mantra of "what doesn't kill us makes us stronger," the market infrastructure turned recent years' political and economic unknowns to their advantage. Seeing that corporate and citizen consumers were willing and able to carry the climate action torch, standards began to trial approaches to scale up their "most wanted" locally-based projects. Registries built new partnerships, alliances, and even sub-national registries in an effort to share both the risks and rewards of shifting market dynamics. In these and many other ways, suppliers of market infrastructure and carbon credits looked back on recent lessons learned to plot a future market that they hope remains resilient to change.

Voluntary Market Transacts Record Volumes, Steady Value

In 2010, suppliers reported a total volume of 131.2 $MtCO_2e$ transacted in the global voluntary carbon markets. Compared to the 98 $MtCO_2e$ transacted in 2009, volumes grew by 34% to exceed historic "over-the-counter" (OTC) and overall transaction volumes as tracked in our previous reports.

As the global financial crisis gave way to recovery, voluntary buyers recommitted their discretionary income to offsetting emissions. At the same time, vastly different political circumstances in the US spelled the end of the CCX and shifted the majority of transactions to the OTC market.

The OTC market last year transacted 127.9 $MtCO_2e$, or 97% of global market share. Transactions collapsed on the CCX, which, due to the US Senate's failure to secure a climate bill, ceased trading at the end of 2010. A single bilateral OTC transaction of CCX Carbon Finance Units (CFIs) totaling 59 $MtCO_2e$ substituted for collapsed exchange activity but will not likely be repeated. Even excluding this statistical outlier, OTC volumes were higher than in any previous year (68.7

[1] Findings are based on data voluntarily reported by 285 offset suppliers as well as exchanges and registries. Because of the challenges of inventorying and obtaining data from this disaggregated marketplace, numbers presented should be considered conservative.

$MtCO_2e$).[2] Volumes remained steady – though still comparably small – from platforms and exchanges outside of the CCX, like the CCFE, and relative newcomers Carbon Trade Exchange (CTX) and China Beijing Environmental Exchange (CBEEX).

Table 1: Voluntary Carbon Markets Volumes and Value Overview, 2010[3]

Market	2009 Volume ($MtCO_2e$)	2009 Avg. Price (US$)	2009 Value (US$ million)	2010 Volume ($MtCO_2e$)	2010 Avg. Price (US$)	2010 Value (US$ million)
Voluntary market total	**98**		**415**	**131**		**424**[4]
Of which OTC	55	6.5	354	128	6	414
Of which CCX	41	1.2	50	2	0.1	0.2
Of which other exchanges	2	6.2	12	2	6	10

In 2010, the volume-weighted average price of credits transacted on the voluntary OTC market fell slightly to \$6/tCO_2e from \$6.5/tCO_2e in 2009, due to a handful of large, low-priced trades – among other reasons. Using the volumes and prices in Table 1, we estimate the value of the voluntary carbon markets to be at least \$424 million in 2010, which means it remained stable compared to 2009 as the voluntary carbon market derived most of its value from similarly priced OTC transactions in both years.

Land-Based Credits Sequester 46% of OTC Market Share

In 2010, land-based projects supplied the largest volume (28 $MtCO_2e$) of credits transacted in the OTC market where conservation efforts and international politics directed attention to projects that reduce emissions from deforestation and forest degradation (REDD). REDD projects alone generated 29% of credits transacted in the voluntary OTC market.

Pre-compliance buyers again lined up for landfill methane credits in early 2010, transacting the second-largest volumes in the 2010 market. When hopes of a US climate bill were dashed mid-year, these buyers refocused their attention to credit types that California's Air Resources Board (ARB) recognized as "compliance-grade" and therefore eligible for use in its emerging market. These credit types included credits from projects that destroy ozone-depleting substances (ODS), which captured 5% of transacted volumes in their first year on the market.

Renewable energy projects tied with methane activities in overall market share (20%). Wind projects were responsible for over half (53% or 6.7 $MtCO_2e$) of last year's renewable volumes, while others looked to charismatic hydropower and

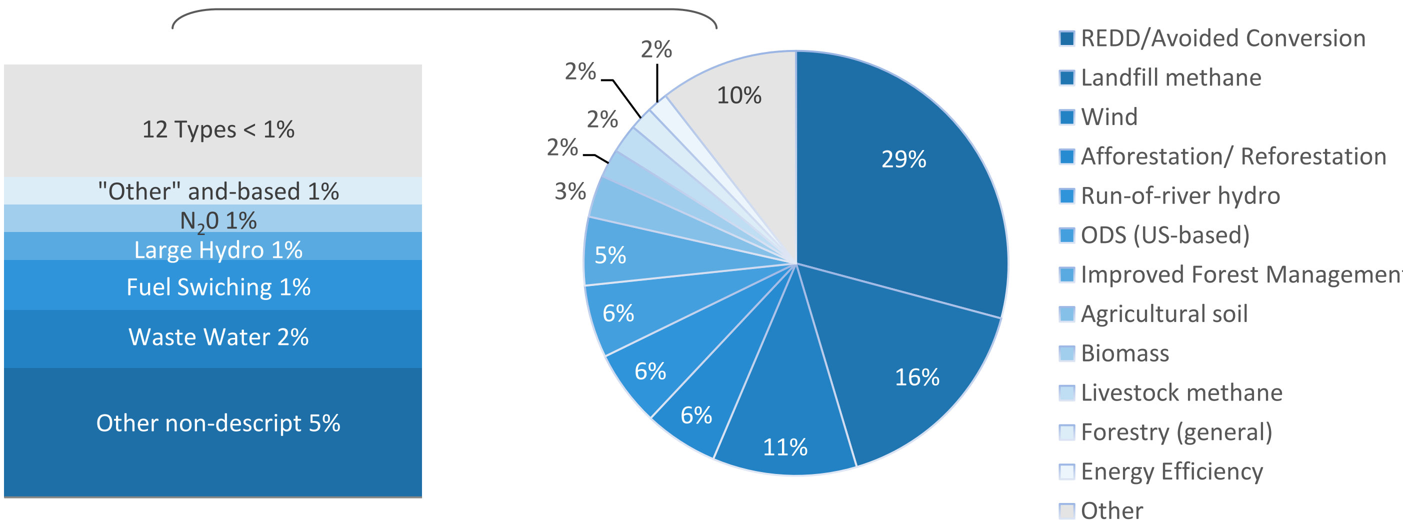
[2] This outlier is excluded from all other analysis in this report. Priced at \$0.017/tCO_2e, the transaction contributed only approximately US\$1 million to overall market value and is not accounted for in the global volume-weighted average price. All other analysis is based on reported transactions that contributed the remaining 69 $MtCo_2e$, weighted by the volume associated with each response.

[3] All numbers are based completely on reported transaction volumes unless otherwise specified, and our methodology does not include extrapolation. Because we gain new survey participants each year, we are able to supplement historically tracked transaction figures with new data. Hence, our volume figures for all years have increased slightly with this year's figures.

[4] US\$1 million in CCX outlier plus US\$413 million other OTC transaction value.

biomass projects for their CSR investments. Buyers also rallied around local initiatives like bicycle sharing and household energy efficiency as well as other emerging project types including geothermal and N_2O emissions reductions.

Figure 1: Transaction Volume by Project Type, OTC 2010



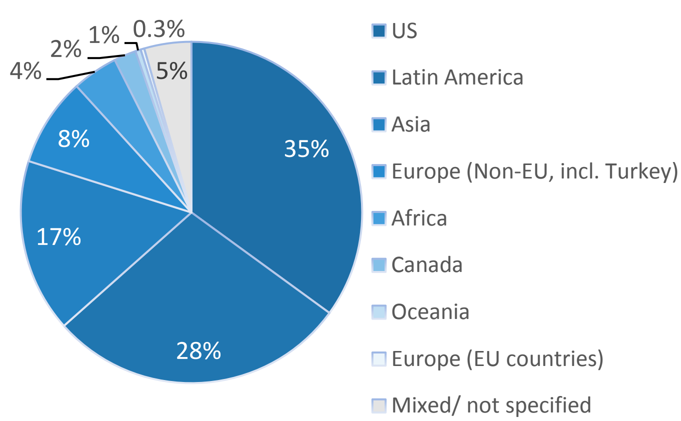
Source: Ecosystem Marketplace, Bloomberg New Energy Finance.

The Americas Dominate Project Origination Locations

In 2010, the OTC market added six new countries to its roster of project locations, extending voluntary carbon finance to a total of 45 countries. North America maintained its top spot among project locations to originate 35% of transacted OTC volume – 94% of which was generated in the US.

Over half of credits transacted over-the-counter for which suppliers reported a project location were sourced from developing economies (58%) – 5% from least developed countries (LDCs) – where forestry dominated the expanding portfolios of project types. In Latin America, transaction volumes more than doubled from the rich forest reserves of countries like Brazil and Peru – which combined gave the US a run for its money as top project location.

Figure 2: Transaction Volume by Project Location, OTC 2010



Source: Ecosystem Marketplace, Bloomberg New Energy Finance.

Many Asian projects, supplying 17% of transacted credits, saw renewed demand from their traditional European buyers in 2010. In fact, Indian projects alone transacted around the same volumes as all Asian projects combined in the previous year – mostly from run-of-river hydropower. Asia's credit supply was still heavily influenced by the Clean Development Mechanism (CDM), although China is fast creating its own voluntary market hub as the government proliferates pilot programs and regional exchanges to address sustainable low-carbon development.

Cutting the data in a different way – exploring transaction volume by *supplier headquarters* instead of *project location* – shows that not only project finance but also revenues were more evenly disbursed across regions in 2010. Companies headquartered in North America and the EU again supplied the majority of credits transacted over-the-counter in 2010. Those based in developing countries, however, saw the most significant growth last year as the number of respondents headquartered in Asia, Latin America, and Africa doubled from 2009 in response to domestic market signals and demand for forestry.

REDD Stacked the Odds in Favor of VCS and CCB Standards

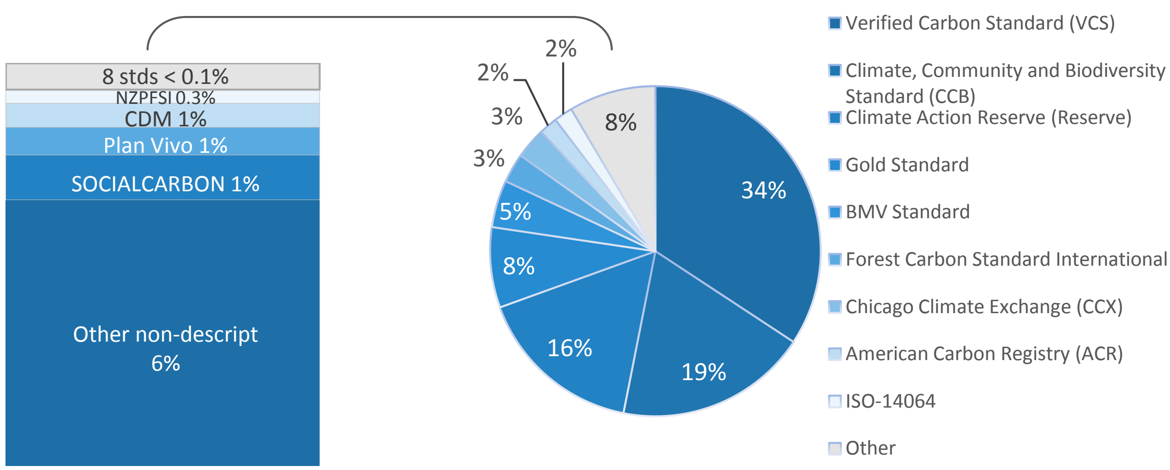
The Verified Carbon Standard (VCS) retained its top billing among third-party standards in 2010 with 34% of transaction volumes. This is largely attributable to its recent progress on REDD methodologies that gave the green light to investment in large-scale forest conservation efforts. VCS forestry credits alone (14.1 MtCO_2e) transacted almost enough volume to top the charts.

Close behind and in tandem with VCS market growth, the second-largest volume[5] of credits transacted in 2010 (15.5 MtCO_2e) came from projects validated by Climate, Community and Biodiversity (CCB) Standards. The CCB Standards do not quantify carbon reductions, so they are often "stacked" with a carbon standard – primarily VCS – to certify projects' additional social and environmental contributions.

Projects using the Climate Action Reserve protocols transacted the third-largest volumes (13.4 MtCO_2e) in the voluntary market. After last year's upset to US federal climate legislation – a strong driver of demand for Reserve landfill methane credits in 2009 – buyers turned their attention to California-compliant Reserve protocols for ODS destruction, US forestry, and livestock methane. At the other end of the buyer motivation spectrum, purely voluntary buyers transacted record volumes (6.5 MtCO_2e) from Gold Standard projects that in 2010 focused on scaling up community-based sustainable development.

Figure 3: Third-Party Standard Utilization by Primary and Secondary Standard, OTC 2010[3]

% of Market Share



Source: Ecosystem Marketplace, Bloomberg New Energy Finance.
Note: Based on 676 observations.

The voluntary market branched out last year to include two new forestry standards – the Brasil Mata Viva (BMV) Standard and the Forest Carbon Standard International. These combined with the markets' existing specialty standards like CarbonFix

[5] Any VCS+CCB or VCS+SOCIALCARBON credits count toward both standards' transaction volumes to illustrate market share. Because suppliers could report up to two standards per transaction, the total volume of credits using third-party standards exceeds total OTC market volumes.

and Plan Vivo to support specialized or place-based forestry applications. Public sector standards met with mixed success as the US and Australian governments shed their respective Climate Leaders and Greenhouse Friendly programs, but the market saw voluntary transactions of credits from programs like the New Zealand Ministry of Agriculture's Permanent Forest Sink Initiative (PFSI) and the Alberta Government's greenhouse gas reduction program.

To inspire consumer confidence in carbon offset quality, an ever-growing number of suppliers and standards turned to registries for clarity of ownership and transparency. In 2010, suppliers reported that 63% of transacted credits were or will be registry-issued – up from roughly half of credits transacted in 2009. Registries weathered a storm of acquisitions and market positioning in order to compete for the attention of emerging marketplaces and regulatory frameworks – even other environmental markets – where voluntary carbon projects might play a future role.

As the top-grossing registry, Markit Environmental Registry users reported transacting 21.6 $MtCO_2e$ issued by Markit, up from 2 $MtCO_2e$ in 2009. This is partly the result of Markit's engagement with regional marketplaces and the sheer number of standards tracked by its system. Markit is also one of three registries in the VCS Registry System that includes the NYSE Blue and CDC VCS Registry. All three VCS registries saw growth tied to the standard's popularity in 2010. Credits listed on the NYSE Blue (formerly APX) VCS registry transacted the second-largest volumes among registries, followed by NYSE Blue-powered registries for Gold Standard and the Reserve credits. Together, they captured another 36% of market share.

A few registries saw setbacks in 2010 in line with lower transaction volumes from their respective standards, while place-based registries saw small but growing volumes – including Japan's Verified Emission Reduction (J-VER) registry and the Canadian Standards Association (CSA) GHG Registry.

Voluntary Carbon Market Participants "Cautiously Optimistic" about 2011 and beyond

In 2010, many voluntary buyers returned to the voluntary carbon markets to make new commitments to reduce and offset their emissions – and they brought reinforcements. Suppliers are cautiously optimistic that this demand will remain strong as the economy recovers and the market continues to mature in its effort to synthesize buyer motivations and market scale.

When we asked suppliers to estimate overall market performance in 2010 and beyond, they forecasted substantial growth for 2011, expecting that they and their peers will transact 213 $MtCO_2e$ over the next year. To achieve this, suppliers would need to transact 82 $MtCO_2e$ more than in 2010. In comparison, suppliers were overly cautious in their estimate of the size of the 2010 market – underselling its performance by a full 47 $MtCO_2e$ less than was actually tracked.

Through year 2015, suppliers' predicted a market size of 406 $MtCO_2e$, which vastly exceeds the volume of credits suppliers reported in their project pipelines through 2015 and suggests that their actual mid-term plans are far more conservative than future projections. Beyond 2015 – and especially after 2017 – 2010 respondents' predictions surpassed past years' projections. Suppliers who offered the most optimistic projections described a network of compliance-based or "semi-compliant" regional markets that "draw on the rapidly maturing voluntary carbon markets."

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