

Projects survey

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Results. service

TRADING CARBON REVEALS THE LEADING GREENHOUSE GAS EMISSIONS REDUCTION PROJECT ACTIVITIES IN 2009*

Several surveys and awards are conducted in the carbon market usually based on voting or other criteria determined by the organisers. Here Trading Carbon, with the help of Point Carbon's project manager databases, has compiled a set of results based on factual data to show the leading emissions reduction project activities in 2009. In some cases, the results will be of little surprise to market participants, but other results might show some insights that were not expected or indicate new trends in the market.

The top five clean development mechanism (CDM) projects in 2009 by issuance of certified emissions reductions (CERs – CDM carbon credits) show no real surprises at all. Perhaps only that it was a nitrogen dioxide (N₂O) reduction project that topped the list, rather than a HFC₂₃ destruction project, although the latter project type did fill out the next four places.

These large industrial gas projects have been extremely controversial with environmentalists, mainstream media and even some carbon market protagonists critical of the volume of credits generated by the implementation of a relatively simple and low-cost project activity.

The five listed projects were issued more than 21 million CERs in 2009, which means more than 21 million tonnes of carbon dioxide (Mt CO₂) equivalent was saved from going into the atmosphere. In a parallel world, it would be interesting, but obviously impossible, to see if the same volumes of CO₂ would have been saved from these installations in the absence of the CDM.

The scope of these projects to continue to generate carbon credits is limited to existing crediting periods and there may still be a decision made at a higher level to block them completely after 2012, assuming that there is a functioning international carbon market from 2013.

Top five CDM projects in 2009 by CER issuance

	UNFCCC identity	Project name	CER volume (2009)
1	99	N ₂ O reduction in Onsan, Korea	9,572,129
2	232	Shandong Dongyue Chemical, HFC ₂₃ decomposition project	8,010,377
3	306	HFC ₂₃ decomposition at Changshu 3F Zhonghao New Chemical Materials Company, Changshu, Jiangsu Province, China	7,914,291
4	1	Gujarat Fluorochemicals project for GHG emission reduction by thermal oxidation of HFC ₂₃ in Gujarat, India	6,901,933
5	549	Project for HFC ₂₃ decomposition at Zhejiang Dongyang Chemical Company in China	6,611,710

Top five CDM projects in 2009 by CER issuance (excluding HFC₂₃/adipic and nitric acid)

	UNFCCC identity	Project name	CER volume (2009)
1	991	Bundled wind power project in Tamil Nadu, India, co-ordinated by Tamil Nadu Spinning Mills Association	9,572,129
2	812	Blast furnace off gas and coke oven gas utilisation for combined cycle power project in Jinan Iron & Steel Works, China	8,010,377
3	325	Generation of electricity through combustion of waste gases from blast furnace and Corex units at JSW Steel (in JPL unit 1), at Torangallu in Karnataka, India	7,914,291
4	1,590	China Tongwan hydropower project	6,901,933
5	1,262	Waste gases utilisation for combined cycle power plant at Handan Iron & Steel Group Company, China	6,611,710

Top five registered CDM projects in 2009 by emissions reductions to 2012

	UNFCCC identity	Project name	Approval date	Start date	Technology	Emissions reductions until 2012
1	1,947	Yingpeng HFC23 decomposition project in China	22/04/09	22/04/09	Industrial processes – HFC destruction	29,096,137
2	1,896	Jincheng Sihe Coal Mine coal-mine methane generation project in China	22/04/09	22/04/09	Fugitive emissions – coal	11,146,689
3	1,859	China Fujian Putian LNG generation project in China	14/01/09	14/01/09	Energy efficiency (power plants/ combined heat and power)	10,247,167
4	1,898	Fujian Jinjiang LNG power generation project in China	06/02/09	01/03/09	Energy efficiency (power plants/ combined heat and power)	9,978,653
5	2,029	Pan Ocean Gas utilisation project in Nigeria	01/02/09	01/01/10	Fugitive emissions – oil and gas	8,097,438

Leading CDM verifiers in 2009 by number of projects

	Verifier	Number of projects (2009)
1	SGS United Kingdom	137
2	Det Norske Veritas Certification (DNV)	112
3	Tuev Industrie Service Tuev Sued Gruppe (Tuev Industrie Service)	60
4	Bureau Veritas Certification Holding (BVC Holding)	40
5	Tuev Nord Cert	34

Leading CDM validators in 2009 by number of projects

	Validator	Number of projects (2009)
1	Tuev Nord Cert	261
2	Det Norske Veritas Certification (DNV)	247
3	Tuev Industrie Service Tuev Sued Gruppe (Tuev Industrie Service)	143
4	Tuev Rheinland Japan. (Tuev Industrie Service, Tuev Rheinland Group)	125
5	Bureau Veritas Certification Holding (BVC Holding)	118

Top five buyers from newly validated CDM projects in 2009

	Buyer	Number of projects (2009)
1	Vitol	29
2	Carbon Asset Management Sweden	27
3	Camco International	22
4	Barclays Capital	19
5	Carbon Resource Management	18

Leading consultants used in 2009 by number of CDM projects

	Consultant	Number of projects (2009)
1	CDM Office of CWEME (China National Water Resources and Electric Power Materials and Equipment)	28
2	Longyuan Carbon Asset Management Technology Company	24
3	Caspervandertak Consulting	21
4=	Beijing Tianqing Power International CDM Consulting Company	16
4=	CDM Center of Excellence	16

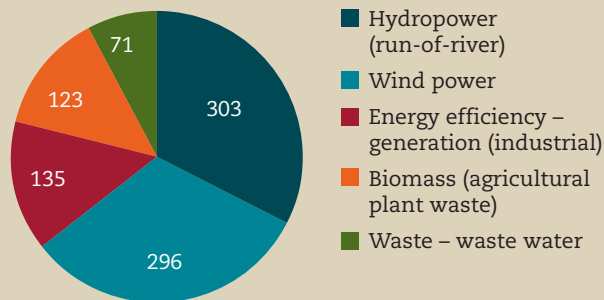
Top five project participants by validated projects 2009

	Participant	Number of projects (2009)
1	Carbon Asset Management Sweden	41
2	Camco International Limited	35
3=	Vitol	29
3=	Ecosecurities Group	29
5	Voelstalpine	20

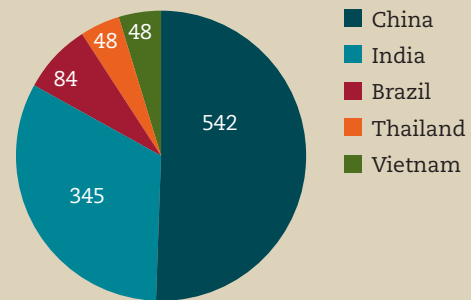
Top five project participants by registered projects 2009

	Participant	Number of projects (2009)
1	Ecosecurities Group	52
2	RWE Power	33
3	Carbon Asset Management Sweden	31
4=	Enel Trade	28
4=	Mitsubishi Corp	28

Top five project types validated in 2009



Top five host countries for projects validated in 2009



HFC₂₃ destruction also headed the table of top registered projects in 2009 by emissions reductions to 2012, with the project at Yingpeng in China starting to generate CERs from 22 April last year. By the end of 2012, it will have created almost 30 million carbon credits.

However, the other four top CDM projects registered in 2009 come from other technology types: fugitive emissions and energy efficiency and power generation. These four projects alone – including one in Africa, an under-utilised region of CDM activity – will generate reductions of more than 39 Mt of CO₂ by 2012. The main concern would probably be that the other four projects are in China, a

country so dominant in the CDM market, that some people refer to the system as the China development mechanism.

Turning attention to the leading CDM projects by CER issuance in 2009 excluding industrial gas destruction, a renewable energy project tops the list. The bundled wind power project in Tamil Nadu in India, which is being coordinated by the Tamil Nadu Spinning Mill Association, was issued 9,572,129 CERs last year. This shows that renewable energy projects can deliver significant emissions reductions, particularly if developers are prepared to make the effort to bundle installations into single projects.

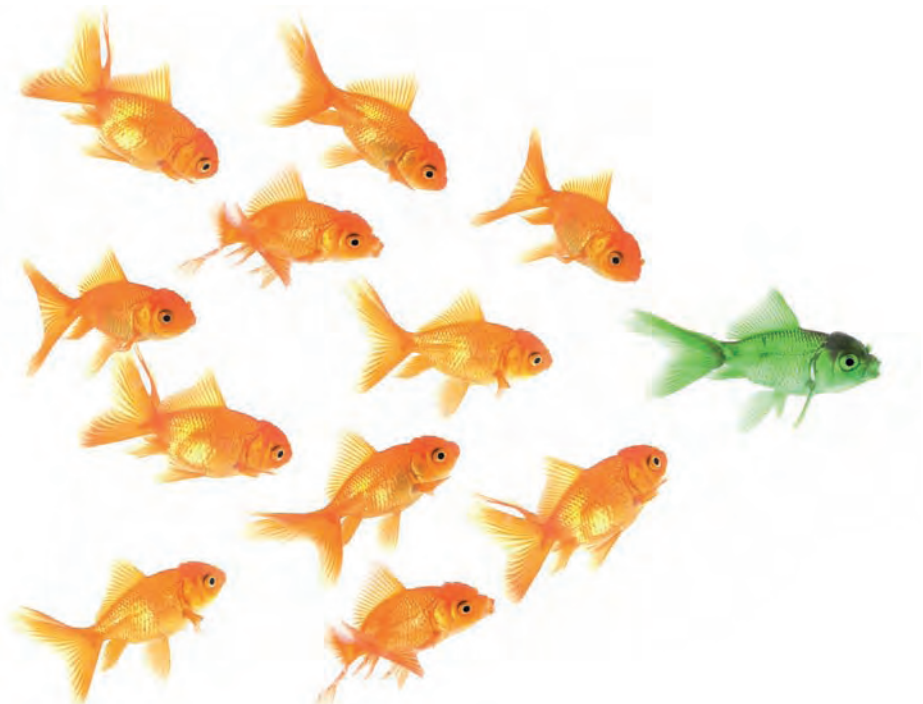
This top five list also shows that the steel industry can be



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Leading verifier in North America in 2009 by number of projects

Verifier	Number of projects (2009)
1 First Environment	28
2 AD Williams Engineering Canada	9
3 ICF International Canada	8
4= SGS Environmental Services	5
4= Scientific Certification Systems	5
4= PricewaterhouseCoopers	5

Leading voluntary standard used in North America in 2009 by number of projects

Standard	Number of projects (2009)
1 Climate Action Reserve	126
2 Chicago Climate Exchange	54
3 Alberta Offset System	41
4 Canadian Standards Association	25
5 Voluntary Carbon Standard	11

Top five aggregators from new projects in North America in 2009

Aggregator	Number of projects (2009)
1 SunOne Solutions	26
2 Viterra	6
3= Agri-Trend Aggregation	3
3= Emissions Credit Corp	3
5 Greenhouse Emissions Management Consortium (Gemco)	2

Top five project developers in North America in 2009 by number of projects

Developer	Number of projects (2009)
1 Environmental Credit Corp	23
2 Blue Source	21
3 Terra Pass	16
4 Element Markets	14
5 Transalta Corp	5

a good source for emissions reductions, with three of the projects using various waste gases for power generation and resulting in emissions reductions of more than 22.5 Mt of CO₂ last year. Such innovations could prove useful in the future if workable sectoral crediting mechanisms can be developed, based around a single baseline or benchmark below which installations would be able to create carbon credits.

The move away from the large industrial gas destruction projects was also highlighted by the top five CDM project types validated in 2009. Topping the list is run-of-river hydro with 303 projects validated last year, closely followed by wind power with 296 projects – energy efficiency, biomass and waste water filling out the other three places, with 135, 123 and 71 projects respectively.

The first three places in the top five host countries for projects validated in 2009 reinforce the dominant positions of China, India and Brazil as CDM host countries. China saw 542 projects validated in 2009, almost 200 more than second placed India, which had 345 projects validated. Brazil in third place with 84 projects was followed by Thailand and Vietnam, both with 48 projects validated. The latter two places indicate that South-east Asia is a growing region for hosting CDM projects. However, with four of the five countries in Asia and the other in South

China's leading position in the CDM was further highlighted by the most common consultants category by number of projects

America, there is still much to do if the CDM is to have a more equal geographic spread of projects.

China's leading position in the CDM market was further highlighted by the category for most common consultants used in 2009 by number of projects. All the companies in the top five are either based in China or have offices in the country.

In terms of buyers of CERs, three of the top five – from projects newly validated in 2009 – are specialist carbon market companies (Carbon Asset Management Sweden, Camco International and Carbon Resource Management). The top spot goes to trading company Vitol, with Barclays Capital, the investment banking arm of Barclays Bank, taking the other spot.

The top five validators and verifiers see some familiar names in the carbon market. SGS tops the list of verifiers with 137 projects verified in 2009, followed by DNV with 112, Tuv Sued with 60, Bureau Veritas Certification with 40 and Tuv Nord with 34.

In terms of validations in 2009, Tuv Nord jumps to the top with 261. DNV again takes second place with 247 and Tuv Sued again is in third place with 143. Tuv Rheinland Japan takes fourth place with 125 projects validated, closely followed by Bureau Veritas Certification with 118 projects.

In North America, the carbon market is dominated by projects in the voluntary market, although with potential pre-compliance credits available for any future federal cap-and-trade scheme, interest in offset projects is growing. However, having said that, the total number of projects in the North America database is substantially below what is in the Carbon Project Manager database – 918 compared with around 10,000.

In terms of the leading voluntary standards used for projects in North America, the Climate Action Reserve (CAR) is currently well ahead of the other main standards used – Chicago Climate Exchange (CCX), Alberta Offset System, Canadian Standards Association and the Voluntary Carbon Standard. The CAR was used for 126 projects, whereas second placed CCX was used for 54 projects.

First Environment tops the leading verifier in 2009 in the North America category with 28 projects, while Sun One Solutions heads the top aggregators from new projects in 2009 with 26 projects. The other companies in both categories all verified or aggregated credits from fewer than 10 projects.

The top five project developers in North America by number of projects saw a more even spread of projects across the category. Environmental Credit Corp topped the list with 23 projects, closely followed by Blue Source with 21 projects. Terra Pass filled third spot with 16 projects, Element Markets in fourth with 14 and Canada-based energy company Transalta Corp in fifth place.

In 2010, with clarity over the future of the CDM post-2012 still lacking and a Congressional bill that would establish a federal cap-and-trade scheme in the US still in the balance, it will be interesting to see how the level of desire for, and the development of, carbon offset projects holds up compared with the previous year. ●

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**The information used to compile these listings was taken from Point Carbon's Carbon Project Manager and Carbon Project Manager North America databases. Carbon Project Manager has around 10,000 projects listed in its database, while Carbon Project Manager North America had a total of 918 projects listed, as Trading Carbon went to press in mid-January. See www.pointcarbon.com*

Trading Carbon would like to thank Arne Eik, Ingvild Sørbus and Justin Felt for their help in compiling the survey



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