

# The forest carbon offsetting report 2010

In partnership with:



## Contributors

**Till Neeff**

**Lisa Ashford**

**Claire Davey**

**Joanna Durbin**

**Jan Fehse**

**Andrew Hedges**

**Tilde Herrera**

**Toby Janson-Smith**

**Colin Moore**

**Rachel Mountain**

**Steven Panfil**

**Christopher Tuite**

**Matthew Wheeland**

## Acknowledgements

This report contains a compilation of survey responses from 207 organisations covering a wide variety of geographies and industry sectors. Specifically, 157 responses were received from a diverse range of organisations and an additional 50 responses were received from companies that specialise in developing carbon projects or in brokering offsets. We are indebted to all those who took the time to respond to our questionnaire and provide us with information about their preferences.

This report was also made possible due to the promotion, energy and support of a number of organisations including: 2degrees, GreenBiz, Justmeans and Westgate.

## About the partners involved in this research

**Five leading organisations in the arena of forestry and climate change teamed up to leverage a combined network of survey participants and to work together in the interpretation, evaluation and dissemination of the results.**

### EcoSecurities

EcoSecurities ([www.ecosecurities.com](http://www.ecosecurities.com)) works in the area of climate change and mitigation activities and is one of the leading organisations in the business of sourcing and developing emission reductions. The company started 13 years ago with a focus on forestry activities, and has since expanded to comprehensively cover other technology sectors impacting climate change mitigation activities.

Specifically EcoSecurities forestry experience includes; conducting feasibility studies, development of baselines and monitoring methodologies, originating and developing projects and bringing the carbon credits to market. Some of the leading organisations we have worked with include WWF and Conservation International.

Our carbon offsets portfolio is one of the largest in the industry, covering a wide range of emission reduction standards (Gold-Standard, CDM, VCS, CAR etc), technology types (including forestry) and geographical locations. In addition we also provide clients with consultancy support services, helping them understand and deal with an increasingly carbon constrained world.

### The Climate, Community & Biodiversity Alliance

The Climate, Community & Biodiversity Alliance (CCBA) is a partnership of international NGOs seeking to foster the development of forest protection and restoration activities around the world that

deliver significant social and environmental benefits. With this goal in mind, the CCBA has developed voluntary standards to help design and identify land management projects that simultaneously minimise climate change, support sustainable development and conserve biodiversity.

The CCB Standards are now widely used by project developers and demanded by buyers in the forest carbon market. As of March 2010, 43 projects have been validated or are undergoing audit and approximately 100 other projects around the world are being designed to meet the standards. These projects include reforestation, restoration, avoided deforestation and degradation, and agroforestry activities. More information about the CCBA and the CCB Standards can be found at [www.climate-standards.org](http://www.climate-standards.org).

### Conservation International

Conservation International (CI) is one of the world's leading international conservation NGOs with projects or programmes in about 40 countries. CI's mission focuses on the linkage between the protection of natural systems and human well-being.

CI's integrated climate change programme includes science, policy, communications and the development of market-based approaches, which include incentives for the protection and restoration of tropical forests to achieve aggressive global greenhouse gas (GHG) emission reductions. CI, with its international partners, is leading the development and marketing of high quality multiple-benefit forest restoration and REDD offset projects in 16 countries to demonstrate that these activities can generate robust and verifiable emission reductions, while supporting sustainable livelihoods and conserving biodiversity.

## About the partners involved in this research – continued

### **ClimateBiz**

ClimateBiz is the leading business resource for climate management. ClimateBiz informs CFOs, CIOs, supply-chain, operations and other executives on the key business issues in climate and carbon. The website and its free fortnightly newsletter ClimateBiz News offers news, best practices and resources in such areas as carbon measurement, reduction and trading; renewable energy; and carbon offsets.

ClimateBiz ([www.climatebiz.com](http://www.climatebiz.com)) is a website of Greener World Media, the leading media and information-services company focusing exclusively on the greening of mainstream business. Greener World Media websites include GreenBiz.com, GreenerBuildings.com, ClimateBiz, GreenerComputing.com, and GreenerDesign.com. Greener World Media also produces the annual State of Green Business report and other research, as well as Greener By Design and other conferences.

### **Norton Rose Group**

Norton Rose Group is an international law firm with a dedicated global climate change and carbon finance team that is ranked Tier 1 globally by Chambers. The team has leading practitioners in London and across Europe, Asia, the Middle East and Australia. With a commercial and pragmatic ethos committed to adding value, Norton Rose Group plays a leading role in carbon credit generation projects, carbon trading and climate change regulation. Asia Pacific is emerging as a key region for forestry projects and having an integrated team on the ground allows the Norton Rose Group to work closely and thus ensure it is at the forefront of industry and regulatory developments within the region and on the global stage. The firm fully understands the opportunities and challenges that different jurisdictions, voluntary standards and project types present for its clients.

## Executive summary

A great deal happened in the climate change policy arena in 2009. There were significant developments at an international level with the push to achieve a new global deal at the Copenhagen Conference of Parties (COP15) as well as advances towards the implementation of regional cap-and-trade schemes in countries such as the United States, New Zealand and Australia. Forestry is increasingly moving towards the centre of these developments. This report therefore analyses the perceptions and opinions of offset buyers towards forestry as an option for corporate offsetting in a dynamic period of policy development.

The report is based on the survey responses of 207 corporate participants during January and February 2010 who, according to the data, purchased at least 7.9 million carbon credits in 2009, including approximately 3.0 million offsets from forestry. When compared with 2008 volumes<sup>1</sup>, the survey respondents represent approximately half the global demand for voluntary forest carbon offsets.

The majority of respondents have a very positive attitude towards forestry as an offset option. Many, especially in Europe, also indicated that attitudes have grown more positive during the last year. Although the inconclusive results of the Copenhagen conference disappointed many commentators, this does not appear to have negatively impacted the appetite for forestry as a voluntary offset option.

A high proportion of the interest in forestry comes from voluntary offset buyers. Forest carbon projects score highly because of their potential to generate additional benefits to communities and biodiversity. Reforestation with native species and avoided deforestation were rated the most 'highly desirable' project types and purchasers showed a preference for projects located in developing countries.

There is also increasing interest from buyers who fall under current regulatory schemes as well as those likely to be regulated in the future. This interest is particularly strong among buyers from North America and Australasia. These buyers currently show a preference for domestic projects over international ones.

The most important factor for buyers of forest carbon credits was certification under a recognised standard. The most attractive carbon standard is the Voluntary Carbon Standard (VCS), however, respondents were also particularly interested in the CCB Standards combined with another credible carbon accounting standard and even indicated a willingness to pay a price premium for this additional certification.

The most favoured structure was for payment upon delivery of verified offsets; however buyers indicated interest in other commercial structures, including project investments and pre-financing arrangements. Such structures can be crucial for forest carbon projects that may have high start-up costs and generate no revenue for several years. The diversity of finance structures and project types is reflected in the varied pricing expectations; however in general, the data indicated that most buyers would be willing to pay in the range of \$5-10 per tonne.

Our results indicate that a large majority would like to see international forestry activities included in regulatory climate change policy frameworks, such as the UN's post-2012 agreement, phase III of the EU ETS, as well as other emissions trading schemes in the US, Japan and Australia. There appears to be strong support for forest carbon and overall, respondents like forestry and want to use it to tackle the threat of climate change. We expect an exciting and dynamic year for the forest carbon markets – and are hopeful for big regulatory advances for the sector.

<sup>1</sup> The Ecosystem Marketplace and New Carbon Finance 2009. State of the Voluntary Carbon Markets 2009

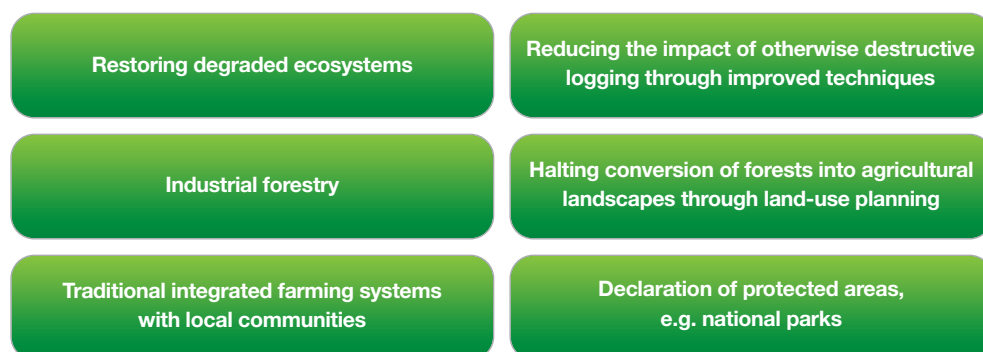
## Forestry as a mitigation option – pivotal to corporate offsetting

With an estimated 16% of the total global GHG emissions coming from the destruction of tropical forests, the protection of forests and planting of trees is an essential component of any global strategy for mitigating climate change. The Prince of Wales's Rainforest Project recognises the "global role played by forests in mitigating climate change"<sup>2</sup>, McKinsey's authoritative report<sup>3</sup> and the Stern Review<sup>4</sup> all note the importance of forests and forestry as abatement options. This point has also been emphasised in the recent Copenhagen Accord.

In addition to reducing GHGs, the protection and sustainable management of forests, reforestation and afforestation have the potential to achieve important sustainable development and biodiversity conservation co-benefits. This makes them especially attractive for both regulatory and voluntary carbon market buyers, who seek to generate multiple benefits when purchasing offsets.

Forestry projects were some of the first activities designed to mitigate GHG emissions and generate offsets. In many ways, these pioneering projects helped define the concept of 'carbon offsets' and tree planting is still considered by many as the most 'classical' type of offset project. In 1989, prior to the Kyoto Protocol, US power company AES initiated the first corporate forest carbon offset project. This project supported community woodlots in Guatemala and aimed at reducing deforestation pressures. That and other similar projects helped set the stage for the development of forest carbon offset projects as we know them today.

There are many different ways in which land-based activities like forestry can reduce GHGs and generate carbon offsets. Some examples of the variety of forest offset projects are detailed below:



<sup>2</sup> The Prince's Rainforest Project. <http://www.princesrainforestsproject.org/>.

<sup>3</sup> Pathways to a Low Carbon Economy. McKinsey & Co., 2009.

<sup>4</sup> The Stern Review. <http://www.occ.gov.uk/activities/stern.htm>. OCC 2006.

## Four years of voluntary carbon markets

The carbon markets around voluntary offsetting have grown significantly since 2006. Much of this growth has been driven by the corporate sector in the US and Europe, with companies increasingly seeking to reduce their GHG emissions as part of their broader corporate social responsibility and environmental programmes. As a result, worldwide, voluntary carbon markets amounted to 123.4 million tonnes in 2008 and land-based carbon offsets represented 18% of this volume<sup>5</sup>.

## What is the progress in policy for carbon forestry

Whilst uncertainty remains around climate policy at the international level and in key regional and national programmes, recent developments suggest the role of forests in climate change mitigation will grow.

### **...around international carbon policy**

2009 was a pivotal year in the fight against climate change. Throughout the year parties to the United Nations Framework Convention on Climate Change (UNFCCC) undertook intense negotiations that culminated in early December with COP15 in Copenhagen. An important component of these negotiations was whether, and under what conditions, a Reducing Emissions from Deforestation and Forest Degradation (REDD) mechanism would form a part of this new agreement.

The negotiations however did not deliver a legally binding agreement outlining a global emission reduction pathway. Instead, the Copenhagen Accord, a non-legally binding political agreement, was 'noted'. A large number of parties have subsequently associated themselves with the Accord. This Accord outlines its objectives of keeping global temperature rises below 2°C, providing financial resources for developing countries to meet their mitigation and adaptation needs, and creating a list of the developed countries emission reduction targets and developing countries mitigation activities. The hope is that further progress towards a binding agreement will be made at COP16 in Mexico this year.

<sup>5</sup> The Ecosystem Marketplace and New Carbon Finance 2009. State of the Voluntary Carbon Markets 2009.

## What is the progress in policy for carbon forestry? – continued

Under both the Accord and the negotiations on the text to be included in a new global deal, forestry made encouraging progress. Parties came to an agreement on a text that addresses most of the previously contentious issues regarding REDD, resulting in a draft decision text. Some of the principles include:

- A definition of the scope of the activities that fall under the mechanism (at present this is likely to cover the full scope of what is referred to as REDD+, including deforestation, forest degradation, enhancement of forest carbon stocks and sustainable management of forests).
- The safeguards relevant to activities such as preventing leakage, ensuring participation of stakeholders such as indigenous peoples and ensuring existing forests are not converted to plantations.
- The elements to be developed by developing countries wishing to participate, such as a national action plan, forest reference levels and monitoring and reporting systems.
- Recognition that a country's ability to participate under the mechanism should proceed in phases which move from capacity building to implementation and finally to results based actions.

The failure to progress other negotiation streams at Copenhagen prevented the text for a REDD mechanism from being formally approved by the parties. However, if a new global deal is reached in Mexico in 2010 it is highly likely that a REDD mechanism that is similar to the one described in the current text will form part of that deal.

### **...in domestic US climate change policy**

2009 was also a landmark year in terms of progress towards establishing a carbon cap-and-trade scheme in the US, however there still remains an element of uncertainty. In June, the House of Representatives approved the American Clean Energy and Security Act bill proposed by Representatives Henry Waxman and Edward Markey. This bill proposes a cap on certain high emitting sectors and the option to trade allowances and offset credits to help meet reduction obligations. The domestic forestry sector does not fall under this proposed cap and would therefore be eligible to generate offset credits. Furthermore, the bill allows up to 1 billion tonnes of international offset credits to be used for compliance purposes, with the expectation that most of these would come from REDD activities (both projects and national/state efforts). The Environmental Protection Agency (EPA) analysis of the bill indicated that without such volumes of international offsets, allowance prices would be 89% higher. In the Senate a similar bill was promoted by Senators John Kerry and Barbara Boxer as the Clean Energy Jobs and American Power Act, but was not brought to a vote. Senators Kerry, Lieberman and Graham have been developing an alternative bill during early 2010, likely with a reduced scope, but the full details of this bill are not expected to be made public until the late spring or early summer of 2010.



## What is the progress in policy for carbon forestry? – continued

### ...and in the carbon markets

Recent research suggests that the upward trend in the total volumes transacted for forest carbon credits over the past few years continued in 2009<sup>6</sup> despite signs that the overall activity in the voluntary markets was on the decline<sup>7</sup>. For forestry, voluntary market projects captured the largest market share. Moreover, a substantial increase in trading activity of compliance forest carbon credits, primarily forest backed Assigned Amount Units (AAUs) coming out of New Zealand, took root in the market in 2009. The total value of the forest carbon market decreased from 2007 to 2008 due to a weakening in prices, however, it seems possible that this trend may be reversed with the increased volume of higher priced compliance forest credits entering the market in 2009.

Presented below are some of the key forest carbon market developments seen over the past year:

- The rate of approval for registered afforestation/reforestation (A/R) projects under the CDM increased sharply during 2009; nine projects were successfully registered, whereas only one A/R project had been registered previously.
- The Climate Action Registry (CAR) published Version 3 of its Forestry Protocols, increasing activities around domestic forestry activities in the US.
- The VCS registered its first Agriculture, Forestry and Other Land Use (AFOLU) project. A range of new AFOLU methodologies were submitted for approval, including various methodologies for REDD projects.
- New Zealand burst into the forest carbon scene with the sale of forestry backed AAUs originating from the New Zealand Emissions Trading Scheme (NZ ETS). The total number of such AAUs sold to date is unknown, however large deals of up to 0.5 million AAUs have occurred.

<sup>6</sup> Hamilton et al., 2010. State of the Forest Carbon Markets 2009

<sup>7</sup> New Carbon Finance 2009, Voluntary Market – Research Note: Voluntary Carbon Index, March-April 2009.

## Has forestry overcome its old barriers?

Forestry has consistently been the voluntary carbon markets underachiever. It seems to be a contradiction in terms when analysing what buyers seem to want versus what they do. For instance, when asking offset buyers in a survey, forest carbon consistently comes out as one of the preferred types of activities for sourcing offsets. But when checking real numbers and the turnover in the markets, actual volume does not match those preferences.

Our results indicate that in 2009 a majority of corporate buyers have a highly positive or positive attitude towards forest carbon offsets (80%). Despite this apparent interest, the Ecosystem Marketplace's data shows only a small market share in 2008 for forestry<sup>8</sup>. We believe that this conundrum will be resolved in the near term.

Over recent years there has been a lack of supply of high quality forestry offsets validated or verified by preferred carbon standards such as the VCS. Among other things, the lack of supply is also due to the unique challenges faced when developing forest carbon projects. Examples of these challenges include:

- **High upfront costs, slow generation of credits** – Forestry projects, especially those involving tree planting, have a relatively long lead time before emission reductions are generated as it takes time for trees to grow and store significant amounts of carbon. The prospect of having to wait so long for carbon returns can act as a barrier to financing.
- **Complex methodologies and data requirements** – Existing baseline and monitoring methodologies for forestry projects are recognised as some of the most challenging in the carbon markets. Whilst this will change over time as more experience is gathered, at present it has been a slow process for many projects to successfully deliver credits verified under recognised carbon standards.
- **Many stakeholders to manage** – It is not uncommon for a forestry project to involve a broad range of stakeholders such as local communities, NGOs, forestry agencies as well as government representatives. Gaining consensus among all of these stakeholders can often be a lengthy process that can deter investors.
- **Risk** – Tropical forests largely occur in developing countries where there are increased risks from such factors as political instability and the lack of laws and regulations governing critical areas such as land tenure and carbon rights.

Forestry's challenges however are not insurmountable. This is evidenced by a number of high-profile deals that were closed during the last few years and increasingly during 2009. We expect that the supply of forestry offsets will increase over the next years. Forests and forestry can maybe then begin living up to its potential in the voluntary carbon markets.

<sup>8</sup> The Ecosystem Marketplace 2010. State of the Forest Carbon Market 2009.

## What we set out to achieve

This report is a follow-up to The Forest Carbon Offsetting Survey 2009 conducted last year<sup>9</sup>. Following the success of the 2009 version, we decided to conduct another survey this year to further understand the motivations of early buyers of forest carbon offsets and how their views may have changed over the past year, particularly during this time of evolving policy and market conditions. Our hope is that this information will help to further align the interests of all forest carbon stakeholders and stimulate the supply of high quality forest carbon credits that will satisfy market demand.

**OBJECTIVE 1:**  
Understand corporate attitudes towards forestry for carbon offsetting

**OBJECTIVE 2:**  
Explore factors affecting purchasing and investment decisions

**OBJECTIVE 3:**  
Assess potential impacts of the policy framework and its development on forestry carbon markets

## Capturing the data: Methodology

Data was collected from a total of 207 organisations of varying size and locations. As our primary objective was to understand the motivations and attitudes of forest carbon offset end-users, we removed the 50 responses from carbon companies in order to analyse these results separately. The main focus therefore was placed on the remaining 157 responses.

The data capture period for this year's research study started on January 13, 2010 and ran until February 28, 2010. Survey responses were collected in the following ways:

- Via an online questionnaire posted on [www.greenbiz.com](http://www.greenbiz.com), [www.climatebiz.com](http://www.climatebiz.com), [www.ecosecurities.com](http://www.ecosecurities.com) and [www.climate-standards.org](http://www.climate-standards.org).
- Norton Rose LLP, ClimateBiz, EcoSecurities, Conservation International and the Climate Community & Biodiversity Alliance all sent emails to their respective contacts seeking to ensure that the sample of responding organisations were geographically and sectorally diverse.
- Finally online sustainability forums including [www.justmeans.com](http://www.justmeans.com), [www.2degreesnetworks.com](http://www.2degreesnetworks.com) and green groups on [www.linkedin.com](http://www.linkedin.com) were utilised to identify specific contacts within other potentially interested organisations.

For the majority of the questions, participants were given the opportunity to provide alternative answers or further comment in order to give a more complete picture of their attitudes and opinions. All survey specific information was anonymous and for the basis of this report, all responses have been aggregated.

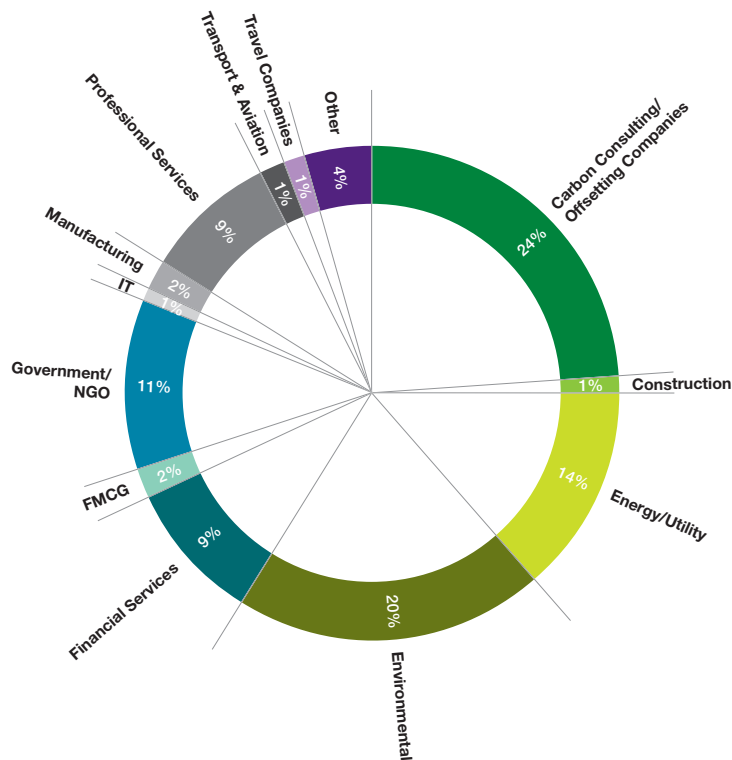
Data presented throughout this report is based purely on information volunteered by marketplace participants. No data was extrapolated and no quality criteria checks were carried out on respondents prior to questionnaire responses being submitted. However, six responses were incomplete and removed from the data sample (reducing its size from 213 to 207). The number of respondents who answered each question is clearly marked on each graph. On some graphs, the sum of responses may be more than 100% due to rounding or because more than one answer was permitted. This report only summarises our key findings.

<sup>9</sup> The Forest Carbon Offsetting Survey 2009 can be downloaded at: [www.ecosecurities.com](http://www.ecosecurities.com)

## Who are our respondents?

Response by sector

Key  
Total sample = 207



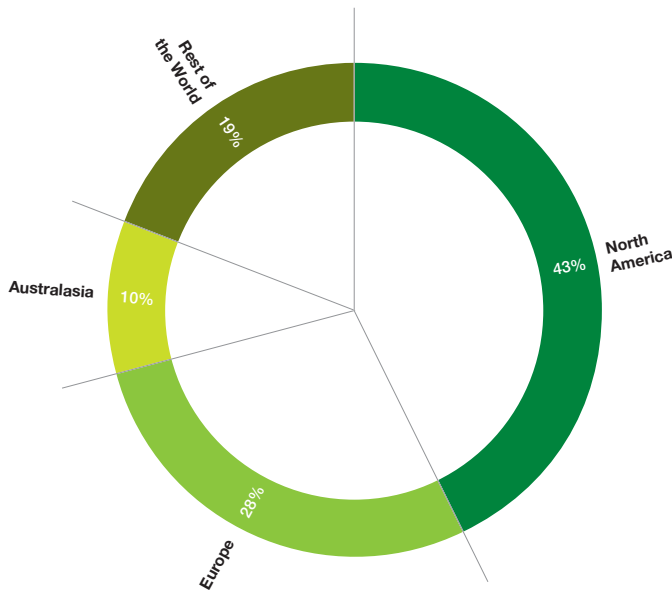
This year we received responses from 207 companies, an increase of 66 companies in comparison to the 2009 Forest Carbon Offsetting Report. Nearly a quarter of the participants were from specialised carbon companies. These were treated separately in order to focus primarily on the perspective of the end-user rather than carbon market intermediaries.

If we exclude carbon companies, the majority of the respondents came from the environmental, energy/utility, government/NGO, financial services and professional services sectors (20%, 14%, 11%, 9%, and 9%, respectively).

Who are our respondents? – continued

Location of company headquarters

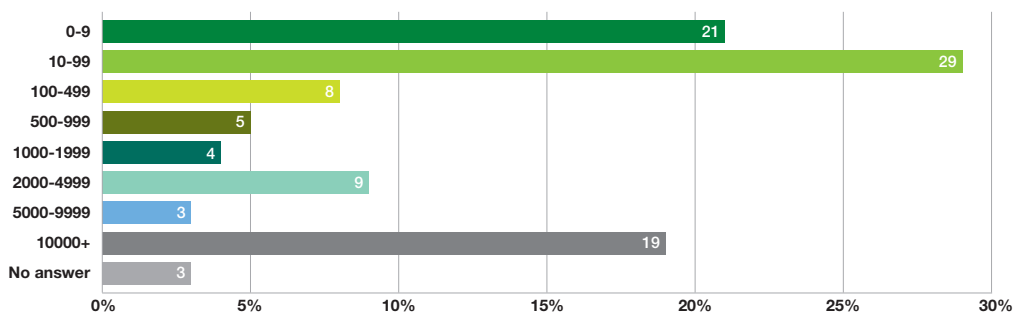
Key  
Total sample = 157



Responses were evenly spread over a diverse range of organisational types, from global, multi-national to regional and those based in just one country. In terms of headquarter location, 43% of respondents are based in North America, whereas 28% come from Europe. This is a reverse to last year where we had a greater number of respondents from Europe than North America. A smaller number of respondents had headquarters in Australasia or other parts of the world (10% and 19%), herein termed 'Rest of the World'.

Size of organisation

Key  
Total sample = 156

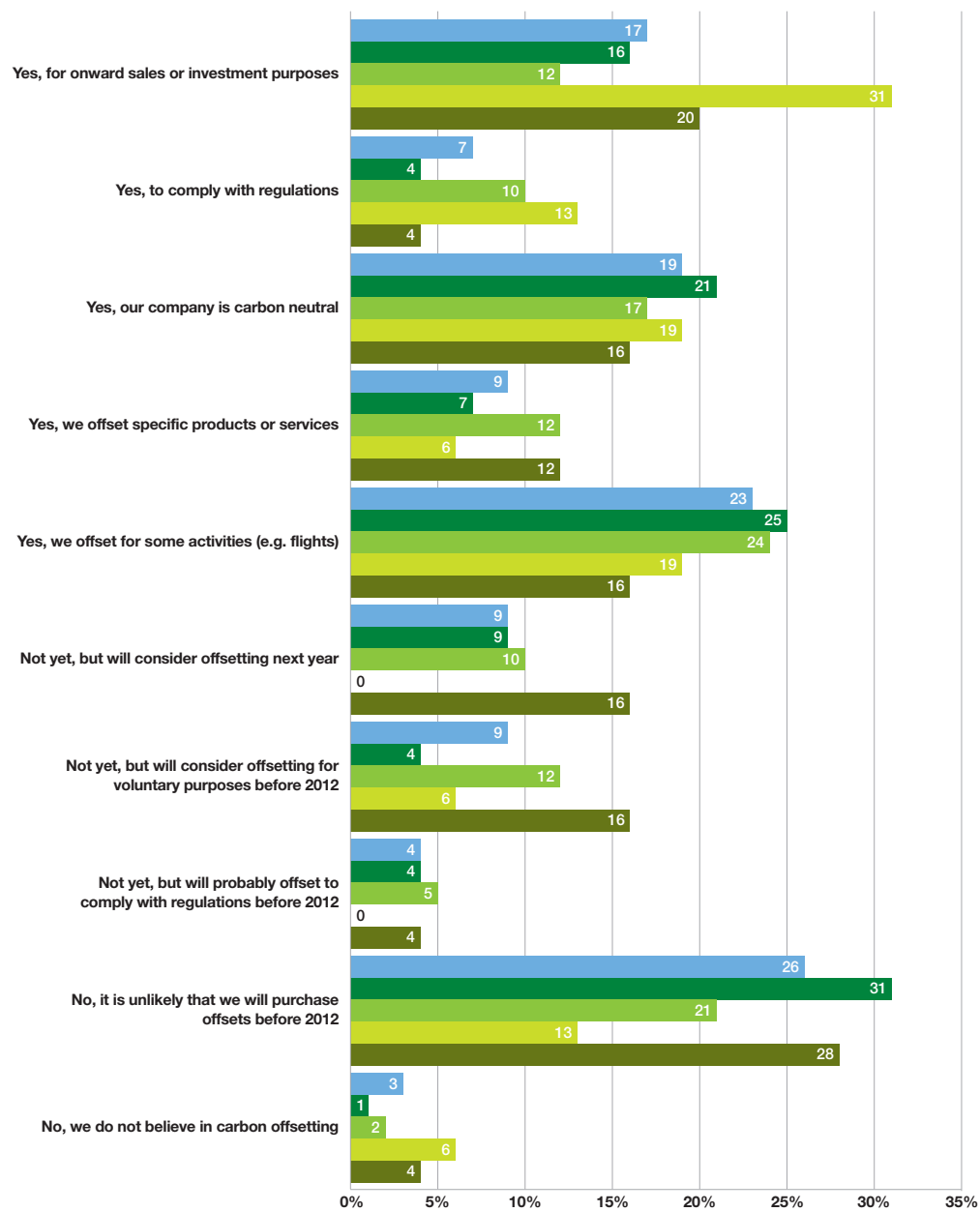


The size of the company based on the number of employees is similar to last year, with the highest proportions of responses from either very small (<100 employees) or very large (>10,000 employees) organisations. However, this year we have received responses from a greater number of smaller companies with half of the participants (50%) having less than 100 employees in their organisation (an increase of 18% in comparison to last year). Nearly one in five responses came from organisations with more than 10,000 employees.

# With and without forests – what companies are doing already

## Do you already offset?

### Does your company purchase emission reduction credits?



**Key**  
n = sample size  
■ Total sample  
n = 150  
■ North America  
n = 67  
■ Europe  
n = 42  
■ Australasia  
n = 16  
■ Rest of the World  
n = 25  
  
N.B. Multiple responses allowed

With and without forests – what companies are doing already – continued

- Many participants (19%, 9% and 23%) said they purchased offsets voluntarily, to either make their company carbon neutral, to offset specific products and services, or to offset certain activities (e.g. flights).
- North America and Australasia showed a decrease in the portion of respondents that are not yet offsetting but would consider offsetting next year or before 2012.

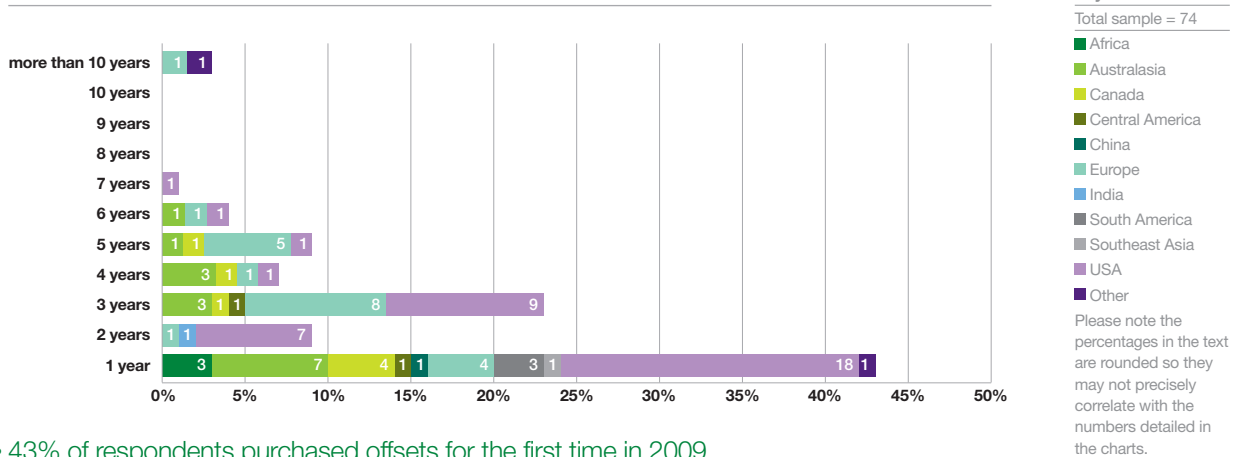
Responses with respect to a company’s motivation for engaging in carbon offsetting virtually mirror the answers received last year. The largest change was in the ‘considering to offset before 2012’ category. Last year 20% responded that they were planning to do this, whereas it was only 9% this year. One explanation could be that companies have ‘acted’ on their planning and have started to implement a climate change strategy of some kind.

Moreover, the significant uncertainty which currently exists in the development of the regulatory environment in countries such as the US and Australia, may be causing companies to be slightly reluctant in purchasing offsets. Whereas, in Europe, the cap-and-trade system is already in place and organisations are less likely to consider forest carbon as a potential future offset option.

In developing countries (the ‘Rest of the World’), no such policies are expected in the short term. In those countries, voluntary markets are instead still picking up speed, which is reflected by this region delivering the highest portion of respondents that will consider offsetting within the next one or two years (16% and 16%).

For how long have you been purchasing carbon offsets?

By region – the number of years a company has been purchasing offsets



- 43% of respondents purchased offsets for the first time in 2009.
- According to the data supplied, three quarters (75%) of first-time buyers three years ago came from Europe or North America. However in the last year, this portion declined to half (50%), with many buyers from developing countries and Australasia entering the market.

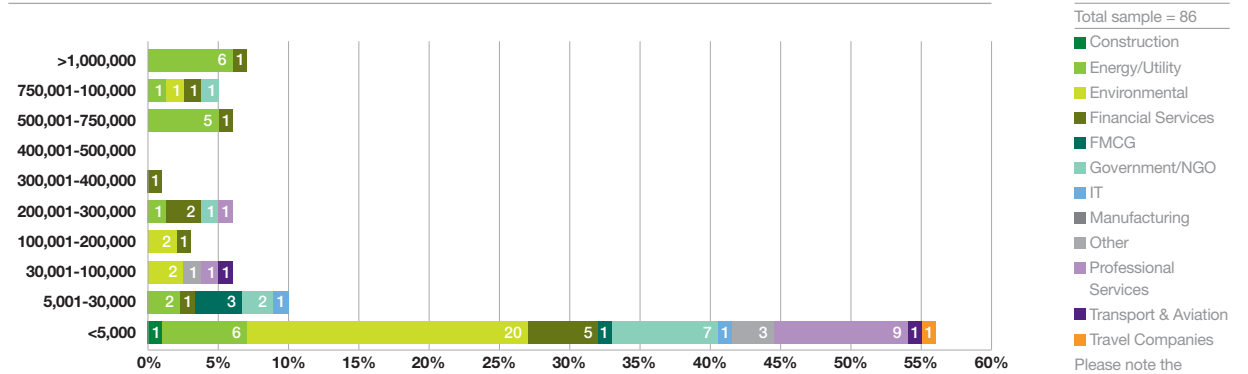
The observed growth pattern is exponential, reflecting a rapidly growing voluntary carbon market, which has also been shown in other studies<sup>10</sup>. It is interesting to see a dip in the number of new entrants two years ago, which could be attributed to the financial crisis. The prevailing trend, in any case, seems to be one of solid growth.

<sup>10</sup> The Ecosystem Marketplace and New Carbon Finance 2009. State of the Voluntary Carbon Markets 2009.

With and without forests – what companies are doing already – continued

How many offsets do you buy?

By sector – the average number of offsets bought annually



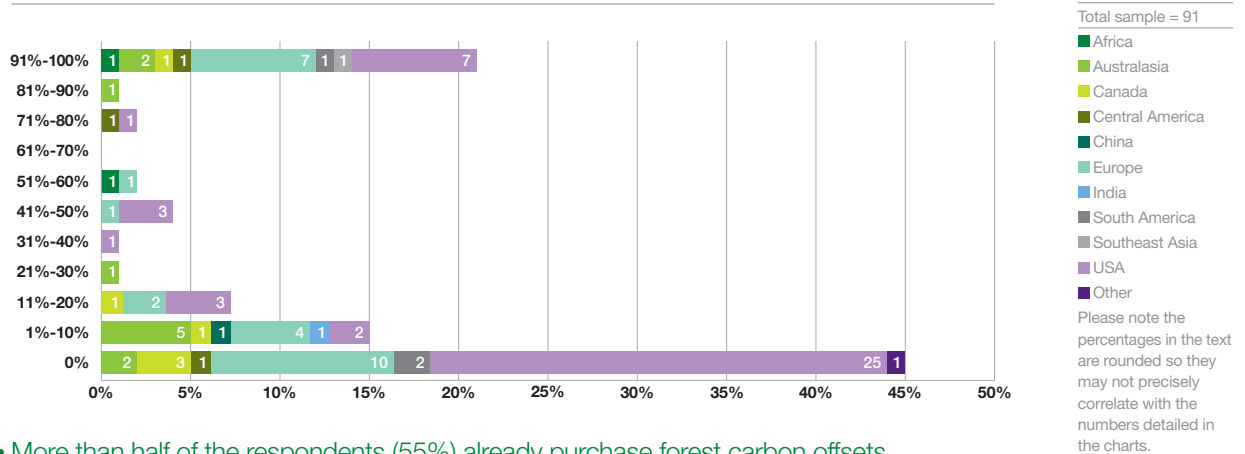
- More than half the respondents buy less than 5,000 tonnes yearly (56%) and two thirds purchase 30,000 tonnes or less (66%). This strong emphasis on smaller transactions is consistent with respondents purchasing offsets for voluntary reasons.
- A number of companies (7%) purchase more than 1 million emissions annually. All of these companies are based in Europe, with the majority (83%) of them working in the energy/utility sector (presumably these large quantities of offsets help towards their compliance within the EU ETS). These responses do not necessarily only relate to voluntary carbon purchases.
- We conservatively estimate that the total annual purchase volume of respondents is between 7.9 and 16.3 million tonnes.



## ...and what's the role of forestry?

### Is forestry featured in your strategy?

By region – the percentage of offsets from forest carbon projects



- More than half of the respondents (55%) already purchase forest carbon offsets.
- All respondents together represent an annual purchase volume from forestry projects of around 3 million tonnes. Although 2009 volumes are not yet published, this volume may represent<sup>11</sup> as much as 57% of the demand for voluntary forest carbon offsets if comparing against 2008 numbers, when the market amounted to 5.3 million forestry tonnes.
- The relative importance of forestry as an offset option is bimodal. One fifth of buyers (19%) use forestry as their principal offset option (purchasing 91-100% of their offsets from forestry). However an equally large number of buyers (22%) use forestry to make up a relatively small amount of their portfolio (less than 20%). Only 12% of buyers fall between these two extremes.
- In Australasia and Europe, the majority of respondents buy forestry offsets (82% and 54% respectively). For US buyers the portion is smaller (40%).

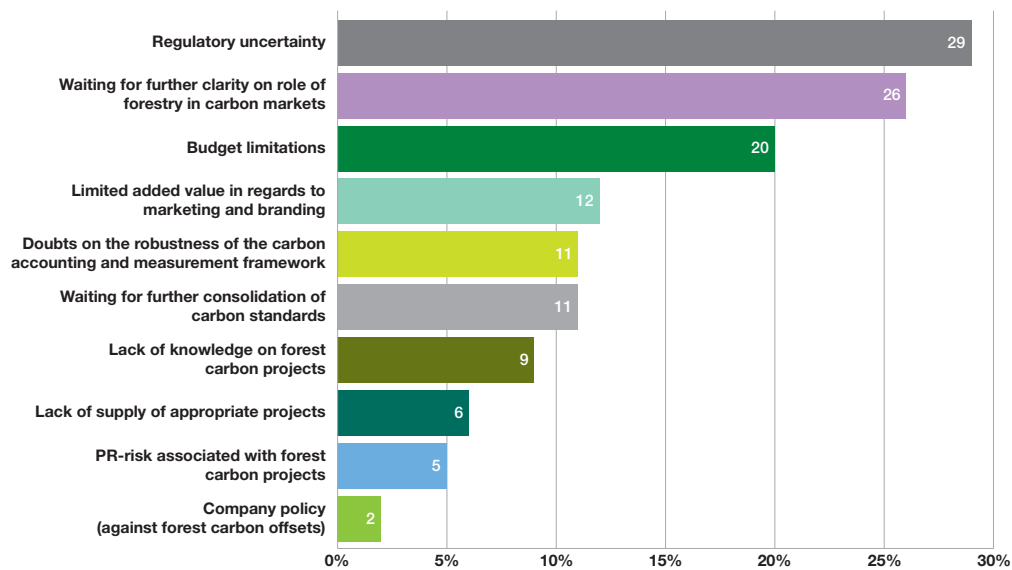
The portion of buyers that sourced offsets from forestry increased dramatically during the last year, particularly in Europe, where 54% said they included forest carbon offsets in their purchases. Last year only a minority (13%) had bought any offsets from forestry. This indicates a significant change in attitude towards the forestry sector in Europe. In North America, the same trend was not apparent amongst buyers, their attitudes had remained constant (40% versus 45%).

<sup>11</sup> The Ecosystem Marketplace 2010. State of the Forest Carbon Market 2009.

## ...and what's the role of forestry? – continued

### And if not forestry – why?

#### Reasons for not purchasing forest carbon offsets as of yet



#### Key

Total sample = 65

N.B. Multiple responses allowed

- Those respondents who have not (yet) purchased forest carbon offsets claimed not to have done so largely for reasons that are not inherent to forestry as an industry sector itself (uncertainty on regulatory and market developments – 29%, the role of forestry in carbon markets – 26%, budget limitations – 20%).
- A relatively low portion of respondents gave negative attributes to the forestry sector or the use of forest offsets within the company strategy as reasons for not purchasing carbon offsets (doubts on carbon accounting and measurement in forestry, including the risk of non-permanence and leakage – 11%, PR risk to the company – 5%, company policy against the use of forest offsets – 2%).

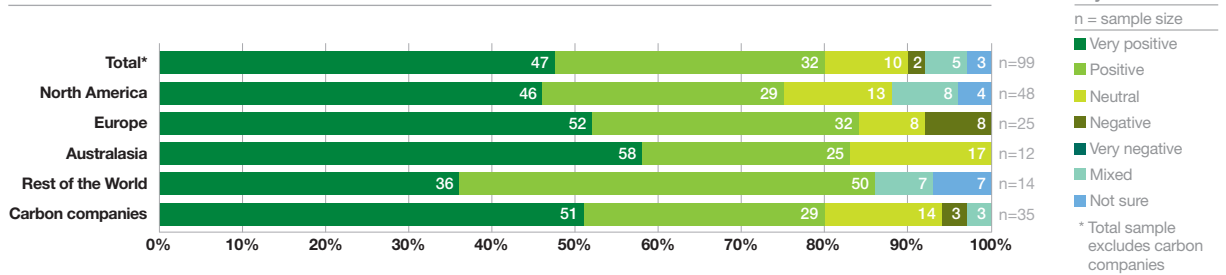
It is significant that only one in ten respondents indicated concerns about the accounting and measurement frameworks as a significant barrier. By comparison, the results of last year's survey showed about a third of European respondents had mixed or negative views, based mainly on concerns regarding risk of non-permanence and leakage.

The results support the observation that the negative image that was attached to the forestry sector in the carbon markets is dissolving, particularly in Europe, and that buyers would positively engage with forestry if there was clarity on the role of forestry in regulated markets and budgets available for investment. However, it should also be noted that participants who responded to this survey are likely to have an existing interest in forestry and forest carbon offsets.

# How forestry is perceived

## Attitudes towards trees

### General attitudes towards forest carbon offsets

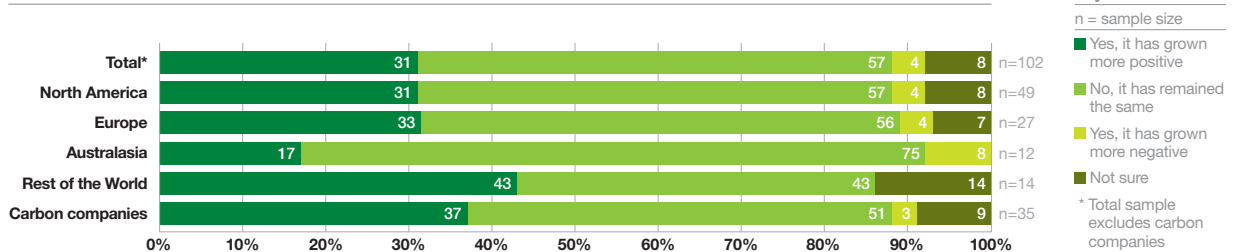


- Nearly 80% of the respondents say that their companies have a very positive or positive attitude towards forest carbon offsets (47% very positive and 32% positive).
- Only 2% said that their companies have a negative attitude towards forest carbon offsets.

Overall, attitudes are more positive than last year, when only 58% of the total sample had very positive to positive attitudes towards forest carbon offsets. Of particular note is the increased number of positive responses from European companies, where historically there has been less support for forest-based offsets.

### How attitudes have developed

#### Has there been a recent change in attitude towards forest carbon projects



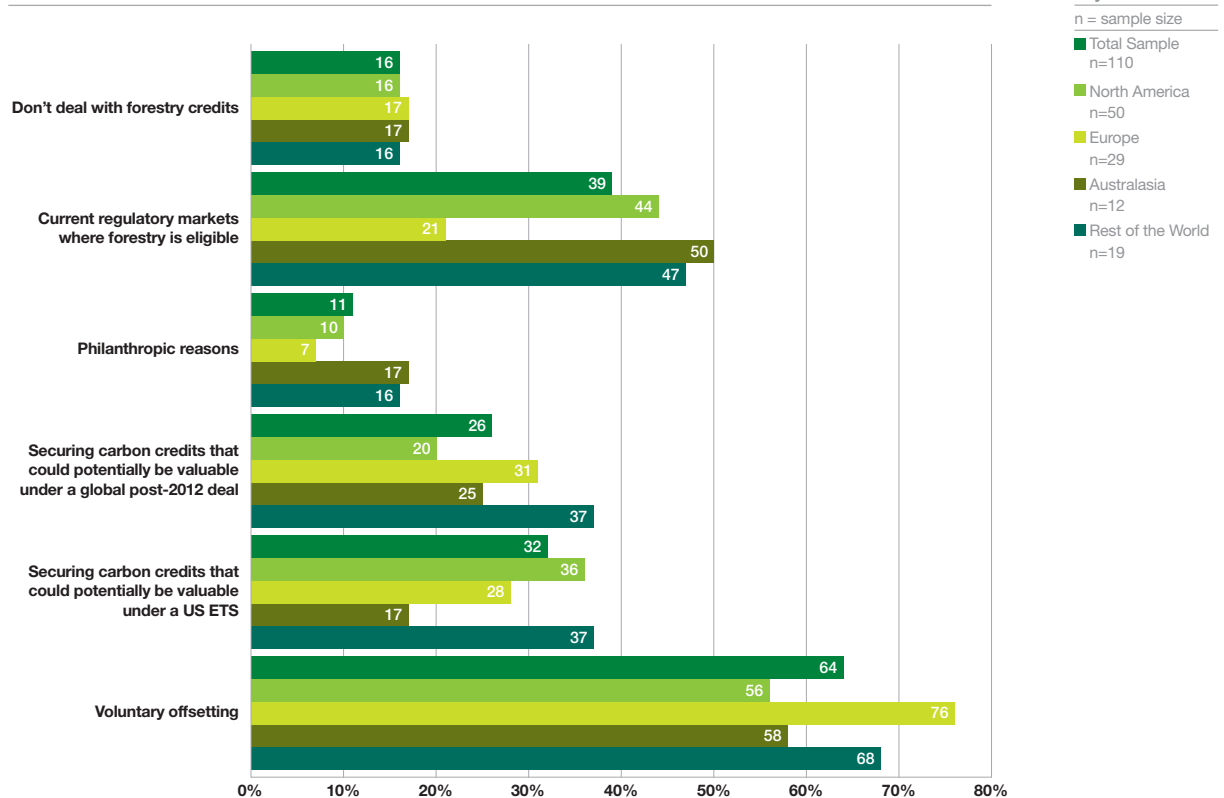
- The attitude towards forestry offsets of nearly one third of the respondents has recently grown more positive (31%).
- Only a very small number (4%) said that their attitudes have recently grown more negative.

This improved attitude towards forest carbon is remarkable in light of the recent lack of agreement at the UN level and in the US Congress about climate change legislation, and may reflect a growing awareness that forests must be a part of the solution to climate change; an understanding that measurement and monitoring capabilities have improved; and that the issues of additionality, and permanence and leakage risks are being addressed through the adoption of robust standards.

## How forestry is perceived – continued

### Why tree-huggers hug their trees

#### Main interest for dealing with forestry carbon credits



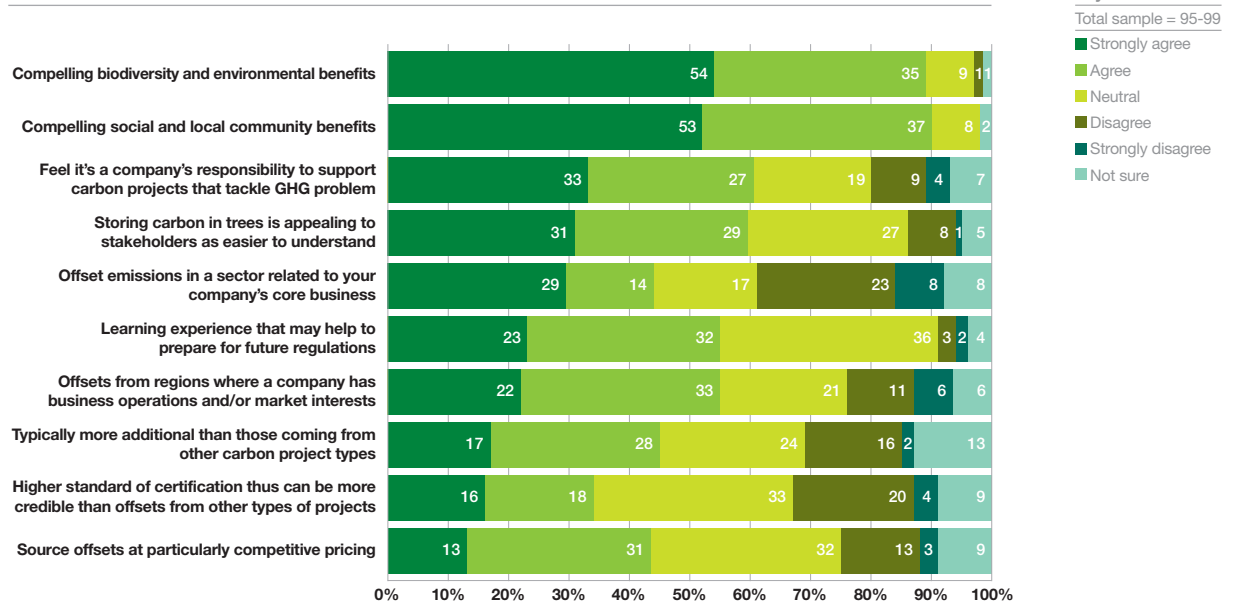
- Nearly two thirds of the respondents said that they are motivated by voluntary considerations (64%).
- More than one third of respondents (39%) said that they operate in an area where forestry is eligible in the regulatory market and that this motivates their interest.
- More than one quarter of respondents said that they are motivated by a potential global scheme (26%) and just under a third (32%) claimed US regulatory reasons.
- Only 11% said that their motivation is philanthropic.

Regionally, the reasons for dealing in forest carbon were generally consistent, with the notable exception of those regions where forestry is eligible under current regulatory markets. Few European respondents fit this category considering that the EU ETS does not accept credits from forest projects, and unsurprisingly the highest percentage of respondents whose interest is voluntary comes from Europe. In turn, almost half of the respondents from North America and Australasia are engaged in forest carbon because of the regulatory markets, although the schemes have not yet been fully developed.

How forestry is perceived – continued

Forestry’s Unique Selling Points

Motivation for interest in offsets from forest carbon projects instead of from other sectors



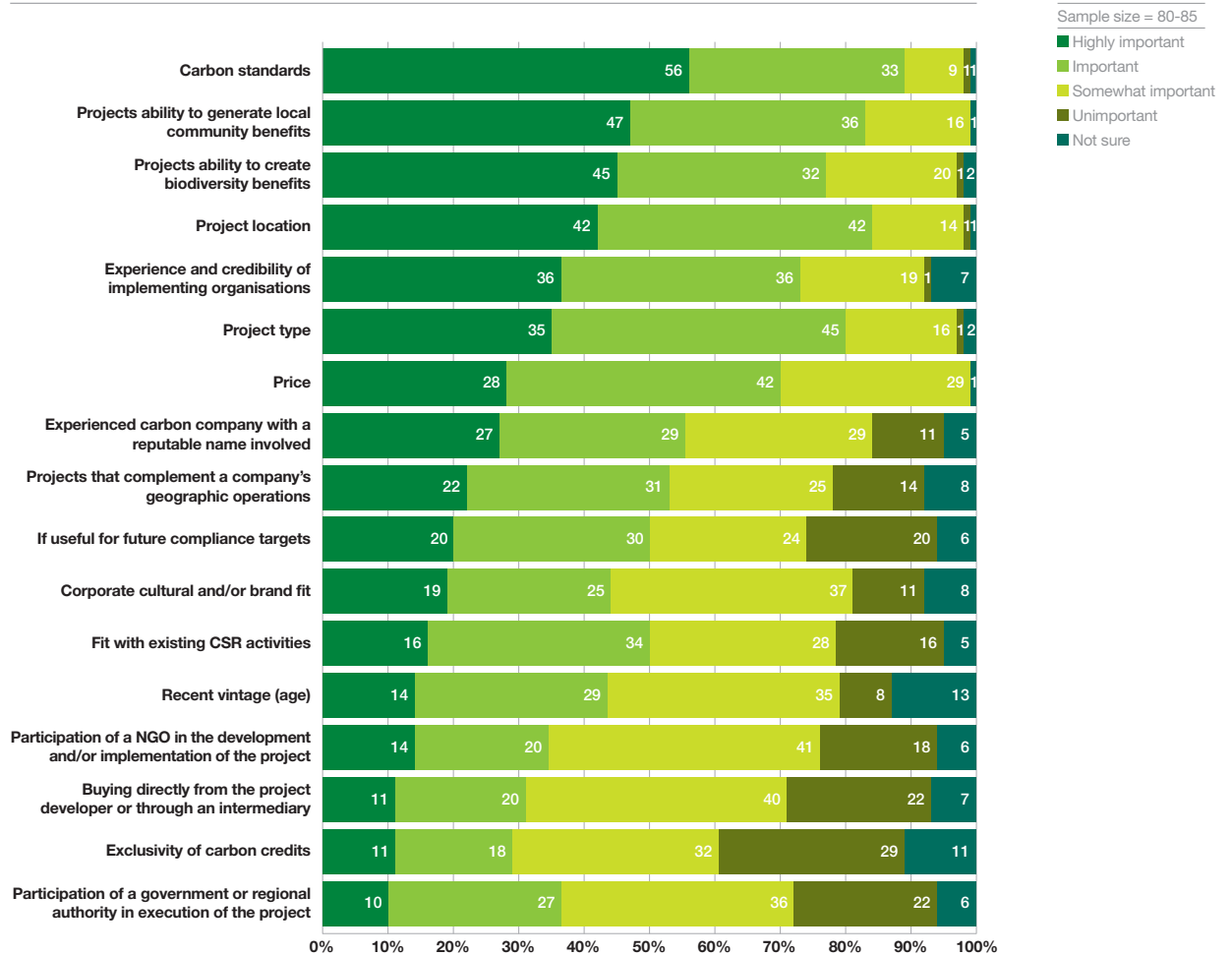
- Social and local community benefits and biodiversity and other environmental benefits drive interest in forest carbon for most of the respondents (90% and 89%, respectively).
- A second tier of motivations (with 50-60% of respondents agreeing or strongly agreeing) includes: using offsets from regions where the company does business; preparation for future regulations; a sense of responsibility to address tropical deforestation because of its contribution to global emissions; and a belief that storing carbon in trees is easier to understand and therefore more appealing to stakeholders.

It is interesting to note that price is not cited as a motivation for preferring forest carbon offsets over other offset classes. This may be because forest carbon credits are not being offered at prices lower than other types of offsets, or maybe because buyers in the current market are not strongly sensitive to price. Voluntary buyers of offsets may be willing to pay a premium for forest carbon offsets that provide attractive co-benefits.

# Types of carbon offset projects

## What's most important?

The most important factors considered when purchasing forest carbon credits



- Carbon standards were rated as the most important factor when purchasing forest carbon credits (considered important or highly important by 89% of respondents).
- This was closely followed by project location (84%), project type (80%) and the project's ability to generate additional community and biodiversity benefits (83% and 77% respectively).
- Experience and credibility of implementing organisation and price are also considered important factors (72% and 70%).

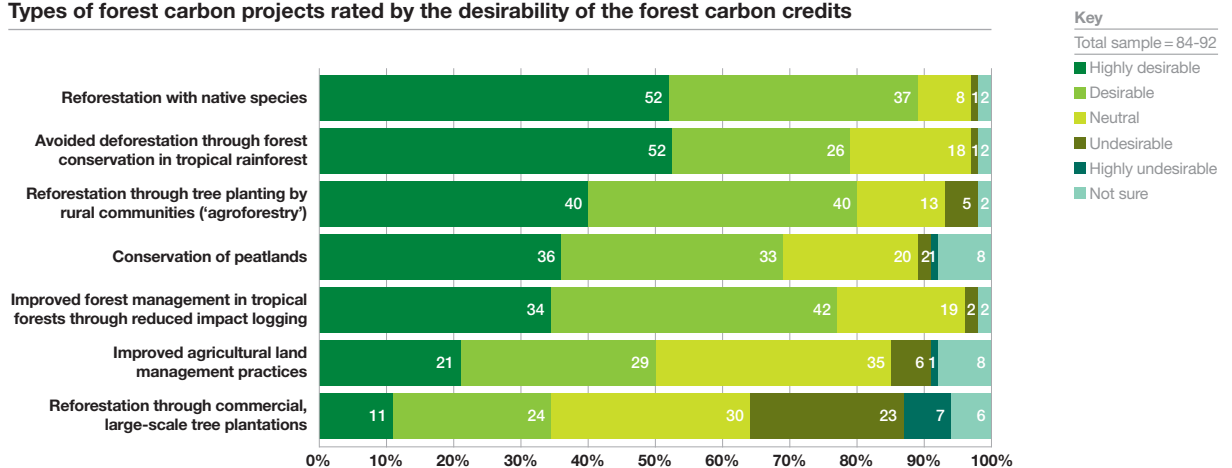
### Types of carbon offset projects – continued

The use of a respected carbon standard remains the most important consideration when purchasing carbon credits (89% in 2010 versus 91% in 2009). Given that the standard is what defines the credibility of the underlying carbon asset it is encouraging and understandable that buyers consider complying with a robust and credible standard to be so important. The environmental and social co-benefits the project can provide were two of the most important factors considered by buyers. This is consistent with the responses in the previous question regarding ‘motivations for purchasing forest carbon credits’, suggesting that projects that are able to integrate these considerations into the project design and effectively market them will most easily find buyers.

Exclusivity of carbon credits was considered the least important factor. This would suggest that space exists within the market for several buyers to become involved and support the development of a project.

### Types of activities

Types of forest carbon projects rated by the desirability of the forest carbon credits



- Reforestation with native species projects ranked the highest with 52% rating this project as highly desirable and 37% as desirable (89% in total). Avoided Deforestation was also ranked highly desirable by 52% of respondents. However, the overall desirability percentage was slightly less (78%).
- Other project types with positive environmental or social benefits are also highly regarded, such as community agroforestry, improved forest management and conservation of peatlands (considered highly desirable or desirable by 80%, 76% and 69% of respondents respectively).
- Commercial plantations remain the least attractive of the forest carbon projects (with only 35% of respondents seeing these projects as either highly desirable or desirable).

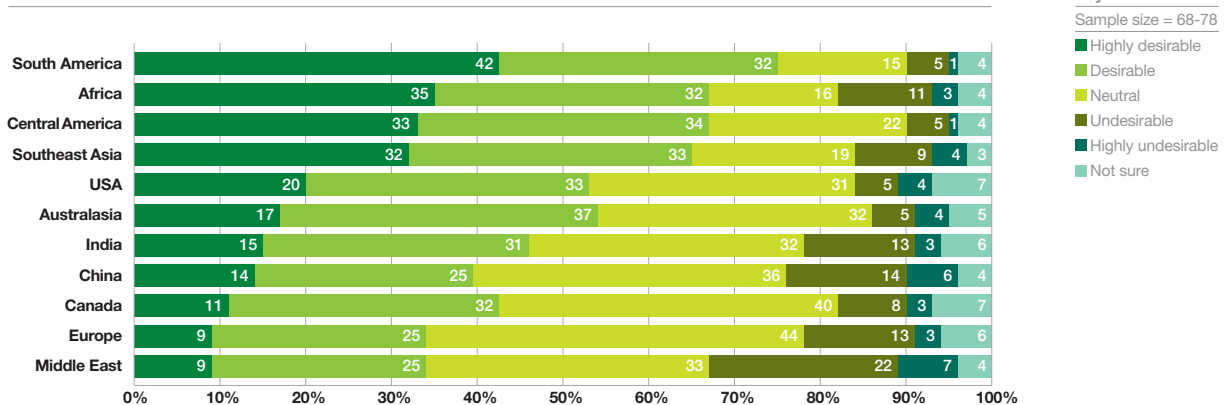
## Types of carbon offset projects – continued

Participants showed similar project type preferences in last year's survey. The percentage of respondents that view avoided deforestation and reforestation with native species projects as highly desirable dropped slightly from last year (62% and 58% respectively in 2009 versus 52% each in 2010) but the desirability of all the other categories except commercial plantations increased. Most notably, the number of respondents that rated improved forest management as highly desirable increased from 19% to 34% since last year. This may suggest a greater awareness, understanding, and acceptance in the market for the full range of forestry options to reduce emissions. Behind these global results lie some interesting regional trends worth noting. Although there is still a very positive overall perception of forestry there is evidence of some decline in the level amongst North American buyers and an improvement amongst European respondents. In North America, all categories, except improved forest management, received a lower percentage of respondents viewing them as highly desirable this year. In Europe, however, projects in all categories were viewed more favourably than last year.

Other interesting regional results include Australasia's very different views towards large-scale commercial plantations compared to other regions. Here, 50% of respondents view this project type as either highly desirable or desirable and in fact received no negative responses. This may in part be due to the fact that this project type is expected to feature prominently in both the NZ ETS and Australia's Carbon Pollution Reduction Scheme (CPRS).

## Location

### Geographical regions rated by the desirability of purchasing forest carbon credits



- South American offsets were rated as desirable or highly desirable by three in four respondents (74%).
- The next three most popular regions were Africa, Central America and Southeast Asia, considered attractive by two thirds of respondents (67%, 67% and 65% respectively).



### Types of carbon offset projects – continued

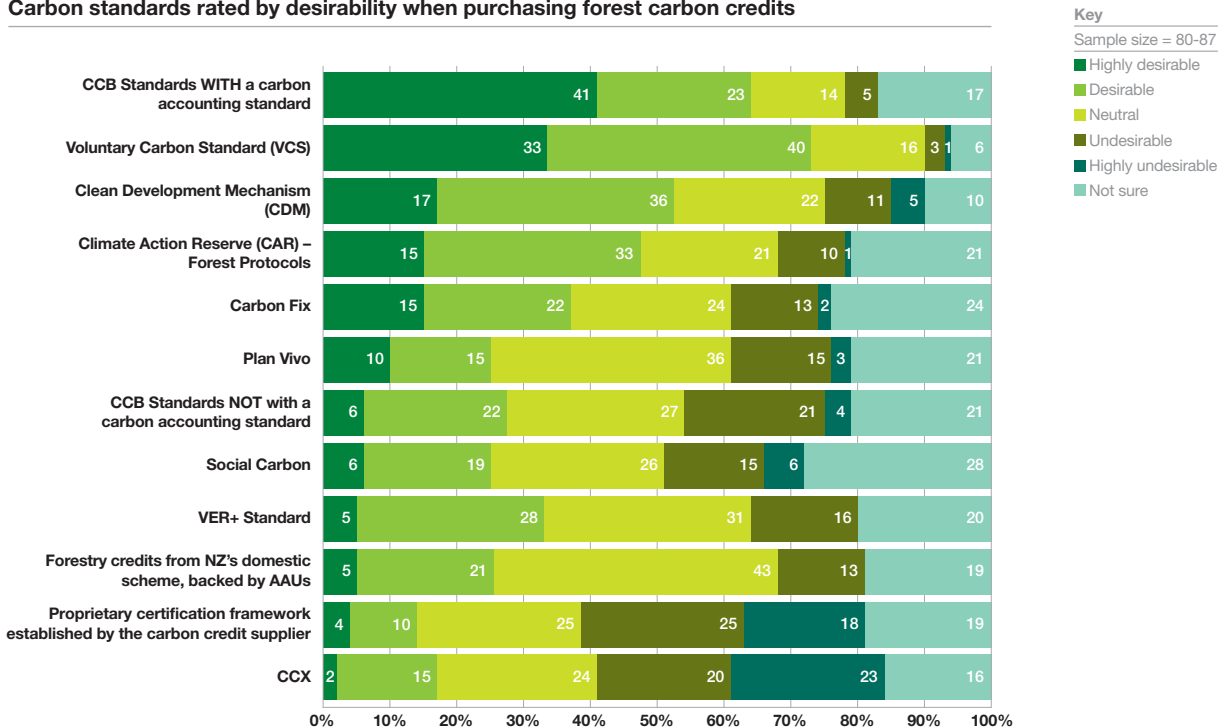
The reduction of emissions in one region of the world has an equivalent effect on the atmosphere as a reduction elsewhere in the world. The geographical location of a project therefore has little bearing on the mitigation potential of a credit. Nonetheless, buyers show a strong preference for the origin of their credits. As with last year, offsets from tropical developing countries were deemed the most attractive.

It is interesting to note that respondents are far less interested in forest carbon offsets from India and China (rated highly desirable/desirable by 46% and 39% respectively) despite the large potential for A/R activities in these countries. This is not only lower than other developing countries but significantly lower than last year's responses.

North American and Australasian respondents exhibit a much stronger preference for local projects than their European counterparts. In 79% of cases, North Americans considered projects located in the USA as desirable or highly desirable, while 100% of Australasian respondents gave the same rankings for projects located in Australasia. Europeans on the other hand are far more interested in projects located in Africa, Southeast Asia, South America and Central America.

### Carbon standards

Carbon standards rated by desirability when purchasing forest carbon credits



## Types of carbon offset projects – continued

Carbon standards provide assurances for buyers that projects' emission reductions are real, additional and permanent. We tried to understand buyers' perceptions of the multitude of carbon standards applicable to forestry projects currently in the market. This year we gave respondents the opportunity to give their opinion on twelve possible options compared to eight the year before.

- The VCS and CCB Standards were by far the two most popular choices (73% and 64% rated these as highly desirable or desirable). The next popular was the CDM (53%).
- Proprietary standards and the Chicago Climate Exchange (CCX) were rated as the least desirable (43% of respondents rating both of these as either undesirable or highly undesirable).
- Respondents appear to be more familiar with the multiple carbon standards currently in the market in comparison to last year with fewer respondents indicating "Not sure".

In fact, this greater familiarity with the various carbon standards seems to be most notable with the CCB Standards. A high number of respondents last year said that they were unsure about this combination, probably because of a lack of familiarity. However in all regions this year, except North America, respondents rated this combination as the most attractive of all the carbon standard options, suggesting that respondents have a greater understanding both of the CCB Standards and the added value it provides.

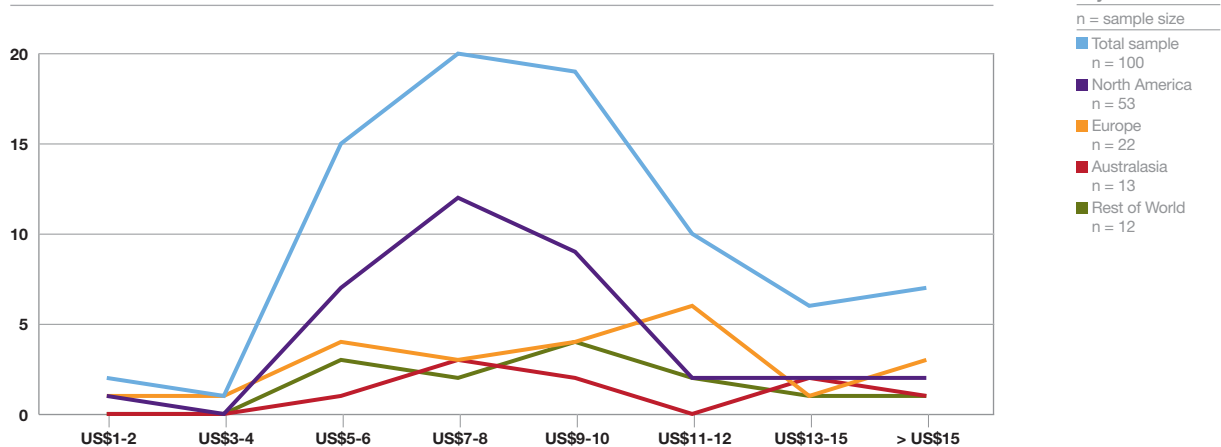
Proprietary standards and the CCX were the least popular choices. The unattractiveness of proprietary standards may indicate that buyers, rather than using ad-hoc solutions, prefer to invest in transparent and reliable standards. The CCX might be losing further ground because buyers could be looking for standards such as the VCS that are known for ensuring the highest levels of robustness in carbon accounting and high standards related to additionality.

The location of respondents appears to strongly influence their acceptance of certain standards. This was most evident with the CAR standard in North America, CarbonFix and Plan Vivo in Europe and AAU backed forestry credits in New Zealand. In each case the relative percentage of respondents rating these standards as highly desirable increased dramatically within the region where the standard originated, suggesting some of these standards still have a way to go before becoming globally accepted.

## How much is a tree? – Prices and financing

### What average price would you expect to pay for forest carbon credits?

Average price (per tonne CO<sub>2</sub>) expected to pay for forest carbon credits



- The price ranges with the greatest number of responses are \$7-8, \$9-10 and \$5-6 respectively, suggesting a broadly accepted pricing of \$5-10 per tonne.
- Overall the results are hard to interpret since pricing expectations refer to different kinds of underlying deals and projects.

Companies which have their headquarters based in North America and Australasia indicated a pricing expectation in the \$7-8 per tonne range, whereas buyers from Europe appeared more willing to pay a higher price of \$11-12 for forest carbon offsets. The most common price for the 'Rest of the World' was \$9-10.

Last year's most frequent price expectations among North American buyers were evenly split between a lower and upper range of (\$3-4 and \$10-12), whereas this year they are much more centred around the midpoint of \$7-8. Europe price expectations increased slightly from last year's lower level of \$7-9 to \$11-12.

While these figures reflect rather varied price expectations, we see a number of reasons for the difference in pricing:

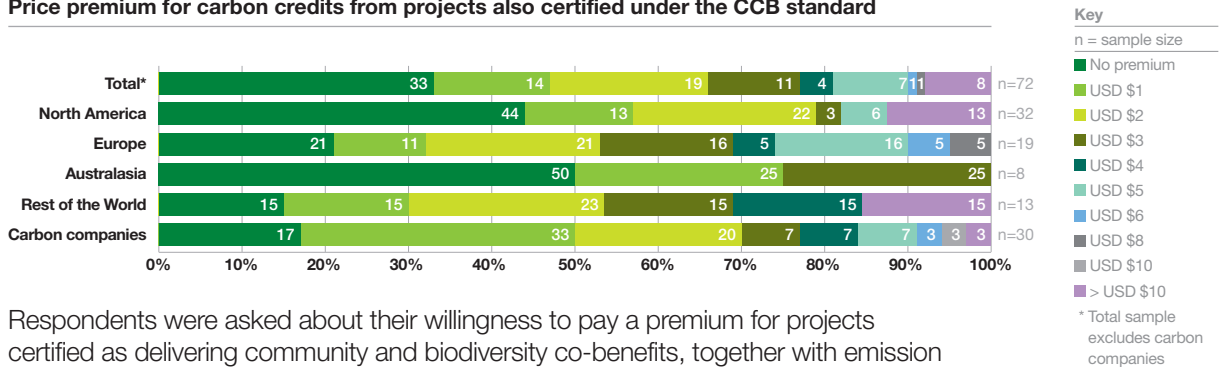
- Type and scale of project
- Standard the project is certified to
- Different deal structures that may involve options or some upfront payment
- Presence of ancillary benefits in the project design for communities or biodiversity
- Timeframe within which credits are to be delivered
- Size of the deal, where very small offsetting deals are likely to see completely different pricing to that of large wholesale deals
- Whether credits need to be already issued.

## How much is a tree? – Prices and financing – continued

Independent from those specific price factors, particularly for forestry offsets, when looking at pricing trends, it is important to acknowledge that in a more general context prices will be driven by demand and supply of offsets. At present no forestry VCS projects have yet achieved verification and issuance of registered credits. This lack of supply, may be contributing to price inflation as demand cannot be met. However, as more projects come through the pipeline then price may well soften. Furthermore, demand could also increase through growing awareness in the voluntary sector or major regulatory changes, such as the creation of a US compliance market.

### Pricing the Climate, Community & Biodiversity (CCB) Standards

#### Price premium for carbon credits from projects also certified under the CCB standard



Respondents were asked about their willingness to pay a premium for projects certified as delivering community and biodiversity co-benefits, together with emission reductions through the CCB Standards. Results show strong support for these multiple-benefit projects:

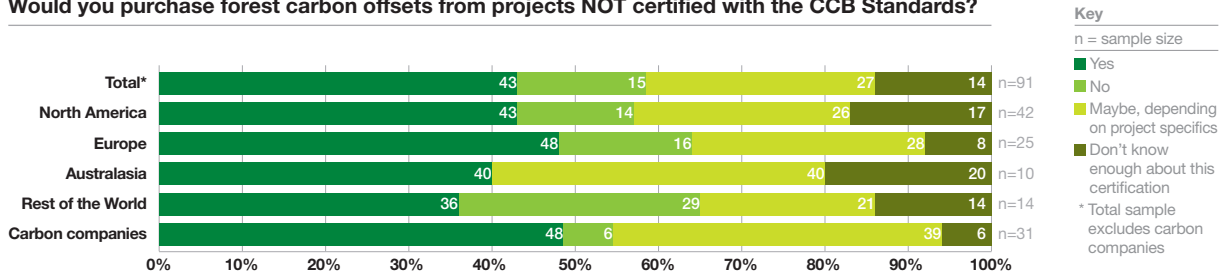
- Nearly half of the respondents (44%) would pay a \$1-3 premium for an offset certified under the CCB standards.
- A third of the respondents (33%) indicated they would not be willing to pay a premium for this benefit at all.
- There is more willingness to pay such a premium among European buyers than among those from North America and Australasia.
- Most buyers (70%) would also consider purchasing offsets not certified under the CCB Standards, depending on the project.

About 8% of participants indicated they would pay over \$10 as a premium; we believe that these are likely to be respondents who assumed this question referred to the overall price of the credit and not just the premium.

How much is a tree? – Prices and financing – continued

When we look at the data broken down by region we can see that buyers from North America and Australasia are less willing to pay a premium for CCB certification than those from Europe, and that many more (44% and 50%, respectively) indicated they were unwilling to pay premiums in comparison to Europe (21%). Along the same line, for Europe, Australasia, the ‘Rest of the World’ and carbon companies approximately half of the respondents (48%, 50%, 53%, and 60%, respectively) would pay \$1-3 premium for an offset certified under the CCB standards, but this percentage is a lot lower for North America (38%). This could be due to the fact that participants from North America and Australasia view forestry as a potential compliance tool and would not expect to pay over what was necessary to achieve compliance.

Would you purchase forest carbon offsets from projects NOT certified with the CCB Standards?

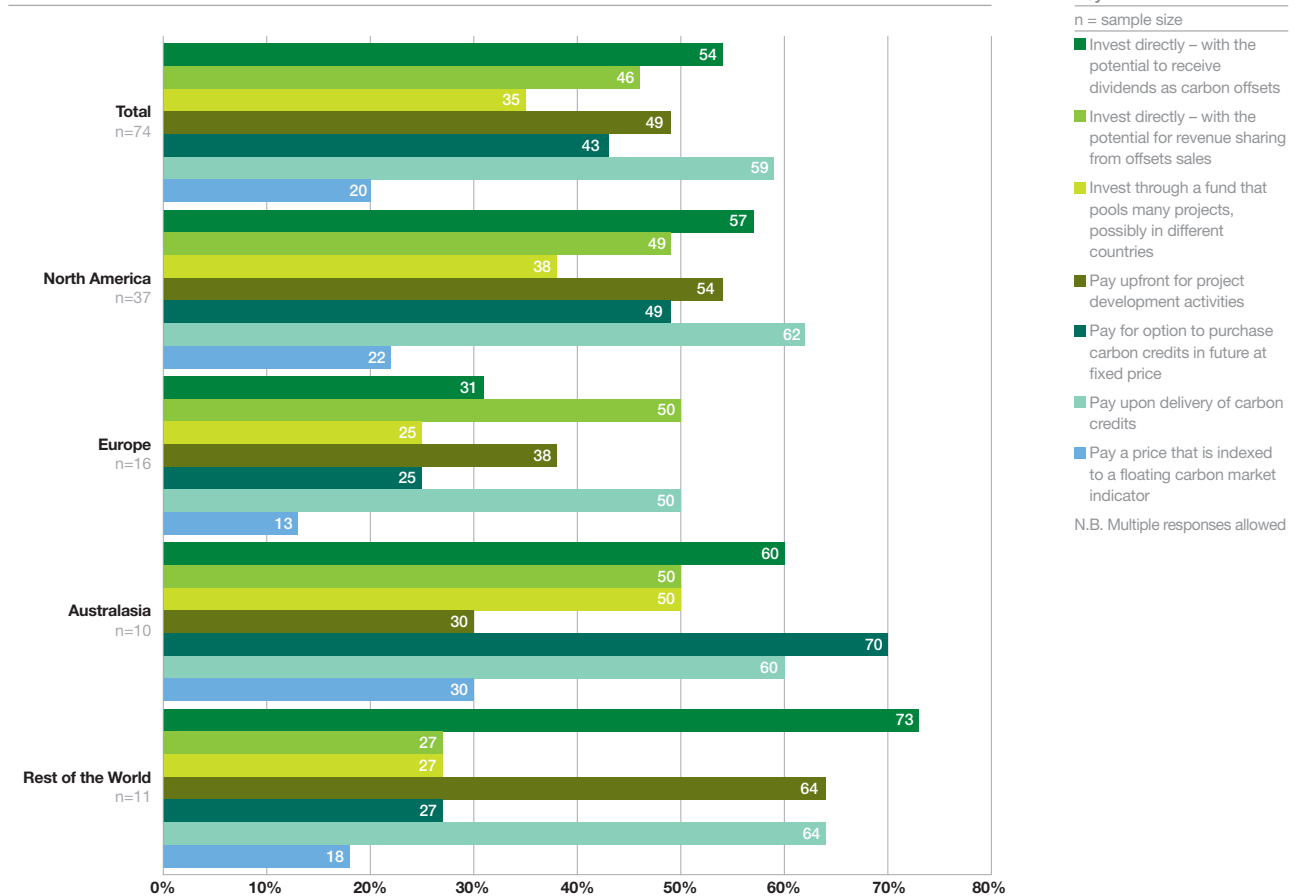


When asking participants in the survey about their willingness to purchase forestry offsets that are not certified under the CCB Standards it became clear that not having CCB status is not necessarily a deal breaker. More than a quarter of participants (27%) said it depended on the project specifics; that means that there may be cases where the underlying project is good and the buyers will be screening projects in detail anyway therefore an additional certification under the CCB Standards is not always needed. This willingness to forgo CCB certification may also apply in cases where purchases are made for compliance purposes.

For a more cost-effective strategy buyers may purchase offsets from a mixture of projects where some are certified under the CCB Standards whilst others are not, therefore creating a portfolio of the more costly charismatic projects mixed with less expensive credits. An equivalent example is when voluntary buyers of renewable energy credits blend VCS credits and Gold Standard credits to make up a portfolio.

### Financing arrangements and deal structures

Which financing arrangements would you adopt when purchasing forest carbon credits?



In forest carbon projects, there is often a financing gap between the point when the investments need to be made and when revenues accrue. For instance, developing a project's carbon offset generation potential (i.e. building local management capacity, developing legal agreements, undertaking carbon measurement and monitoring, registering the project under the chosen carbon standard and carrying out audits) can be expensive and often represents one of the major barriers to successful project development. Even more importantly, projects typically need several years of lead time before delivering carbon reductions because trees require time to grow before removing significant amounts of carbon, or because forest protection measures need time to become effective. Carbon credits therefore accrue years after the required upfront investment needed for the project development. To overcome these financing constraints a number of deal structures have evolved in which buyers pre-finance the project and its carbon project development. We explored how amenable carbon buyers really are to those deal structures.

- When looking at the total sample of all respondents, the most favoured structure was for payment on delivery (59%). This is as expected and is the plain vanilla purchase model used to buy carbon credits in both the voluntary and compliance markets.
- Many buyers would also consider other deal structures, including investments into underlying projects and (partial) upfront payments.

How much is a tree? – Prices and financing – continued

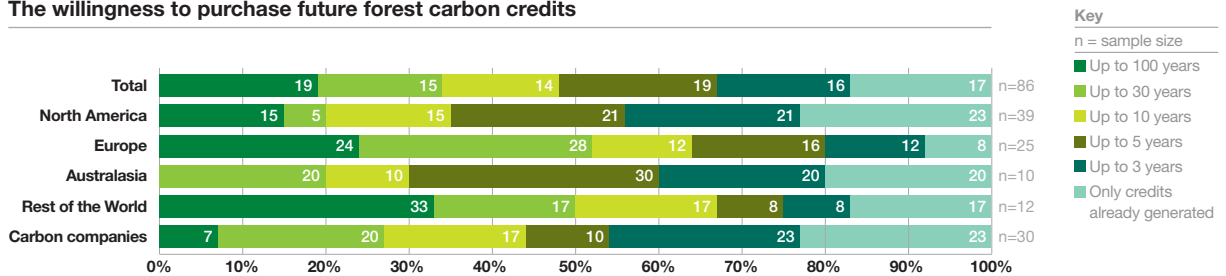
In North America, Australasia and particularly in the ‘Rest of the World’ (57%, 60%, and 73%, respectively), there was an interest shown in investment in the underlying project with the potential to receive credits as dividends.

In North America and developing countries over half of the companies are willing to pay upfront for project developments costs. There was also some interest in this from Europe and Australasia (38% and 30%, respectively).

Across the board, companies had the least interest in paying for credits through an indexed price structure. This is not really surprising considering the lack of development in the market for transparent pricing for forestry credits, let alone the development of indices. Even when the credits may be used for compliance in future years the schemes are still relatively immature.

Pay today for carbon tomorrow

The willingness to purchase future forest carbon credits



One of the most obvious financing arrangements for forestry projects is upfront payments where buyers would not only purchase carbon removals as they occur, but also the removals that will transpire in a future timeframe. A buyer could then, at the time of planting, purchase all the carbon that a tree will absorb during its lifetime.

- A large majority of buyers (83%) are willing to pay upfront for future carbon reductions.
- The length of the timeframe varies greatly for the buyers; however, there are almost an equal number of replies for the various brackets offered (a range between three years up to 100 years).

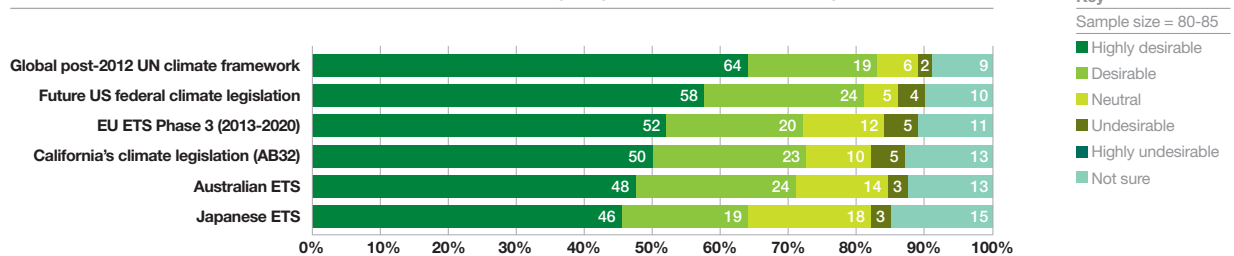
In discussing pre-financing for future carbon reductions, it is useful to distinguish between carbon standards that frontload accrual of carbon credits and those that issue credits only ex-post. Frontloading occurs for instance under the Plan Vivo standard when carbon credits are paid for and issued ex-ante i.e. before the carbon reductions have been generated. Ex-post crediting occurs, when carbon standards require that carbon reductions have been verified before credits are issued (e.g. VCS). Pre-financing forestry projects can therefore be organised as a payment for issued ex-ante credits (frontloading) or as a payment for future delivery of ex-post credits (upfront payments).

The data shows that buyers are willing to pre-finance forestry projects through purchasing carbon reductions. This suggests that much discussion around the merits of doing so, particularly under frontloading arrangements, could have been partly driven by academic concerns, while the markets are more willing to embrace pre-financing that enables projects that could often not happen otherwise.

## Forestry in its policy context

### International forestry activities in the compliance schemes

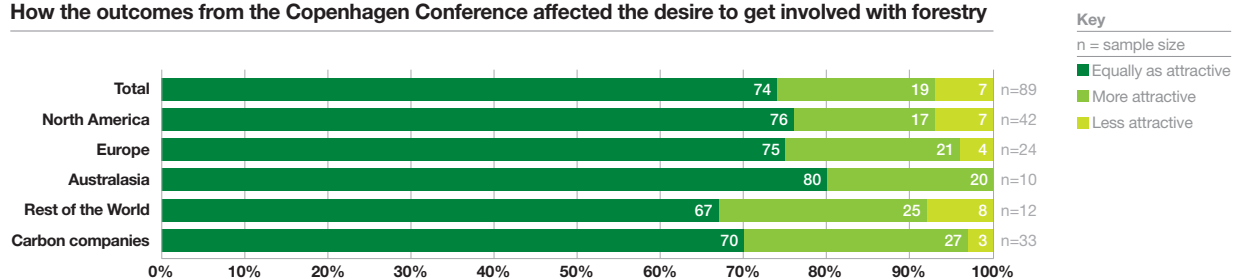
#### The desirability of international forestry activities being eligible for offset crediting



- A large majority of respondents indicated that it was highly desirable, desirable or that they were neutral on whether forestry activities (including REDD) should be included in the major regulatory frameworks (82-89%).
- Very few (2-5%) said that it is undesirable to have forestry included in these schemes.
- There were no strong differences of opinion between respondents from different parts of the world.

#### ...and did Copenhagen change perceptions?

#### How the outcomes from the Copenhagen Conference affected the desire to get involved with forestry



Despite some of the negative press about the results of the UN climate talks in Copenhagen COP15 in December, enthusiasm for forest carbon offsets has not waned for the vast majority of respondents.

- Nearly three quarters (74%) of all respondents said that forestry is just as attractive to them after Copenhagen as it was before.
- Nearly one in five (19%) said that forestry is even more attractive post-Copenhagen than it was before the conference.
- Only 7% said that it is less attractive now.

The UN discussions around REDD were more advanced than some other aspects of the negotiations, and were one of the most positive outcomes of the Copenhagen meeting. This was reported heavily in the media, therefore the above result may reflect a general consensus regarding the attractiveness of forestry.



## So, what to do to boost forestry?

In terms of increasing corporate and investor interest in the forestry sector, participants were asked to give their own opinions. The results can be split into four key areas as outlined below. They depict a clear message to all stakeholders with an interest in the forest carbon markets.

### Education and Awareness

*“Create proven successful examples of forestry projects as case studies”*

*“Show the co-benefits of forestry projects including biodiversity and community benefits”*

*“Create information campaigns specifically, frequently-asked-questions on what-happens-if scenarios including issues such as permanence and leakage”*

### Proven long term demand

*“Need longer term policy from government in relation to forestry”*

*“Need longer term demand from corporate for voluntary offsetting”*

*“Create federal legislation for cap-and-trade in the U.S.”*

*“Acceptance into existing cap-and-trade schemes”*

### Consensus on standards/protocols

*“Robust certification in particular to monitoring and verification”*

*“Transparency – currently the pipeline for projects and process for development is relatively opaque”*

*“Registries – consolidation around particular registries and processes”*

### Backing from international stakeholders

*“A growing number of NGOs recognise the tangible benefits of forestry projects (if managed correctly). If several of the large NGOs were to back the development of forestry projects, this would increase confidence in corporates choosing to use forestry for voluntary offsetting. It would also help increase the confidence of policy makers in having an inclusive policy for forestry offsets.”*

## Conclusion

Last year, we concluded the analysis with the observation that *“Forest carbon is certainly on the rise: voluntary market buyers are increasingly choosing offsets from forest activities and the momentum is strong to include forest carbon in international and national climate change policy.”* Now, one year on, this follow-up survey shows us how forestry markets have developed and are set to continue developing.

It seems enough testing has been done on forest carbon offsets and buyers are starting to voice their confidence in forestry. Buyers seem to be increasingly comfortable that the sector's caveats are being addressed: non-permanence, leakage, difficult methodologies – these are old hat and no longer act as huge barriers to investment. Even European offset buyers, who were previously wary, are showing an increasing interest in forest carbon.

The major bottleneck is now in the policy arena. The markets will clearly benefit from positive signals related to further international agreement on global greenhouse gas reductions, further development of the policy framework for REDD, and the inclusion of forest offsets in national cap-and-trade systems. Due to the volume of its emission reductions, the passage of cap-and-trade legislation in the US would provide a strong stimulus to the market for forest carbon. In anticipation of those developments forestry is already being used as a ‘playground’ for offset buyers looking to secure positions towards upcoming climate change regulation, whether through domestic activities in North America or through international activities with a view on a multilateral deal. There are expectations building up around the role of forestry. A disappointing Copenhagen conference has not discouraged the market perception of forestry offsets, but still, sooner or later the expectations need to balance against the reality.

In the meantime, forestry has gained ground and will continue doing so as an option for corporate offsetting – the kind of offsetting undertaken for purely voluntary reasons. A couple of high-profile deals were announced in 2009 and buyers' understanding of the sector is maturing with an increasing willingness to fund projects and a better understanding of the technicalities behind these deals and projects. We believe forestry may have turned an important corner and will start gaining momentum in attaining more market share, in both the voluntary and compliance markets. The private sector is ready and waiting to scale up investment in forestry projects, it's just waiting for the right regulatory signals.

## Glossary of terms

AAU – Assigned Amount Unit  
 AFOLU – Agriculture, Forestry and Other Land Use  
 A/R – Afforestation and Reforestation  
 CAR – Climate Action Reserve  
 CCBA – Climate, Community & Biodiversity Alliance  
 CCB Standards – Climate, Community & Biodiversity Standards  
 CCX – Chicago Climate Exchange  
 CDM – Clean Development Mechanism of the Kyoto Protocol  
 CI – Conservation International  
 COP15 – 15th Conference of Parties to the UNFCCC  
 COP16 – 16th Conference of Parties to the UNFCCC  
 CPRS – Carbon Pollution Reduction Scheme (Australia)  
 CSR – Corporate Social Responsibility  
 EPA – Environmental Protection Agency  
 EU ETS – European Union Emissions Trading Scheme  
 FMCG – Fast Moving Consumer Goods  
 GHG – Greenhouse Gas  
 NGO – Non-governmental Organisation  
 NZ ETS – New Zealand Emissions Trading Scheme  
 REDD – Reducing Emissions from Deforestation and Forest Degradation  
 RGGI – Regional Greenhouse Gas Initiative  
 UN – United Nations  
 UNFCCC – United Nations Framework Convention on Climate Change  
 UNP – Unique Selling Point  
 VCS – Voluntary Carbon Standard  
 VER+ – A standard for the voluntary carbon market created by TÜV SÜD

## Contact details

### **EcoSecurities**

Contact: Lisa Ashford  
 Email: [lisa.ashford@ecosecurities.com](mailto:lisa.ashford@ecosecurities.com)  
[www.ecosecurities.com](http://www.ecosecurities.com)

### **Conservation International**

Contact: Chris Tuite  
 Email: [ctuite@conservation.org](mailto:ctuite@conservation.org)  
[www.conservation.org](http://www.conservation.org)

### **The Climate, Community & Biodiversity Alliance**

Contact: Steve Panfil  
 Email: [spanfil@climate-standards.org](mailto:spanfil@climate-standards.org)  
[www.climate-standards.org](http://www.climate-standards.org)

### **ClimateBiz**

Contact: Matthew Wheeland  
 Email: [matt@greenerworldmedia.com](mailto:matt@greenerworldmedia.com)  
[www.climatebiz.com](http://www.climatebiz.com)

### **Norton Rose**

Contact: Andrew Hedges  
 Email: [andrew.hedges@nortonrose.com](mailto:andrew.hedges@nortonrose.com)  
[www.nortonrose.com](http://www.nortonrose.com)