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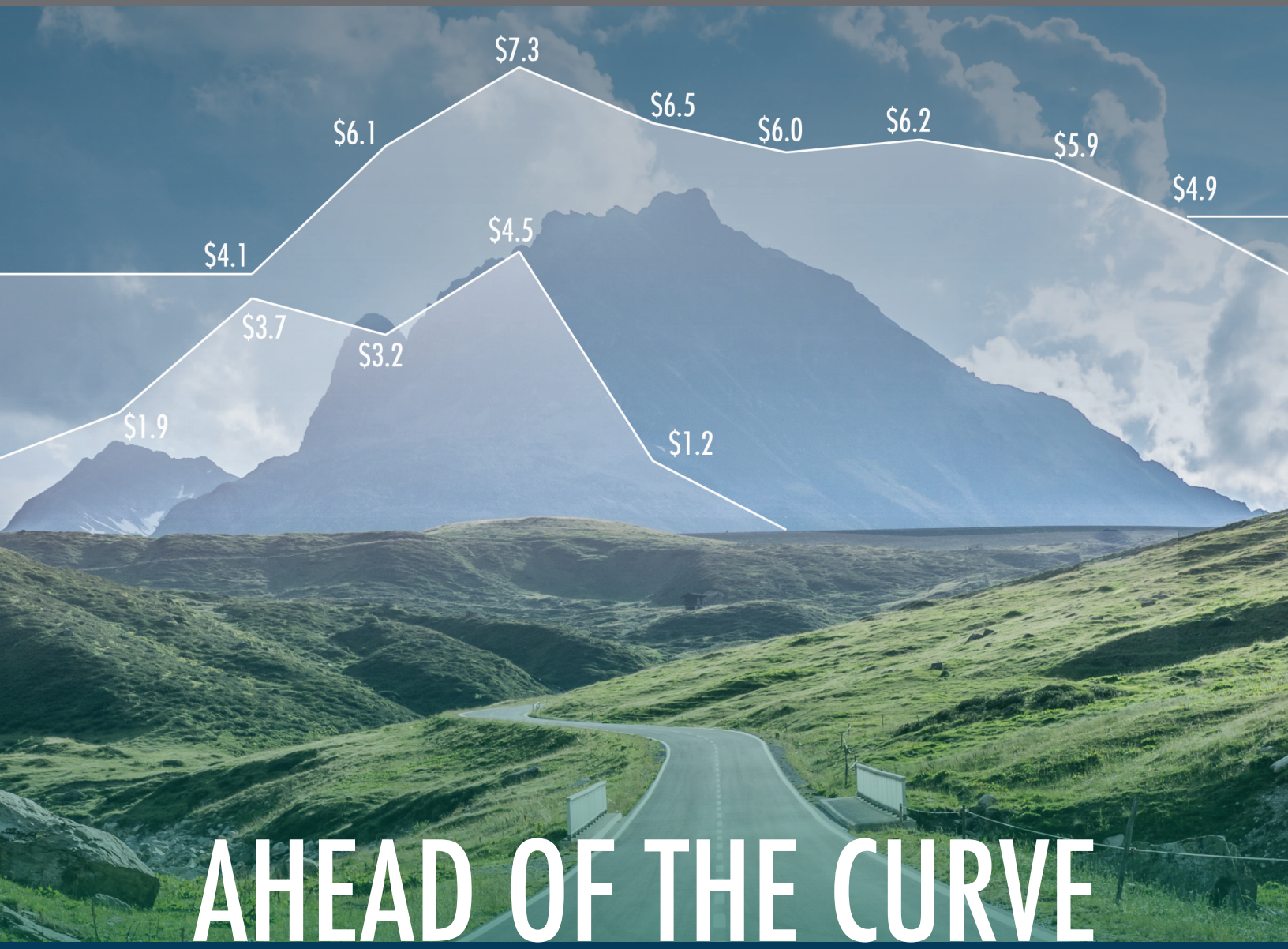

AHEAD OF THE CURVE

State of the Voluntary Carbon Markets 2015

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About Forest Trends Ecosystem Marketplace

Ecosystem Marketplace, an initiative of the non-profit organization Forest Trends, is a leading source of information on environmental markets and payments for ecosystem services. Our publicly available information sources include annual reports, quantitative market tracking, original articles, daily news feeds, and news briefs designed for different payments for ecosystem services stakeholders. We believe that by providing solid and trustworthy information on prices, regulation, science, and other market-relevant issues, we can help payments for ecosystem services and incentives for reducing pollution become a fundamental part of our economic and environmental systems, helping make the priceless valuable.

Ecosystem Marketplace is financially supported by organizations such as the Swiss Agency for Development and Cooperation, the Climate and Land Use Alliance, John D. and Catherine T. MacArthur Foundation, and the World Bank Program on Forests (PROFOR).

Forest Trends is a Washington, DC-based international non-profit organization whose mission is to maintain, restore, and enhance forests and connected natural ecosystems, which provide life-sustaining processes, by promoting incentives stemming from a broad range of ecosystem services and products. Specifically, Forest Trends seeks to catalyze the development of integrated carbon, water, and biodiversity incentives that deliver real conservation outcomes and benefits to local communities and other stewards of our natural resources.

Forest Trends analyzes strategic market and policy issues, catalyzes connections between producers, communities, and investors, and develops new financial tools to help markets work for conservation and people.

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Special Thanks to Our Supporter:

Letter from the Editors

Fighting climate change requires transitioning our global energy diet to run on wind, solar, and other renewable sources, and better leveraging energy already in use. It's about growing food for a global population of soon-to-be nine billion people and making urban population centers more efficient and less polluting. It's about conserving and enhancing the world's remaining carbon sinks, including biodiverse forests and grasslands.

It's also about simple math. The Intergovernmental Panel on Climate Change estimates that 469 billion tonnes of greenhouse gas emissions remain in the global "carbon budget" - i.e., what can still be emitted while maintaining global temperatures at a level scientists have deemed safe for humanity. In 2014, the world emitted 32.3 billion tonnes, setting a course to exhaust this budget by 2030.

Governments and businesses have historically "externalized" these greenhouse gas emissions, thus the social and ecological costs of climate change are not adequately accounted for in traditional economics. Through the creation and trade of carbon offsets, carbon markets offer a way to "internalize" the value of reducing, avoiding, or sequestering one tonne of carbon dioxide equivalent (tCO_2e). The last decade has spawned several such nascent markets that are setting the curve for the carbon regulations of tomorrow.

And voluntary markets for carbon offsetting enable companies to get ahead of that curve, gaining an advantage by piloting new ways to reduce and price carbon. Historically, voluntary actors have hoped that these actions would demonstrate to regulators their willingness to act and support for particular approaches. Success cases include the US State of California's and South Africa's adaptation of some once-voluntary mechanisms for regulatory use.

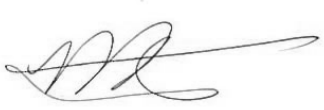
Pro-offset policies' failure to launch or persist has driven some companies to voluntarily impose an internal "carbon tax" on their operations to prepare for a future carbon cost, fund efficiency upgrades, and buy offsets. In other cases, policy failures have spelled the end for project activities in affected regions.

This report tells the story of voluntary offset demand in 2014, while leveraging this report series' decade of market data to retrospectively assess the markets' development, setbacks and "wins" – with particular emphasis on the clearly inextricable link between voluntary and regulation-driven market dynamics.

What emerges is a picture of a market that supports hundreds of projects globally, from capturing methane from landfills in the United States to replanting forests in India to distributing cleaner-burning cookstoves in Guatemala. Many of these projects provide additional benefits such as job creation, biodiversity conservation, watershed protection, and climate change adaptation – and target benefits to vulnerable groups, including indigenous peoples. Importantly, the market also exhibits consensus around the best frameworks for assessing these impacts, incubating project standards that enable offset buyers to truly "pay for performance."

Forest Trends' Ecosystem Marketplace hopes that policy makers, investors, offset buyers, and their suppliers will internalize the lessons embedded in this report. We are, as always, grateful to the hundreds of practitioners that disclosed 2014 market data, and the dozens of individuals that contributed their expert review to this research process.

Michael Jenkins
Founding President and CEO
Forest Trends



Molly Peters-Stanley
Director
Ecosystem Marketplace

Executive Summary: A Decade of Voluntary Carbon Offsetting – 1 Billion Tonnes and Growing

In Paris in late 2015, nearly 200 countries hope to solidify their multilateral contributions to curb climate change through the through the UN Framework Convention for Climate Change (UNFCCC). But as climate change becomes less an "inconvenient truth" and more a matter of survival, companies, governments, and citizens are investing in solutions outside (and often ahead) of the United Nations (UN) frameworks. In the last decade, these actors voluntarily spent just under $4.5 billion (B)[1] to offset their greenhouse gas (GHG) emissions by supporting projects that halt deforestation, install renewable energy, promote energy efficiency, distribute cleaner-burning cookstoves, and more.

In 2014, voluntary demand for carbon offsets grew 14% to 87 million tonnes of carbon dioxide equivalent ($MtCO_2e$) transacted. Though this volume represents only a fraction of 1% of total global emissions in 2014, it is almost one-tenth of all offset demand tracked in this report series, totaling 0.93 billion tonnes of carbon dioxide equivalent ($BtCO_2e$)[2] over time.

This demand and resulting finance enables offset project developers to innovate ways to reduce emissions and verify their results in unregulated sectors. At the same time, private companies – the most common type of offset seeker – leverage offsetting to extend the reach of internal GHG strategies and gain experience with market-based tools in anticipation of carbon regulations.

Governments, too, draw extensively on voluntary project methodologies and market frameworks to support emerging carbon pricing regimes – notably for California's "cap-and-trade" carbon market and South Africa's upcoming "tax-and-trade" carbon pricing. Here, the voluntary market is a fertile testing ground for the concept of "payments for performance" because private buyers typically only pay if emissions reductions are verified to a pre-determined standard. This demand for real, verifiable results is increasingly mirrored in bilateral government-to-government climate finance as public agencies seek ways to demonstrate tangible climate contributions ahead of the UN climate negotiations in Paris.

A few countries have received the most voluntary carbon finance over the years. The United States (US), which never ratified the Kyoto Protocol, is a historically insular market in which domestic buyers purchase the bulk of offsets from US-based projects, cumulatively transacting the largest volume, $656 million (M), of any at the highest prices of any single country. Globally, other popular offset supply countries include Brazil ($233 M), Turkey ($207 M), India ($205 M), Kenya ($154 M), and China ($153 M). While US buyers transact international offsets to a limited extent, European buyers have traditionally transacted the majority of these assets.

Table 1: Market Size and Average Price Comparison, 2013 and 2014

	2014	2013	% CHANGE	ALL YEARS*
VOLUME:	87 $MtCO_2e$	76 $MtCO_2e$	+14%	0.93 $BtCO_2e$
VALUE:	$395 M	$379 M	+4%	$4.4 B
AVERAGE PRICE**:	$3.8 / tCO_2e	$4.9 / tCO_2e	-22%	$5.8 / tCO_2e

* Ecosystem Marketplace's first *State of Voluntary Carbon Markets* report was published in 2007, but our data collection encompasses years prior to that date.

** All prices (and market values) are volume-weighted to determine their significance. Furthermore, this volume-weighted average price excludes the REDD Early Movers (REM) agreement (which used a $5/tonne proxy). The average price including REM is $4.0/$tCO_2e$.

[1] All prices and market values are reported in US dollars (US$).

[2] Billion tonnes is a layman term for gigatonnes ($GtCO_2e$), more commonly found in scientific literature.

The Voluntary Carbon Markets over Time: Key Findings

- Across all years of market activity tracked in this report series, voluntary buyers have spent just under $4.5 B on nearly 1 $BtCO_2e$ offsets,
- Voluntary carbon offset demand finances innovation in overregulated sectors - particularly forestry and land use. Methodologies for developing projects such as those that avoid deforestation, distribute clean cookstoves, and grow rice with a smaller carbon footprint were tested and honed by voluntary actors.
- Voluntary markets have also been "ahead of the curve" in accounting for carbon "leakage" outside of a project area, safeguarding community rights and biodiversity, and "nesting" projects within regional efforts to scale up forest conservation. Compliance carbon markets in Australia, California, and South Africa draw heavily on voluntary methodologies.
- Voluntary offset prices – which have historically averaged $5.8/tonne of carbon dioxide equivalent (tCO_2e) – have remained relatively resilient compared to the prices of international compliance offset instruments traded in the European Emissions Trading System. However, voluntary prices have dropped every year since 2011 amid weak policy signals and ever-fewer new corporate offsetting programs.
- Over time, countries home to the most voluntary offset supply locations are the United States (136 $MtCO_2e$ worth $656 M), Brazil (39.5 $MtCO_2e$ worth $233 M), and Turkey (31.7 $MtCO_2e$ worth $207 M) – none of which have implemented national carbon pricing regimes.
- Another 18.1 $MtCO_2e$ worth $112 M was attributed to demand for offsets from projects based in least developed countries, including Cambodia (4.3 $MtCO_2e$ worth $40 M), the Democratic Republic of Congo (4.6 $MtCO_2e$ worth $20.8 M), and Uganda (2.5 $MtCO_2e$ worth $17 M).
- The cumulative volume of offsets issued across the four major voluntary standards – the Verified Carbon Standard (VCS), The Gold Standard (GS), American Carbon Registry (ACR), and the Climate Action Reserve (CAR) – has reached 301 $MtCO_2e$ over the last decade, with 119 $MtCO_2e$ retired.
- Policy developments – for better or worse – are the single greatest determinant of future market performance (see the *Policy-Makers Will Make or Break Future Voluntary Offset Demand* section for more details on historical market trends and future projections).

The Voluntary Carbon Market in 2014: Key Findings

- In 2014, the value of voluntary offset demand increased 4% to $395 M as offset suppliers transacted 87 $MtCO_2e$ of carbon offsets – up 13.6% from 76 $MtCO_2e$ in 2013.
- The market-wide average price of voluntary carbon offsets reached a new low of $3.8/$tCO_2e$.
- Offsets from forestry and land-use projects accounted for more than half of all volume transacted in 2014, led by avoided deforestation at 25 $MtCO_2e$ transacted. Renewable energy projects were also popular, with demand for wind offsets reaching 13.7 $MtCO_2e$.
- Offsets from household device distribution (e.g., cookstoves and water filtration) retained the highest average price by project category at $6.4/$tCO_2e$. Buyers paid more for particular project types – such as cookstoves, water filtration, and avoided unplanned deforestation – with co-benefits, and VCS offsets labeled with the Climate, Community, and Biodiversity Standards (CCB) certification sold for an average of $2.7 more per tonne.
- The value of offsets transacted from Latin America-based projects reached $58 M last year, with an additional $50 M committed to reducing deforestation in Ecuador through the REDD Early Movers program (see Box 2). Another $33 M went to voluntary carbon projects in North America that complemented emerging compliance markets in Alberta, British Columbia, and California.

BOX 1: Voluntary Carbon Offset Markets 101

Voluntary demand for carbon offsets is driven by companies and individuals that take responsibility for neutralizing their emissions above and beyond – or in the absence of – existing regulations.

How does the voluntary carbon market ensure real, lasting emissions reductions?

Although not required by law, the vast majority of voluntary carbon projects now use third-party verified standards to guide project development and to ensure that emissions reductions are real and "additional" – meaning they would not have been achieved without carbon finance. To accomplish this, most standards require projects to go through a series of steps to assess the feasibility and risks (called a Project Idea Note) and later to outline project activities and establish a baseline level of emissions (in a Project Design Document). A third-party auditor then "validates" these assumptions, and, after project implementation and monitoring, another audit process called "verification" assesses the delivery of greenhouse gas mitigation. Offset project registries then issue each tonne of emissions reduction (now an eligible offset) a unique serial number that can then be transacted multiple times before an owner "retires" it on a registry, where it can no longer be sold.

What does this report track?

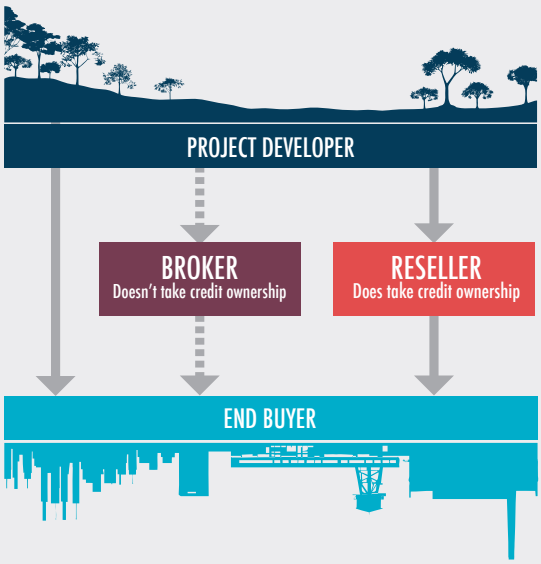
Ecosystem Marketplace tracks offset "transactions" – which are defined in this report as the point of contract between the buyer and the seller and may occur at any stage of the project development process, from before its carbon reduction impacts are verified (i.e., "investment" stage) to after it generates verified offsets. This is important because voluntary offsetting remains largely unregulated and specific information about transacted volumes and prices is scarce outside of Ecosystem Marketplace's annual report series, despite increased transparency through the development of market infrastructure such as standards and registries.

Carbon dating: How do buyers and sellers meet?

For organizations wishing to offset but without the in-house expertise necessary to navigate this complex marketplace, retailers or brokers can serve as "matchmaker" between buyer needs and the seller's portfolio of available or accessible offsets. Meanwhile, market-savvy buyers or marketing-savvy project developers can chose to transact directly with each other. In some cases, organizations with a clear interest in particular project types or locations may finance offset projects from conception or during the start-up phase before offsets are actually generated. Another, less common, approach involves organizations issuing a request for offsets that meet specific criteria.

What is the voluntary market's environmental impact?

Offset transactions, issuances, and retirements are all important metrics for market size – but none of them is an exact indicator of environmental impact. Transactions are a measure of the health of the market (indicating new demand for offsets year-on-year), but a single offset may be traded more than once. Issuances are a measure of emissions reductions that have been verified as occurring, but that number may not capture all of the emissions reductions that resulted from the carbon finance – especially since many projects only issue offsets when they have a willing buyer. Retirements are a measure of the offsets that can no longer be traded and are therefore permanently "removed" from the atmosphere, but some end-users choose not to retire their offsets (even if they do not plan to resell them) – and retirement can occur years after an actual transaction. In this sense, tracking the exact environmental impact of the voluntary carbon market year-on-year is elusive, but undoubtedly exceeds the volume of offsets that have been transacted historically.

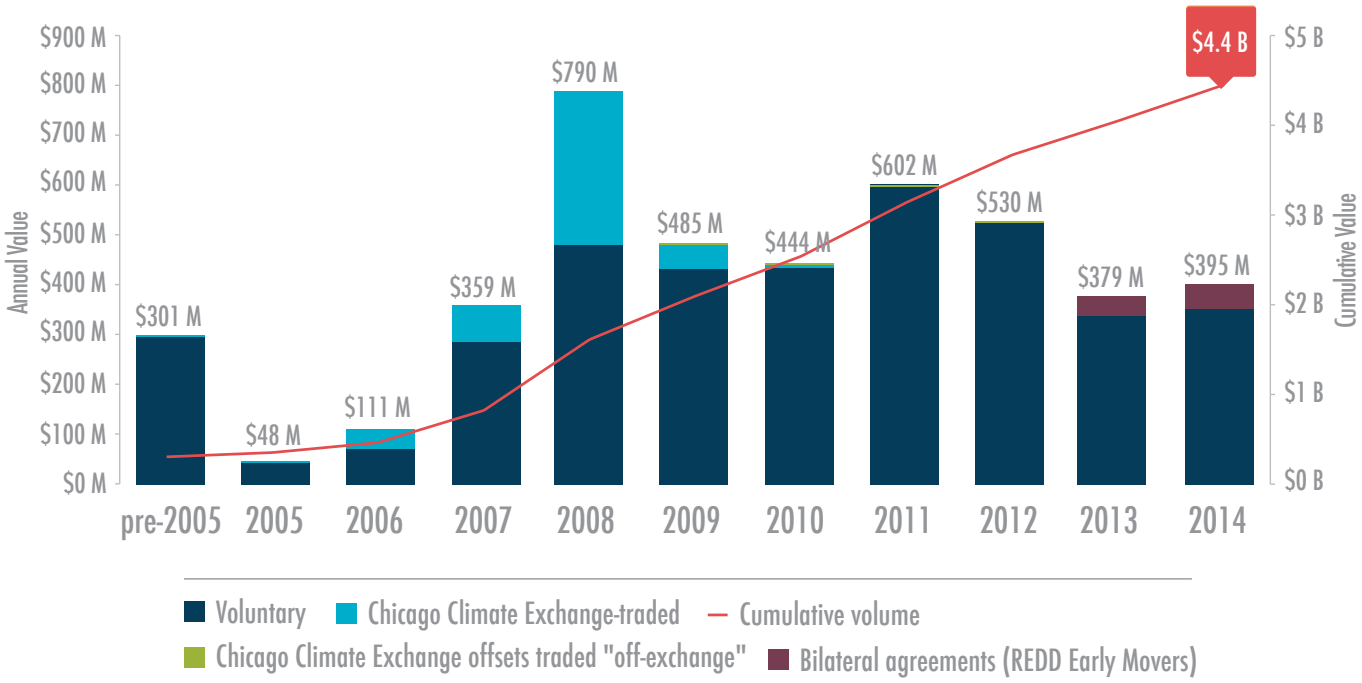


Billions Voluntarily Injected at Nexus of Public, Private Climate Action

Voluntary demand for carbon offsets is valued at $4.4 B over the past decade – including $395 M newly contributed in 2014. The majority of this value (60%) is attributed to voluntary demand from private-sector actors. While motivations vary, private buyers commonly cite corporate social responsibility (CSR) or the desire to demonstrate climate leadership as their primary drivers for voluntary carbon finance. Yet even the most "purely voluntary" offset demand is often inextricably linked to the broader climate policy context.

The Chicago Climate Exchange (CCX), for example, played an important role in the early development of a voluntary carbon offset market in North America. In the middle of the last decade, many corporations voluntarily joined the CCX's pilot cap-and-trade system to dip their toe into carbon trading – primarily in anticipation of a national compliance cap-and-trade system in the United States that never materialized. Offset transactions through the CCX made up as much as one-third of voluntary offset demand at its 2008 peak, before the American Clean Energy and Security Act bill faltered in the US Senate. Following the program's cessation in 2010, legacy CCX offset tonnes continued to be traded through February 2013, but prices were so low that these transactions contributed little to market value.

Figure 1: Historical Market-Wide Voluntary Offset Transaction Values



Notes: Based on 931.2 $MtCO_2e$ in transacted volume over time.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Excluding CCX tonnes, the value of voluntary offset demand topped $600 million in annual transactions only in 2011 when demand for offsets from emerging projects with significant additional environmental and social benefits ("co-benefits") pushed the market-wide average price above $6.2/$tCO_2e$.[3] Voluntary market value was also strong in 2012 when European demand for offsets surged and North American pre-compliance buyers began dabbling in the voluntary carbon market ahead of California's cap-and-trade regulation — whereas 2013's declining market value can be attributed in part to those "pre-compliant" voluntary actions becoming formally regulated.

[3] The market for forest carbon project co-benefits will be analyzed in a special report, anticipated fall/winter 2015.

Starting in 2013, the German government's REDD[4] Early Movers Program (REM) came into play when Germany agreed to pay the Brazilian state of Acre to avoid deforestation (see Box 2 below). Though not a "market-based" payment in the traditional sense, this voluntary contract fits within the purview of this report as a "payment for performance" for verified emissions reductions. Norway's decision to join REM and the program's expansion to include Ecuador in 2014 (worth $50 M) and Colombia in 2015, represents a new category of carbon finance that has accounted for about one tenth of market value over the past two years.

BOX 2: REDD in Context – The Rise of Government-to-Government Agreements

REDD, or Reduced Emissions from Deforestation and forest Degradation, is a global effort to halt tropical deforestation by economically valuing the carbon content of standing forests. REDD was first officially mentioned under the UNFCCC in 2007, and 28 tropical forest countries are now developing their "readiness" to eventually receive payments for reducing deforestation against a business-as-usual baseline.

In the meantime, voluntary actors have piloted REDD project-level activities that reduce deforestation, primarily by addressing the conservation, enhancement, and sustainable management of forests. REDD has been voluntary buyers' most sought-after offset project type for the last two years.

While the majority of REDD offset buyers are companies, Germany's REM became the first national program to contract avoided deforestation emissions reductions from another government on a performance basis in 2013. This first-of-its-kind agreement was between the German development bank KfW (Kreditanstalt für Wideraufbau) and the state of Acre, Brazil to deliver 8 $MtCO_2e$ between 2013 and 2016. Acre is required to retire the same volume of emissions reductions domestically.

While REM specifies that its agreements are not commercial transactions and that the units exchanged are not "offsets," the program falls under the purview of this report series methodology in that the financial flow is contingent upon emissions reductions being achieved, issued, and retired on a registry. REM payments are voluntary in that they are occurring outside of regulation and ahead of an international climate agreement that may or may not include a REDD market mechanism.

Norway joined Germany as a donor country to REM in late 2014, when the program simultaneously pledged new contributions to Ecuador and Colombia. Each country has the opportunity to earn up to $50 M for up to 10 $MtCO_2e$ of emissions reductions. The payments are based off a proxy price of $5/$tCO_2e$ and distributed over a four-year finance flow, though there is no fixed payment plan. The contracts with Ecuador were signed in December 2014 and thus tracked in this report, though the program is not yet operational. The contract with Colombia is expected to be finalized in 2015.

Similar contracts may occur in the future outside of REM, as both the World Bank's BioCarbon Fund and its Forest Carbon Partnership Facility (FCPF) intend to pay for avoided deforestation emissions reductions on a performance basis. Similar to REM, buyers in FCPF's Carbon Fund have expressed their willingness to pay $5/$tCO_2e$. The FCPF Carbon Fund have so far selected 11 "pipeline" countries; the first agreements are expected some time next year.

[4] The "+" in the REDD+ acronym designates projects that confer additional poverty alleviation and community benefits.

Historically, Voluntary Carbon Price Averages More Than $5/Tonne

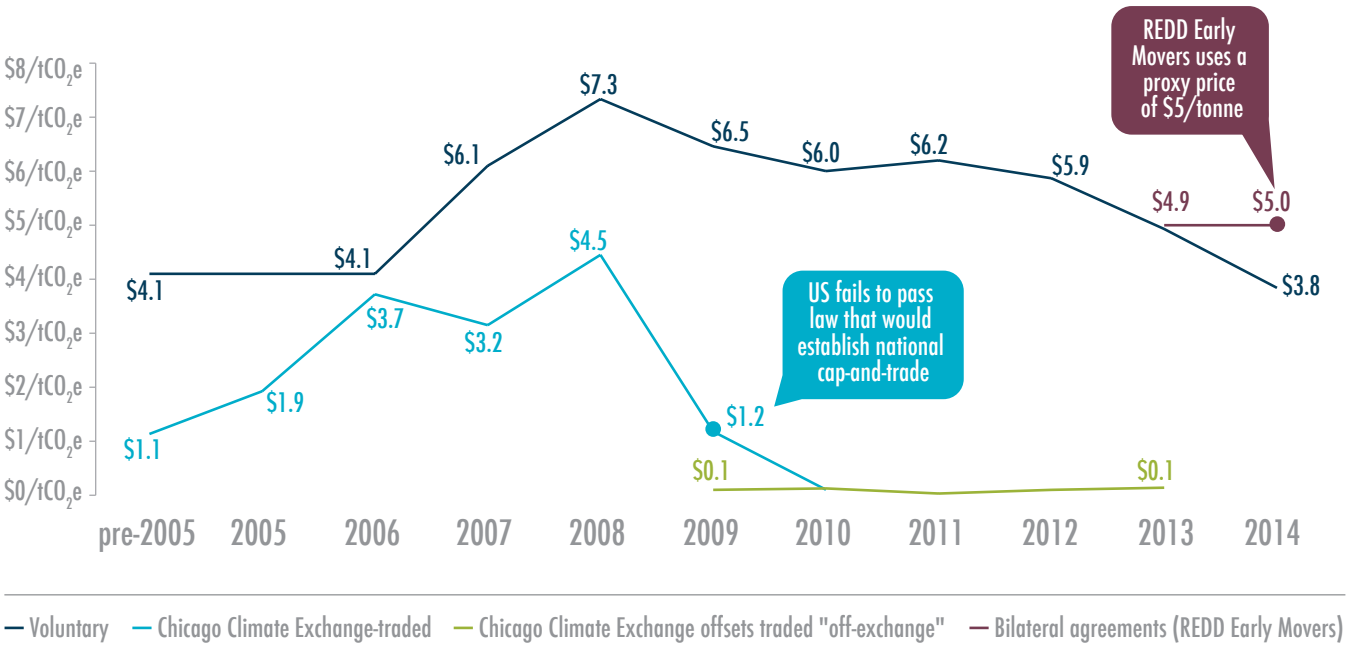
The voluntary offset market behaves more like a retail product market than a traditional commodity marketplace: buyers back projects based on their unique characteristics such as project location, type, and standard – which in turn affects price. Voluntary actors pilot and finance a range of project types and standards and, as a result, can experience severe price fluctuations alongside vacillations in supply and demand.

Compliance-based "commoditized" offset markets such as the multilateral Kyoto Protocol's Clean Development Mechanism (CDM) have nonetheless historically influenced voluntary offset prices. For example, the global average voluntary price has consistently declined since 2011, when it became clear that nations would fail to ratify another phase of the Kyoto Protocol, to reach an all-time low of $3.8/tCO$_2$e last year. This is well below the historical average of $5.8/tCO$_2$e across all project types, locations, buyers, and years (2007-2014). Broken down by supplier type, retailers and brokers (which facilitated the bulk of transactions) averaged prices of $4.4/tCO$_2$e and $1.1/tCO$_2$e, respectively, while project developers earned the highest average prices at $6.1/tCO$_2$e.

Despite the new low, prices for offsets transacted voluntarily and "over-the-counter" remained steadier than CERs transacted on the European Union Emissions Trading System (EU ETS) compliance carbon market. In 2008, Certified Emissions Reductions (CERs) sold for €24 per tonne under the EU ETS, but then collapsed with the Eurozone debt crisis and oversupply driven by the too-generous allocation of allowances. Prices have yet to rebound from <1€/tCO$_2$e.

Recent years' declining voluntary offset prices can be attributed to a lack of new buyer demand. Suppliers reported that only 5% of buyers were new to the market in 2014 and also pointed to experienced buyer's greater market familiarity and increased ability to negotiate lower prices. Meanwhile, existing projects have continued to reach maturity and issue more offsets, so the available supply has continued to grow. Some larger projects are willing to sell at significantly below-average prices but at high volumes that achieve a minimum value necessary to address cash flow issues. As a result, 10.9 MtCO$_2$e were sold below the $1/tCO$_2$e mark in 2014 – compared to 1.3 MtCO$_2$e in 2013.

Figure 2: Historical Market-Wide Average Price



Notes: Based on 931.2 MtCO$_2$e in transacted volume over time.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

While real markets always diverge from estimates, these prices remain well below national, sub-national, and corporate estimates of a carbon price. The United States government has estimated the "social cost of carbon" at $37/tonne so that federal agencies can weigh the costs of carbon emissions now against potential future damages from climate change.[5] Other nations – including Canada, France, Germany, Mexico and others – use a similar concept in national cost-benefit analyses.[6] Over 150 companies have also recognized the need for carbon pricing – evidenced through the use of internal "shadow" prices ranging from $6/tonne (Microsoft) to over $300/tonne (Pennon Group).[7] Offset buyers are more than five times more likely than non-offset buyers to use an internal price on carbon, according to a recent Ecosystem Marketplace report analyzing CDP data.[8]

[5] See the White House Office of Management and Budget's announcement "Refining Estimates of the Social Cost of Carbon". https://www.whitehouse.gov/blog/2013/11/01/refining-estimates-social-cost-carbon

[6] See the FAQ section of "The Cost of Carbon". http://costofcarbon.org/faq

[7] CDP. 2014. *Global Corporate Use of Carbon Pricing*. New York. https://www.cdp.net/CDPResults/global-price-on-carbon-report-2014.pdf

[8] CDP. 2014. *Global Corporate Use of Carbon Pricing*. New York. https://www.cdp.net/CDPResults/global-price-on-carbon-report-2014.pdf

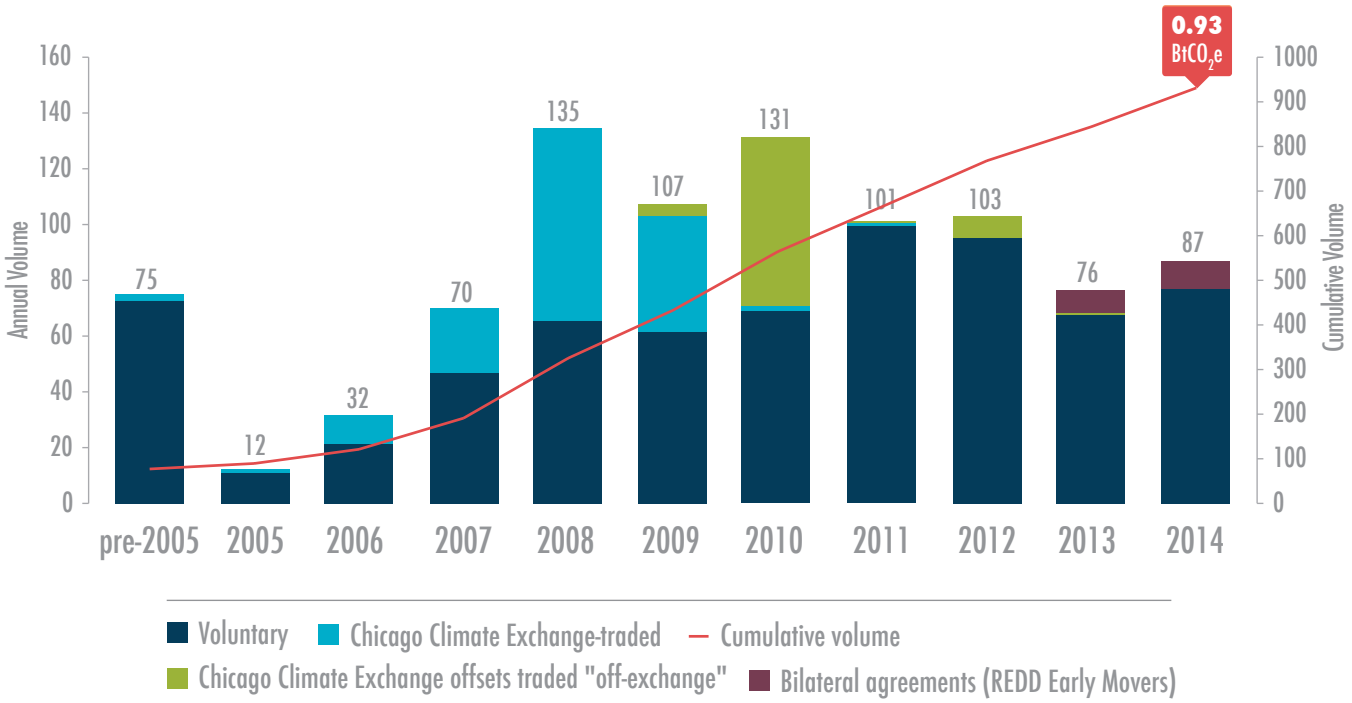
Voluntary Offset Demand Approaches the One-Billion-Mark

In 2014, voluntary demand for carbon offsets increased 14% to 87 $MtCO_2e$ as voluntary buyers sought offsets from avoided deforestation, wind energy installation, landfill methane capture, and other projects that would neutralize their climate impacts. Suppliers attributed last year's influx of demand to heightened corporate climate initiatives ahead of the Paris climate negotiations as well as a growing interest in supporting carbon projects with co-benefits. A full 10 $MtCO_2e$ is attributed to voluntary, public-sector payments for forest carbon performance through Germany's and Norway's REM program (Box 2).

Over the last decade, businesses and governments have transacted 0.93 $BtCO_2e$ of carbon offsets on a voluntary basis. Almost one-quarter of historical demand can be attributed to the now-dormant CCX, which channeled 147 $MtCO_2e$ in "pre-compliance" transaction volumes through 2009 from entities anticipating a future nation-wide mandatory carbon market in the US. Another 73 $MtCO_2e$ of CCX offsets were traded "off-exchange" between 2009 and 2013, benefitting from their low-priced appeal to cash-strapped CSR actors in the United States. "Pre-compliance" drivers also contributed to all-time market highs in 2011-2012, with US- and Australia-based buyers anticipating the start-up of emerging domestic carbon pricing programs.

Overall, though, pre-compliance demand has played a supporting role to the majority of purchases that are truly voluntary – motivated by private-sector efforts to reduce emissions despite the absence of - or in addition to - a regulatory obligation. In terms of purely voluntary demand, transactions have averaged a relatively steady 77 $MtCO_2e$/year since 2008 – dependable, but far short of the growth that many offset suppliers hoped for when they entered the market years ago.

Figure 3: Historical Market-Wide Voluntary Offset Transaction Volumes



Notes: Based on 931.2 $MtCO_2e$ in transacted volume over time.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Voluntary and Regulatory Climate Action Inextricably Linked

The 87 $MtCO_2e$ transacted by voluntary buyers in 2014 is both a large and small number, depending on the context.

The 87 $MtCO_2e$ in transaction volume is only a quarter of 1% of 2014's total global emissions. On the other hand, a sizable impact can be seen in voluntary actors' influence on compliance carbon price policies, which the World Bank estimates now cover 6 $BtCO_2e$ of emissions across 40 countries and 20 subnational jurisdictions – about 12% of global emissions.[9] Figure 4 highlights major public policies that have intersected with voluntary carbon markets over the years, from the EU ETS to Australia's carbon tax to California's cap-and-trade system to Costa Rica's domestic program.

In many of these cases, policy makers have directly adopted carbon methodologies and frameworks that were piloted in voluntary markets. In addition to pioneering new project types – including clean cookstoves, avoided deforestation, and low-carbon agriculture – the voluntary markets have also changed the scale of accepted projects. For example, cookstove projects utilized new voluntary methodologies created specifically for micro-activities, while mega-projects in avoided deforestation can now occur at the jurisdictional level, thanks to the leadership of the voluntary standards. Compliance markets have drawn from those and other voluntary market tools for addressing issues such as "leakage" of emissions outside of the project area and how to ensure that conservation projects are monitored long term. In this sense, the voluntary carbon market has influence beyond its small size.

At the same time, the *Policy-Makers Will Make or Break Future Voluntary Offset Demand* section reveals that carbon price regulations (actual or anticipated) have a greater influence on voluntary demand than does economic performance, offset prices – or anything else. Ecosystem Marketplace's *The Bottom Line* report[10] finds that buyers located in regions with a price on carbon are more likely to engage in voluntary offsetting – perhaps because of an increased familiarity with market-based mechanisms for emissions reductions. Perpetually indecisive or non-existent government and sectoral (e.g., aviation) policy signals are therefore a significant barrier to scale, contributing to continually insufficient demand and low prices.

[9] World Bank. 2014. *State and Trends of Carbon Pricing 2014*. Washington, DC. https://www.worldbank.org/en/news/feature/2014/05/28/state-trends-report-tracks-global-growth-carbon-pricing

[10] Forest Trends Ecosystem Marketplace. 2015. *The Bottom Line: Taking Stock of the Role of Offsets in Corporate Carbon Strategies*. Washington, DC. http://forest-trends.org/publication_details.php?publicationID=4858

Figure 4: Major Carbon Market Policy Developments over Time

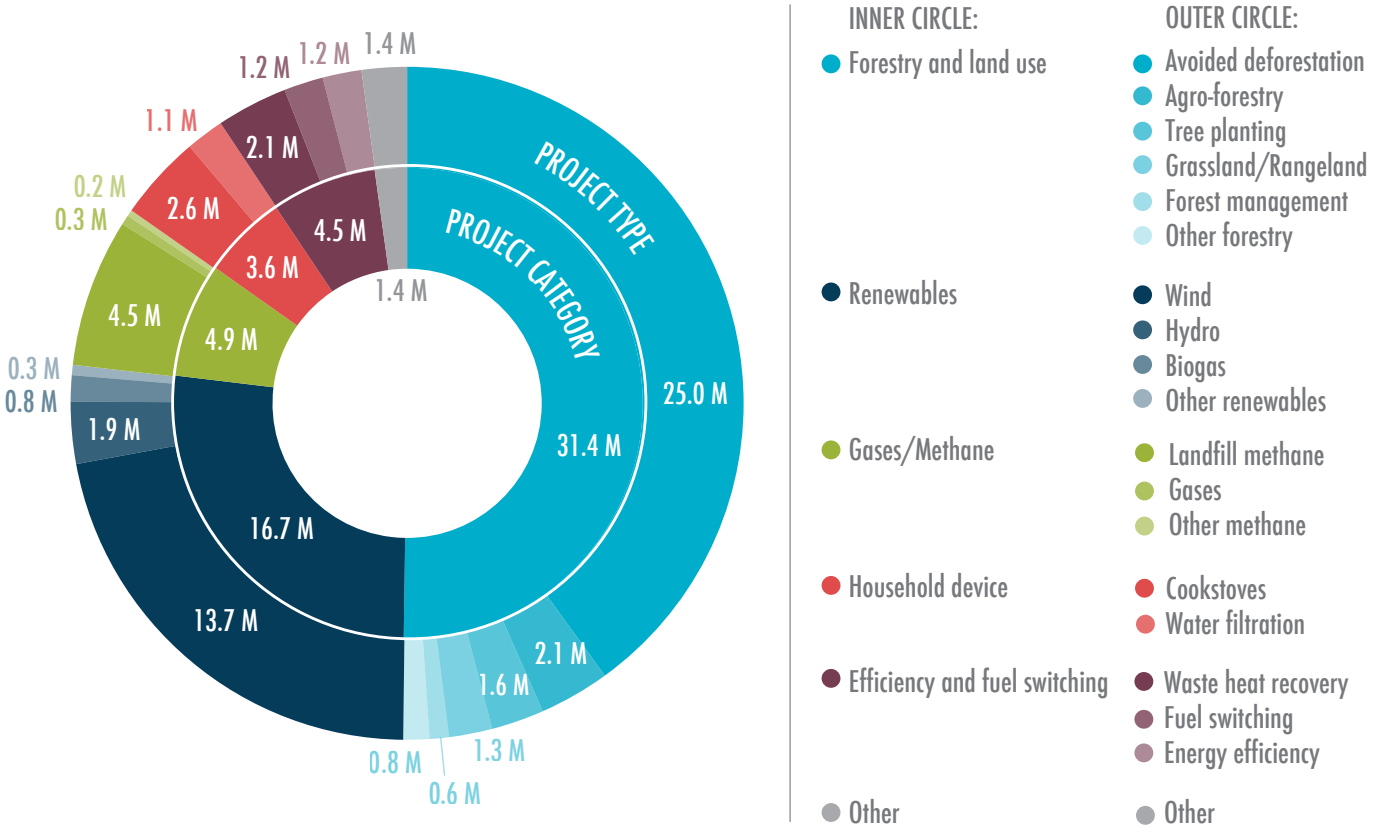
Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Led by REDD, Forestry Offsets Made Up Half of Offset Demand in 2014

Compliance-driven offset demand is typically shaped by cost and risk considerations. Voluntary buyers, on the other hand, have a significantly wider array of decision points. Here, the type of project to support is key, and the voluntary market has incubated hundreds of approaches and technologies to reduce emissions over the years.

In 2014, projects that avoid deforestation remained the top-selling offset project type, supplying and transacting a record 25 $MtCO_2e$. As in 2013 (previously the record year), a significant portion of 2014's transacted volume – 10 $MtCO_2e$ – was attributed to developing country agreements with the German development agency KfW's (see Figure 5), with additional participation and finance in 2014 from Norway's development agency. The multilateral agreement contributed $50 million to REDD's 2014 value as a "payment-for-performance" mechanism, with the remaining $39 million attributed to traditional voluntary offset market demand – still the highest value across all project types.

Figure 5: Transacted Volume by Project Category and Type, 2014



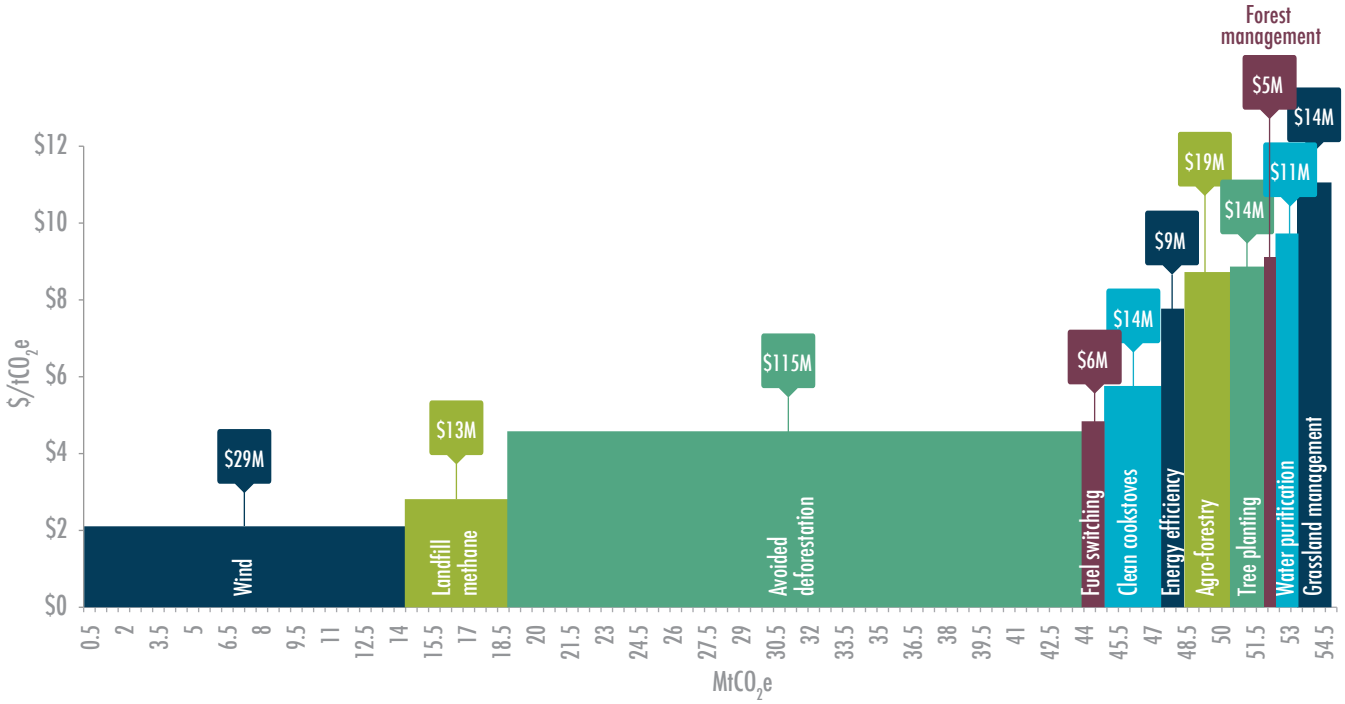
Notes: Based on 764 transactions representing 61.7 $MtCO_2e$.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Excluding the public sector agreements,[11] REDD prices rose slightly last year to $4.3/$tCO_2e$. Only 16% of REDD offsets were contracted for $3 or less, with the majority (81%) falling in the $3-$9/tonne range. REDD offsets derived from avoided planned deforestation (e.g., planned timber or large-scale agricultural conversion) sold for an average of $3.1/tonne while offsets from avoided unplanned deforestation (e.g., caused by smallholder agriculture, informal mining, or rural development) were priced at $5.2/tonne, on average.

[11] The REM agreement included a proxy price of $5/$tCO_2e$ in both 2013 and 2014.

Figure 6: Value Transacted by Project Type, 2014



Notes:: Based on 764 transactions representing 61.7 $MtCO_2e$. The area of each project type rectangle reflects market value, with the vertical axis representing projects by average price transacted and the horizontal axis representing the total volume transacted.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

Wind projects fueled another 13.7 $MtCO_2e$ transacted this year as buyers continued to purchase the inexpensive offset type in bulk (averaging \$2.1/tCO_2e). Together with small run-of-river hydro projects that transacted another 1.4 $MtCO_2e$, renewables were the second-most common project category in 2014.

Offsets from landfill methane capture projects saw increased demand over 2013. While 2.6 $MtCO_2e$ stemmed from North America – where these tonnes were once but are no longer sought for their potential acceptance into a US state or federal cap-and-trade program – another 1.2 $MtCO_2e$ came from Asia.

The market for offsets from projects that distribute cleaner burning cookstoves or water filtration systems (e.g., "household devices") in developing countries shrank by 44% in volume this year to amount to 3.6 $MtCO_2e$ transacted. The average price for transaction for all household devices fell to \$6.4/tCO_2e as a result of a drop in pricing for cookstove project offsets – which fell from \$9.2/tCO_2e in 2013 to \$5.8/tCO_2e last year. As even more supply is expected to enter this development-oriented offset marketplace, suppliers are hoping for governments to spur demand. In 2013 and 2014, public agencies such as the Swedish Energy Agency and Nordic Environment Finance Corporation contracted the largest volumes of cookstove offsets on a compliance basis. Unlike REM's REDD agreements, though, these organizations work exclusively with CDM and do not accept offsets certified to other standards.

Project Preferences Follow Policy, Economics and Innovations

Behind the rise and fall of the popularity of various emissions reduction project types are the emergence and/or dissolution of public policies, periods of economic boom or stress, and often extreme price fluctuations as innovative methodologies transition from scarcity to abundance.

Avoided deforestation (REDD): The top tree

As of 2014, REDD projects surpassed historical demand for wind offsets to transact a cumulative total of 84.5 $MtCO_2e$ - making REDD the decade's most popular offset project type. Voluntary demand for avoided deforestation offsets accelerated after the Bali climate negotiations (2007) brought REDD to the international stage, with the general expectation that demand would come, sooner or later, in the form of compliance offset markets. Except for the recent bilateral government deals, this demand has yet to materialize, despite reaching an all-time high in 2014. Project developers continue to look to the public sector as a potential and critical source of demand as the sheer volume of supply available far outpaces private buyers' appetites.

Wind: Solid and steady

Wind projects have long been favored by buyers as they are cost-effective and easy to understand, as evidenced by the 84.3 $MtCO_2e$ transacted over time. In particular, demand for wind offsets peaked in 2011 – in the midst of the Eurozone debt crisis – likely due to their lower average prices compared to other project types. In many cases, wind offsets make up a majority of buyers' portfolios, alongside a smaller subset of offsets from more exclusive (and more expensive) project types. Wind project offsets' average price has steadily dropped over time to $2.1/$tCO_2e$ in 2014.

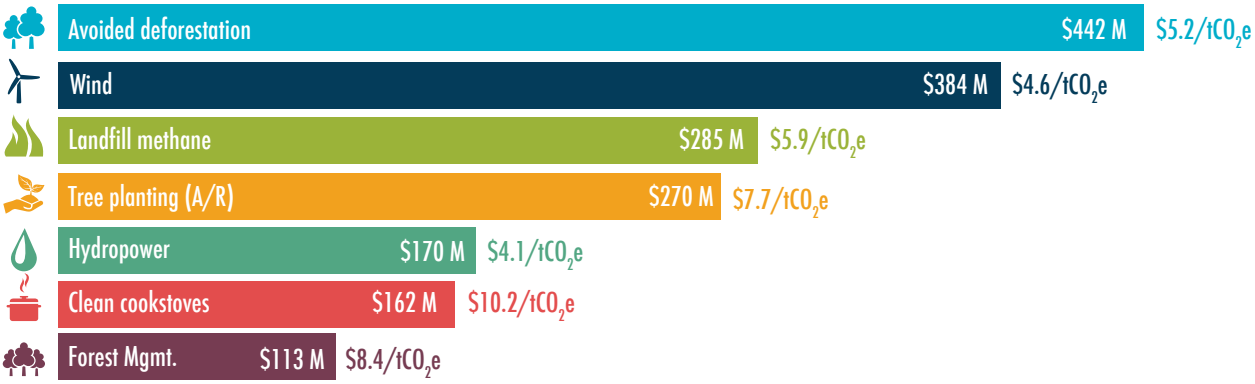
Landfill methane: Falling out of favor

Landfill methane project development exploded in 2008-2010, as US buyers bet on the project type becoming an eligible compliance mechanism under a national cap-and-trade market and, after that became unlikely, eligible under California's policy. As of 2014, landfill methane offset prices had eroded to average $2.8/$tCO_2e$ in 2014, with a cumulative volume of 48 $MtCO_2e$.

Hydropower: Diverting attention from large projects to small

Demand for offsets from large hydropower projects was consistently strong through 2008 – when controversy surrounding the Chinese and Brazilian projects' social, environmental, and economic impacts drove a dramatic decline in demand and the EU ETS enacted stricter rules for large-scale hydro projects. By now, buyer demand has shifted to smaller-scale "run-of-river" hydropower projects that also confer infrastructure, schools, and afforestation to local communities. Both types earned below-average prices in 2014, with last year's transactions averaging $1.8/$tCO_2e$ for run-of-river project offsets and $0.8/$tCO_2e$ from large hydropower activities..

Figure 7: Cumulative Value and Average Price of Top 7 Project Types, 2007-2014



Notes: Based on 412 $MtCO_2e$ of transacted offsets associated with a project type, 2007-2014.
Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Afforestation/Reforestation (A/R): Growing down under

Australia's voluntary offset market incubated tree-growing projects that anticipated compliance demand under the country's carbon tax policy. Demand for the forestry offset type reached its height in 2012 as Australian buyers mobilized pre-compliance activity in anticipation of an AU$23/tCO$_2$e fixed-price carbon program. Demand in the region decreased after the program's subsequent repeal in 2014, following a decline elsewhere in the world as a major fund ended its multi-year investments in tree planting the year before. However, the project type still achieved a cumulative 35 MtCO$_2$e total and prices remained robust (averaging $8.9/tCO$_2$e in 2014).

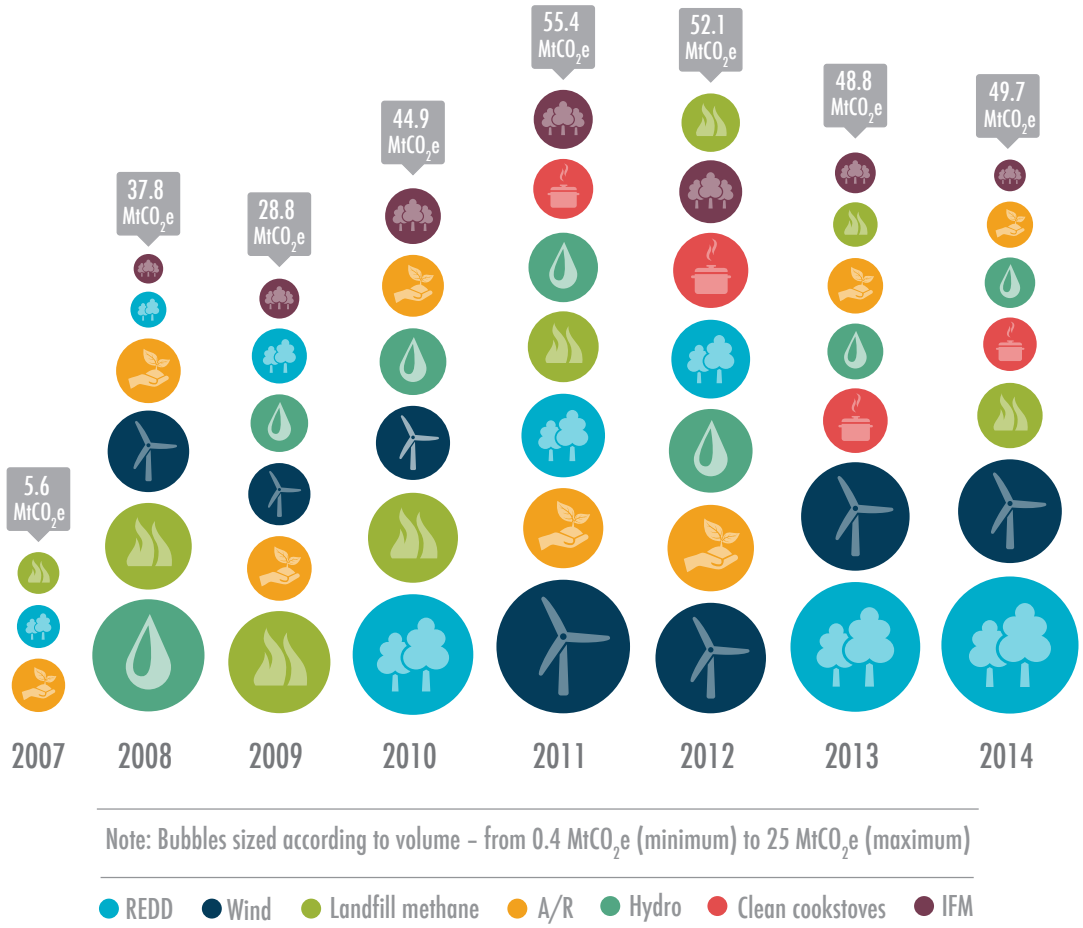
Cookstoves: Co-benefits spark demand

In 2012, Ecosystem Marketplace tracked significant buyer uptake of a new project category with strong co-benefits: household device distribution, which includes both clean cookstove and water filtration projects. Such projects often deliver non-carbon benefits such as improved health, reduced deforestation, local economic empowerment, and more. This combination resulted in some of the highest average prices over time (with a smaller cumulative volume of 16 MtCO$_2$e) – though those prices have steadily eroded in recent years as increasingly large-scale distributed projects ramp up supply.

Improved forest management (IFM): Pre-compliance popularity

The promise of a West Coast compliance program in North America spurred development of IFM projects, which saw voluntary demand top out in 2012 and decrease since then as project developers transitioned their pre-compliance offsets into California's compliance market. In 2014, IFM project offsets largely retained their price ($8.4/tCO$_2$e) but have transacted overall lower volumes (14 MtCO$_2$e over time).

Figure 8: Transaction Volumes of Top 7 Project Types, 2007-2014



Notes: Based on 412 MtCO$_2$e of transacted offsets associated with a project type, 2007-2014.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Use of Project Standard by Now a "Must Have"

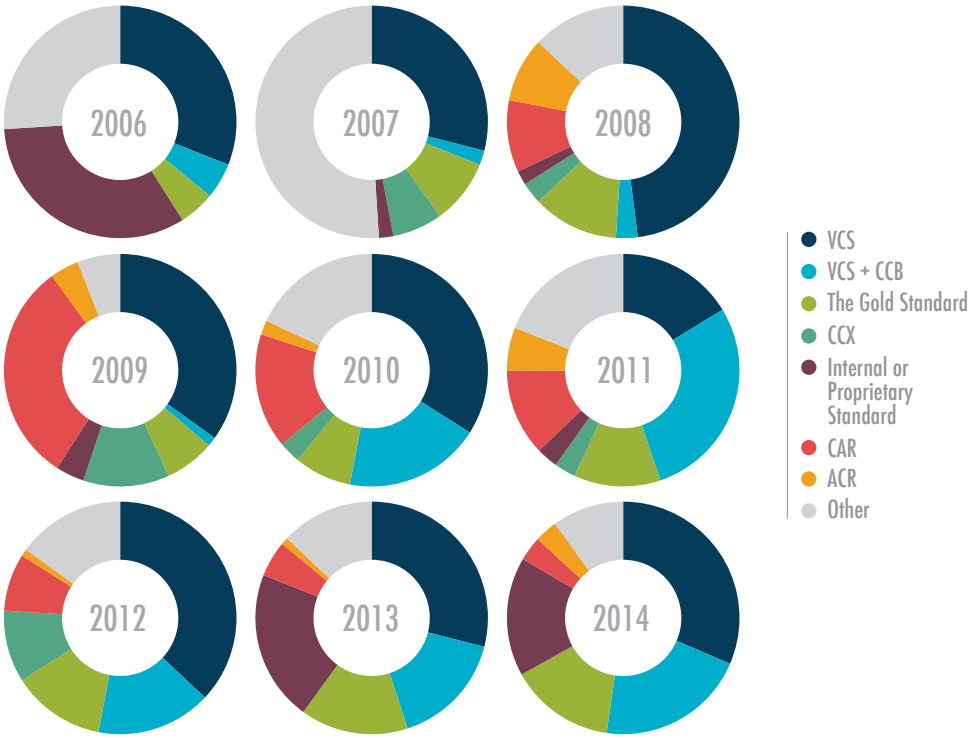
Voluntary actors have experimented with dozens of standards that offer frameworks for offset project development and third-party certification. A mere handful of standards have consolidated the majority of market share over time. Several of these standards – particularly VCS and The Gold Standard – originally simplified UN project approval processes for strictly voluntary projects. Nearly 10 years later, these and other voluntary standards have developed their own development-, land-use-, and/or location-oriented brands that are distinct from the UN's largely energy-oriented mechanisms.

Until third-party standards appeared, a host of internal retailer "standards" served as voluntary buyer guidelines for assessing quality in retailer portfolios. By 2008, 96% of offsets were seeking certification to a third-party standard, according to Ecosystem Marketplace's historical surveys.

The appearance of voluntary standards enabled the market to test new methodologies and project types, which, in turn, influenced protocols in emerging compliance programs. Since then, a number of standards have appeared, but a few early actors – VCS, The Gold Standard, CAR and ACR – are now the most prominent. With the California compliance market coming online in 2013, the latter two saw lesser voluntary demand (2.1 $MtCO_2e$ for CAR and 1.9 $MtCO_2e$ for ACR) as both focused on supporting domestic projects to covert to compliance eligibility.

In the last two years, "internal" or "proprietary" standards have seen a resurgence in market share, almost exclusively due to the REM program agreements. These internal standards can accommodate third-party verification of emissions reductions but are specific to one jurisdiction (e.g., the Acre Carbon Standard is endemic to Acre, Brazil) or used by fewer than three projects. Aside from REM, less than 1% of suppliers reported using an internal or proprietary standard last year.

Figure 9: Standard Market Share by Volume, 2006-2014



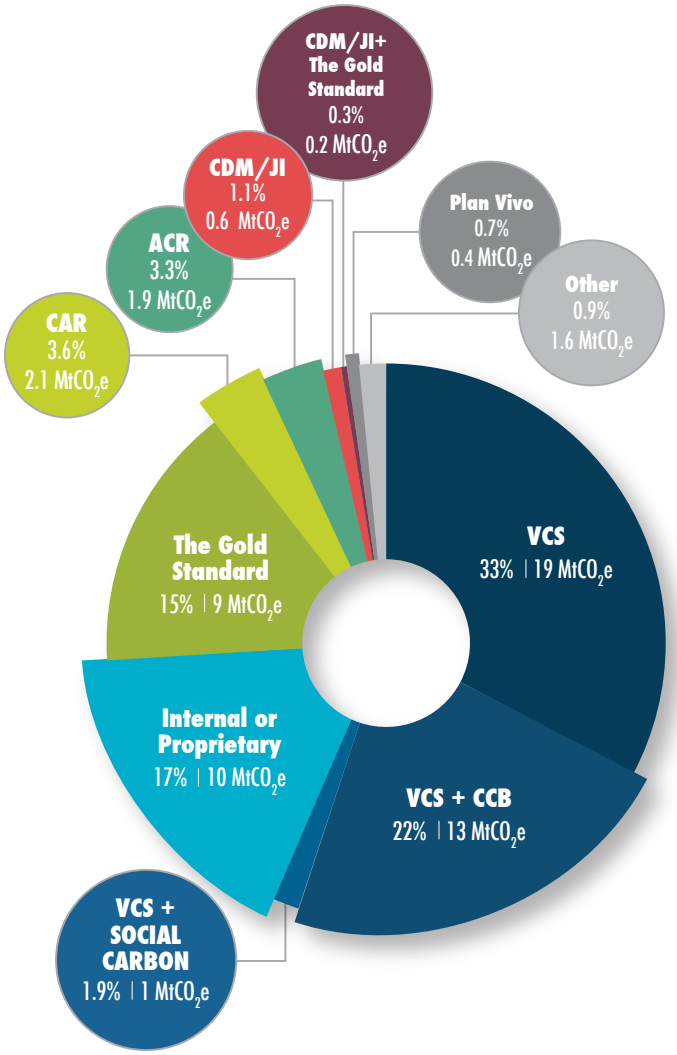
Notes: Based on 81 $MtCO_2e$ associated with a third-party standard in 2014, alongside historical data from reports through the *State of the Voluntary Carbon Markets 2007*.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

Market Consolidates Around VCS or Gold Standard Certification

In 2014, VCS and The Gold Standard dominated buyer preferences, seeing VCS – alone (19.1 $MtCO_2e$) and in tandem with the Climate, Community, and Biodiversity Standards (CCB) certification (12.6 $MtCO_2e$) – capture the majority of market share. This marks the seventh year in a row that VCS has been the most commonly transacted offset project standard, which is consistent with the popularity of VCS methodologies for forestry and wind projects. On average, buyers paid $2.7/tonne more for VCS offsets "tagged" with the CCB Standards co-benefits certification versus VCS alone.

Figure 10: Market Share by Standard, 2014



Notes: Based on 764 transactions, totaling 60.7 $MtCO_2e$. For price information, see Annex 1.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

The Gold Standard, meanwhile, remained the third most utilized standard, after, internal/proprietary project guidelines, with 8.9 $MtCO_2e$ transacted in 2014. The average price for Gold Standard project offsets ($4.4/$tCO_2e$) was nearly halved from the Gold Standard's 2013 average of $8.5/$tCO_2e$, likely because one-third of The Gold Standard tonnes were transacted from wind projects at lower to average prices. Other commonly transacted Gold Standard project types included cookstoves, water filtration and landfill methane projects. The Gold Standard forestry projects – still a relatively new option following the standard's acquisition of the CarbonFix standard in late 2013 – transacted less than 0.09 $MtCO_2e$, though suppliers expect The Gold Standard forestry tonnes to play a larger role in the voluntary market in the coming years.

Plan Vivo, a standard specifically designed for community forestry and land-use projects, made up 1% of market share with 386,000 tCO_2e transacted, a 16% increase a 16% increase from the 2013 volume based on.

Buyers are undeniably interested in knowing the "story" behind the offsets they purchase and often engage in the voluntary carbon market because of the co-benefits that charismatic projects offer – including local employment, biodiversity protection, and health improvements. While the emergence of new carbon offset standards has largely stabilized, suppliers say that standards intended to certify social and environmental "co-benefits" still have room to grow.

Offset Issuances Grow to More Than 300 $MtCO_2e$ as Market Matures

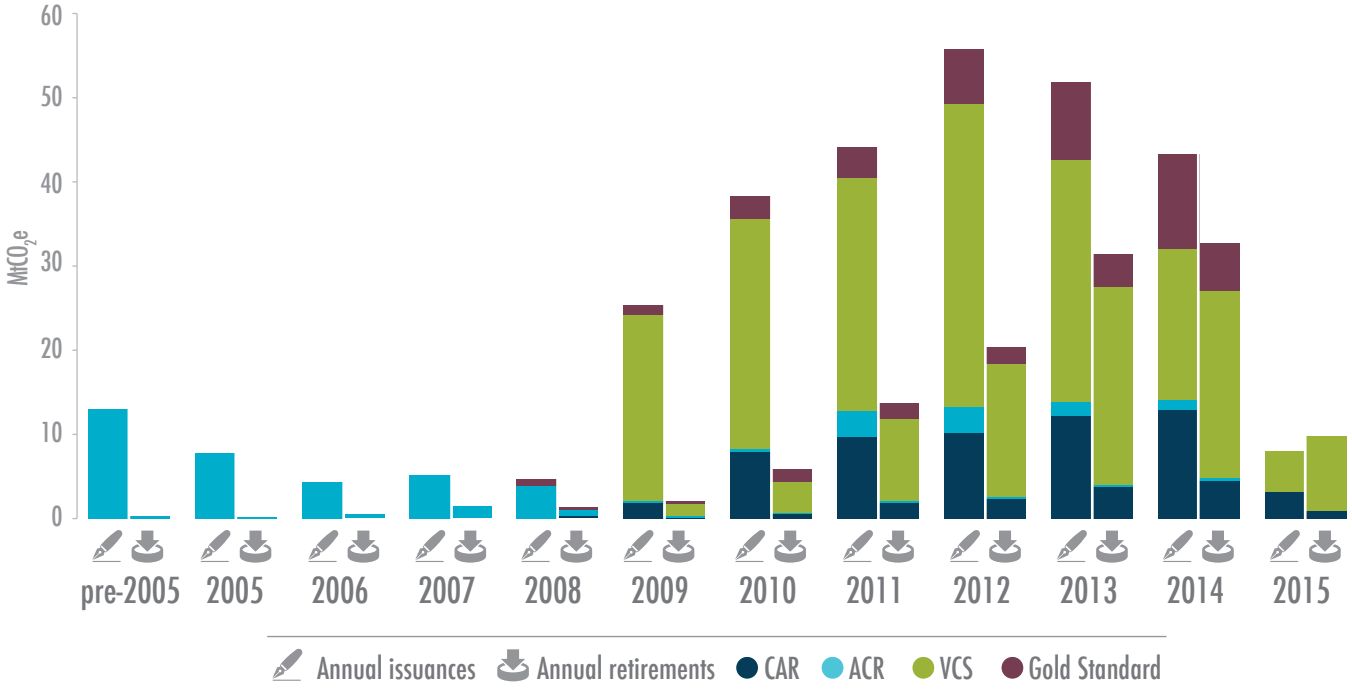
This report series tracks new transactions of carbon offsets as the key measure of voluntary offset market health. Yet the total supply of newly issued offsets that enter the market (and exit the market when they're retired in a registry) each year also offers important insights.

A look at offset supply over time reveals that offsets issued by the four most commonly contracted voluntary standards in the current marketplace – VCS, The Gold Standard, ACR, and CAR – reached 301 $MtCO_2e$ over the past decade. This represents a 764% increase in supply since 2009.

At least 39% of those tonnes (119 $MtCO_2e$) have been retired, leaving 182 Mt in yet-to-be-retired supply. This supply could include offsets that have reached an end user, but the offset buyer or supplier has not yet formally retired the transacted volume in a registry account. Newly issued volumes from these standards fell 8% last year, with VCS issuing 37% fewer tonnes (17.9 $MtCO_2e$ in 2014 versus 28.7 $MtCO_2e$ in 2013). Gold Standard, on the other hand, reported record new supplies of 15.4 $MtCO_2e$, up from 9.2 $MtCO_2e$ in 2013.

Collective retirements from VCS, The Gold Standard, ACR, and CAR reached an all-time high of 32.6 $MtCO_2e$ last year as end-users retired offsets in their name to publicly demonstrate their performance against emissions offsetting targets. VCS retirements (22.1 $MtCO_2e$) exceeded issuances for the first time in 2014. Marketwide, the ratio of retirements to issuances has increased every year since 2009, reaching 75% last year.

Figure 11: Offset Supply and Retirement, Pre-2005-Spring 2015



Notes: Based on annual issuances and retirements from four major voluntary standards: VCS, Gold Standard, ACR, and CAR.
Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

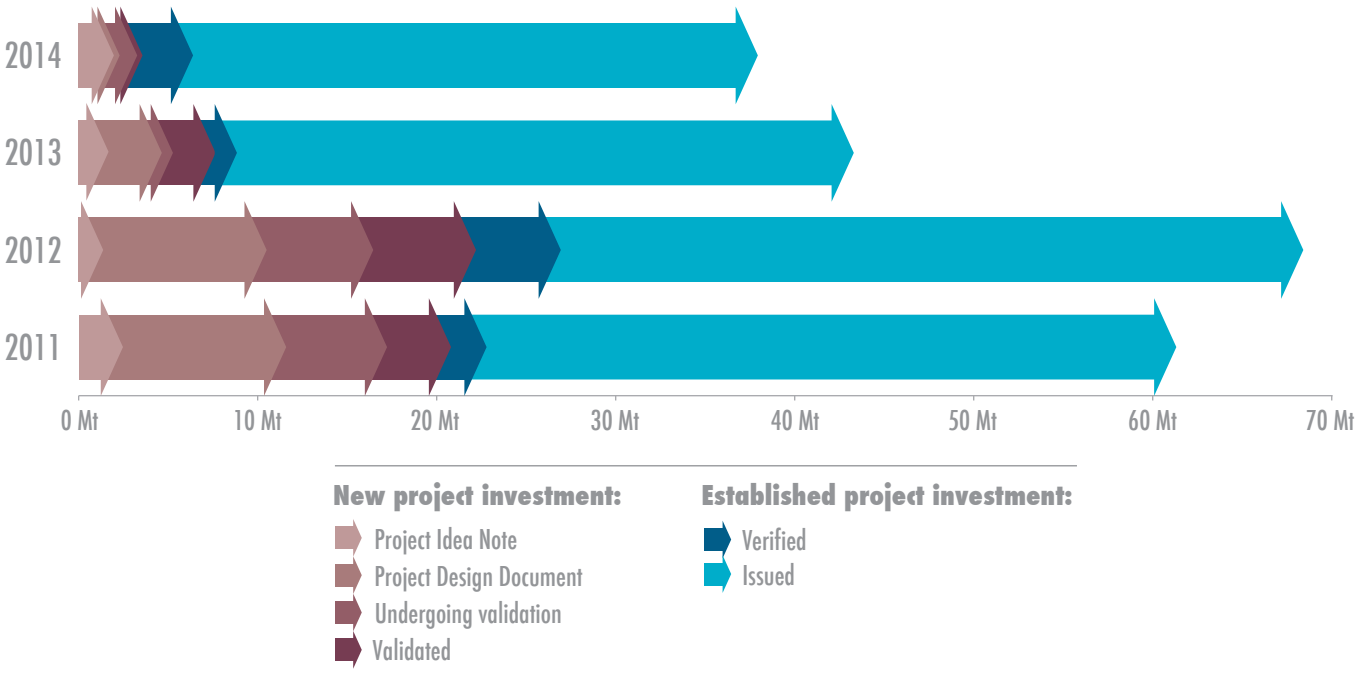
Early-Stage Project Investment Losing Battle with Existing Supply

While carbon offsets are a form of "results-based finance," project developers still require early-stage finance from project conception through to the verification and issuance of offsets. This finance can come from developers' own pockets, in the form of loans or, sometimes, from a buyer willing to pay upfront for offsets that will be delivered at a later stage – sometimes months or years later.

In 2014, 84% of offsets were transacted after they were issued on a registry: a new, yet unsurprising record after years of increased buyer interest in comparably lower-risk mature projects, and given the ever-growing availability of issued offset supply. To some extent, this demand for already-issued offsets reflects market maturity as once-uncommon project approaches (particularly REDD) shift from rarity to norm and start to issue offsets in large numbers.

While transactions of issued tonnes are a positive signal of voluntary projects' ability to deliver real, verifiable emissions reductions, the dearth of early-stage investment can leave project developers with few options for getting new methodologies or projects themselves off the ground. Early-stage costs also increased in 2014 with the recent VCS announcement that as of July 2015 it will implement a registration fee for all projects (regardless of stage). The registration fee, starting at $0.1/tonne for the initial one million offsets, will be credited towards future Verified Carbon Unit (VCU) issuance levies up to $10,000. Another move by VCS aims to minimize costs for large-scale projects and Jusidictional and Nested REDD+ programs by reducing issuance fees for projects or programs transacting over one million VCUs. This would apply to five of the 383 VCS transactions reported in this year's survey.

Figure 12: Offsets Transacted by Project Stage, 2011-2014

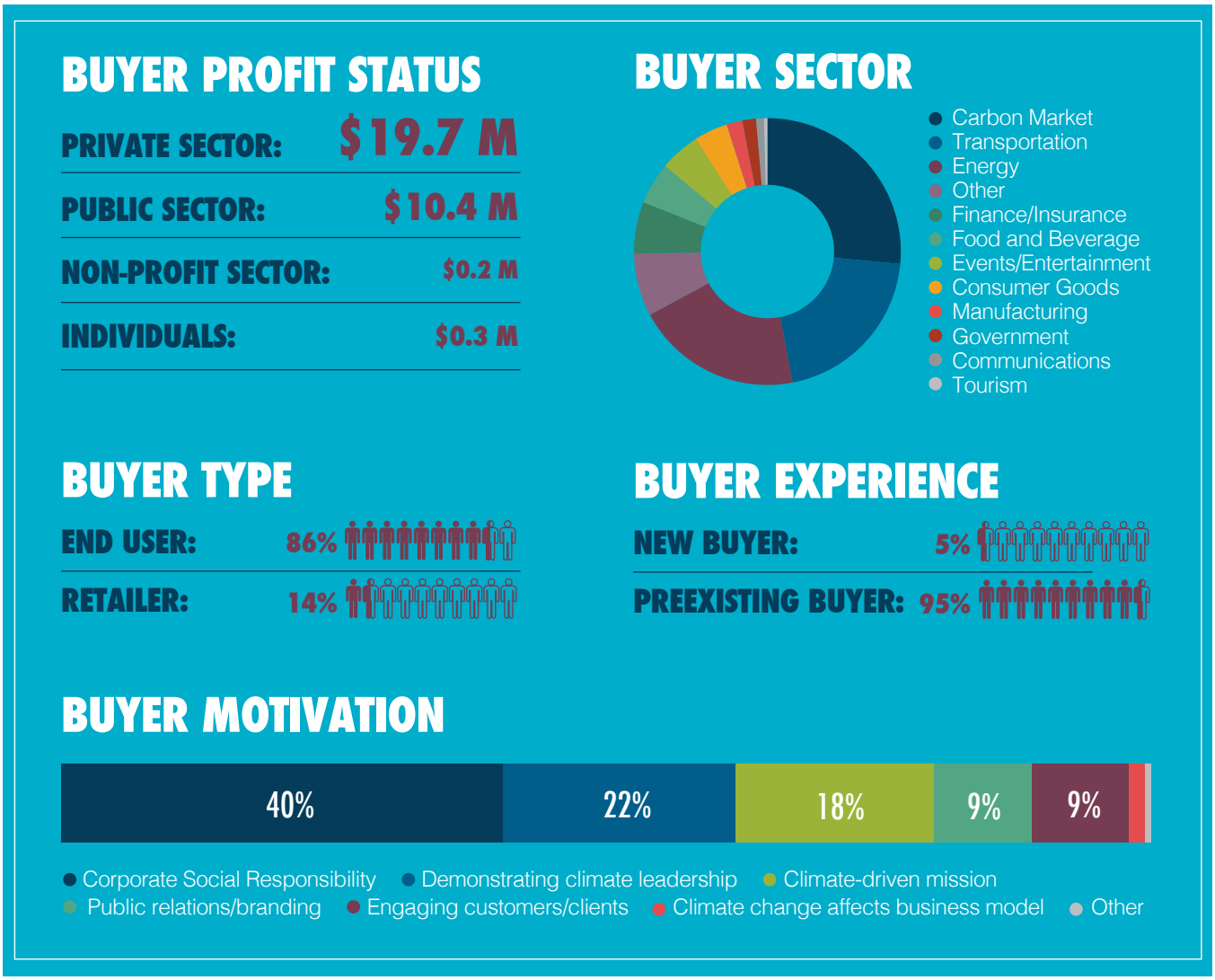


Notes: Based on 38 $MtCO_2e$ associated with a project stage in 2014, alongside data collected in previous years through 2011. Not all survey respondents reported project stage at the time of transaction in any given year.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Private-Sector Buyers Motivated by Climate Change Responsibility, Risk

Figure 13: Buyer Breakdown, by Experience, Motivation, Status, Sector, and Type, 2014



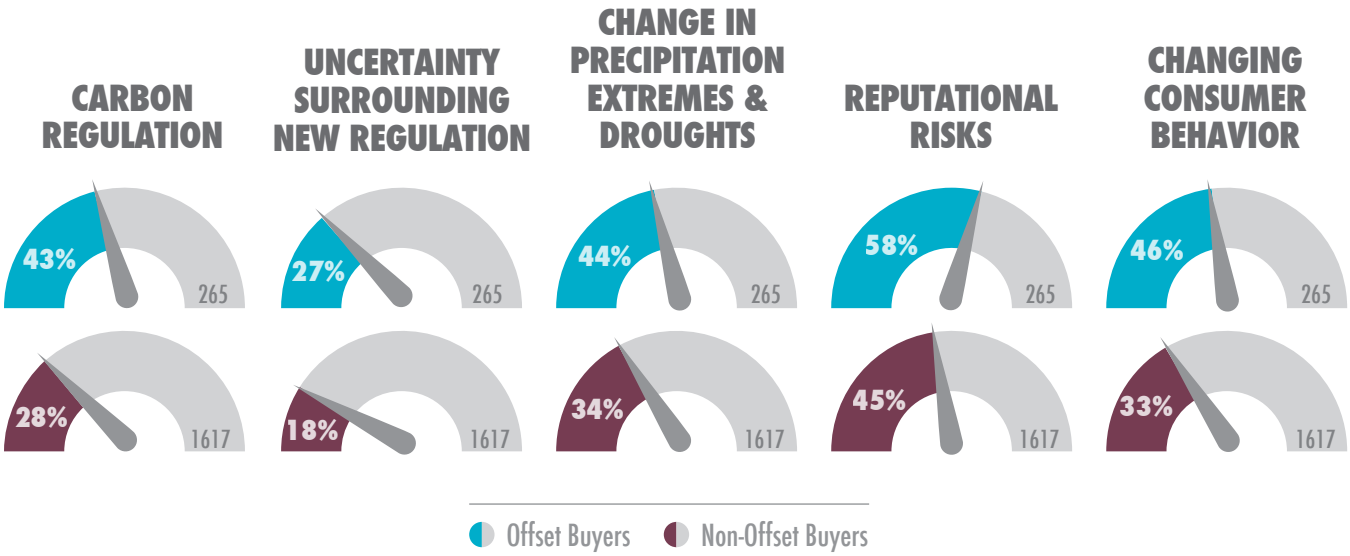
Notes: Based on 88 transactions associated with a buyer experience, 228 transactions associated with a buyer motivation, 348 transactions associated with a buyer profit status, 314 transactions associated with a buyer sector, and 601 transactions associated with a buyer type, as described by survey respondents.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

With the exception of last year's sizable government-to-government agreement through the REM program, the private sector was responsible for the vast majority (95%) of voluntary offset demand in 2014. Those private-sector buyers included multinational corporations such as General Motors, Danone, Barclays, and Mitsubishi as well as small-to-medium enterprises, which accounted for at least 6% of private-sector demand last year.

While an estimated 45% of demand can be attributed to retailers that aim to resell offsets for a profit, the remaining demand is tied directly to end users. Suppliers categorized buyers' top motivations as CSR (40%) and a desire to demonstrate industry leadership on climate change (21%) – though many recognized that such motivations often overlap.

Figure 14: Risks Companies Reportedly Face, Offset Buyers versus Non-Offset Buyers



Notes: Based on risks reported by 1882 companies – 265 offset buyers and 1617 non-offset buyers (as seen in the figure).

Source: Forest Trends Ecosystem Marketplace. 2015. The Bottom Line: Taking Stock of the Role of Offsets in Corporate Carbon Strategies. http://forest-trends.org/publication_details.php?publicationID=4858.

Figure 15: Examples of Carbon Offset Buyers by Region

Notes: Based on 214 voluntary offset buyers reporting to CDP in 2013 and 2014.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

Private-sector buyers may also use offsetting to address risks related to climate change. Recent data from CDP (formerly the Carbon Disclosure Project) analyzed by Ecosystem Marketplace reveals that companies that include offsetting in their sustainability strategies perceive higher risks in terms of carbon regulation, company reputation, and climate change itself. These companies are also undertaking emissions reductions activities at a higher rate compared to companies that don't offset – indicating that, although offsetting alone may not address climate risk, it's often part of a comprehensive strategy to do so.

Offset buyers hailed from every continent (except Antarctica) in 2014, and more than one-third were multinational corporations. The top buyer sectors were transportation and energy, which together accounted for approximately 55% of last year's transacted tonnes. Figure 14 provides examples of carbon offset buyers by region.

In 2013, **offset buyers were based in 32 unique countries on every continent**. The top voluntary offset buyer countries by survey response count were the United States (48 companies), Japan (32 companies), the United Kingdom (27 companies), and Australia (16 companies). Companies in the United States dominated CDP disclosures as the largest source of offset demand by volume, purchasing 6.6 million offsets in 2013.

CDP data reveals that **voluntary offsetting is more common in regions with regulatory carbon pricing**. This is the case in the European Union, which as a region hosts the most compliance but also the most voluntary offset buyers, since even companies in unregulated sectors are more familiar with market-based mechanisms for emissions reductions. Several Japanese companies – such as Mitsubishi and Sony – that fall under Japan's or Tokyo's market-based regulations are also purchasing offsets voluntarily.

Offsetting – and CDP disclosure more broadly – often takes on a **North-South dynamic**. Companies headquartered in high-emitting countries in North America and Europe often finance emissions reductions in Latin America, Africa, and Asia – places where investments in emissions reductions projects often go a long way toward supporting communities to pursue a lower-carbon development path.

However, **some companies headquartered in the Global South are offsetting emissions locally**. Brazilian cosmetics company Natura Cosméticos finances a portfolio of offset projects in-country, most of which aim to take pressure off the Amazon rainforest by avoiding deforestation or incentivizing wood-burning ceramics factories to switch to more sustainable fuels. South Africa-based financial services group Sanlam purchases offsets from a soil fertility project located in Cape Town, the company's headquarters.

European Offset Buyers Finance Bulk of Developing Country Carbon Projects

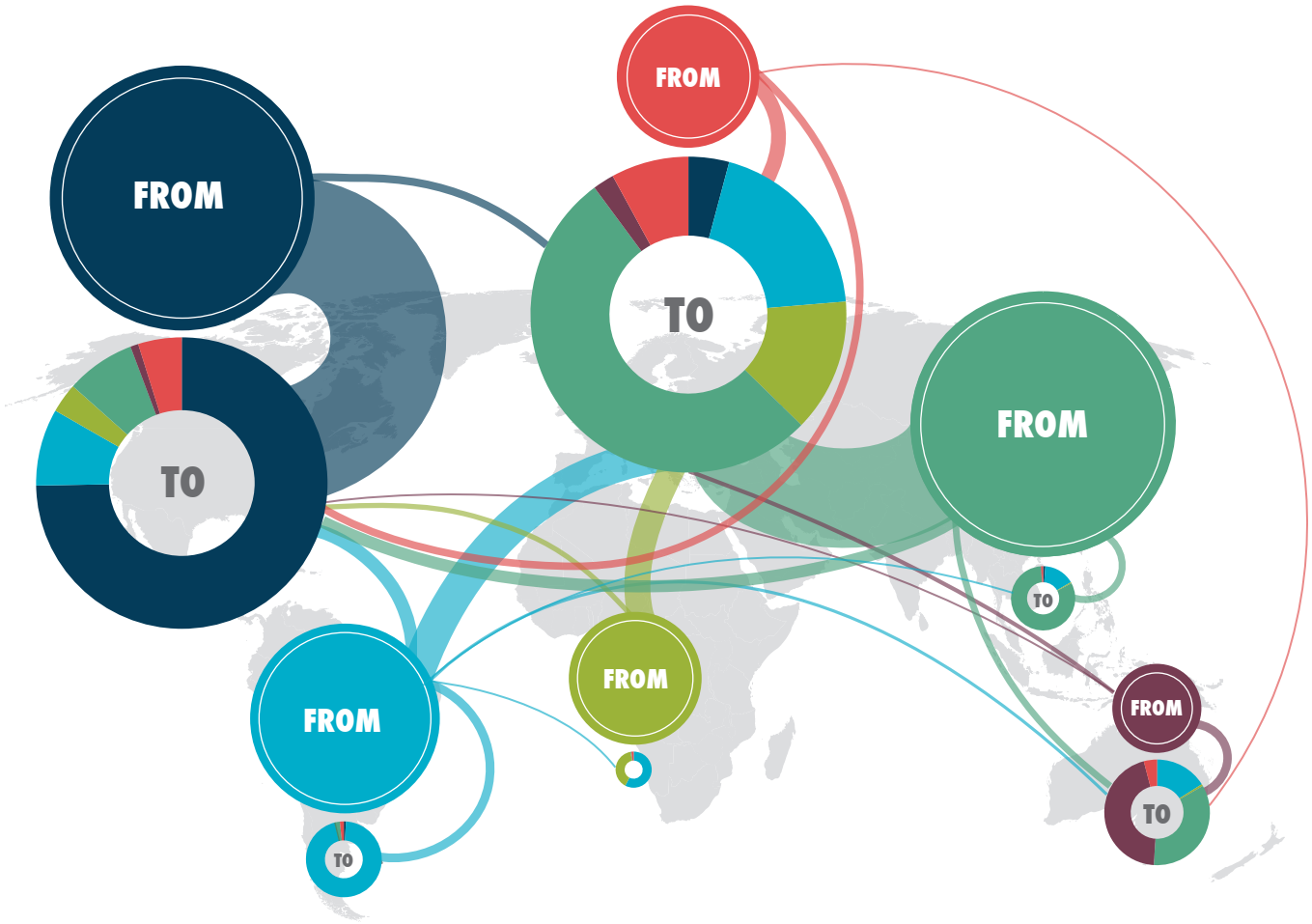
Predictably, the bulk of demand for carbon offsets has historically come from high-emitting regions, namely Europe and North America. In Europe, these voluntary offset transactions complement compliance with the EU ETS, which regulates more than 11,000 power and industrial plants. The region's voluntary demand derives from both regulated and non-regulated sectors that purchase offsets from Asia (75 $MtCO_2e$ historically), Latin America (29 $MtCO_2e$), and Africa (20 $MtCO_2e$), as well as from non-EU member states (9 $MtCO_2e$). The top buyer countries in Europe in 2014 were the United Kingdom, Germany, and Sweden.

The fact that European buyers have made up nearly half of all voluntary demand over time is a testament that rather than undermining voluntary action, compliance markets can actually create familiarity with and acceptance of market-based mechanisms for emissions reductions.

North America trails Europe as the second-largest source of voluntary demand over the last decade, with buyers in the US and Canada purchasing at least 122 $MtCO_2e$ since 2007. Unlike Europe, where the majority of offsets are sourced outside the region, 75% of North American demand was sourced from within the region. This is partly because the lack of a national emissions cap leads to more in-region opportunities to reduce emissions on a voluntary basis. Also, California's cap-and-trade system allows only offsets sourced within the US, meaning all "pre-compliance" activity was domestically focused.

On the supply side, North America-based projects contribute to about one-third (98 $MtCO_2e$) of historical supply, followed by Asia (93 $MtCO_2e$), Latin America (50 $MtCO_2e$), and Africa (24 $MtCO_2e$). While most offsets generated in developing countries find buyers in developed regions, companies in emerging economies such as Brazil and South Africa are increasingly purchasing offsets from domestic projects. In 2014, developing countries purchased a total of 0.4 $MtCO_2e$, or 1% of tracked transactions.

Figure 16: Flow of Transacted Volume from Project Region to Buyer Region, 2007-2014 (% Share)



From ↓ To →	North America	Latin America	Africa	Asia	Oceania	Europe
North America	90.1 $MtCO_2e$	0.06 $MtCO_2e$	-	0.07 $MtCO_2e$	-	6.1 $MtCO_2e$
Latin America	10.3 $MtCO_2e$	6.8 $MtCO_2e$	0.6 $MtCO_2e$	1.0 $MtCO_2e$	2.4 $MtCO_2e$	28.7 $MtCO_2e$
Africa	4.0 $MtCO_2e$	-	0.4 $MtCO_2e$	0.04 $MtCO_2e$	0.09 $MtCO_2e$	20.2 $MtCO_2e$
Asia	9.3 $MtCO_2e$	0.2 $MtCO_2e$	0.01 $MtCO_2e$	5.4 $MtCO_2e$	5.1 $MtCO_2e$	77.2 $MtCO_2e$
Oceania	1.1 $MtCO_2e$	-	-	0.01 $MtCO_2e$	6.6 $MtCO_2e$	3.2 $MtCO_2e$
Europe	5.8 $MtCO_2e$	0.1 $MtCO_2e$	0.02 $MtCO_2e$	0.06 $MtCO_2e$	0.6 $MtCO_2e$	11.5 $MtCO_2e$

*Values smaller than 0.5 M are not shown on map.

Notes: Based on 295 $MtCO_2e$ associated with both a project region and a buyer region over time.
Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

Latin America: Leading the Pack

Home to the world's largest tropical rainforest, it's no surprise that trees matter in Latin American carbon markets. Forestry projects made up 87% of the total 21 $MtCO_2e$ transacted in 2014, and will likely retain their strong presence in the future. Historically, the region has worked on a variety of carbon market mechanisms – including voluntary domestic programs, bilateral partnerships and private development – that have spurred voluntary demand. In 2014, Latin America transacted the most offsets of any region for the first time.

A significant portion of that "demand" is attributed to the REM program, through which Germany and (more recently) Norway have contracted 18 $MtCO_2e$ in emissions reductions through payment-for-performance agreements with the state of Acre, Brazil (8 $MtCO_2e$ in 2013) and the national government of **Ecuador** (10 $MtCO_2e$ in 2014) – propelling Ecuador onto the international REDD stage last year. Behind Ecuador, **Brazil** supplied 4.6 $MtCO_2e$ in 2014, with **Peru** close behind at 4.2 $MtCO_2e$. Project developers attributed Peru's volume in part to voluntary demand surrounding the international climate negotiations hosted in Lima last December. The fourth-largest volume stemmed from Central America, which collectively transacted 2.0 $MtCO_2e$ – led by **Guatemala**-based projects, which contracted 1.1 $MtCO_2e$.

Figure 17: Value Generated from Sale of Latin America-Based Offsets at the Project- and Retail-Level, 2007-2014

Though developing countries are typically a source of offset supply rather than demand, buyers within Latin America's developing countries contracted 0.3 $MtCO_2e$ in 2014 – making up 74% of the total developing country demand (which in turn made up 1% of the overall volume).

This demand is in part driven by government policies and incentives. Several countries in Latin America have launched or plan to launch a carbon pricing mechanism. In September 2013, Costa Rica launched its Voluntary Domestic Carbon Market, which encourages domestic companies to offset using locally produced Costa Rican Compensation Units, CERs and VCUs to earn a carbon neutrality label.

Mexico launched its carbon tax in January 2014 and announced plans for an ETS to cover the electricity sector in February. The country's National Emissions Registry commenced last October and mandates that facilities with annual emissions above 25,000 tCO_2e report on their emissions in addition to voluntarily registering any mitigation or reduction projects and activities.

Latin America by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$462 M	$424 M	$5.3	$5.6	88 $MtCO_2e$	76 $MtCO_2e$
2014	$109 M	$41 M	$5.1	$5.7	21 $MtCO_2e$	7 $MtCO_2e$

Top Latin American Countries by Carbon Finance Value, 2007-2014

	VALUE	VOLUME
Brazil	$233 M	39 $MtCO_2e$
Peru	$112 M	26 $MtCO_2e$
Ecuador	$52 M	11 $MtCO_2e$
Guatemala	$17 M	2.4 $MtCO_2e$
Mexico	$11 M	1.7 $MtCO_2e$

Brazil is still contemplating both a carbon tax and a cap-and-trade program, with a decision expected by 2017. Suppliers in the region are skeptical that either national approach would include a provision for offsets. Meanwhile, the private sector, non-profit organizations and sub-national jurisdictional suppliers have earned a collective $233 M from the voluntary carbon markets over the years.

Chile officially adopted a carbon tax in 2014, making it the first South American country to price CO_2 emissions. Unlike Mexico, however, it does not include a provision for offsets. Instead, voluntary offsetters can continue to trade on the Santiago Climate Exchange, a local platform for voluntary carbon offset trading established in 2009, or through the Chilean government's platform for trading forestry offsets, established in 2013 with VCS.

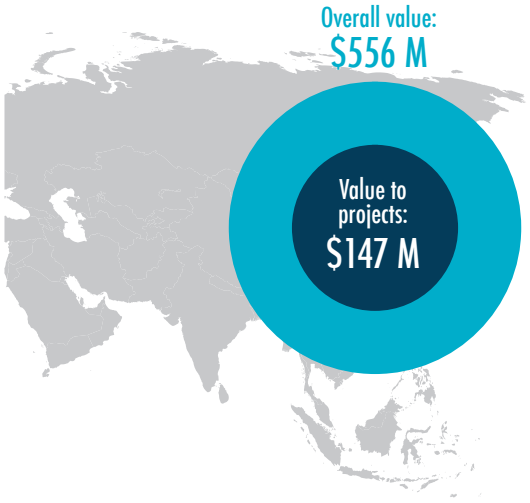
Trends to watch:

- Brazil's potential development of a carbon tax or cap-and-trade program, which could affect sub-national policies in progressive jurisdictions.
- Brazil's Forest Code legislation, which requires all landowners to protect a portion of their land or buy equivalent hectares under protection in a similar biome. While focused on hectares and not carbon, it is a form of payment for ecosystem services that may influence future carbon markets.
- Mexico's carbon tax, which may spur the use of domestic offsets within the country.
- The potential inclusion of CAR protocols for improved forestry management in Mexico into the California compliance market's stable of approved protocols adapted from once-voluntary programs.
- The inclusion of REDD+ international offsets from Chiapas, Mexico and/or Acre, Brazil into California's compliance market, an idea that has been discussed for a number of years.

Asia: Shifting South in Supply

As in the CDM, **India** and **China** have long served as a primary source of offset supply. The reason for this was also closely tied to the compliance markets, as CDM project registration delays often led project developers to seek cash flow while waiting in line by certifying first to voluntary standards and selling to voluntary buyers. However, despite high volumes sold compared to other regions, the pile-up of unsold older vintages from Asia has caused prices to fall in recent years. Now, these renewable energy offsets must compete with other offsets in the region, notably forestry and household device distribution projects in Southeast Asia.

Figure 18: Value Generated from Sale of Asia-Based Offsets at the Project- and Retail-Level, 2007-2014



In fact, last year marked the first in which the largest supply country was not China or India, but **Indonesia**, which transacted 6 $MtCO_2e$ in mostly forestry offsets but also some geothermal and landfill methane projects. India followed closely behind with 5.7 $MtCO_2e$ of predominantly wind offsets. Overall, Asia-based projects transacted 18 $MtCO_2e$, a 16% drop compared to 2013. The price likewise declined 21%, to \$1.9/tCO_2e in 2014.

Meanwhile, the volume of offsets transacted from projects in China fell, in part due to the country's new pilot ETS's. The seven jurisdictional pilots may provide an alternative for pre-CDM offsets that have languished in both the voluntary and compliance markets as many of those offsets are eligible to transition into domestic Chinese Certified Emissions Reductions (CCERs). Currently about 99.5% of the estimated 15 million CCERs issued thus far are pre-CDM. However, four of the pilot schemes (Beijing, Chongqing, Guangdong and Shanghai) have deemed those offsets ineligible for use, so it remains to be seen whether or not the other pilots will serve as a new source of demand. The province of Qingdao has announced it will start its own carbon market in 2015, followed by a nation-wide ETS scheduled to begin in 2016.

While a national Chinese ETS will dwarf other schemes when it comes online, currently **Korea's** ETS, launched January of this year, is the largest in Asia. While the Korean voluntary market experienced some transactions, compliance offsets have languished, as companies have been slow to buy into the new market. Right now, the ETS only allows for the use of domestic offsets, which are in short supply.

Nearby **Japan** has only two compliance programs at the prefecture level – in Tokyo and Saitama – as well as a voluntary program in Kyoto. There used to be a country-wide voluntary carbon market experiment, but it ended in 2012. Now, outside of the government, 55 Japanese member industries and associations are committed to reducing emissions between 2013-2020 (including offsetting) through the Keidanren's Commitment to a Low Carbon

Africa by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$556 M	$174 M	$4.0	$3.8	138 $MtCO_2e$	46 $MtCO_2e$
2014	$34 M	$18 M	$1.8	$1.9	18 $MtCO_2e$	9 $MtCO_2e$

Top Asian Countries by Carbon Finance Value, 2007-2014

	VALUE	VOLUME
India	$205 M	56 $MtCO_2e$
China	$154 M	45 $MtCO_2e$
Cambodia	$40 M	4.3 $MtCO_2e$
Indonesia	$36 M	13 $MtCO_2e$
Malaysia	$31 M	2.6 $MtCO_2e$

Society, the largest Japanese economic association. Companies can offset voluntarily through the J-Credit Scheme, and label their products, services and events as either offset or carbon neutral through the Japan Carbon Offsetting Scheme.

Trends to watch:

- China's launch of a nation-wide ETS scheduled for 2016 that could significantly widen demand for offsets on the compliance side..
- India's Renewable Energy Certificate (REC) market that, with attractive prices, can shift supply from the carbon markets to the REC markets.
- Indonesia's continued moratorium on new forestry permits for peat and primary forests, renewed in 2013 for another two years.
- The implications of Indonesia's restructuring of its REDD+ Agency, which is being merged within the Ministry of Environment and Forestry after being independently established, for the country's future REDD work.
- The current market for offsets within Korea's ETS and future uptake of offsets within the Thailand Voluntary Emissions Trading Scheme (which launched in late 2013 but tested methodologies, rules and procedures from February 2014 to January 2015).
- Japan's offset bilateral credit mechanism, which has so far produced a number of agreements with developing countries but limited offset volumes.

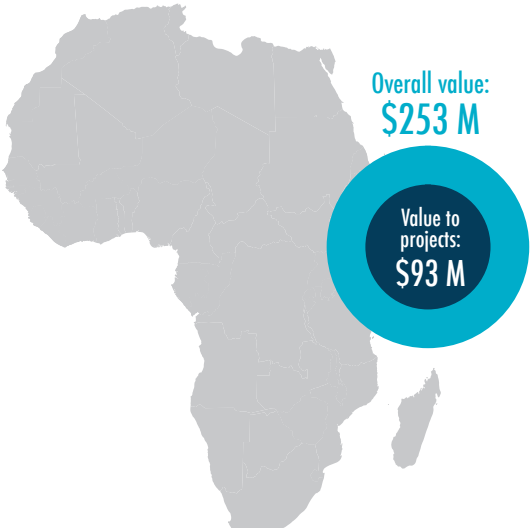
Africa: Small but Charismatic

Historically, fewer than 3% of offsets developed under the CDM were sourced from Africa – and voluntary project development, too, has lagged behind that of other regions. Voluntary buyers have spent a cumulative $253 million on African-based offsets over the past decade, about half of the value attributed to Latin America and Asia, respectively.

Still, voluntary buyers have shown steady interest in supporting avoided deforestation, cookstoves, and other pro-poor project types in Africa. Project developers committed to the region are experimenting with new methodologies with large potential on the continent, such as avoided conversion of grasslands and blue carbon methodologies for mangroves. Demand for African-based offsets reached 6.7 $MtCO_2e$ in 2014 with average prices of $5.7/$tCO_2e$, tracking above the global average.

Suppliers reported transactions from 21 different African countries in 2014. **Kenya**-based projects led the way, transacting 3.1 $MtCO_2e$ in 2014 and accounting for nearly half of the continent's volume over time. Historical project development has also been strong in the **DRC, Uganda, Ghana,** and **Mozambique**.

Figure 19: Value Generated from Sale of Africa-Based Offsets at the Project- and Retail-Level, 2007-2014



Voluntary carbon market participants are also looking towards **South Africa**, where a 120 rand (about USD $10) carbon tax is scheduled to start in early 2016. A policy paper released by the country's National Treasury last year indicates that South African offsets developed under the voluntary carbon standards VCS and Gold Standard will be folded into the compliance program – pending approval from the Designated National Authority. "Pre-compliance" demand among South African buyers, however, was modest, reaching just over 25,000 tonnes as regulated entities generally took a "wait-and-see" approach to the already once-delayed regulation.

Trends to watch:

- The implementation of South Africa's carbon tax in 2016 could create a compliance offset demand of up to 30 $MtCO_2e$ annually in the country, according to 2012 analysis by Camco Clean Energy.
- African nations that feel they missed out on potential financing through the CDM – which went mostly to renewable energy megaprojects in China and India – are lobbying for an upcoming international climate agreement to include a "CDM-like" mechanism to channel money for emissions reductions in Africa, perhaps through the Green Climate Fund.
- As of 2013, the EU ETS now allows for offsets only from least developed countries, which includes many African countries.

Africa by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$253 M	$93 M	$6.6	$4.9	38 $MtCO_2e$	19 $MtCO_2e$
2014	$93 M	$16 M	$5.8	$4.6	7 $MtCO_2e$	3 $MtCO_2e$

Top African Countries by Carbon Finance Value, 2007-2014

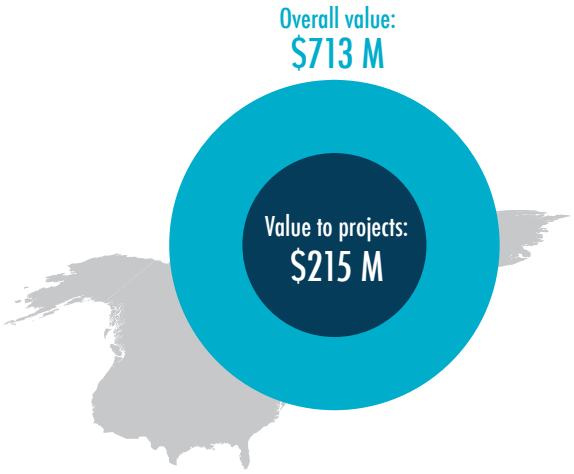
	VALUE	VOLUME
Kenya	$154 M	18.7 $MtCO_2e$
DRC	$21 M	4.6 $MtCO_2e$
Uganda	$17 M	2.5 $MtCO_2e$
Ghana	$11 M	1.6 $MtCO_2e$
Mozambique	$7.2 M	1.0 $MtCO_2e$

North America: A Balancing Act

North America's supply of and demand for voluntary offsets remained strong in 2014 despite supplier concerns that attention would shift predominantly to the California and Québec cap-and-trade markets that started in 2013.

For the first time, Ecosystem Marketplace tracked both compliance and voluntary transactions across all project types within the region and found that the markets traded nearly equal volumes, with 12.5 $MtCO_2e$ by voluntary buyers and 11.5 $MtCO_2e$ sold to compliance entities. The value, however, differed drastically: with an average price of $3.5 per tonne in North America, the voluntary markets generated $40.5 million in value – only half of the value attributed to compliance markets. Part of this value gap can be ascribed to the dominant project type: the most common voluntary offsets were wind and landfill methane, which traditionally sell for much less than the IFM or ozone-depleting substances (ODS) project types eligible for the compliance markets.

Figure 20: Value Generated from Sale of North America-Based Offsets at the Project- and Retail-Level, 2007-2014



The voluntary market, which laid the foundation for the protocols adapted by California's Air Resources Board (ARB) for compliance offset project use, continues to innovate new project types and serves as a "testing ground" for compliance methodologies. Last year, ACR listed the first project under its Voluntary Emissions Reduction in Rice Management Systems, which could serve as a market test-run to the rice management protocol, which has been published for final comments by the ARB. Other new methodologies currently testing voluntary offset market waters but not yet under consideration for compliance include, include international REDD+, transportation efficiency, grasslands and wetlands.

On the compliance side, California continues to draw the most attention and transactions but offsets remain an ongoing part of carbon pricing programs in the Canadian provinces Alberta, British Columbia and Québec (with Québec linked to California's market as of on January 2014). On a national level, market participants believe the US Environmental Protection Agency's (EPA) Clean Power Plan, which mandates that states reduce pollution from power plants, could further legitimize the voluntary market – if states consider market mechanisms.

Trends to watch:

- Ontario's plan to join the California and Québec market in a future tri-lateral market linkage. US states' response to the EPA's Clean Power Plan, which, while denying the use of offsets for compliance with the EPA regulations, doesn't explicitly restrict the use of offsets in state programs.
- Oregon and Washington have discussed potentially implementing carbon pricing programs, though politics reign over any concrete plans at the moment.
- The potential inclusion of new protocols in California's compliance market, namely the rice protocol.
- A change to ARB's forestry protocol is expected, which could restrict supply of offsets in California's compliance market.

North America by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$713 M	$215 M	$4.9	$4.7	145 $MtCO_2e$	46 $MtCO_2e$
2014	$33 M	$3 M	$3.5	$1.6	13 $MtCO_2e$	2 $MtCO_2e$

Top North American Countries by Carbon Finance Value, 2007-2014

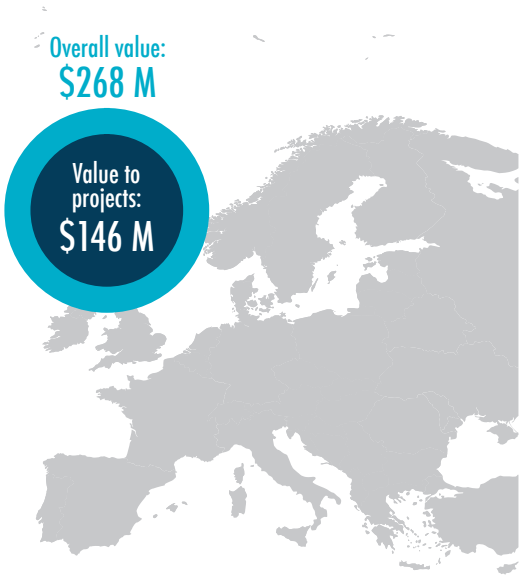
	VALUE	VOLUME
United States	$656 M	136 $MtCO_2e$
Canada	$57 M	9.4 $MtCO_2e$

Europe: Limited Domestic Offsetting

Europe has always acted more as a buyer than supplier in the global voluntary market, as the EU's Kyoto Protocol obligations cover most emissions within those countries. Instead, most voluntary project development in Europe has occurred outside of the EU, primarily through renewable energy projects in **Turkey**.

The country was listed under the international climate agreements as an "advanced developing country" – meaning that it did not have to reduce emissions like other Annex I countries but could not participate in carbon markets as a CDM offset supply country either. Instead, the voluntary market offered the only clear pathway to incentivizing low-carbon activities and the country has historically sold the most offsets of any EU member or non-EU member European state. Its cumulative volume, 31.7 $MtCO_2e$, dwarfs those of other European nations. However, while average prices in the past had never dropped below $4 per tonne, the average Turkish offset sold for $2.4 per tonne in 2014.

Figure 21: Value Generated from Sale of Europe-Based Offsets at the Project- and Retail-Level, 2007-2014



A number of forestry offset programs have come onto the scene in recent years in **Italy**, the **United Kingdom (UK)** and **Portugal** in markets that nonetheless do not meet "additionality" requirements for going above and beyond. In the UK, forestry projects are created under the Woodland Carbon Code (WCC), a domestic voluntary carbon standard administered by the UK Forestry Commission that allows companies to include WCC offsets in their mandatory emissions reporting. Italian developers, on the other hand, are waiting for the government to clarify the role of forests in the country's national emissions accounting before finalizing an Italian Forest Code. While European offsets transacted at the highest average price of all regions – $11.2/$tCO_2e$ – volumes (a total of 2.5 $MtCO_2e$ tonnes in 2014) were tiny in the scope of global supply.

Trends to watch:

- The proposed EU ETS reform and the use/role of offsets.
- The upcoming Paris negotiations – demand for market mechanisms or the inclusion of forestry could have major ramifications for the voluntary market in the region.

Europe by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$268 M	$146 M	$6.8	$7.2	39 $MtCO_2e$	20 $MtCO_2e$
2014	$37 M	$28 M	$6.0	$10.1	6 $MtCO_2e$	3 $MtCO_2e$

Top European Countries by Carbon Finance Value, 2007-2014

	VALUE	VOLUME
Turkey	$207 M	32 $MtCO_2e$
Portugal	$27 M	2.8 $MtCO_2e$
United Kingdom	$16 M	0.7 $MtCO_2e$
Germany	$5 M	2.6 $MtCO_2e$
Netherlands	$1.7 M	0.2 $MtCO_2e$

Oceania: Crawling Forward Amid Policy Setbacks

After suffering from a series of policy setbacks, Oceania project developers struggle to find voluntary demand in the region. This year the reported overall volume – 0.6 $MtCO_2e$ – was the lowest of all regions, and Oceania also gave up last year's title of highest average price to Europe as this year's average fell 56% to $9.1 per tonne.

In **Australia**, the Liberal Party held true to its promise to repeal the country's carbon tax. The compliance program ended last July, replaced with an Emissions Reduction Fund (ERF) set to provide AU$2.6 billion in government finance to purchase offsets in a reverse auction. Yet project developers were left wondering exactly what that meant in terms of price and project selection. Due to the uncertainty, market activity remained lackluster last year, with Australian respondents transacting the second-lowest price on record for the region, $10.4/$tCO_2e$, and increasing volume only by 3%. Some project developers expect the voluntary market to grow this year, since some businesses no longer under the carbon tax may elect to offset voluntarily.

Figure 22: Value Generated from Sale of Oceania-Based Offsets at the Project- and Retail-Level, 2007-2014

Nearby **New Zealand** also reported muted figures. Though the volume increased from last year, it still remained below 0.01 $MtCO_2e$ and prices reached an all-time low of $4.1/$tCO_2e$. There, the government is working through its own compliance market issues; namely, that the acceptance of international offsets such as Emissions Reduction Units (ERUs) have pressured New Zealand Unit (NZU) prices and displaced demand for local projects. As of mid-2015, the former will be restricted and anticipation of only NZU offsets in the compliance program has already caused some NZU prices to increase since late 2014. If that trend continues, voluntary market prices may also rise in the coming year.

Trends to watch:

- The next ERF auction in Australia for further insights into typical project types and average prices, which might impact the voluntary market.
- NZU prices after the government officially restricts the use of Kyoto Protocol units on June 1, 2015.

Oceania by the Numbers, Overall and Project-Level

	VALUE		AVERAGE PRICE		VOLUME	
	Overall	Primary market	Overall	Primary market	Overall	Project-level
ALL TIME	$109 M	$84 M	$8.4	$7.7	13 $MtCO_2e$	11 $MtCO_2e$
2014	$5 M	$4 M	$9.1	$8.7	0.6 $MtCO_2e$	0.5 $MtCO_2e$

Top Oceania Countries by Carbon Finance Value, 2007-2014

	VALUE	VOLUME
Australia	$7.9 M	7.5 $MtCO_2e$
New Zealand	$11 M	2.4 $MtCO_2e$
Papua New Guinea	$7.4 M	2.9 $MtCO_2e$

Suppliers Await Higher Prices – or Look Towards Compliance Markets

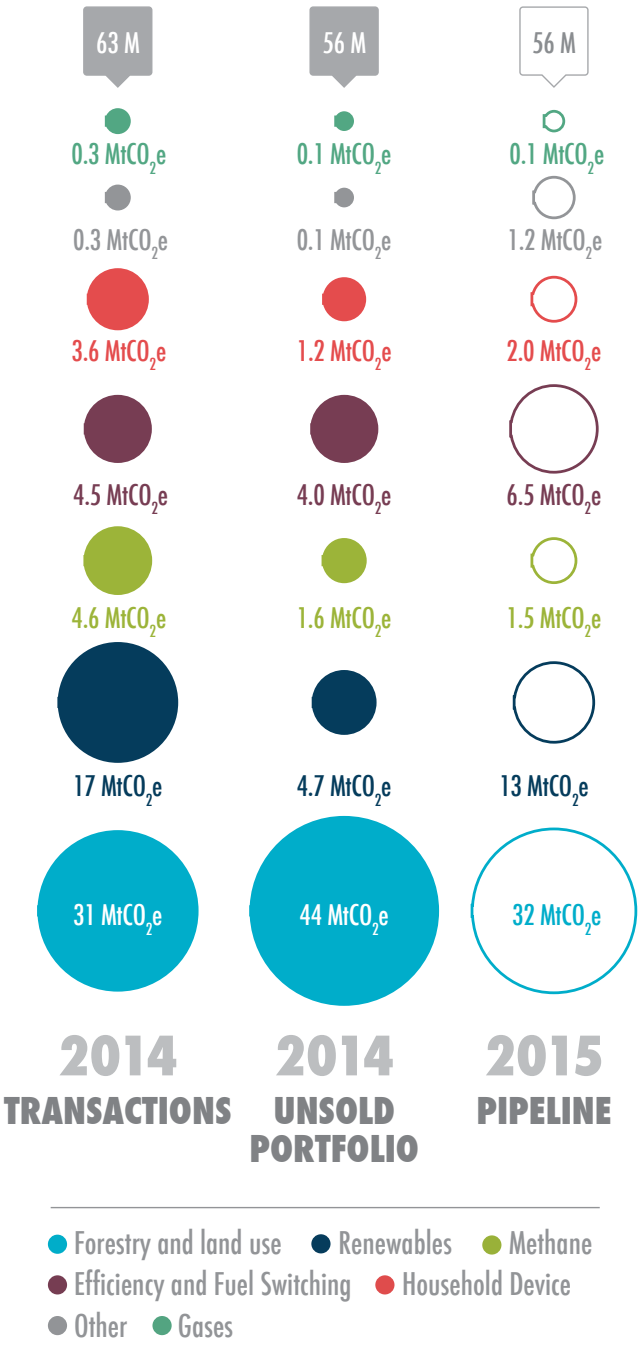
Respondents to Ecosystem Marketplace's 2015 voluntary carbon survey described a buyers' market in which supply exceeds demand and prices are dropping across nearly all project types. Though purely voluntary suppliers contracted 76 $MtCO_2e$ last year, nearly that amount – 63 $MtCO_2e$ – remained in their portfolios unsold. The majority (more than 80%) of these tonnes were forestry or land-use offsets.

When asked why these tonnes remained unsold at the end of the year, suppliers reported that they (unsuccessfully) sought a buyer for about half of the tonnes that remained in their portfolios at the end of 2014. Suppliers purposefully held onto the remaining supply either in hopes of more favorable offset prices in the future or as they awaited policy guidance. Indeed, though suppliers reported that more than two-thirds (65%) of their portfolio volumes were still intended for voluntary buyers, another 11% were destined for compliance and 24% were developed for either voluntary or compliance markets – presumably whichever materialized demand or higher prices.

The "pipeline" – or potential offsets suppliers could bring to market with sufficient financing – looked similar to the 2014 portfolio volumes, with a possible supply of 65.7 $MtCO_2e$ in 2015 (note that this only includes suppliers that answered this question in our survey and is thus an underestimate). Forestry and land use remained the primary offset category in the pipeline at 57%, though suppliers also cited the potential for renewable energy and energy efficiency/fuel-switching tonnes (20% and 12% of potential supply, respectively).

Again, about two-thirds of pipeline offsets are intended for voluntary buyers, though an increasing number of suppliers are keeping open the possibility of tapping into compliance demand. North American buyers in particular see a longer-term demand signal in California's market, and as voluntary prices drop, suppliers are eyeing compliance pricing. Access to compliance markets depends in part on whether regulatory programs accept voluntary standards – or how arduous the process is to switch over.

Figure 23: 2014 Remaining Portfolio and 2015 Pipeline Volumes by Project Category



Notes: Based on 63 $MtCO_2e$ in portfolio volume and 65.7 $MtCO_2e$ in pipeline volume as reported by suppliers in 2015. Mt equals MtCO2e

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

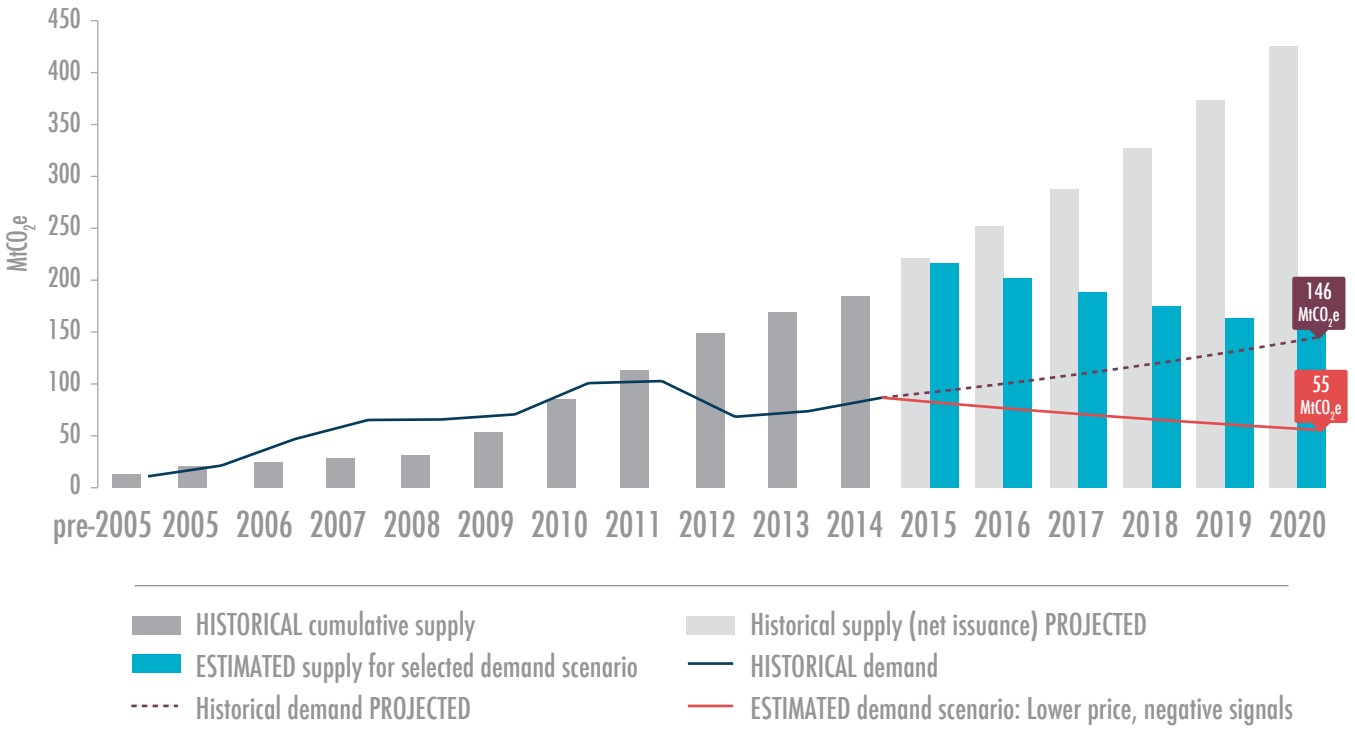
Policy-Makers Will Make or Break Future Voluntary Offset Demand

This report series has often claimed that no one carbon project design choice has a statistically significant influence on its desirability and price. But our evaluation of this growing dataset reveals that some factors do influence market performance overall, over time. The most impactful of these are regulatory market developments and general offset price trends.

Policy-related calculations: Regulatory market developments were evaluated in two camps – positive or negative policy developments and very positive or very negative policy developments. Developments were classified in the "very" significant category if they impacted policies, demand, pricing and/or project development in locations beyond a single domestic government. Examples would include public policies such as UN climate negotiators' REDD-related agreement in Bali; and more market-oriented "policies" such as the launch of the first REDD+ or clean cookstove project methodologies.

Positive or negative policy developments were typically those that impacted a sub-region such as a single state or jurisdiction (e.g., developments in California's cap-and-trade program) or developments within a market program with limited scope (e.g., UK's WCC program expansion). Here is where the majority of developments impacting voluntary projects have occurred – thus growth projections for 2015-2020 (based on historical rates – "Historical Demand/Supply PROJECTED", Figures 17 and 18) are equivalent to a "Lower Prices, Positive Signals" scenario.

Figure 24: Supply and Demand: Historical; Projected Based on Historical Rates; and Estimated Based on Historical Data and Assumption of "Lower Price, Negative Signals"



Notes: Estimates based on historical voluntary offset demand growth rate (9%) and historical offset issuance growth rate (30% year on year) after subtracting 1) non-issued volumes (est. 40% of potential supply); 2) retirement (average 40% of issued supply); and transacted volumes (variable, based on historical transactions). Projections assume a 10% annual project (and thus new supply) "dropout" rate; 17% average demand-side growth rate for given policy and price scenario; and 35% baseline supply growth rate for given policy and price scenario.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

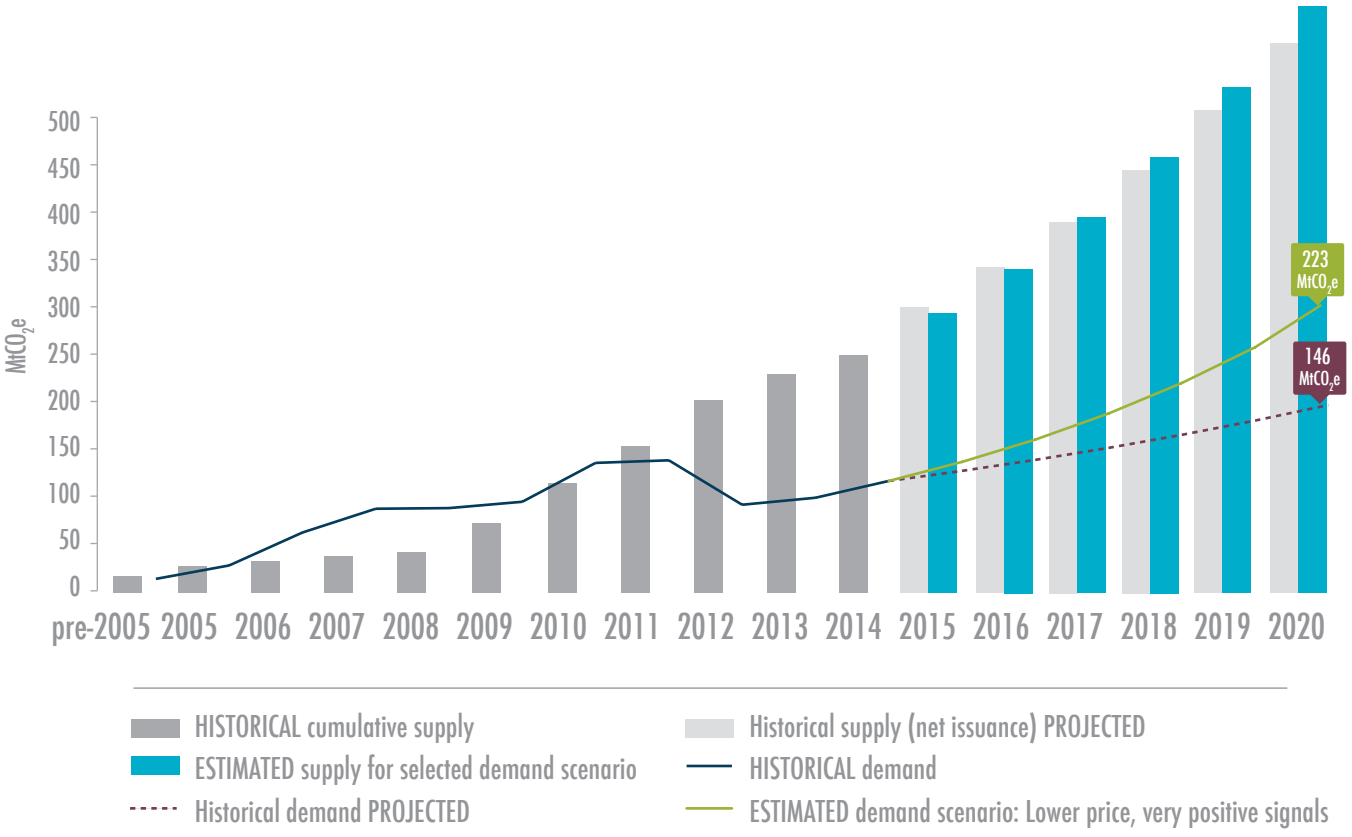
Supply considerations: With respect to offset supply, project developers are twice as likely to develop new projects in response to positive or very positive policy developments as they are to dismantle projects in response to negative or very negative developments. Pre-compliance, in particular, incentivizes buyers and thus suppliers to seek market advantages by acting ahead of regulations – and quickly.

There are dozens of examples when market actors have encountered a "hurry-up-and-wait" scenario in which they have launched projects to respond to early policy signals, only to find themselves mired in policy uncertainty for up to several years. Most of these signals do not materialize, at least not immediately.

This analysis thus subtracts 10% from otherwise new offset volumes annually to account for project dropout. Particularly seen in REDD+ projects, one-third of projects that experienced three consecutive years without a single transaction identified as "no longer operational", equating to approximately 10% of supply.

Price-related calculations: Due to the wide variety of offsets available, voluntary buyers are not significantly sensitive to changes in price as long as they find adequate substitutes and unless they encounter a market-wide price change. Relatively speaking, voluntary offset prices have remained stable over the last 10 years, seeing an average high of $\$7.3/tCO_2e$ in 2008 to a low last year of $\$3.8/tCO_2e$. In Figures 17 and 18, any prices that exceed this historical average high were classified as "higher price"; anything below $\$7.3/tCO_2e$ is "lower price". As one would expect, buyers prefer lower prices, while suppliers are more responsive to higher prices.

Figure 25: Supply and Demand: Historical; Projected Based on Historical Rates; and Estimated Based on Historical Data and Assumption of "Lower Price, Very Positive Signals"



Notes: Estimates based on historical voluntary offset demand growth rate (9%) and historical offset issuance growth rate (30% year on year) after subtracting 1) non-issued volumes (est. 40% of potential supply); 2) retirement (average 40% of issued supply); and transacted volumes (variable, based on historical transactions). Projections assume a 10% annual project (and thus new supply) "dropout" rate; -7.2% average decrease in demand for given policy and price scenario; and -17.5%% baseline decrease in supply for given policy and price scenario.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015.*

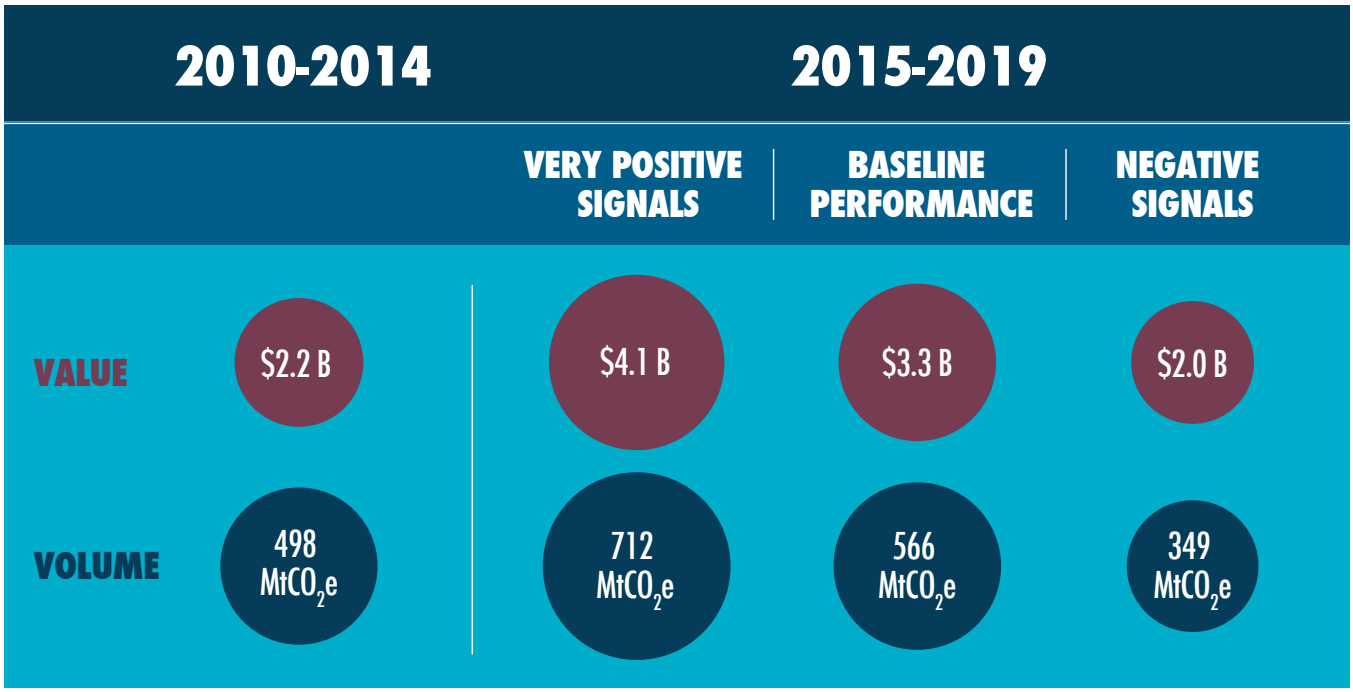
Findings: Interestingly for a voluntary market, regulatory development is the single most impactful determinant of market performance, driving or diminishing both supply and demand. This is the case whether or not the regulation specifies any form of offset use. As found in *The Bottom Line: Taking Stock of Corporate Demand for Voluntary Carbon Offsetting*,[12] unregulated companies that even operate in the vicinity of a compliance offset market are more likely to be familiar with the mechanisms – and more likely to offset.

Estimates in Figures 17 and 18 assume that prices will not increase substantially in the next five years. Thus policy developments – for better or worse – are the single greatest determinant of future market performance.

Upcoming policy developments that could make or break buyer or investor confidence include whether the upcoming climate negotiations in Paris result in countries adopting an accord that transparently recognizes offset mechanisms and trade (i.e. a very positive development); or, conversely, if California regulators' revoke another tranche of compliance offsets (i.e. a negative development).

While undoubtedly imperfect due to the voluntary market's illiquidity, this section's estimates (based on transactional data) are likely to be more accurate than previous surveys' supplier-estimated projections which analysis reveals are unfailingly optimistic. For example, last year's survey respondents anticipated transacting 138 $MtCO_2e$ in 2014 – in reality, they transacted two-thirds of this volume. On their current trajectory, suppliers would transact an estimated 146 $MtCO_2e$ in 2020, or 566 $MtCO_2e$ cumulatively between now and then. Under more positive policy scenarios, this could reach a cumulative 712 $MtCO_2e$ valued at $4.1 B.

Figure 26: Transaction Volume and Value, Historical (2010-2014) and Projected (2015-2019) under Various Scenarios



Notes: Estimates based on historical voluntary offset demand growth rate (9%) and historical offset issuance growth rate (30% year on year) after subtracting 1) non-issued volumes (est. 40% of potential supply); 2) retirement (average 40% of issued supply); and transacted volumes (variable, based on historical transactions). Projections assume a 10% annual project (and thus new supply) "dropout" rate; 17% average annual demand-side growth rate for "Lower price, very positive signals" scenario; -7.5% average annual decrease in demand for "lower price, negative signals" scenario; 35% baseline annual supply growth rate for "Lower price, very positive signals"; and -17.5% annual decrease in supply for "lower price, negative signals" scenario.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

[12] Forest Trends Ecosystem Marketplace. 2015. Washington, DC. *The Bottom Line: Taking Stock of the Role of Offsets in Corporate Carbon Strategies*. http://forest-trends.org/publication_details.php?publicationID=4858

Demand Developments to Watch

The Paris negotiations: After more than two decades, many view the upcoming climate change negotiations in Paris, France, as the last chance to negotiate an international climate agreement under the UNFCCC. Voluntary market participants also see it as an important bellwether for policy-makers' sentiments toward carbon markets. Will countries include a CDM-like mechanism in the future agreement, or exclude it? Will developed countries seek to meet emissions reductions commitments in part through paying for avoided deforestation in developing countries? Will companies get the message that international carbon pricing is inevitable or far-fetched? One optimistic offset supplier predicted a 20% increase in voluntary demand surrounding the Paris negotiations, while another saw "no real demand emerging from any decisions there."

Supply chain management: Nearly 250 major companies have now committed to sourcing low- or no-deforestation (or at least certified) agricultural commodities. At least one-third of these new pledges were made in 2014, nearly doubling 2013's announcements, according to Forest Trends' Supply Change.[13] Whether this attention to supply chain management is a challenge or an opportunity for offset suppliers remains uncertain. Some project developers and retailers view the march of forest-related commitments as a move away from offsetting. Others see an opportunity for "insetting" carbon offset projects within a company's supply chain. For example, Starbucks sources some of its beans from small-scale coffee growers in Chiapas, Mexico – an "inset" project that is supported by carbon finance (Starbucks purchases the coffee, but not the offsets).

South-South flows: While demand for carbon offsets has typically taken on a North-South dynamic, with developed-country buyers financing emissions reductions in the developing world, a growing number of buyers in the Global South are purchasing offsets locally. For example, Brazilian cosmetics maker Natura Cosméticos is buying offsets from avoided deforestation projects in the Amazon rainforest from which it sources materials for its plant-based products. Emerging carbon pricing policies in Asia, Latin America, and Africa, including South Africa's proposed carbon tax, may further familiarity with market-based emissions reductions in developing nations.

Offset demand from individuals: Individuals have historically made up a very small percentage of demand for carbon offsets, and 2014 was no different, with just over 300,000 tonnes transacted directly to individual buyers. However, some "individual" demand may be hidden within the private-sector numbers, particularly the travel sector, as airlines, hotels, and other travel companies offer opt-in offset options for customers. Two initiatives launched early this year also directly target individual consumers. The Stand for Trees campaign created a social media-centered platform that allows individuals to purchase offsets directly from a suite of REDD projects. And Commerce Bank's Sustain:Green credit card doesn't require the customer to make any additional purchases – it automatically puts its 2.7% interest towards offset purchases.

[13] Forest Trends' Supply Change. 2015. *Corporations, Commodities, and Commitments that Count*, Washington, DC.. http://forest-trends.org/releases/uploads/Supply%20Change_Report.pdf

Methodology

How Does this Report Define "Voluntary" Offsetting?

In this report, the term "voluntary carbon markets" refers to all purchases of carbon offsets not driven by an existing regulatory compliance obligation. This includes transactions of offsets created specifically for voluntary buyers ("Verified Emission Reductions" – "VERs"), as well as regulatory market offsets or allowances that buyers voluntarily purchase to offset their emissions. It also includes preemptive transactions of offsets to prepare for future compliance obligations ("pre-compliance").

How Does this Report Define a Transaction?

We consider "transactions" to occur at the point that offsets are contracted; or suppliers otherwise agree to deliver offsets immediately or in the future; or when suppliers agree to retire an offset on someone's behalf based on a donation model.

Does this Report Track Environmental Impact?

Our analysis examines the volume of carbon offsets transacted to chart the size of the global marketplace in terms of carbon offsetting and future project investment. We do not track the individual "lives" of offsets as they pass through the value chain. For example, if a project developer sold an offset to an offset retailer and then the retailer sold the same offset to a final buyer, we count each transaction separately to derive the volume and value of transactions in the overall market. This methodology is consistent with most other marketplace analyses, such as the World Bank's annual reports on carbon pricing mechanisms.

We do collect data on the volume of offsets retired. This volume, along with origination numbers, represents the market's ultimate environmental impact – retired offsets can no longer be resold and so represent the amount of carbon emissions confirmed as being offset in each year.

Where Does Ecosystem Marketplace's Market Data Come From?

Information presented is based on data collected from offset project developers, wholesalers, brokers and retailers, as well as carbon offset accounting registries and exchanges that track and facilitate the transfer of offsets between owners. The bulk of data was collected via an online survey designed for organizations supplying credits into the "over-the-counter" voluntary carbon market. The survey was available between February 13 and April 1, 2015. It was sent to approximately 1,250 organizations identified as possible suppliers and distributed through the Ecosystem Marketplace news briefs and Climate-L and Forest-L list serves. In the same survey, developers of forest carbon projects and North American compliance projects were additionally surveyed for both this report and other research products, which require a more extensive project-based (vs. transaction-based) survey.

To minimize the occurrence of "double-counting" volumes reported by offset suppliers and brokers, we asked respondents to specify the volume of offsets transacted through a broker or exchange. When we identified an overlap, the transaction was counted only once.

How Do You Protect the Confidentiality of Survey Responses?

This report presents only aggregate data. All supplier-specific information is treated as confidential. Any supplier-specific transaction data mentioned in the text was already public information or approved by the supplier. Additionally, we do not identify prices or volumes from any country, project type, standard, or vintage for which we had fewer than three data points to protect the confidentiality of the supplier's transaction information. We do not share supplier information with third parties without prior permission from the survey respondent.

What Was this Report's Survey Response Rate in 2015 (Examining the 2014 Offset Marketplace)?

Each year, our goal is to identify and collect information from as many active offset suppliers as possible. It is critical to note that because of the fragmented nature of the market and confidentiality issues surrounding transaction data, it is impossible to capture all deals. This year, we received survey information from 313 organizations, 291 of which supplied carbon offsets to voluntary buyers in or before 2013. We identified or communicated with another

22 suppliers from our list that did not transact offsets in 2013 or were no longer in business. We contacted another 312 organizations by both phone and email who chose not to respond to the survey this year – because they did not transact offsets in 2014.

What Was the Supplier Type Response Distribution in 2014?

Now and in the past, the private sector captures the majority of both offset supply and demand, and has engaged in the widest range of project types. This year was no different: out of 291 survey responses, 67% were from private sector suppliers. Another 6% were public sector respondents that focused almost exclusively on forestry activities.

Project developers on the ground represented 67% of survey responses and 45% of transacted volume (25.5 $MtCO_2e$). They reported operating on every continent (except Antarctica), with the largest number of reported projects in the Americas (28% in Latin America and 25% in North America). Asia and Africa were the next most common locations, with 18% and 15% represented, respectively. Only a handful of organizations reported working on the ground in Europe and Oceania.

What Was the Regional Survey Response Distribution in 2014?

Similar to 2013, the largest proportion of survey respondents was based in the US (30% of all respondents). After the US, suppliers based in the United Kingdom were again the second-largest proportion of respondents, followed by Brazil and Australia (which switched places from last year).

Unlike last year, we received the largest number of responses from North American suppliers (67), though the offsets supplied were typically smaller (totaling 17 $MtCO_2e$). European suppliers (52), nearly half retailers, supplied the most volume (44 $MtCO_2e$). In aggregate, 77 offset suppliers responded to the survey from emerging markets in developing countries. Organizations headquartered in Latin America (37), Asia (26), and Africa (11) made up over one third of all survey respondents, supplied 18% of all transacted volume (14.4 $MtCO_2e$).

How Do You Calculate Market Share and Aggregate Volumes?

All of the calculations in this report are weighted by respondents' transaction volumes to determine the significance of their submissions. Responses from suppliers who did not disclose 2014 transaction volumes were not included in many figures, as it could not be ascertained how significant their answers were to the offset market. Market share is thus calculated based only on the transaction volume associated with each question. We do not extrapolate market share findings to all volumes reported in our survey, as the marketplace is too differentiated to make such assumptions. Notes at the bottom of most figures report the transaction volume associated with the figure.

How Does This Report Present Prices and Market Value?

All offset prices reported in this series are volume-weighted to determine their significance. We prioritize pricing that was reported at the transaction level as more granular and robust than organization-wide pricing. For organizations that disclosed volume data but not price data, we used the market-wide average price as a proxy in our monetary valuation of the overall market and any variables for which we present market value. All financial figures presented are reported in US Dollars unless otherwise noted. The numbers presented throughout this survey are measured in metric tonnes of carbon dioxide equivalent (tCO_2e) or million metric tonnes of carbon dioxide equivalent ($MtCO_2e$).

Do Ecosystem Marketplace Researchers Screen the Quality of Offsets Reported in this Survey?

Because the aim of this report is to account for all voluntary payments for emissions reductions, we do not apply any quality criteria screens for offsets included in calculations. However, we do follow up with dozens of respondents to confirm or clarify survey responses that were incomplete or raised a red flag. In a few cases where we were unable to confirm that transactions occurred, these responses were omitted.

Annex 1: Supplier Directory

This directory includes carbon offset suppliers that responded to Ecosystem Marketplace's survey in 2015 and chose to be listed. They are organized by region according to supplier headquarters.

African Offset Suppliers	
BioCarbon Partners	www.biocarbonpartners.com
Carbon Africa Ltd	www.carbonafrica.co.ke
Carbon Green Africa	www.carbongreenafrica.net
Carbon Tanzania	www.carbontanzania.com
CookClean Ghana Limited	www.cookclean.net
Credible Carbon	www.crediblecarbon.com
DelAgua Health	www.delagua.org
Ecosur Afrique	www.ecosurafrique.com
Hestian	www.hestian.com
HIBB & CO. TOGO	www.hibbcotogo.com
Natural Balance (Pty) Ltd	www.nb-wonderbag.com
Uganda Carbon Bureau	www.ugandacarbon.org
Vi Agroforestry	www.viagroforestry.org

Asian Offset Suppliers	
ADATS	www.adats.com
Asia Network for Sustainable Agriculture and Bioresources (ANSAB)	www.ansab.org
BioCarbon Group	www.biocarbongroup.com
Carbonyatra	www.carbonyatra.com
China Alliance for Clean Stoves	cacs.chinaluju.com
China Green Carbon Foundation	www.thjj.org
CLP Wind Farms (India) Private Limited	www.clpindia.in
Conservation Carbon Company	conservecompany.com
DTZ Facilities & Engineering (S) Limited	www.dtz.com
East India Commercial Co Ltd	www.eiccltd.com
FFC Energy Limited	www.ffcel.com.pk
Forest Carbon Partners Ltd.	www.forestcarbon.com
Hydrologic Social Enterprise	www.hydrologichealth.com
InfiniteEARTH Ltd	www.infinite-earth.com
Korea Energy Mangement Coporation (KEMCO)	www.kemco.or.kr
MicroEnergy Credits	www.microenergycredits.com
National Biodogester Programme	www.nbp.org.kh
NeoEthical Sustainable Solutions	www.nessk.org
Nexus Carbon for Development Ltd.	www.nexus-c4d.org
Shan Shui Conservation Center	www.shanshui.org
Sindicatum Sustainable Resources	www.sindicatum.com

Socio-eCO2nomix-Global	www.vccslindia.org
Swire Pacific Offshore operations Pte Ltd	www.swire.com.sg
The Energy and Resources Institute	www.teriin.org
Vert Conservation Pte Ltd	www.vertconservation.com

European Offset Suppliers	
2050 Consulting	www.2050.se
33 Forest Capital	www.33forestcapital.com
Allcot Group	www.allcot.com
atmosfair gGmbH	www.atmosfair.org
BaumInvest GmbH & Co KG	www.bauminvest.de
Bischoff & Ditze Energy GmbH	www.bd-energy.com
BP Target Neutral	bptargetneutral.com
Carbon Clear	www.carbon-clear.com
Carbon Online Kft.	www.carbononline.co
CarbonBrake Limited	www.carbonbrake.com
CarbonSinkGroup S.r.l.	www.carbonsink.it
Celestial Green	www.celestialgreenventures.com/
Ceres Env. Eng. Ltd. Sti.	www.ceres-tr.com
China Carbon N.V.	www.chinacarbonfund.com
CLevel	www.clevel.co.uk
ClimatePartner GmbH	www.climatepartner.com
CO2balance UK Ltd	www.co2balance.com
CO2OL	www.co2ol.de
Concern Universal	www.concern-universal.org
EcoAct	www.eco-act.com
EcoWay S.p.a	www.ecoway.it
Ekobil Environmental Services and Consultancy Ltd.	www.ekobil.com
Eneco Energy Trade	enecoportal.mindklab.com/en/
Face the Future	www.facethefuture.com
FairClimateFund	www.fairclimatefund.nl
Ferrero Trading Lux SA	www.ferrero.com
First Climate Markets AG	www.firstclimate-climateneutral.com/gb/
Fondazione per l'Ambiente T.Fenoglio	www.fondazioneambiente.org
Forest Carbon	www.forestcarbon.co.uk
FutureCamp Climate GmbH	future-camp.de
Gaia Carbon Financa	www.gaiacf.com
GERES - CO2Solidaire	www.co2solidaire.org
GFA Consulting Group GmbH	www.gfa-group.de
Green Evolution	www.green-evolution.eu
GTE CARBON	www.gtecarbon.com
Hivos Foundation	www.hivos.org
Indufor	www.indufor.fi

Lavola 1981, SA	www.clean-co2.com
Livelihoods Venture	www.livelihoods.eu
Logicor Froup Ltd	www.logicor.co.uk
Love the World	www.lovetheworld.com
Mavi Consultants	www.maviconsultants.com
Microsol	www.microsol-int.com
myclimate foundation	www.myclimate.org
Nucleo Carbonio	www.rivistasherwood.it/serviziecosistemici
Numerco	www.numerco.com
ONF International	www.onfinternational.org
OurOffset Ltd.	www.ouroffset.com
PrimaKlima	www.primaklima.org
Regione Autonoma Friuli Venezia Giulia and Regione Veneto	www.regione.fvg.it; www.regione.veneto.it
Rezatec	www.rezatec.com
South Pole Carbon	www.southpolecarbon.com
Terraprima	www.terraprima.pt
The CarbonNeutral Company	www.carbonneutral.com
The Cochabamba Project	www.cochabamba.coop
Wind to Market SA	www.w2m.es
Yorkshire Dales Millennium Trust	www.ydmt.org
ZeroMission	www.zeromission.se

Latin American Offset Suppliers	
Anthrotect	www.anthrotect.com
Asociación para la Investigación y Desarrollo Integral (AIDER)	www.aider.com.pe
Bio Assets	www.bioassets.com.br
Biofilica Environmental Investments	www.biofilica.com.br
Bosque Sustentable, A.C.	www.sierragorda.net
Bosques Amazónicos SAC	www.bosques-amazonicos.com
Brasil Mata Viva (IMEI Consultoria)	www.brasilmataviva.com.br
BVRio - Bolsa Verde do Rio de Janeiro	www.bvrio.org
Carbosur	www.carbosur.com.uy
Carbotrader	www.carbotrader.com
CEDECO	www.cambio2.org
Centro de Conservación, Investigación y Manejo de Áreas Naturales - Cordillera Azul (CIMA - Cordillera Azul)	www.cima.org.pe
Colbun SA	www.colbun.cl
Compensation International Progress S.A	www.ciprogress.com
Consot Srl	www.consot.com
Cooperativa Agraria Cacaotera Acopagro	www.acopagro.com
Cooperativa AMBIO	www.ambio.org.mx

Ecomapuá Conservação Ltda.	www.ecomapua.com.br/
Future Forestry Foundation	www.futureforestry.nl
Green Farm / CEO	www.greenfarmco2free.com.br
Greenoxx NGO	www.greenoxx.com
Grupo Secacao	www.gruposecacao.com
Hidromaule S.A.	www.hidromaule.cl
IDESAM	www.idesam.org.br
Kent and Sorensen Overseas, SA CV	www.kentsorensen.com
Metareila Association	www.metareila.org
Mindo Cloudforest Foundation	www.mindocloudforest.org
Pacific Hydro Chacayes S.A.	www.pacifichydro.cl
Peru Carbon Fund	perucarbonfund.com
Pronatura México, A.C.	www.pronatura.org.mx
Proyecto Mirador	www.proyectomirador.org
Sustainable Carbon	www.sustainablecarbon.com
The Nature Conservancy, Brazil	www.tnc.org

North American Offset Suppliers	
3Degrees	www.3degreesinc.com
Algoma Highlands Conservancy	www.algomahighlandsconservancy.org
Amerex Brokers LLC	www.amerexenergy.com
Blue Source LLC	www.bluesource.com
Bonneville Environmental Foundation	www.b-e-f.org
Brinkman Climate	www.brinkmanclimate.com
C-Quest Capital LLC	www.cquestcapital.com
Carbonfund.org Foundation, Inc.	www.carbonfund.org
CERPD	www.cerpd.com
City of Arcata	www.cityofarcata.org
City of Medicine Hat	www.medicinehat.ca
Clean Air Action Corp	www.TIST.org
ClearSky Climate Solutions	www.clearskyclimatesolutions.com
Climate Clean, Inc.	www.climateclean.com
Climate Trust	www.climatetrust.org
ClimeCo Corporation	www.climeco.com
Community Energy Inc	www.communityenergyinc.com/
Conservation International	www.conservation.org
CPS Carbon Project Solutions Inc.	www.carbonprojectsolutions.com
Crow Wing County	www.crowwing.us
Delta Institute	www.delta-institute.org
Diversifed Pure Chem	www.divpc.com
Ducks Unlimited, Inc.	www.ducks.org
EcoPlanet Bamboo	www.ecoplanetbamboo.com
Ecotierra	www.ecotierra.co/en

EcoTrust	www.ecotrust.org
EKO Asset Management Partners LLC	www.ekoamp.com
Element Markets	www.elementmarkets.com
Envirofit International Inc	www.envirofit.org
Environmental Attribute Advisors LLC	www.enviadvi.com
Environmental Credit Corp.	www.envcc.com
Environmental Services, Inc,	www.esicarbon.com
EOS Climate	eosclimate.com
Finite Carbon	www.finitecarbon.com
GreenTrees	www.green-trees.com
Impact Carbon	www.impactcarbon.org
Karbone Inc	karbone.com
Lee International	www.go-worldlee.com
Less Emissions	www.less.ca
Mikro-Tek Inc	www.mikro-tek.com
Mountain Association For Community Economic Development	www.maced.org
NativeEnergy, Inc.	www.nativeenergy.com
New Forests	www.forestcarbonpartners.com
Northwest Natural Resource Group	nnrg.org
Offsetters Climate Solutions	www.offsetters.ca
Oklahoma Conservation Commission	conservation.ok.gov
Orica Canada	www.orica.com
Planetair	planetair.ca
Rainforest Alliance	www.rainforest-alliance.org
Sustainable Travel International	www.sustainabletravel.org
Taking Root	www.takingroot.org
Terra Global Capital, LLC	www.terraglobalcapital.com
The Conservation Fund	www.conservationfund.org
The Nature Conservancy	www.nature.org
The Paradigm Project	www.theparadigmproject.org
The Trust for Public Land	www.tpl.org
Tierra Resources	tierraresourcesllc.com
Verus Carbon Neutral	www.verus-co2.com
Wildlife Conservation Society	www.wcs.org
Wildlife Works	www.wildlifeworks.com
Will Solutions Inc.	www.solutionswill.com

Oceania Offset Suppliers	
Carbon Market Solutions Ltd	www.carbonmarketsolutions.com
Carbon Neutral	www.carbonneutral.com.au
Carbon Trade Exchange	www.ctxglobal.com
Cassinia Environmental	www.cassinia.com

Climate Friendly	www.climatefriendly.com
Cool Planet	www.coolplanet.com.au
Ekos	www.ekos.org.nz
GreenCollar Group	www.greencollarclimate.com.au
Greenfleet	www.greenfleet.com.au
IFS Growth Limited	www.ifsgrowth.co.nz
Pacific Forest Alliance	www.pacificforestalliance.org
Permanent Forests NZ	www.permanentforests.com
WeAct pty Ltd	www.weact.com.au

Annex 2: Carbon Standards and Co-Benefits Certifications Directory

This directory includes carbon offset standards, co-benefit certifications and land use certifications that respondents listed as using in Ecosystem Marketplace's 2015 survey. They are organized by associated volume.

Major Voluntary Carbon Standards, by Market Share Volume

Standard	Region(s) of Activity	Category	2014 Transacted Volume and Average Price
Verified Carbon Standard (VCS) v-c-s.org "The Verified Carbon Standard (VCS) Program provides a global program and standard for GHG emission reduction and removal projects and programs."	Global		32.8 $MtCO_2e$, $3.5
The Gold Standard goldstandard.org "Gold Standard projects must be implemented following our best practice rules, consult with local stakeholders, continually reduce greenhouse gas emissions and improve the environment and people's lives."	Global		8.9 $MtCO_2e$, $4.4
Climate Action Reserve (CAR) climateactionreserve.org "Promote the reduction of greenhouse gas emissions by pioneering credible market-based policies and solutions."	North America		2.1 $MtCO_2e$, $3.8
American Carbon Registry (ACR) americancarbonregistry.org "The first private voluntary GHG registry in the world and an approved California Offset Project Registry."	Global		1.9 $MtCO_2e$, $2.6
Clean Development Mechanism/Joint Implementation (CDM/JI) cdm.unfccc.int ji.unfccc.int "Linking mechanisms under the Kyoto Protocol used to help committed countries meet part of their emission reduction targets." *While developed for the compliance market, some CDM offsets also transacted by voluntary buyers.	Global		648 $ktCO_2e$, $8.7
Clean Development Mechanism/Joint Implementation (CDM/JI) + The Gold Standard	Global		29 $ktCO_2e$, $7.9
ISO-14064 iso.org "Specifies principles and requirements at the organization level for quantification and reporting of greenhouse gas (GHG) emissions and removals."	Global		29kt, $7.9

Plan Vivo planvivo.org "The Plan Vivo Standard is a certification framework for community-based Payments for Ecosystem Services (PES) programs supporting rural smallholders and community groups."	Global	FLU	386kt, $8.5

Table key: Efficiency and Fuel Switching, Forestry and Land Use, Gases, Household Device, Methane, Renewables, Other

Co-Benefits and Land-Use Certifications

Standard	Region(s) of Activity	2014 Transacted Volume and Average Price
Climate, Community and Biodiversity (CCB) climate-standards.org "The CCB Standards foster the integration of best-practice and multiple-benefit approaches into project design and implementation."	Global	12.7 Mt, $6.2
SOCIALCARBON socialcarbon.org "SOCIALCARBON is a standard developed by the Ecologica Institute that certifies emission reduction projects for their contributions to sustainable development."	Global	1.1 Mt, $4.3

Registries – Where Offsets Are Listed and Retired

APX VCS Registry	www.vcsregistry.com
Australia's Clean Energy Regulator Registry	nationalregistry.cleanenergyregulator.gov.au/
Canadian Standards Association GHG Registry	www.csaregistries.ca
Chicago Climate Exchange Offsets Registry Program	www.theice.com/ccx
Japan Verified Emissions Reductions (J-VER) Registry	j-ver.registry.go.jp/
Markit Environmental Registry	www.markit.com/product/registry

Annex 3: Definitions and Glossary

ACR	American Carbon Registry
A/R	Afforestation/Reforestation
ARB	Air Resources Board
B	Billion
$BtCO_2e$	Billion Tonnes of Carbon Dioxide Equivalent
CAR	Climate Action Reserve
CCB	Climate, Community and Biodiversity Standards
CCX	Chicago Climate Exchange
CDM	Clean Development Mechanism
CDP	Formerly known as the Carbon Disclosure Project
CCER	China Certified Emissions Reduction
CER	Certified Emissions Reduction
CSR	Corporate Social Responsibility
DRC	Democratic Republic of Congo
EPA	Environmental Protection Agency
ERF	Emissions Reduction Fund
ERU	Emissions Reduction Unit
ETS	Emissions Trading System
EU	European Union
FCPF	Forest Carbon Partnership Facility
GHG	Greenhouse Gas
$GtCO_2e$	Gigatonnes of Carbon Dioxide Equivalent (equivalent to $BtCO_2e$, but more commonly found in scientific literature)
GS	The Gold Standard
ICROA	International Carbon Reduction and Offset Alliance
IFM	Improved Forest Management
J-VER	Japan Verified Emissions Reduction program
KfW	Kreditanstalt für Wiederaufbau
M	Million
$MtCO_2e$	Million Tonnes of Carbon Dioxide Equivalent
NZU	New Zealand Unit
ODS	Ozone-Depleting Substances
REC	Renewable Energy Certificate
REDD	Reduced Emissions from Deforestation and forest Degradation
REDD+	Reduced Emissions from Deforestation and forest Degradation with social and sustainable benefits
REM	REDD Early Movers Programme
tCO^2e	Tonne of Carbon Dioxide Equivalent
UK	United Kingdom

UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit
VER	Verified Emissions Reduction
WCC	Woodland Carbon Code

Our Donor

PROFOR

The Program on Forests (PROFOR) (www.profor.info) is a multi-donor partnership managed by a core team at the World Bank. PROFOR finances forest-related analysis and processes that support the following goals: improving people's livelihoods through better management of forests and trees; enhancing forest governance and law enforcement; financing sustainable forest management; and coordinating forest policy across sectors. In 2013, PROFOR's donors included the European Commission, Finland, Germany, Italy, Japan, the Netherlands, Switzerland, the United Kingdom, and the World Bank.

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JPMorgan Chase & Co.

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BIOCARBON

BioCarbon is a leading international investor in projects that offer transformational climate and sustainability benefits. Investing in land based projects is our specialty, from conserving tropical forests, to reforestation, to energy services that take pressure off the natural environment in developing countries. BioCarbon partners with companies and organizations at the forefront of environmental and carbon markets to create truly sustainable returns for communities as well as shareholders. Our global portfolio of carbon projects are developed with integrity and validated and verified to the highest international standards. Information about BioCarbon is available at www.biocarbongroup.com.

Our Supporter

Will

Will Solutions Inc. is a Canadian social-entrepreneur company. Will's mission is to provide the best business solutions that measure the ecological footprint of each citizen, company and community so to reward those who are advocate to sustainable development. The use of our Sustainable Community solution creates value – economic, social and environmental – to the society. By working at regional carbon clusters level, Will offers sustainable development solution to stimulate and convert into carbon credits efforts made by non-regulated buildings in energy efficiency and redirection of waste. These carbon credits are then exchanged on the global voluntary carbon market. Go to www.solutionswill.com/en.

The Family of Forest Trends Initiatives

Ecosystem Marketplace

A global platform for transparent information on ecosystem service payments and markets

Water Initiative

Protecting watershed services through markets and incentives that complement conventional management

Forest Trade & Finance

Bringing sustainability to trade and financial investments in the global market for forest products

BBOP

Business and Biodiversity Offsets Program, developing, testing and supporting best practice in biodiversity offsets

the katoomba group

Building capacity for local communities and governments to engage in emerging environmental markets

Communities and Markets

Supporting local communities to make informed decisions regarding their participation in environmental markets, strengthening their territorial rights

MARES

Marine Ecosystem Services Program

Using innovative financing to promote the conservation of coastal and marine ecosystem services

Public-Private Co-Finance Initiative

Creating innovative, integrated, and efficient financing to support the transition to low emissions and zero deforestation land use

Learn more about our programs at www.forest-trends.org