

THE BOTTOM LINE:

TAKING STOCK OF THE ROLE OF OFFSETS IN CORPORATE CARBON STRATEGIES



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, weekly articles, daily news, 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.

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[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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Carbon Offsetting in the New Business Climate

As the carbon content in the atmosphere rises to unprecedented levels, businesses are facing new risks. Delta Air Lines is concerned that rising temperatures could affect plane take-offs and that sea-level rise may encroach on coastal airports. Barclays bank is anticipating that tropical cyclones will alter the credit profile of some of their clients. Cosmetics company Natura Cosméticos worries that temperature changes may distress the plants they use in their make-up, perhaps leading to biodiversity loss. And retailer Marks & Spencer is preparing its retail outlets for higher air conditioning and heating costs due to temperature extremes.

Aside from facing climate change risks, the companies mentioned above have something else in common: They all voluntarily purchase carbon offsets as part of a carbon management strategy.

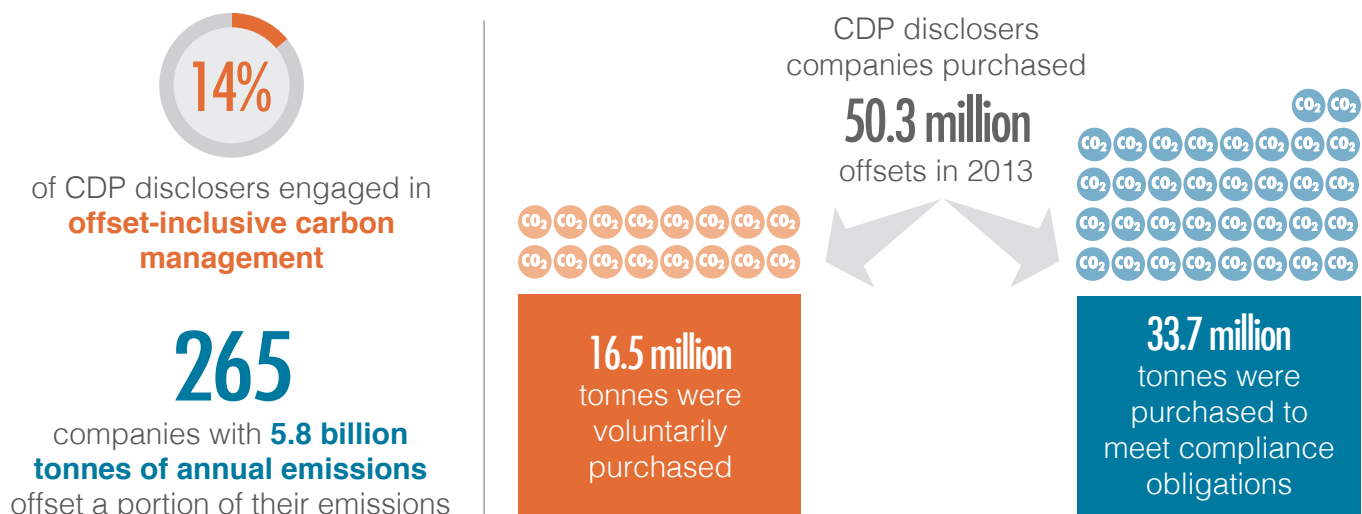
Forest Trends Ecosystem Marketplace estimates that voluntary demand for carbon offsets – delineated in tonnes of carbon dioxide equivalent, or tCO₂e – reached a cumulative 844 million tCO₂e over the last decade. Data from CDP (formerly the Carbon Disclosure Project) reveals that 14% of all companies reporting emissions data to CDP practice offset-inclusive carbon management. That’s a total of 265 companies with an emissions footprint of almost 6 billion tCO₂e, which no doubt comprise a significant proportion of the last decade’s offset demand.

14% of all companies reporting emissions data to CDP practice offset-inclusive carbon management.

These same companies are prioritizing energy efficiency, purchasing or installing renewable energy, shifting agricultural production from primary forest to degraded lands, and engaging staff and customers around ecological goals – all in the name of mitigating their contribution and adapting to a riskier physical and business climate.

Carbon offsetting can support these goals in several ways. For some companies, such as carpetmaker Interface, offsets are a way to neutralize the carbon footprint of a product after exhausting all other means of cutting emissions. Other corporations use offsetting to mitigate emissions in their supply chain, sometimes as an interim measure as they work with suppliers to reduce emissions directly.

Figure 1: Market Snapshot: Offset-Inclusive Carbon Management as Reported to CDP, 2013



Notes: Based on 50.3 Mt of offset purchases by 265 unique buyers in 2013. Data source: CDP public disclosure, reporting year 2014.

In 2013 (the most recent year for which data is available), CDP-reporting companies purchased 50.3 million offsets.¹ That number is not insignificant. It is equivalent to *not* burning 117 million barrels of oil, or shutting down 13 coal-fired power plants for one year.² But it still represents less than 1% of reporting companies' 2013 emissions not reduced by other means.

This report explores offsetting from a business perspective, exploring how companies incorporate offsetting into comprehensive carbon management strategies – and how they drive investment in these emissions reductions activities.

¹ The numbers presented here include only offset demand from respondents to CDP's carbon survey and are therefore a subset of total demand for carbon offsets. Ecosystem Marketplace tracked 76 Mt of voluntary demand for carbon offsets in 2013, 54 Mt of which is considered primary market demand (excluding demand from retailers). The World Bank reports 174 Mt of compliance demand for Certified Emissions Reductions (CERs) on the primary market in 2013. So the CDP dataset captures an estimated 31% of primary market voluntary demand and 19% of primary market compliance demand for carbon offsets.

² Greenhouse Gas Equivalencies Calculator. <http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results>

Methodology

About the Data

For nine years, CDP has asked thousands of the world's largest companies to calculate and disclose their greenhouse gas emissions. They do so on behalf of 822 institutional investors with \$95 trillion in assets. In both 2013 and 2014, over 1,800 companies publically disclosed climate change information to CDP. This report draws from public disclosures submitted in these years.³

The CDP questionnaire obtains detailed information on corporations' emissions reductions targets, perceived climate change risks, strategies for driving investment in emissions reductions activities, and estimates of actual investment and related payback periods. It also asks companies whether and how much they offset.

The CDP data complements Ecosystem Marketplace's decade of research and reporting on voluntary carbon offset demand. While Ecosystem Marketplace tracks demand by surveying carbon offset suppliers (e.g., offset project developers and retailers), CDP obtains data directly from buyers – tracking how many offsets were purchased, from which project(s), and whether the offsets were purchased voluntarily or to meet compliance obligations.

This data supplements the market's understanding of offsetting and how it supports companies' overall emissions reductions strategies. In particular, it reveals that rather than being on the fringe, offsetting is an important part of hundreds of major companies' carbon management strategies – some of which publically acknowledge their offsetting program while others offset behind the scenes.

About the Analysis

Much of the analysis in this report hinges on a comparison of companies that include offsetting as part of their carbon management and those that don't, as determined by analyzing CDP disclosures by both respondent types. We included only those companies that purchased offset volumes, excluding those that "originated" offsets or that reported an offset purchase but not an associated volume. We also compared voluntary and compliance offset buyers based on disclosers' indicated offset purchase motivation.

Scope 1, 2, and 3 emissions and reductions were reported directly by companies, though their reporting periods do not always fall within the calendar year. For example, a company might report on emissions from March 1, 2013 through February 28, 2014. In order to estimate 2013 offset buyers' emissions, we included reported emissions if at least six months of the reporting period fell within 2013. This was the case for the majority of companies (1787).

The cost curve that appears in the report compares the annual costs of reducing a tonne of carbon dioxide or carbon dioxide equivalent (CO₂e) by strategy (e.g., energy efficiency versus product design versus voluntary offsetting). This cost curve is informed by several CDP disclosure variables including upfront investment, lifetime of the initiative, estimated emissions reductions, and annual monetary savings. All investment and savings reported to CDP were converted to US dollars based on the average currency conversion rate in 2013. The average price of carbon offsets is obtained from Ecosystem Marketplace's 2014 assessment of the size, scope, and value of voluntary carbon offset demand in market year 2013 (\$5.9/tCO₂e).

Examples used throughout this report were obtained from companies' write-in responses about the risks they face, how they drive investment in emissions reductions, the offset projects they support, and more.

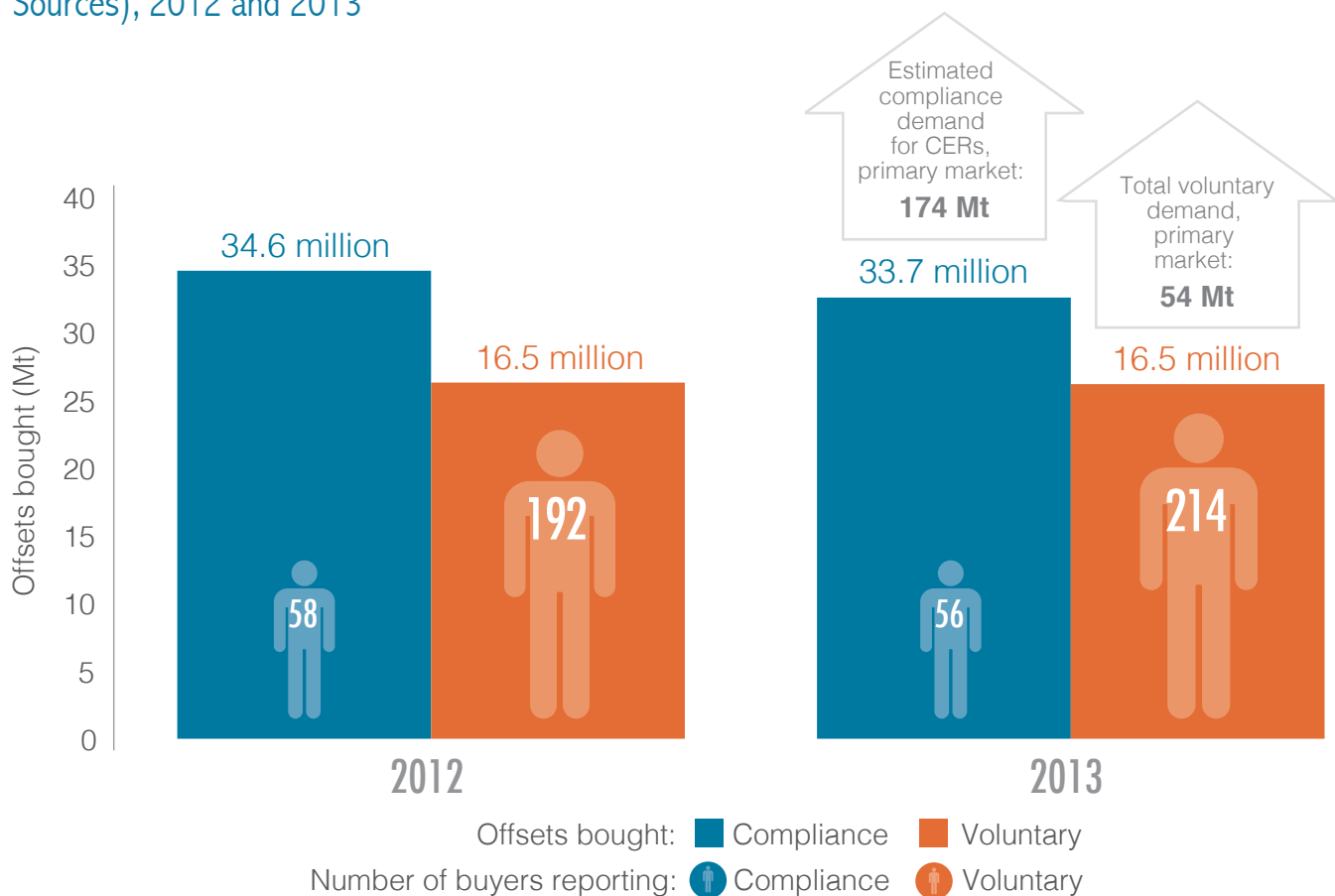
³ Note that CDP disclosures for 2013 and 2014 cover the previous year's activities – so the emissions and emissions reductions activities discussed in this report occurred in 2012 and 2013, respectively.

An Introduction to Carbon Offsetting

The efficacy of offsetting relies on the notion that carbon dioxide – the greenhouse gas that is primarily responsible for warming the planet – is **a global pollutant**. In terms of its contribution to climate change, it doesn't matter if a tonne of carbon dioxide is emitted from a factory in California or a deforested swath of Amazon rainforest. Similarly, actions that sequester or avoid carbon emissions may be place-specific, but these “savings” affect the atmosphere as a whole. In this way, **companies can “neutralize” one tonne of internal emissions by supporting a project to reduce or avoid an equivalent volume of emissions elsewhere.**

Under cap-and-trade or “tax-and-trade” programs, offsets may allow regulated entities to contain the cost of meeting their compliance obligations by investing in emissions reductions outside of their direct operations. Companies may also voluntarily purchase offsets as part of a corporate social responsibility program, perhaps to make a specific product or event “carbon neutral” or to contribute to meeting a voluntarily established emissions reductions target. Companies may also participate in “offset origination,” investing in energy technologies or land-use projects to produce verified offsets – either to sell them to others or to retire them against their own emissions.

Figure 2: CDP-Disclosed Demand for Carbon Offsets by Volume (Comparison with Other Market Sources), 2012 and 2013



Notes: CDP data is based on 101 Mt of offset purchases by 370 unique buyers over two years. This is a subset of total demand. In 2013, 174 Mt of Certified Emissions Reductions (CERs) were traded on the primary market. The primary market for voluntary carbon offsets was at least 54 Mt (76 Mt total demand tracked by Ecosystem Marketplace, minus 22 Mt traded by retailers) in 2013.

Data source: CDP public disclosure, reporting years 2013 and 2014; Forest Trends Ecosystem Marketplace, *State of the Voluntary Carbon Markets 2014*; World Bank Group, *State and Trends of Carbon Pricing 2014*.

Ecosystem Marketplace's carbon market tracking shows that private, **voluntary offsetting has driven investments in emissions reductions to the tune of \$4 billion over the past decade**. While Ecosystem Marketplace attempts to comprehensively capture voluntary offsetting activity worldwide, CDP's data describes a subset of this demand. It nonetheless offers a rare glimpse at the offset-inclusive carbon management strategies of the 265 corporations that disclose carbon offsetting data.

Offsetting is a common component of companies' carbon management strategies – whether these strategies are implemented voluntarily or in response to regulations.

The last two years of CDP disclosures demonstrate that offsetting is a steady part of companies' carbon management strategies – whether these strategies are implemented voluntarily or in response to regulations. Compliance buyers are fewer in number but tend to purchase offsets in larger volumes – a median of 20,000 tonnes compared to the 4,000 offsets purchased annually by the typical voluntary buyer.

However, voluntary buyers are greater in number – **214 companies purchased offsets voluntarily in 2013**, up from 192 voluntary buyers in 2012. Voluntary demand among CDP-reporting companies remained steady across the two most recent reporting years, with companies purchasing a total of 16.5 million offsets annually. As seen in Figure 2, this is a small proportion of the 76 MtCO₂e in voluntary demand that Ecosystem Marketplace tracked in market year 2013 – 71% of which is primary market demand directly comparable to the data analyzed in this report.

Companies reported purchasing slightly more offsets for compliance purposes – a total of 34.6 million offsets in 2012 and 33.7 million offsets in 2013. **More than 300 CDP-reporting companies overall participated in an Emissions Trading System (ETS) in 2013**, including the European Union's ETS, Australia's carbon pricing mechanism, and subnational initiatives such as Alberta's emissions trading regulation – all of which include an offsetting provision. In total, CDP's dataset represents 19% of 2013 compliance offset market activity as reported by the World Bank Group.

Over 250 Companies Reported Offset-Inclusive Carbon Management Strategies in 2013

Two-hundred and sixty-five companies disclosed offset purchases to CDP in 2013. The majority of them – 214 companies – bought offsets voluntarily. **Voluntary demand for offsets typically comes from sectors not covered by carbon regulation such as transportation, banks, finance & insurance, services, and technology.** Through the Livelihoods Fund, food giant Danone – along with nine other European investors – voluntarily finances agroforestry, mangrove restoration, and rural energy offset projects. Carmaker General Motors purchases millions of offsets from carbon-saving projects based in the United States and is partnering with college campuses on emissions reductions goals. Barclays bank, which has a strong presence in Africa, purchases offsets from an avoided deforestation project in Kenya and renewable energy projects in India and China.

Many voluntary offset buyers have public-facing programs and aim to engage customers directly. Delta Air Lines allows passengers to calculate the emissions from their flights via an opt-in offset program that supports forest projects in Belize, Chile, and the United States. Carpetmaker Interface presents customers with documentation of their carpets' carbon neutrality, purchasing a portfolio of offsets through a "Cool Carpets" program. British Columbia-based Catalyst Paper Corporation advertises a line of carbon-neutral paper products, with offsets sourced from projects within the province and in nearby Washington State.

Other voluntary offset buyers keep their offset programs a bit quieter, with less focus on customer engagement or media coverage. Nordic corporate bank Skandinaviska Enskilda Banken AB purchases offsets from a project that aims to install thousands of solar cookers across rural households in China. Skincare and cosmetics line Estée Lauder purchases offsets from wind farms from India to Indiana. South African industrials company Barloworld purchases offsets from a coal mine methane project in China and an improved cookstove project in Zambia. Chocolate-maker Hershey offsets the emissions of its sales fleet. And the list goes on.

Among those companies responding to regulation, top offset buyers include cement producer CEMEX; multinational oil and gas companies including Exxon Mobil, Eni S.p.A., Royal Dutch Shell, and ConocoPhillips; and European electricity utilities including Energias de Portugal, Électricité de France, Endesa (Spain), and E.ON SE (Germany). Predictably, **compliance buyers hail from the major emitting industries – energy, materials, and utilities – regulated under governments that price carbon.**

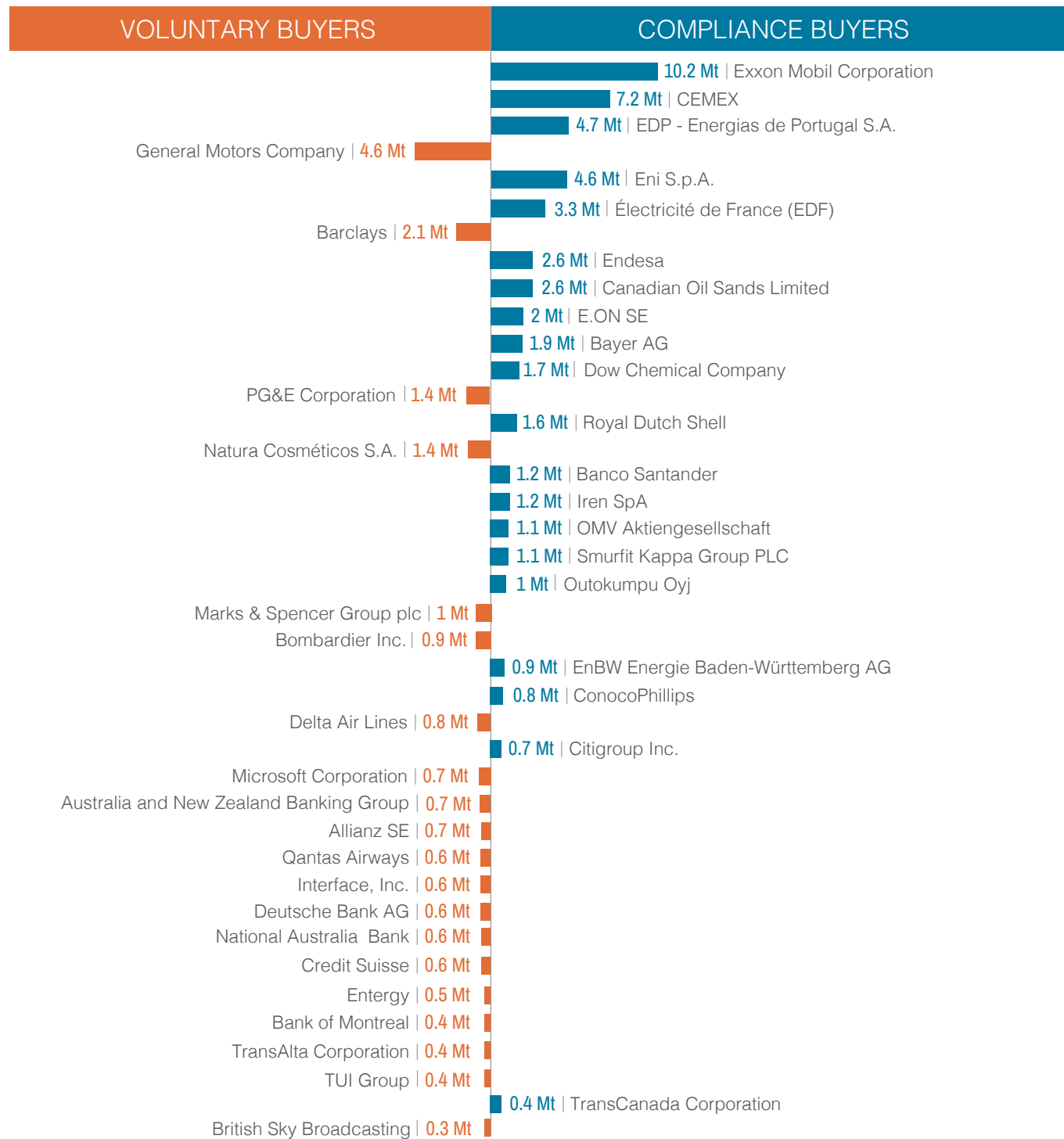
Figure 3: Representation of CDP-Disclosed Offset Market Share by Sector and Buyer Type, 2013



Notes: Based on 50.3 Mt of offset purchases by 265 unique buyers in 2013.

Data source: CDP public disclosure, reporting year 2013.

Figure 4: Top 20 CDP-Disclosed Voluntary and Compliance Offset Purchasers by Volume, 2012 & 2013



Notes: Based on 101 Mt of offset purchases by 370 unique buyers over two years. The Livelihoods Fund, which includes 10 European companies – Danone, Schneider Electric, Crédit Agricole, Michelin, Hermès, SAP, CDC Climat, La Poste, Firmenich, and Voyageurs du Monde – is a major voluntary investor in carbon offsets, with a portfolio of projects that will reduce 8 Mt over 20 years. The Livelihoods Fund is excluded from the above figure because offset purchases could not be parsed by year or company.

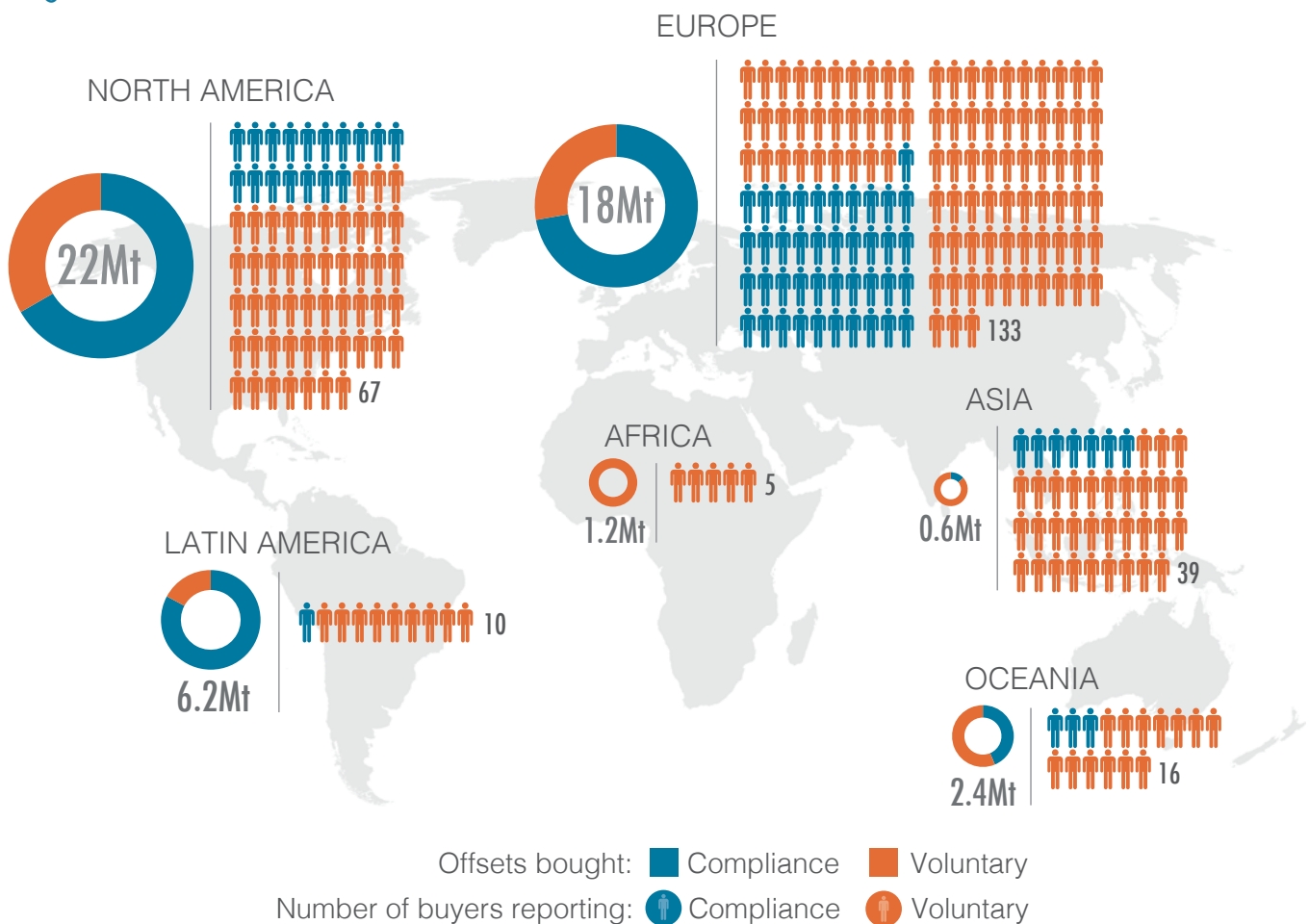
Data source: CDP public disclosure, reporting year 2013.

Voluntary Offsetting More Common in Regions with Regulations

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.

Figure 5: CDP-Disclosed Offset Market Size by Buyer Count and Type, Volume Purchased, and Region, 2013



Notes: Based on 50.3 Mt of offset purchases by 265 unique buyers in 2013. Five companies were classified as both voluntary and compliance offset buyers and are thus represented twice in this figure.

Data source: CDP public disclosure, reporting year 2013.

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.

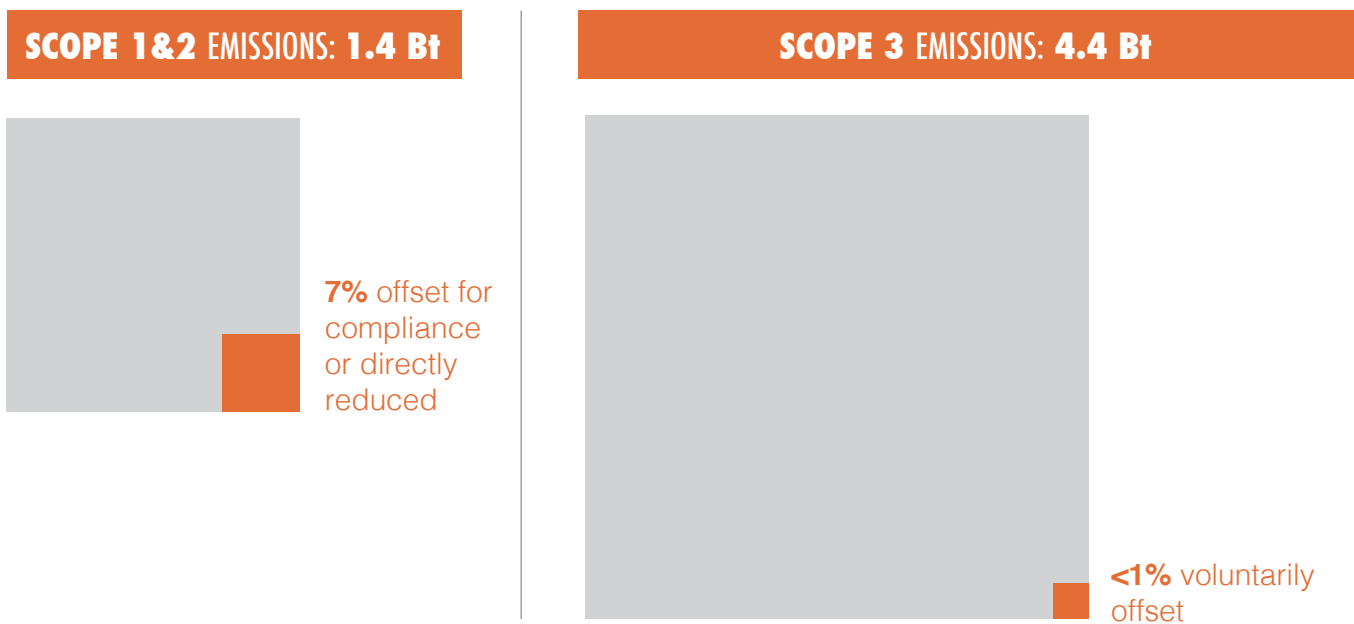
Offset Buyers Have a Disproportionately Large Indirect Carbon Footprint

Offset buyers reporting to CDP have significant cause for concern about their climate impacts – in aggregate, they were responsible for 5.8 billion tonnes of greenhouse gas emissions in 2013. That's more than the total emissions of the United States.⁴ The majority of these emissions are considered "scope 3", or indirect, emissions.⁵ **The typical offset buyer has a disproportionately large scope 3 emissions obligation that is about 35 times that of a company that doesn't purchase offsets.**

Figure 6: Scale of CDP-Reporting Companies' Emissions and Emissions Reductions, All Scopes, 2013

Offset buyers were responsible for **5.8 billion tonnes** of greenhouse gas emissions in 2013.

The majority of these were **scope 3 emissions**.



Notes: Based on 230 offset buyers that reported scope 1, 2, and 3 emissions.

Data source: CDP public disclosure, reporting year 2013.

Most companies have access to an obvious set of tools for reducing scope 1 and even scope 2 emissions. They can install low-carbon energy systems (40% of offset buyers did this), improve energy efficiency in their processes (11% of offsets buyers did this), design lower-carbon products (5% of offset buyers did this), and more. Through these measures, **offset buyers achieved 69 million tonnes of direct emissions reductions in 2013** – their scope 1 & 2 emissions would have been 5% higher without these activities. Another 2% of scope 1 & 2 emissions were offset under carbon pricing programs that regulate direct emissions.

⁴ EPA, Trends in Greenhouse Gas Emissions. <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Chapter-2-Trends.pdf>

⁵ Scope 1 emissions are direct greenhouse gas emissions from the company's operations, while scope 2 emissions are related to the consumption of purchased electricity.

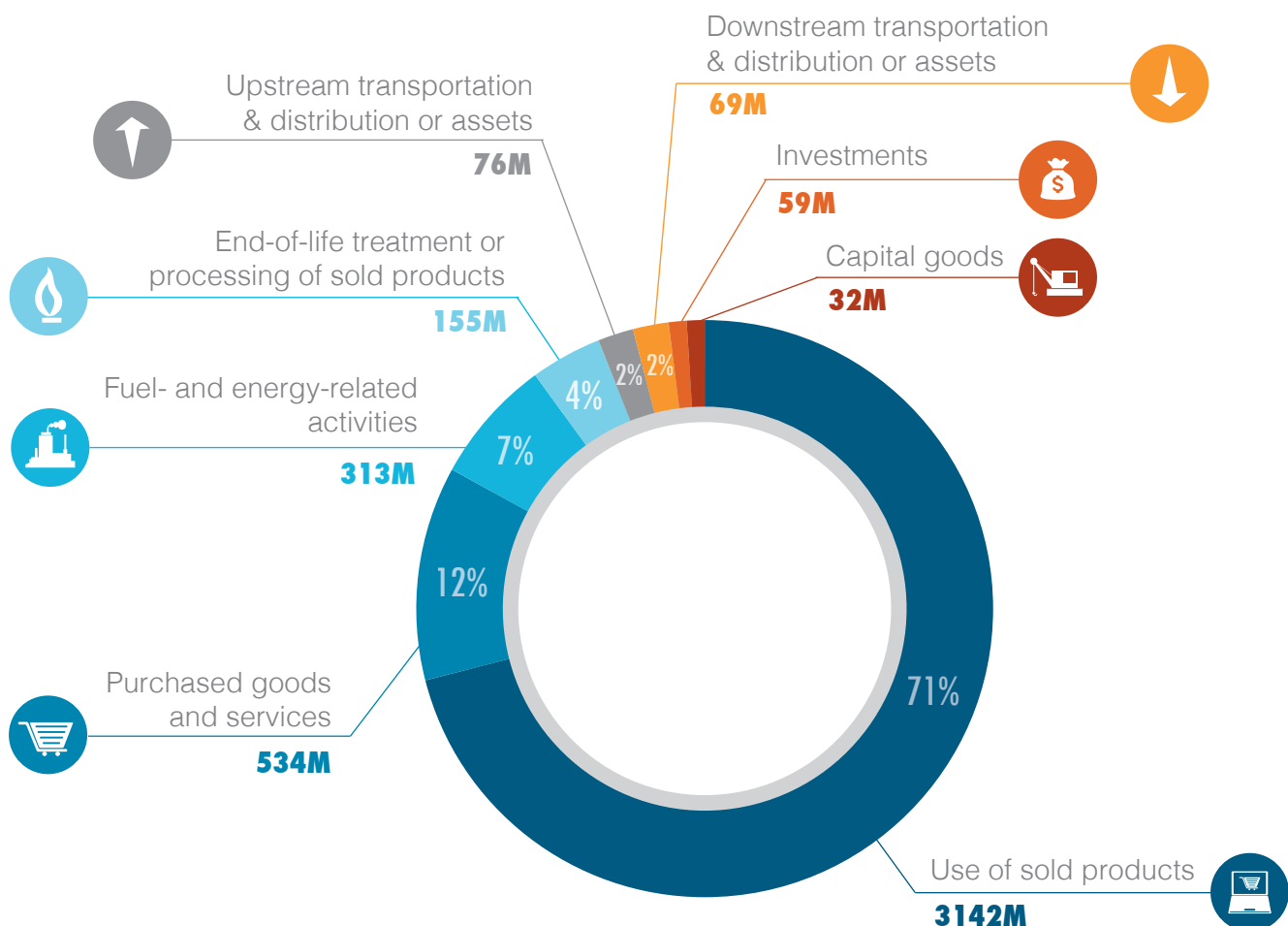
Offsetting Increased Collective Mitigation by 25%

Addressing scope 3 emissions is much less straightforward. **Scope 3 emissions may occur either “upstream” in the company’s supply chain or “downstream” via consumers’ use of a company’s products.** The latter accounts for more than 70% of CDP-disclosing offset buyers’ scope 3 emissions and includes the greenhouse gases released when customers burn the oil or gas extracted by energy companies, operate the computers produced by technology giants, refrigerate the food products produced by agri-business.

Scope 3 emissions may also come from business travel, employee commuting, the end-of-life treatment of sold products, distribution of goods, and land-use change along the supply chain. These are real tonnes of carbon dioxide entering the atmosphere as a result of a company’s “sphere of influence” – but there is no compliance obligation to address them. Still, CDP disclosers voluntarily offset 16.5 million tonnes in 2013.

Overall, offset buyers purchased about one quarter as many offsets as the emissions they reduced directly. In other words, offsetting increased these companies’ collective mitigation impact by 25%. And that’s after offset buyers already did proportionately more than other companies to reduce their direct emissions. The typical offset buyer directly slashed almost 17% of their scope 1 emissions while the typical non-offset buyer reduced scope 1 emissions by less than 5%. Still, the scale of indirect emissions dwarfs companies’ direct climate impact, and offsets only begin to address the problem, neutralizing less than half of one percent of offset buyers’ total scope 3 emissions.

Figure 7: Sources of Scope 3 Emissions Among Offset Buyers



Notes: Based on 4.4 billion tonnes of scope 3 emissions reported by 230 offset buyers in 2013.

Data source: CDP public disclosure, reporting year 2013.

Offsetting Is an Indicator of Deeper Commitment to Emissions Reductions

Offset buyers have commonly been criticized for “buying their way out of the problem” instead of undertaking direct emissions reductions. However, the data tells a different story. Across all categories, **offset buyers are more engaged in direct emissions reductions activities compared to companies that don’t offset.**

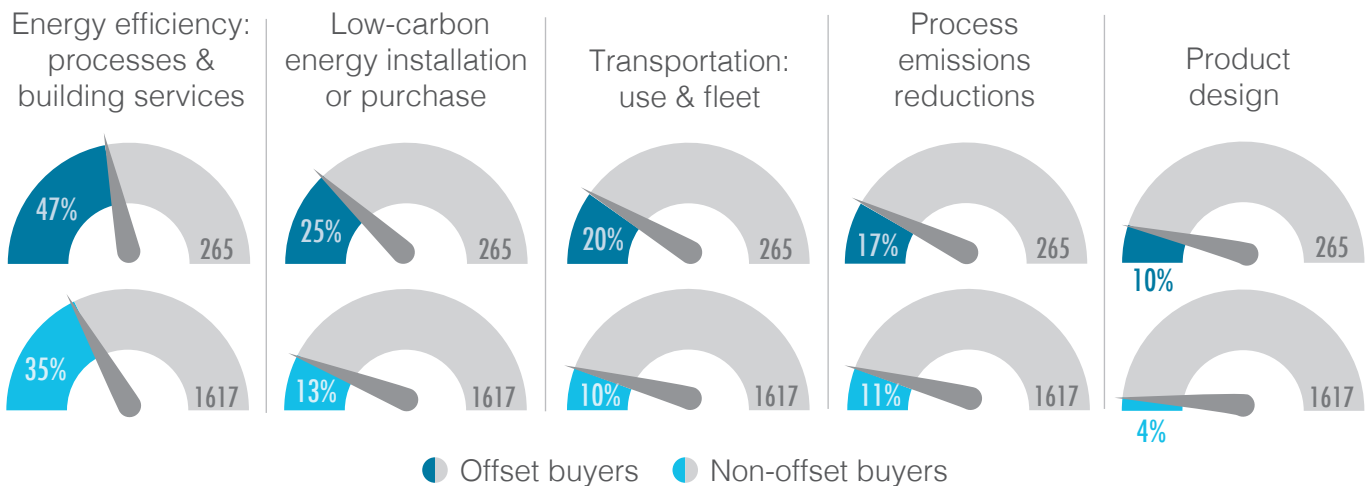
In 2013, offset buyers spent \$41 billion to make their buildings and processes more energy efficient, install low-carbon energy, switch to cleaner transportation, design more sustainable products, and engage customers and employees around behavior change. Companies that didn’t purchase offsets did all of these things too, but at a consistently lower rate.

So which comes first, direct emissions reductions or offset purchases? The answer varies by company, of course. Some companies may use offsetting as a last resort, squeezing every last tonne of carbon dioxide out of their own operations before investing externally. For others, offset purchases may function as a bridge, buying time as they figure out additional ways to reduce emissions directly.

Either way, it’s clear that (at least among CDP disclosers) offsetting is less akin to buying “indulgences” and more an indicator that a comprehensive carbon management strategy is in place. In fact, **87% percent of offset buyers have established some form of emissions reductions target**, compared to 75% of non-offset buyers. The majority of offset buyers – 59% – have an absolute emissions reductions target, meaning they are aiming for a reduction in actual emissions in a future year, compared to a base year. This is in contrast to an intensity target that aims to reduce emissions relative to a normalized metric, such as per product or per unit of revenue.

Thirty-two percent of offset buyers have both absolute and intensity targets, compared to 18% of non-offset buyers that have both types of targets.

Figure 8: Emissions Reductions Activities, Offset Buyers versus Non-Offset Buyers



Notes: Based on emissions reductions activities reported by 1882 companies.

Data source: CDP public disclosure, reporting year 2013.

Offsetters are Five Times as Likely as Other Firms to Internally Price Carbon

Though many emissions reductions activities save money in the long- or even short-term, most require an upfront investment. Companies committed to reducing their contributions to climate change must therefore find ways to raise money to spend upfront on energy efficiency technologies, renewable energy, improved product design, and more.

Against this backdrop, offset buyers reported on specific methods for raising money for and financing emissions reductions at a higher rate compared to non-offset buyers. They are five times as likely as non-offset buyers to have an internal price on carbon to drive investment in emissions reductions within their company.

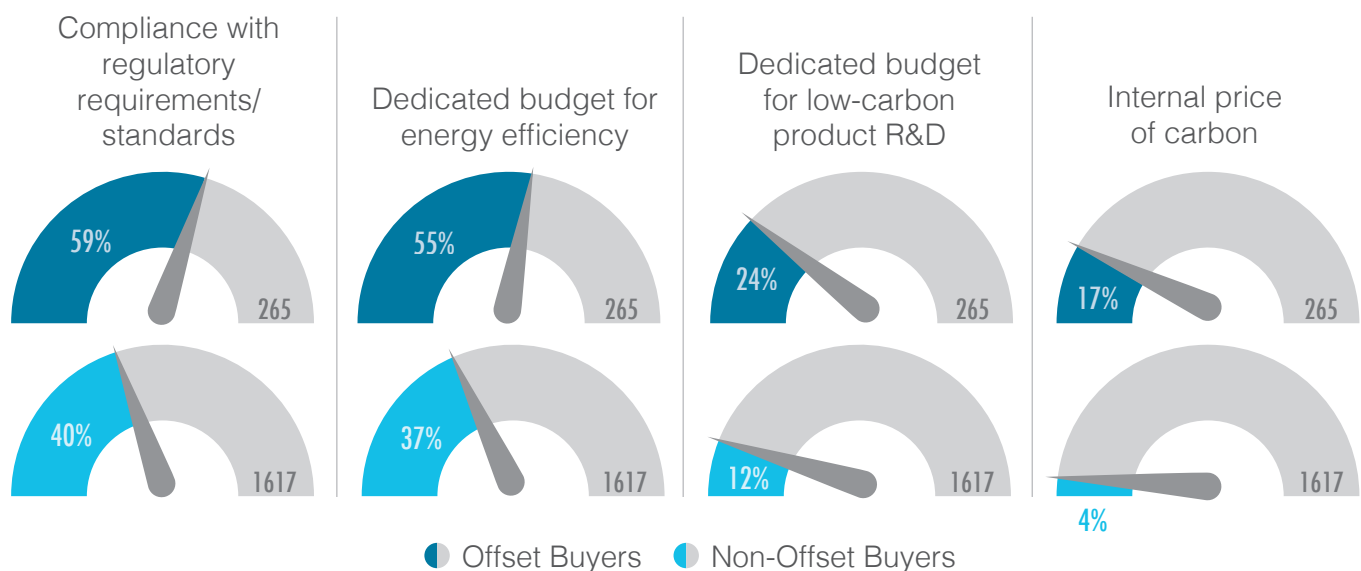
Forty-five offset buyers have implemented an internal price on carbon, and that price is often directly connected to offset purchases. These buyers, which include Microsoft, The Walt Disney Company, TD Bank, Aviva, and Barclays, finance offset purchases by charging business divisions according to their proportionate contribution to emissions.

More than half of all offset buyers point to regulatory requirements or softer government guidelines (that could become firmer obligations) as a key driver of investment in emissions reductions. Airline Qantas reports that its voluntary compliance with the Australian National Carbon Offset Standard “underpins” its Fly Carbon Neutral program.

Some dedicated budgets specifically target difficult-to-reduce scope 3 emissions. Japanese camera-maker Canon, which voluntarily purchases offsets from a hydropower project in Indonesia and a forestry project in Japan, has a dedicated budget for reducing both upstream (e.g., raw material procurement) and downstream (e.g., disposal and recycling) emissions.

Other companies reported setting aside dedicated budgets for offsetting. Novo Banco, a carbon-neutral online bank in Portugal, offsets the unavoidable emissions associated with each bank account through a fuel-switching project in Brazil. Dedicated budgets for energy efficiency or research and development for low-carbon products are also common strategies.

Figure 9: Methods Used to Drive Investment in Emissions Reductions, Offset Buyers versus Non-Offset Buyers



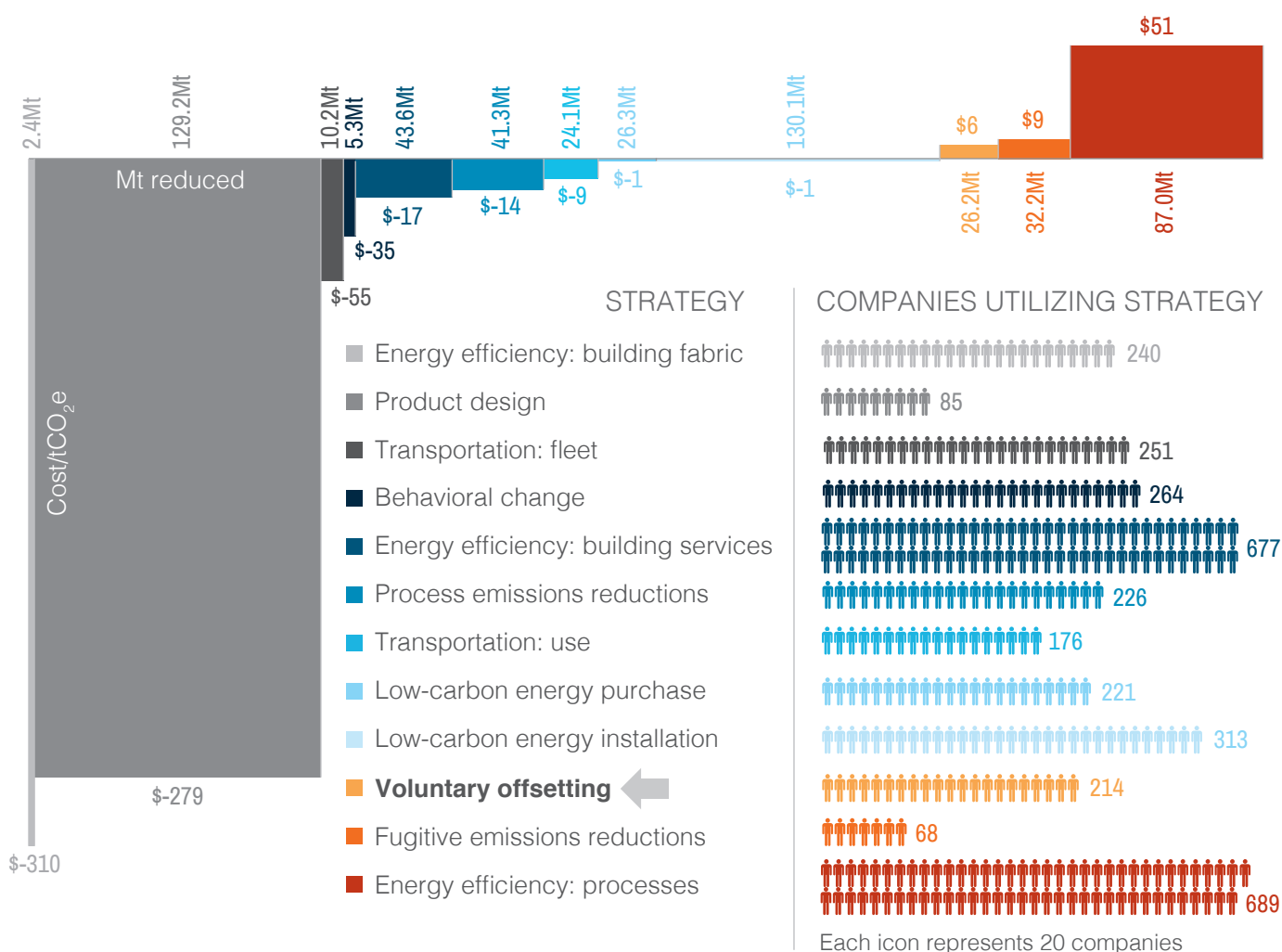
Notes: Based on responses about investments in emissions reductions from 1655 companies.

Data source: CDP public disclosure, reporting year 2013.

Offsetting Presents Real Costs – But May Have Benefits Not Delineated in Dollars and Cents

CDP disclosers spent \$208 billion on emissions reductions activities in 2013, directly reducing 592 million tonnes of carbon dioxide – about 12% of their scope 1 emissions. While the upfront price tag is hefty, the majority of these emissions reductions activities pay for themselves fairly quickly. **Companies estimated that emissions reductions activities reported in 2013 save them \$50 billion per year.** The average payback period across all emissions reductions activities is 5.2 years – while the average lifetime of these activities is much longer: 11.2 years.⁶

Figure 10: Cost Curve Comparing Emissions Reductions Strategies



Notes: Based on \$208 billion invested in 608 Mt of emissions reductions in 2013.

Data source: CDP public disclosure, reporting year 2013.

⁶ CDP disclosers often report lifetimes and payback periods as a range of years. In these instances, we took the midpoint for the purposes of the calculation

As the cost curve below shows, this implies a net-negative per-tonne cost for the majority of companies' emissions reductions activities. According to discloser estimates, low-carbon energy installations save the typical company \$1/tonne over their lifetimes, process emissions reductions save an average of \$15/tonne, and building energy efficiency saves an impressive \$310/tonne. The most impactful initiatives in terms of emissions reductions achieved are low-carbon energy installations and low-carbon product design, which each reduced emissions by about 130 million tonnes at ultimately negative costs.

The most impactful initiatives in terms of emissions reductions achieved are low-carbon energy installations and low-carbon product design.

Voluntary offsetting is one of the few emissions reductions activities that results in a net-positive cost on our curve, assuming an average offset price of \$5.9/tonne.⁷ Offsets are slightly pricier than low-carbon energy but less so than fugitive emissions reductions or energy efficiency improvements in manufacturing or supply-chain processes.

If the cost to buy offsets is greater than other (often) cost-saving direct emissions reductions, then why do companies support external emissions reductions? One explanation is that companies typically offset after they have utilized other methods to reduce their emissions. In fact, those firms that make it onto the positive side of the cost curve are likely to have exhausted other means of reducing emissions. Another reason? Risk.

⁷ Pricing data is from Ecosystem Marketplace's State of the Voluntary Carbon Markets 2014 and is based on our global survey of voluntary carbon offset suppliers. Though the global average price of a carbon offset on the voluntary carbon market was \$5.9/tonnes in 2013, prices ranged widely depending on factors such as project type, project location, and carbon standard.

Offset Buyers Are More Attuned to Risks Tied to Reputation and Regulation

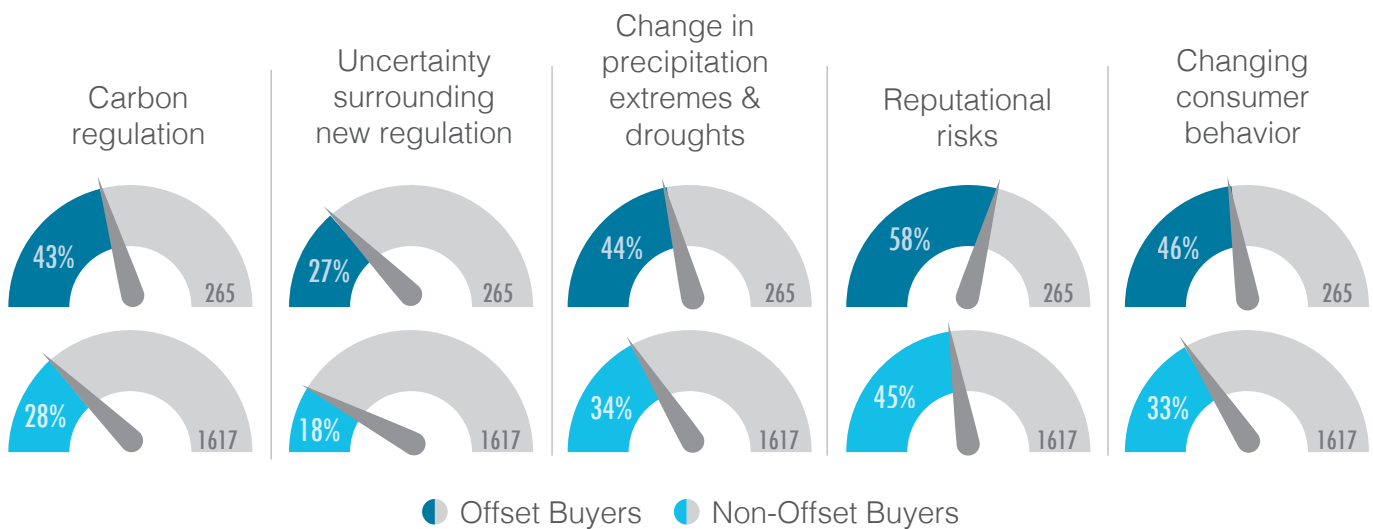
Offset-inclusive carbon management no doubt benefits companies in ways that are not calculated as simply dollars and cents. For example, we know that **offset-buying companies perceive higher risks than non-offset buyers, particularly when it comes to reputational risks.** Almost 60% of offset buyers reported facing reputational risks, compared to 45% of non-offsetters. Both camps reported that most reputational risks were “direct” – i.e., immediately affecting business decisions and often the bottom line.

CDP disclosers often cited pressure from clients, employees, shareholders, and customers to be on the “right side” of climate change and to take proactive, voluntary action even in absence of carbon regulation. Japanese food and beverage company Lawson Inc., which participates in Japan’s domestic voluntary offsetting program (J-VER), notes that environmental issues are of particular concern to new facets of their customer base, in particular women and seniors. Energy giant ConocoPhillips, which is piloting a blue carbon project in Louisiana’s quickly disappearing wetlands, says that climate reputation affects community support and the company’s ability “to attract a talented workforce.”

Like scope 3 emissions, reputational risk can be far-reaching. French information technology company Groupe Steria, which voluntarily invests in wind offset projects in India, says that reputational risk “extends to all of the countries in which we operate and to our partners and suppliers throughout our value chain.” Rankings on corporate responsiveness to climate change keep companies on their toes, as does being under the microscope of the media.

Dozens of CDP disclosers noted an increased focus on climate change within the investment community and view a sound emissions reductions strategy as a necessary precursor for attracting investment. Financial institutions themselves also reported feeling the heat from critics. Citigroup notes that NGOs have been calling for all banks to report on their scope 3 emissions from their financial portfolios “although there is no current widely accepted system to do so.” Nedbank, the first carbon neutral bank in Africa and an investor in Africa-based avoided deforestation offsets, reports that “climate change ignorance will translate into reduced shareholder value.”

Figure 11: Risk Companies Reportedly Face, Offset Buyers versus Non-Offset Buyers



Notes: Based on risks reported by 1878 companies.
 Data source: CDP public disclosure, reporting year 2013.

More than half of offset buyers are worried about changes in precipitation extremes and droughts – the most commonly cited climate change risk. Cigarette manufacturer Philip Morris, which invests in a portfolio of offset projects, sources tobacco from more than 30 countries and faces varying risks from temperature and precipitation changes throughout its supply chain. Swiss financial firm Credit Suisse, which purchases offsets from renewable energy projects in India, Indonesia, and China, notes that its offices in Asian cities such as Mumbai, Singapore, and Hong Kong may be at the greatest risk for extreme floods or storms.

Changing consumer behavior is also a commonly cited “risk” to offset buyers – and sometimes an opportunity. Major offset investor Danone is paying attention and responding to consumers’ changing preferences for dairy products and bottled water. French luxury goods company Kering, which purchases offsets from avoided deforestation in Kenya to neutralize its emissions from certain divisions and events, notes that its customers “expect more and more transparency on product environmental footprint, including carbon.”

In addition to traditional offset purchases, many companies also address risk through offset origination. More than 100 CDP-reporting companies originated over 100,000 carbon offsets in 2013. Though many of these offsets are intended for resale, some offset origination projects are aimed at “insetting” emissions within a company’s supply chain. In these cases, the company invests in emissions reductions projects within its sphere of influence but may not necessarily purchase the offsets from the activities. For example, Starbucks works with 260 farmers in coffee-producing communities in Chiapas, Mexico to protect threatened forestland – a project that allowed the farmers to produce and sell carbon offsets for additional income.

Some offset origination projects are aimed at “insetting” emissions within a company’s supply chain.

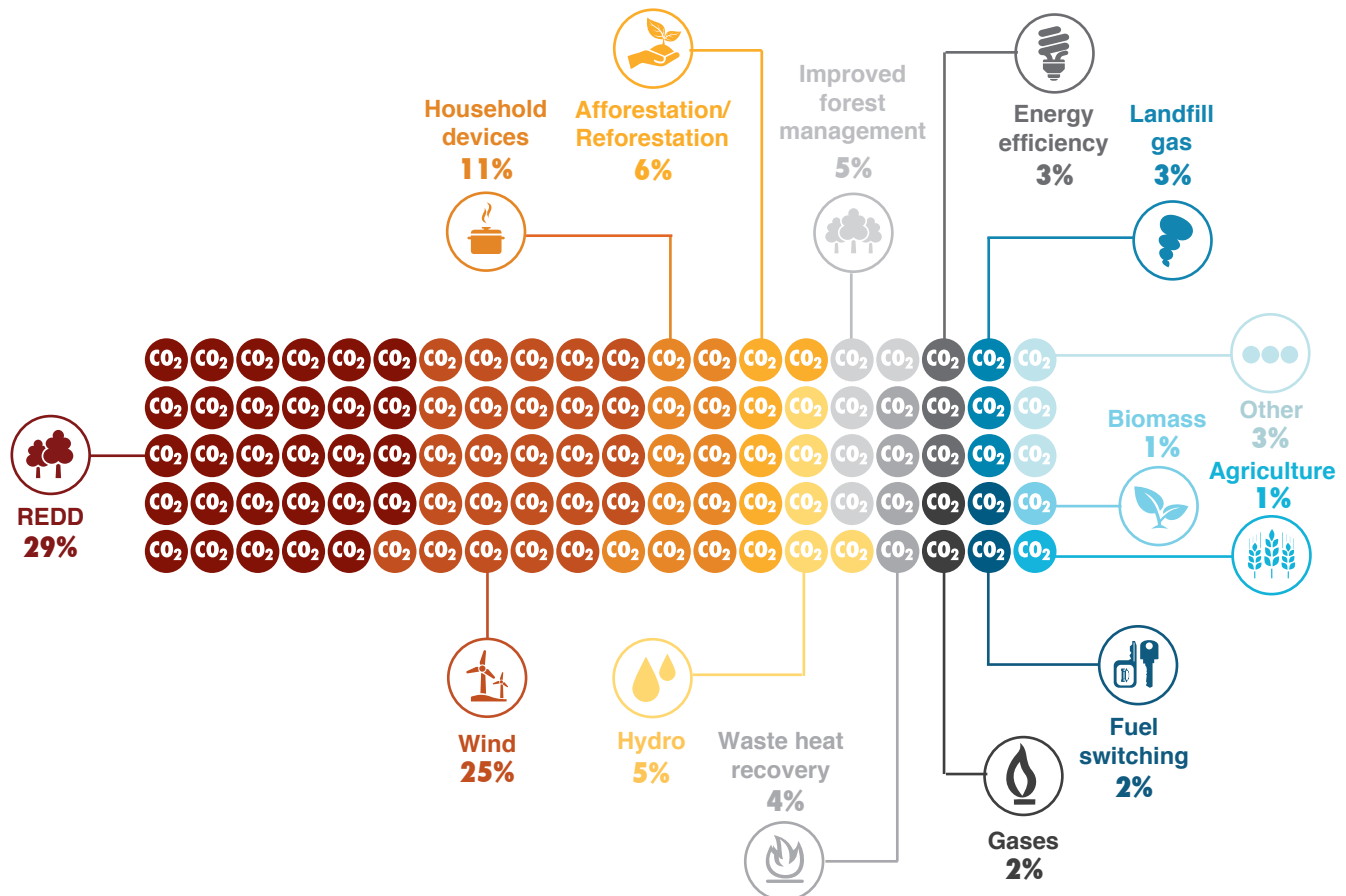
Carbon Finance Supports Thousands of Projects

Offset purchases represent investment in thousands of projects around the world that prevent deforestation, install wind energy, distribute cleaner-burning stoves to poor households, destroy methane emanating from landfills, and more. The top three project types – avoided deforestation (or “REDD”⁸) (16.7 Mt), wind energy (13.9 Mt), and distribution of household devices such as cookstoves and water filters (6.5 Mt) – accounted for 65% of demand.⁹

Two-thirds of CDP’s offset buyers invested exclusively in one type of offset project in 2013. British publisher Pearson invests only in forestry offsets. American retailer Kohl’s purchases all of its offsets from Texas-based landfill gas. And Japanese engineering and electronics company Mitsubishi Heavy Industries invested solely in biomass cogeneration.

The remaining one-third of disclosers purchased tonnes from a portfolio of different project types. Microsoft, which internally charges its business groups for emissions associated with data centers, software development, and air travel, invests this money in a portfolio of offset projects, from avoided deforestation in Cambodia to clean cookstove distribution in Guatemala to landfill methane reduction in the United States. Companies that took this portfolio approach to offsetting accounted for 56% of demand, by volume.

Figure 12: Offset Demand by Project Type, 2013



Notes: Based on 56.7 million tonnes associated with a project type.

Data source: CDP public disclosure, reporting year 2013 and Forest Trends Ecosystem Marketplace, *State of the Voluntary Carbon Markets 2014*.

⁸ REDD: “Reduced Emissions from Deforestation and Forest Degradation”

⁹ To calculate demand by project type, we supplemented data from 2013 CDP disclosers with data from Ecosystem Marketplace’s *State of the Voluntary Carbon Markets 2014*. This is the only instance in this report where data is combined.

Key Takeaways

Offsetting is common. A total of 265 companies – 14% of CDP disclosers – offset their carbon emissions. Four out of five offset buyers are voluntary rather than driven by regulatory obligations. Offsetters are based in 32 unique countries and on every continent.

Offsetting is an indicator of deeper climate commitment. Offset buyers engage in activities to reduce emissions – such as energy efficiency, low-carbon energy, clean transportation, and green product design – at a higher rate than companies that do not buy offsets. The typical offset buyer slashed almost 17% of their scope 1 (direct) emissions in 2013 while the typical non-offset buyer reduced scope 1 emissions by less than 5% in the same year.

Offsetting runs upstream and downstream. The typical offset buyer has a disproportionately large scope 3 (indirect) emissions obligation compared to the typical non-offset buyer. These scope 3 emissions have a huge climate impact – accounting for 70% of offset buyers' emissions – but fall either upstream in a company's supply stream or downstream in consumers' use of a company's products. As corporate social responsibility has evolved to encompass a larger "sphere of influence," these supply chain emissions will be increasingly subject to scrutiny by the media, customers, and shareholders. Offsetting is one way to immediately address scope 3 emissions.

Offsetting is peer- and policy-influenced. Voluntary and compliance carbon markets are inextricably and favorably linked. Emerging carbon pricing programs around the world, from South Africa to South Korea, may familiarize new companies with market-based mechanisms for emissions reductions – in the same way that the EU's carbon price demonstrably drives the region's unmatched compliance-based and voluntary demand.

Offsetting is proof-of-concept. Offsetting often takes on a North-South dynamic, with companies headquartered in high-emitting countries investing in emissions reductions projects in places where the finance may provide incentives to pursue a low-carbon development path. While these exchanges are usually made bilaterally between a company and an offset developer, this concept of "emissions liability" is at the crux of international climate change negotiations. As countries prepare their intended national contributions to a global climate deal over the next few months, questions of responsibility, verifiability, and economic efficiency are front and center – questions that the carbon markets have mulled for years.

Offsetting is scalable. The typical CDP-disclosing compliance buyer purchases five times the volume of offsets (20,000 tonnes on average) compared to voluntary buyers – an indicator that regulatory carbon pricing is a key multiplier. The rise of internal carbon pricing within companies as well as sector-specific action (particularly within the airline and shipping industries, which are under pressure to negotiate emissions targets) also provide signals to scale.

TOP 100 Voluntary Offset Buyers

As reported to CDP in 2013 and 2014

Absa Group	Exelon Corporation	NRG Energy Inc
Aimia Inc.	FedEx Corporation	Olam International
Allianz SE	General Motors Company	Old Mutual plc
Amdocs Ltd	Goldman Sachs Group Inc.	ORIX Corporation
AMP	Google Inc.	Pearson
Astellas Pharma Inc.	Green Mountain Coffee Roasters, Inc.	PG&E Corporation
Atos SE	Groupe Steria	PPR
AU Optronics	H&M Hennes & Mauritz AB	PSA Peugeot Citroen
Australia and New Zealand Banking Group	Hanesbrands Inc.	PUMA SE
Aviva	Hess Corporation	Qantas Airways
Banco Santander Brasil	ING Group	Ricoh Co., Ltd.
Bank of Montreal	Insurance Australia Group	RSA Insurance Group
Barclays	Interface, Inc.	Sanlam
Barloworld	J.B. Hunt Transport Services, Inc.	Schneider Electric
Bombardier Inc.	JPMorgan Chase & Co.	SGS SA
British American Tobacco	Kering	Skandinaviska Enskilda Banken AB (SEB AB)
British Sky Broadcasting	Kohl's Corporation	Societe Generale
Cap Gemini	Lenovo Group	Sony Corporation
Capital One Financial	Macquarie Group	State Street Corporation
Catlin Group Ltd	Marks and Spencer Group plc	Swiss Re
Clorox Company	Microsoft Corporation	TD Bank Group
Commerzbank AG	Mitsubishi Heavy Industries, Ltd.	Telstra Corporation
Compagnie Financière Richemont SA	Mitsubishi UFJ Financial Group, Inc.	The Coca-Cola Company
Coop Genossenschaft	Munich Re	Toyota Motor Corporation
Credit Suisse	National Australia Bank	TransAlta Corporation
Daiichi Sankyo Co., Ltd.	Natura Cosméticos S.A.	TUI
Danone	Nedbank Limited	UBS
Danske Bank A/S	News Corporation	UniCredit
Delta Air Lines	NKSJ Holdings, Inc.	UPS
Deutsche Bank AG	Noble Group	VF Corporation
Deutsche Post AG	Norfolk Southern Corp.	Walt Disney Company
Deutsche Telekom AG	Northrop Grumman Corp	Westpac Banking Corporation
Entergy Corporation	Novartis	WPP Group
Estee Lauder Companies Inc.		

Disclaimer: This list was compiled from companies' public disclosures to CDP in 2013 and 2014. While Ecosystem Marketplace made reasonable efforts to confirm the information, it is not a comprehensive nor a verified list of voluntary offset buyers.

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Offsetters is North America's leading carbon management solutions provider. Founded in 2005, the company helps organizations and individuals understand, reduce, and offset their climate impact. Offsetters is the exclusive Canadian Consultancy partner to the CDP, and was the first official supplier of carbon offsets in the history of the Olympic movement (Vancouver 2010 Olympic and Paralympic Winter Games). Its team of industry leaders specializes in the origination, development and commercialization of high-quality carbon offset projects and is proud to also provide clients with a comprehensive offering of sustainability consultancy services. Based in Vancouver, Canada, Offsetters has worked with over 150 of the world's most prestigious organizations including Aimia and lululemon athletica. (<http://www.offsetters.ca/>)

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