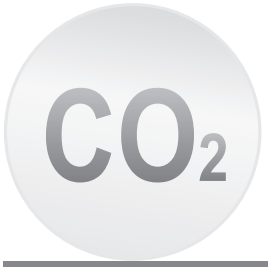

CARBON 2011

TO THE POINT

Point Carbon's sixth annual survey shows a slight overall dissatisfaction with the Cancun outcome. However, the Cancun COP is viewed much less negatively than the Copenhagen COP one year earlier.

The survey garnered 2,535 responses from 101 countries. Among the respondents, 43% stated that they were involved in trading various compliance carbon allowances and credits, or owned such carbon instruments.

Evaluations of the EU ETS are getting more favourable. The EU ETS is held as the most cost-effective instrument for reducing emissions in the EU by 49% of respondents, the highest level to date.

A record 59% of respondents in EU power and heavy industry sectors say that the EU ETS has already caused them to reduce their own emissions. This is up from 54% last year. However, the reductions caused by the EU ETS are typically seen at 10% or less compared to business as usual.

Power sector respondents feel they know their EU ETS phase 3 allocation the best. Among all sectors, the share saying they know their allocation "exactly" or "fairly well" is up from 22% to 28%, while the group of those who are "very uncertain" or "have no idea" is down from 37% to 25%.

The CDM still represents an immature market, according to respondents. Only 18% agree with the statement that "the CDM market is mature." The share considering the CDM market the most cost-efficient way to reduce emissions in developing countries is 31%, against 34% who disagree.

More than half of respondents involved in the primary CDM market say they have invested or will invest in least developed countries (LDCs). Over the next three years, the same respondents find it most likely that 50-100 CDM projects in LDCs will be registered.

A majority of respondents expects further qualitative restrictions in the EU ETS. A total of 56% think the EU will ban project types beyond HFC and adipic acid N_2O.

In California, most respondents expect a carbon price of $10-15/t in 2012. Most also expect prices to range between $17/t and $50/t in 2020. RGGI participants expect a tighter cap from 2012.

In the New Zealand ETS, 41% of respondents say they are short. The survey shows close to no indications of carbon leakage caused by the NZ ETS.

Among emerging offsets, respondents find reduced deforestation (REDD) credits most likely to emerge by 2016. NAMA credits are seen as the least likely, with bilateral, sector and EU domestic offsets in the middle.

Respondents expect a global carbon price of €31/t or $35/t in 2020. This is unchanged from 2010.

A majority (54%) expect a second Kyoto commitment period. CDM project developers are the most likely to expect continued Kyoto targets, while Japanese and New Zealand emitters are the least likely to do so.

This report was published at Point Carbon's 7th annual conference, Carbon Market Insights 2011 in Amsterdam, 1-3 March 2011. For more information, see www.pointcarbon.com

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About the report:
This report was written and edited by Endre Tvinnereim, Elizabeth Zelljadt, Natalia Yakymenko and Emilie Mazzacurati. For citations, please refer to: Point Carbon (2011): "Carbon 2011." Tvinnereim, E. et al. 48 pages.

EXECUTIVE SUMMARY

Over the past year, the world has moved closer to the end of the first Kyoto commitment period (2008-12), and the first period is looking increasingly likely to be the last. While the EU is forging ahead with preparations for the third phase of its emissions trading scheme (ETS), the US Congress has all but buried cap-and-trade at the federal level for the foreseeable future.

Point Carbon's sixth annual survey ran from 27 January to 14 February 2011 and garnered 2,535 responses from 101 countries, using a web-based tool. Among the respondents, 1,064 or 43% stated that they were involved in trading various compliance carbon allowances and credits, or owned such carbon instruments. The three top groups of respondents were CDM developers/aggregators, financials and emitters covered by the EU ETS.

We see a clear upswing in participants' evaluations of the EU ETS this year. The share of respondents considering that the EU ETS is the most cost-effective instrument for reducing emissions in the EU is up to 49%, the highest level on record. By contrast, 21% disagree or disagree strongly with this statement.

We also see that a record 59% of respondents in EU power and heavy industry sectors say that the EU ETS has already caused them to reduce their own emissions. This is up from 54% last year. Add to this the 9% saying that the EU ETS has prompted reductions to be planned, and we see that more than two-thirds report an effect of the EU ETS on current or future emissions. However, the reductions caused by the EU ETS are typically quantified at 10% or less below businessas usual.

Looking ahead to phase 3, respondents in the EU ETS know their level free allocation better than last year, with the power sector overall appearing to have the most information – probably because most power companies will be 100% short. Among all sectors, the share saying they know their allocation "exactly" or "fairly well" is up from 22% to 28%, while those who are "very uncertain" or "have no idea" are down from 37% to 25%.

The end of 2012 is a major deadline for the CDM market. From 2013 onwards, the EU will not accept credits from CDM projects registered after that date, unless they come from least developed countries (LDCs). We see that more than half of respondents involved in the primary CDM market have invested or will invest in LDCs.

Over the next three years, this group collectively finds it most likely that 50-100 CDM projects in LDCs will be registered, a small number compared to the almost 3,000 CDM projects that have been registered to date.

Our survey further shows that more than half of developers and investors say they are involved in or planning to get involved in programmes of activities (PoAs) under the CDM, an approach considered suitable in many LDCs. Moreover, a majority of respondents expects further qualitative restrictions in the EU ETS. A total of 56% think the EU will ban project types beyond HFC and adipic acid N_2O.

We have also introduced a number of new questions about ETSs outside Europe and emerging offsets. In California, where an ETS is expected to launch in 2012, most respondents expect a carbon price of $10-15/t in that year. There is also a general consensus that prices in 2020 will be seen between $17/t and $50/t in 2020. RGGI participants expect lower prices, but still an increase over current levels (below $2/short ton), in part due to expectations of a tighter cap starting with the 2012-14 compliance period.

In July 2010, New Zealand expanded its domestic ETS to cover fuels and industry. Among current market participants, 41% of respondents say they are short, but almost half say the ETS has not caused them to reduce emissions. At the same time, the survey reveals almost no carbon leakage from the NZ ETS.

Moving on to emerging offsets, we asked survey takers which new mechanisms were likely to produce tradable offsets by 2016 and 2020. The overall sense is that the market considers REDD credits most likely, followed by bilateral credits, EU domestic offsets and sectoral credits. NAMA credits appear at the bottom of the list.

Amid increased independence between market segments, we still see that 60% of respondents expect a global reference price for carbon in 2020. This is down from 73% in 2008 and 66% last year, but still represents a comfortable majority of respondents. The price expectation is unchanged, however, at €31/t or $35/t in 2020.

Despite the pledge-and-review framework that we see emerging, a majority of survey participants expect continued Kyoto commitments for rich countries. Not unexpectedly, CDM and JI project developers are the most bullish on Kyoto, while Japanese and New Zealand compliance entities show the least faith in future quantitative targets under the Protocol.

FOREWORD

I have accepted the invitation to contribute a foreword to this year's report as I am a regular, interested and attentive consumer of the survey results.

This year's results again give interesting food for thought. In view of my role working for the regulator of the world's leading carbon market, however, I will abstain from giving a personal or institutional view of what I find surprising or less surprising in the results. Instead I will take the opportunity to look back at 2010 and forward to the rest of 2011.

In 2010 two major trends characterised the world of climate policy and carbon markets. Firstly, on the domestic front we saw a failure to move forward with climate legislation in various industrialised countries, in particular the US. The lack of progress in the US Senate means a window of opportunity to pass climate legislation and lay the legal foundations for a federal carbon market there has closed for the coming years. The setback in the US also seems to have taken the momentum out of efforts by Japanese lawmakers to pass carbon market legislation.

Secondly, the international process showed renewed signs of life with the Cancun agreements in December. These endorsed all the key elements of the Copenhagen Accord, including the goal of keeping global warming below 2°C, and firmly anchored the domestic pledges of action to meet this aim while also acknowledging that they will need to be further improved.

However, this success has arisen from international climate policy endorsing domestic policy, and it is not clear how much further some countries are willing to go in terms of an international agreement. Last year's developments may be more a reflection of the high domestic and low international expectations that preceded them.

Turning to 2011, much will stay the same, in particular with the European carbon market continuing to account for the lion's share of turnover in the international carbon market and remaining the stable core of the carbon market in a rather uncertain environment outside Europe.

At the same time this may be the crunch year that determines whether multilateral efforts to reform existing crediting mechanisms and create new ones will succeed - or indeed whether they will even be pursued further. The Durban climate conference in December could see the final attempts to adopt an enabling decision endorsing new market mechanisms and thereby avert a world of fragmented crediting standards.

As a first sign of what such a future may look like, we already witnessed Japan taking initial steps towards bilateral crediting mechanisms in 2010. The EU's legislation allows for establishing new sectoral crediting mechanisms as well as setting standards for credits since 2009. Europe's recent decision to phase out recognition of most industrial gas credit categories in 2013 is also indicative of the growing need to improve multilateral crediting mechanisms.

This year many are looking with great expectations to China. Through its dominance of the CDM China has become the second-biggest player in the carbon market after Europe. Throughout 2010, China made significant steps towards carbon trading pilots. Starting a transition from being the leading supplier of carbon credits to becoming a more complete user of the carbon market would be an important step change.

We now await with keen interest what the 12th Chinese Five Year plan will say in this regard. In the absence of US Congress approval of a federal cap-and-trade system, maybe the most important decisions for the future of the international carbon market to be taken outside Europe this year will come from Beijing.

Peter Zapfel,

DG Climate Action,

European Commission

The foreword reflects the personal opinion of the writer and does not constitute an official view of the European Commission.

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1. INTRODUCTION

The past year has been an extraordinary one in the global greenhouse gas markets and in international negotiations over climate change. The US has frozen its plans for federal cap-and-trade, but California will be launching its own state programme in 2012 and other US and Canadian jurisdictions are planning to follow. The Regional Greenhouse Gas Initiative, covering states from Maryland to Maine, has been operational on the East Coast since 2009, and steps may be forthcoming to tighten this oversupplied market.

In Europe, the EU has made major decisions on free allocation benchmarks and auctioning for phase 3 (2013-20) of its emissions trading scheme (ETS). Significantly for the market in emission reduction project credits, Europe has also decided which types of credits from the Clean Development Mechanism (CDM) and Joint Implementation (JI) to exclude in phase 3.

Specifically, credits from HFC-23 and adipic acid N_2O projects may not be used to cover emissions that take place after 1 January 2013. The EU also requires developers to register projects before the end of 2012 – unless they are based in least developed countries – for their credits to be eligible. These two decisions have already changed the pace of the CDM market, encouraging compliance buyers to surrender HFC and adipic acid N_2O credits early and spurring a rush to register projects.

Moving east, New Zealand expanded its ETS on 1 July, 2010, to include fuels and industry. Plans for domestic carbon trading have appeared in Japan, Korea, Australia and at the provincial level in China. Notably, the new Chinese five-year plan mentions carbon trading as a key instrument for controlling the country's greenhouse gas emissions.

> "1,064 of 2,535 respondents involved in carbon trading

At the international level, the Cancun climate summit in December 2010 healed many of the wounds from the controversial Copenhagen conference one year earlier. Although the policy framework around the global carbon market has changed from a top-down to a bottom-up approach after Copenhagen, all major emitters – including the US and China – are determined to develop a carbon policy regime with wider participation than the Kyoto Protocol.

In this context, we present our sixth annual report on the global carbon market. The main data source for the report is our Carbon Market Survey, which aims to gather the views of carbon market participants and observers across the globe. The survey ran from 27 January to 14 February 2011 and garnered 2,535 responses from 101 countries, using a web-based tool. Responses were gathered by direct invitation and through various links distributed in newsletters and on www.pointcarbon.com.

Among the respondents, 1,064 or 43% 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 CDM project developers, aggregators and others involved in the primary CDM market. These make up 468 of the respondents involved in carbon trading, or 46%. Second comes the group of financial institutions, banks and funds globally, with 325 respondents or 32%. In third place, we see companies with emissions regulated under the EU emission trading scheme (EU ETS), counting 274 respondents or 27% of all respondents directly involved in the carbon market.

Note that multiple responses were possible on this question. Thus, for example, some respondents may have reported representing both an EU ETS compliance entity and an investor in the primary CDM market.

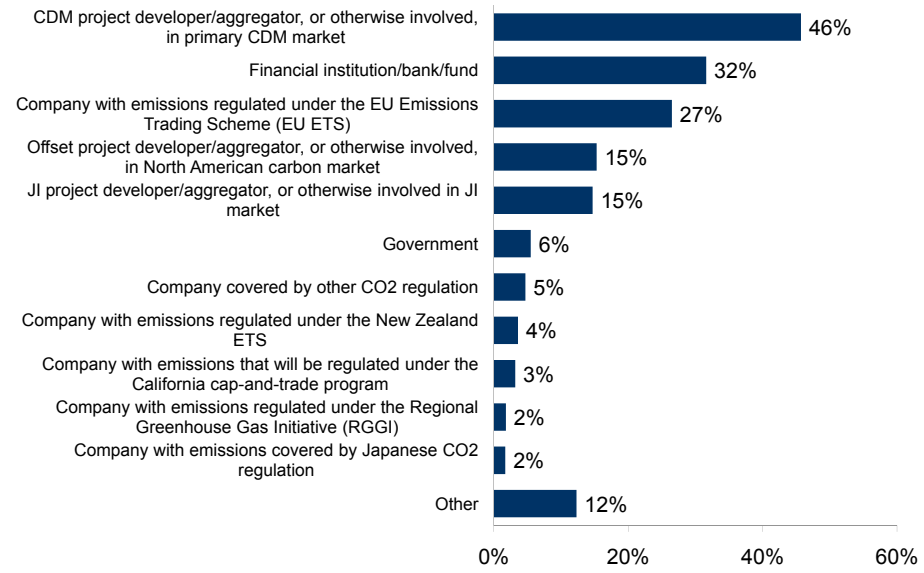
Below the top three, we see North American offset developers and aggregators, accounting for 160 respondents or 16%, then Joint Implementation (JI) project developers/aggregators/participants (15% of respondents involved in carbon markets) and governments (5%). Companies covered by carbon trading programmes outside Europe came next, with representatives from the New Zealand ETS (4%), California's planned ETS (3%), the Regional Greenhouse Gas Initiative (RGGI, 2%) and Japanese companies covered by CO_2 regulation (2%).

Figure 1.1 shows the distribution of respondents among entities trading carbon.

Similarly to last year, 64% of our respondents have a degree in either engineering or finance/economics. Almost 65% are between the ages of 25 and 44. The largest number of respondents is found in the US

Figure 1.1: Trading carbon

Categories of respondents involved in buying/selling/holding carbon instruments (N=2,459)



Source: Point Carbon

— a total of 372. The next countries with more than 50 respondents are the UK (223), India (111), Canada (107), Australia (100), Germany (93), China (77) Norway (70), Switzerland (58), Brazil (56), France (55) and New Zealand (52).

It should be noted that this survey is conducted among individuals that are significantly more than average interested in carbon trading. 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 and thus susceptible to bias. All interpretations of the survey should therefore be read bearing in mind that the sample has not been drawn in a representative way. Furthermore, inferences to general public opinion should be avoided.

2. EU ETS

In the penultimate year of the EU ETS phase 2, we have decided to add more questions about preparations for phase 3, while retaining the most important retrospective questions that we have asked for many years. For example, does the EU ETS work by spurring emission reductions and influencing long-term investments, or does it simply cause carbon leakage? What prices do compliance entities require to sell EUAs, and what spreads do they expect between eligible and ineligible CERs in phase 3? What do companies know about their phase 3 allocation, and do they expect to be long or short?

2.1. Does the EU ETS work?

With lowered prospects for an extension of Kyoto commitments for Annex 1 countries, the EU ETS is increasingly influencing global GHG reduction efforts. Not only is the EU ETS the key instrument for reducing emissions in Europe, it also affects reductions in developing countries through its qualitative restrictions and promotion of sectoral crediting.

Looking first at the functioning of the EU ETS in Europe, how well does the system work? We have asked survey respondents to evaluate the EU ETS for six years in a row, with the results given in Figure 2.1. Respondents are asked to provide their evaluation of two statements on a scale from 1 ("completely disagree") to 5 ("completely agree"). We count options 4 and 5 as agreement.

We see a clear upswing in participants' evaluations this year. The share of respondents

considering that the EU ETS is the most cost-effective instrument for reducing emissions in the EU is up to 49%, the highest level on record. By contrast, 21% disagree or disagree strongly with this statement.

The share of respondents thinking that the EU ETS is a mature market is also up, reaching 37% this year after continuous growth from 10-11% percent in 2006-07. Respondents disagreeing with the statement that the EU ETS is mature make up 28%. Fewer than 10% of respondents said they had no opinion on the matter. It should be noted that the survey took place during the same period as news stories about EUAs being stolen from several EU registries appeared in media across Europe. Against this backdrop, the increasing share of respondents seeing the EU ETS as a mature market is somewhat surprising.

While the EU ETS increasingly appears to be the most cost-effective instrument for reducing emissions in Europe, and also a more mature market, how well does it deliver actual emission reductions inside the EU? At a more fundamental level than trading, the EU ETS cannot remain politically viable unless it can be shown that companies are reducing their GHG emissions.

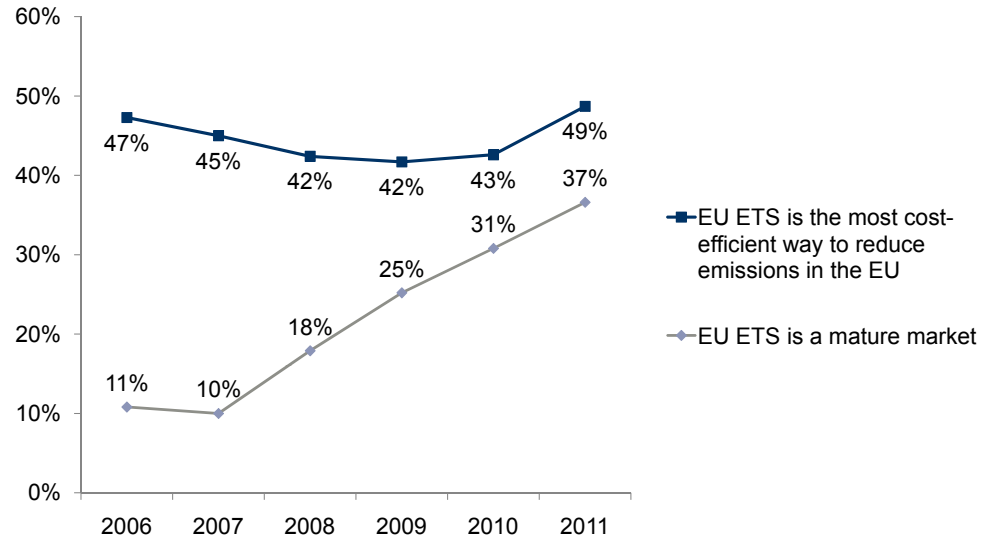
An increasing number of survey respondents say their company has reduced emissions as a result of the EU ETS. As in previous years, these responses are drawn from EU ETS emitters only (see Figure 1.1 above). A full 59% of respondents from this group say that the EU ETS has already caused emission reductions in their firm. This is up from 48% in 2007, the first year in which this question was asked. Add to this the 9% saying that the EU ETS has caused reductions to be planned, and we see that more than two-thirds report an effect of the EU ETS on current or future emissions. Nevertheless, the quarter of respondents for whose companies the EU ETS has had no effect on emissions is virtually unchanged since last year.

> “Increase in internal abatement under EU ETS

In what EU ETS sectors do we see the most GHG emission reductions? The power sector is generally where the CO_2 price has the greatest impact on emission levels. However, when it comes to the number of responses, the distribution of abatement

Figure 2.1: Assessing the EU ETS

Share of respondents agreeing with the given statements, given as options 4 and 5 on a scale from “strongly disagree” (1) to “strongly agree” (5). All respondents except those based in North America. N=2,146.



Source: Point Carbon

action remains relatively uniform across most EU ETS sectors, as displayed in Figure 2.2b. The share of respondents saying that the EU ETS has already caused emission reductions ranges from 50% ("Other" sectors) to 71% (Cement, lime and glass).

Note that the pulp and paper sector had only eight respondents this year, implying that the survey is an uncertain indicator of abatement in this sector. The aviation sector (not shown) only had four respondents, of which one said that the EU ETS had caused reductions to be planned whereas the remainder reported no reductions.

Whether the EU ETS has caused emission reductions is one question, the size of these reductions another. A few big companies reducing a lot could be more valuable than many smaller companies reducing a little. Indeed, the purpose of emission trading is not to spread reductions across participating firms, but to identify the low-cost reductions and thus minimise the cost of cutting emissions.

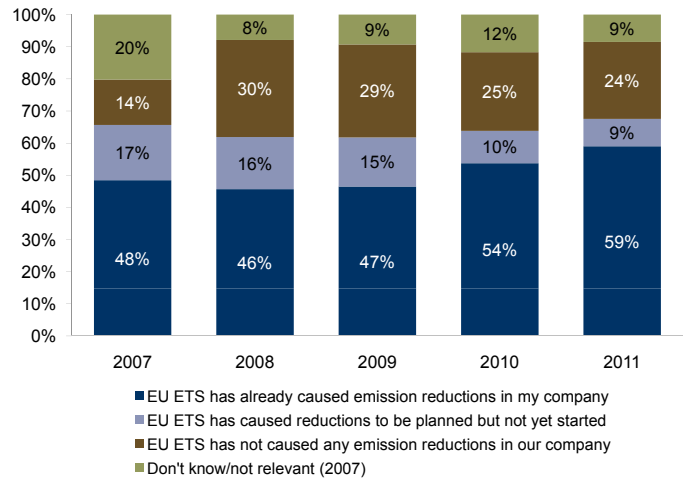
Last year we asked about the emission reductions caused by the EU ETS: "To what extent are they incremental improvements and to what extent do they represent radical conversion to low-carbon equipment?" We concluded that most installations had probably implemented incremental reductions, given that overall ETS emissions were declining only gradually.

This year we asked respondents to quantify the emission reductions caused by the EU ETS. The question went to all the 138 respondents who reported that the EU ETS had caused emission reductions in their companies.

As Figure 2.3 shows, the most frequent response was that emissions were 1-5% below where they would have been without the EU ETS in the three years from 2008 to 2010. Among substantive responses (those other than "don't know/cannot

Figure 2.2a: EU ETS and internal abatement

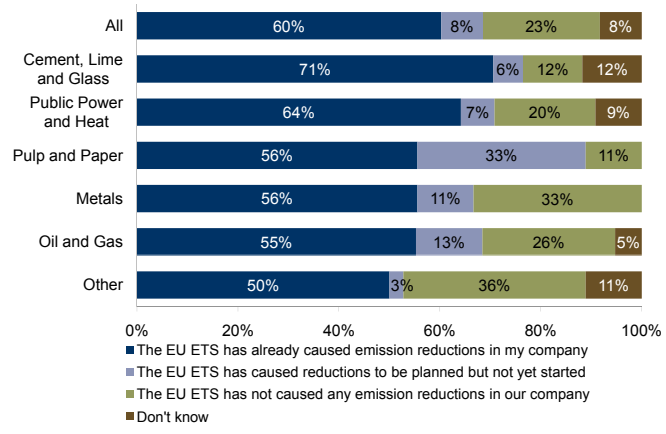
Companies covered by the EU ETS. N=234



Source: Point Carbon

Figure 2.2b: EU ETS and internal abatement by sector

Companies covered by the EU ETS. N=234



Source: Point Carbon

answer"), these make up almost half. This supports the conjecture we offered last year: reductions caused by the EU ETS are usually incremental rather than radical.

Beyond emission reductions at existing plants and machinery, a carbon price affects long-term emission trends by influencing investment decisions. Facing carbon costs, firms may choose new capital investments that are more expensive, but emit less – an important result, given that power plants or industrial installations will continue operating for decades. But carbon costs may also induce another response – moving operations to areas where there is no price on GHG emissions, a situation known as carbon "leakage."

Does the EU ETS cause carbon leakage? Are investment decisions more generally affected by the price of carbon? We now have five years of responses to such questions that allow us to see trends in these two areas.

In the survey, we ask whether the respondent's company has moved, planned to move or considered moving production outside the EU ETS area because of carbon costs.

> "80% have not even considered moving production"

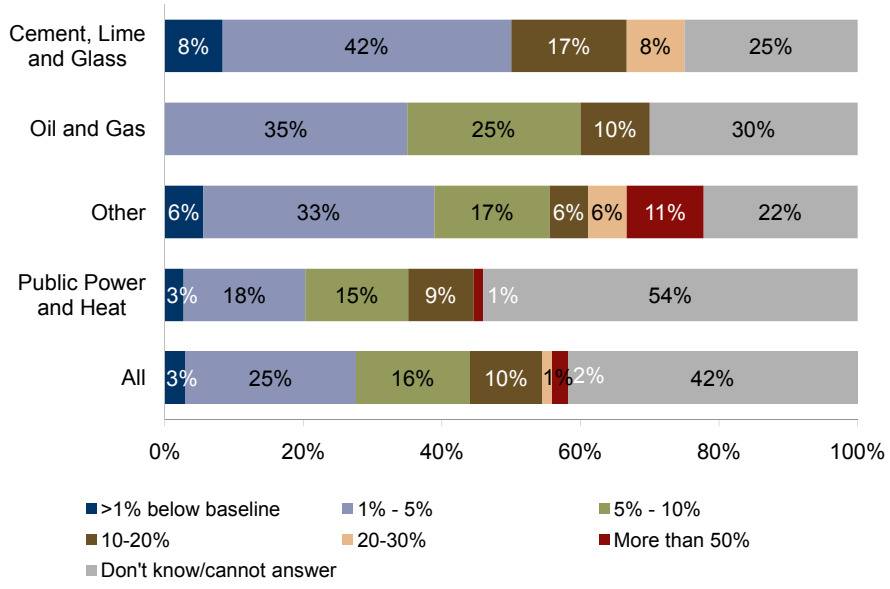
Figure 2.4a shows that 80% of respondents' companies have not even considered relocating outside the EU ETS area. This is not surprising, given that many companies – notably in the grid-bound power sector – cannot relocate. The trend is stable over time.

Our results, given in Figure 2.4b, also show that the metals sector is the one where the most respondents mention their companies have moved, planned or considered to move production out of the EU ETS area. Power and oil/gas are the sectors in which the fewest respondents mention relocation. These sectoral results are similar to those seen last year.

The EU ETS market has fallen victim to various types of crime over the past two years, including value-added tax (VAT) fraud and theft of EUAs from registries. In our survey, 9% of the emitters and European financials surveyed said they had witnessed specific instances of fraud, embezzlement, corruption or theft in connection with the EU ETS. Conversely, 79% said they had not, as shown in Figure 2.5. While not a huge number, it is still worrying that one in ten respondents

Figure 2.3: Extent of abatement

"By how much did your company reduce emissions in 2008-10, as a consequence of the EU ETS?" Respondents saying the EU ETS has caused abatement in their companies. N=134.



Source: Point Carbon

report having seen illegal activity in the EU ETS market.

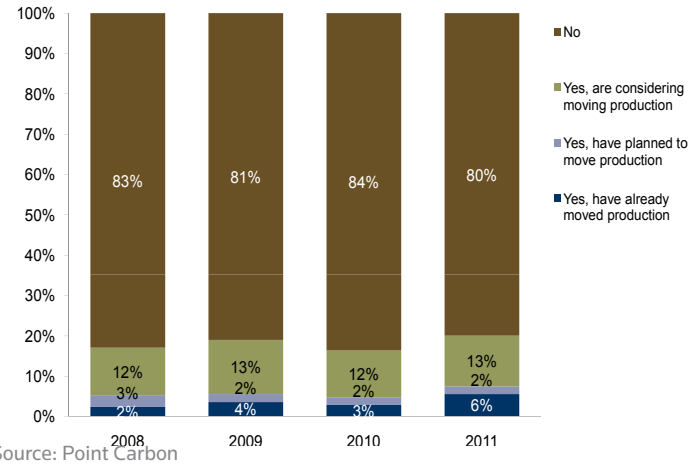
Widening the scope beyond the EU ETS, what do companies across the world say about the effect of carbon prices on long-term investments? As seen in Figure 2.6, the reported effect of the carbon price on new investments has increased somewhat over the past five years. Nevertheless, the main picture is stability, even as the number saying the carbon price is "decisive" has gone down by three percentage points since last year. In the EU, the power sector has the highest share of responses considering the carbon price a decisive factor for new investments, with 60% of respondents selecting this option.

> "Effect of carbon price on investments has increased somewhat

We also note that in Germany, 78% of respondents see the long-term carbon price as a decisive factor for new investments. In the UK, by contrast, only 24% of respondents selected this option. These percentages are almost identical to those we found last year. We also asked this question outside Europe, with the result that 33% of US emitters (in RGGI and California) considered the carbon price decisive, whereas the corresponding figure for Japan was 25%, similar to the UK result.

Figure 2.4a: EU ETS and carbon leakage

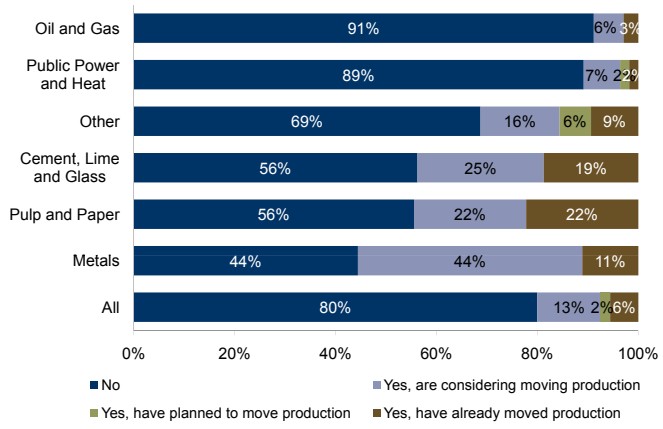
"Has your company considered moving production outside the EU ETS area because of carbon costs?" EU ETS companies. N=215.



Source: Point Carbon

Figure 2.4b: EU ETS and carbon leakage. Sector outlook

EU ETS companies. N=215

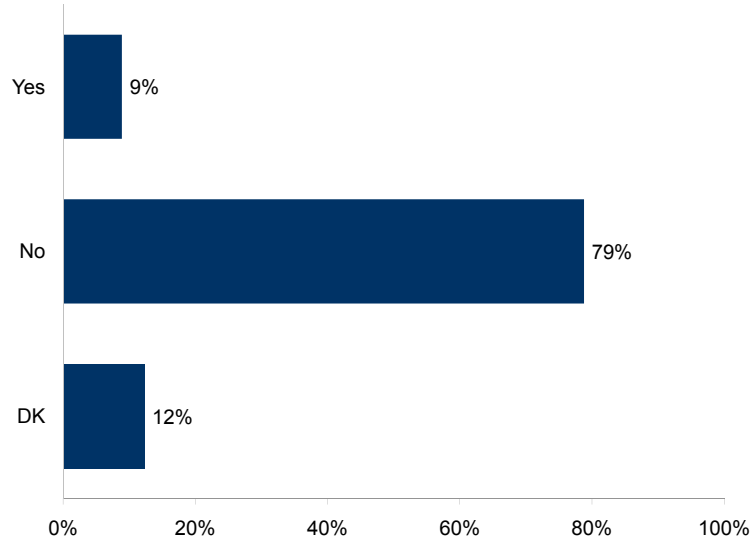


Source: Point Carbon

In terms of emission levels, 53% of respondents from companies with emissions above 10 Mt/year saw the carbon price as a decisive factor for new investments. This compares to 61% last year and 50% in 2009. Smaller emitters, producing less than 500 kt CO_2e/year, were less likely (33%) to consider the carbon price decisive. Note, however, that installation size correlates with sector in such a way that the power sector, where the carbon price matters more, also tends to have the installations with the highest emission levels. The effect of size on the perceived importance of the carbon price may thus be spurious.

Figure 2.5: EU ETS fraud

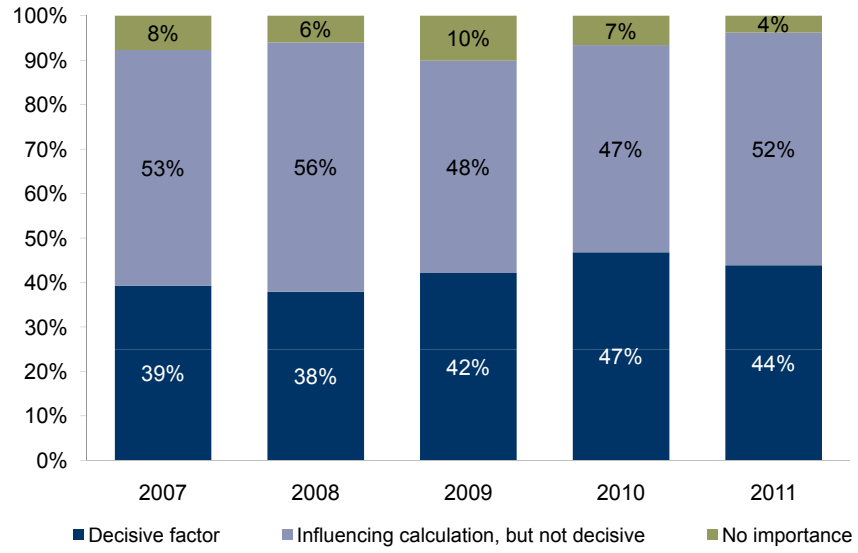
"Have you ever witnessed fraud, embezzlement, corruption or theft in connection with the EU ETS? This would apply to specific instances of illegality that you have experienced - not to observations about the EU ETS in general." EU ETS companies and EU financials. N=349.



Source: Point Carbon

Figure 2.6: Carbon pricing and investments

How important is the long-term carbon price (e.g. in 2020) for new investments in your industry? All companies covered by carbon regulation. N=287.



Source: Point Carbon

2.2. What remains of phase 2?

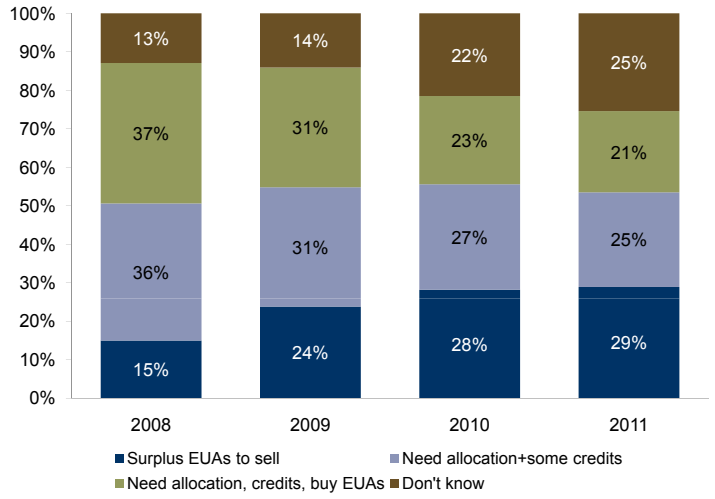
It has been clear for a long time now that phase 2 of the EU ETS is oversupplied with EUAs. This means that EU ETS operators will not only have enough EUAs to attain compliance over the 2008-12 period, they will also be able to bank significant amounts of EUAs into phase 3 (2013-20).

Figure 2.7a shows the evolution of EUA balances at respondent companies over the past four years. Two trends are clear: first, the number of respondents saying their companies have surplus EUAs to sell is increasing. Second, there is a decline in the number of companies needing to use credits or buy EUAs to meet their ETS target. This is consistent with more companies realising they are long, and fewer thinking they are short, in phase 2.

However, the share of respondents saying they don't know their phase 2 balance has increased markedly in 2010 and 2011. One interpretation is that respondents are increasingly starting to factor in phase 3, so that their need to bank means they are less willing to sell any surplus.

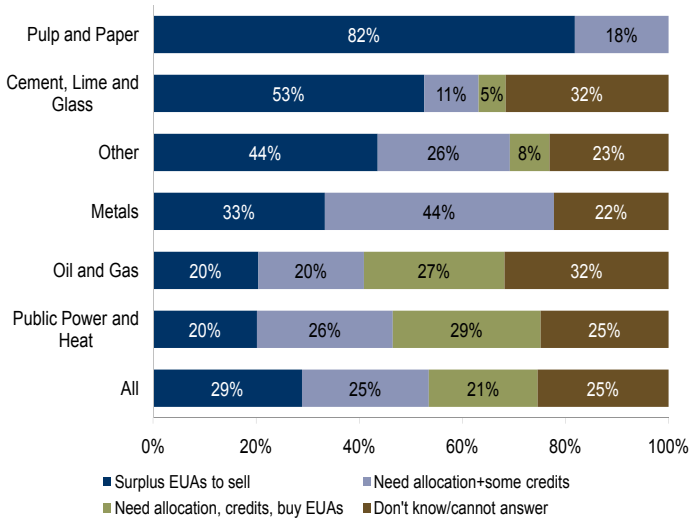
The surpluses seen at the installation level in phase 2 are due to high levels of free allocation to installations, notably in the industry sectors. How do these relationships between free allocation and expected phase 2 emissions break down by sector? Figure 2.7b gives some answers. Similarly to last year, the power/heat and oil/gas sectors show the fewest responses indicating a surplus in phase 2. However, almost one in five respondents in power and heat still state that his

Figure 2.7a: No longer as short.
EU ETS allowances and credit limits compared to expected emissions in Phase 2. EU ETS companies. N=256.



Source: Point Carbon

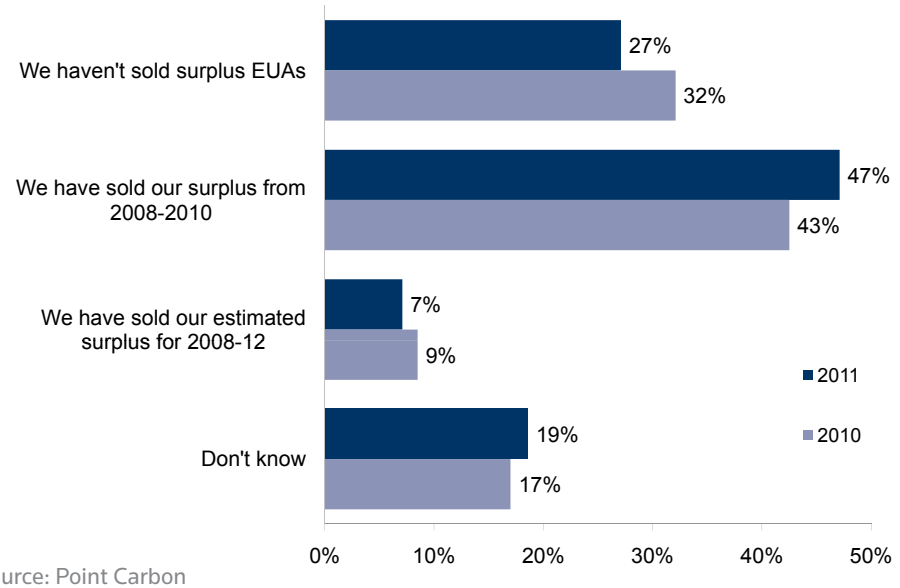
Figure 2.7b: No longer as short, by sector
EU ETS allowances and credit limits compared to expected emissions in Phase 2. EU ETS companies. N=256.



Source: Point Carbon

Figure 2.8: Selling the surplus?

"Has your company sold any of its surplus EUAs?" EU ETS companies with reported EUA surplus. N=70.



Source: Point Carbon

or her company has surplus EUAs in phase 2. This situation will change in phase 3 as auctioning becomes the rule, although power companies in Eastern Europe will still receive some EUAs for free.

Given that so many companies are long in phase 2, what is happening to their excess EUAs? As Figure 2.8 shows, more respondents report having sold part of their phase 2 surplus than last year. The size of the increase is five percentage points. At the same time, few respondents say they have sold their entire phase 2 surplus. This suggests that many compliance players are saving EUAs for phase 3, when targets are expected to be tougher.

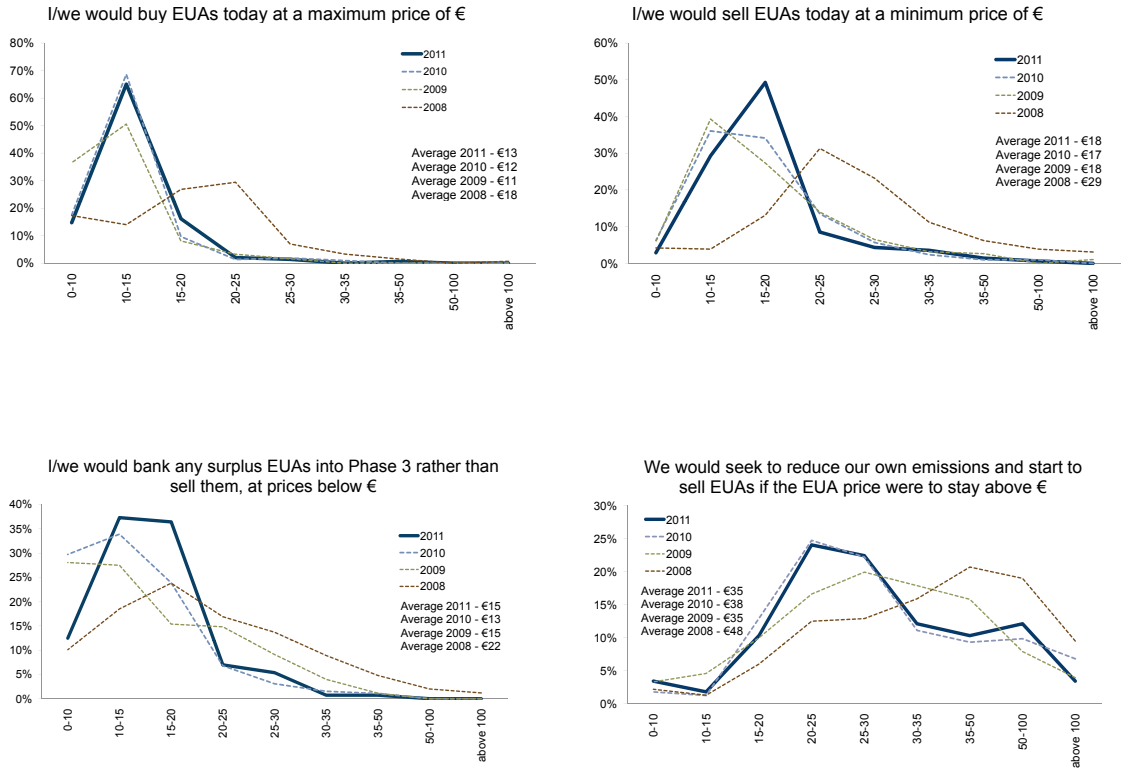
2.3. Price expectations

Phase 3 is moving closer, but emissions are still far below the ETS cap in phase 2. How does this influence price expectations and behaviour in the coming year? Companies with a surplus may choose to sell their excess EUAs, or may decide to bank them. Companies that are or will soon be short may take advantage of what might later turn out to be low carbon prices today by buying EUAs now before the full impact of phase 3 is felt on prices. And all companies covered by the EU ETS may choose to reduce their own emissions to make money on EUA sales or reduce outlays on extra allowances. A key determinant of whether to sell, buy or bank is price. At low prices, banking of EUAs could make sense, especially if one expects to be short in phase 3. Figure 2.9 (a-d) shows the various reported price levels at which respondents reckon their companies would buy, sell or bank EUAs; and where they would reduce their emissions for the purpose of selling EUAs. The thick lines in dark blue represent this year's responses.

> "More respondents report having sold their surplus for phase 2

As regards the prices at which respondents say they will buy or sell EUAs, there is little overall change since last year. On average, there is a willingness

Figure 2.9a-d: Should I buy, sell, bank or reduce emissions?
EU ETS companies. N=196



Source: Point Carbon

to buy at €13/t and to sell at €18/t. The main change is that 54% of respondents this year state the €15-20 range as the lowest at which they would sell EUAs, against 34% this year. This suggests a greater firmness – a smaller standard deviation – on the sell side.

This price survey also shows the prices at which respondents would either bank or reduce emissions. Since Point Carbon and other analysts expect EUA prices to go up in the coming years, it is not surprising that the average price for banking vs. selling has gone up – there is now more to gain sooner from banking.

Interestingly, the price at which companies will engage in internal abatement is down on last year, from an average €38/t to €30/t, possibly connected to the greater frequency of emission reductions seen above (Figure 2.2a). Note, however, that these price results are based on a limited sample of EU ETS respondents and that the margin of error is wide.

2.4. The role of credits

Emitters may surrender CERs and ERUs for compliance in the EU ETS instead of EUAs, up to a limit. Since these credits trade at a discount, it makes sense to surrender them early instead of EUAs. Furthermore, HFC-23 and adipic acid N_2O credits will not be eligible to cover phase 3 emissions, so operators covered by the EU ETS will likely seek to surrender such credits now, while they can.

> Early surrender of HFC and adipic acid N_2O credits likely

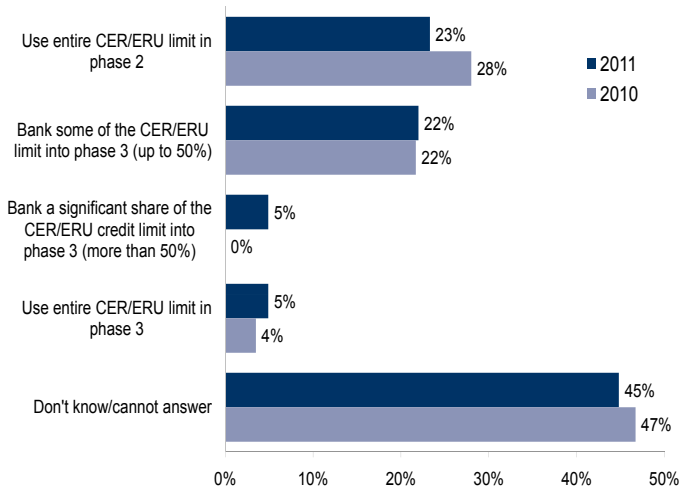
On the other hand, CERs have traded in backwardation for years – with the December 2012 delivery trading below front-year contracts. This means that firms could benefit in the long run if they avoid "using up" their credit limit until credits become cheaper. There is nothing preventing companies from saving their credit limits until the end of phase 3, although further qualitative limits could reduce the amount of eligible CERs. Such a strategy, however, would mean surrendering higher-value EUAs earlier, reducing liquidity.

> 23% say they will use their entire credit limit in phase 2

How do compliance players deal with this situation? As Figure 2.10 shows, 23% of respondents say they will use the entire credit limit in phase 2. An almost equal share will bank some of it into phase 3. This is a change from last year,

Figure 2.10: How does your company plan to use its CER/ERU credit limit?

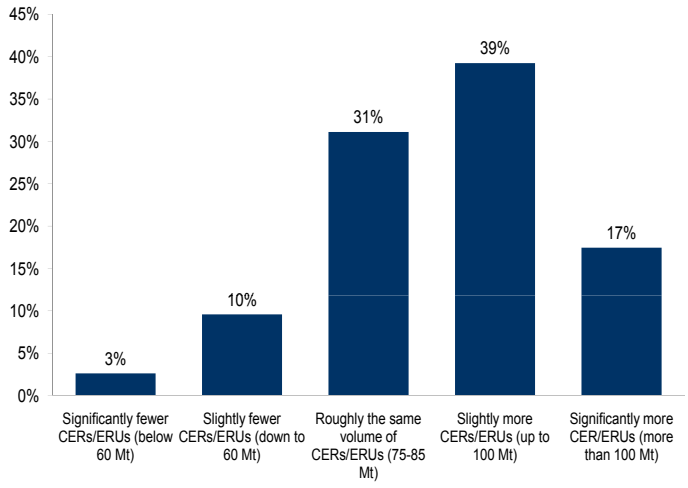
EU ETS companies. N=240.



Source: Point Carbon

Figure 2.11: Expectations for CER/ERU surrender in 2011

"How many CERs/ERUs will be surrendered for 2010 compliance in the EU ETS, compared to previous years?"Respondents include only CDM/JI developers and financials with European focus. N=562.



Source: Point Carbon

when 28% said they would use the entire credit limit in phase 2.

Interestingly, the EU's recent focus on qualitative restrictions in phase 3 has not caused firms to use up their credit limit in phase 2 while they can still surrender most types of credits. Rather, more players intend to save the option to use credits until the more stringent phase 3.

> 89 Mt is average forecast for CER/ERU use to cover 2010 emissions

We also asked CDM/JI developers and financials how many CERs they thought would be surrendered in 2011 to cover 2010 emissions. The EU ETS saw 81.7 million credits surrendered for 2008 emissions and 81.5 million to cover 2009 emissions.

The answer, given in Figure 2.11, conflicts somewhat with the finding that operators are less interested in using credits in phase 2. However, the average credit volume for 2010 compliance, as predicted by developers and financials, is only 89 Mt. This average forecast is less than 10% higher than the actual volume surrendered in 2009 and 2010.

For many smaller installations, a motivation to use up the credit limit early is to cash in on the spread between EUAs and secondary CERs. Given the looming qualitative restrictions on credits in phase 3, however, there is no longer a single sCER price to follow. Rather, the market distinguishes between commoditised sCERs, typically traded on exchanges and made up of HFC-23 and adipic acid N_2O credits, and other types of sCERs, which usually trade at a premium to exchange-traded CERs.

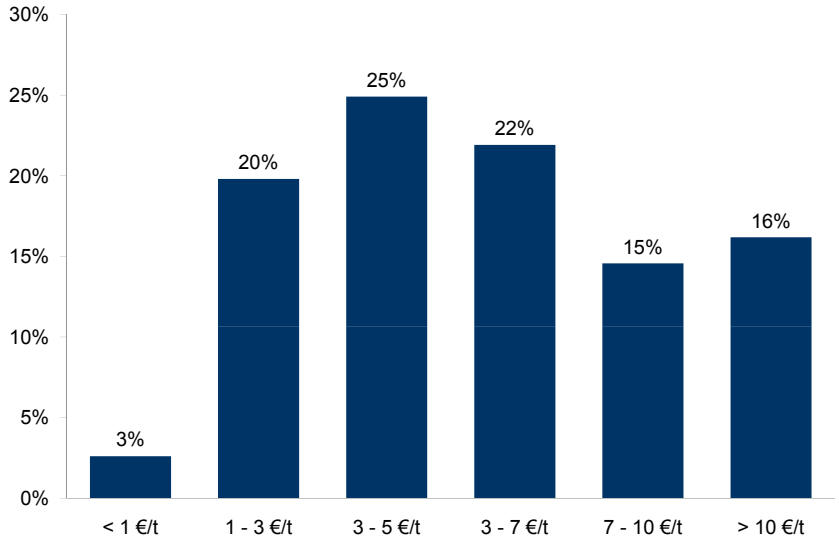
An eligible-ineligible spread is emerging, and we have asked this year's respondents how wide it is. Specifically, we ask what will be the price difference, at the end of 2012, between CERs that are eligible in phase 3 and those that are only eligible to cover phase 2 emissions. The answers are given in Figure 2.12.

> Wide array of predictions for eligible-ineligible CER spread

The answers we received about the eligible-ineligible spread displayed a ... wide spread, from €1/t to more than €10/t. The plurality of respondents expected a €3-5/t spread between HFC/adipic acid N_2O CERs and others, but as the figure shows, there were also significant numbers

Figure 2.12: Spread between eligible and ineligible CERs

"What do you think the spread between phase 3 eligible and non-eligible secondary CERs will be at the end of 2012?" EU ETS companies, CDM developers and financials with European focus. N=699. .



Source: Point Carbon

below and above that level. We will have to wait for the market to be the judge when more contracts for EU ETS eligible CERs are launched this spring.

2.5. Views on phase 3

In the course of 2010, EU regulators made some key decisions concerning the EU ETS phase 3. They adopted the auction regulation and benchmarks for free allocation and agreed on the qualitative limitations on CERs and ERUs discussed above. The latter are now only subject to a formality before they are also adopted.

> "28% know their phase 3 allocation "exactly" or "fairly well"

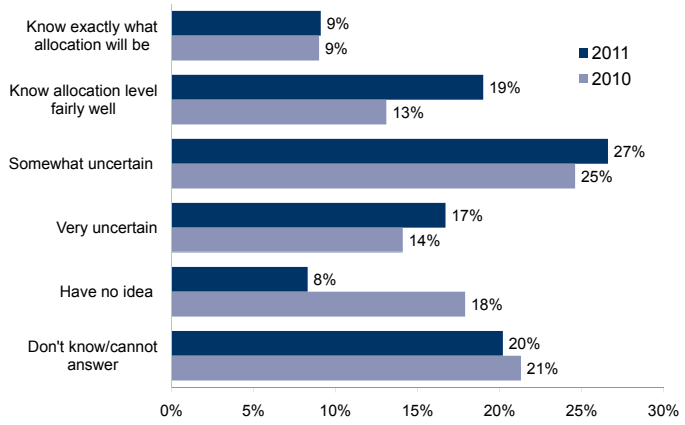
The benchmarks for free allocation to trade-exposed industries affect many companies. They are likely to have enhanced the understanding of how long or short various operators will be in phase 3.

We started last year asking how well respondents in the EU ETS understand their phase 3 allocation. At that time, only 22% of respondents said they knew their allocation exactly or fairly well. The power and heat sector dominated among those who knew their allocation, presumably because many knew they would get no free EUAs in phase 3 and because this sector is the most active in the carbon market.

This year, the share of respondents saying they know their allocation "exactly" or "fairly well" is up to 28%, as shown in Figure 2.13a. At the same time, those who are "very uncertain" or "have no idea" are down from 37% to 25%. Figure 2.13b shows that power sector respondents know their phase 3 allocation the best.

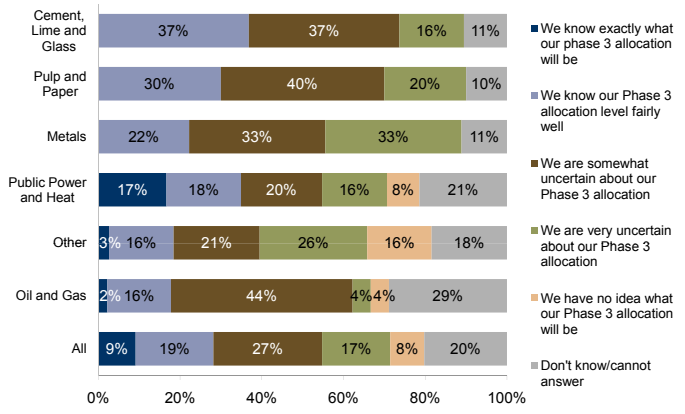
If more companies know their allocation now compared to last year, does this mean that they expect to be short? As Figure 2.14 shows, 73% of those surveyed among companies with an EU ETS compliance obligation expect to have higher emissions

Figure 2.13a: How well do you know your phase 3 allocation?
EU ETS companies. N=252



Source: Point Carbon

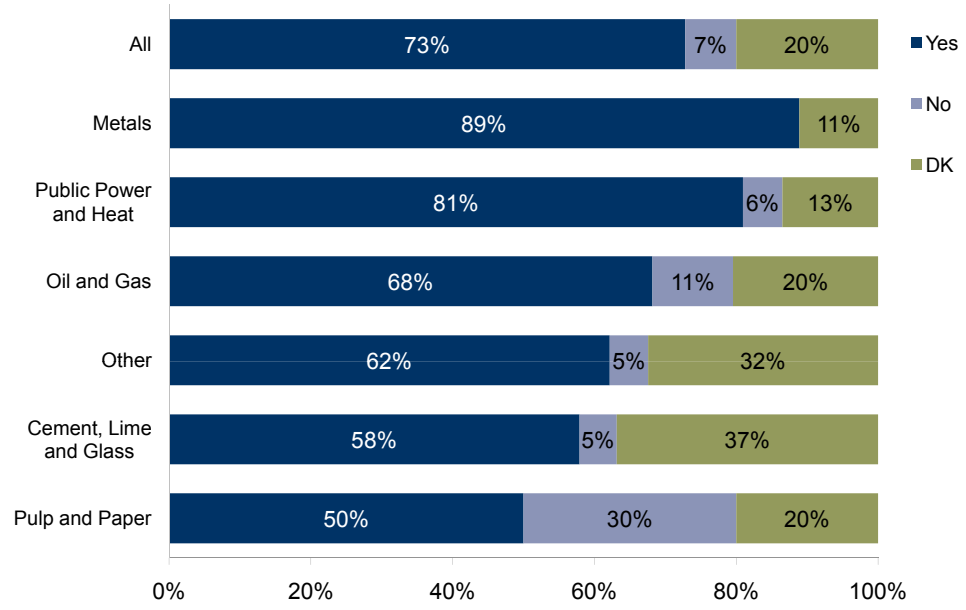
Figure 2.13b: How well do you know your phase 3 allocation? By sector
EU ETS companies. N=252



Source: Point Carbon

Figure 2.14: Does your company expect to be short EUAs in phase 3?

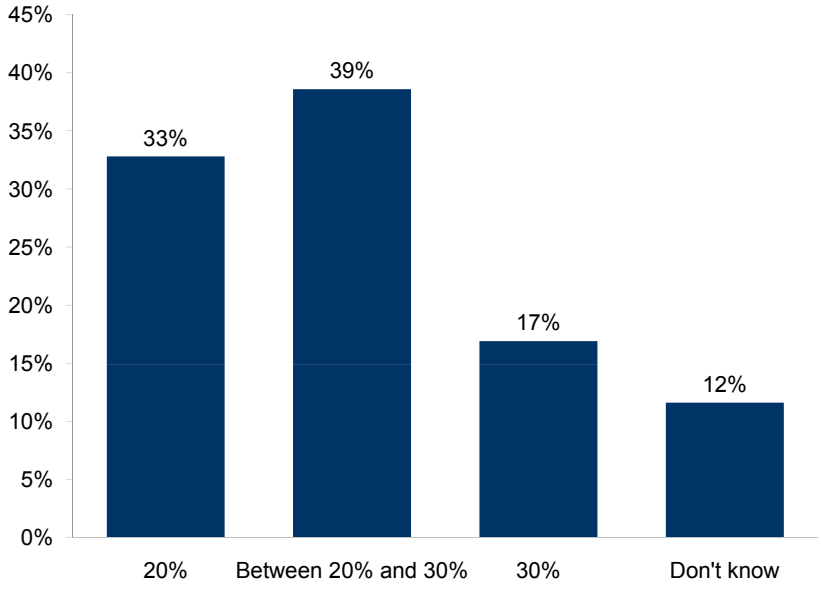
EU ETS companies. N=250.



Source: Point Carbon

Figure 2.15: Expected EU target for 2020

"What do you expect will be the EU's final greenhouse gas reduction target for 2020?" All respondents outside North America. N=1,978.



Source: Point Carbon

in phase 3 than the volume of EUAs given to them for free. This is up from 68% in 2010.

Not unexpectedly, 81% of respondents in the power sector expect to be short, whereas 68% of respondents in the oil/gas sector said the same. At the lower end of the scale we see shortages expected by 50% of those employed in the pulp and paper sector, and by 58% in cement, lime and glass.

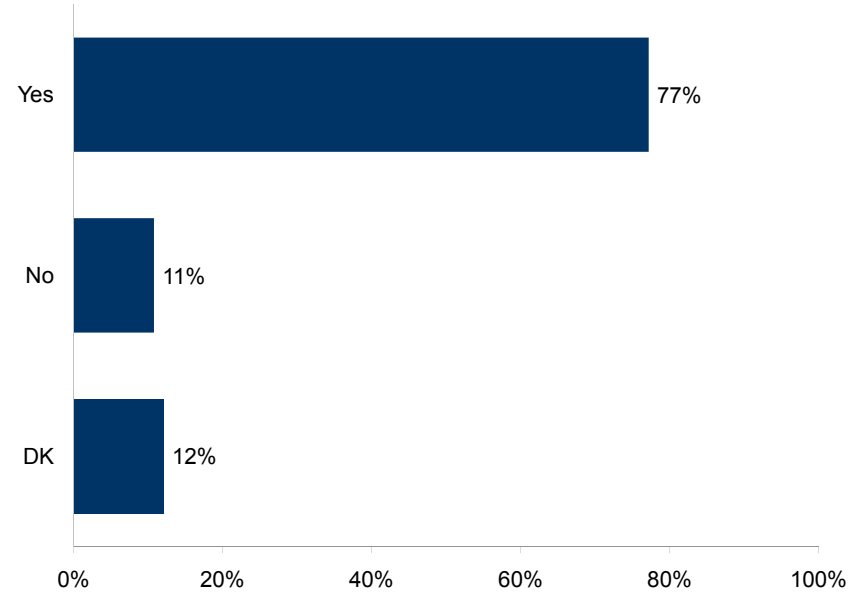
Crucially, the extent to which EU ETS operators will collectively be short in phase 3 – and therefore the price of carbon – depends on the EU's final GHG reduction target, which remains undecided. As Figure 2.15 shows, the modal (most frequent) response is that the target will be neither 20% nor 30%, but something in between. Almost forty percent select this option. This agrees with Point Carbon's assessment, as we see think that a 25% target is the most likely outcome. We also reckon that a 20% target is more likely than the 30% option.

> "81% of respondents in power sector expect to be short

Finally, beyond the phase 3 question, we have also added one on phase 4. Specifically, we have asked: Will the EU ETS exist beyond 2020? As Figure 2.16 shows, there is an overwhelming expectation that the EU ETS will go on – as is specified in the directive.

Figure 2.16: Expecting phase 4?

"Do you think the EU ETS will continue beyond 2020?" All respondents outside North America. N=2,102.



Source: Point Carbon

3. CDM

The CDM market is well-established, having been "created" as early as in 1997 by the Kyoto Protocol's Article 12. The CDM also involves more countries than any market segment discussed in this report, with sellers across the developing world and buyers or traders in all Annex 1 countries including the US. As noted above, almost half the respondents involved in carbon trading say they work for a project developer, aggregator or company otherwise involved in the primary CDM market.

> "CDM still seen as an immature market

However, the CDM market is changing. The EU, home to the largest buyers of CERs, wants to end the CDM in more advanced developing countries such as Korea, China and India. Japan, long frustrated with the mechanism's delays and low volumes generated, is forging ahead with an alternative, bilateral crediting mechanism for the post-2012 period.

3.1. CDM in 2010

How do market participants and observers evaluate the CDM over time? We have asked two questions about the CDM every year since 2006, see Figure 3.1. This year's answers, more or less unchanged from last year, indicate that respondents think the CDM is still an immature market.

The share of respondents considering the CDM market the most cost-effective way to reduce emissions has gone down slightly to 31%, while 34% take the opposite view.

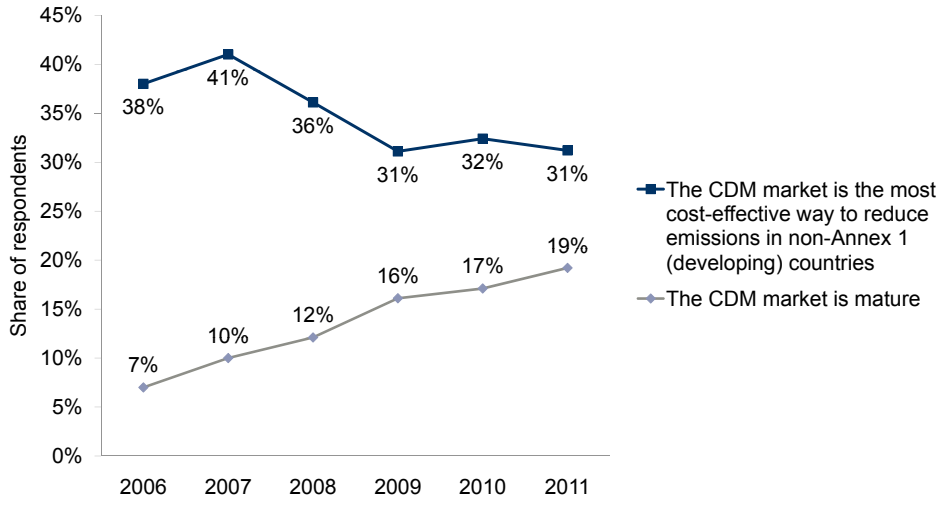
Similar to the questions about corruption in the EU ETS described above, we asked respondents this year and last whether they have witnessed fraud, embezzlement or corruption in connection with specific CDM or JI projects

> "One-third of respondents consider the CDM cost-effective

Figure 3.2 shows that 15% of respondents had seen instances of fraud, embezzlement or corruption

Figure 3.1: Evaluations of the CDM market, 2006-11

Share of respondents agreeing with the given statements, given as options 4 and 5 on a scale from "strongly disagree" (1) to "strongly agree" (5). All respondents except those based in North America. N=2,067.

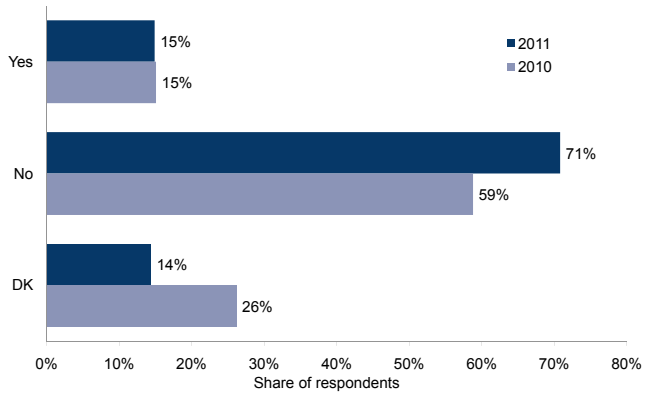


Source: Point Carbon

in connection with a CDM or JI project. This does not apply to the mechanisms in general, but only to specific projects where the respondent's company is involved or is considering involvement. The number is virtually unchanged since last year, whereas the number of respondents who say they have seen no such behaviour is up somewhat.

Figure 3.2: CDM/JI fraud?

"Have you ever witnessed fraud, embezzlement or corruption in connection with a CDM or JI project?" N=571



Source: Point Carbon

3.2. CDM and the 2012/13 transition

The end of 2012 is a major deadline for the CDM market. As discussed in the previous chapter on qualitative restrictions, the EU will not accept credits from CDM projects registered after that date, unless they come from least developed countries (LDCs). Consequently, it will be important for market players to know about both the registration levels before 31 December 2012 and the CDM potential of LDCs.

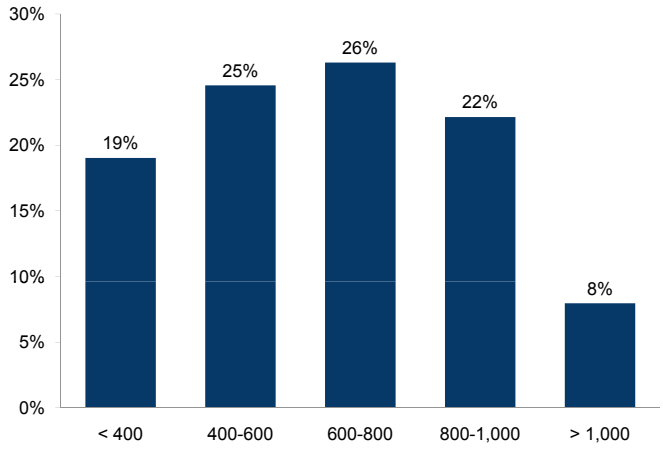
> "Respondents expect an average 640 registrations in 2011

In 2010, a record 702 projects were registered by the CDM Executive Board (EB). As figure 3.3 shows, respondents expect a close to similar registration level this year with most responses falling between 400 and 1,000 projects. The average number expected is 640.

Are investors interested in CDM projects that are unlikely to be registered before the end of 2012, and thus unlikely to yield EU ETS eligible credits (unless they are based in LDCs)? As Figure 3.4

Figure 3.3: Expected registration in 2011

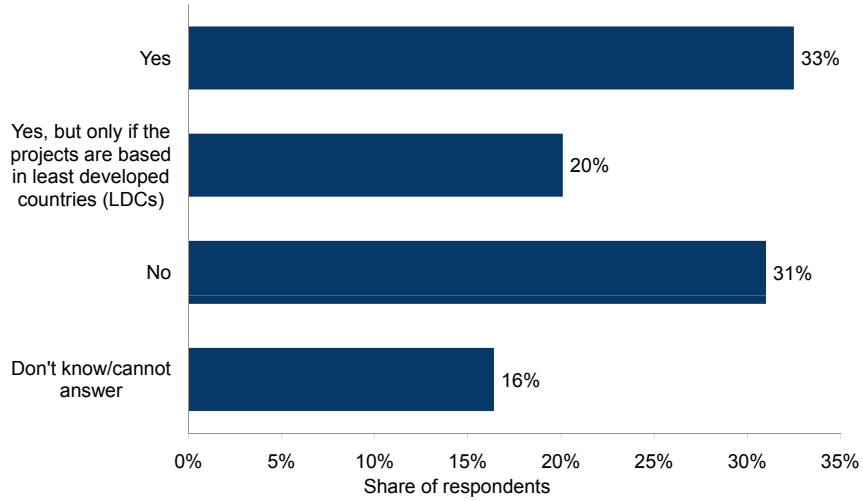
"How many CDM projects do you expect to be registered in the course of 2011?" CDM developers and financials. N=540



Source: Point Carbon

Figure 3.4: Investing in projects to be registered after 2012?

Is your company willing to invest in CDM projects that are unlikely to be registered before 2013? N=532.



Source: Point Carbon

shows, there is some appetite for such projects, as one-third of respondents answered in the affirmative. This number is surprisingly high given the strict eligibility criteria imposed by the EU. However, the number could reflect that project developers also anticipate demand from other countries (mainly Japan).

> 33% are willing to invest in projects likely to be registered after 2012

The fact that our sample is dominated by project developers likely explains the high number of positive responses. Financials were significantly more guarded, with only 18% of European respondents in the sector saying they would invest in post-2012 projects.

One in five respondents said they would invest in projects registered after 2012, but only if the projects were based in LDCs and would thus produce CERs eligible in the EU ETS.

As Figure 3.5 shows, more than half the 530 respondents asked about projects in LDCs say that they have invested or are planning to invest in them. However, such projects typically face many barriers, as governments lack the necessary institutional framework to support CDM projects and the projects themselves involve small emissions sources from which it is not possible to gain a lot of reduction credit through efficiency or other improvements.

One way of overcoming the latter barrier is to aggregate emissions reduced from replicable activities, for example large numbers of efficient cook stoves or solar water heaters. Projects carried out in this way often take place under the framework known as programmes of activities (PoAs).

> Half of respondents involved in PoAs and LDC projects

As Figure 3.5-3.6 shows, half of the developers and investors surveyed are already involved PoAs, much the same result as for projects in LDCs. Note, however, that the respondents reporting investments in LDCs are not necessarily the same as those involved in PoAs – of the 173 responding "yes" to the former question, only 66 gave the same answer to the latter question.

What does this mean in terms of the actual number of EU-eligible projects? At the time of the survey, 20 CDM projects had been registered in LDCs. Figure 3.7 shows how many LDC projects our survey participants expect to

be registered over the next three years (up to the end of 2013).

The most frequent response is between 51 and 100 projects over the next three-year period, not a great acceleration compared to the current level. Given the share of high assessments, however, the average number of LDC registrations expected by respondents is 140. This number should be taken with a grain of salt, as the existence of high response options in the survey may itself have a significant bearing on the average result.

> 51-100 LDC registrations expected by most over the next 3 years

Overall, the survey results suggest that we will see healthy CDM activity in LDCs in the future, but also that many investors still shy away from these countries. Of critical importance here is what CER volumes these projects yield. The positive responses to our survey questions show a lot of interest in LDCs, but that could fizzle if such projects do not end up generating credit volumes that justify the investment.

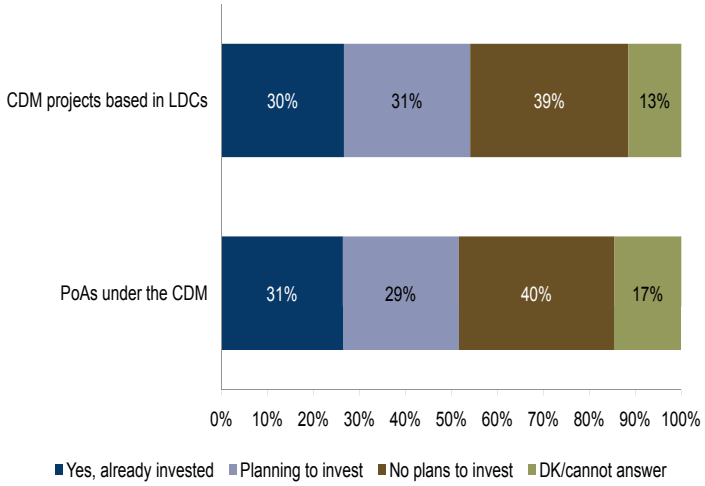
3.3. Changes to the CDM

What changes do market participants and observers expect in the coming years?

As Figure 3.8 shows, standardised baselines top the list, as 57% of respondents expect the EB to introduce these. That expectation is up six percentage points from last year, which is not surprising given that the

Figure 3.5-3.6: Investing in LDCs and/or PoAs?

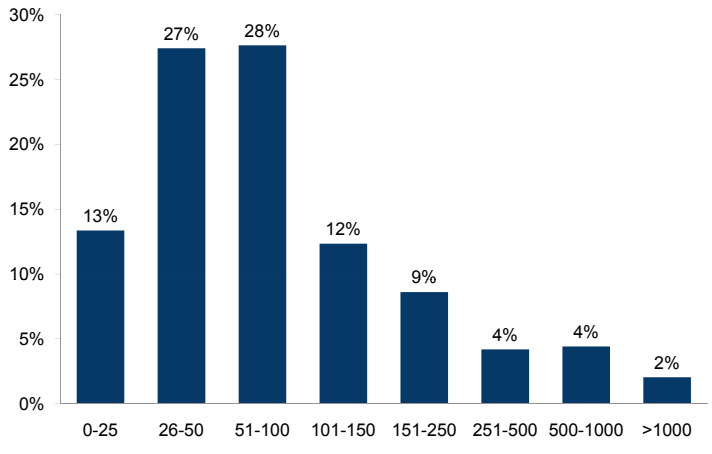
"Is your company investing : 1) in CDM projects based in LDCs; or 2) in PoAs? N=530.



Source: Point Carbon

Figure 3.7: LDC registrations, 2011-13

"How many CDM projects do you think will be registered in least developed countries (LDCs) over the next 3 years?" Financial institutions, CDM developers and Japanese companies. N=542.



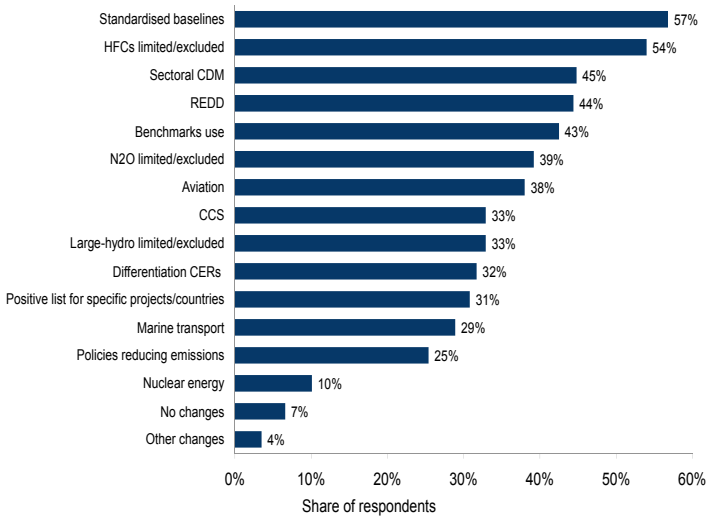
Source: Point Carbon

Conference of the Parties in Cancun endorsed moves toward standardisation. Half the sample, which consists of people involved in the primary CDM market, also expects limits on HFC credits, presumably influenced by the EU ETS phase 3 restrictions discussed in the previous chapter.

We asked the same question last year, but the overall change in answers is so small that we have not included the 2010 result in Figure 3.8. The main difference from last year involves expected limitations on HFC and N_2O projects, which have increased from 39% to 54% and from 27% to 39%, respectively. New expectations about industrial-gas projects are probably due to the ongoing revision of the HFC-23 methodology, as well as the EU ETS exclusion of these project types in its phase 3.

Figure 3.8: Any changes to the CDM?

"Which changes, if any, do you think will be made to the CDM?" Primary CDM market participants. N=426.



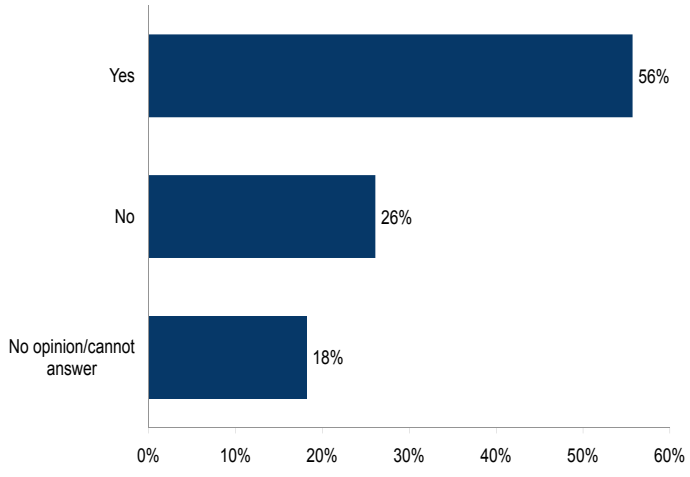
Source: Point Carbon

> "Will the EU ban additional credit types? Respondents say yes

Beyond HFC and adipic acid N_2O credits, will Europe ban credits from any further project types for use in the ETS? The revised ETS directive opens for such changes during phase 3. Point Carbon does not expect any new decisions on exclusions to be made before 2015, but Figure 3.9 shows that a majority of respondents among project developers and financials expect new qualitative restrictions to emerge. In the comment field next to the question, respondents pointed to large hydro projects as potentially on the EU's chopping block

Figure 3.9: More eligibility restrictions to come?

"Do you think the EU is going to ban project types beyond HFC and adipic acid N2O for phase 3 compliance?" CDM/JI developers and financials in Europe and Asia. N=548.



Source: Point Carbon

The transfer of CERs from a

non-Annex 1 country requires a letter of approval (LoA) from that country's government, permitting project participants to receive issued CERs. In most cases, LoAs are issued for the duration of a project's crediting period, be that for seven or ten years. China, however, usually grants LoAs only for credits expected to be generated during the 2008-12 period.

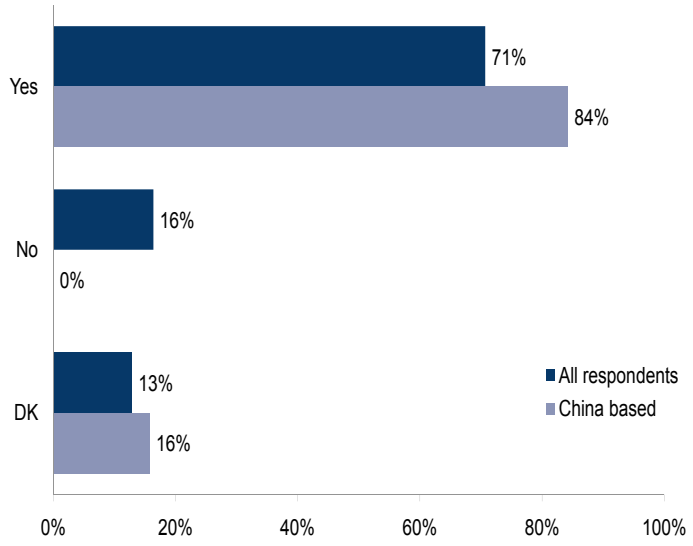
> "China will still be CER supplier after 2012

Consequently, China may choose to withhold CERs after 2012 if it so chooses. How likely is such a scenario? Almost three-quarters of our respondents think China will continue to supply CERs to the market after 2012. The share of China-based respondents expecting CERs to flow is even higher. Thus, the market does not fear the disappearance of the main carbon credit source in the next few years.

Given the level of uncertainty regarding additional eligibility restrictions from the EU ETS and the level of CER demand, the share of respondents planning to increase their involvement in the CDM in 2011 compared to 2010 is relatively high. Some 45% of respondents plan to increase their direct investments, 42% plan to increase their purchasing and trading of primary CERs, and 40% plan to increase sCER trading activity. In addition, between 37 and 48% of respondents indicated that their CDM involvement will stay as it is. This indicates a general confidence about business opportunities in the CDM market, but contains a potential bias because the companies most active in the market are also represented with the most answers.

Figure 3.10: From China with CERs?

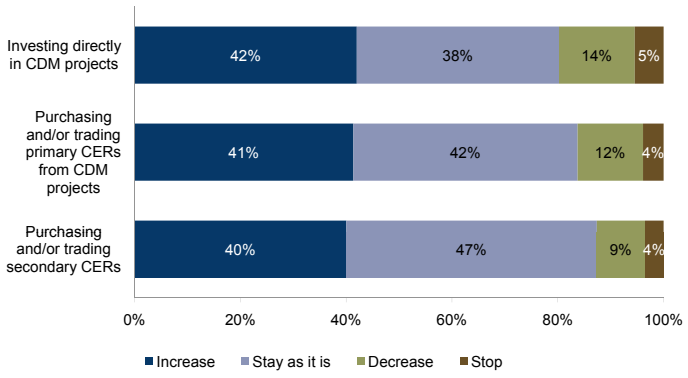
"Do you think CERs will be issued from China-based projects after 2012?" N= 427 (of whom 19 in China).



Source: Point Carbon

Figure 3.11: Plans for CDM involvement in 2011

How will your organisation's involvement in the CDM be in 2011 compared to 2010? N=710.



Source: Point Carbon

4. NORTH AMERICAN CARBON MARKETS

The focus in North America has shifted from US federal climate policy to regional initiatives, with all eyes on California as it develops its own cap-and-trade program. Other US and Canadian jurisdictions that are part of the Western Climate Initiative (WCI) will probably join the Golden State, though the timeline for a regional emissions trading program remains to be determined.

4.1. US federal climate policy

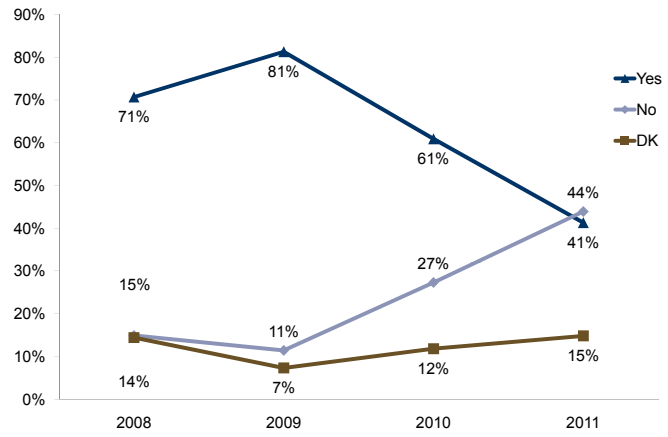
Will there be a US ETS in the foreseeable future? After the US House of Representatives passed the Waxman-Markey bill containing provisions for a cap-and-trade system in June 2009, the mood turned sour in Washington and the Senate failed to consider similar legislation. With the Republican takeover of the House after the November 2010 elections, President Obama seems to have given up on the legislative branch enacting measures to cut GHGs, instead focusing on measures his administration can take via the Environmental Protection Agency (EPA).

> “Fewer expect US federal cap-and-trade

This change is also evident in the responses to our most recent survey. We asked survey recipients whether they thought there would be a US federal, mandatory cap-and-trade system for greenhouse gases with a start date before 2018. For the first time since we started asking this question in 2008, there were more negative than positive responses (see Figure 4.1, although the difference is within the margin of error. This contrasts starkly with the figure of 81% who in 2009 expected US cap-and-trade by 2015.

Figure 4.1: Yes, we cap?

“In the US, do you think there will be a federal, mandatory cap-and-trade system for greenhouse gases with a start date before 2018?” N=2,213. Note: previous years have listed 2015 as start date.



Source: Point Carbon

Moreover, this year’s question is “weaker” than in previous years, as we have asked about 2018 as the start year rather than 2015. Given that the respondent pool may be inclined to favour cap-and-trade legislation and thus display a bias in expectations, getting over 40% “Yes” is still fairly bullish.

As the chances of a US ETS this decade dwindle, what are the consequences for US emissions toward 2020? Under the Copenhagen Accord of 2009, the US pledged to reduce its GHG emissions by 17% below 2005 levels by 2020. Will this be achievable without a carbon cap? Seventy% of our respondents answered no to this question. Less than 20% thought the US could meet its self-imposed target.

4.2. RGGI, 2 years on

The Regional Greenhouse Gas Initiative (RGG) has now been in operation for just over two years, and the first trades took place three years ago. Market activity has been slow and prices kept in check by the market’s very large over-allocation, with over 30% more allowances available than there were actual emissions in the first compliance period, 2009-2011.

Prices in RGGI were bolstered by the prospect of a federal US market, but dropped to the auction reserve price in early 2010. Traded volumes followed as the prospect for translating RGGI allowances into federal ones evaporated.

Yet the compliance obligation is real and participation at RGGI auctions has been high, at least until recently. We asked respondents involved in RGGI

(N=14) how they were complying with the targets and found that half were buying allowances in auctions (50%) or on the secondary market (36%, more than one answer possible). Several companies said they were reducing their emissions, and a few also declared they were developing offset projects. No offset credit has been issued in RGGI yet, as allowance prices below $2 a short ton have failed to provide much incentive for offset development so far.

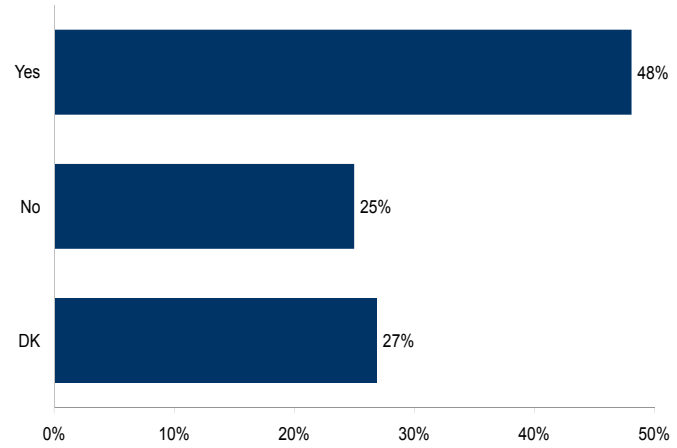
The ten RGGI states from Maryland to Maine are required to review the scheme in 2012, and the stakeholder process for this review started in 2010. A major question for the review, given that the market is long, is whether the cap should be tightened in the next three-year compliance period, which runs from 2012 to 2014.

Within a respondent pool consisting of companies covered by RGGI and North American financial institutions, almost half expect a tighter RGGI cap (see Figure 4.2). By contrast, only one-quarter say they do not foresee an increase in stringency of the programme, while the remaining quarter is uncertain.

The size of the RGGI cap in the 2012-14 compliance period will naturally be a major influencing factor for the price. What prices do market players expect in the northeastern carbon trading programme at the beginning of the third trading period in 2015? Figure 4.3 shows that most respondents expect a price just above today's level, and up to $5/short ton. A non-negligible number of respondents expect higher prices, over $5 a ton, consistent with the expectation that the cap would be tightened somehow.

Figure 4.2: A tighter RGGI cap?

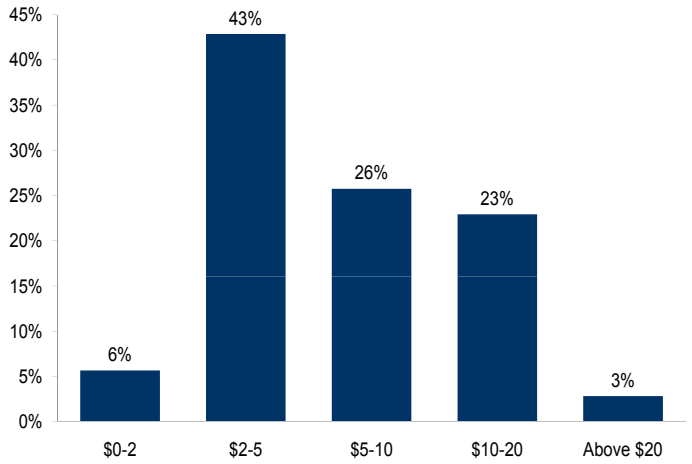
"Do you think the RGGI 2012 Review will lead to a tightening of the cap in the next compliance period (2012-14)?" RGGI compliance entities and NA financials. N=50.



Source: Point Carbon

Figure 4.3: Stuck at the floor?

RGGI compliance entities and NA financials. N=50.



Source: Point Carbon

RGGI may see some noteworthy developments if the 2012 review leads to an adjustment of the cap that impacts the market balance, but overall is likely to remain a fairly low-profile market.

4.3 California: the new ETS

As prospects for federal cap-and-trade wane in Washington and RGGI prices and volumes drop, attention in the US carbon market has shifted to the other coast. The California cap-and-trade programme is scheduled to enter into force on 1 January 2012, and the first forward trades in California carbon allowances (CCAs) have already taken place.

The number of emitters who responded to California-specific survey questions is small (N=26) but contains a good mix of power and industrial emitters, and a slight overrepresentation respondents from the oil and gas sector.

California is a larger market than RGGI, with close to 400 Mt covered in 2015. It will start with 90% free allocation – a major difference from RGGI, where almost 100% of allowances were auctioned

> “Most respondents have started preparing for California ETS

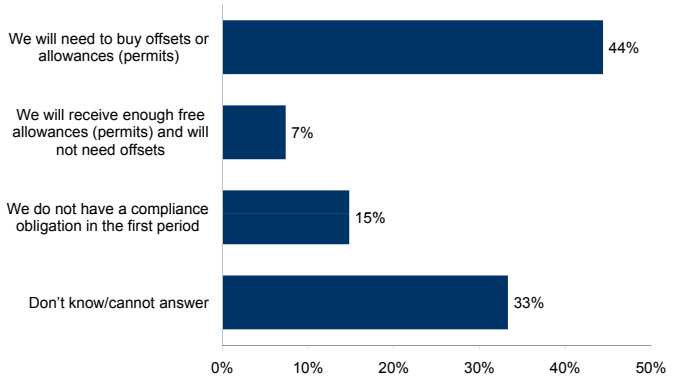
from the start. Will emitters regulated under the cap-and-trade programme in California be long or short in the first compliance period? How well do they know their situation? While 44% of our respondents expect they will have to buy allowances to top off the free allocation, 7% have identified that they may be sellers on the new market. A good third doesn’t know yet where the axe will fall.

When asked about their compliance strategy, most companies listed a combination of buying allowances or offset credits, reducing their own emissions and investing in offsets. Only 8% said they had not started preparing.

On what platforms do future California ETS participants foresee trading carbon? As shown in Figure 4.5 most but not all planned to participate in the auctions. Over 45% plan to buy on an exchange, which contrasts with the early days of the EU ETS where over

Figure 4.4: Long or short in California

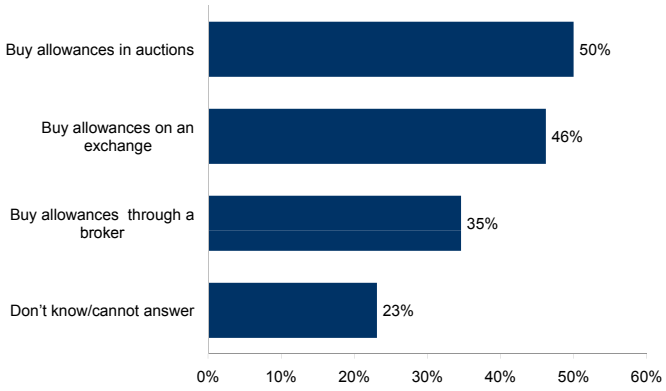
“What best describes your company’s situation in the California cap-and-trade program in the first compliance period (2012-2014)?” N=27.



Source: Point Carbon

Figure 4.5:Buying Californian carbon

“How is your company planning to procure allowances for the California market? (Select all that apply).” N=26.



Source: Point Carbon

75% of the transactions took place over the counter. Exchanges now dominate transactions in Europe, and are actively preparing for the California market, in line with the trends identified here.

Most Californian compliance entities surveyed plan to use offsets, see Figure 4.6. A majority of respondents in this category say their companies plan to develop projects on their own. Brokers are also expected to play a more prominent role for offset credit transactions than for allowances.

> California carbon prices seen at $10-15/t in 2012

What carbon prices do respondents in the CA ETS expect? To gauge market expectations, we surveyed both emitters that will be covered by the programme and financials with involvement in the North American carbon markets. Most expect the program to start close to the price floor, around $10-15/tonne.

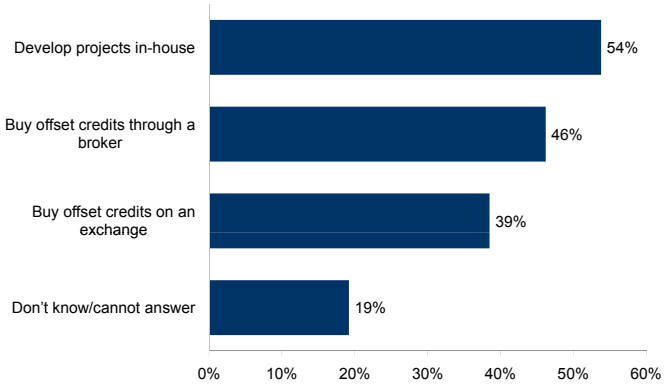
Future California participants expect prices to increase steeply to 2020, as the cap tightens and access to offsets is restricted. Yet few foresee prices at the Price Containment Reserve - $69 or above - and instead expect them to stay under $50 a tonne (see Figure 4.8).

The purpose of any cap-and-trade programme is to reduce emissions at the lowest possible cost. The California market has not yet entered into force, but respondents nevertheless say that it has already initiated emission reductions. Figure 4.9 shows that just over half the respondents' companies have either reduced their emissions or introduced plans to reduce emissions as a result of the Californian ETS – several commented that cap-and-trade provided an added incentive for their voluntary reductions already under way. It will remain to be seen, however, what the size of these emission reductions will be.)

As noted in the EU ETS section, an unintended consequence of the

Figure 4.6: Buying offsets in California

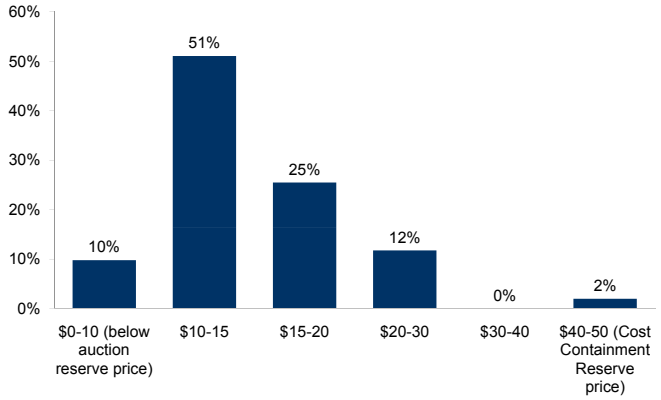
"How is your company planning to procure offsets for the California market? (Please select all that apply)" N=26.



Source: Point Carbon

Figure 4.7:Floored

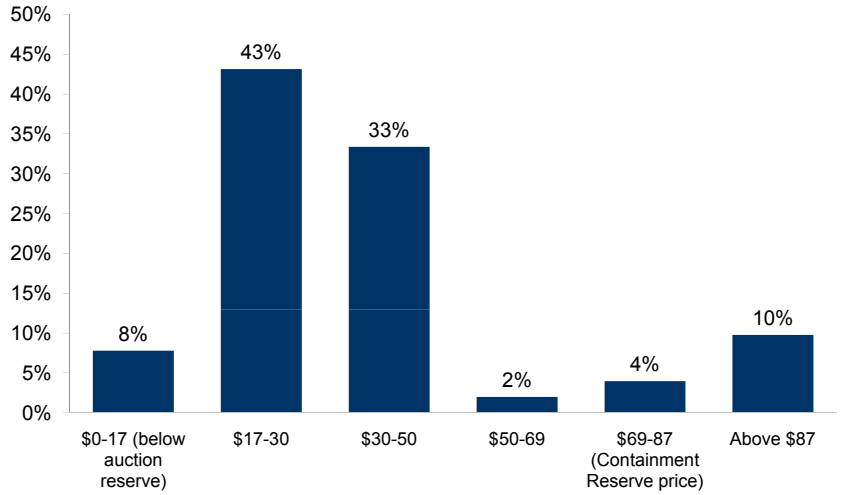
"What prices do you expect in the California market in 2012?" Companies with future CA obligation and NA financials. N= 63.



Source: Point Carbon

Figure 4.8: California prices in 2020

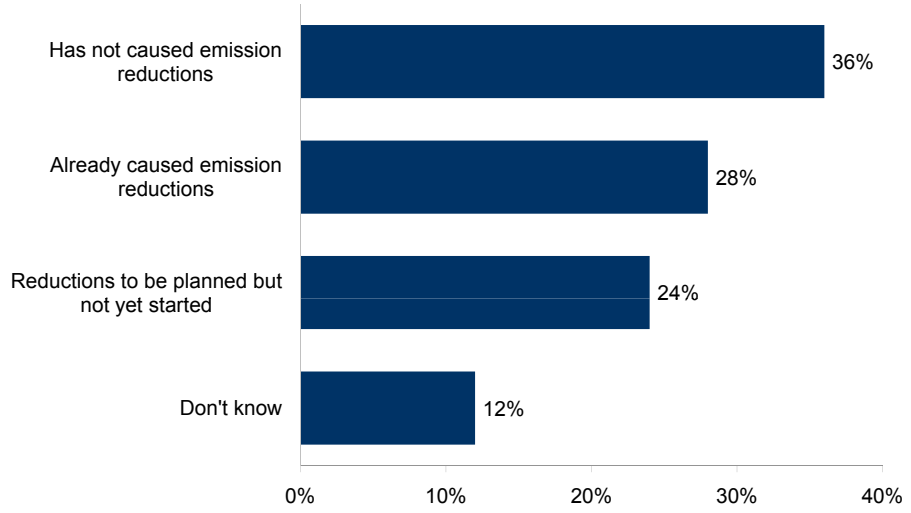
"What prices do you expect in the California market in 2020?" Companies with future CA obligation and NA financials. N= 63.



Source: Point Carbon

Figure 4.9: Californian internal abatement

"To what extent has the Californian cap-and-trade program caused your company to reduce its own emissions?" Companies with future CA. N=253.



Source: Point Carbon

introduction of an ETS is carbon leakage. Among 23 California respondents, only one said that his/her company had planned to move production because of the introduction of the CA ETS. The remaining 22 said that their companies had no such plans.

> "BC, Washington, Quebec seen as most likely to join California in WCI

California's ETS sits within the broader Western Climate Initiative. Which states and provinces will take part in the WCI? Figure 4.10 shows the collective judgment of our survey respondents. As expected, three of the top four are Canadian – these provinces are farthest along in terms of passing domestic legislation enabling participation in a regional carbon market and issuing draft regulations governing trading. Washington and Oregon are still expected to join, although both have made clear that they would not be ready in 2012.

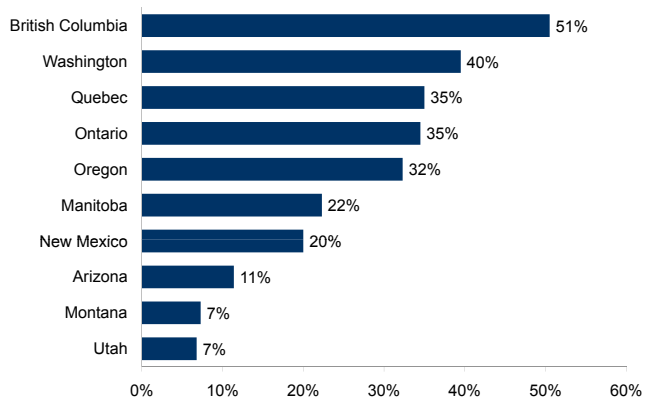
4.4 North American offsets

The North American offset market has also turned its attention to California and the WCI, with a focus on offsets that could become eligible for compliance. So far those include Climate Reserve Tonnes (CRTs) from forest, livestock methane, and ozone depleting substance projects. California regulators and their counterparts in other WCI jurisdictions are evaluating offsets from project types other than the ones currently allowed.

We asked survey respondents which offset types regulators

Figure 4.10: Who's next for WCI?

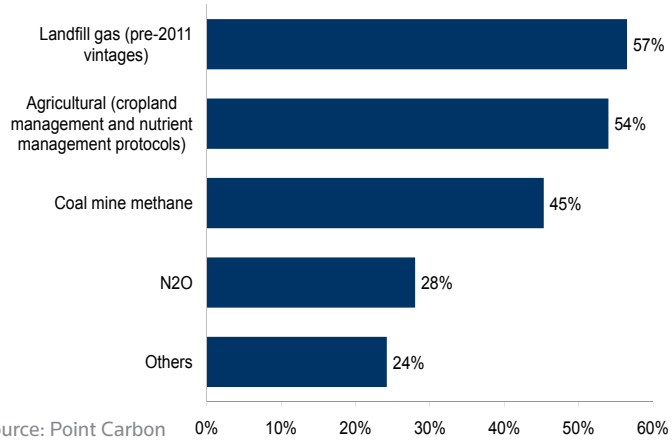
"In your view, which of the following WCI jurisdictions will have a cap-and-trade program in place by 2015? (Please select all that apply.)" North American emitters and financials. N=220. .



Source: Point Carbon

Figure 4.11: NA Compliance market wants greater offset supply

"Which additional project types would you like to see included in the CA/WCI compliance market? Select all that apply." Entities involved in North American offset market. N=161.



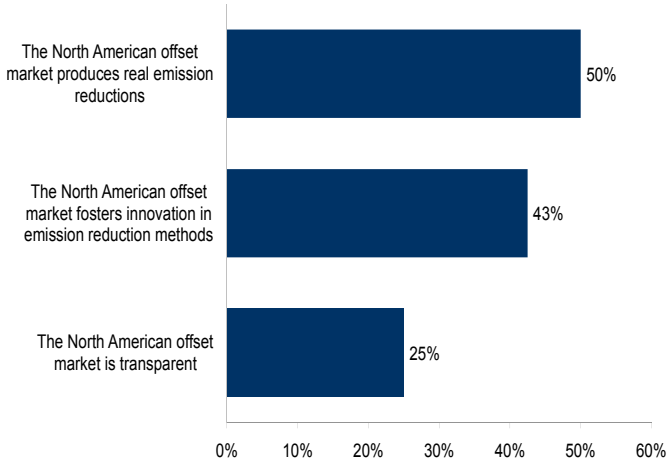
Source: Point Carbon

should allow. Out of 160 who answered (Figure 4.11), more than half indicated they want to see offset credits from landfill gas projects included for compliance in the California and/or WCI cap-and-trade programme. Agricultural protocols and coal mine methane projects were the other two favourites, while N_2O only drew support from 22% of the respondents. Including these protocols would add significant supply to the California market, which is otherwise at risk of being undersupplied.

The North American voluntary market still sees some action aside from CA/WCI pre-compliance transactions. Just half of market participants think the market produces real emission reductions, and 43% agree that it fosters innovation. Yet many do not see it as a transparent market: only a quarter of the respondents said it was transparent, a shown in Figure 4.12.

Figure 4.12: Real but opaque

Agreement with the given statements (4 or 5 on a 1-5 scale). Entities involved in North American offset market. N=183.



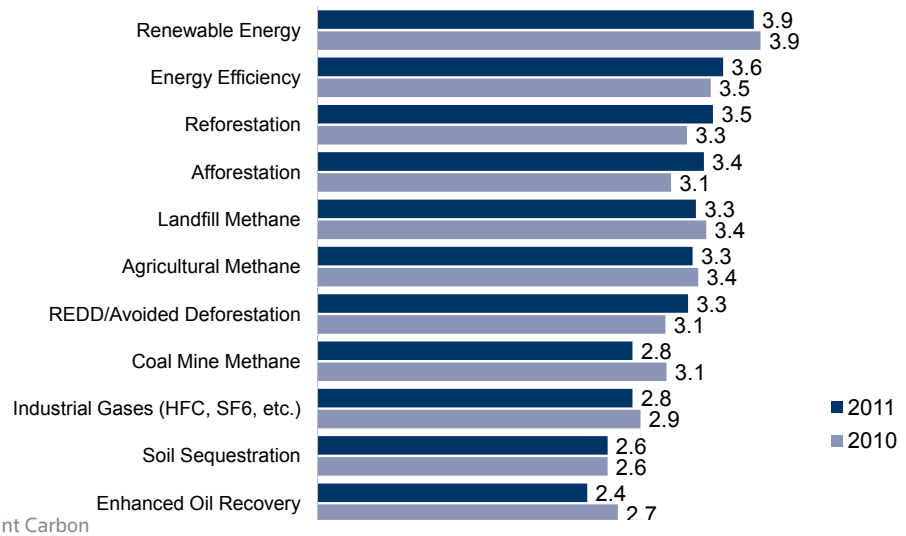
Source: Point Carbon

Not all projects are equal, and the expected value of some offset types has dropped dramatically over the past two years – see Figure 4.13.

On the pure voluntary market, renewable and energy efficiency projects consistently fetch the highest prices (see Figure 4.13).

Figure 4.13: Prices for offset types in the North American market

"How much value, on a scale of 1 to 5, can you assign to offset credits from the following project types? Please answer based on projects originating in North America." N=128. Note: The question was about the "voluntary market" in 2009 and 2010, but with mostly North American respondents .



Source: Point Carbon

The value of forestry projects (afforestation, reforestation and REDD) is on the rise - largely driven by expected demand from the California market - while landfill gas, industrial gas and coal mine methane's value have declined. Prices for landfill gas credits have declined less, as many expect or hope that project type will make the cut for eligibility in the California market.

> "REDD offset demand driven by California market

2010 was a year of transition for the North American offset market, where great hopes for a US federal market gave way to the reality of a small but booming market on the West Coast. As prospects for a WCI regional market solidify, all eyes will be on which offsets types eventually are allowed into the broader market.

5. GLOBAL CARBON MARKETS

Over the past year, New Zealand has carried out a major expansion of its domestic ETS, producing an active market in New Zealand Units. Besides the North American initiatives described in the previous chapter, Japan, Korea, Australia and China have presented plans to introduce national or regional trading systems. The international offsets scene has also seen developments, as international negotiators have been working on avoided deforestation and other mechanisms.

What is the effect on global emissions of these new initiatives, and what ETSs will we see in the coming year? Will the emerging carbon markets link to produce a global reference price? And will the new offset systems overwhelm the CDM in size, or simply constitute a minor addition? The present chapter will address these questions.

> "44% have reduced or planned to reduce due to New Zealand ETS

5.1 New Zealand ETS: Effects on new sectors

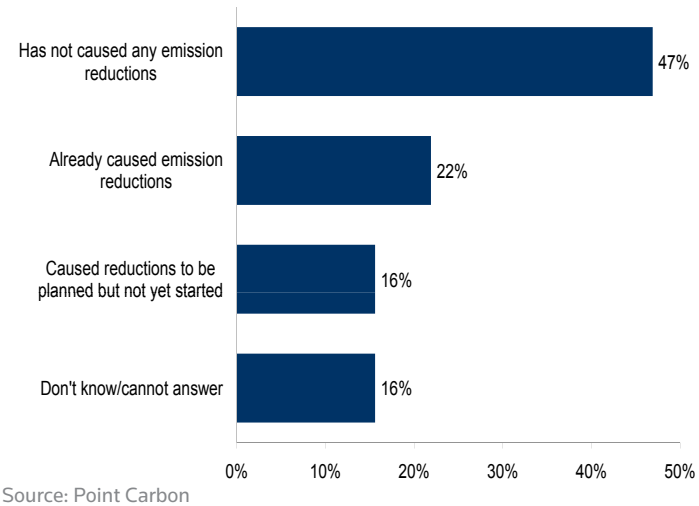
The New Zealand emissions trading scheme (NZ ETS) commenced in 2008, at which point it included the forestry sector only. From 1 July 2010, the ETS expanded to include fuels and industry, thus covering sectors such as power, transport and manufacturing. While the forestry sector has had a surplus of tradable New Zealand units (NZUs) from the inception of the ETS, the inclusion of more sectors created a more active domestic carbon market from mid-2010.

With the expansion of the NZ ETS, we have included three questions on the Kiwi market in our survey. First, along the lines of the questions asked for other ETSs above, is the NZ ETS contributing to emission reductions among participating companies?

Figure 5.1 shows that 47% of respondents say the NZ ETS has not caused any emission reductions in their companies, while 44% say they have either reduced emissions or planned to do so as a consequence of the trading programme. This is somewhat lower than for the EU ETS, even in 2007, as seen from Figure 2.2a above.

Figure 5.1: NZ ETS and internal abatement

"To what extent has the New Zealand Emission Trading Scheme (NZ ETS) caused your company to reduce its own emissions?" Companies with emissions covered by the NZ ETS. N=32..



Source: Point Carbon

However, it should be noted that the expansion of the NZ ETS happened less than one year ago, while our first online survey of the EU ETS took place more than two years after the launch of the European scheme. Furthermore, the low number of respondents means that the margin of error for the New Zealand question is relatively wide.

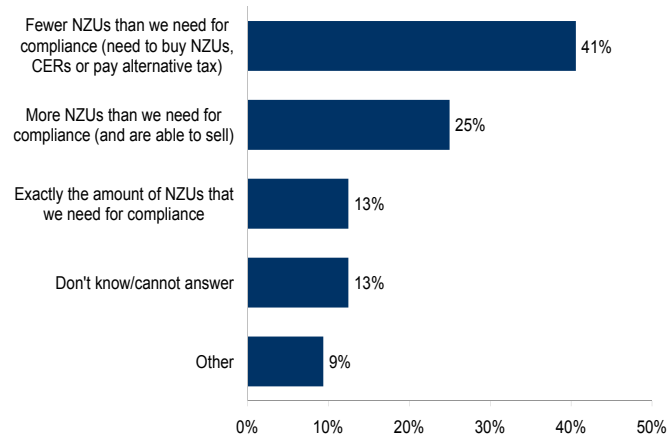
As a general rule, NZ ETS emitters need to buy NZUs from domestic suppliers or Kyoto units (CERs and ERUs) from abroad to cover their emissions every year. However, emission intensive, trade exposed (EITE) companies may apply to get NZUs allocated for free. Some forest owners and fisheries have also received free NZUs in compensation for the obligations put on them by the NZ ETS.

Thus, the NZ ETS comprises entities that are 100% short and entities that have surplus NZUs. How do these distribute in our sample? In Figure 5.2 we see that roughly one-quarter of respondents say they are long, whereas 40% say they are short. Note, however, that these figures relate to the number of respondents, not NZU volumes. Thus, it remains eminently possible that large long positions among the minority could still cover the compliance needs of the short majority.

Finally, does the NZ ETS cause carbon leakage? While perhaps a bit early to say, Figure 5.3 suggests that leakage is not at the moment a major issue in New Zealand. Note again, however, that some of the respondents represent the forestry sector which, like Europe's power sector, cannot move its production elsewhere.

Figure 5.2: NZ ETS: long or short?

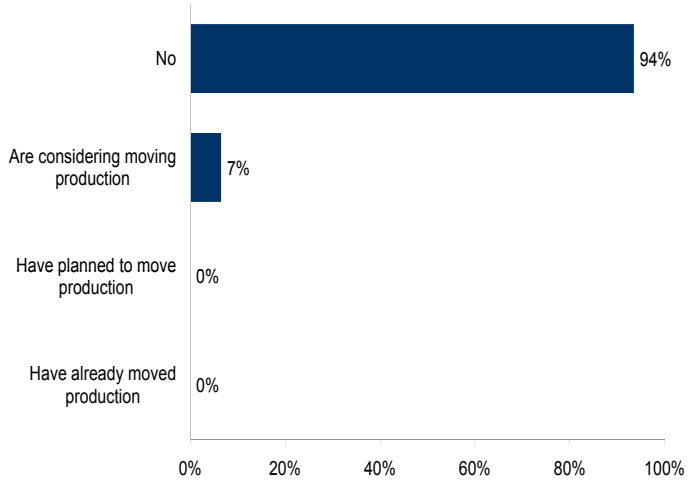
"What best describes your company's current situation in the NZ ETS?" Companies with emissions covered by the NZ ETS. N=32



Source: Point Carbon

Figure 5.3: NZ ETS and carbon leakage

"Has your company considered moving production outside New Zealand because of carbon costs?" Companies with emissions covered by the NZ ETS. N=31.



Source: Point Carbon

5.2. Emerging markets

As noted in the introduction, plans for emission trading schemes have been proposed, refined, and in a few cases put on ice at the national level in the US, Australia, Japan and Korea over the past year. At the provincial level, we have seen movement in the US, Canada and China. What countries do our respondents expect to have cap-and-trade programmes within the next five years? Figure 5.4 gives the answer.

> “Australia tops the list of expected cap-and-trade in 2016

Similarly to last year, Australia tops the list, despite the CPRS debacle in early 2010 – clearly a majority of observers thinks the Gillard government will succeed in its plans to introduce a carbon price and later an ETS. However, the share expecting Australia to introduce mandatory cap-and-trade is down from 61% last year to 55% this year.

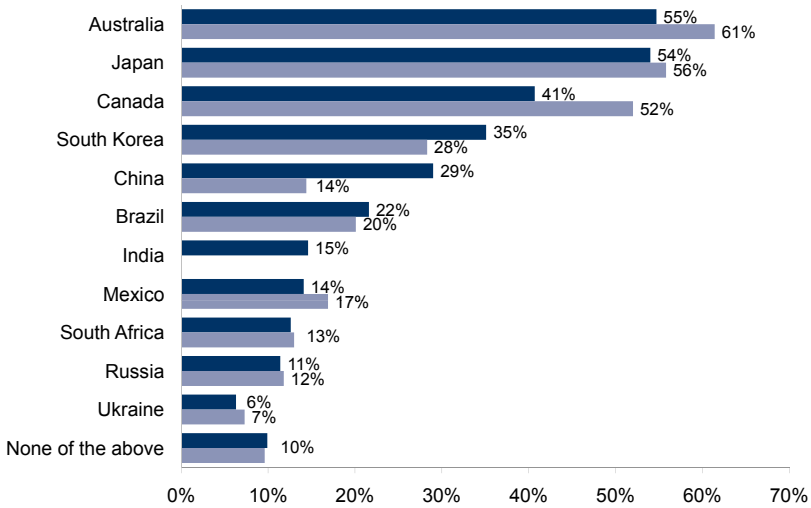
Japan comes in second, with 54% expecting a national ETS by 2016, imperceptibly down from 56% last year. Canada's ETS prospects were hit by the failure of the US Congress to pass federal cap-and-trade legislation (see Figure 4.1 above) whereas South Korea moves in the opposite direction, from 28% last year to 35% this year.

Japanese respondents have changed their expectations of a Japanese ETS. Last year, 80% respondents based in Japan thought the government would introduce national mandatory cap-and-trade in the country after 2012, against 56% of those based outside Japan (see Carbon 2010, Figure 3.25, p. 33). This year, the expectations within the two groups are about equal. Among China-based respondents, however, we see much higher expectations for a Chinese ETS than average. Specifically, 50% of the 77 China-based individuals responding to this question thought China would have national, mandatory cap-and-trade in 2016. This is much higher than the 29% seen in the overall sample. The difference from Japan could be due to a bias in who takes the survey, assuming that many China-based respondents are involved in emission reduction projects and thus could stand to gain from an ETS, whereas many Japanese respondents represent emitters facing carbon constraints under an ETS.

Finally, in South Korea, we see a similar situation to that in China, as 83% of a total of 30 Korea-based respondents expect an ETS in the country, against 35% in the world as a whole. We also note that Japanese and South Korean respondents are more bullish on

Figure 5.4: ETS around the world

"Which of the countries below will have mandatory cap-and-trade at the national level in 2016?" All respondents. N=2,186. Note: The year given in 2009 and 2010 was 2015.



Source: Point Carbon

ETSs in each other's countries: 63% of respondents in South Korea expect a Japanese ETS (against 50% overall) whereas 54% of Japan-based respondents expect a South Korean ETS.

> Unchanged global price expectations: €31/t and $35/t

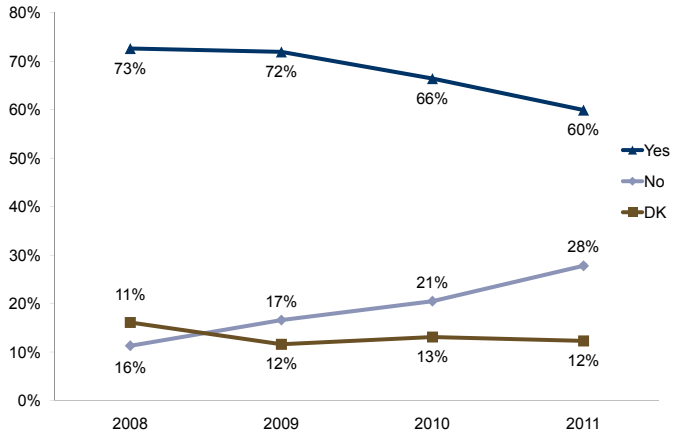
These proposed and potentially upcoming ETSs around the world are all designed to operate on their own. However, emission trading has the greatest GHG reduction potential when large markets are interlinked. This is the idea behind the Kyoto market. If some of the countries listed in Figure 5.4 introduce carbon trading, will they be able to link, indirectly or directly? And if so, will a global reference for carbon emerge?

Figure 5.5 shows the evolution over time of the expectations for a global carbon price. The share expecting a global reference price for carbon has declined over the past two years, but remains well above half the sample, at 60%, this year.

If a global carbon price emerges,

Figure 5.5: Going global

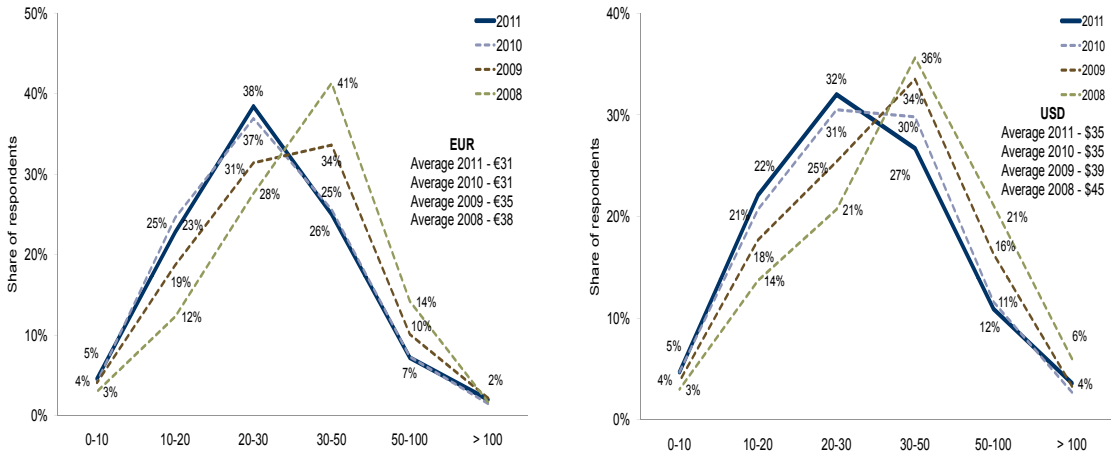
"Do you think there will be a global reference price for CO2 emissions in the year 2020?" Companies with emissions covered by the NZ ETS. All respondents. N=2,215.



Source: Point Carbon

Figure 5.6: Price expectations for 2020

Expectations for global CO2 price level in 2020, in EUR and USD. Respondents expecting a global carbon price. N=1,300 (973 for EUR and 639 for USD)..



Source: Point Carbon

what will it be? Asking those expecting a global carbon price to emerge, we received the answers given in Figure 5.6.

> REDD credits seen as likely by most; NAMA credits as least likely

In both euro and dollar terms, the most frequently selected price interval for 2020 is the 20-30 range. The average values expected are €31/t and $35/t, both unchanged since last year. Thus, global carbon price expectations are stable among those who expect a global carbon price at all.

5.3. Emerging offsets

Further expectations for the future of carbon markets involve new types of credits. The UN climate summits in Copenhagen and Cancun opened for new crediting mechanisms, including reducing deforestation and degradation in developing countries (REDD), sectoral credits and offsets derived from nationally appropriate mitigation actions (NAMAs). In addition, Japan and the EU have opened for the use of bilateral credits to meet domestic offset demand, and to provide an alternative to the CDM. Trading programs around the world, including the EU, are also proposing domestic offsets.

Which of these emerging offset types do market participants and observers expect, and when? As Figure 5.7 shows, our respondents find tradable REDD credits the most likely new offset type. They also think REDD credits will emerge sooner than other potential new offset types. Respondents put the least faith in tradable NAMA credits, which only 28% expect by 2016, but even here two-thirds of our sample expects credits to be available by 2020.

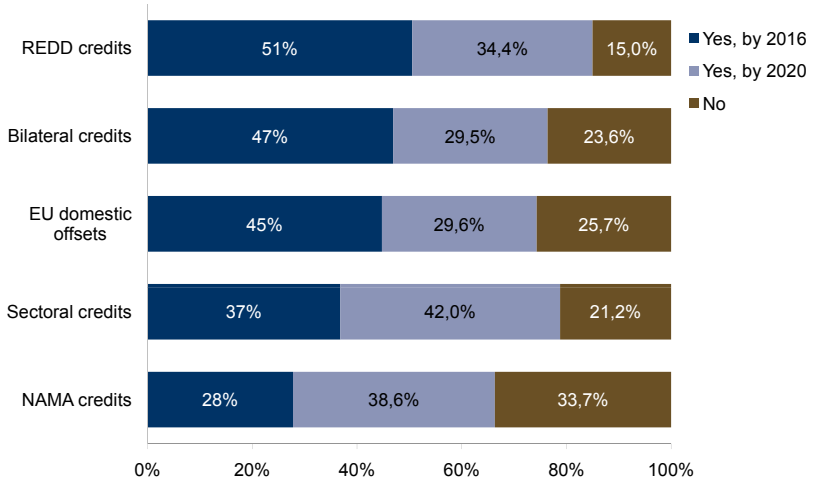
Unsurprisingly, expectations for REDD credits are the highest in Brazil, where 72% of respondents think they will be available by 2016. In a similar fashion, Japan-based respondents are the most bullish on bilateral credits, with 94% expecting them to be in place by 2020.

> Japanese respondents bullish on bilateral credits: 94% expect them

It is one thing to say that REDD, bilateral and other types of emerging offsets will exist in five or nine years. It is quite another to know how much emission reduction these emerging mechanisms will deliver. The CDM is the biggest reference case for global offset

Figure 5.7: Emerging offsets in 2016 and 2020?

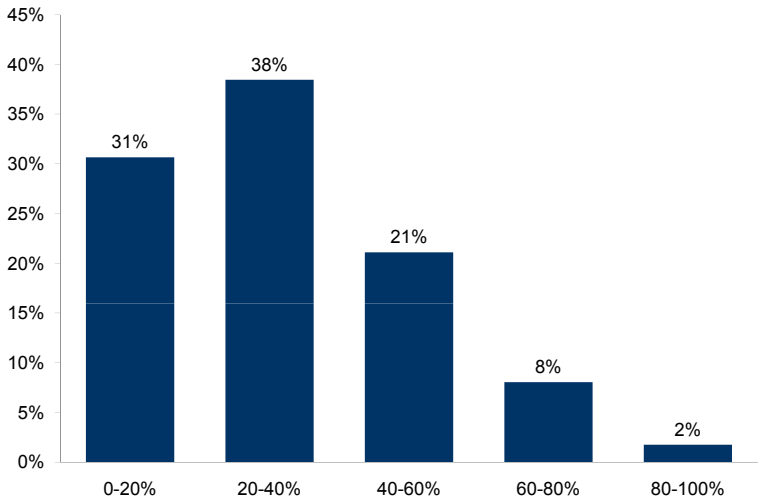
"Do you think tradable credits of the following types will become available in the coming years?" CDM developers, financials and Japanese companies with emission targets. N=499..



Source: Point Carbon

Figure 5.8: Comparing the CDM and emerging offsets

"Given the total global demand for credits in 2013-2020, what share do you think will be covered by CERs?" CDM developers, financials and Japanese companies with emission targets. N=2,064..



Source: Point Carbon

potential, and generally the new offset types constitute a way of expanding the scope of trading mechanisms beyond the project-based CDM and to bring carbon finance into new areas, such as avoided deforestation.

> CERs expected to meet 20-40% of 2013-20 demand

So how big will the CDM be if some of these emerging offset mechanisms come into being over the next decade? To find out, we asked the full sample of respondents, except compliance players in North America, what share of global offset demand would be covered by CERs in the 2013-20 period.

As Figure 5.8 shows, the modal respondent expects CERs to cover 20-40% of global credit demand over the eight years from 2013 to 2020. We can interpret these results as optimism around how many credits the planned new mechanisms will yield in the not-so-distant future, as pessimism about how few CERs will be generated after 2012 or a little of both.

6. INTERNATIONAL NEGOTIATIONS

Expectations for the 16th conference of the parties to the UNFCCC (COP-16) in Cancun, Mexico were much more modest than those for the Copenhagen COP of December 2009. The outcomes of COP-16 were thus more in line with expectations. On a 1-5 scale of satisfaction, with the mid-point signifying that a respondent was "neither satisfied nor dissatisfied" with the outcome of the COP, the average response was 2.74. Roughly 20% said they were either satisfied or very satisfied with Cancun, as seen in Figure 6.1. Conversely, 38% reported dissatisfaction or strong dissatisfaction with the outcome.

> Dissatisfaction with Cancun, but less than with Copenhagen

The Cancun COP restored faith in the multilateral climate change negotiation process. The actual decisions adopted do not set binding emissions targets in the post-2012 period, but do establish new international institutions and frameworks aimed at reducing GHGs in most countries.

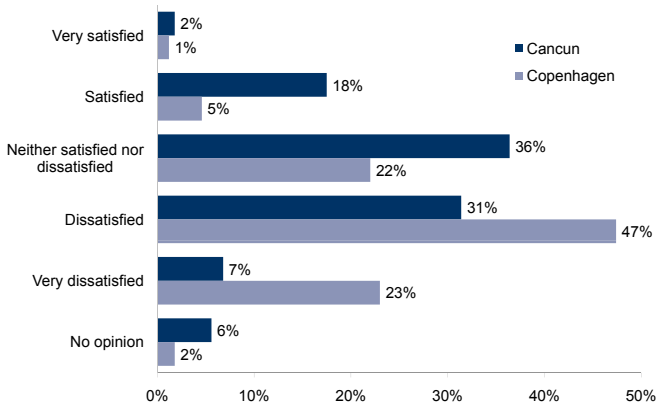
The Copenhagen COP the previous year had yielded an average

response of 2.08, or very close to outright dissatisfaction. Indeed, 70% of respondents in 2010 were dissatisfied or very dissatisfied with the Copenhagen summit – almost twice as many as the corresponding amount for Cancun. Nevertheless, respondents were on balance more unhappy than happy also with the Cancun COP.

Overall, the international negotiations appear to be heading toward a bottom-up global climate system in which there is no overarching worldwide emission reduction target. It looks unlikely that countries will agree to a second commitment period for the Kyoto Protocol. Rather, the individual country targets submitted under the Copenhagen Accord imply a pledge-and-review system where governments decide for

Figure 6.1: Good COP, bad COP?

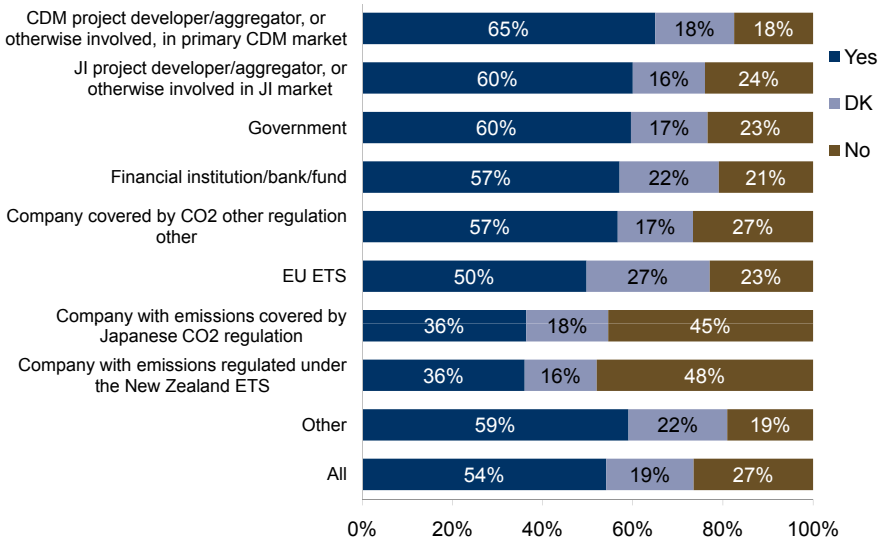
Respondents' evaluation of the 16th Conference of the Parties to the UNFCCC in Cancun, December 2010, compared to the previous year's COP in Copenhagen. N=2,510.



Source: Point Carbon

Figure 6.2: Kyoto one more time?

"Do you think there will be a second commitment period of the Kyoto Protocol (after 2012)?" All respondents except North American carbon market participants. N=2,027.



Source: Point Carbon

themselves what targets they will set and how they will meet them.

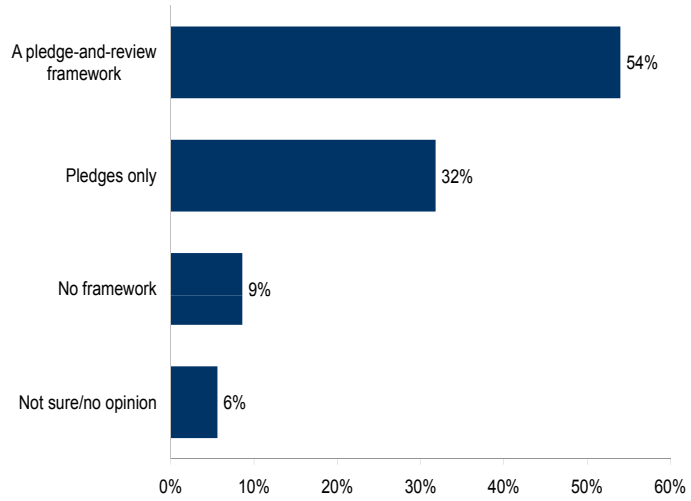
A majority of survey respondents, however, still expect a continuation of Annex B targets. In total, 1,092 respondents foresee a second commitment period to the Kyoto Protocol, with CDM and JI project developers being the most bullish. Japanese and New Zealand compliance entities have the lowest expectations of continued Kyoto targets, reflecting their respective governments' stances at the talks. Among major emitting countries, the four in which more than 60% of respondents expect a second Kyoto commitment period are Brazil, India, South Africa and South Korea.

> Majority expects second Kyoto commitment period

Figure 6.3 shows that to those who do not expect a second commitment period, a pledge-and-review regime is by far the most prominent alternative. Only eight percent expect no framework at all. Nevertheless, it bears repeating that a second commitment period for Kyoto is the alternative that most of our respondents expect.

Figure 6.3: If not Kyoto, then what?

"What do you expect the overall global policy framework after 2012 to look like?" Respondents answering "no" to the previous question. N=537.



Source: Point Carbon

7. CONCLUSION

At the end of our sixth annual Carbon Market Survey, the global carbon market appears to be moving along on its own terms, with the Kyoto segment but one of several pieces that exist more or less independently of each other. The EU, increasingly preparing for the third phase of its ETS, is developing its own modalities for how to interact with the global market. At the same time, the EU ETS is increasingly spurring operators in the power and heavy industry sectors to reduce their own emissions, albeit incrementally. Growing numbers think of the EU ETS as a cost-effective instrument and mature market, even in a context of cyber attacks and stolen allowances.

In the offsets sphere, market players are looking at new ways to reduce emissions beyond the CDM as it stands today. Within the CDM, we see that many investors and developers are looking at investments in least developed countries (LDCs), motivated by the EU's exclusion of non-LDC projects registered after 2012. CDM market participants also expect increased registrations in LDCs, but only to about 50-100 over the next three years, which is small compared to the 2,831 CDM projects that had been registered at the time of writing. This supports Point Carbon's view that LDCs will only supply a minor share of CERs to the EU over the next ten years.

Beyond the CDM, there are a number of proposals for how to use market mechanisms to reduce GHG emissions in developing countries. Copenhagen and Cancun prepared the ground for an instrument to reduce emissions from deforestation (REDD), whereas Japan in particular has been pushing for bilateral offsets. Sectoral crediting and credits from nationally appropriate mitigation actions (NAMAs) are also on the table. Among these, we see that REDD is the mechanism that most respondents expect to yield tradable credits, whereas NAMA crediting enjoys the least faith in the survey sample.

The carbon market segments that exist the most independently from the UN-based markets are found in North America.

As expected, the number of respondents foreseeing a US ETS is now lower than the number thinking there will be none, even as the start date in question has been pushed back to 2018. However, our survey shows that Californian emitters and financials are preparing for the state's ETS launch in 2012, a development that could bring other western US states and large provinces across Canada along in the Western Climate Initiative (WCI).

After Copenhagen and again after Cancun, the contours of a bottom-up global climate system are getting clearer. It is looking less likely that the Kyoto protocol will have a second commitment period, notably after Japan's refusal to continue Annex B commitments. Rather, the individual country targets submitted under the Copenhagen Accord are pointing toward a pledge-and-review system where governments decide for themselves what targets they will set and how they will meet them.

Supporting the predictions of global market fragmentation rather than consolidation, we see fewer respondents expecting a global reference price for carbon in 2020. Still, a comfortable 60% expect a reference price to be found in that year. Interestingly, the average price expected is exactly the same as last years, whether respondents chose to denominate their answers in euros or US dollars.

Despite the pledge-and-review framework that we see emerging, a majority of survey participants expect continued Kyoto commitments for rich countries. Not unexpectedly, CDM and JI project developers are the most bullish on Kyoto, while Japanese and New Zealand compliance entities show the least faith in future quantitative targets under the Protocol. This disjuncture is probably based in part on hopes, part on expectations. Nevertheless, carbon market participants are right to ask for a clarification, possibly in Durban in December, although nobody should be surprised if Kyoto's future gets kicked into the sand once more.

Colophon

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