



Carbon 2009

Emission trading coming home

TO THE POINT

Point Carbon's fourth annual Carbon Market Survey ran from 20 January to 15 February 2009. The survey garnered 3,319 responses from 116 countries.

Price expectations are down for 2010, but remain strong for 2020. Among our survey respondents, 45 percent expect an EUA price of €35 or higher in 2020, compared to 46 percent in last year's survey. By contrast, only 13 percent of respondents expect a 2010 EUA price above €25, against 39 percent in 2008.

Falling emissions in the EU ETS produce more companies with surpluses, fewer with deficits. The share of respondents reporting that their companies need to buy EUAs in addition to their full credit limit has fallen from 37 percent last year to 31 percent this year. Furthermore, the percentage reporting they have surplus EUAs to sell is up from 15 percent to 24 percent.

The economic downturn is hitting carbon project investments and credit purchases. Sixty percent of respondents from companies with carbon trading operations report having scaled down, delayed or cancelled carbon credit project investments as a consequence of the economic slowdown.

By contrast, many foresee a rebound in CDM investment for 2009. Among companies active in the CDM market, 41 percent of respondents predict they will increase their carbon credit project investments in 2009, against 23 percent that expect their investments to decrease or stop completely.

Post-2012 activity in the CER market is significantly up. Twenty percent of respondents from companies trading carbon report having traded CER forwards for post-2012 delivery, while the share is 14 percent for post-2012 CER options. This is significantly up from eight and four percent, respectively, last year.

Most respondents expect a US ETS. Ninety percent of US respondents -- albeit from a self-selected audience -- think the US will introduce federal mandatory cap-and-trade by 2015. Among respondents in general, the share is up from 71 percent last year to 81 percent this year.

Top US offset standards are CDM and CCAR. Respondents in the US find these two the most likely to be accepted under a future US federal mandatory cap-and-trade system.

Fewer respondents expect Copenhagen to produce a global climate agreement. Fifty-nine percent of our respondents expect an agreement to be reached by the COP in December 2009, against 71 percent in both 2007 and 2008. Slow progress in the post-2012 negotiations, and the global economic slowdown, may constitute the main explanations for this decline.

Seventy-two percent of respondents expect a global carbon price in 2020. This is virtually unchanged from last year, and indicates stable expectations for the long-term health of the carbon market even as the short term looks more insecure.

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About Point Carbon

Providing critical insights into energy and environmental markets

Point Carbon is a world-leading provider of independent news, analysis and consulting services for global power, gas and carbon markets. Point Carbon's comprehensive services provide professionals with market-moving information through monitoring fundamental information, key market players and business and policy developments.

Point Carbon's in-depth knowledge of power, gas and CO₂ emissions market dynamics positions us as the number one supplier of unrivalled market intelligence on these markets. Our staff includes experts in international and regional climate policy, mathematical and economic modelling, forecasting methodologies, risk management and market reporting.

Point Carbon now has more than 30,000 clients, including the world's major energy companies, financial institutions, organisations and governments, in over 150 countries. Reports are translated from English into Japanese, Chinese, Portuguese, French, Spanish and Russian.

Every year, Point Carbon's Carbon Market Insights conferences gather thousands of key players for the carbon community's most important annual conferences. Point Carbon also runs a number of high-level networking events, workshops and training courses.

Point Carbon has offices in Oslo (Head Office), Kiev, London, Malmö, Tokyo, Washington D.C. and Boston.

About the report:

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Executive Summary

The global carbon market has taken a hit from the global economic slowdown, but will eventually get back on its feet, according to the respondents taking part in Point Carbon's fourth annual Carbon Market Survey. Furthermore, the survey indicates strong confidence that the US under President Obama will enter the global carbon market and international climate negotiations in force.

The survey ran from 20 January to 15 February 2009, and caught 3,319 responses using a web-based tool. Among the respondents, 1,394 reported that their companies were engaged in trading carbon instruments.

Price expectations for the near term are significantly down compared to last year. Only 13 percent of respondents expect a 2010 EUA price of €25 or more, down from 39 percent in 2008. The lowered expectations are associated with the economic downturn and its consequent fall in projected emissions and demand for carbon credits.

The reduction in projected EU emissions means that more companies will have excess EUAs to sell, while fewer will need to buy. This fact is also reflected very strongly in our survey. The share of respondents reporting that their companies need to buy EUAs in addition to their full credit limit has fallen from 37 percent last year to 31 percent this year.

Conversely, the percentage reporting they have surplus EUAs to sell is up from 15 percent to 24 percent. This result agrees with the brisk selling of EUAs that we have seen in recent months, as companies see their future production and emission levels falling.

At the same time, long-term confidence in the market is unchanged, as evidenced by EUA price expectations for 2020. Among our respondents, 45 percent expect an EUA price of €35 or higher in 2020, virtually unchanged from last year's 46 percent. Thus, the longer term appears secure for the EU ETS.

The project markets are also feeling the effects of the economic downturn. We find that sixty percent of respondents from companies with carbon trading operations have scaled down, delayed or cancelled carbon credit project investments due to the economic slowdown.

On the other hand, the subset of companies most active in the CDM market shows some more optimism. In this group, 41 percent of respondents predict they will increase their carbon credit project investments in 2009, against 23 percent that expect their investments to decrease or stop completely. In other words, the credit crunch has taken its toll, but a rebound is expected by a plurality of those most involved in the CDM.

This more positive outlook is confirmed by our finding that post-2012 CER market activity has increased markedly. Twenty percent of respondents report having traded CER forwards for post-2012 delivery, up from eight percent last year. The corresponding share is 14 percent for post-2012 CER options, up from four percent last year.

Beyond Kyoto, the survey shows a broad increase in expected US carbon market involvement. Notably, 90 percent of US respondents think the US will introduce federal GHG cap-and-trade by 2015. The full sample shows an increase from 71 percent last year to 81 percent this year. This finding, along with strong growth in the RGGI market, indicates that emissions trading is finally coming home to the country that invented cap-and-trade.

Offsets are set to play an important role in any future US emissions trading scheme. Respondents in the US consider it most likely that credit developed under the CDM and/or the California Climate Action Registry (CCAR) will be acceptable for compliance.

Moving on to post-2012 climate policy, only 59 percent of our respondents expect an agreement by the end of 2009, against 71 percent in both 2007 and 2008. Reasons may be the slow progress seen last year's negotiations, coupled with the global economic slowdown.

By contrast, faith in long-term carbon markets is firm, as 72 percent of survey respondents expect a global reference price for carbon in 2020. This is virtually unchanged from last year. The average global price expectation is €35 and \$40, compared to €38 and \$46 last year. Again, we see that while our survey respondents foresee near-term trouble in carbon markets and climate policy – at least outside the US – there is strong confidence in greenhouse gas emissions trading for the medium to long term.

Foreword

The world economy is troubled, and the carbon market cannot hide. Every week brings stories of recession, credit crunch and falling carbon prices across the board. Industrial output and power consumption are down. And as emissions go, so goes carbon: EUAs, CERs and ERUs compete with oil and gas in a downward race.

At the same time, the US is gearing up for massive carbon trading in the near future. President Obama has proven the exact opposite of his predecessor, and has promised both deep emission cuts at home and vigorous climate diplomacy internationally. The US, which invented emissions trading and insisted on flexible mechanisms at Kyoto, is finally positioned to adopt an encompassing federal greenhouse gas (GHG) cap-and-trade system.

Looking back at 2008, the first year of the first Kyoto commitment period and the EU ETS phase 2 proved eventful in both the market and political spheres. The EU ETS review was conducted, the world was plunged into financial crisis and Barack Obama was elected president of the United States. In the global carbon market, trade volume almost doubled over 2007.

The markets have consolidated in 2008, now it is their time to show resilience against the economic storm. Looking ahead to the rest of 2009, we project continued year-on-year carbon market growth, but our predictions imply that trade volume is levelling off compared to the last months of 2008. At the same time, the carbon market is headed toward its first year of contraction in total market value.

This year will also be crunch time for global climate negotiations under the UNFCCC. Indeed, our conference venue for the fourth year in a row, Copenhagen's Bella Center, will be where delegates will meet in December and thrash out a post-2012 climate deal. We are honored to have Yvo de Boer, Executive Secretary of the UNFCCC, as our keynote speaker this year in Copenhagen.

The results from our fourth annual survey are represented in this report. Four findings deserve particular emphasis. First, companies regulated under the EU ETS clearly state an increase in supply and lowering of demand, compared to last year. Specifically, the share of companies reporting that they need to buy EUAs in addition to their full credit limit has fallen from 37 percent last year to 31

percent this year. In the same manner, the share of companies with surplus EUAs to sell has gone up from 15 percent to 24 percent. This situation agrees with the brisk selling of EUAs that we have seen in recent months.

A second finding is that 60 percent of respondents involved in the CDM/JI markets reported that their companies had scaled down, delayed or cancelled project investments. As financing dries up, and prices for primary and secondary CERs decline, these responses are in line with what one can expect in the current market situation. By contrast, we see a steep increase in the number of companies that have traded CER forwards or options for post-2012 delivery. This indicates that the market is acting on an expectation that the CDM will play an integral part in the global carbon market also after the first Kyoto commitment period.

Third, and as might be expected, short-term price expectations are also down. Price expectations for EUAs with delivery in the current year are now back at levels seen in 2007. At the same time, expectations for EU ETS in 2020 have hardly budged at all since last year. This is a strong indication that the market distinguishes between a short-term dip and long-term equilibrium prices for carbon.

Finally, and most importantly, the movement in the US towards mandatory federal emission trading remains steady. In this year's survey, 81 percent of respondents expect a mandatory cap-and-trade scheme in the US by 2015, up ten percentage points from 71 percent last year. The share of respondents believing the US will participate in a post-2012 deal with quantified commitments is up from 53 percent in 2008 to 77 percent this year, which is the largest percentage point increase among the countries in our survey.

There is no doubt that Obama's election, and his commitment to engage in the international negotiations, is the main reason for this change. We provide details on these findings and numerous others in this report, which we believe represents the most up-to-date and comprehensive analysis of the global carbon market.

Per-Otto Wold
CEO
Point Carbon

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1. Introduction

The first Kyoto commitment period is now well under way. The US has a new administration committed to deep cuts in greenhouse gas (GHG) emissions. Across the pond, the EU is ironing out the final details of the bloc's climate and energy policy blueprint toward 2020. Japan is discussing its medium-term (2020) GHG target and Australia is working on its own emission trading scheme, due to launch in mid-2010. China, possibly the most crucial player in global climate negotiations to conclude later this year, remains the main host for clean development mechanism (CDM) projects.

The world is also in the midst of a marked economic slowdown that, unusually, has hit most corners of the world simultaneously. This is clearly also being felt in the carbon market, in at least three ways. First, carbon prices are down from their highs in the summer of 2008, having dropped by two-thirds in several cases. Second, emissions in Kyoto's capped Annex B countries are down, reducing demand for carbon credits. Third, finance for CDM and other credit projects is harder to receive amid the credit crunch as banks cut down on lending.

Against this backdrop, we present our fourth annual report on the global carbon market. We seek to provide a comprehensive overview of all mandatory GHG emission trading schemes, whether current or upcoming. Our main data source is our annual Carbon Market Survey, but we also draw on Point Carbon's in-depth analyses of global carbon

markets and international climate policy in our publication series: Carbon Market Analyst (CMA), Carbon Market Monitor (CMM), Carbon Market Brief (CMB) and Carbon Policy Update (CPU). Furthermore, data from Point Carbon's proprietary databases, models and applications have been consulted, specifically Carbon Market Trader (CMT) and Carbon Project Manager (CPM).

“1,394 of 3,319 respondents involved in carbon trading

The survey ran from 20 January to 15 February, and garnered a total of 3,319 responses using a web-based survey tool. In the years from 2006 to 2008, by comparison, our survey had 800, 2,250 and 3,703 replies, respectively. Of this year's respondents, 88 percent were invited directly by e-mail whereas the remaining 12 percent found their way to the survey using a web link on Point Carbon's home page. In total, the survey had a response rate of eight percent, comparing actual responses to the number of invitations or web site visits.

Among the respondents, 1,394 stated that they were involved in trading various compliance carbon allowances and credits, or owned such carbon instruments. In this group, the largest subset comprises clean development mechanism (CDM) project developers, aggregators and others involved in the primary CDM market – these make up 450 of the respondents. Second are companies with emissions regulated under the EU emission

trading scheme (EU ETS), counting 385 respondents.

Financial institutions, including banks, come in third at 220. Other groups are offset developers in the North American market (53), Joint Implementation (JI) project developers (44), governments (38), companies covered by CO₂ regulation other than the EU ETS or the Regional Greenhouse Gas Initiative (RGGI, 27) and companies regulated by RGGI (11).

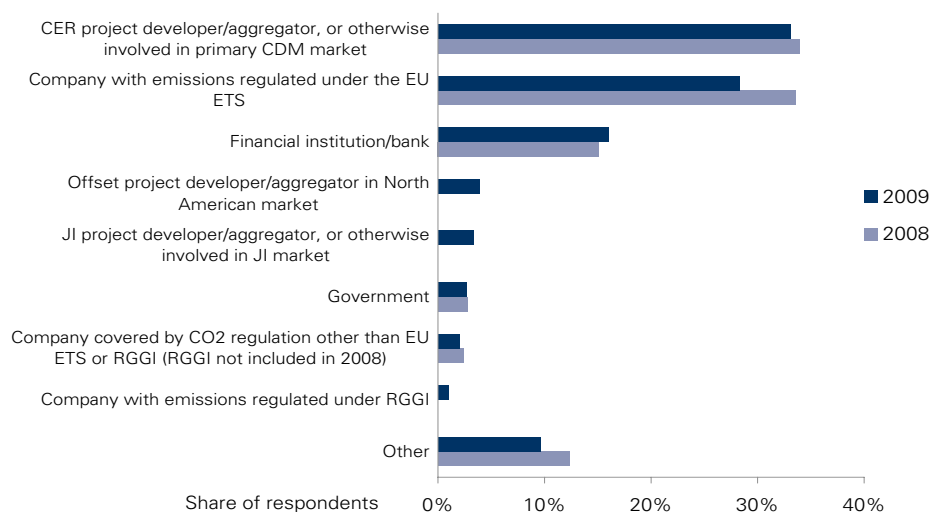
Figure 1.1 shows the distribution of respondents among this subset, compared to last year. Note that CDM developers/aggregators have surpassed EU ETS companies as the largest group in this year's survey.

Our typical respondent has a degree in either engineering or finance/economics, while 14 percent hold a PhD. Two-thirds are between the ages of 25 and 44. The largest number of respondents is found in the US (see Figure 1.2) — a total of 482 (up from 292 last year); the other countries with three-digit response totals are the UK (354), India (145), Germany (135), Australia (114) and Canada (112). In total, 116 countries are represented, according to respondents' self-reporting.

It should be noted that this survey is taken among individuals that tend to be more than average interested in carbon trading and climate policy. Furthermore, since taking the survey is based in part on individual motivation, the sampling of various subsets of the carbon community is less than scientific. All interpretations of the survey should therefore be read bearing in mind that the

Figure 1.1: Trading carbon

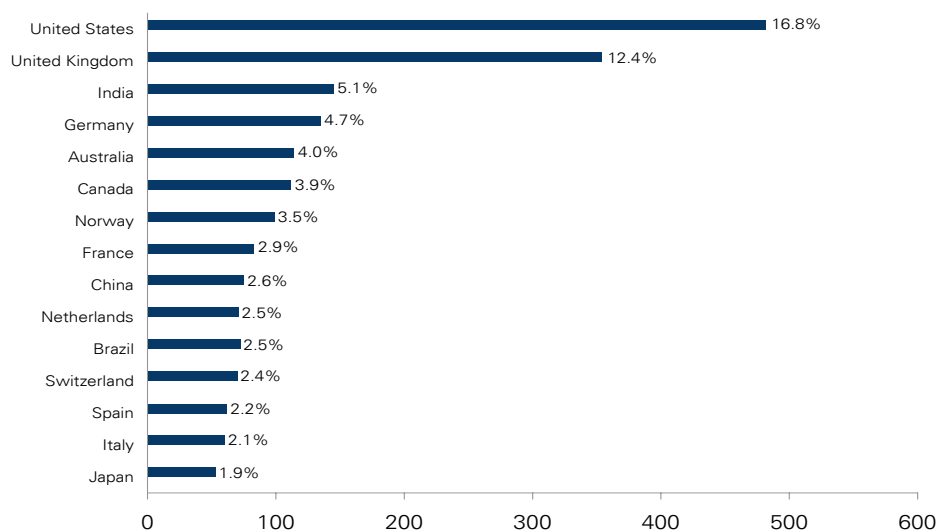
Respondents saying they buy/sell/hold various carbon allowances and credits.



Source: Point Carbon

Figure 1.2: Trading EUAs and CERs

Top 15 countries. N=2,291.



Source: Point Carbon

sample has not been drawn in a representative way. Furthermore, inferences to general public opinion should in general be avoided.

The outline of the report is as follows: In Chapter 2, we look at carbon market development in 2008, with a focus on transaction volumes as well as evaluations of the various segments by market participants. In Chapter 3, we look to the remainder of the first Kyoto commitment period (2009-12). Among several topics, we examine the effect of the global economic slowdown on carbon markets, as perceived by our respondents. We have also expanded the section on US carbon markets and the outlook for federal cap-and-trade under the Obama administration. Finally, Chapter 4 provides an outlook of the post-2012 landscape, with views on the most likely international climate framework,

country caps, deforestation and numerous other issues.

2. Carbon markets and policies in 2008

The first year of the first Kyoto commitment period, and of the EU ETS phase 2, proved eventful in both the market and political spheres.

Healthy growth has again been seen across the main segments – the EU ETS, CDM and JI. We have also seen the first AAU transactions and first forward trades under RGGI and the Australian CPRS.

2.1 Overview

Opening with the European Commission's proposal for a post-2012 climate and energy policy, the year brought a sustained bull run in the carbon markets

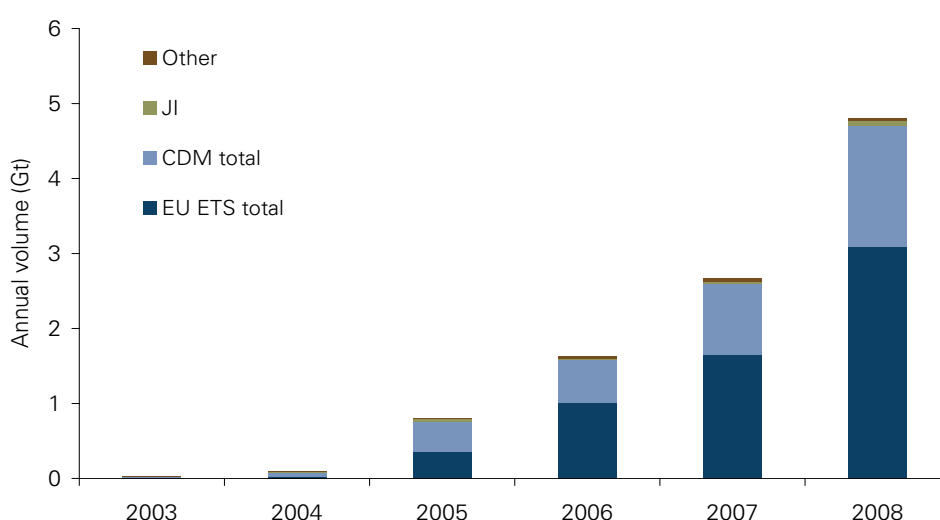
that was punctured by the financial crisis and the economic slowdown. Going down to the regional level, the EU ETS was marked throughout 2008 by the ETS review. The EU institutions reached an agreement on the EU energy and climate change package in December, which has significantly increased certainty in the largest market segment by determining its post-2012 architecture.

“Year 2008 marked by EU ETS review

Throughout the year, the UNFCCC hosted four post-2012 negotiation meetings, but the negotiators have made little progress. Positions have not changed, and most countries seem to be waiting for the new US president to break the current logjam. The election of Barack Obama in November promised a more

Figure 2.1: Stairway to 2008

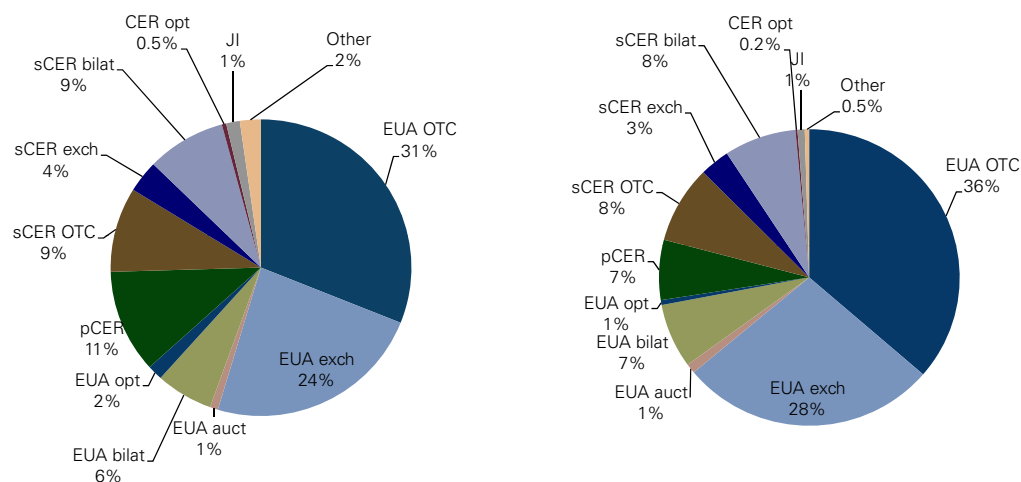
Reported and estimated contracts 2003-08, Gt CO₂e



Source: Point Carbon

Figure 2.2: Still dominated by the EU ETS

Distribution over the different market segments of transaction volumes (left) and financial value (right) in 2008.



Source: Point Carbon

constructive US climate policy in the years ahead. In line with our expectations, the COP 14 in Poznan in December did not bring any more clarity on the post-2012 framework, but prepared the ground for further negotiations towards the Copenhagen COP/ CMP in December 2009. The negotiations continue to follow two tracks, the Convention track within the AWG-LCA, and the Kyoto track, within the AWG-KP. The Convention track includes all parties to the UNFCCC, hence also the US, while the Kyoto track gathers only the Parties that have ratified the Kyoto Protocol.

Across the pond, RGGI, the ten-state cap-and-trade scheme stretching from Maryland to Maine in the US, started its first compliance period on 1 January 2009, but two auctions took place in 2008, in September and December. Efforts to create a federal US cap-and-trade failed in June, when the Lieberman-Warner bill died on the Senate

floor after failing to muster the 60 votes needed to break a filibuster. In Australia, the government has drafted plans for a federal cap-and-trade scheme, called the Carbon Pollution Reduction Scheme (CPRS), and a legislative

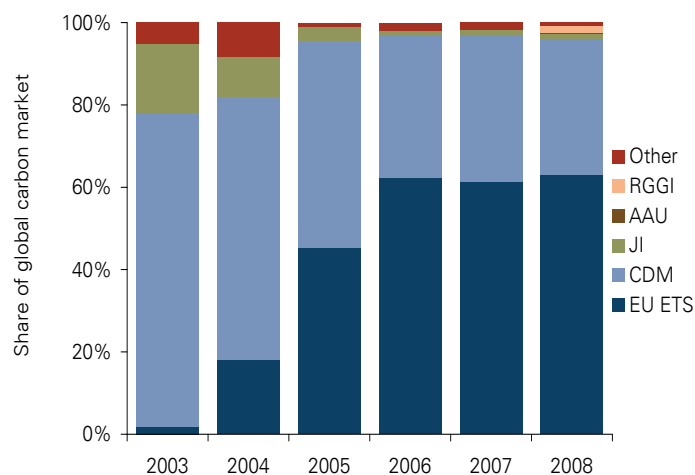
bill will be submitted to Parliament on 10 March 2009.

2.1.1 The carbon markets

The world's carbon market exchanged 4.9 billion tonnes (Gt)

Figure 2.3: Carbon market segments over time

Relative share of each of the major segments from 2003 to 2008



Source: Point Carbon

CO₂ equivalent in the course of 2008, which is up 83 percent on 2007, when 2.7 Gt traded (See Figure 2.1). Our estimate counts all existing greenhouse gas compliance markets, including the EU ETS, CDM, JI, RGGI, New South Wales Greenhouse Gas Abatement Scheme (NSW GGAS) and AAU segments.

We also count emerging systems in Australia, Canada and the US. Total volume is 17 percent greater than our 4.2 Gt forecast from February 2008. The financial crisis may have caused a short-term boost in market activity, exemplified by the record EUA volume of 355 Mt reached in October 2008.

In total, the global carbon market was worth an estimated €92bn in 2008 (US\$125bn). Due to higher average carbon prices in 2008 seen as a whole, total market value is more than double

the €40bn seen in 2007. Taken together, these volume and value numbers suggest a weighted average world carbon price of €19 (\$26) per tonne CO₂e in 2008.

“Global carbon market worth €92bn in 2008

Keeping with a longstanding trend, the EU ETS accounted in 2008 for two-thirds of total carbon market volume and three-quarters of value (see Figure 2.2). In the EU ETS market, 3.1 Gt CO₂e changed hands in 2008, with a total value of €67bn. The largest segment in the EU market remains the brokered OTC market, with 49 percent of the EU ETS volume. In comparison, the share of EUA volume traded on exchanges has increased from 26 percent in 2007 to 37 percent

2008. This is partly because traders have become increasingly worried about counterparty risk following the credit crisis. Indeed, exchange volume exceeded OTC volume in Q4 (see Figure 2.5).

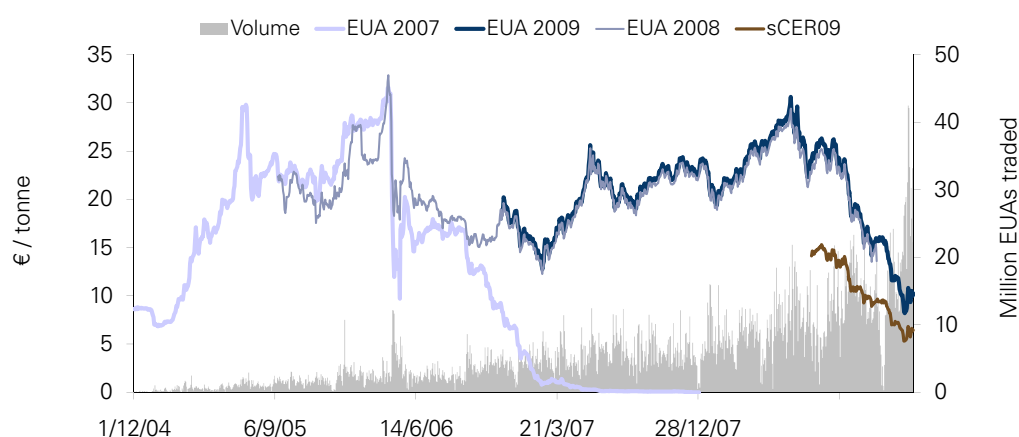
2.2 EU ETS

2.2.1 Trading and policy in 2008

The EU ETS remained the largest carbon market segment in 2008, as it has been since 2006 (see Figure 2.3). Over the year, the EUA Dec-08 contract traded in a range between €13.52/t and €29.38/t. The contract started the year at €23, and after a decline in January, started to gain steadily, reaching its year high on 1 July (€29.38). It then fell during August, stabilised in September and experienced a sharp drop from the middle of October and reached its lowest level in almost two years before expiring in mid-December.

Figure 2.4: Volumes and prices in the EU ETS, 2004-09

Prices in the brokered OTC market, volumes in brokered OTC market and on the exchanges.



Source: Point Carbon's Carbon Market Trader

The EUA bull run started at the end of February, as a firming energy complex sent EUAs soaring. The January climate and energy proposal by the Commission compounded the bullish mood.

“Falling EUA price in second half of 2008

The long ascendancy was reversed in July, near the all-time high for the contract, amid concerns over the US economy and a bursting of the crude oil price bubble. This fed bearish sentiment into the rest of the energy complex, with NBP gas, API-2 coal and German power prices all recording significant losses. A wave of selling from industries, which expected lower production and hence lower emissions, put further pressure

on EUAs in the second part of the year.

Starting from October, EUAs were driven further downwards by a worsening global economic outlook, with data showing the eurozone officially in a recession, and continuing bearish energy complex. The Brent front month contract fell steadily from July, dropping to \$40/bbl on 5 December. The EUA fell to €13.52/t on 5 December, which was the lowest close since February 2007, and traded in the €14-15 range before its expiry.

Over the year, 2,710m EUAs changed hands in the brokered OTC market and on the exchanges, with October being the month with the highest trading volume (355 Mt), (see Figure 2.5). This compares to a total volume of 1,443 Mt in 2007, or an increase of 88 percent. Of the 2008 figure, 57 percent went

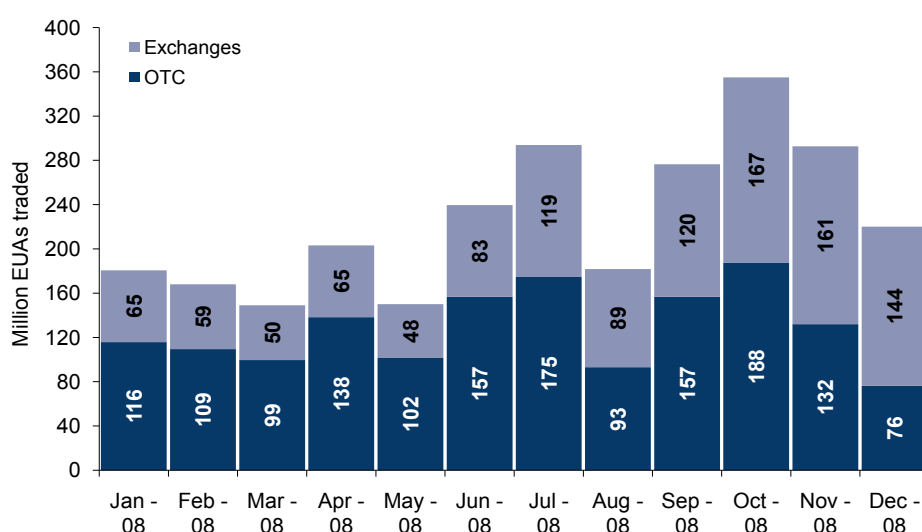
OTC while 43 percent traded on the exchanges. The share trading on exchanges has increased from 30 percent last year. 300 Mt were traded bilaterally, which brings, together with auctioning and options the total volume in EU ETS to 3,091 Mt.

“EUA-sCER spread hit all-time high of €9.05 on 22 April

During the first months of 2008, the EUA-sCER spread was trading between €4/t and €6/t. From March, it started to widen, reaching an all-time high of €9.05 on 22 April. This bullish trend also coincided with the sustained appreciation of EUAs seen in the first half of this year. Secondary CERs declined as EUAs came off their peak in July. However, they

Figure 2.5: Monthly EUA trade volume, 2008

Volumes in the brokered OTC market and on the exchanges.



Source: Point Carbon's Carbon Market Trader

did not decline as aggressively and combined with lower CER supply forecasts this led to a narrowing of the EUA-sCER spread. The spread saw a further decline during the financial turmoil in October. On the last day of the year, the EUA-sCER 09 spread was €2.25/t.

“Total EU ETS cap in 2020: 1,720 Mt

In January 2008, the European Commission published its energy and climate change package, including the review of EU ETS for Phase 3. The European institutions reached a compromise in December. The final outcome is to a large extent in line with the initial proposal. Key elements are the cap, credit limit, the level of auctioning and the new sectors/gases included.

The allocation in phase 3 represents a 21 percent reduction compared to 2005 levels by 2020, with a yearly reduction of 1.74 percent from 2010. The total cap in 2020 is 1,720 Mt. A credit limit of 50 percent of the reduction effort will apply over the 2008-2020 period, representing about 1,600 Mt over the period. The legal competence on allocation is moved to the EU level.

For the power and heat sector, full auctioning is the main principle, but it is optional on some conditions. The free allocation in 2013 shall not exceed 70 percent of verified emissions in the 2005-2007 period, and will then decrease linearly to zero in 2020. The industry sectors will get an 80 percent free allocation in 2013 (calculated as a percentage of the sector's relative share of the phase 3 cap), decreasing to 30 percent in 2020. The sectors exposed to carbon leakage will

get a 100 percent free allocation in phase 3.

“Big step in the direction of long-term stability

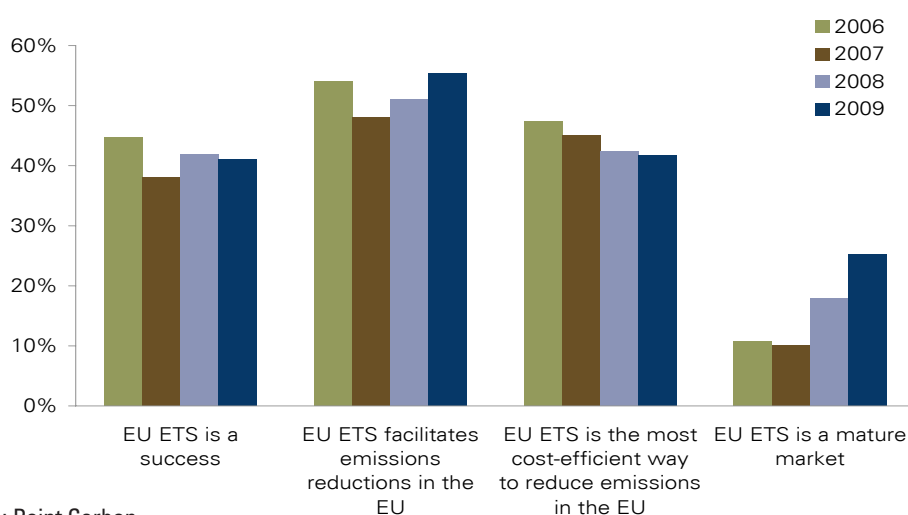
The aviation sector is included from 2012 (approximately 220 Mt/year), and new sectors (aluminium) and gases (N₂O) add another 100Mt/year from 2013.

2.2.2 Company behaviour

With the final deal on the EU climate and energy package reached in December 2008, the EU ETS took a big step in the direction of long-term stability, at least concerning allowance supply. European leaders also made an unambiguous call for a declining emission path in the EU in the 2013-2020 period, with carbon dioxide pollution from

Figure 2.6: Assessing the EU ETS

Share of respondents agreeing with the given statements (options 4 and 5). N=3,243 (2009).



Source: Point Carbon

power and industry to decline by 1.74 percent every year.

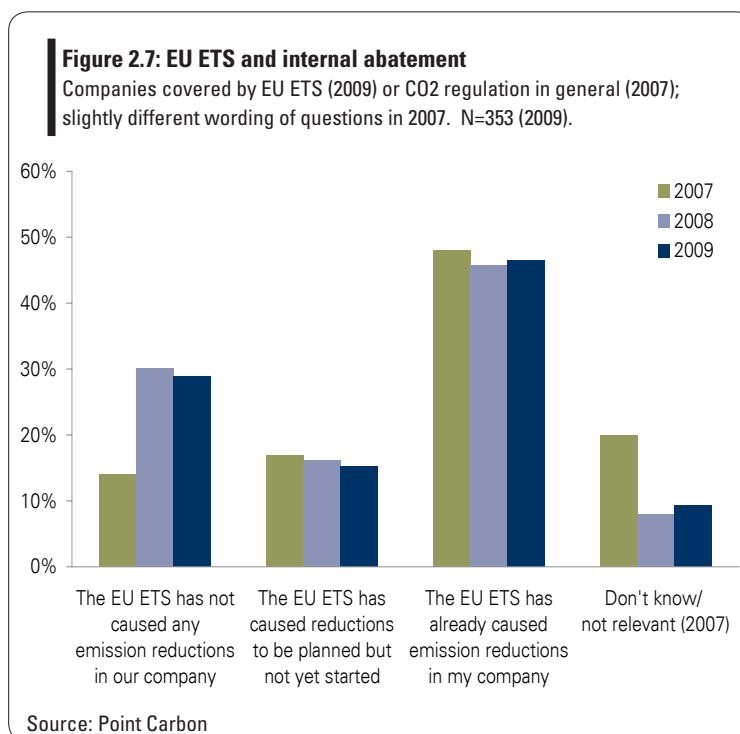
Is the EU ETS now up to the task of delivering the long-term emission reduction needed? For the fourth year in a row, we have asked our survey respondents to evaluate the workings of the EU ETS. On four questions, respondents are asked to choose one alternative on a scale from 1 ("completely disagree") to 5 ("completely agree"). We count options 4 and 5 as agreement. The result is given in Figure 2.6.

“Increased maturity of EU ETS?”

The results of the overall EU ETS evaluation among our respondents are relatively stable over time, with the exception of the question of whether the market is mature. Here we see a clear increase over time, from roughly 10 percent in 2006 and 2007 to 18 percent last year and 25 percent this year. Perhaps the transition from phase 1 to phase 2, with its greater reduction requirement, has helped increase the perception of maturity in the market.

At the same time, the statement that the “EU ETS is the most cost-efficient way to reduce emissions in the EU” has seen a steady, albeit slow, decline from 2006 to 2009. The share of respondents agreeing (options 4 or 5) with this statement is down from 47 percent in the first year it was asked, to 42 percent this year.

More fundamentally than trading, the evaluation of the EU



ETS must hinge on the degree to which it reduces emissions in the EU. Hence, we have sought to assess the degree of internal abatement in the EU ETS by asking companies directly about their own actions. Here, the results are almost unchanged from last year, with 46 percent of the respondents reporting abatement caused by the EU ETS (exactly the same number as last year), and three in ten reporting no emission reductions, see Figure 2.7.

In sum, the surveys from 2007 to 2009 indicate that just under two-thirds of companies in the EU ETS have reduced or started to plan reductions as a consequence of the EU ETS. The share is consolidating at this level, with exactly 62 percent reporting abatement or planned abatement in both 2008 and 2009. Another

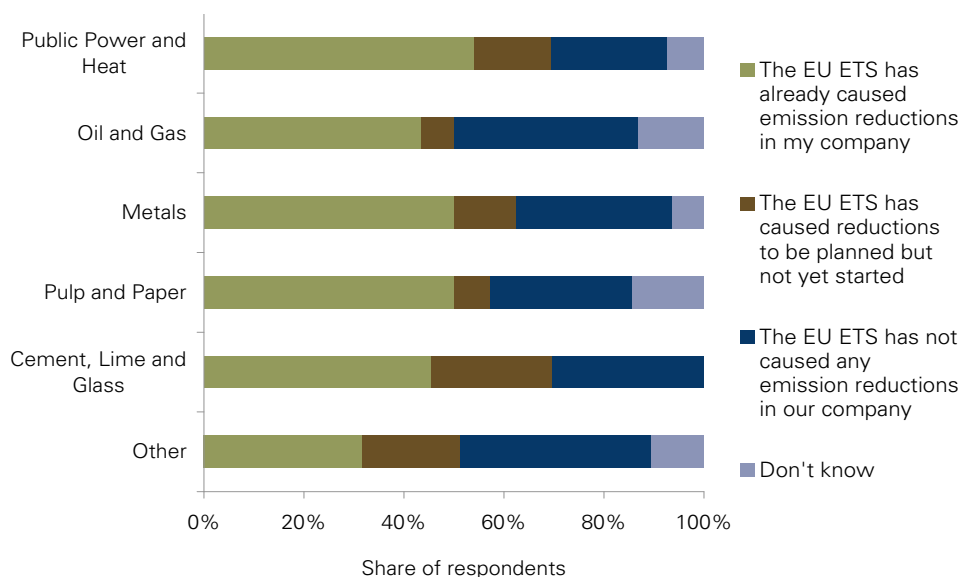
question, of course, is the volume of these abatement efforts: Are they incremental improvements, do they represent a conversion to zero-carbon technology, or something in-between? Given that a majority of installations report emission reductions, while overall internal abatement in the EU ETS is relatively low, most installations have probably implemented incremental reductions rather than radical ones.

“Most installations implement incremental reductions”

The distribution of abatement action is fairly uniform across the main EU ETS sectors, as displayed in Figure 2.8. The highest degree of reported abatement is seen in

Figure 2.8: Reducing emissions, by sector

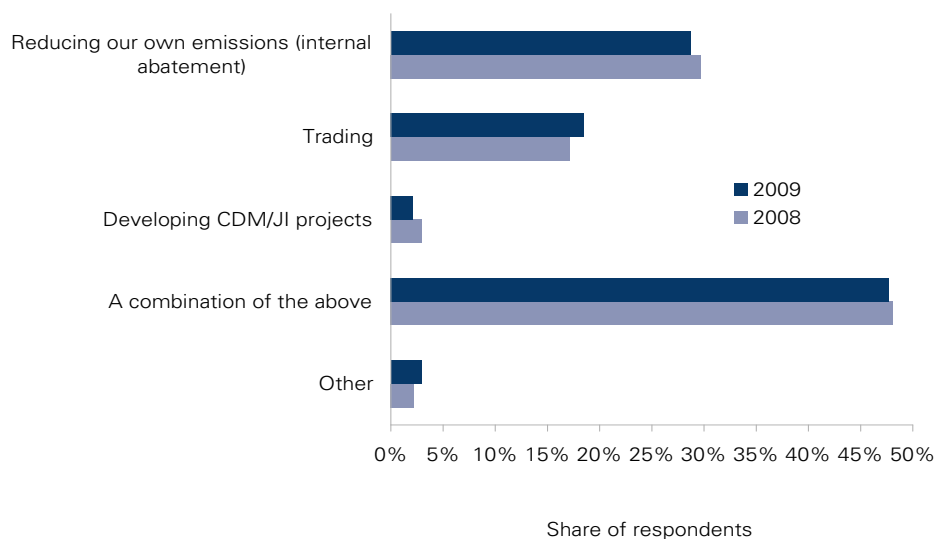
Answer to question as in Figure 2.7, by main EU ETS sector, N=309.



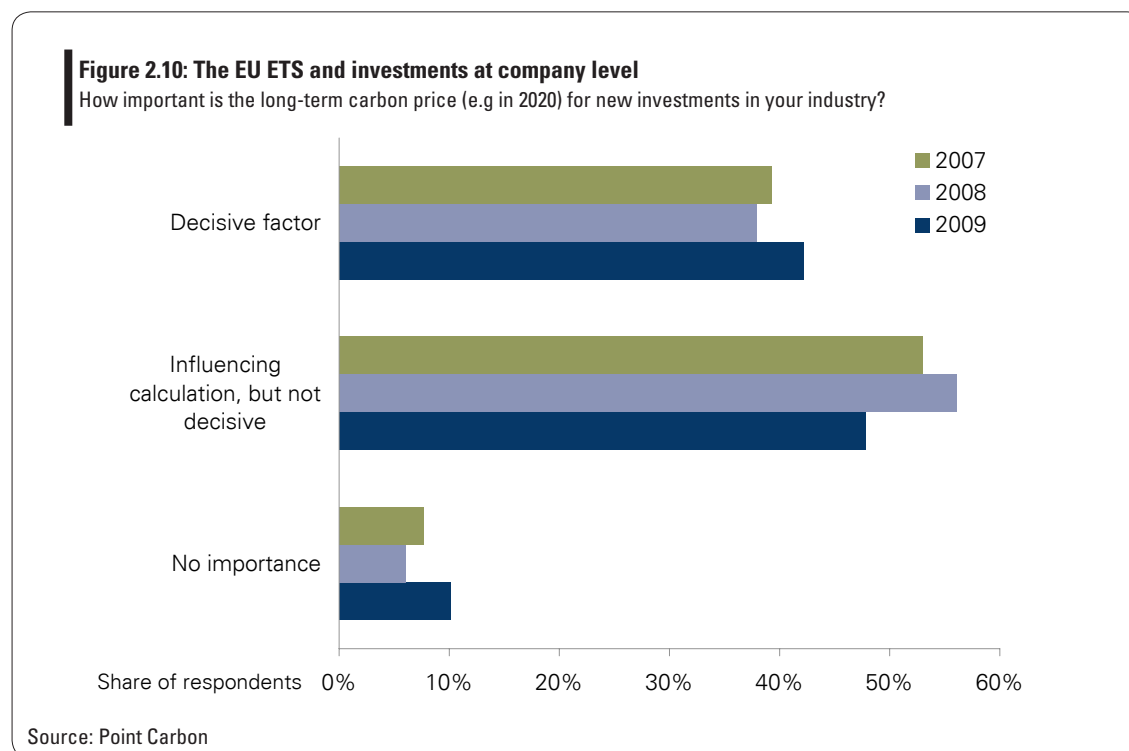
Source: Point Carbon

Figure 2.9: Compliance strategies in the EU ETS

Question "What is your company's primary EU ETS compliance strategy?" N=373 (2009).



Source: Point Carbon



the power and heat sector, where 54 percent say the EU ETS has caused abatement. The oil/gas and metals sectors also have more than half of respondents reporting abatement caused by the EU ETS, while the number is only one in ten for the "other" category. The numbers for metals and pulp/paper should be taken with a grain of salt, however, as there are fewer than 20 respondents in each of these categories.

We also looked at whether large or small emitters were more likely to reduce their emissions. While there was no linear trend, companies emitting more than 10 Mt/year stood for the highest reported abatement frequency, 59 percent, against the average of 46 percent. This may not necessarily be due to size, however, as power companies

tend to be the largest emitters, and have already been shown to report slightly more abatement than average.

Besides internal abatement, compliance with the EU ETS will be attained by covered installations through trading, offsets development and changes in production patterns. Figure 2.9 displays how companies say that they prioritise between these efforts. The results are stable from last year, with internal abatement the most frequently chosen pure strategy and trading the second. Direct CDM/JI development appears reserved for a smaller number of EU ETS compliance companies.

The EU ETS is designed to function through setting a price of carbon, intended to reflect the marginal cost of emission

reductions relative to a fixed emission ceiling or reduction goal. In phase 2, this reduction goal is derived from the EU's Kyoto commitment. The carbon price works both as a short-term factor influencing fuel switching in the power sector, and through a long-term impact on investment decisions.

Consequently, the EU ETS functions according to plan to the extent that the carbon price influences long-term investment decisions in a low-carbon or zero-carbon direction. At the same time, the carbon price will be counter-productive if it causes production in the ETS area to move to areas without a carbon price, as this will usually not bring down global emissions.

To shine some light on long-term effects of the EU ETS and

the EUA price, we asked three investment-related questions, the same as last year. These are:

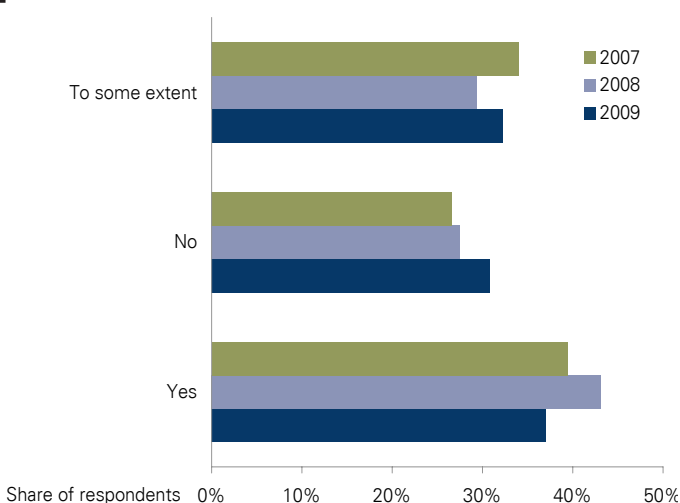
- How important is the long-term carbon price (e.g. in 2020) for new investments in your industry?
- Has the price of carbon influenced the degree of new investments in your company?
- Has your company considered moving production outside the EU ETS area because of carbon costs?

Regarding the effect of the carbon price on new investments, we see a small increase in the share of respondents considering it a “decisive factor”, from 38 percent in 2008 to 42 percent this year (Figure 2.10). At the same time, the share of respondents seeing “no importance” in the EUA price is up by the same amount, from six to ten percent.

“Lower influence of carbon on new investments

When it comes to the influence exercised by the EUA price on new investments, the price of carbon has declined in importance relative to last year, see Figure 2.11. The share of respondents replying that the carbon price has influenced how much they have invested is down from 43 percent last year to 37 percent this year. One explanation could be that lower carbon prices make them less of a factor in current investment decisions; another possibility is that companies have more pressing concerns than the

Figure 2.11: Carbon price and the degree of new investment
“Has the price of carbon influenced the degree of new investments in your company?” (N=354)



Source: Point Carbon

price of carbon in the current economic climate.

When it comes to new investments, the price of carbon has been a decisive factor for the power sector (50 percent) and pulp and paper (40 percent) sectors. In terms of size, investment decisions appear to matter the most for the largest companies, emitting 10 Mt/year or more, with 50 percent reporting that the long-term carbon price is a decisive factor for new investments.

Our third question concerns whether the EU ETS causes carbon leakage. Here we ask whether the respondent's company has considered moving production outside the EU ETS area because of carbon costs. The results, presented in Figure 2.12, are almost unchanged since last year. Eighty-one percent replied in the negative, which should

not be surprising since many companies, for power producers, are unable to relocate outside the EU ETS area.

A more detailed look at the numbers by sector reveals this sectoral variation. In both the metals and cement/lime/glass sectors, 44 percent of respondent say their companies have at least thought about moving production due to the carbon price (see Figure 2.13). Furthermore, in the “other” category, seven percent say they have already moved production; the corresponding share for cement/lime/glass is six percent. Conversely, as expected, 93 percent of respondents from power companies report no plans to move production.

2.3 CDM

2.3.1 The CDM market in 2008

The price of primary CERs (pCER) increased slightly from January

to October 2008, but weakened on the back of falling secondary CER (sCER) prices during the last two months of the year. CERs from non-registered projects reportedly traded in the €8-13 range at the beginning of 2008, strengthened to a high of €8.50-14.50 in September, before falling back to the €8-12 range in the end of the year.

“Primary CERs slightly up from January to October 2008

CERs from registered projects started out between €12-13 in early 2008, increased to a high of €13-16 in September and returned to the €12-13 range at the closing of 2008. Issued CERs have followed the more volatile secondary CERs, normally trading €1-1.50 below the sCER price throughout the year.

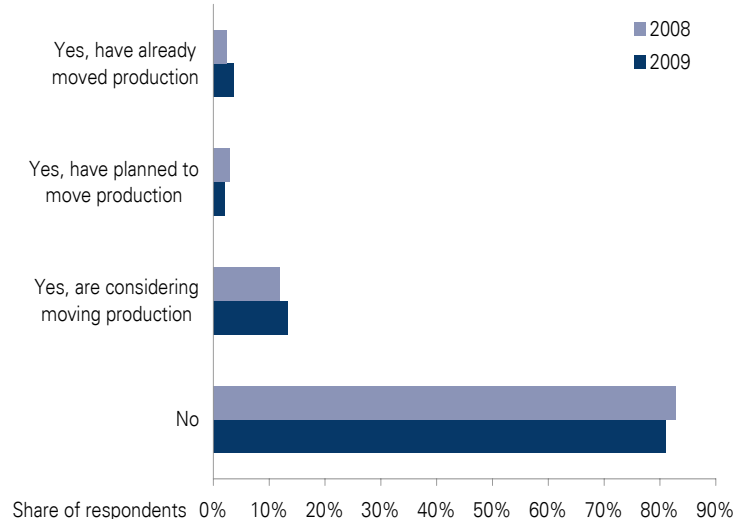
“Primary market slowly adjusting to changes in secondary

The primary market continued to take some time to adjust to changes in the secondary market. Thus, the sharp drop of the sCER from mid-October led to an inversion of prices in the two markets in late 2008, with what amounted to a negative sCER-pCER spread. This has in turn induced a slowdown in transaction activity in the primary market, due to different price expectations between buyers and sellers.

In China, the largest market for CDM projects, the prices of hydro

Figure 2.12: Carbon leakage in the EU ETS

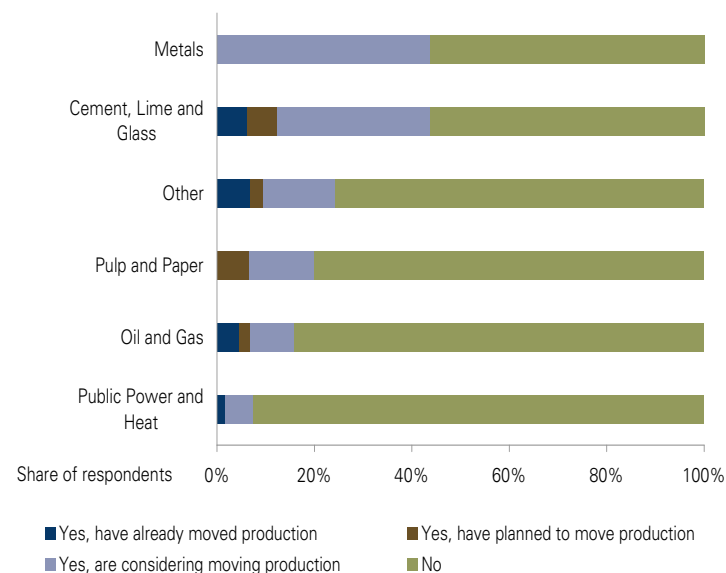
All companies covered by the EU ETS. N= 306 (2009).



Source: Point Carbon

Figure 2.13: Carbon leakage in the EU ETS, by sector

All companies covered by the EU ETS. N=301.



Source: Point Carbon

and wind projects remained at the opposite ends of the price scale throughout 2008, while other project types normally were contracted in the mid-range. Wind projects were on the rise during the summer and early autumn, reportedly climbing as high as €2-3 above the Chinese wind price floor during August and September. Hydro kept relatively close to its price floor throughout the year.

“ CERs from registered projects in India in €13-16 range

In India, the second largest market for CDM projects, prices for CERs from registered projects were quoted between a low of €13 and a high of €16 last year. Softening sCER prices translated into a pronounced slowdown in

transaction activity in this market during the latter part of 2008.

One of the milestones in the CDM in 2008 was the linking of the UN international transaction log with the EU emission trading registry on 16 October. This allowed the transfer of credits from CDM projects to the EU market, and thus reduced the delivery risk for CERs into the EU ETS.

A second experience from 2008 was an overall signal from the CDM Executive Board (EB) of increased strictness. Throughout the year, the EB has been growing tougher on additionality. Requests for review increased at both registration and issuance stages. A total of 169 projects were placed under review in 2008, compared with 100 projects in 2007.

At the same time, the EB also took a restrictive stance on the

performance of the designated operational entities (DOEs). It rejected applications of two DOEs to be accredited for validation for the first time, and it also suspended DNV, which had been subject to spot checks.

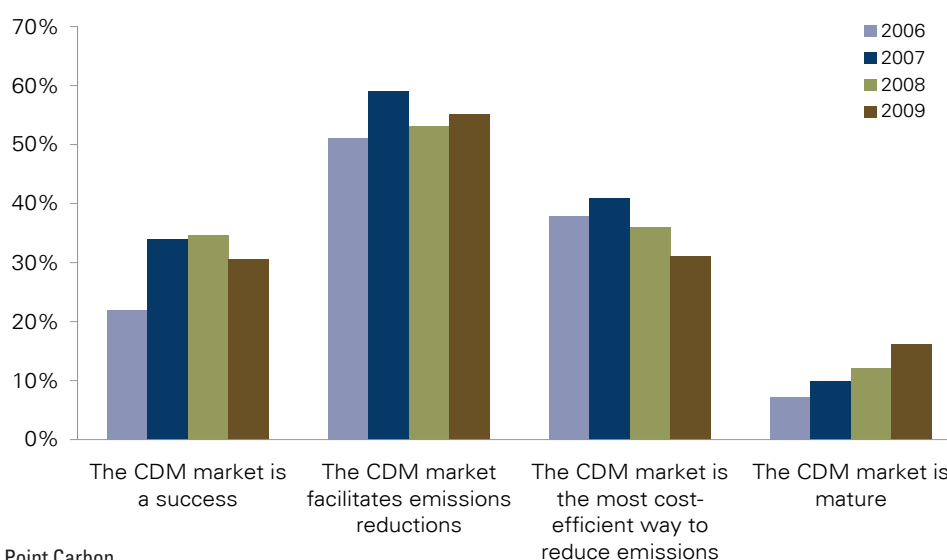
“ Restrictive stance of EB on DOE performance

Moreover, after months of delay, the EB finally adopted the validation and verification manual in November, thus clarifying the procedures of DOEs, and potentially lowering the number of reviews and rejections in the medium to long term.

A third important event was the final agreement on the EU climate and energy package on 17 December 2008. The agreement

Figure 2.14: Evaluations of the CDM market, 2006-2009

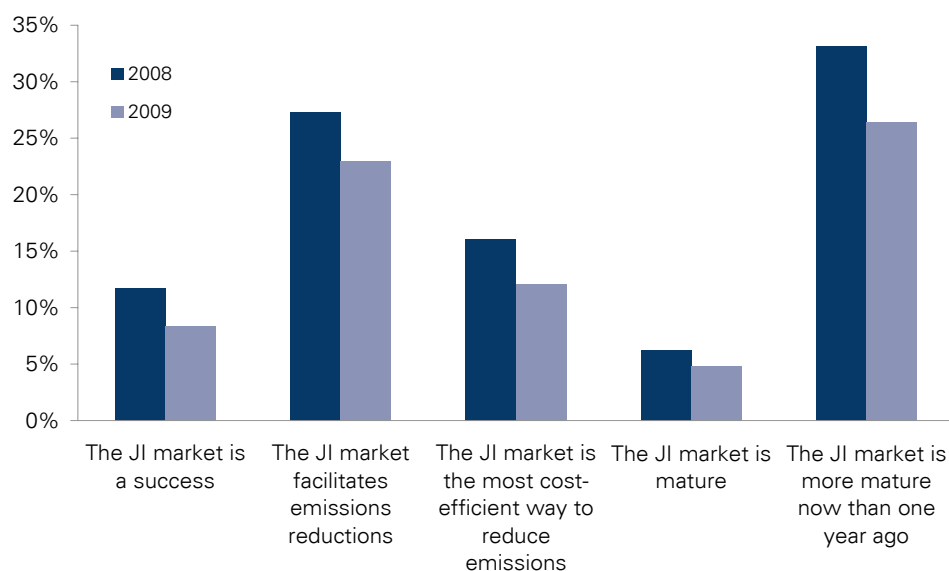
Share of respondents agreeing with given statements. Note: 2007 and 2006 surveys ask about the CDM/JI market as a whole. N=3009 (2009).



Source: Point Carbon

Figure 2.15: A question of implementation?

Evaluation of JI in 2008. Share of respondents agreeing with given statements. N=2949 (2009).



Source: Point Carbon

has largely provided certainty about the overall use of CERs in the EU ETS until 2020, which is estimated at 1,600 Mt over the 2008-2020 period in the 20 percent reduction scenario (see Chapter 4).

“CDM market seen as increasingly mature

How do market participants and observers evaluate the CDM? We have asked a set of questions on the CDM and JI every year since 2006, with the results given in Figure 2.14. Note that the 2006 and 2007 surveys asked about the CDM and JI combined.

This year's result show a clearly rising trend in the number of respondents that think of the CDM market as mature,

albeit from a low base. Sixteen percent “agree” or “completely agree” with this statement now, compared with 12 percent last year. At the same time, there is a corresponding drop-off in the numbers that think the CDM market is a success (31 percent, down from 35 percent) or that the CDM market is the most cost-efficient way to reduce emissions (31 percent, down from 36 percent). Just over half agree that the CDM market facilitates emissions reductions, almost unchanged for four years.

The results are similar to those given for the EU ETS above (Figure 2.6). It is possible that the economic slowdown since late 2008, with its attendant falling carbon prices, has somewhat reduced the faith in market-based mechanisms. Post-2012 uncertainty may also explain

the changes in evaluation of the CDM, but this does not account for the EU ETS result. We shall see that an even stronger trend is also present in the JI market (Figure 2.15).

“Falling carbon prices reducing faith in carbon markets?”

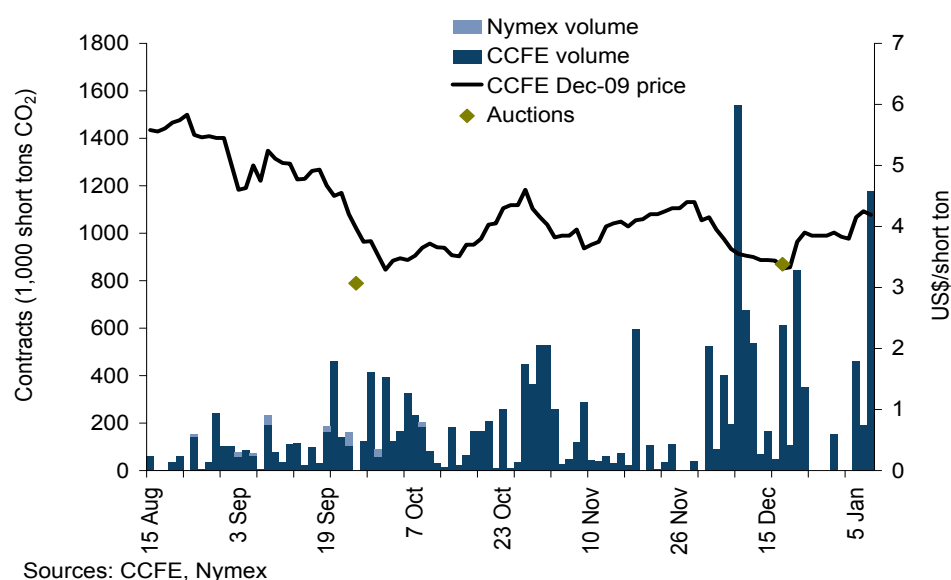
Most enthusiastic are, not unexpectedly, CDM project developers and aggregators, where almost four in five consider the CDM a success. The most scepticism is found in companies covered by CO₂ regulation, including the EU ETS and RGGI.

2.4 JI and AAU

Despite a lack of confidence in the transparency and reliability

Figure 2.16: RGGI prices and volumes

Prices and volumes of RGGI allowances (RGAs) for December 2009 delivery, New York Mercantile Exchange (Nymex) and Chicago Climate Futures Exchange (CCFE), 15 August 2008 – 7 January 2009.



of national approval procedures, 2008 saw a boom in JI projects under Track 1 – a simplified JI procedure where countries exercise the right to approve projects. The strong increase in Track 1 host country approvals compared to the extremely slow registration procedure needed under Track 2 gives Track 1 JI a significant advantage. Track 2 projects need to be approved by the UN-sponsored JI Supervisory Committee (JISC), which is roughly speaking the equivalent of the CDM EB for JI.

New Zealand, Hungary, Germany, Romania, and Ukraine started national approval procedures, and even switched projects between tracks to eliminate registration uncertainty related to the JISC.

The current Track 1 pipeline of 28 projects has a potential of 42m ERUs over the 2008 – 2012 period compared to 13m from the only six registered Track 2 projects.

“Track 1 pipeline with potential of 42m ERUs to 2012

As for prices in the JI market, ERUs gained to €14 for standard take-off contracts following the ascent of EUA and sCER prices in the first half of 2008. However, the EUA/sCER market plunge in the second half led to a sharp bid price decrease to €9-11.

Despite repeated promises, none of the Russian JI projects have been recommended for approval

by the Russian JI Commission. Thus, the biggest potential ERU supplier is yet to give a green light to project backers. Moreover, in early January, the UN suspended Russia from the International Transaction Log (ITL) because it had failed to pay the required fees. This made the country unable to transfer emission rights or emission reduction units to a foreign buyer.

As Figure 2.15 shows, our respondents see a falling evaluation of the JI market in general. Notably, the share of respondents seeing the JI market as a success has declined from 12 percent last year to only eight percent this year.

The second half of 2008 has seen the beginning of AAU trading.

Delayed and reduced CER/ERU supply has augmented the interest of buyer governments in AAU trading, as has the need to close countries' Kyoto shortages. The first AAU transactions saw Hungary selling 2m 'hard-greened' AAUs to Belgium in September and 6m in a similar transaction with Spain in November. Slovakia subsequently sold 10m non-greened AAUs to a private buyer in December. Sovereign and private buyers were reported in active negotiations with Latvia, Hungary, Poland, the Czech Republic, Ukraine, and Slovakia, with several deals that may be concluded in early 2009.

2.5 RGGI and North America

Covering power plants in ten states from Maryland to Maine, the Regional Greenhouse Gas Initiative (RGGI) officially entered into force on 1 January, 2009. Forward trading of RGGI allowances (RGAs) started as early as March 2008, however, with a deal for 2009 delivery of 5,000 RGAs at \$7 per short ton (€4/metric tonne).

“Two price-setting auctions in RGGI in 2008

In August, both the Chicago Climate Futures Exchange (CCFE) and the New York Mercantile Exchange (Nymex) launched futures contracts for RGGI allowances. Since then, the CCFE has seen much higher volumes for RGAs, with over 300,000 allowances trading per day at the end of December.

But the most important price-setting events of the year for RGGI were its two auctions, held on 25 September and 17 December. These were both oversubscribed, and saw more participation from covered entities than from financials, selling 12m and 31.5m 2009 allowances, at \$3.07 and \$3.38 per short ton, respectively.

As might have been expected in a system with very few allowances given away for free, our respondents from RGGI-regulated companies see auctions as the most important compliance option. As Figure 2.17 shows, 86 percent of respondents reported participating in auctions to comply with RGGI. Note, however, that our survey only included 14 respondents in this category, implying that one should be cautious about drawing conclusions based on this material.

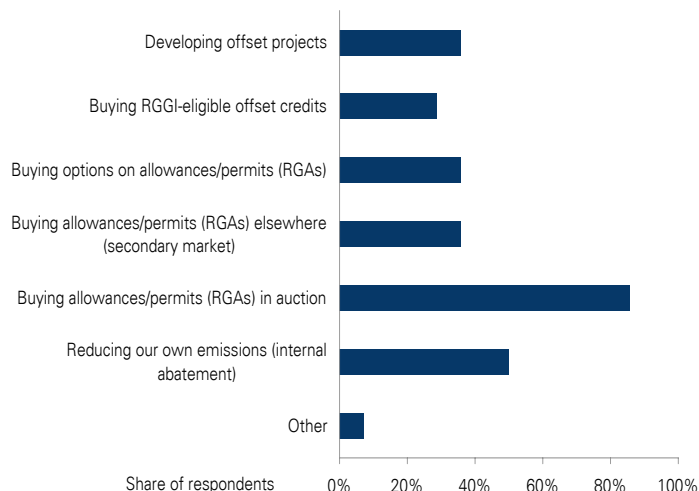
The CCFE in November announced a contract for US government-approved GHG emission allowances that would be accepted for compliance under a federal cap-and-trade scheme. A total of 37,000 "CFI-US" allowances (Carbon Financial Instrument-US) for December 2013 delivery changed hands on the CCFE on the day of the contract's debut, closing at \$11.75.

“CFI-US allowances have traded since November

The election in November of Barack Obama as the next US president provided the strongest signal of the year that 2009 will see the US pursue active climate policy both domestically and internationally. Obama's climate plan calls for a federal cap-and-

Figure 2.17: RGGI compliance strategies

"What is your company currently doing to comply with RGGI?" Only asked from companies regulated by RGGI legislation. N=14.



Source: Point Carbon

trade system to reduce US GHG emissions 14 percent below 2005 level by 2020, and 83 percent below the 2005 level by 2050.

In a November speech to US governors, Obama pledged the US would re-engage in UN efforts to establish a global greenhouse gas mitigation regime.

“US to re-engage in UN efforts to reach a post-2012 agreement

The other major development in US climate policy was the debut on 2 June of the Lieberman-Warner cap-and-trade bill in the US Senate. Legislators debated the proposal, but the bill's sponsors were unable to garner the 60 votes required to break a filibuster.

Officials released final recommendations for the structure of the Western Climate Initiative (WCI) in September. Unlike existing carbon trading programmes, WCI would include emissions from the transportation sector after 2015. The WCI recommendations would create a market of nearly 700 Mt CO₂e in 2012-2015, doubling to 1.4 Gt after 2015. Over 400 facilities are set to be covered, both in US states and Canadian provinces.

2.6 Australia

The year 2008 was when Australia began to design its cap-and-trade scheme, scheduled to start in July 2010.

In July, Australia's Rudd government published a Green Paper on the planned cap-and-trade scheme, called the Carbon Pollution Reduction Scheme (CPRS). The proposed scheme

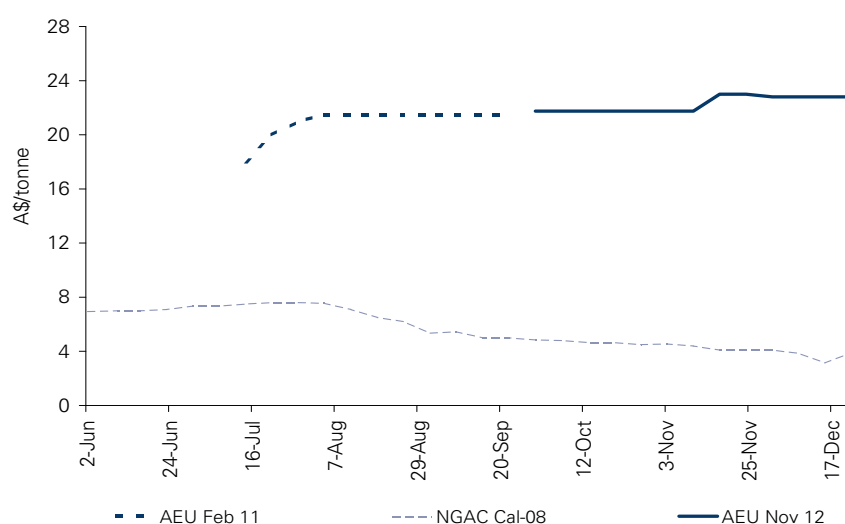
covers all six Kyoto greenhouse gases in all sectors, except agriculture and other land use, but with the forestry sector able to opt in voluntarily. The CPRS would cover sectors with emissions of 446 Mt CO₂e in 2006, accounting for 77 percent of Australian emissions (forestry aside). To reach this level of coverage, the CPRS will cover transportation, which requires an upstream approach. Australia looks set to be the first country to test such an approach.

“Australian ETS to cover 446 Mt CO₂e in 2006

In December, the government published draft legislation on the CPRS and announced Australia's medium term target. The target is set at 5 percent below 2000 levels

Figure 2.18: Australian carbon

Prices for Australian Emission Units (AEUs) and New South Wales Greenhouse Gas Abatement Credits (NGACs), in A\$/tonne in 2008.



Source: Next Generation Energy Solutions

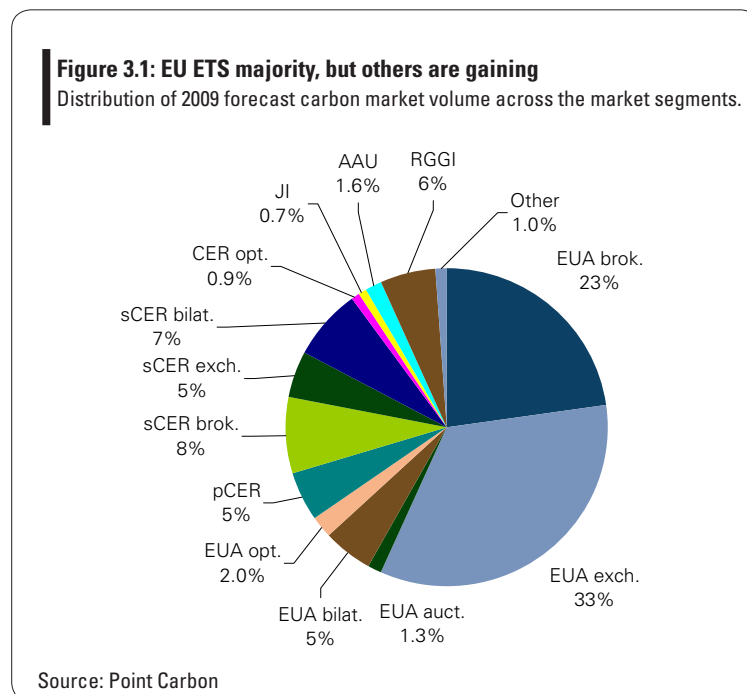
by 2020, which could be scaled up to 15 percent in the case of a comprehensive international agreement. Perhaps surprisingly, the draft legislation proposed an unlimited use of CERs and ERUs in the Australian scheme, excluding forestry projects. As CER prices are higher than AEU (Australian Emission Unit) prices, CERs could work as an implicit price cap.

The draft legislation also included an explicit price cap on AEU at A\$40 (€21) when the scheme kicks off in 2010. This price cap would increase 5 percent annually, but would be phased out after five years. The government has also increased the compensation measures to energy-intensive industry and highest-emitting coal generators. Throughout the year, industry has been lobbying for additional compensation measures and for the delay of the scheme.

“CERs would work as price cap in proposed CPRS

The first trade under Australia's planned ETS was reported on 20 May, as energy company AGL sold 10,000 allowances to Westpac, one of Australia's largest banks. The deal was for delivery in February 2012 - the settlement date for NGAC forwards - at a price of A\$19 (US\$18.28; €11.58) per allowance. Since then, the AEU price rose slowly for the rest of 2008, reaching A\$21.75 in September and A\$23 in late November, ending the year at A\$22.80 (see Figure 2.18).

The price of the NSW greenhouse gas abatement credits (NGACs)



for spot delivery started 2008 at A\$4.50, reached a peak of A\$8.05 in February, and has since been falling steadily, reaching A\$3.75 in December. February was a busy month, but in the last months of 2008, traded volumes have been low.

Last, in late December, 12 months after its ratification of the Kyoto Protocol, Australia became the 34th country to link its carbon registry to the UN transaction log.

3. Carbon markets towards 2012

3.1 Expectations for 2009

The carbon market in 2009 will be marked by the question of how the global economic slowdown will affect trading. Point Carbon projects continued year-on-year

carbon market growth, but our predictions imply that trade volume is levelling off compared to the last months of 2008. At the same time, we reckon that the carbon market is headed toward its first year of contraction in total market value (for details, see our CMA, "Outlook for 2009," published 19 February 2009).

“First year of contraction of the carbon market

Specifically, we expect the global carbon market to trade an aggregate volume of 5.9 Gt CO₂e this year. This represents a growth of 20 percent over 2008, when 4.9 Gt changed hands, see Figure 2.1 on page 3). By contrast, with carbon prices expected to remain low in 2009, the financial value of these transactions is projected to

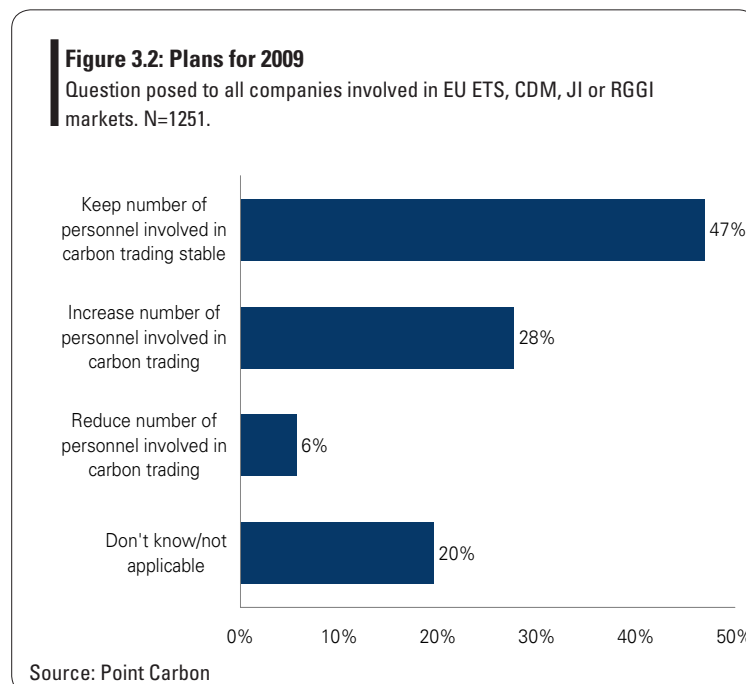
add up to €62.6bn in 2009, down by one-third from last year's €92.4bn.

The EU emissions trading scheme (ETS) is expected to continue growing in volume terms, to 3.8 Gt in 2009, up 24 percent on last year. It will thus maintain its dominant position as the world's largest carbon market by volume, with almost two-thirds of the total. In value terms, however, it is set to fall by one-third to €45bn (see Figure 3.1).

“EU ETS to remain world's largest carbon market in 2009

The economic slowdown will be felt in the EU ETS market through increased spot selling by industrials responding to lower production projections and difficulties borrowing money. Issuance to almost all installations for almost the full year will also boost trade volumes compared to 2008. The first batch of verified emissions in the EU ETS phase 2, to be released in April, will provide important information to market players on the likely EU ETS balance for the rest of the 2008-12 period. As a result of higher perceived counterparty risk, we also see a trend towards more exchange trading, and toward more of the brokered over-the-counter (OTC) volume being cleared on the exchanges.

A pronounced decline will be seen in the CDM and JI project markets in 2009, as both are projected to fall by almost half in volume terms. The primary CDM market is set to fall from 549 Mt in 2008 to 300 Mt in 2009, whereas



JI is expected to decline from 72 Mt to 40 Mt over the same time span. Current economic conditions and uncertainty about the project-based mechanisms in the post-2012 period depress volumes in these markets.

The primary CDM and JI markets are also being challenged by increased AAU sales, which we project to grow from 18 Mt in 2008 to 95 Mt in 2009. At the same time, we project the secondary CER market to grow by 12 percent in 2009, notably as a result of higher exchange volume. While the need for EUA-sCER swaps will be lower, there will be more CERs issued in 2009 than in 2008, and these will generate higher volumes.

By contrast to the mixed projections for the Kyoto markets, the most pronounced volume growth in 2009 will be seen in the Regional Greenhouse Gas

Initiative (RGGI) market in the US. RGGI volume is likely to reach 339 Mt, almost five times that of last year, as auction, futures and options volume are set for strong growth. This means that RGGI is set to constitute 5.8 percent of the total volume in the global carbon market.

“Biggest volume growth in 2009 in RGGI

Other markets include the Australian federal carbon pollution reduction scheme (CPRS), where we expect 24 Mt to trade, and pre-compliance trades in North America, where we foresee 17 Mt to change hands in preparation for mandatory federal cap-and-trade in the US and Canada.

3.2 Impact of the economic downturn

The economic downturn is likely to be a key element influencing the shape of carbon markets in 2009, alongside UN negotiations and developments in the US.

In our survey, we asked questions on how 2009 would be different from 2008, and to what extent the respondents expect the economic crisis to impact their companies' operations in 2009. Among the trading companies participating in the survey (1251), 47 percent plan to keep the number of personnel involved in carbon trading stable, while 28 percent plan to increase it. Only six percent have plans to reduce it (see Figure 3.2).

In our sample, 60 percent of companies with emission regulated under EU ETS intended to keep number of personnel in carbon trading, and only 12 percent planned to increase the number of involved in carbon trading. Conversely, 33 percent of CER project developers and aggregators say they will increase the number of personnel involved in carbon trading.

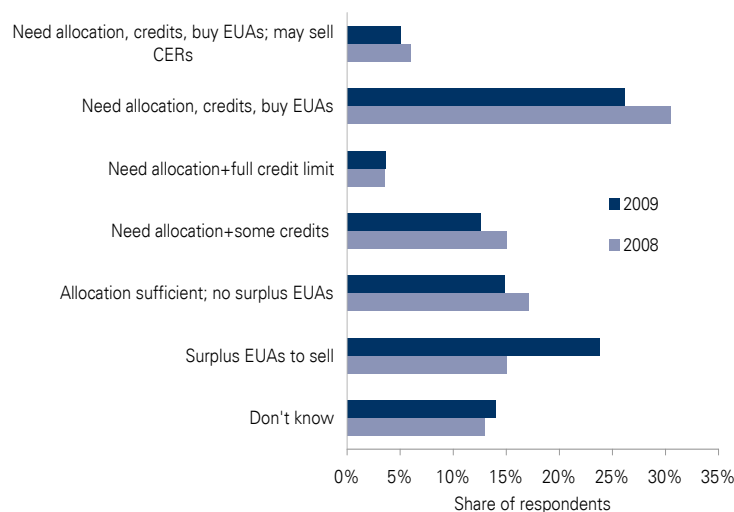
While our respondents do not report a need to reduce the number of personnel due to the economic downturn, lower growth forecasts are having other impacts, as we will see in the following sections on the EU ETS and CDM markets.

3.3 EU ETS 2009-12

Lower production forecasts and reduced power demand have brought emission forecasts for

Figure 3.3: No longer as short

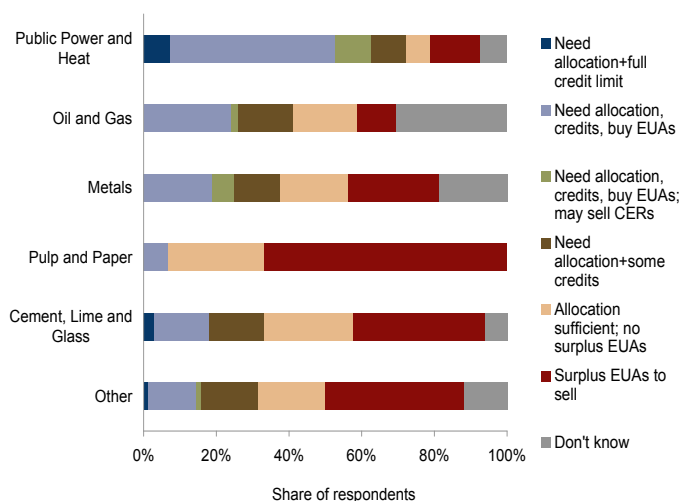
EU ETS company allowances and credit limits compared to expected emissions in Phase 2. Companies covered by EU ETS. N=357 (2009)



Source: Point Carbon

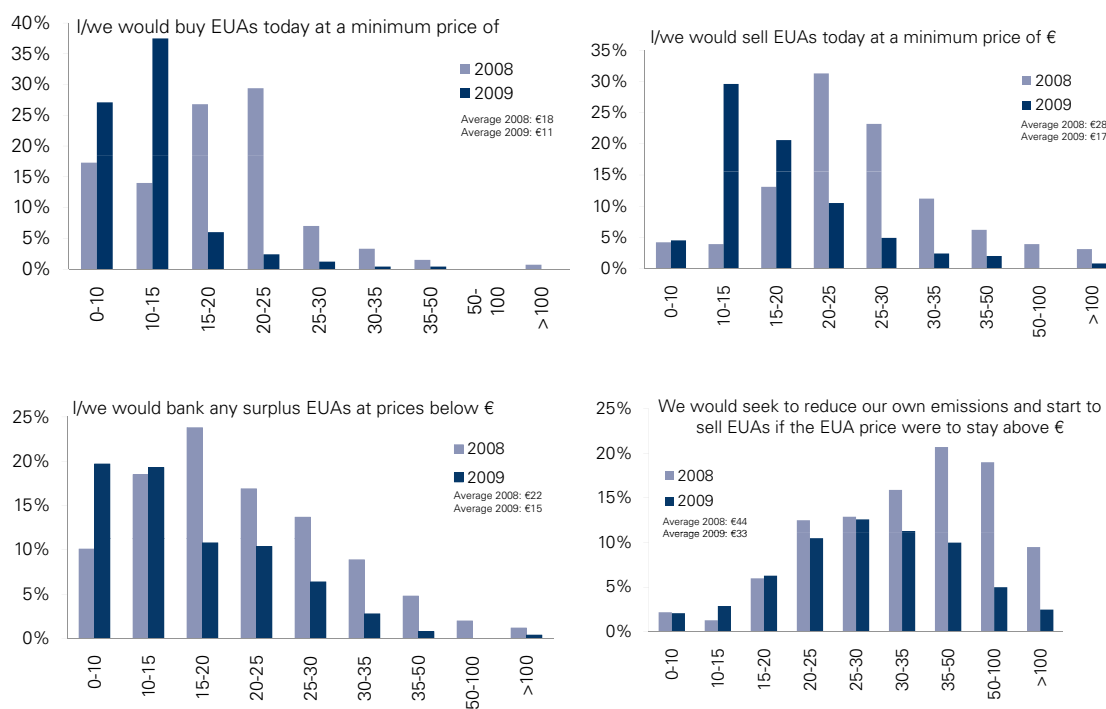
Figure 3.4: No longer as short, by sector

EU ETS company allowances and credit limits compared to expected emissions in Phase 2. Companies covered by EU ETS. N=357 (2009)



Source: Point Carbon

Figure 3.5: Should I buy, sell, bank or reduce emissions?
Companies with emissions covered by the EU ETS. N=285 (2009).



Source: Point Carbon

the EU ETS in phase 2 significantly down. Some analysts, such as Deutsche Bank and Daiwa Securities, have even forecast a surplus of EUAs over the 2008-12 period. Point Carbon and most other analysts, however, still expect the phase as a whole to be short EUAs, and thus to need a certain volume of CER/ERU imports to be in compliance.

The reduction in expected emissions at the company level can be seen in Figure 3.3. This figure shows the distribution of reported short and long positions in the ETS. Most notably, the share of companies reporting that they need to buy EUAs in addition to their full credit limit has fallen

from 37 percent last year to 31 percent this year. In the same manner, the share of companies with surplus EUAs to sell has gone up from 15 percent to 24 percent. This situation agrees with the brisk selling of EUAs that we have seen in recent months.

“Increased share of companies with surplus allowances

How are these “shorts” and “longs” distributed by sector? Figure 3.4 gives some answers.

The companies that have surplus EUAs to sell are concentrated in the industry sectors other than oil and gas. Companies in the sectors pulp and paper (67 percent), cement, lime and glass (36 percent) and others (38 percent) will likely have surplus EUAs to sell. Some of this surplus likely derives from a contraction in production output in these sectors.

Also as expected, the power sector has the greatest number of short companies, with 53 percent needing to buy extra EUAs (whether or not they have surplus CERs). This is also the sector that has the brunt of CERs available for swapping, presumably in large

part from projects in which power companies are investors.

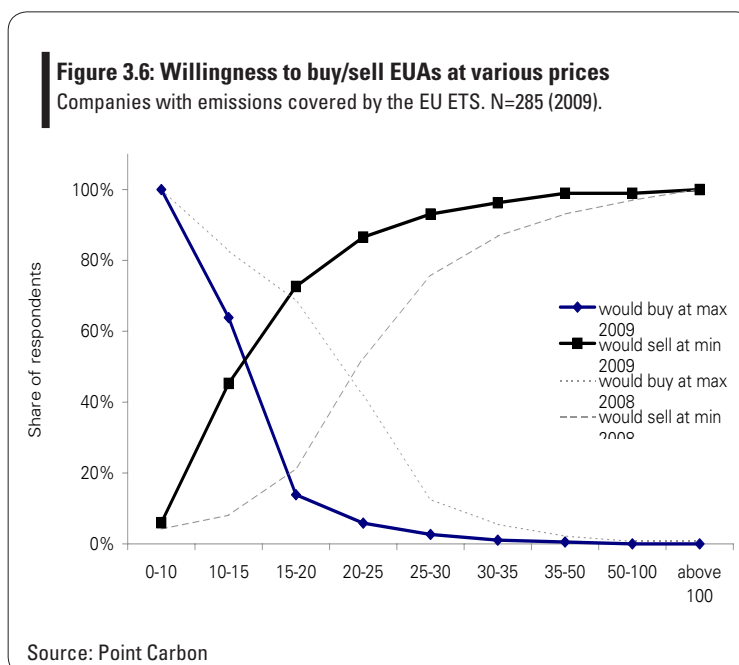
As is well known, the economic downturn has had a negative effect on carbon prices, with the EUA Dec-09 contract having declined from around €30 last summer to around €12 at the time of writing. The lower prices fundamentally show that the slowdown has made it easier for Europe to meet its Kyoto commitments, and also reflect steep declines in oil and other energy commodities.

In the same way as last year, our survey asked respondents involved in the EU ETS at what maximum or minimum prices they would buy, sell, bank EUAs or reduce their own emissions. As may be expected, prices indicated are much lower across the board. When asked about the maximum price for buying EUAs, the most frequently selected range was €10-15, compared to €20-25 last year. The same configuration was seen for the minimum EUA sale price (see Figure 3.5).

“ Respondents willing to buy/sell at lower prices

When asked at which point companies would bank surplus EUAs rather than selling them in the market, one-fifth of respondents said the price at which they would no longer sell was between €0 and 10. Last year, only one in ten chose this range.

Finally, the most frequently cited price at which companies would start reducing their own



emissions and sell EUAs moved down from €35-50 to €25-30. While predictable, the movement on these two latter questions clearly indicates that price expectations have been scaled

down. In principle, banking and abatement should be guided by long-term abatement costs and carbon prices, but the economic downturn has apparently shifted these costs downwards as well.

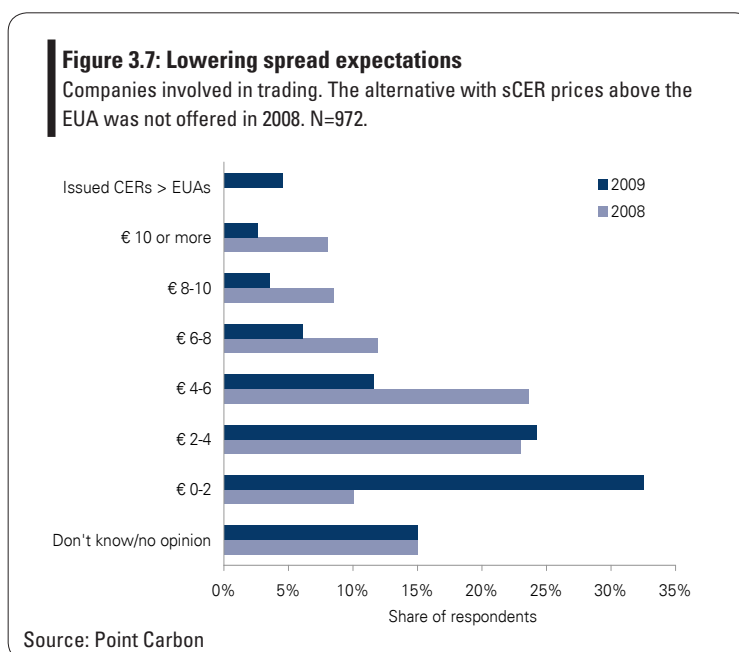
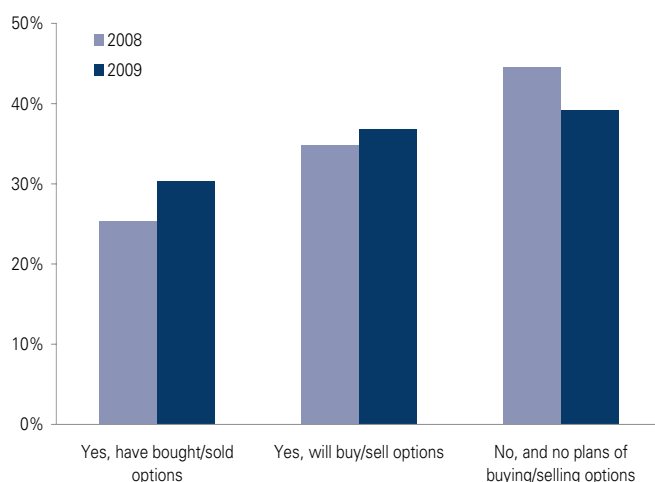


Figure 3.8: Options in the EUA and CER markets

Have you bought/sold or will you buy/sell EUA, CER or RGA options?
Companies trading EUAs/CERs/ERUs/RGAs. N=1,252 (2009).



Source: Point Carbon

Figure 3.6 shows the same data as Figure 3.5 as cumulative curves. This graph again displays the lowered price expectations, with the curves for buying and selling EUAs converge near the €10-15

range, against €20-25 last year. Note that the curves indicating willingness to buy is particularly steep, with 86 percent of the sample saying they would not buy an EUA above €15.

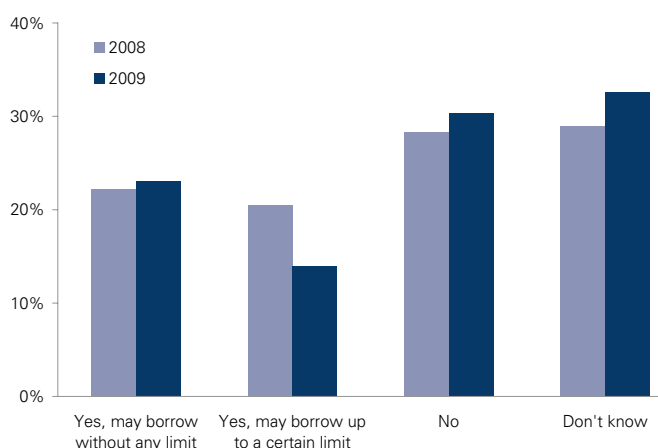
Our respondents also expect lower spreads between issued CERs and EUAs, compared to last year. The most frequent prediction was that EUAs would be worth €0-2 more than issued CERs in December 2009 (see Figure 3.7). Last year, the €4-6 range was the one most frequently picked. At the time of writing, the spread is valued at €1.05.

What effect has the economic slowdown had on trading behaviour in the EU ETS? One might expect that lower emissions should reduce the necessity to buy carbon allowances and credits, thus depressing trade volumes. However, the first two months of 2009 have shown brisk EUA trading, and Point Carbon predicts the EU ETS market will grow by 24 percent over 2008 in volume terms.

“CER-EUA spread expectations narrower than in 2008

Figure 3.9: Profit from borrowing?

“Does your company permit borrowing from the company's 2009 EUA allocation to cover emissions in 2008?” Companies covered by the EU ETS. N=350.



Source: Point Carbon

To what extent are companies using EUA and CER options to hedge their carbon exposure? As Figure 3.8 shows, 67 percent of companies surveyed either have traded or plan to trade options, up from 60 percent last year. Among the EU ETS sectors, companies in cement, lime and glass have the highest share reporting they have bought or sold options, with 42 percent. The other sectors vary from 20 percent (metals) to 33 percent (pulp and paper).

One reason why these particular industry sectors score high on options trading may be related to the fact that numerous companies here show excess EUAs or credit import limits (see Fig 3.4). These

surpluses may thus have been sold or swapped, with options attached in case carbon prices were to surge. A more general reason for this increase in options trading may simply be increased market maturation, spurred in part by financial institutions that facilitate EUA-CER swapping.

Lower emissions also mean less of a need to borrow EUAs from a future year, but increased market maturity may counteract this tendency as companies seek to make the most of their allocated allowances.

While there is no explicit mechanism for borrowing EUAs from future years, installations are in practice able to engage in borrowing from next year's allocation in the EU ETS. This is because the free portion of EUAs for a given compliance year needs to be handed out by 28 February of that year, whereas allowances for compliance with the previous year are only due to be surrendered by 30 April.

“Increased options trading in carbon markets

Interestingly, the number of respondents reporting that their companies permit borrowing from the future, either with or without a limit, is somewhat down on last year, from 43 to 37 percent (see Figure 3.9). However, the difference is not very large, notably if we exclude the substantial portion of respondents that do not know their company policy on this question. Respondents from the pulp and paper sector display the highest affirmative rate – 63 percent.

3.4 CDM

In 2009, the economic downturn is likely to impact investments considerably in the project markets – the CDM and JI. In addition, post-2012 uncertainty and declining emissions in many countries will have an impact on the demand for CER and ERUs. To gauge the effect of the economic downturn on the CDM market, we asked respondents whether their companies had modified their purchasing or investments as a direct consequence of the slowdown. We also asked a more general question about planned company involvement in the CER market in 2009.

Figure 3.10 displays the answers to the first question. Here, 44 percent of the respondents – and a full 60 percent of those with substantive replies (excluding “not applicable”) reported that their companies had scaled down, delayed or cancelled

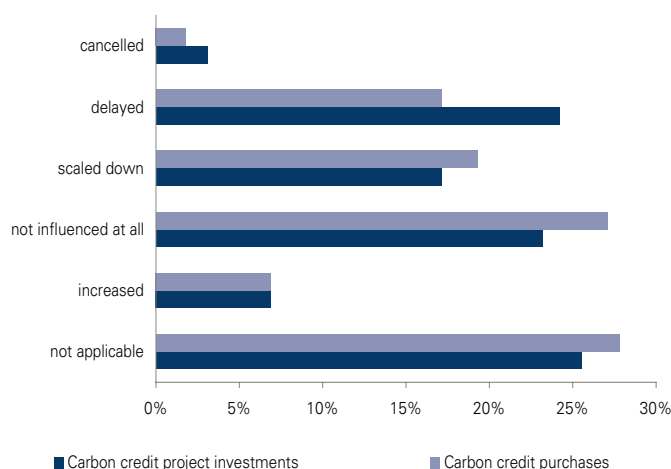
carbon credit project investments. The corresponding number for carbon credit purchases was 53 percent of substantive answers.

As financing dries up, and prices for primary and secondary CERs decline, these responses are in line with what one can expect in the current market situation. As noted above, we forecast a significant drop in CDM (and JI) investments, with a pCER volume down 45 percent on 2008, to 300 Mt in 2009. Low prices both in the primary and secondary markets reduce the incentives to invest; post-2012 uncertainty and the fact that the end of the first Kyoto commitment period is less than four years away also contribute to a lack of interest in new projects.

Nevertheless, 27 percent and 23 percent, respectively, answer that the financial and economic downturn has not influenced their carbon credit purchases or carbon credit project investments. Some

Figure 3.10: Cancelling credit?

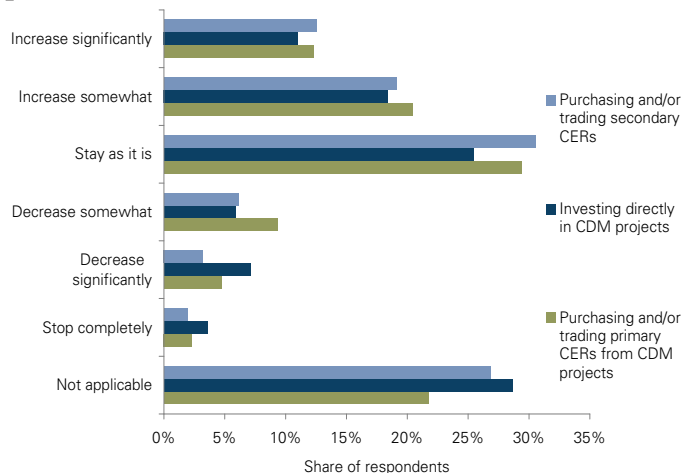
“To what extent - if at all - has the financial and economic downturn influenced your operations in the following areas?” Companies trading EUAs/CERs/ERUs/RGAs. N=1219.



Source: Point Carbon

Figure 3.11: Plans for CDM involvement in 2009

"Will your company's involvement in the CDM market change in 2009 compared to 2008, and if so how?" Only companies involved in the CDM market. N=974.



Source: Point Carbon

of the explanation behind this is the important public sector involvement in the primary market. Many governmental buyers, which are less hit by the economic downturn than the private ones, prefer primary CERs to secondary CERs and AAUs. We expect the involvement of these governmental buyers to prevent pCER prices from dropping to the cost of production of the emission reductions.

“Governmental buyers prefer primary CERs to CERs and AAUs

With the effects of the financial crisis in mind, what do companies plan in the way of CDM investment activities for 2009 compared to 2008? To find out, we posed a question only to CDM developers and aggregators, EU ETS companies, financials and governments, with the results given in Figure 3.11.

Compared to Figure 3.10, the answers here may be somewhat surprising. Looking exclusively at substantive answers, and focusing on plans for carbon credit project investments, 41 percent of respondents actually foresaw an increase in such plans in 2009 compared to 2008. As might be expected, 50 percent of developers and aggregators expected to increase their direct investments, whereas only 22 percent foresaw a decline. Perhaps more surprisingly, financials also reported an increase, with numbers 40 - 29 percent, respectively, in favour of greater investment. Compliance companies in the EU ETS were equally divided between increasing and decreasing their project investments, with a majority planning no change.

What accounts for the apparent contradictions between the results shown in Figure 3.10 and 3.11? First, the two questions

ask about different things. The former concerns the effect of the economic downturn, which most agree is negative. By contrast, the latter is about plans for the future, with a clearly optimistic slant and without an explicit link to the world economic situation. It should also be noted that the two questions have different samples, as the one displayed in Figure 3.11, being more specialised, excludes RGGI companies, JI project developers, North American offset providers and "others."

“Optimism on new CDM investments in 2009

This indicates that the companies most involved in the CDM – perhaps from intimate knowledge of the market, perhaps from necessity – think the economic downturn will be temporary, and that the CDM market will see new investment later in 2009. The optimistic plans displayed in Figure 3.11 thus indicate that the CDM market is not without bright spots. Important changes are being discussed and negotiated for the post-2012 period, and these could alter the CDM market significantly. We will return to these questions in Chapter 4.

3.5 JI and AAU

The prospects for JI have recently worsened due to a number of factors. Framework conditions for JI in Russia have become less attractive. The economic slowdown has also made investors more risk adverse, and Russia and Ukraine, the two largest host countries, are strongly affected.

Delivery risk also appears higher due to the number of delays most JI projects are currently facing. Finally, Poznan did not reduce uncertainty over the role of JI after 2012.

Russia is still by far the largest potential source of ERUs, and the Russian JI framework is the most critical of the factors above. The country has a highly complex system for domestic approval of JI projects, and Moscow appears reluctant to approve some project types, such as those abating methane leakages. Hence, as mentioned in our CMA, "Outlook for 2009," Point Carbon expects few if any ERUs to be delivered from Russian projects in 2009.

“Ukraine more likely to sell AAUs than Russia

Survey respondents appear to share this view (Figure 3.12). Only five percent of the persons asked expect delivery of Russian ERUs this year. Interestingly, this is very similar to last year's response in the sense that just over one in five expects ERUs from Russia in the current year or the year thereafter. The major difference, of course, is that this year we are one year closer to the end of 2012.

How do our respondents see AAU trading in 2009? The big question is how much will come to market from the two countries with the largest surpluses, Ukraine and Russia. Figure 3.13 shows that for Russia, just over half of the substantive responses expect a sold AAU volume of more than zero but no greater than 1 Gt. One-third of respondents expect

Russia to sell more than 1 Gt in the 2008-12 period.

In the case of Ukraine, 72 percent of the substantive responses are found in the range 0 – 1 Gt, excluding the zero volume option. When looking at respondents in these two countries only, it is also interesting to note that 12 percent of respondents expect zero AAU volume from Russia in the first Kyoto period, while no respondents in Russia and Ukraine state that they expect zero AAU volume from Ukraine. Consequently, while Russia has the largest potential volume to sell, Ukraine appears as the more reliable country when it comes to bringing its AAUs to market.

3.6 United States

Carbon markets towards 2012 may include a large new player: the United States. We gauged respondents' feelings as to when the US might establish its own cap-and-trade program, and what it might look like.

A compliance market in the US would not go unnoticed for the voluntary market. Quite the opposite, as the prospect of a future mandatory market already influences buyers and sellers strategy on the voluntary market today.

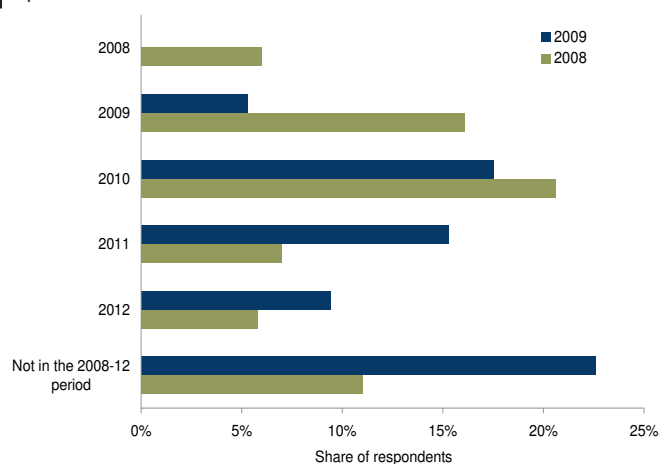
3.6.1 A US ETS in the offing?

The signals coming from the Obama administration in the first weeks of his administration are unequivocal: energy and climate change are high on the agenda, and a carbon cap-and-trade programme is likely to be in place in 2012.

On February 24, 2009, President Obama asked Congress to "send [him] legislation that places a market-based cap on carbon pollution and drives the production of more renewable energy in America." The federal budget for the year 2010 was released a couple of days later, and included revenues from carbon starting in 2012.

Figure 3.12: From Russia with ERUs?

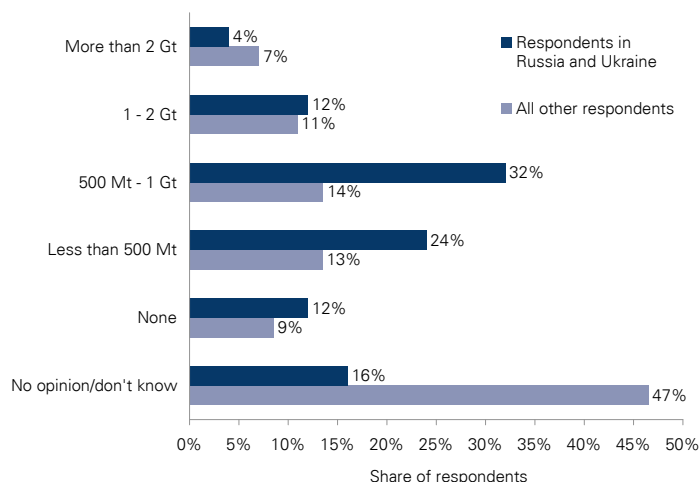
"When will the first emission reduction unit (ERU) be delivered from Russia?"
Note: "Don't know" excluded from chart. N=2,223 (2009); 1,560 substantive replies.



Source: Point Carbon

Figure 3.13: From Russia and Ukraine with AAUs?

"What volume of Assigned Amount Units (AAUs) do you expect to be sold by Russia and Ukraine in the 2008-12 period?" Note: "Don't know" excluded from chart. N=2204; 1099/1106 substantive replies.



Source: Point Carbon

Not surprisingly, the share of respondents that think there will be a federal, mandatory cap-and-trade system in the US before 2015 has increased since last year, reaching 81 percent in our 2009 survey, up from 70 percent in our 2008 survey, up from 70 percent in our 2009 survey, up from 70 percent in our 2008 survey. The end of the Bush era and the election of President Obama can to a large extent explain this change. The share of US respondents answering in the affirmative reaches 90 percent, which, incidentally, is unchanged from last year (see Figure 3.14). Consequently, the recent elections appear to have had a greater impact on the rest of the world than the domestic audience on this particular question. Of course, as noted in Chapter 1 above, there is a strong self-selection bias in our sample, and the result should not be seen as representative of the US population at large.

When will federal cap-and-trade enter into force, provided that it

arrives? Figure 3.15 shows what year respondents think is most likely for the start of a US cap-and-trade.

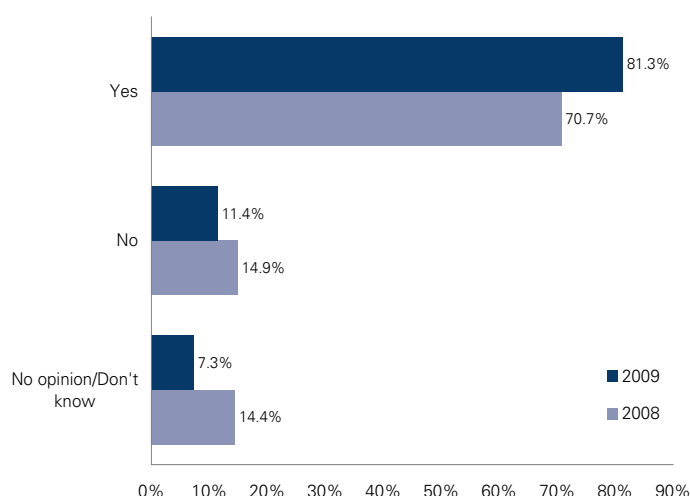
The year with the most replies overall was 2013; US respondents overwhelmingly favoured 2012 as the first year of operation for federal cap-and-trade. The latter fact is interesting since the question has been raised since the US ETS will be in place by the start of a second Kyoto commitment period, that is, from 2013, and how a possible cap-and-trade legislation could buttress the US negotiating position in Copenhagen.

“US respondents see 2012 as first year of US ETS

The US respondents' expectation that a scheme would likely start in 2012 could also reflect the fact that most bills introduced in Congress and most notably the Lieberman-Warner bill, have 2012 as a start date.

Figure 3.14: Yes, we cap

"In the US, do you think there will be a federal, mandatory cap-and-trade system for GHG that enters into force before 2015?" N=2918 (2009)



Source: Point Carbon

On the international stage, the US will be represented by Todd Stern, named “special carbon envoy.” Stern is a veteran from the UNFCCC negotiations, and while he is eager to place the US in a leadership position in international climate policy, he has also been noted for his realistic approach to negotiations and has made it clear that the US mid-term targets would not match the European ambitions of 25 to 40 percent below 1990 levels.

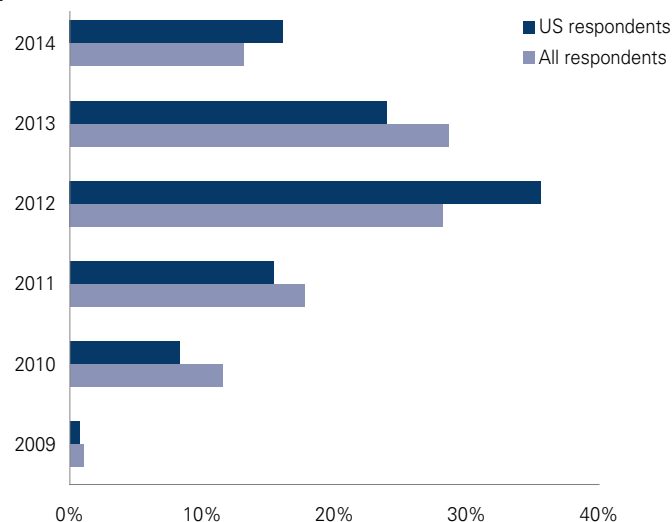
“\$10-20 price range for allowances in future US ETS

Respondents to the survey seemed to share this vision, as shown in Figure 3.16, with a majority expecting a scheme no stricter than Phase 2 of the EU ETS. Twenty-three percent, however, thought that the US could be convinced to take on targets as strict or stricter than phase 3. We should note that with the EU and US routinely referring to different baseline years (1990 and 2005 respectively), the comparison of targets is not necessarily intuitive. Announced US targets, which would barely bring the US back to 1990 levels by 2020, are definitely less strict than both phase 2 and 3. While we asked this question last year, responses are not immediately comparable since we did not allow for a comparison with phase 3, only phase 2.

What will the carbon price be? Figure 3.17 illustrates our respondents’ price expectation for a US ETS. A \$10-20 range was

Figure 3.15: A question of timing

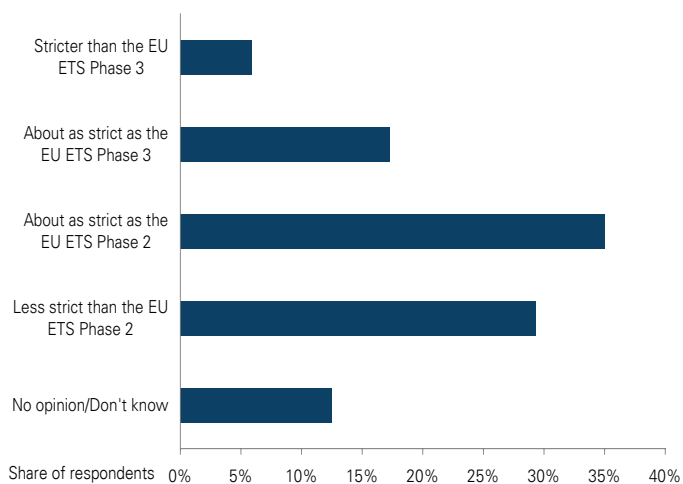
“What will be the first year of operation for the US federal cap-and-trade system?” Respondents expecting US ETS by 2015. N=2341; 435 in the US.



Source: Point Carbon

Figure 3.16: Strictness of US federal cap-and-trade

“How strict will the reduction targets in a US federal cap-and-trade system, relative to the EU ETS?” Respondents expecting US ETS by 2015. N=2351.



Source: Point Carbon

largely favoured by respondents, even more so by US respondents (40 percent). This consensus likely draws from several elements: the many discussions

on price containment and the conviction that the scheme would be likely to start fairly generously and ramp up the restriction over the years. Few US respondents

thought the carbon price would go much over \$20 a ton. This general expectation is in line with some recent price forecasts, notably the Congressional Budget Office's forecast of \$19 for Lieberman-Warner, and Point Carbon's analysis of the proposed 2010 federal budget, putting carbon at \$13.70 a tonne in 2013.

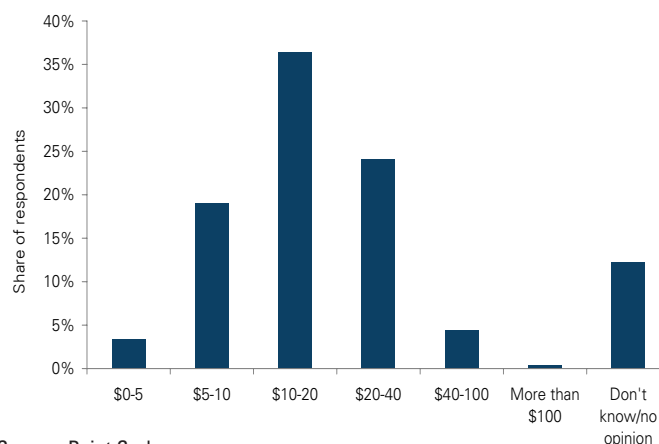
3.6.2 North American offsets

The discussion about a cap-and-trade program has deep implications for the voluntary market, most notably the question of which offsets, if any, may be recognised for early action or carry value into the new scheme. As shown in Figure 3.18, just over half US respondents thought CERs would make it in, and over 40 percent of them also trusted CCAR credits. Name recognition for the California Climate Action Registry's offset certification, Climate Action Reserve, does not seem to have crossed the Atlantic yet, as few respondents from the rest of the world saw it as a likely option.

“CERs and CCAR credits candidates for use in US ETS

Offsets from the CCX offset program also carried a good credibility with a third of respondents expecting CFIs would be eligible under a mandatory program. These answers are consistent with the signals given by the US Congress so far. Gold Standard and VCS credits are also perceived as likely to make it in, while the other certification programs were seen as less likely to be recognized. Brand name certainly seems to

Figure 3.17: Price expectations under a US ETS
Expected carbon price at the end of the first compliance year of a US federal cap-and-trade scheme. N=2328.



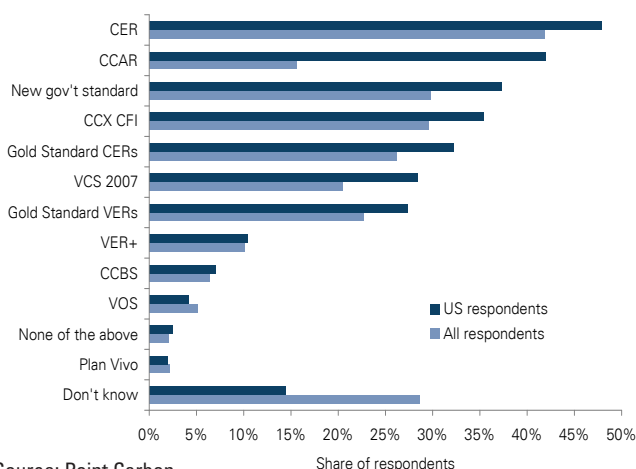
Source: Point Carbon

matter more than the rigour of the certification requirement.

Experience with the voluntary market will be an advantage for anyone who wants to develop offsets for the US ETS. The US voluntary market encompasses a large variety of project types,

from renewable energy to reforestation and enhanced oil recovery. As shown in Figure 3.19, our respondents reckon that renewable energy and energy efficiency projects catch the highest prices, whereas soil sequestration projects occupy the lower end of the scale.

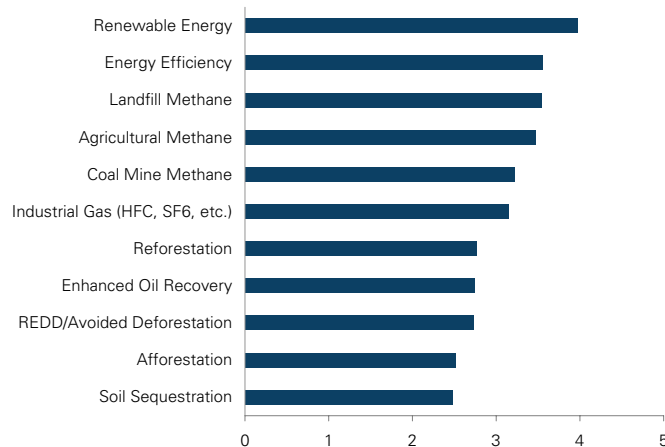
Figure 3.18: Offset standards in US cap-and-trade
“Which of the following offset standards, if any, do you think are likely to be eligible for a US federal cap-and-trade program?” N=472.



Source: Point Carbon

Figure 3.19: Grading projects

"In the voluntary market, grade each of the following project types on a 1 to 5 scale in terms of value they are able to fetch in the market, all else being equal." Question to companies with emissions regulated under RGGI or offset project developer/aggregator in North American market. N=63.



When it comes to general evaluation, the voluntary market is also getting higher marks this year than last. This holds across the board, as Figure 3.20 displays. The market is seen as more transparent and

mature than last year, and more respondents also agree that voluntary emission reductions are real.

There is also greater agreement that the voluntary market fosters innovation in emission reduction

method, while fewer think the voluntary market presents a risk for compliance markets.

“Higher marks for voluntary markets in 2009 than in 2008

Consequently, the voluntary market appears better positioned to provide US-eligible offsets this year than last, just as the US looks much more likely now to take a leadership position in the global carbon market than it did just a year ago.

4. Carbon markets beyond 2012

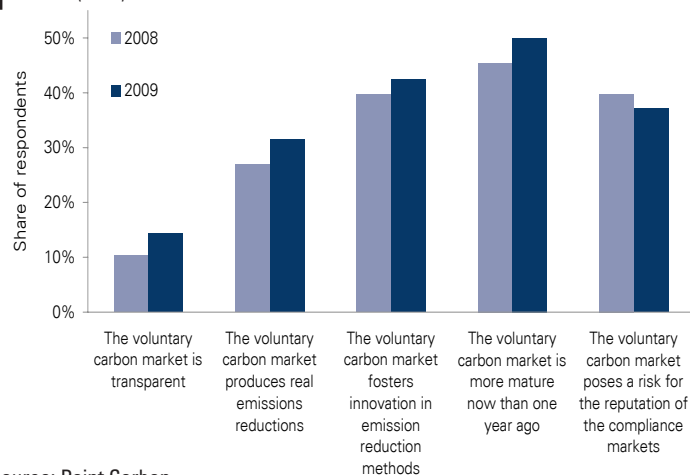
What is the outlook for carbon trading after 2012? In this section, we look to the future in dialogue with what our survey respondents think will happen in the long term. We start with a note about the plans for the EU ETS phase 3 (2013-20) and then move quickly on to an analysis of the upcoming Copenhagen climate summit and the likely shape of the post-2012 international climate regime. Finally, we look at the consequences for global carbon trading in the long run.

4.1 EU ETS phase 3

With the deal struck in December 2008, the EU has concluded on most key issues linked to phase 3 of the EU ETS. The allocation will be reduced by 21 percent compared to 2005 by 2020, the amount of auctioning will increase compared to phase 2, and the credit limit, which is set for the 2008-2020 period, is equal to 50 percent of the reduction effort. Outstanding issues include the determination

Figure 3.20: Assessing the voluntary carbon market.

Share of respondents agreeing with the given statements (options 4 and 5). N=2853 (2009)



of the sectors exposed to carbon leakage, the auctioning rules, and the calculation of the “required reduction effort” related to the credit limit.

4.1.1. Allocation

For the installations covered in phase 2, the average cap would be 1,847 Mt/year. For the power and heat sector, full auctioning is the main principle, but optional free allocation will be granted to installations given some conditions. Industry sectors will get 80 percent free allocation in 2013 (80 percent of the sector's relative share of the phase 3 cap), decreasing to 30 percent in 2020. More free allocation will be given to industry sectors with a high risk of carbon leakage. The determination of the sectors exposed to carbon leakage will be done through comitology by the end of 2009.

“Full auctioning
main principle for
power and heat sector

The EU ETS review moves the legal competence from the Member States to the EU level, meaning there will be no national allocation plans, and most rules, including on auctioning of allowances, will be harmonised at EU level. The European Commission is set to table a regulation on auctioning by 30 June 2010, and the auctioning should start by 2011.

4.1.2. Credit limit and qualitative restrictions on CERs

The credit limit of 50 percent of the required reduction effort between 2008 and 2020 corresponds to

some 1,800-2,000 Mt when taking into account the new sectors and installations that will be included. There is uncertainty about how the “required reduction effort” will be calculated.

Regarding qualitative restrictions on CERs, the EU has decided that once an international agreement is reached, only credits from projects in countries that have ratified that agreement will be accepted from 2013. If there is no agreement, CERs/ERUs can still be banked and exchanged with phase 3 EUAs. Further qualitative restrictions could be imposed at a later stage (before 2012), through comitology.

Full banking of EUAs is permitted between phase 2 and phase 3, and also de facto full banking of CERs/ERUs, as phase 2 CERs/ERUs will be exchanged with phase 3 EUAs at a 1:1 exchange rate, up to 31 March 2015. However, borrowing from phase 3 is not possible.

4.1.3 New sectors and gases

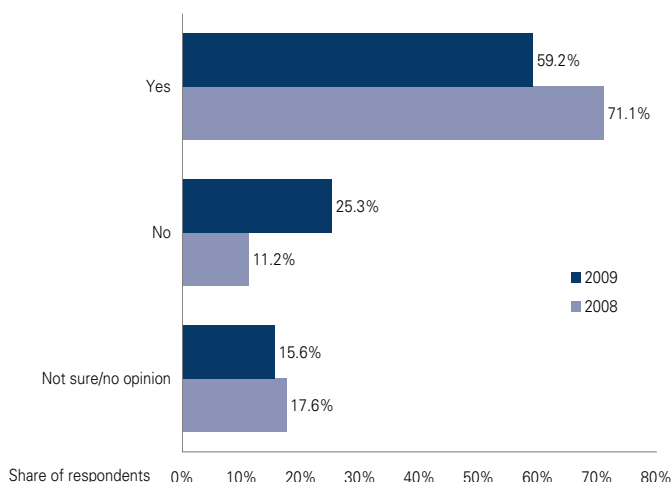
The aviation sector will be included from 2012, with emissions of approximately 220 Mt/year. In phase 3, aluminium will be covered by the scheme, as well as the N₂O gas from petrochemicals, ammonia and nitric, adipic and glyoxalic acid. The European Commission will table a proposal on how the EU climate policy should include shipping; and could follow aviation into EU ETS.

4.1.4 EU climate policy and the international negotiations

The allocation in a scenario where the EU scales up its overall reduction target to 30 percent is not yet decided, and it is not entirely clear how the required reduction effort would be split between EU ETS and non-trading sectors. If a “satisfactory” international agreement would raise the EU's level of ambition,

Figure 4.1: The final countdown

“Will a global agreement for the post-2012 period be reached in Copenhagen in 2009, committing countries to continued GHG emissions reductions?” N = 2950 (2009)



Source: Point Carbon

a total breakdown of the UN-headed negotiations will not affect the EU policy. We will now look into the expectations of the respondents on the post-2012 framework.

4.2 Towards Copenhagen

The first year of the Kyoto commitment period is now behind us and the Copenhagen deadline only roughly nine months ahead. The Bali mandate commits all the UNFCCC members to produce a comprehensive climate deal before the end of 2009, and we have asked respondents whether they think that will happen or not, and what they expect the agreement to entail.

“Fewer respondents expect an agreement in Copenhagen

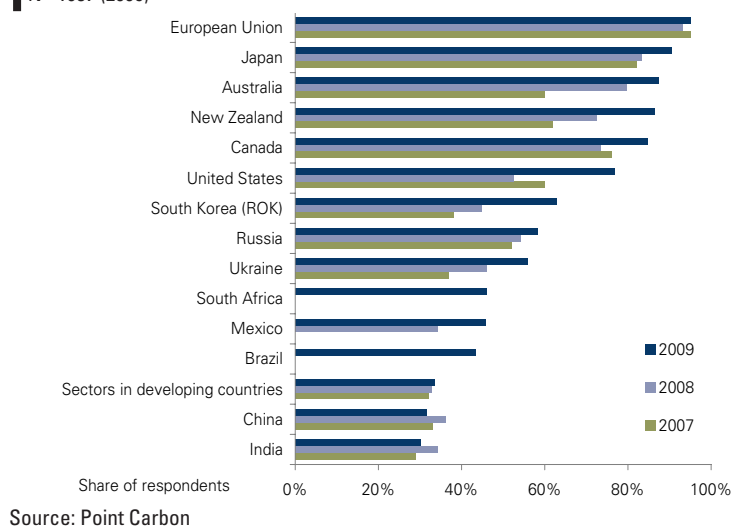
Only three meetings, including the COP15 in December, are planned for 2009 (see Table 1). In the corridors in Poznan, there was mention of one or several additional meetings, but this has not been confirmed so far. The meeting in late March could bring more clarity on this issue. Any additional meeting would take place in the summer or autumn.

Table 1: UNFCCC negotiation meetings in 2009 for a post-2012 framework

Date	Venue	Meeting
29 March - 8 April	Bonn	AWG-KP 7 and AWG-LCA 5
1 - 12 June	Bonn	AWG-KP 8 and AWG-LCA 6, SBSTA and SBI 30
7 - 18 December	Copenhagen	COP-15/CMP-5 and sessions of the subsidiary bodies

Figure 4.2: Are you in or are you out?

“Which countries do you think will participate in a post-2012 scheme with quantified commitments?” Respondents who expect global agreement in 2009. Note: Brazil and South Africa not included in 2007 and 2008; Mexico included 2008. N = 1657 (2009)



Since last year, the share of respondents expecting an agreement to be reached in 2009 has fallen from 71 percent to 59 percent, see Figure 4.1. The share had been stable at 71 percent in 2008 and 2007. Accordingly, the share of respondents answering “no” has doubled, up from 11 percent last year to 25 percent now. The slow progress in the post-2012 negotiations in 2008, combined with the global economic slowdown, may be the main reasons for this change.

Of US respondents, only 54 percent believe an agreement will be reached in Copenhagen, which compares to 75 percent last year; while 32 percent think not. The share of “post-2012 optimists” reaches only 50 percent in Japan and Australia, two countries that we expect to follow the US negotiating position. For Japan, this share is markedly down compared to 2008, when it reached 80 percent. The gravity of the economic recession in Japan and the US could explain these drops in the confidence that a post-2012 agreement will be reached.

The countries with the highest share of “post-2012 optimists” are the biggest developing countries and some EU countries. For instance, in Spain, India, Brazil and Germany, respectively 76, 70, 68 and 68 percent of the respondents answered yes to this question. Among respondents

in China, this share was 57 percent.

The next set of questions - on the countries to take on quantified emission reduction commitments, the new shape of CDM, deforestation/REDD - were asked only to the respondents who believe the negotiators will reach an agreement in Copenhagen that commits countries to continued GHG emissions reductions.

First, looking at the countries that could take on commitments in the post-2012 framework, starting from 2012, there are no surprises. Key Annex I countries have the highest scores. The results are given in Figure 4.2.

“77 percent of US respondents expect US participation in post-2012 deal

The share of respondents believing the US will participate in a post-2012 deal with quantified commitments is up from 53 percent in 2008 to 77 percent this year, which is the largest percentage point increase among the countries in our survey. There is no doubt that Obama's election, and his commitment to engage in the international negotiations, is the main reason for this change. A similar jump was seen for Australia from 2007 to 2008, following the election of the Rudd government and the subsequent ratification of the Kyoto protocol.

The second biggest increase from 2008 to 2009 can be seen in South Korea, which jumps from 45 percent last year to 63

percent this year. Economically developed, member of the OECD, one of the world's major GHG emitters, there are obvious reasons why South Korea should be part of the group of countries that commit to reduce emissions in the post-2012 framework.

We also asked respondents the same question for 2020. For the main developing countries (China, India, Brazil), the share of respondents thinking they will take on commitments in the long term increases significantly. For example the share of respondents believing China and India will take on commitments in an international agreement jumps from around 30 in 2013 to around 80 percent in 2020.

There are also some interesting geographical differences. Compared to 31 percent among all respondents, 42 percent of respondents in China believe the country will have commitments from 2013, a share that increases

to 64 percent for 2020. For Brazil, the share of respondents in the country that believe it will have commitments from 2013 (37 percent) is lower than the average from all respondents (43 percent), while it increases to 76 percent in 2020 for respondents in Brazil.

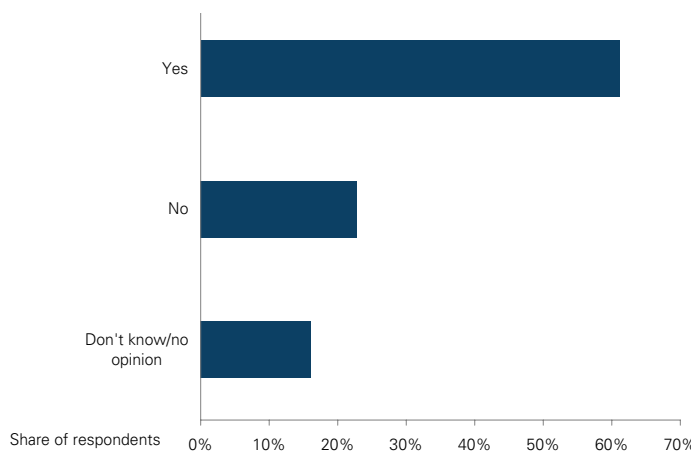
On the other hand, 56 percent of US respondents believe Mexico and Brazil will have commitments from 2013, while the share of US respondents who believe India and China will have commitments from 2013 is only 32 percent.

4.2.1 REDD

Beyond the question of who will take on commitments, the issue of deforestation has received a good deal of attention in 2008. In Poznan in December, parties agreed on a broad approach to this source of emission reduction, including in their consideration, in addition to deforestation and degradation, the role of conservation, sustainable management of forests and

Figure 4.3: REDD and post-2012

“Do you think deforestation/REDD will be a key element in the climate framework to be finalised in Copenhagen in December 2009?” Respondents who expect global agreement in 2009. N=1,714.



Source: Point Carbon

enhancement of forest carbon stocks in developing countries. The aim of such an approach is to address the concern of permanence of deforestation and degradation, or in other words to ensure that the forest that has been saved is not cut down later on.

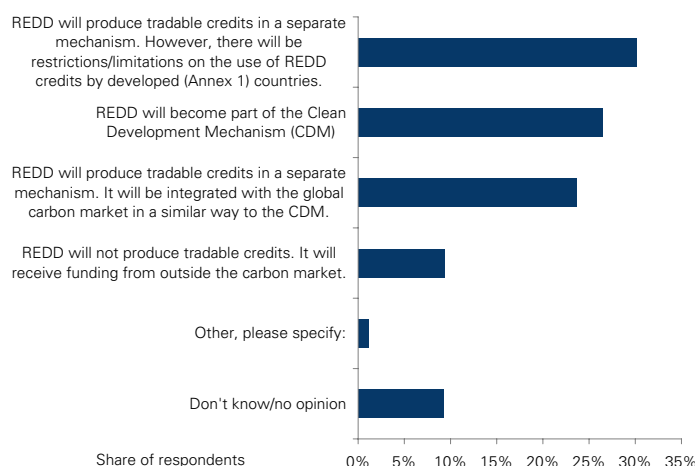
According to 60 percent of those that think the parties will reach an agreement in Copenhagen, deforestation/REDD will be a key element of the upcoming framework (see Figure 4.3). This share is the highest among respondents in Brazil (75 percent) and in the US (72 percent). This reflects the high share of forests in Brazil, and their obvious interest in having an agreement that includes some kind of mechanism from reducing emissions from deforestation; and for the US, its historically strong emphasis on forests. In the EU, that share is only 54 percent. This could reflect its existing skepticism, which so far has materialised in the ineligibility of CERs from forestry for compliance in EU ETS.

“REDD a key element for US and Brazil respondents

How will deforestation/REDD be included in the upcoming framework? The options are not crystal-clear, which reflects in the almost 10 percent of respondents who say they do not know or have no opinion, as shown in Figure 4.4. The outcome will most likely be different from the options given in this survey, as this could be a bargaining chip in the negotiations, and because the issue is complex.

Figure 4.4: How will REDD fit?

Respondents who expect REDD as a key element post-2012. N=1036.



Source: Point Carbon

In total, among those that believe deforestation/REDD will be a key element in the post-2012 framework, most respondents (54 percent) believe these reductions will create tradable credits in a separate mechanism; 30 percent believing their use by Annex I countries will be limited, 24 percent thinking it will be part of the global market in a similar way to the CDM.

On the other hand, 26.5 percent think these emission reductions will be part of the CDM, whereas only 9 percent of respondents believe this kind of emission reductions will not create credits in the carbon market, but get funding outside. So far, the UNFCCC has only registered one forestry project, and CERs from forestry will not be allowed for compliance in EU ETS in phase 3 (starting in 2013) either.

In Brazil, the country with the highest potential for REDD, the modal response (26 percent of respondents in Brazil) is that

deforestation will not create tradable credits, but receive funding from outside. This is in line with the current Brazilian policy in this area through its Amazon Fund. In the US, 33 percent of respondents believe

“Reductions from REDD to create tradable credits?

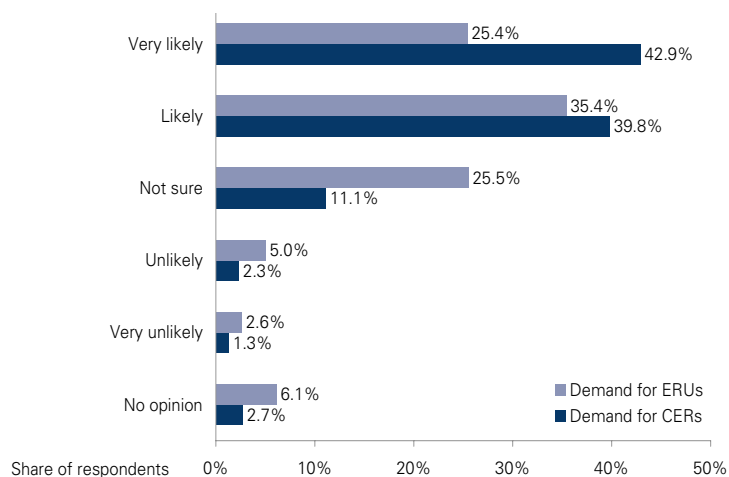
REDD will produce tradable credits in a separate mechanism, but there will be restrictions/limitations on their use. The answers given here thus appear to show what the respondents wish for, and what their home countries will push for in the negotiations.

4.2.2 The future of CDM/JI

Another key issue in the negotiations is the role of the Kyoto flexible mechanisms, CDM and JI, in the post-2012 framework, and

Figure 4.5: Post-2012 demand for CERs and ERUs

"How likely do you think it is that there will be demand for CERs and ERUs after 2012?" N = 2789.



Source: Point Carbon

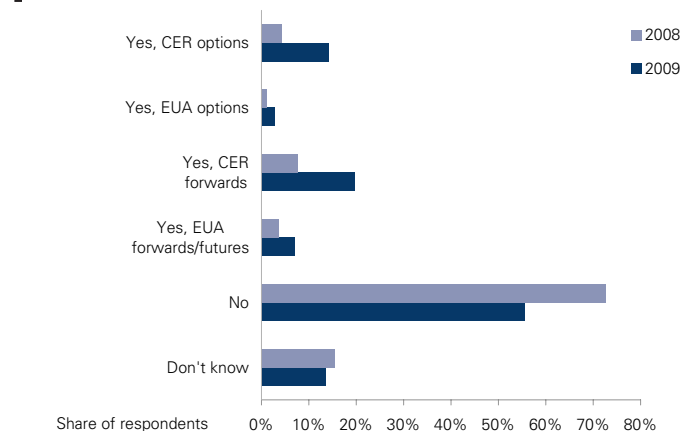
the changes that need to be done to these instruments.

The vast majority (in total 83 percent) of respondents assesses it as likely or very likely that there will be demand for CERs after 2012, see Figure 4.5. Regarding

the future of JI, 61 percent of respondents see it as likely or very likely that there will be demand for ERU post-2012. The small size of the JI market probably explains this difference between the two flexible mechanisms.

Figure 4.6: Keeping the options open

"Has your company traded EUAs or CERs for delivery after 2012?" Respondents involved in EUA and CER markets only. N = 1041 (2009)



Source: Point Carbon

The respondents' expectations on post-2012 CER and ERU demand have barely changed since last year. By contrast, if we look at the number of respondents who report that they have traded CER options or CER forwards for post-2012 delivery, we see a significant increase of the share of respondents that have done so (see Figure 4.6). Twenty percent report that they have bought or sold CER forwards for post-2012 delivery, while the share is 14 percent for options. This indicates that not only is the market expecting a place for CERs post-2012, it is also acting on this expectation.

“Stable expectations on post-2012 CER and ERU demand

One thing that appears certain is that the CDM will undergo changes in the post-2012 framework. More than half of the CDM project developers and aggregators and people otherwise involved in the CDM market that answered the survey believe that the three following changes will be made to the CDM after 2012 (see Figure 4.7):

- international aviation will be fully or partially included
- HFCs will be further limited or excluded
- sectoral CDM will be partially or fully included

Nevertheless, there are important differences depending on the location of the respondents. For instance, more than 60 percent of the respondents in China see sectoral CDM

and limitation or exclusion of HFCs as likely changes to this flexible mechanism, but also the widespread use of benchmarks for baselines and additionality purposes is a highly rated change. Like in China, a high share of respondents in India expect that a limitation or exclusion of HFCs and a widespread use of benchmarks for baselines and additionality purposes will apply to the CDM after 2012, but the change next on the list is the limitation or exclusion of large-scale hydro.

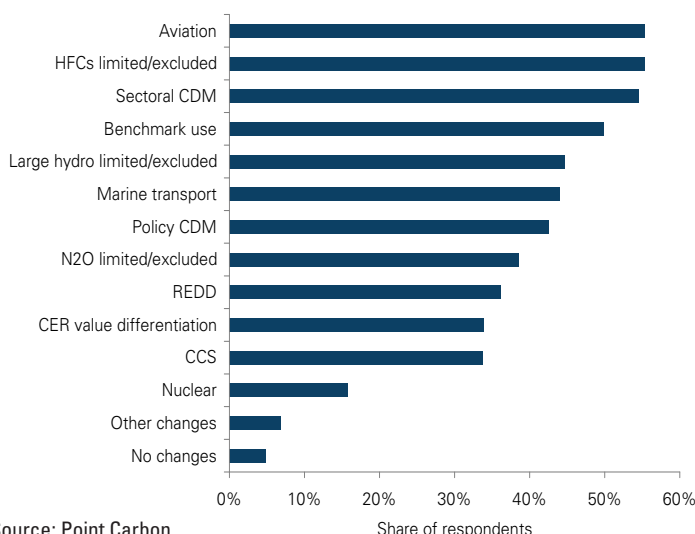
“HFCs and hydro have been controversial project types

Both hydro- and HFC projects have been controversial project types in the CDM. Environmental groups have lead a high profile political and media campaign against hydro projects, claiming that many of these schemes harm the local environment and communities. 330 hydro projects have already been approved by the UN, with the potential to generate 135 million credits. On the other hand, HFC projects currently account for around 55 percent of all certified emissions reductions (CERs) issued from CDM projects. The EU is likely to propose the production of HFC gases be eliminated in a bid to cut greenhouse gas emissions, in return for revenue to help poor countries adapt to climate change.

Proposals for an increased use of benchmarks in the CDM were thrown out from the negotiations in Poznan in December 2008, due to resistance from Brazil,

Figure 4.7: Time for change?

“Which changes, if any, do you think will be made to the CDM from 2013 onwards?” CER project developers/aggregators. Multiple answers possible. N = 407.

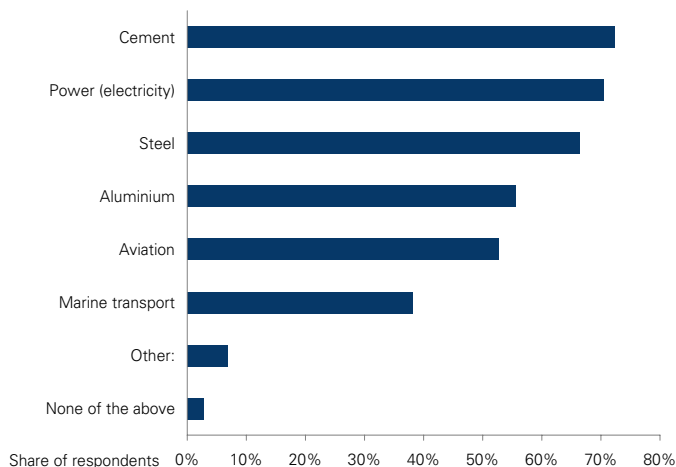


China and India. An increased use of benchmarks was pushed by the EU, as this would simplify methodologies. It is believed that Brazil, China and India resist this because they see it as a first step towards commitments.

Among those that think sectoral CDM will be allowed in the post-2012 framework, more than 60 percent believe that cement, power and steel will be part of this expansion of the mechanism (see Figure 4.8). All

Figure 4.8: Which sectors for sectoral CDM?

Respondents who think that sectoral CDM will be allowed. N=22.



these sectors have considerable emission reduction potential, and the main developing countries have significant production of these materials. For instance, the two biggest cement producers globally are India and China.

“Cement, power and steel expected in sectoral CDM

The suggested change which got the lowest share of respondents was the partial or full inclusion of nuclear energy, which is very controversial, and not likely to gain sufficient political support. Other significant changes that were suggested were improving the existing framework for forestry in CDM, and a professionalised and more efficient Executive Board of CDM. A mere 5 percent said that they expect no significant changes to be made, confirming our expectation that the flexible mechanism will undergo changes to fit into the post-2012 regime.

4.3 Towards a global market

If there is a global deal committing developed and developing countries to continued GHG emission reductions, the countries will need to enforce the targets, for example through emission trading schemes. Conversely, functioning trading systems, like the EU ETS, would make it easier to sign up for targets, and make the UNFCCC process easier.

Europe has so far been the key player in the global carbon market, given the dominance of the EU ETS both in terms of volume and value. In January, in plans that will set the EU's post-2012 negotiating position, the European Commission called for an OECD-wide carbon market by 2015, expanded to include all big emitters by 2020. This would create an integrated global carbon market. The EU ETS will continue post -2012 regardless of the outcome of the international

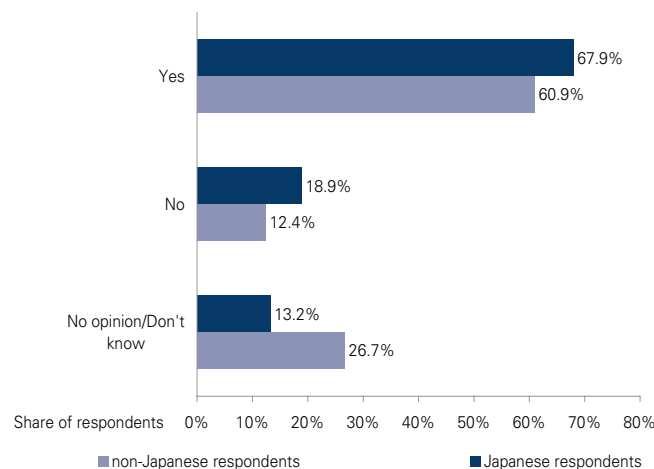
negotiations, but the EU is increasingly pushing towards links with other carbon markets.

While Europe currently accounts for the brunt of the carbon market, the US under President Obama is moving into a leadership role in global climate negotiations. RGGI, the first regional emissions trading scheme in the US, officially started to operate on 1 January 2009, and Point Carbon reckons it will account for six percent of world carbon market volume this year. As shown in the previous chapter, most of our respondents also think that US cap-and-trade will happen before 2015. When up and running, an US ETS is likely to be the largest carbon market in the world measured in terms of the underlying allocation, more than double the size of the EU ETS.

“EU pushing for links with other carbon markets

Figure 4.9: Domestic ETS in Japan?

“Will Japan introduce a mandatory cap-and-trade system post-2012?” Comparing answers of Japanese (N=53) and non-Japanese (N=2801) respondents.



Source: Point Carbon

As far as Japan is concerned, 68 percent of respondents in Japan, compared to 61 percent of non-Japanese respondents, expect Japan to introduce a mandatory cap-and-trade scheme post-2012, see Figure 4.9. In October 2008, Japan launched its trial voluntary emissions trading scheme, where only around 500 companies participate. The relatively low participation is due to the fact that many Japanese companies have doubts about the effectiveness of emissions trading in actually cutting emissions. At the same time, the Tokyo metropolitan government and Saitama prefecture are pushing ahead with plans for

mandatory emission trading in their jurisdictions.

Note that the difference between Japanese and non-Japanese respondents has flipped since last year, when significantly more non-Japanese than Japanese respondents predicted the introduction of an ETS in the country. High-level political discussions of cap-and-trade over the past year may have contributed to this change in opinion. It is also conceivable that the start of the trial voluntary ETS in Japan has had an impact on Japanese respondents but not abroad.

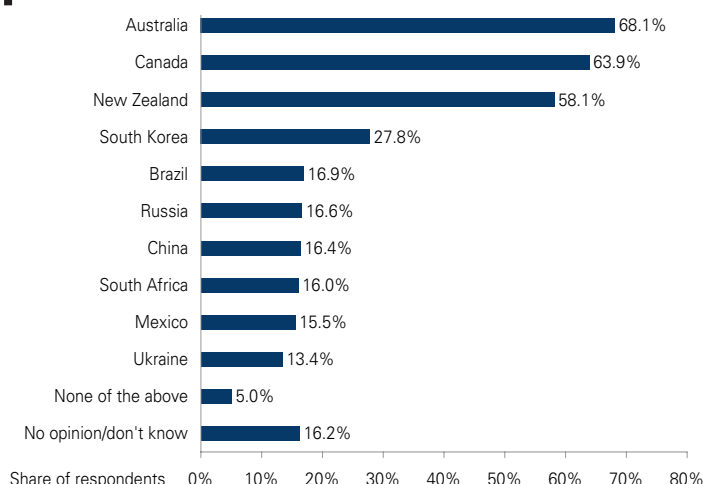
“Australia, Canada and NZ with ETS in 2015?”

Besides the US and Japan, we asked respondents which other countries they expect to have mandatory cap-and-trade in 2015 (see Figure 4.10). Almost 70 percent of respondents believe this will be the case for Australia, which is currently aiming to start its cap-and-trade scheme in July 2010. Second come Canada (64 percent), and third New Zealand (58 percent).

Under its greenhouse gas emission reduction plan, the Canadian government has set intensity targets for industry, but it has not made any steps towards enforcing the targets, for example through a cap-and-trade scheme. The high share of respondents thinking Canada will have a mandatory cap-and-trade scheme in 2015 could relate to the fact that respondents expect Canada to follow the US.

Figure 4.10: ETS around the world

Expectations for mandatory cap-and-trade in 2015. N=2896.



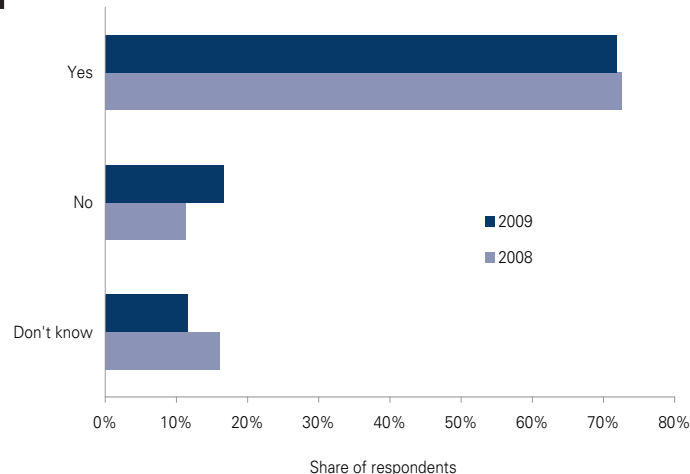
Source: Point Carbon

New Zealand is currently in the process of reviewing the emissions trading scheme, which was designed by the previous government. The scheme officially started 1 January 2008, with the forestry sector the sole participant. The remaining sectors of the economy were

initially scheduled to be brought in during the 2010-2013 period. However, the review process could ultimately see New Zealand scrap the entire emissions trading scheme and replace it with a tax on carbon and energy, but most observers expect only some cost-saving amendments to be made to the scheme.

Figure 4.11: Going global

“Do you think there will be a global reference price for CO₂ emissions in the year 2020?” N=2883.



Source: Point Carbon

Twenty-eight percent of respondents believe South Korea will have domestic cap-and-trade by 2015, which is significantly higher than for the remaining countries (Brazil, Russia, China, South Africa, Mexico and Ukraine), which 13 to 17 percent of respondents think will have cap-and-trade by 2015.

“75 percent expect a global reference price for carbon in 2020

As soon as there are several national trading systems in the world, the question is how these schemes will link, and in particular how the price dynamics will work. Will the US system be linked to the EU ETS through mutual recognition of allowances? How will the CER price influence the price of the Australian Emission Units? Will there be one global reference price?

Seventy-two percent of respondents believe there will

be a global reference price for carbon in 2020, see Figure 4.11. Obviously, our sample consists of people involved in, or interested in carbon trading, and is thus not representative of the world at large. Nevertheless, within this sample, the share of people expecting a global carbon price is more or less the same share as last year, although the share of respondents answering “no” has slightly increased.

Regarding price expectations for 2020, these have somewhat decreased since 2008 (see Figure 4.12). The modal response is still €30-50, but the share of respondents answering this price range has fallen (roughly from 40 to 30 percent), and the share of respondents expecting prices below €30 has increased. The average global price expectation is €35 and \$40, compared to €38 and \$46 last year.

Going down to carbon price expectations at the regional level, the price expectations for EUAs in 2020 have been relatively stable

in our 2008 and 2009 surveys, see Figure 4.13. Specifically, the most frequent response has been the €35-50 price range both years. The share of respondents answering the €50-75 range is down significantly, but that is due to the fact that the respondents were given more options, and could further specify their expectation (€75-100 or above €100).

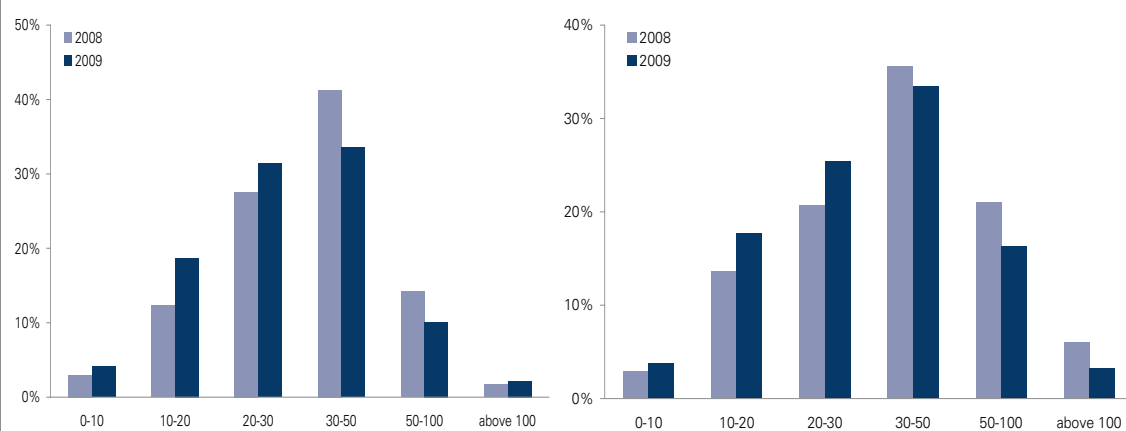
By contrast, there is a significant drop in the EUA price expectations for 2010. The modal response last year was the €25-35 range, while this year it is €15-20, as in our 2007 survey.

“Price expectations slightly down compared to last year

These results indicate that the latest drop in the EUA price has influenced respondents' expectations for the medium term, but not their long term

Figure 4.12: Price expectations, 2020

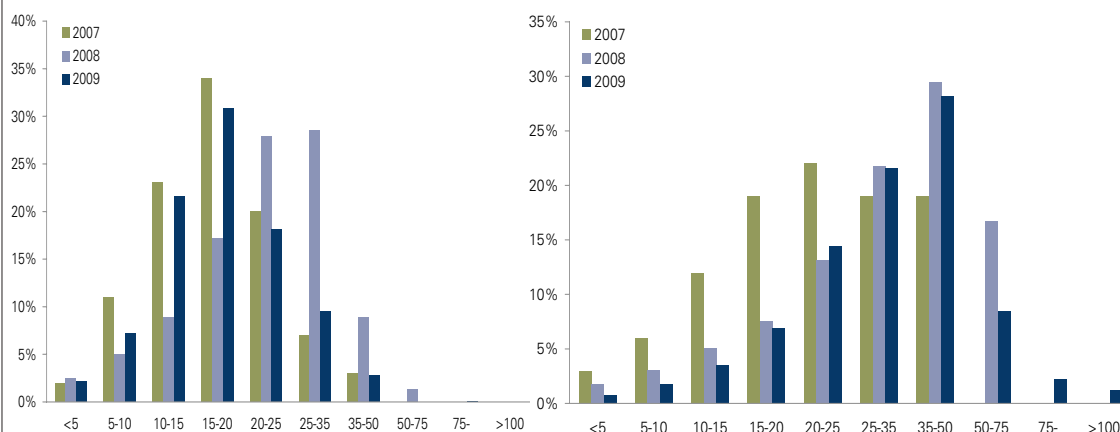
Expectations for global CO₂ price level in 2020, in EUR (left) and USD (right). N=1966.



Source: Point Carbon

Figure 4.13: EUA price forecasts, 2010 and 2020

Expectations for EUA prices in 2010 (left) 2020 (right). N=968 (2009).



Source: Point Carbon

expectations on the EUA price dynamics, influenced by a strict phase 3. Respondents seem to expect that the fundamental supply/demand balance in the long term will push prices up in the EU ETS. It is somewhat surprising that the long term expectations on the global CO₂ price is more influenced by the current circumstances – economic crisis and drop in EUA price – than the long-term expectations for EUAs.

“Long-term EUA price expectations almost unchanged

The stability of the long-term price expectations for the EUA indicates that the incentive to reduce emissions through long term investments is weighing quite heavily in the EU ETS and that the final decision on EU's energy and climate package was close to the original proposal

by the Commission in January 2008.

The global economic slowdown is doubtless casting a shadow over the carbon market as well – be that in the areas of the EU ETS, Kyoto flexible mechanisms or global climate negotiations.

At the same time, the results of our 2009 survey, as presented in this report, demonstrate that participants in the world's carbon markets are confident in the long-term future of emissions trading as an instrument to address the global climate crisis.

While lower carbon prices are expected in the near term, and emissions as well as project investments in some segments are down, respondents expect the market to get back on its feet in the not-too-distant future.

The Dec-10 EUA price and the Copenhagen COP may not be expected to match previous

expectations, but faith in carbon prices for 2020 is unshaken.

“Weak near-term outlook; optimism for US and longer term

Just as importantly, our survey shows that emissions trading is finally coming home to the US, where it was invented. On the ground, RGGI is already showing strong growth, while our respondents expect both cap-and-trade and international re-engagement from the Obama administration. Thus, developments in the US constitute the principal bright spot for the carbon market in 2009.

Colophon

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