

# Carbon Market Analyst

Outlook for 2009

**PointCarbon**  
RESEARCH

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## TO THE POINT

**We expect continued trade volume growth in the global carbon market, despite the economic downturn.** In total, we forecast 5.9 billion tonnes to be traded in 2009. This is a growth of 20 percent from 2008 as a whole, but represents a stabilisation near the transaction volumes seen in the second half of 2008.

**With carbon prices expected to remain low for 2009, the financial value of the carbon market will decline significantly.** We expect the value of the global carbon market to total €62.6bn in 2009, down 32 percent of total market value in 2008.

**EU ETS to grow further, primarily due to increased focus on spot trading.** Lower emissions and the potential withdrawal of some participants will dampen overall demand, but we nevertheless expect a total of 3.8 Gt traded in the EU ETS in 2009, up 24 percent on 2008. The financial value will drop considerably, and we expect the EU ETS to total €45.2 billion, down 33 percent from 2008.

**We forecast a considerable drop in CDM and JI investments.** The current economic climate, combined with continued uncertainty on the role of project based mechanisms post-2012, will impact heavily on CDM and JI projects. We forecast a pCER volume of 300 Mt in 2009, down 45 percent on last year, and pERU volumes of 40 Mt, down 44 percent on 2008.

**RGGI volume is forecasted at 339 Mt in 2009, up from 71 Mt in 2008.** This increase is mainly due to higher auctioning volume and an expected strong growth in secondary-market activity. This gives RGGI a projected 6 percent share in 2009 global carbon market volume.

**Other markets will see considerable growth.** The AAU market is forecasted to grow to 95 Mt in 2009, up from 18 Mt last year, on the back of several specific sales plans. Australia's federal Carbon Pollution Reduction Scheme market will transact a forecast 24 Mt.

## CONTENT

<b>2</b>	Overview
<b>3</b>	EU ETS
<b>7</b>	CDM
<b>9</b>	JI
<b>10</b>	AAU
<b>11</b>	RGGI and North America
<b>12</b>	Australia
<b>13</b>	Conclusion
<b>14</b>	Colophon

## UPCOMING REPORTS

- Copenhagen - success or failure?
- Kyoto balance update: Saved by the recession?
- Fair price assessment post-2012

## Executive summary

The main questions in the carbon market in 2009 concern the degree to which the global economic slowdown will affect the trading of greenhouse gas allowances and credits. In this CMA, we project continued year-on-year carbon market growth, but our predictions imply that trade volume is levelling off compared to the last months of 2008. At the same time, the carbon market is headed toward its first year of contraction in total market value.

Specifically, we expect the global carbon market to trade an aggregate volume of 5.9 billion tonnes (gigatonnes, or Gt) carbon dioxide equivalent (CO<sub>2</sub>e) this year. This represents a growth of 20 percent over 2008, when 4.9 Gt changed hands. By contrast, with carbon prices expected to remain low in 2009, the financial value of these transactions is projected to add up to €62.6bn in 2009, down by one-third from last year's €92.4bn.

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

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

over-the-counter (OTC) volume being cleared on the exchanges.

A pronounced decline will be seen in the CDM and JI project markets in 2009, as both are projected to fall by almost half in volume terms. The primary CDM market is set to fall from 549 Mt in 2008 to 300 Mt in 2009, whereas JI is expected to decline from 72 Mt to 40 Mt over the same time span. Current economic conditions and uncertainty about the project-based mechanisms in the post-2012 period depress volumes in these markets.

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

By contrast to the mixed projections for the Kyoto markets, the most pronounced volume growth in 2009 will be seen in the Regional Greenhouse Gas Initiative (RGGI) market in the US. RGGI volume is likely to reach 339 Mt, almost five times that of last year, as auction, futures and options volume are set for strong growth. This means that RGGI is set to constitute 5.8 percent of the total volume in the global carbon market.

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

## Overview

The year 2008 marked the beginning of the first Kyoto commitment period as well as the first year of phase 2 of the EU ETS. It also saw the beginning of a global economic slowdown of potentially considerable proportions.

In light of these developments, what do we expect to happen in the carbon markets in 2009? With the years up to 2008 having

displayed uninterrupted growth in the global carbon market as a whole, will 2009 be the year that bucks the trend?

Despite the global economic troubles, we forecast carbon market volume to grow by 20 percent in 2009 compared to 2008. In 2009, we forecast a trade volume of 5.9 Gt, up from 4.9 Gt in 2008, see Figure 1. The growth is mainly due to larger trade volumes in the EU ETS, but we also expect

significantly lower volumes in other market segments.

While we expect the year-on-year growth for the EU ETS to continue, our 2009 prediction does in fact constitute a levelling-off, or even a slight decline, compared to the 3.1 Gt traded during the second half of 2008 (see CMM January 2009). It thus suggests that carbon transaction volumes have reached a plateau in 2008. Given Point Carbon's forecast for EUA and

sCER prices in 2009 (€12/tonne for EUAs, €10/tonne for sCERs, forecasts as of 30 January 2009), and current carbon prices at time of writing for other markets, the total value of the global carbon market is estimated to total around €62.6bn, down about one-third from 2008.

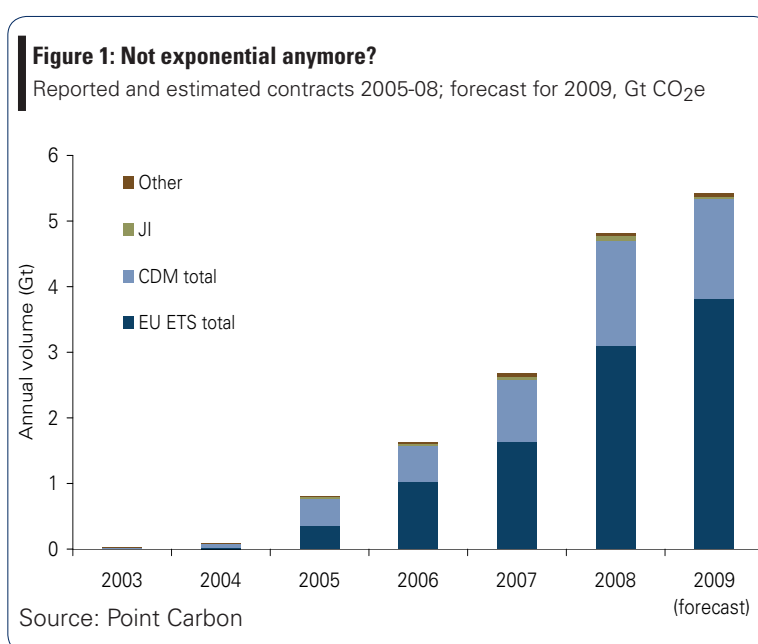
“Total trade volume is up 20 percent on 2008 to 5.9bn tonnes

Figure 2 shows the distribution of the market segments in volume terms. The EU ETS accounts for 65 percent of our volume forecast, almost unchanged from the 63 percent market share it has enjoyed the last three years (Figure 3). The CDM shows the greatest decline, from a 33 percent market share in 2008 to a forecasted 26 percent for 2009. RGGI has the most pronounced increase, jumping from 1.4 percent of the total in 2008 to a forecasted 5.8 percent in 2009.

In the following sections we will look into the various market segments to discuss the main development trends that we expect and to forecast the trade volumes in each segment.

## EU ETS

Market activity in the EU ETS this year will be dominated by the developments in the global economy. We expect lower emissions in all sectors as a result of lower economic activity and reduced industrial output. We also expect, and have already observed, that the market will take actions in order to reduce counterparty risk, the risk that the agreed commodity will not be delivered by the seller. Furthermore, market participants will become more



geared towards the short term in light of uncertainties facing the economy as well as to ensure cash flow. This suggests that we will see more exchange trading than in previous years, and in particular through spot contracts.

## Market developments

Due to heightened concerns with counterparty risk and increased focus on spot trading, we expect the share of trade volume on exchanges to increase relative to brokered volume. Whereas the volume split between exchanges and the brokered OTC market was 43 percent to 57 percent in 2008, we expect it to flip to 60-40 in favour of exchanges this year.

As shown in Figure 4, the market share of exchanges grew from the third quarter of 2008. Following the CITL-ITL connection in October, spot trading on the Bluenext exchange took off, and Bluenext accounted for 21 percent of the total brokered OTC and exchange volume in Q4. In comparison, futures trading on exchanges

accounted for 33 percent and OTC trading for 46 percent.

On the exchanges, we see spot volumes in particular, as opposed to forward contracts, going up in 2009. First, the credit crunch has led to an increased awareness of counterparty risk, and settlement within the next few days appears more reliable than settlement that could be a year or more into the future. Following the same trend, we expect that more of the brokered volume will be brought on to exchanges for clearing in order to reduce counterparty risk.

“Exchanges to become the dominant market place in 2009

Second, lower industrial production – and thus GHG emissions from industry – has already led to increased spot selling by industry. A number of industry players have already seized the opportunity to sell spot in order to release capital without delay. Capital raised through spot selling of

EUAs is particularly welcome in the current lending environment, where banks are reluctant to make credit available. We expect the trend of spot selling by industry to continue, in particular during the first half of 2009, with increased activity at certain times:

- After 2008 production numbers are ready: sell the remainder of the 2008 allocation less a safety margin;
- After the allocation of 2009 EUAs, which is to end by 28 Feb: Sell the part of the 2009 allocation that will certainly not be needed;
- After verified emissions in early April: sell the rest of any remaining 2008 safety margin (see Textbox 1).

Having said that, it is still an open question as to when this sell off will reach its end.

A third reason why spot trading is likely to increase is the fact that the European Climate Exchange (ECX) – the largest exchange by volume in 2008 – is about to offer a spot contract. This will lead to competition between the ECX

and Bluenext, which consequently should make it cheaper for small participants to trade spot EUAs. Bluenext has been the dominant spot exchange by far, notably in the final months of 2008, but the ECX is likely to present fierce competition as it launches its spot contract on 13 March.

“Spot selling is welcome in the current lending market

Finally, in contrast to the first three quarters of 2008, EUAs have now been issued to most installations. Thus, spot trading is now possible to a greater extent than last year simply due to a greater availability of allowances in registry accounts.

### Policy development

In terms of policy developments for the EU ETS, this year will certainly be less eventful than 2008. Last year saw the initiation, debate and broad agreement on the EU ETS review, setting the parameters for

phase 3 (2013-2020) (see CMA “Full package required”, 12 Feb 09). This year, the EU will focus on ironing out some remaining details of its climate and energy package.

As regards phase 3 of the EU ETS, three major decisions are outstanding for 2009. First, qualitative restrictions on CER imports need to be specified. Second, common EU rules on auctions need to be agreed. This includes when and how auctions are held.

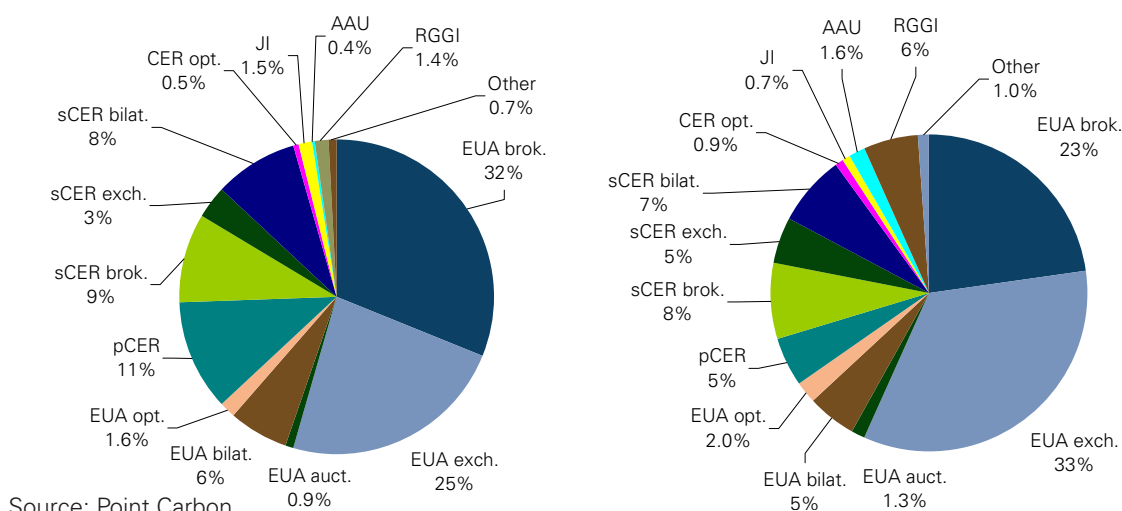
Third, and perhaps most contentiously within the EU, the issue of carbon leakage will need to be addressed. In the meanwhile, companies considered vulnerable to competition from areas without a carbon price will be able to claim free allocation all the way to 2020.

### Forecast for 2009

How will the European carbon market fare in light of a depressed economy? While general market maturity and ample spot selling by industry will contribute to

**Figure 2: EU ETS majority, but others are gaining**

Distribution of 2008 trade volume (left) and 2009 forecast volume (right) across the market segments.



Source: Point Carbon

**Table 1: Annual volumes and values in the global carbon market, 2005-2009 (forecast)**

Option volumes include both the brokered OTC market and exchange-traded options. The "Other ETS" volume includes data from the voluntary Chicago Climate Exchange (CCX) in 2005-07, otherwise only the New South Wales greenhouse gas abatement scheme (GGAS) and other mandatory systems.

	2005		2006		2007		2008		2009	
	Final figures		Final figures		Final figures		Final figures		Forecast	
	Mt	€ m	Mt	€ m	Mt	€ m	Mt	€ m	Mt	€ m
<b>EU ETS total</b>	<b>362</b>	<b>7,218</b>	<b>1,017</b>	<b>18,143</b>	<b>1,643</b>	<b>28,133</b>	<b>3,091</b>	<b>66,993</b>	<b>3,823</b>	<b>45,170</b>
<i>Brokered OTC</i>	207	4,269	627	11,180	1,009	17,278	1,516	33,553	1,331	15,974
<i>exchanges</i>	55	1,131	190	3,395	434	7,431	1,152	25,488	1,997	23,962
<i>auctions</i>	-	-	-	-	-	-	42	965	75	900
<i>Direct bilateral</i>	100	1,818	200	3,568	200	3,425	300	6,495	300	3,600
<i>options</i>	-	-	-	-	-	-	80	492	120	734
<b>CDM total</b>	<b>401</b>	<b>2,038</b>	<b>563</b>	<b>3,920</b>	<b>947</b>	<b>11,737</b>	<b>1,609</b>	<b>24,172</b>	<b>1,510</b>	<b>14,704</b>
<i>primary</i>	397	1,985	523	3,349	597	5,984	549	6,039	300	2,700
<i>secondary</i>	4	50	40	571	350	5,753	1,037	17,944	1,160	11,600
<i>options</i>	-	-	-	-	-	-	23	189	50	404
<b>Jl</b>	<b>28</b>	<b>96</b>	<b>21</b>	<b>95</b>	<b>38</b>	<b>326</b>	<b>72</b>	<b>720</b>	<b>40</b>	<b>450</b>
<b>AAU</b>							<b>18</b>	<b>179</b>	<b>95</b>	<b>942</b>
<b>RGGI</b>							<b>71</b>	<b>178</b>	<b>339</b>	<b>933</b>
<b>Other total</b>	<b>8</b>	<b>52</b>	<b>31</b>	<b>300</b>	<b>48</b>	<b>186</b>	<b>34</b>	<b>119</b>	<b>59</b>	<b>380</b>
<i>Pre-compliance</i>	-	-	-	-	-	-	4	12	17	86
<i>CPRS</i>							0.2	2.2	24	264
<i>Other ETS</i>	8	52	31	300	48	186	30	105	17	31
<b>Sum</b>	<b>799</b>	<b>9,401</b>	<b>1,632</b>	<b>22,458</b>	<b>2,676</b>	<b>40,382</b>	<b>4,895</b>	<b>92,365</b>	<b>5,866</b>	<b>62,580</b>

significant trade volumes in the first half of 2009, a number of negative factors imply that year-on-year growth will not be as large as in previous years.

## “ Total volume of 3.8 Gt expected for 2009 in EU ETS

One negative factor is the potential withdrawal of participants in the market, especially financial institutions. To date, few financial institutions have withdrawn from the market, but we could definitely see some fall-out during the year. In any case, we would not expect to see many new participants enter the market in these uncertain times. Furthermore, hedging of

secondary CERs is slowly moving from the EUA market to an increasingly liquid sCER market, reducing the traded EUA volume in relative terms, but with no effect on total carbon market volume.

The expectation of lower emissions in 2009 than in 2008 implies that there will be fewer buyers and more sellers on the market. Projected reductions in power demand in 2009 and 2010 imply less EUA demand from the power sector for those years.

At the same time, the reduction in emissions means that there is a greater industrial surplus to be sold off, with higher spot volumes than have already been seen. This obviously has an impact on

prices, but it is more uncertain to what extent it affects the traded volumes.

## “ Lower emissions imply more sellers, fewer buyers in 2009

Will installations in the industry sectors start holding back their EUA sales, and bank rather than liquidate their allowances? We think not, for most of the year. Survival is the focus in 2009, and spot selling of EUAs constitutes a reliable source of income for companies that might otherwise face liquidity crises and even bankruptcy in the face of dried-up credit lines. This assumption is strengthened by the observed high trading volumes

so far in 2009. The sell-off will continue until the industry has let go of most, or all, of its surplus, or until the outlook for the economic situation improves significantly, whichever comes first.

“Need for swapping will be reduced due to spot trading

EUA-sCER swapping was significant in the EU ETS in 2008. To what extent will the credit crunch influence swapping in 2009? On the one hand, the need for swapping will be reduced because of spot selling, which is an easier way of moving EUAs from industry to the power sector. Furthermore, the power sector’s demand for EUAs is also down, at least in relative terms, due to lower emissions.

On the other hand, industry companies could make money from both spot selling and swapping at the same time. We

thus expect the EUA volume from swapping to be more or less unchanged in 2009.

Price developments in 2009 will depend mainly on the severity of the economic situation. We expect the EUA price, the headline indicator of the carbon market, to be subdued at least until the summer. The volume of spot selling is still high, and will continue throughout H1 in response to 2009 issuance, verified emissions and other events mentioned above. A reduced need for credits and fuel switching will contribute to holding EUAs down. Consequently, we currently see very little that can lift carbon, at least for the first part of 2009. Our current forecast for EUA prices in 2009 is €12/t on average; however, we expect to see prices below this level for the first part of the year.

Point Carbon expects EUA volume during the first half of 2009 to level off around the daily average of the last quarter of 2008, which

is just below 15 Mt/day (excluding the holidays). In H2, spot market activity is likely to abate somewhat, which we estimate will reduce volumes to an average 11 Mt/day.

This produces a total volume of 3.3 Gt CO<sub>2</sub>e in these segments, distributed as 1.3 Gt in the brokered OTC market and 2 Gt on the exchanges.

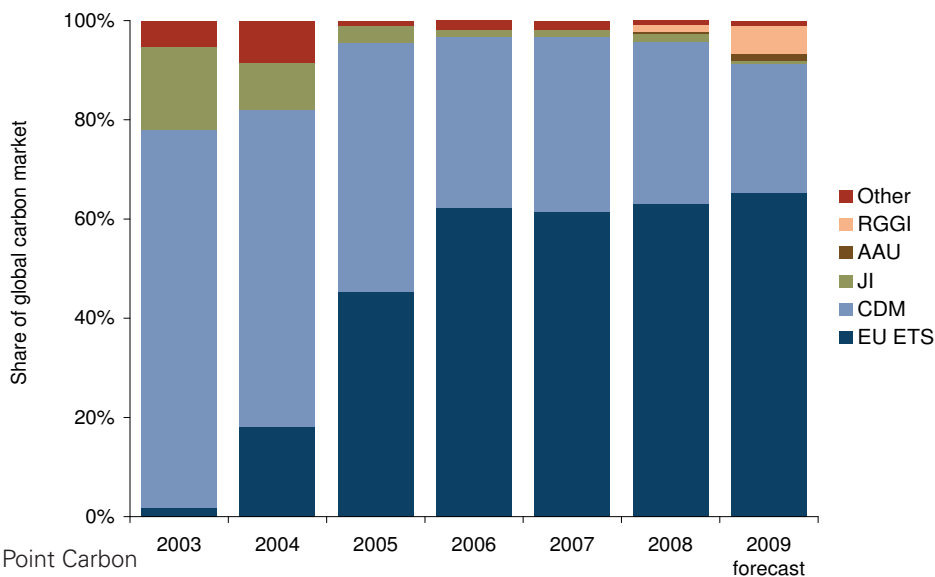
“An average 15 million EUAs/day to trade in H1 2009

In the auctioned market, we reckon that Germany will again sell 40 Mt over the year, while the UK will bring 25 Mt to market. Including volumes from other countries, we arrive at a total of 75 Mt over the year in this segment.

It is also likely that we will see an elevated EUA options volume in 2009, and that options will be traded further out on the curve. Our best forecast is 120 Mt in delta-

Figure 3: Carbon market segments over time

Relative share of each of the major segments from 2003 to 2009 (forecast).



Source: Point Carbon

adjusted EUA options volume. Finally, we assume a direct bilateral volume of 300 Mt, although the activity in the direct company-to-company market will be highly dependent on counterparty risk, bringing the total EU ETS market forecast to 3.8 Gt for 2009.

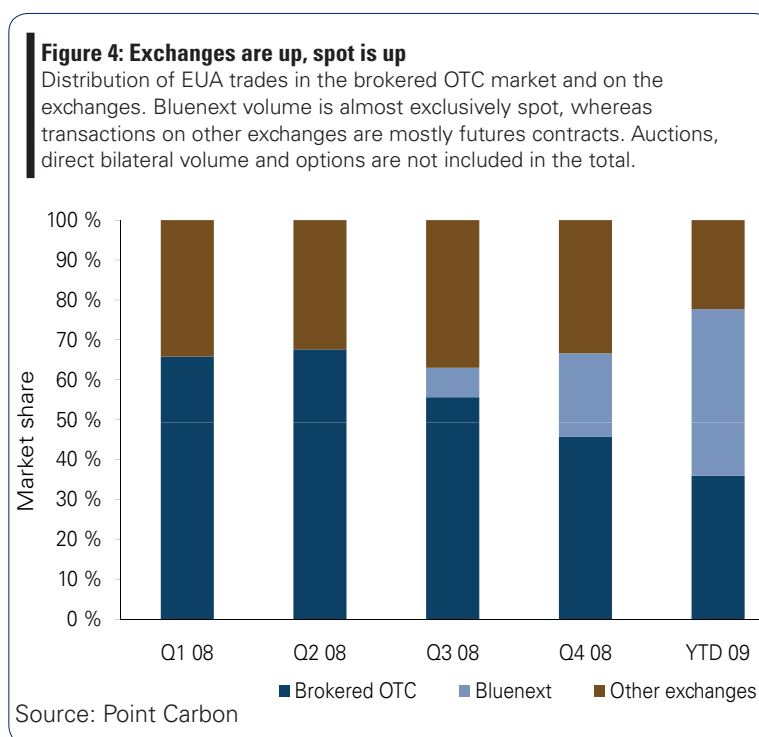
Based on the most recent Point Carbon price forecast for EUAs in 2009, the total market value of the EU ETS market will be €45.2 billion, down 33 percent from 2008.

## CDM

The CDM market will continue to be marked by the economic slowdown in 2009, and uncertainty about the role of project based mechanisms after 2012 will continue to remain an issue for most of the year. Finally, the effects of recent changes by the CDM Executive Board (EB) – both the EB's increased strictness and the decisions made at the Poznan summit – will influence the market in 2009.

## Primary CER market

We expect that investment in new projects in 2009 will be down compared to 2008, due to at least three reasons. First, low prices in both primary and secondary markets reduce the incentives



to invest. Second, post-2012 uncertainty, combined with the fact that the end of Kyoto's first commitment period is less than four years away, dampens interest in new projects. Third, the lack of available debt finance could keep some projects from being realised.

In sum, the incentives to invest in CDM projects are diminished in 2009 compared to most of 2008. Consequently, projects without

buyers and without financing will be in danger of cancellation or at least a halt in activity. This holds at least when it comes to projects at the validation stage and below.

“Primary CDM market will be significantly down in 2009

If the EUA price (and the sCER price) goes even lower than today's level, the primary market

### Text box 1: Verified emissions for 2008

An important price signal will be sent by the publication of verified emissions data from EU ETS installations, expected in early April. This release is important because it will constitute the first set of verified emissions data from phase 2. It will also be the first time data are released on installations in the EU-27 as a whole, at the same time and in the same format.

Compared to the first phase, phase 2 constitutes an expansion of the EU ETS on several dimensions. It will include new installations, which had emissions of roughly 60 Mt in 2007. Some UK installations that opted out of the scheme in 2007 will be included in 2008. Moreover, a new gas, nitrous oxide (N<sub>2</sub>O) will be covered in the Netherlands and Poland. Finally, Norway has linked its domestic ETS with that of the EU from phase 2 on, further expanding the scope of the scheme.

The numbers to watch the most closely are the emission figures from the industrial sectors and all the numbers from Bulgaria. These are the two sets of data where the uncertainty relative to the 2007 numbers is the greatest.

can be expected to dry up with limited trade volumes, because private buyers will prefer already issued CERs in the secondary market to forward contracts in the primary market. However, most governmental buyers, being less hit by the economic slowdown than private companies, and with potential political restrictions on their purchasing, will prefer pCERs to sCERs and AAUs. We expect government involvement in the CDM market to prevent pCER prices from dropping to the cost of production.

Point Carbon expects that the current financial climate, combined with continued low CER prices, will lead to considerably lower volumes of pCER transactions in 2009. Data from Q4 2008 shows that there is currently relatively little activity in the market, and H1 2009 will likewise be a test of the new market conditions.

In terms of numbers, we expect pCER volumes in 2009 to be significantly down on 2008. Specifically, we forecast a volume

over the year of 300 Mt CO<sub>2</sub>e transacted in this segment. At current pCER prices of €9 (Category 2), this yields a market value of €2.7 billion over the year.

This volume corresponds to a reduction of 45 percent on 2008. In our calculation, we have compounded the effects of three factors:

- A reduction of the remaining number of years to the end of the Kyoto period at the end of the year, from four to three;
- A general reduction of economic activity; and
- A diminished need for CERs, primarily as a result of lower emissions but also from some governments pursuing AAU purchases.

## Secondary CER market

In contrast to the pCER market, the sCER market is likely to grow somewhat in 2009, albeit less than it did last year (Figure 5). This is primarily because the sCER

market will still be strongly tied to the EUA market, where we expect growth.

Individual factors likely to enhance sCER trade volume in 2009 are increased CER issuance, an expansion of trading platforms and a more mature market in general. First, issued CER volume is set to increase from 138 Mt in 2008 to over 200 Mt in 2009. Hedging of these CERs in the secondary market will, seen in isolation, increase sCER trade volume relative to 2008.

“The sCER market is likely to grow in 2009

Second, while there was only one exchange – Nord Pool – offering CER contracts at the beginning of 2008, there are now several, including the ECX. An increase in spot CER trading may also be seen in 2009, after the connection of the UN and EU registries – the ITL and the CITL. Furthermore, the emergence of CER demand from Australia and New Zealand could cause a slight increase in market activity.

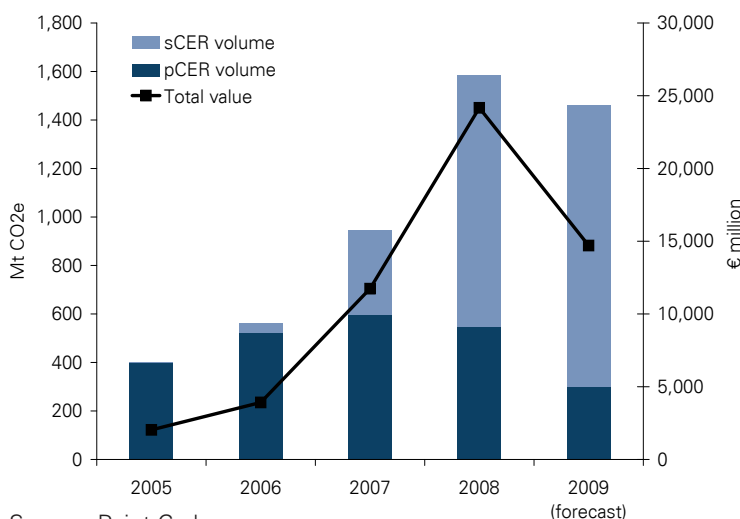
On the negative side, some players that were active in the sCER market in 2008 will be missing in 2009 due to bankruptcy or the closure of carbon desks. This may lead to lower transaction volumes, although we would expect actual project portfolios to change hands and thus remain in the market.

“Some players in the sCER market will be missing in 2009

In sum, we reckon that the sCER market in 2009 will grow in volume terms, but not as strongly as the EUA market. This is because a

**Figure 5: Primary and secondary CER volumes over time**

Transacted CER volumes in the primary and secondary market, with our forecast for 2009.



Source: Point Carbon

greater share of the sCER market, compared to the EU ETS, is found in the direct bilateral segment, where we expect counterparty risk to put a brake on growth. At the same time, exchange volumes have been comparatively low in the sCER market so far.

“We forecast a sCER market volume of 1.2 Gt in 2009

We thus forecast an increase of 12 percent over 2008, which represents a healthy year-on-year increase, but at the same time no more than a stabilisation of the trade volumes seen in the last months of 2008. We forecast a sCER market volume of 1.4 Gt in 2009. This represents the sum of the brokered OTC market (spot and forward deals, 450 Mt), screen volumes on exchanges (spot and futures contracts, 290 Mt) and the direct bilateral market (420 Mt).

The sCER price is largely tied to

the EUA price, and we expect the two to keep moving more or less in tandem in 2009. CER issuance will be up on 2008 (Figure 6), sending a bearish signal in a market where demand is already lower due to reduced emissions. Based on Point Carbon's most recent forecast for secondary CERs, €10/t on average in 2009, the financial value of the sCER market would be €11.6 billion.

Furthermore, we project that the market in options for secondary CERs will double in size, from 23 Mt (delta-adjusted volume) in 2008 to 50 Mt in 2009. Options will increase for at least two reasons: First, due to a need to hedge an increasing amount of available CERs, and second, because of greater opportunity to trade CER options on the exchanges.

## JI market

In total, 72 Mt worth of JI projects were transacted in 2008. More than half of the volume was

transacted in Russia, but there were also relatively significant volumes from projects in Romania and Ukraine.

In the last few months of 2008, the prospects for JI have worsened considerably due to a number of factors:

- Framework conditions for JI in Russia have become less attractive.
- The economic slowdown has made investors more risk adverse, and Russia and Ukraine, the two largest host countries, are strongly affected.
- Delivery risk appears higher due to the number of delays most JI projects are currently facing;
- Poznan did not reduce uncertainty over the role of JI after 2012.

Russia is still by far the largest potential source of ERUs, and the Russian JI framework is the most critical of the factors above. Russia has a highly complex system for domestic approval of JI projects. Russia also appears reluctant to approve some project types, such as those abating methane leakages. Hence, we expect few if any ERUs to be delivered from Russian projects in 2009.

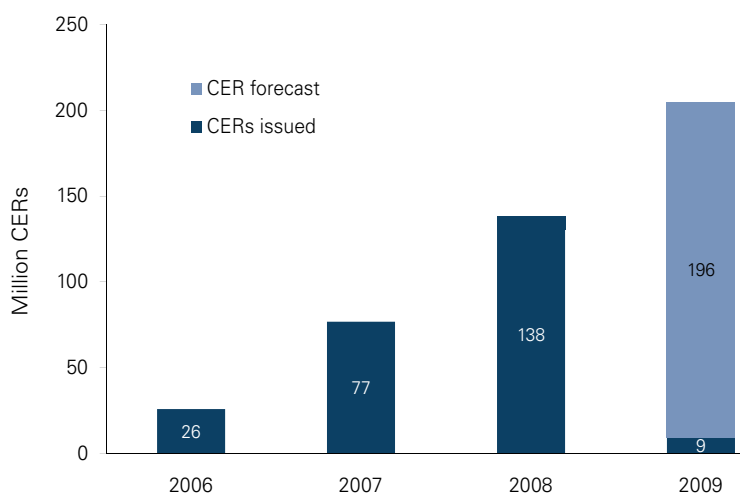
“Prospects for JI have worsened during the last months

Nevertheless, a number of JI deals are already under way, meaning that we are still likely to see some momentum in this segment in 2009. For example, negotiations in Ukraine over projects amounting to some 20 Mt have reached a fairly advanced stage. Negotiations on relatively large projects in Russia and Poland have also reached an advanced stage.

The key question is whether the Russian projects will falter due to

**Figure 6: CER issuance and forecast for 2009**

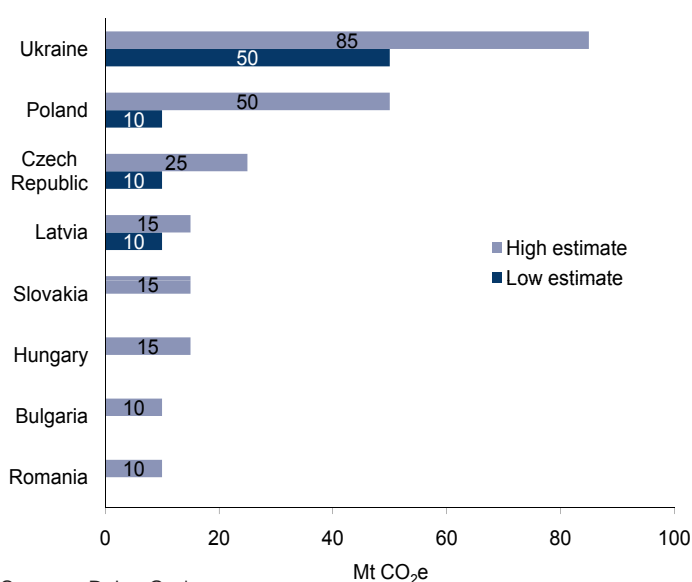
Certified emission reductions (CERs) issued by the UN, 2005-08 and 2009 to date, plus Point Carbon's forecast for remaining issuance in 2009.



Source: Point Carbon

**Figure 7: AAUs brought to market in 2009**

High and low estimates of AAU volumes to be offered by potential seller countries in 2009.



Source: Point Carbon

Russia's current problems with the ITL. Should this be the case, 2009 volumes could drop significantly compared to 2008 - this constitutes our lower bound scenario, with volumes in the range of 15-25 Mt. However, we consider it unlikely that the disconnect from the ITL will have a significant effect on contracted volumes from Russia, as the ITL connection in principle only hampers final ERU delivery and thus only affects a very limited number of projects.

“JI market estimated to decline 44 per cent compared to 2008

The upper bound scenario would be a situation where Russian and Romanian projects are contracted at the same level as in 2008, while we see a significant growth in some of the other countries, most likely Ukraine and Poland. In this case, 2009 volumes could amount to some 70 Mt. In terms of supply, this would mean that 2009 would see

at least one-quarter of upcoming project volumes transacted, just as 2009 represents one-quarter of the remainder of the first Kyoto commitment period.

However, in light of the risk still involved in JI and the worsening financial climate globally, we believe that the higher end of our 2009 range (70 Mt) is no more likely than the lower bound with Russian volume significantly curtailed (15 Mt). Hence our best estimate for JI in 2009 is found near the middle of the range, at 40 Mt. This represents a decline of 44 percent compared to 2008, and corresponds to the trend we see in the pCER market.

## AAU market

The AAU market established itself in 2008 with a handful of transactions totalling 18 Mt. Two transactions consisted of 'greened' AAUs sold by Hungary where

prices were reported to be in the 13-15 €/t range. The remaining 10 Mt came in a deal between Slovakia and a private buyer.

Negotiations over new transactions in countries such as Poland and the Czech Republic have reached an advanced stage and currently amount to some 15-20 Mt. In addition, there are fairly concrete plans for another 10-20 Mt in these countries. Ukraine has also advanced in negotiations with Japanese NEDO, having allocated 50 Mt to be transferred. If these upcoming transactions constitute our lower bound, AAU transactions in 2009 would total at least 80 Mt, roughly four times last year's volume.

“AAU transaction volume will see steep growth in 2009

The upper bound largely depends on the extent to which Central and Eastern European countries will leave the JI track and develop green investment schemes (GIS) instead for 'hard greening' of AAU transactions. Hard greening is usually defined as investing in projects aiming directly at GHG emission reductions.

For 2009, the most critical question is probably whether Ukraine will be able to bring larger volumes to the market. Ukraine intends to sell up to 1 Gt worth of AAUs over the 2008-12 period, but only a smaller share of this is likely to be brought to the market in 2009 (see CMA, "Kyoto balance," 18 Sept 08), see Figure 7. Countries other than Ukraine may in the aggregate bring a similar volume to market in our high estimate, putting our upper bound at 200 Mt.

Our best estimate is in the lower end of the 80 to 200 Mt range,

at 95 Mt. Historically, AAU deals have dragged out over time, and we do not expect 2009 to be any different. Sellers may experience some difficulties investing the AAU proceeds into the greening activities over the short period, which could also contribute to small volume transactions in 2009. As there have been very few transactions so far, sellers will likely focus on small pilot transactions at this stage. Using last year's average AAU price as an indicator, the financial size of the AAU market in 2009 would be €942 million.

## RGGI and North America

With financial uncertainty facing the global carbon market, many eyes will be on the developments towards US cap and trade. While the main focus will be on legislative proposals, it is also worthwhile keeping a close eye on regional markets which show potential for significant growth.

### RGGI

We have just entered the first year of the first RGGI compliance period, which will last for three years until the end of 2011. Over the year, the ten participating states – from Maryland to Maine – have planned to auction RGGI allowances (RGAs) worth 134m short tons CO<sub>2</sub>, or 122m metric tonnes (Mt). Of this, 114 Mt will be offered from the 2009 vintage, and 8 Mt from the 2012 vintage, representing the first year of RGGI's second compliance period, see Figure 8.

Based on the level of interest witnessed in the previous two RGGI auctions, we expect the four auctions held this year to continue

to be oversubscribed. Though RGGI is clearly over-allocated in the short term, buyers seem keen to get hold of allowances at the auctions, possibly to bank them into later years in expectation of a future federal cap-and-trade system into which RGGI allowances might be transferred, or in which they might be accepted at a certain exchange or conversion rate.

“Most allowances in RGGI auctions to be purchased by compliance buyers

Given the recent low oil prices relative to summer 2008, the trend of lower emissions we have seen over the past years could reverse. Because of the oil-to-natural gas price ratio, dual-fuelled units in the RGGI region have been running on natural gas rather than on petroleum liquids to an extent large enough to lower emissions significantly. The new oil-gas price

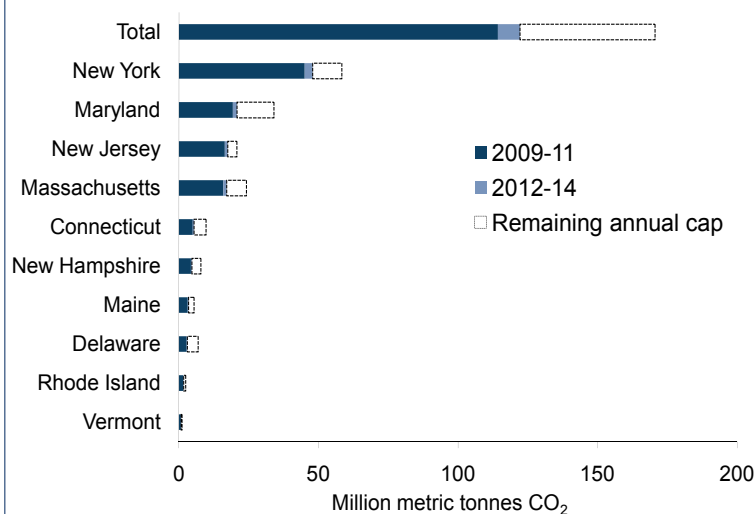
ratio following the collapse in oil prices could change this dynamic and trigger fuel switching in favour of oil.

As with RGGI's auctions in 2008, we expect that most of the allowances will be purchased by compliance buyers: financials participating in the auctions – to the extent that they are active in the down economy – tend mostly to do so as part of their clients' risk-management strategy and not in order to take a position in the market. Depending on the speed of US economic recovery this may change as well, with more banks and hedge funds getting into the auctions toward the end of 2009 if the economy picks up.

RGGI trades comprise the primary market, made up of auctions, and the secondary market, which includes various contracts in the brokered OTC market and on the exchanges, notably the CCFE and Nymex. Our projections show a secondary-market volume of 217

**Figure 8: RGGI auction volume planned for 2009**

All numbers are given in million metric tonnes. The “remaining annual cap,” taken together with the auction volumes, indicates the size of each state's total allocation for 2009.



Source: Point Carbon

### Text box 2: US federal climate policy in 2009

With a president favourable to cap-and-trade and Democratic majorities in the US Congress, all eyes are on climate change policy developments at the federal level. Indeed, the chairman of the House committee responsible for climate legislation, California representative Henry Waxman, promised to introduce a cap-and-trade bill by late May. The staff of Senator Joe Lieberman, who co-authored last year's main cap-and-trade bill, have said they will partner with former Republican presidential candidate John McCain to introduce a new version of this bill in the Senate.

Such proposals stand a chance of becoming law if they make it to the new president's desk, as Obama strongly supports a cap-and-trade system to reduce GHG emissions. However, proposals outlined in his campaign platform would sell all the emission allowances rather than giving them out for free. Observers say this may be a point over which the administration is willing to compromise. The potential US carbon market is destined to be huge, as both the administration and potential bill authors favor an economy-wide trading program in which, as in the WCI, the transportation sector would be covered. The cap in the first year of such a program (possibly 2012) could be more than 6 billion metric tons CO<sub>2</sub>e, roughly three times the size of the EU ETS.

A large-scale programme like this does not stand a good chance of passing anytime soon, however. The most likely climate-friendly legislation to gain support from both parties in the near term is a national renewable portfolio standard (RPS) or requirement that a certain percentage of the nation's power be generated renewably.

million short tons, which combined with the auctions produce a total RGGI volume of 339 million metric tonnes for 2009. The secondary market is set to constitute 64 percent of the total market volume, compared to 44 percent last year. At a current RGA price of \$3.55 per short ton (€2.75/metric tonne), the market would be worth US\$1.2bn or €933m.

### Other NA markets

The outlook for North American carbon markets other than RGGI is far less certain. The only other mandatory compliance trading in the region occurs through the province of Alberta's climate program, a baseline-and-credit system under which covered entities must achieve targets expressed in CO<sub>2</sub> emissions per unit of output.

If Alberta companies exceed their allowable emissions tonnage relative to production, they can make up the difference by buying offsets. We will not know the total tonnage involved in this market until March, when the roughly 100 companies covered by the programme must turn in their compliance reports proving their

offset purchases for the previous year.

Other Canadian provinces are members of the Western Climate Initiative (WCI) together with seven western US states including California. The WCI is a regional carbon market that, in contrast to RGGI, is designed to be economy-wide rather than covering only the power sector. WCI leaders are developing the rules of that trading system, scheduled to start in 2012.

“US companies to continue to buy offsets in preparation for federal cap-and-trade

Nevertheless, we expect US companies to continue to buy offsets in preparation for federal cap-and-trade, see textbox 2. Similar offset trading will also happen in Canada, but to a lesser extent. In total, we project a North American pre-compliance offset market volume of 17 Mt CO<sub>2</sub>e in 2009. Projected value of this market is US\$110 million, or €86m. Projects qualifying under the California Climate Action Registry (CCAR) offset standard account

for one-third of the US volume and almost half the US market value. This is partly because CCAR is seen by many market participants as a likely template for what kinds of offsets will be accepted in a future US ETS.

### Australia

The Australian Carbon Pollution Reduction Scheme (CPRS) is set to begin in July 2010 and will cover 75 percent of national GHG emissions. Following the publication of a White Paper by the Department for Climate change, future participants have a clear idea of the likely structure of the scheme as it is put before Parliament in May 2009.

In spite of objections from the opposition Liberal party due to the financial crisis, the Rudd government is determined to initiate the scheme according to the original timeline. Green groups are likely to continue putting pressure on the government to increase the 5 percent unconditional emissions reduction commitment by 2020, which, if successful, will give the scheme greater bite and higher prices. Furthermore, if secondary

CER prices continue at current suppressed price levels, we could see some demand for CERs towards the end of the year as traders and large emitters gear up for the scheme.

If we look at trade volumes in the EUA market in the year prior to launch, only 0.8 percent of the 2005 cap traded in 2004. At that time, of course, the concept of greenhouse gas emissions was still novel and there were few market places available.

“The CPRS market expected to transact around 24 Mt in 2009

In comparison, RGGI saw a volume of 42 percent of the cap in 2008, the last year before the start of the first compliance period. However, most of this volume was auctioned, while the CPRS does not have planned auctions in 2009.

If we adjust pre-implementation trading activity in the EU ETS to reflect the structure of the CPRS (30 percent auctioning in 2010/11) and a likely demand for AEU's under a 5 percent reduction scenario by 2020, it is reasonable to expect that somewhere between 3 to 8 percent of the CPRS cap will be traded in futures contracts in 2009. This translates to 13-35 Mt through 2009, with 24 Mt as best estimate. Volumes will be low for Q1 and Q2, rising towards the end of the year as the date of implementation approaches, and even more provided the economic turnaround should ease by then.

In contrast to the CPRS, we expect activity in the New South Wales greenhouse gas abatement scheme (NSW GGAS), the world's first GHG cap-and-trade system by some standards, to decline further in 2009. With the Australian federal

government having taken the initiative on climate change, and with prices and volumes declining steadily throughout 2008, we expect trade volume to fall by half in the NSW GGAS market in 2009.

## Conclusion

The carbon market does not (thankfully) operate in isolation from the rest of the world, and the outlook for 2009 is for the most part a reflection on how the current global financial crisis will play out. With subdued economic activity, and subsequent lower emissions, carbon prices will remain at low levels in almost all markets. This does not, however, imply that we will see similar reductions in all market activity, although some market segments look likely to be hit harder than others.

There is, nevertheless, an expectation that 2009 will see a levelling off from the massive growth witnessed in the carbon market so far. How long this “breather” will last is for the most part a question on how long, and deep, the recession will play out. Should the world economy start to recover, we could see a relatively speedy increase in market activity, and we would also expect new players to enter the carbon market.

It is important to keep in mind that unlike the economy, policy processes outlining the future of the carbon market show no signs of slowing down. Market participants in Europe have relative regulatory certainty all the way to 2020, although several key issues still need to be ironed out. And in the US there are several legislative proposals for cap-and-trade already tabled, or in the process of being defined. With market activity levelling off, it will be important

to keep an eye on these policy developments, as once we are out of the economic doldrums we might be facing a radically new, and increasingly globalised, carbon market.

2009 will also be an important year for the carbon markets in a longer term perspective. The Copenhagen meeting in December is intended to be a break-through with respect to how the international climate regime will look like after the first Kyoto period expires in 2012. This means that 2009 is likely to be a year of protracted and vigorous negotiations.

“Main determinant for 2009 is how the current global economic crisis will play out

At the core of the negotiations, is the role of the US. President Obama has stated that the new administration would take on a “leadership” role and engage “vigorously” in international negotiations. Since his election, work toward a federal cap-and-trade scheme in the US has gained considerable momentum. We might get a clearer view of Obama's strategy during the next round of negotiations in Bonn from 29 March to 8 April, when the new administration will participate in formal negotiations for the first time.

We will return to a thorough analysis of our expectations on the outcome of Copenhagen and Point Carbon's reference scenario for the climate regime after 2012 in a soon forth-coming issue of Carbon Market Analyst.

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