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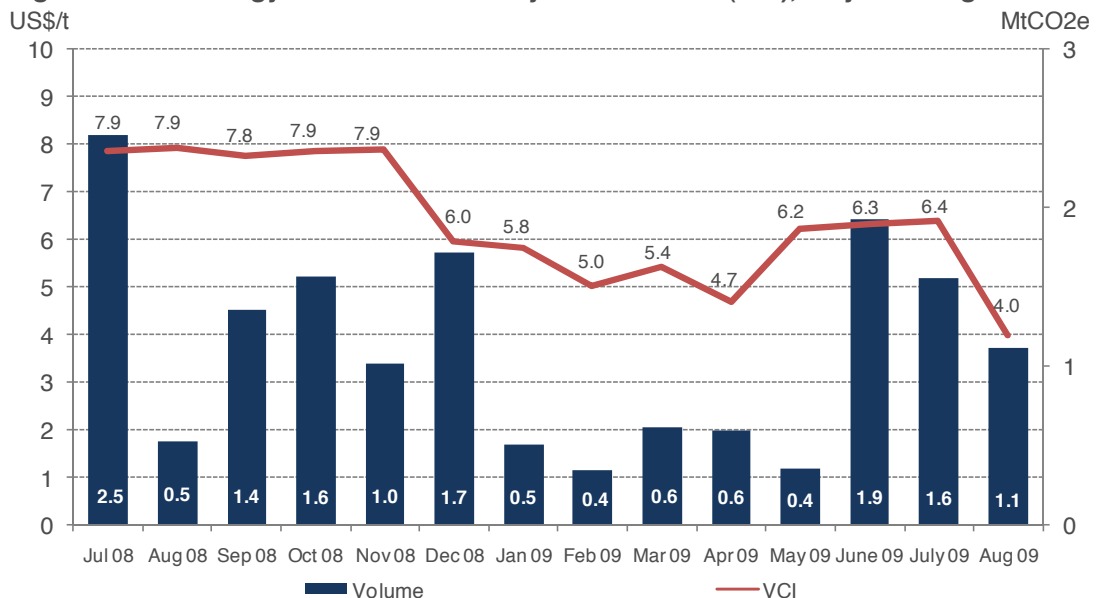
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Voluntary Carbon Quarterly

After a disastrous first half of the year the voluntary market is showing some glimmers of hope with volumes and prices recovering. This is, however, almost entirely driven by the US pre-compliance market with the Climate Action Reserve keeping centre stage. For 2009 we expect the global voluntary market value to decline by an estimated 62-76% from its 2008 value to \$171-261 million with an estimated 69-88Mt transacted.

- Transaction activity is returning, but only in the North American pre-compliance market.** The last three months saw the volume-weighted price increase by 8% (from \$5.3/t to \$5.8/t) and traded volumes rise by an astounding 191%. Climate Action Reserve (CAR) offsets comprised 63% of tracked volumes from June to August; methane-related offsets 83%. The price decline in August is attributed to many CCX bilateral trades (55% of volume) and the lower trading volume is merely seasonal.
- As anticipated, the Climate Action Reserve is the focal point of activity with prices at \$6.7/t, 15% higher than the VCI average.** Landfill gas is the dominant project type with plenty of supply coming to market whereas livestock and forestry CAR credits go for higher prices, but lack the needed supply. The VCI average is pulled down by the dumping of pre-CDM reductions at prices of \$1-2/t, verified to the Voluntary Carbon Standard.
- Markit and APX VCS registries have increased their credit issuance by almost 4Mt over the last quarter (30%).** Gold Standard and CAR follow with increases of 0.7Mt and 0.3Mt respectively and the number of projects listed in these four registries has now reached 160. The total number of credits issued in registries outside of the CCX has reached 48.6Mt, slightly lower than the total volume traded in the 2008 voluntary OTC market (54.0Mt).

Figure 1: New Energy Finance's Voluntary Carbon Index (VCI), July 08 – Aug 09



Source: New Energy Finance

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1. Corporate developments

The last edition of the Voluntary Quarterly catalogued a number of corporate acquisitions, partnerships and investments relevant to the voluntary carbon space. These are indicative of corporate positioning for the possibility of a future North American compliance market, as well as corporate consolidation borne out of the economic recession. Although not as numerous, over the past few months we tracked similar corporate developments (see below).

- **C-Quest purchases significant minority stake in SunOne Solutions, an offset project developer.** Although the exact sum was not disclosed, the deal is thought to involve several million dollars. C-quest aims to stimulate growth of SunOne's project activities, which are concentrated in the US Midwest and South. The bold move by C-quest clearly indicates its intention to ramp-up offset generation in anticipation of a federal or regional cap-and-trade.¹
- **JPMorgan plans to acquire Ecorescurities for \$204m following months' long bidding war.**² The move is to be made via JPMorgan's fully-owned subsidiary Carbon Acquisition Company and would boost JPMorgan's presence in the carbon space. JPMorgan is an active market maker in the EU ETS and a CDM project originator via proxy organisation; in 2007 it already made a large investment in the project market by acquiring Climate Care.
- **Essent Trading penetrates US pre-compliance market via deal with TerraPass.** Essent trading will purchase LFG offsets from a TerraPass project listed on the Climate Action Reserve (CAR). The deal also reflects the growing interest of European players in the US offset market.³
- **Duke Energy Indiana launches offset programme.** Duke Energy customers in Indiana can now offset emissions resultant from electricity consumption and can purchase more to offset other individual-level emissions.⁴ Duke will purchase verified offsets through a third-party to supply customers at a price of \$17.4/t and Duke will also match that initial purchase.

2. Over-the-Counter (OTC) market

The following sections cover the OTC voluntary market and focus on specific sub-markets and asset-classes within the overall voluntary carbon space in order to increase the accuracy and granularity of our analysis. We analyse price and volume trends in the voluntary OTC market by focusing on the following offset programmes: the Climate Action Reserve (CAR), the Voluntary Carbon Standard (VCS), the Gold Standard (GS), the American Carbon Registry (ACR) and Chicago Climate Exchange (CCX). The forestry offset market is treated separately due to the uniqueness of forestry offset project development and their transaction contracts. Additionally, we delineate the composition of the voluntary OTC market by geography (North America vs. International) and buyer motivation (pre-compliance and "pure voluntary" markets).

To analyse volume and price trends in the OTC voluntary market we utilise the below data sources.

- 1) New Energy Finance's Voluntary Carbon Index (VCI) for monthly and quarterly price trends
- 2) Tullett Prebon's VER Monitor for weekly and monthly price trends
- 3) Evolution Markets US GHG Markets Update for monthly price trends
- 4) Chicago Climate Exchange (CCX) disclosure of privately negotiated contracts for monthly trends
- 5) American Carbon Registry member account data

Note that some of the price charts show actual transactions, tracked by the VCI or from the registries themselves, whereas some of the other sources only provide bid-offer prices so do not give any further information on actual transactions that have occurred.

2.1. Climate Action Reserve (CAR) CRTs

The Climate Action Reserve (CAR) offset programme is widely regarded as the most dominant pre-compliance programme in the US and transaction data derived from the VCI confirms this perception. This section analyses price and volume trends within the CAR offset market, which represents the vast majority of pre-compliance activity in North America.

The below highlights the key price and volume developments in the CAR offset market from March-May to June-August.

¹ <http://carbon.newenergyfinance.com/?p=list&t=newsitems&id=33230>

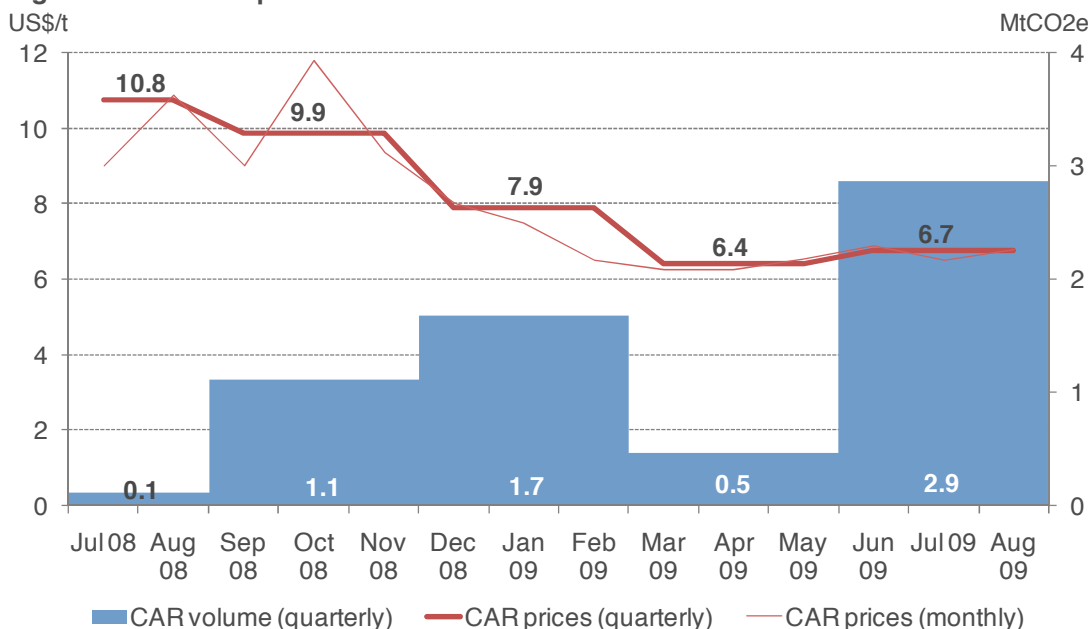
² <http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE58D37020090914>

³ Press Release: Essent Trading enters the US offset market; signs deal with Terrapass

⁴ <http://www.earthtimes.org/articles/show/duke-energy-indiana-launches-carbon-offsets-program,944567.shtml>

- **Traded volumes surged from March-May levels with prices slowly increasing.** The surge in traded volumes (480% increase) coincided with the House passage of Waxman-Markey, which gave a boost of confidence to CAR credits. CRT prices have remained stable after a continuous decline since the summer of last year, showing a small increase of 5% from March-May price levels (from \$6.4/t to \$6.7). Note that the VCI tracks wholesale level prices and CRT prices increase further down the supply-chain.

Figure 2: Historical prices and volumes of Climate Action Reserve CRTs

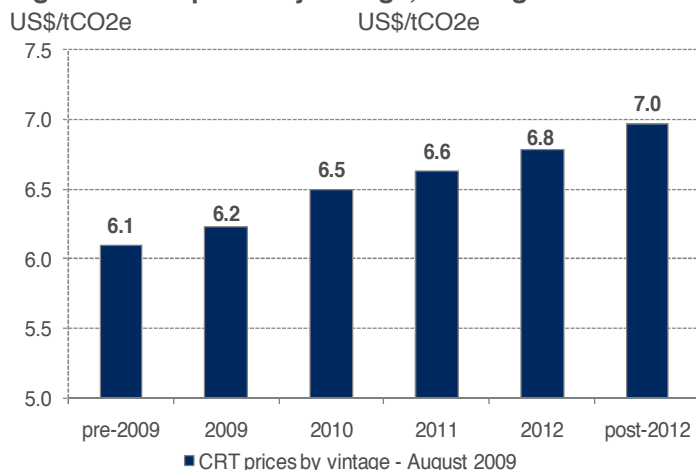


Source: New Energy Finance based on VCI data

- **Prices increase with later year vintages.** In contrast to the “pure voluntary” market that sees recent vintages fetch the highest prices while old and future vintages sell for less, CRT prices increase for later year vintages. Figure 3 reveals that CRT prices increase 2.8% per annum—consistent with Black-Scholes principles.
- **LFG CRT trading exhibits characteristics of increasingly mature and competitive market.** LFG CRT offsets comprise over 90% of tracked volumes. Forward sales of future vintages are commonplace and project developers can lock-in favourable contracts to ensure a reliable revenue stream. Despite the bid-offer spread increasing 300% from May to August (\$0.75 to \$3.0), the supplier-buyer dynamic is such that the average bid-offer price from June-Aug (\$6.8/t) in Figure 5 is identical to the VCI price derived from tracking multiple LFG CRT transactions over the same period. Other market characteristics demonstrating the maturation of the LFG CRT market include: i) multiple suppliers; ii) sale of identical products; iii) low entry barriers—technology acquisition costs are minimal; iv) transparency on the buy and sell side relative to other project types; and v) a scalable facility to reach $MC = MR$.⁵
- **Supply constraints plague livestock and forestry CRT markets.** According to active market participants a supply shortage for CRT livestock and forestry offsets persists. The ramp-up of supply for both project types is simply not fast enough to satisfy demand.
 - Compared to LFG, livestock projects lack the scalability developing firms want. Additionally, experienced market players noted that suppliers such as farmer co-ops are decentralised and relatively inexperienced in the carbon space, further exacerbating the supply shortage. Figure 6 reveals that in August bids lacked corresponding offers, further bolstering claims of a supplier-buyer disconnect and supply shortage for livestock CRTs.
 - Forestry project ramp-up is also comparably slower to LFG, which helps explain why market participants expressed concerns over constrained supply. The lack of available forestry CRTs is inconsistent with bid-offer price trends as bid prices decreased 11% from June to August, contradicting basic microeconomic principles.

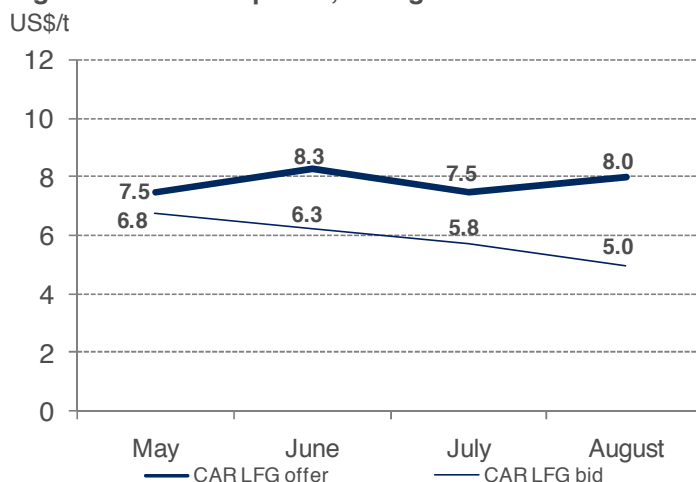
⁵ Marginal Costs = Marginal Revenue.

Figure 3: CRT prices by vintage, VCI Aug 2009



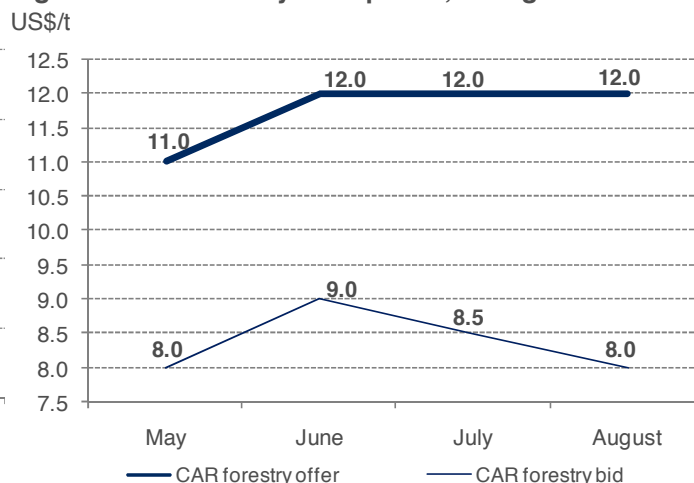
Source: New Energy Finance

Figure 5: CRT LFG prices, vintages 2009-14



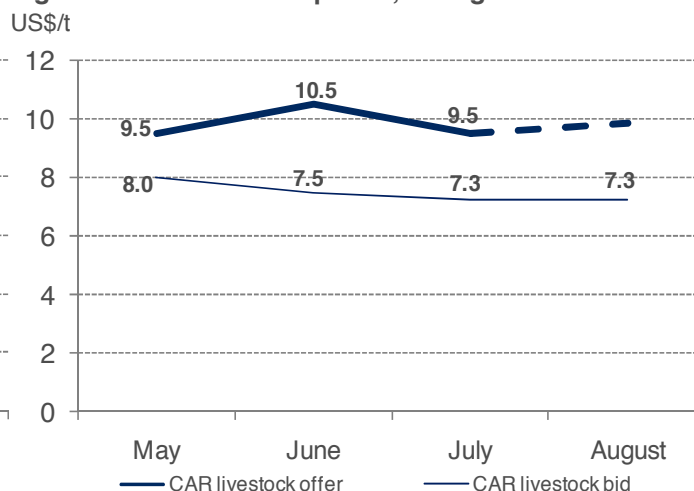
Source: New Energy Finance based on Evolution Markets US GHG Markets Update.

Figure 4: CRT forestry 2009 prices, vintages 2009/13



Source: Evolution Markets GHG Markets update Note: Bid-offer prices across 2009-13 vintages

Figure 6: CRT livestock prices, vintages 2009-13



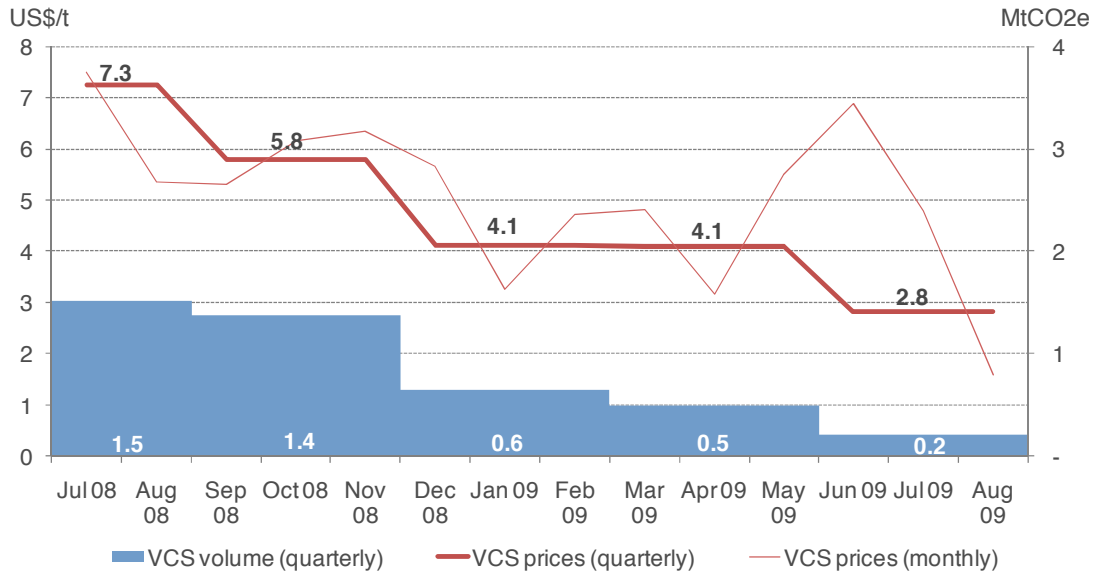
Source: New Energy Finance based on Evolution Markets US GHG Markets Update Note: (1) Dashed line indicates lack of offer

2.2. Voluntary Carbon Standard

Figure 7 illustrates the progressive decline of Voluntary Carbon Standard (VCS) prices and traded volumes, an indication that the “pure voluntary” market is not yet showing signs of recovery.

- VCS volumes continue to decline.** Traded volumes dropped by 60% (from 0.5Mt to 0.2Mt) since the last edition, continuing a downward trend in traded volume that started when we initiated our Voluntary Carbon Index (VCI). Generally, demand responsive price decreases lead to increased trading activity; however this is not reflected by VCI data. The lack of tracked VCS offset volumes could possibly be due to a reporting bias, however conversations with European brokers largely confirm the sparse trading of VCS.
- Pre-CDM offsets depress VCU prices.** VCU prices declined by 32% since the last edition (from \$4.1/t to \$2.8) due to China and India-based CDM developers dumping pre-CDM VCUs on the market for whatever price they can fetch (\$1-2/t). So-called “exotic” offsets originating from regions such as SE Asia, Latin America and particularly Africa tend to fetch higher wholesale prices (from \$4.0 to \$6.0/t) and represent the only positive price driver for the VCU market outside of North America—where the pre-compliance component drives prices.

Figure 7: Historical prices and volumes of Voluntary Carbon Standard (VCS) VCUs



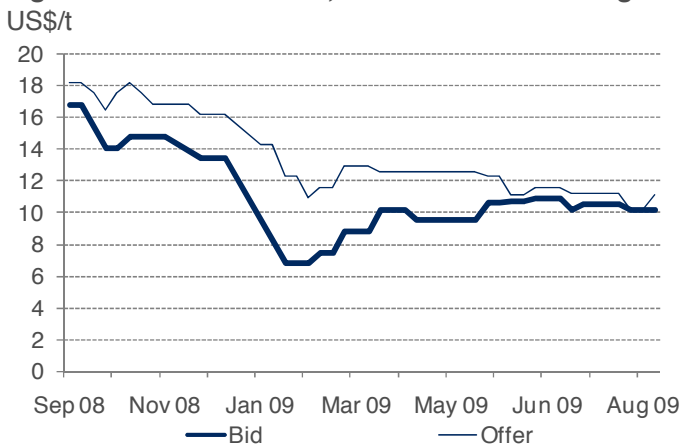
Source: New Energy Finance

2.3. Gold Standard VERs

Gold Standard offset sales are virtually non-existent in 2009 as discretionary budget cuts have prompted corporates to suspend or scale back offsetting initiatives. Buyers scaling back offset initiatives are seeking lower cost options such as “exotic” VCUs⁶, the remaining GS VER demand comes from buyers committed to only purchasing Gold Standard certified offsets. Some are also awaiting the issuance of African-based GS VERs—the recent project location preference among “pure voluntary” buyers. Despite the lack of traded volumes, however, GS VER bid-offer prices continue to move.

- **Convergence of GS VER bid-offer prices (2008/09 vintages) failed to materialise into sales** (see Figure 8). The lack of demand is so pronounced that even when sellers and would-be buyers agree on a fair market price, trades fail to materialise. We suspect this is due to disagreements over transaction volumes, which is consistent with Climex’s auction design for GS VERs, which allows small purchase volumes (≥500 tonnes) at prices associated with large transactions.
- **Forward vintage GS VER bid prices have remained virtually unchanged since January 2009.** Offer prices declined early 2009 to entice demand, but to no avail. August bid and offer prices are identical to those in mid-March 2009 (\$6.8/t and \$8.9/t). The static nature of forward GS VER prices coupled with little-to-no trading also indicates a standstill in the GS VER market.

Figure 8: TP VER Monitor, GS VER 2008/09 vintages



Source: New Energy Finance, Tullett Prebon

Figure 9: TP VER Monitor, GS VER future vintages



Source: New Energy Finance, Tullett Prebon

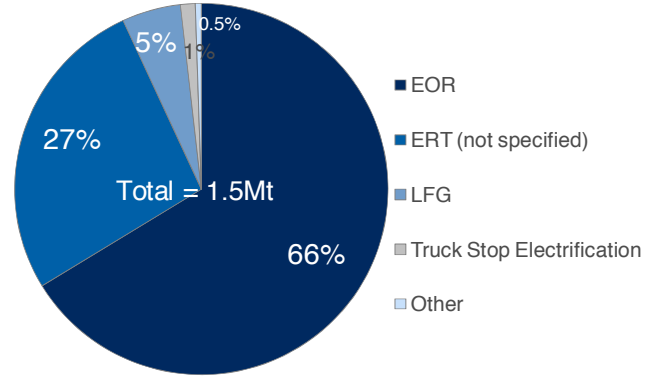
⁶ So-called “exotic” offsets generally originate from regions such as SE Asia, Latin America, and most recently Africa; often they are renewable energy and most recently forestry projects. Africa offset projects are becoming increasingly popular as an “exotic” offset type

2.4. American Carbon Registry (ACR)

The ACR comprises elements of both the pre-compliance and “pure voluntary” markets. Some ACR members joined for corporate image improvements, others to prepare for future regulation. The prospect of ACR elevating its status as a pre-compliance standard increased with Sen. Blanche Lincoln’s (D-AR) appointment to Chair the Senate Agriculture Committee. The Arkansas-Winrock connections should bolster ACR representation on the Hill. Additionally, Joe Goffman, a former founder of the ACR (when it was the ERT GHG Registry), is Senior Council on Global Warming to the Senate Environmental Public Works Committee (EPW) and remains on good terms with ACR.

Although political support for ACR appears strong, the most prominent project type in the programme—Enhanced Oil Recovery (EOR)—may face EPA scrutiny with respect to eligibility in a future trading programme (see Figure 10). Many ACR transactions appear to be “pure voluntary” purchases (event offsetting, product add-on), but some high volume transactions originate from anonymous ACR members. A reliable source informed us that the anonymous account holders (eg Alpha 1 and 2) are financials and that their trading is likely pre-compliance related. Both account holders mentioned above made high volume EOR purchases from Anadarko on 30 March and sold the exact purchase amounts to the same counter-party, Bravo 1, on the same day (2 April). It’s difficult to discern what is driving this trading activity but it could be as simple as gaming market information asymmetries via buying and selling offsets or it could be far more complex than that.

Figure 10: ACR traded volumes, Jan-Aug 2009⁽¹⁾⁽²⁾



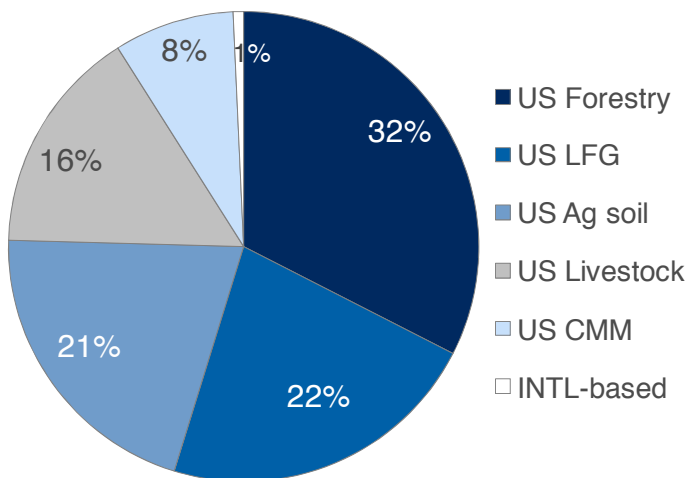
Source: New Energy Finance based on ACR registry account data
 Notes: (1) Only covers intra-member transactions. (2) EOR is Enhanced Oil Recovery

We are currently in the process of increasing our coverage of ACR transactions so more figures should be available by next edition.

2.5. Chicago Climate Exchange (CCX) OTC offset market

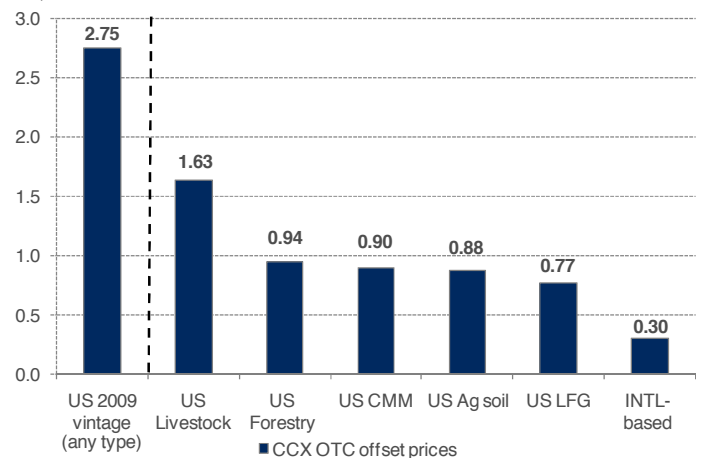
From 01 August to 18 September CCX off-exchange bilateral transactions sold for an average of \$0.9/t, three times the exchange traded price of \$0.3/t. Most revealing is that 2009 vintages sold for \$2.8/t (see Figure 12), well above prices for other vintages which sold in the range \$0.8-0.9/t. This comes to no surprise as the cut-off year for volume-based compensation for early offsets under Waxman-Markey is 2009. Figure 11 provides a volume breakdown of CCX bilateral trades from 01 August to 18 September by project type.

Figure 11: CCX OTC vol. by type, 01 Aug-18 Sept 09



Source: New Energy Finance based on CCX data

Figure 12: CCX OTC prices by type, 01 Aug-18 Sept 09 US\$/t



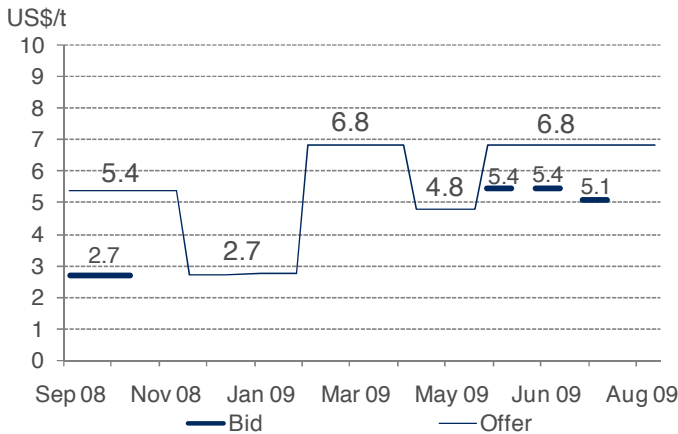
Source: New Energy Finance based on CCX data

2.6. Forestry OTC offset market

Forestry offsets are gaining momentum in both the pre-compliance and “pure voluntary” markets as evidenced by the sharp increase in the frequency of forestry offset transactions tracked by the VCI and via informal conversations with market players who expressed renewed interest in forestry offsets. Since the last edition, we observe the following trends regarding forestry transactions:

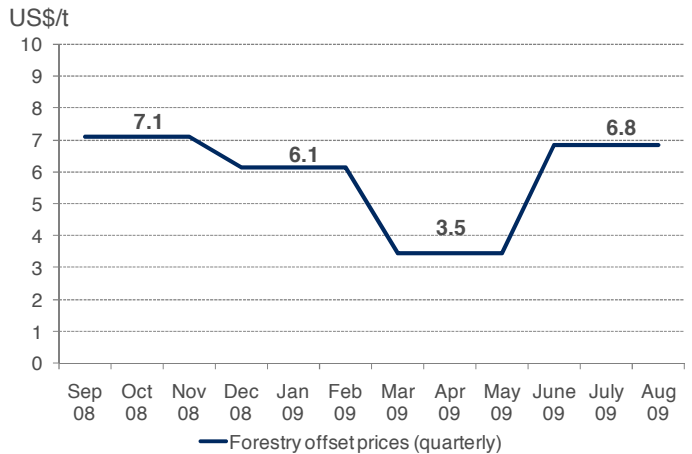
- **CCB forestry gains traction in North America.** As reported by the VCI, CCB prices range approx. \$7-9/t, with an average of \$8/t from June-August, drawn from multiple transactions of CCB certified North American projects.
- **As bid-offer spread widens for INTL forestry, bids disappear.** The bid-offer spread increased by 21% for issued forestry offsets. INTL forestry offsets are likely purchased by “pure voluntary” buyers either waiting for offer prices to decrease or for more attractive offsets to hit the market, particularly from African-based projects according to one source.

Figure 13: TP VER Monitor, issued INTL¹ forestry offset bid-offer prices, 2008/09 vintages



Source: New Energy Finance based on TP VER Monitor Note: (1) SE Asia, S America

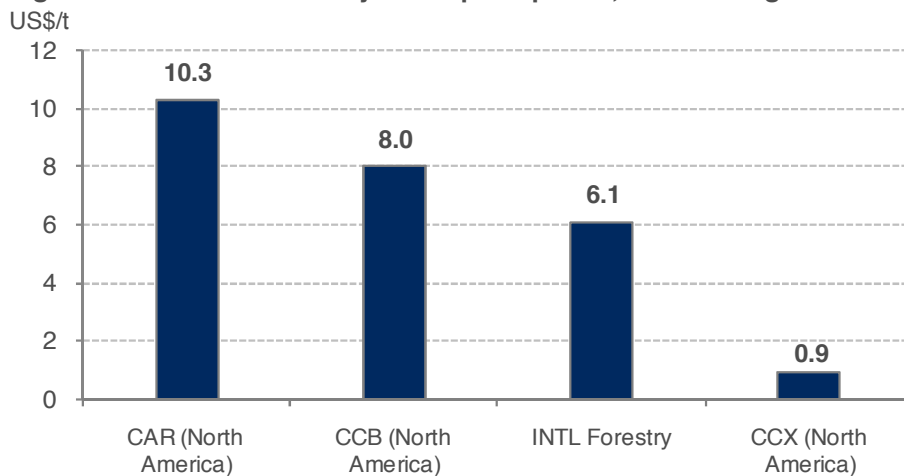
Figure 14: VCI North American forestry offset prices, future vintages



Source: New Energy Finance. Note: North American-based forestry projects

As previously mentioned the forestry offset market attracts both “pure voluntary” and pre-compliance demand. The regulatory uncertainty holding back further development and the time-consuming process of planning and implementing forestry projects has resulted in a supply shortage for CAR verified forestry offsets. Forestry offset prices sourced from SE Asia and Latin America fetch comparably lower prices consistent with broad trends in the “pure voluntary” market. As demand picks up prices should as well considering the growing popularity of forestry projects among “pure voluntary” buyers.

Figure 15: 2009 OTC forestry offset price points, June to August 2009



Source: New Energy Finance based on the following: NEF’s Voluntary Carbon Index (VCI), CCX bilateral offset transaction data, TP VER Monitor, Evolutions GHG market publication. Notes: Price points for INTL forestry and CAR forestry represent bid-offer price average and not representative of actual transaction.

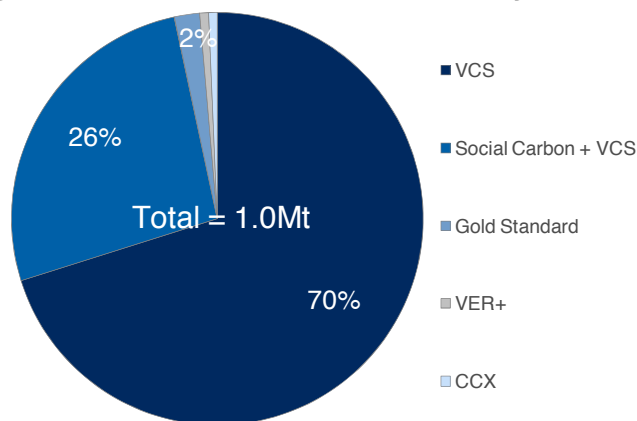
2.7. Geographic distribution

International market

According to the VCI few transactions have taken place on the international voluntary market. Although this may be related to our coverage of the international market (we have more North American based developers / wholesalers participating) it is largely in line with other market observers such as MF Global’s Weekly VER update, suggesting that the situation may indeed be as bad as our data indicates. Since the international voluntary market is almost entirely dependent on discretionary spending, the recession explains most of this low level of activity. Thus far in 2009, the international OTC market exhibited the following trends:

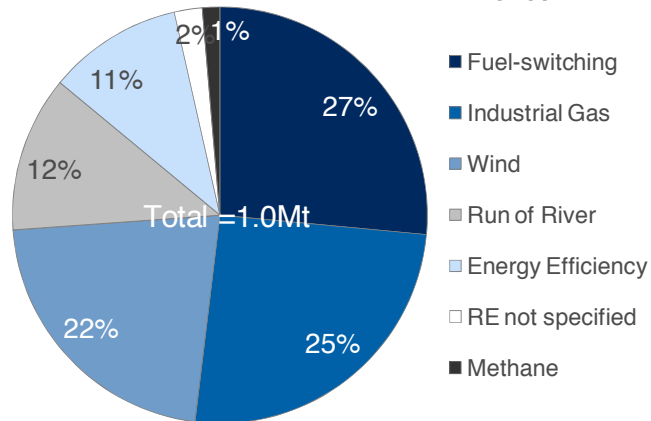
- **VCS has 70% share of the international market.** Most of this comes from pre-CDM deals in which project developers are willing to dump VCUs at whatever price they can fetch (\$1-2/t). Pre-CDM project types are generally renewable energy and energy efficiency offsets from China and India.
- **Social Carbon takes 26% market share at significant premium over VCS.** Social Carbon VCUs originate from fuel-switching projects in Brazil and sell much higher than the average VCU (\$6.6/t compared to \$3.2/t). Note that there might be some bias in the figures as we manage to capture almost all Social Carbon offset trades, in contrast to some other standards.

Figure 16: International 2009 OTC market by standard



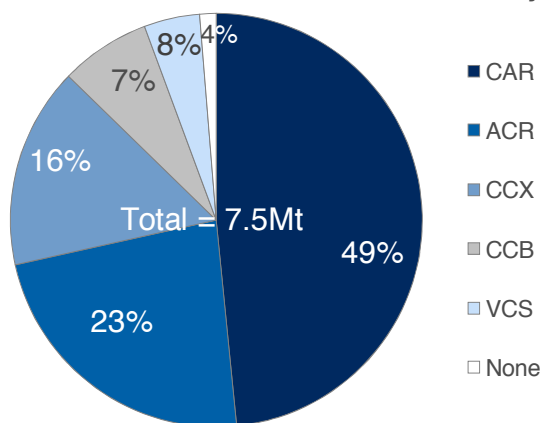
Source: New Energy Finance Notes: Incl. VCI data from Jan-Aug, CCX OTC data, Aug - 18 Sept, and ACR transaction data

Figure 17: International 2009 OTC market by type



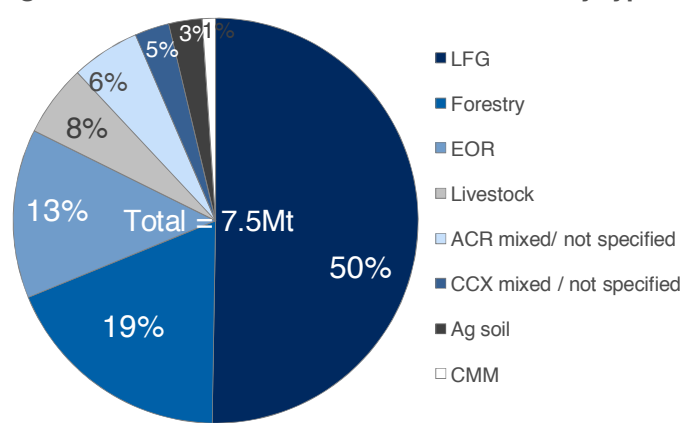
Source: New Energy Finance Note: Incl. VCI data from Jan-Aug, CCX OTC data, Aug - 18 Sept, and ACR transaction data

Figure 18: North American 2009 OTC market by standard



Source: New Energy Finance Note: Incl. VCI data from Jan-Aug, CCX OTC data, Aug - 18 Sept, and ACR transaction data

Figure 19: North American 2009 OTC market by type



Source: New Energy Finance Note: Incl. VCI data from Jan-Aug, CCX OTC data, Aug - 18 Sept, and ACR transaction data

North American market

Relative to the international market there is significantly more activity in North America.

- **LFG CRTs take 44% share of North American market.** This is clearly related to their likely eligibility in a future US federal market and we therefore anticipate this trend to dominate going forward.

- **Forestry offsets a distant second to LFG, taking 19% share of North American market.** Considering Waxman-Markey’s favourable treatment of forestry offsets it is no surprise this project type re-emerges from a relatively stagnant period over the past years. With respect to standards CCB is most popular with 35% of North American forestry offsets; 23% CCX; 7% to no standard; and the remaining cannot be disclosed due to confidentiality.
- **Livestock highly sought after as pre-compliance project type.** Unlike LFG, which may fall subject to New Source Performance Standards (NSPS), the agricultural sector is largely safe from EPA regulations, especially agricultural facilities emitting under the 25kt/yr threshold. Tracked volumes indicate CAR comprises 63% of North American-based livestock offset transactions with the CCX second at a 33% share. Both livestock CRTs and CCX offsets sell for higher prices than most other project types verified to the same standard.

2.8. Market outlook

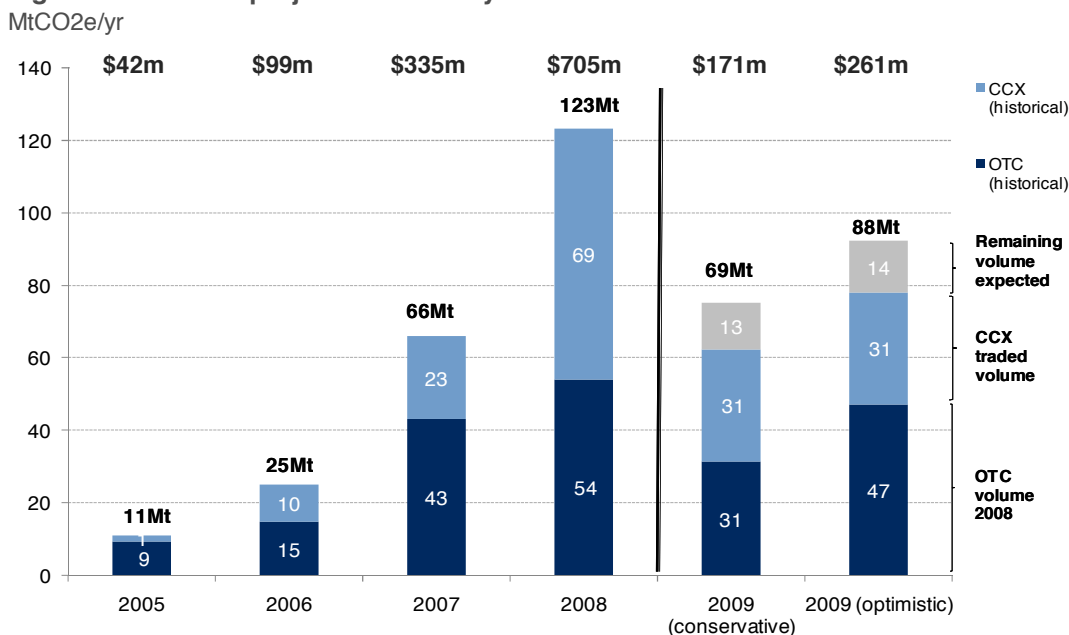
“Pure voluntary” market

The brief history of the voluntary carbon market, more specifically the “pure voluntary” market, indicates a reliance on broader macro-economic growth as well as the public’s concern about environmental protection. When the economic recession spread the environment took a back seat at both the corporate and individual-level causing significant demand destruction. At the same time, both offset supply and market transparency increased significantly with many pre-CDM reductions entering the market and the launch of numerous new registries.

We see the “pure voluntary” market splitting into two separate sub-markets for: i) pre-CDM originated offsets, mostly from China and India; and ii) the boutique market for “exotic” offsets, which are most characterised by atypical project locations (specifically not China) in tropical or secluded regions (SE Asia, Africa, Latin America). The pre-CDM market generally entails higher transaction volumes but at very cheap prices (\$1-2/t) whereas the “exotic” offset market involves smaller transaction sizes but at higher prices (\$4-6/t).

A recently published report by Ecoscurities surveying over 300 corporations worldwide suggests that offset demand will continue. Of the total sample approximately 40% has already been offsetting some emissions (note that it is impossible to be exact given that multiple responses were allowed), 27% have the intention to offset their emissions in the next few years and 33% stated that any offsetting would be unlikely. These responses indicate that the voluntary market will certainly grow over the next few years from 2009 levels, but that expectations should be limited. We anticipate that 2009 will reveal a significant decline (see Figure 24Figure 20) with growth picking up again in 2010 following economic recovery in North America and Europe. The decline is even more pronounced in monetary terms given the significant decline in carbon prices for both the CCX and the OTC market.

Figure 20: Historic/projected voluntary market transaction volumes and values



Source: New Energy Finance, Ecosystem Marketplace. Notes: 1) projections for 2009 volume include an assumption for the OTC market size that the VCI captures 1/3 of the global voluntary market, in line with our annual study “State of the Voluntary Carbon Market”

Many of these corporations may purchase pre-CDM VCUs as an inexpensive means to fulfil pledged emission cuts. Presently there is sufficient supply of pre-CDM VCUs and given the continuous delay in the CDM process this is likely to remain for the foreseeable future. As a result, average VCS prices will remain on the low end, slowly rising as demand increases in 2010. Other standards, such as the CCBS, have better price points as supply is not as large as with the VCS.

Pre-compliance market

Going forward we expect CAR to maintain its lead as the premier pre-compliance programme in North America with the ACR claiming second place over the VCS considering its longstanding presence in the North American carbon space. The speed at which North-American based VCS projects ramp-up will determine the extent of VCS penetration in the pre-compliance market. Regarding prices we expect US-based methane-related VCS offsets to sell at around \$5.0/t to \$6.0/t, ACR prices to vary according to project type with EOR the least expensive and CAR to maintain current price-levels for the remainder of the year (around \$7/t).

As uncertainty increases regarding the passage of US federal cap-and-trade market participants will begin to look at the various alternatives that could play-out if federal cap-and-trade fails. If that indeed does occur we still anticipate CAR offsets will be sought after, particularly offsets from states developing regional programmes. Emitters and investment firms alike will play closer attention to the development of regional cap-and-trade programmes as well as EPA regulatory developments. Thus, even in the absence of US passage of federal cap-and-trade, pre-compliance activity will continue in the US.

3. Standards

New Energy Finance identified the following developments regarding standards, methodologies and protocols since the last edition:

- **CAR forest protocol v3.0 approved.** CAR's new forest protocol expands to a nation-wide standard. Environmental groups cried foul for language in the protocol that opens the possibility for even-aged forest management to qualify as an offset practice. Additionally, remaining in the protocol is the language regarding penalties for early termination of forestry projects and subordination to CAR for all encumbrances, including mortgages, in the Project Implementation Agreement (PIA). For more details see the last Voluntary Quarterly.

Table 1: Project type by standard

| Sectors Standards | Electricity | Industry | Transportation | Agriculture | Forestry | Commercial / Residential |
|----------------------|-------------------------------------------------|-------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------|
| CAR | | | | livestock CH ₄ manure management | reforestation, conservation based forest management | landfill CH ₄ |
| RGGI | fugitive SF ₆ from transmission | | | livestock CH ₄ | afforestation | landfill CH ₄ , efficiency |
| VCS | renewables, CHP, efficiency, SF ₆ | process emissions, industrial gases, efficiency | fuel-switching, efficiency | livestock CH ₄ , soil/crop practices N ₂ O | all LULUCF categories, avoided deforestation | Efficiency |
| Gold Standard | renewables, CHP | efficiency | fuel-switching, efficiency | efficiency, fertiliser N ₂ O, livestock CH ₄ , biomass residue | | efficiency, landfill CH ₄ , wastewater CH ₄ |
| VER+ | CDM-approved | CDM-approved | CDM-approved | CDM-approved | CDM-approved | CDM-approved |
| CCB | | | | | A/R, agro-forestry, avoided deforestation | |
| CCX | renewable | coal-mine methane, efficiency, fuel- switching | fuel-switching, efficiency | agricultural CH ₄ , soil/crop practices N ₂ O, organic waste disposal | A/R, IFM, and forest enrichment | efficiency, fuel-switching |
| ACR | renewable | fuel switching, efficiency | fuel switching, efficiency | manure management | A/R, REDD | landfill CH ₄ |

Source: New Energy Finance based on publicly available sources

- **Social Carbon plans to release fourth version of its standard.** The stated goal is to strengthen assurance that positive externalities are associated with offset projects. The standard will receive public comments part of an overall review process until 26 Oct.
- **VCS extends eligibility to Canada.** The VCS previously required AAU cancelation in order to issue VCUs in nations with Kyoto reduction targets. The VCS has now removed this requirement for Canada given that it has essentially given up its Kyoto obligations and potentially to promote the standard as a pre-compliance play.
- **China plans “Panda Standard” as offset for the govt launched China Beijing Environment Exchange (CBEEEX).** The standard will only include protocols for agriculture, forestry and fishery practices.

4. Registries

The summer was relatively quiet regarding registry activity. The below is the only noteworthy development to report.

- **APX market standards accepted by SWIFT for carbon markets.** The Society for Worldwide Interbank Financial Telecommunication (SWIFT) approved APX messaging standards for unique identification and trading of offset project credits. APX will assign Universal Project Numbers to offset projects and Environmental Instrument Numbers to the offsets it generates. The tracking upgrade should facilitate cross-market trading and the overall fungibility of carbon offsets.
- **Tracking registry developments.** Table 2 updates each registry’s project listings, registrations and issuance of offsets since the last edition of the Voluntary Quarterly.
 - **Growth of credit issuance slows, only increasing 4% since the last edition which saw a 20% increase.** Roughly 5Mt were added to registries since the last edition, nearly half of which comes from VCUs issued by the APX (46%), followed by Markit with 34%, Gold Standard with 14% and finally CAR with 6%.
 - **Strong growth of projects issuing credits.** Projects able to issue credits on APX VCS registry increased by 94% (from 32 to 62) while Markit saw 28% growth (from 60 to 77).
 - **Projects grow on Climate Action Registry (CAR).** Projects listed on CAR increased by 18% (from 51 to 60) since the last edition. We anticipate continued growth of project listings on CAR given its pre-compliance importance.

Table 2: Registry by project and volume (changes from previous addition in parenthesis)

| Registry | Standards Accepted | Number of projects ^(a) | | | Volume ^(b) in MtCO ₂ e | | | Retired (% of issued) |
|---------------------------------------|------------------------|-----------------------------------|--------|------------|----------------------------------------------|---------------------------------|-------------------|-----------------------|
| | | Listed | Reg. | Issuing | Listed (projected) ^(d) | Reg. (projected) ^(d) | Issued | |
| Climate Action Reserve (CAR) | CAR | 60 (+9) | 6 (+6) | 14 (+5) | | 0.7 (-) | 1.6 (+0.3) | 0.06 (3.7%) |
| American Carbon Registry (ACR) | ACR created & approved | | | 22 | | | 30.0 (-) | 2.4 (7.9%) |
| Chicago Climate Exchange (CCX) | CCX | n/a | n/a | 152 | n/a | n/a | 71.5 (-) | n/a |
| Gold Standard Registry (GS) | GS VER, GS CDM | 79 (+2) | 20 | 7 | 6.1 (+0.5) | 2.4 (+0.9) | 1.7 (+0.7) | 0.5 (32.6%) |
| Blue Registry | VER+ | | | 26 | | | 2.7 (-) | 0.3 (9.9%) |
| Markit^(c) | VCS, Markit approved | 15 | 63 | 77 (+17) | | | 8.1 (+1.7) | 0.6 (9.8%) |
| APX (VCS)^(d) | VCS, CAR | | | 62 (+30) | 0.1 (-) | | 4.5 (+2.2) | 0.1 (2.2%) |
| Total | | | | 360 | | | 120.1 (+5) | 4 (-) |

Source: New Energy Finance based on respective registry data Notes: (a) approximate figures (b) change from previous edition listed in parentheses (c) excludes VCS projects (d) excludes any projects also listed on Markit (d) over lifetime of project

5. Exchanges and Auctions

With respect to Exchanges and Auctions the following developments occurred since our last edition:

- **China Beijing Environment Exchange (CBEEEX) is launched.** The government-backed CBEEEX is promoted by China as the nation-wide framework for VER trading. The CBEEEX facilitated the first VER purchase by a Chinese company—Tiaping Auto Insurance. The company purchased 8kt of energy efficiency offsets generated by a commuting campaign during the Olympics in Beijing. The offsets, which sold for \$5.0/t were not verified to any standard. CBEX will, however, shortly launch its own voluntary standard.
- **Climex reverse auction ends with Rabobank purchasing 40kt of VCU's at €1.5-1.8/t.** Rabobank plans to retire the VERs to offset internal emissions. Reverse auctions generally occur in oversupplied markets with few buyers, which accurately characterises the current state of the “pure voluntary” market. Suppliers fetched a much higher price at the first Climex reverse auction in early May with the sale of 24kt VCUs for €2.8-2.9/t, further indication that the “pure voluntary” side of the market continues to suffer from the economic recession.
- **GS VERs sell for €8.0/t at online Climex auction.** Climex held the first VER online auction offering GS VERs from a LFG project in Turkey. However, the auction designed to allow small purchase volumes (≥500 tonnes) at prices generally associated with large transaction sizes, which was the stated intent of the auction design.

6. Oversight

The Commodities Futures Trade Commission (CFTC) announced consideration to regulate CFIs contingent on whether the CCX performs a Significant Price Discovery Function, which is determined by the frequency of trades in a given time period. As an exempt commercial market (ECM), if the CCX performs a Significant Price Discovery Function it must abide by statutory requirements in Section 2(h)(7) of the Commodity Exchange Act.

A positive finding would force the CCX to issue position limits on market participants, acquiesce emergency authority to the CFTC, and abide by conventional and thus more stringent reporting requirements.

7. Chicago Climate Exchange

7.1. General developments

We tracked the following CCX activities since our previous edition:

- **CCX teams up with Carbon Disclosure Project (CDP) as global exchange partner.** The details about the partnership are vague.⁷ CDP possesses the largest database of corporate GHG emissions. The partnership could lead to CDP participants' utilisation of a CCX-based trading platform to meet any pledged emission reduction targets.
- **CCX expands Capitol Hill lobbying effort.** CCX hires lobby firms McLeod, Watkinson & Miller and Patton to influence federal cap-and-trade design.⁸ As well as influencing early action crediting, CCX may attempt to build on its relationship with the agricultural community to ensure an accounting system and crediting mechanism favourable to land-use offset projects. Additionally, the CCX may try to influence rules for trading carbon instruments. The CCX has remained silent regarding the details of its lobbying efforts.

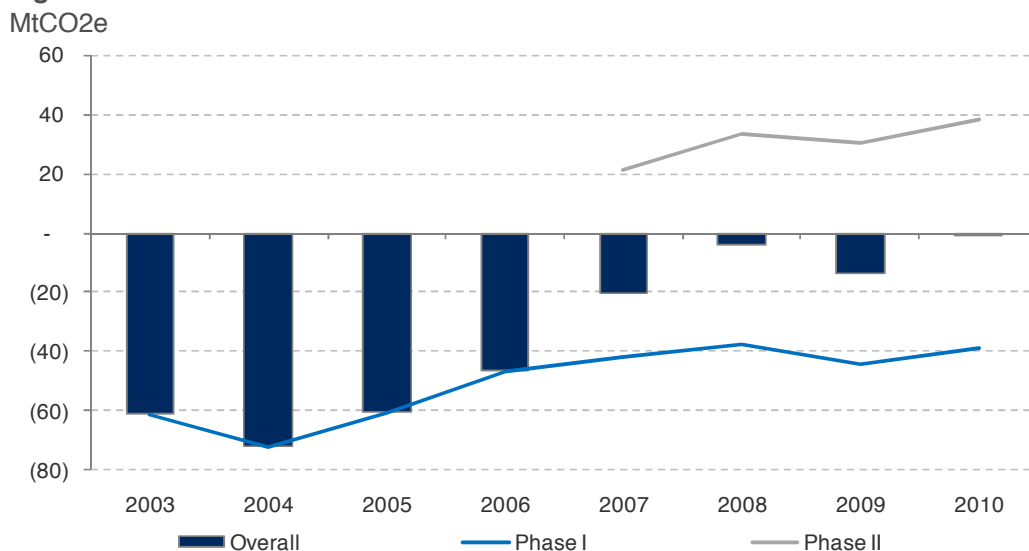
7.2. Demand

Demand for emissions reductions remains negative. Although positive demand exists from Phase II members, excess supply from over-allocated Phase I members combined with plentiful offset injections into the system results in a programme-wide net negative demand throughout the remainder of the programme. Please refer to Section 2.1 of the March 2009 Voluntary Quarterly for more details.

⁷ <http://www.chicagoclimatex.com/news.jsf?story=3180>

⁸ Marshall, Christa. *Chicago Climate Exchange seeks D.C. muscle on climate bill.* Energy & Environment News. 09 Sept. 2009

Figure 21: Estimated demand for emissions reductions on the CCX⁹



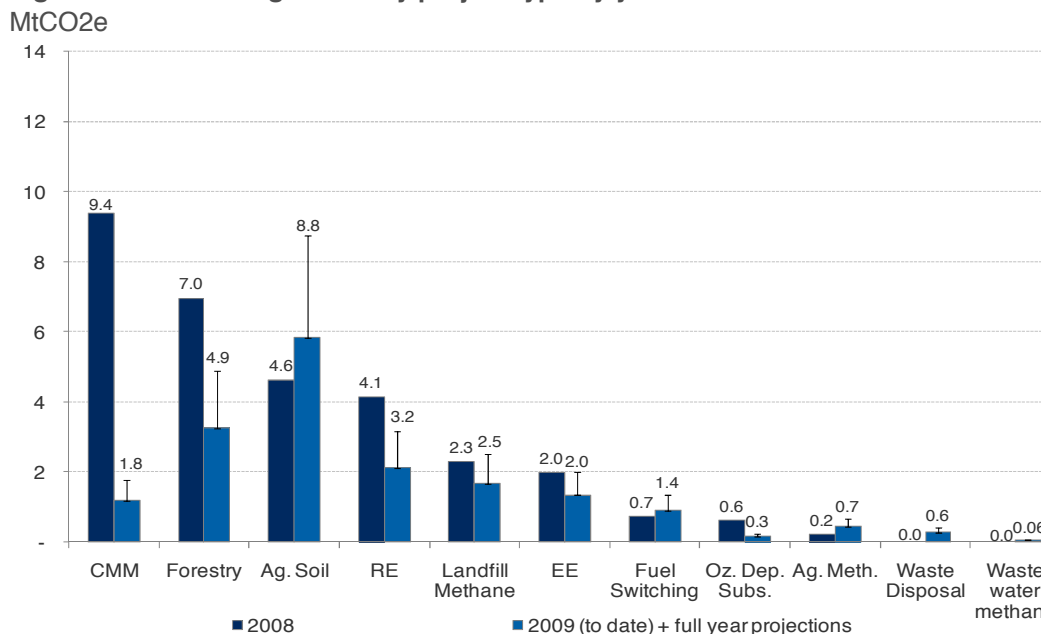
Source: New Energy Finance and Chicago Climate Exchange.

7.3. Supply

Agricultural soil and forestry offsets continue 2009 offset registration lead. From Jan-Aug 2009 approx 5.8Mt of ag soil offsets were issued on the CCX registry, already 26% more than those registered in 2008. Forestry, still a distant second place in terms of volume, added about another 1Mt over the summer months and now totals 3.3Mt, less than half of last year's total of 6.9Mt. CMM offsets year-to-date comprise only 13% of last year's registered total of 9.4Mt—the issuance of which was dominated by a single project.

At the 2009 rate of registering CCX offsets, overall registration is projected to decline by 26%. A decline of offsets injected in the system will not have any fundamental impact on supply-demand imbalances considering the extent to which the market is already over-allocated.

Figure 22: Offsets registered by project type by year



Source: New Energy Finance and Chicago Climate Exchange.

⁹ Members having joined the CCX through 2006 (Phase I) follow a different reduction schedule than members that joined subsequently (Phase II). All must reduce emissions by 6% from baseline by 2010.

7.4. Exchange traded prices and volumes

The collapse of prices for Carbon Financial Instruments (CFI) on the Chicago Climate Exchange (CCX) continues unabated since reaching highs of \$2/t in February. From July to August CFI prices dropped by 52% (from \$0.6/t to \$0.3/t) but appear to have finally bottomed out—now trading for about 20-25 cents. Given the over-allocation in the market the price may fall even further as transaction costs are likely to be less than \$0.1/t.

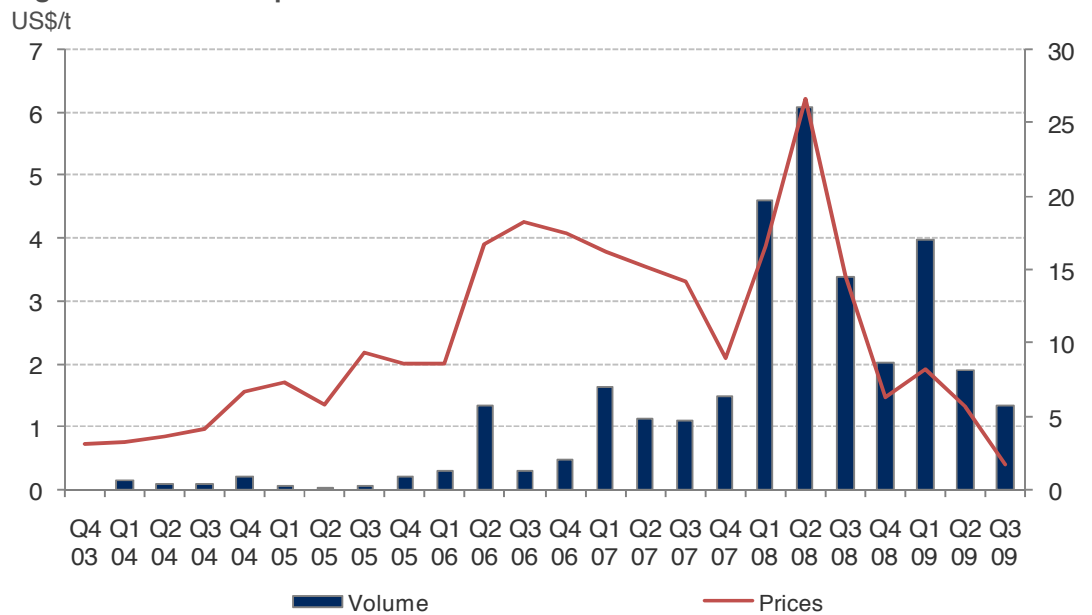
Figure 23: Historical prices on the CCX



Source: New Energy Finance Note: CFI prices across vintages, non-volume weighted

Volume slows again in Q3. As Q3 comes to a close current volume is only 5.69Mt, a 30% reduction from Q2 volume (8.15Mt in Q2). We attribute the low exchange traded volumes to: i) lack of trust and confidence in the CCX system; ii) unfavourable early-action provisions in Waxman-Markey regarding CFIs; and iii) the economic recession. Additionally, CCX participants may have opted to trade more OTC CCX offsets as a low cost, high risk, high reward hedging strategy. Over 0.6Mt of CCX offsets were traded off the exchange in August compared to 0.68Mt of CFIs traded on the exchange over the same period. Since the CCX now publicises the details of privately negotiated OTC CCX offset contracts we will track any trend that may emerge going forward.

Figure 24: Historical prices and volumes on the CCX



Source: New Energy Finance

Appendices

Table 3: Climate Action Reserve CRT price points by type and location, June-Aug 2009

| Month | Type | Location | Size kt/yr | Vintages | Bid (US\$/t) | Ask (US\$/t) |
|--------|------------|------------|------------|-----------|--------------|--------------|
| June | Ag methane | Western US | 10 | 2009-2013 | 7.5 | 10.5 |
| | LFG | Texas | 50 | 2010-2014 | 6.25 | 8.25 |
| | Forestry | California | 10 | 2009-2013 | 9 | 12 |
| July | Ag methane | Western US | 10 | 2009-2013 | 7.25 | 9.5 |
| | LFG | Mid-US | 50 | 2010-2014 | 5.75 | 7.5 |
| | Forestry | California | 10 | 2009-2013 | 8.5 | 12 |
| August | Ag methane | Western US | 10 | 2009-2013 | 7.25 | No offer |
| | LFG | Mid-US | 50 | 2010-2014 | 5 | 8 |
| | Forestry | California | 10 | 2009-2013 | 8 | 12 |

Source: Evolution Markets US GHG Market Update Notes: Avg of bid-offer prices

Table 4: CAR protocols

| Protocol | Version | Date Issued / Planned | Development Status |
|-----------------------------|-------------|-----------------------|---------------------------------------|
| Forest | 3.0 | Sept. 2009 | Version 3.0 released |
| Livestock – US | 2.1 | 20 Aug. 2008 | Revision planned |
| Landfill – US | 2.0 | 17 Nov. 2008 | Draft of version 2.1 underdevelopment |
| Urban Forestry | 1.0 | 12 Aug. 2008 | Revision planned |
| Livestock - Mexico | In progress | July 2009 | Draft released |
| Landfill – Mexico | In progress | July 2009 | Draft released |
| Organic Waste Digestion | In progress | October 2009 | In development |
| Coal Mine Methane | In progress | October 2009 | In development |
| Ozone Depleting Substances | In progress | December 2009 | N/A |
| N2O from Nitric Acid Plants | In progress | December 2009 | N/A |

Source: Climate Action Reserve

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