

76842

STATE AND TRENDS OF THE
carbon market

Washington DC, May 2012

2012

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized



Carbon Finance
AT THE WORLD BANK

Executive summary

WITH MEMORIES OF THE 2008-2009 FINANCIAL CRISIS STILL VIVID, 2011 emerged as yet another turbulent year for capital markets. Volatility increased for energy-related commodities, including carbon, with the onset of the Arab Spring, the shutdown of nuclear power stations in Japan and Germany in the wake of the Fukushima disaster,¹ and the downgrade of the United States' AAA credit rating. Equally relevant was the crisis of confidence that ensued as the Greek debt crisis intensified, spurred by fears that it would spread to other European Union (EU) economies and lead to a double-dip recession.

Carbon markets were not immune to the economic volatility. Compounded by increasing signs of long-term oversupply in the EU Emissions Trading Scheme (EU ETS), the backbone of the EU's climate policy and the engine of the global carbon market, carbon prices plummeted toward the end of the year.² Yet even as prices declined, the value of the global carbon market climbed in 2011, driven predominantly by a robust increase in transaction volumes. The total value of the market grew by 11 percent (%) year on year (yoy) to US\$176 billion (€126 billion), and transaction volumes reached a new high of 10.3 billion tons of carbon dioxide equivalent (CO₂e) (see Table 1).³

Central to the rise in global transaction volumes, EU Allowance (EUA) trading volumes increased, reaching 7.9 billion tons of CO₂e, valued at US\$148 billion (€106 billion). Supported by increased liquidity in the Certified Emission Reduction (CER) market and in nascent secondary Emission Reduction Unit (ERU) exchange-based

activity, trading volumes for secondary Kyoto offsets also soared in 2011, increasing by 43% yoy to 1.8 billion tons of CO₂e, valued at US\$23 billion (€17 billion). Largely driven by hedging and arbitrage, trading volumes for all assets increased as annual greenhouse gas (GHG) emissions in Europe declined for the second time in three years (primarily driven by weak industrial activity in the EU) and forecasts of compliance demand were dwarfed by the oversupply of allowances. As compliance demand and prices deteriorated, the issue of whether current carbon prices can sufficiently spur long-term low-carbon investments emerged in the debate, surfacing a key challenge in this market: an oversupply created as a consequence of demand responding to the current macroeconomic scenario versus a pre-established supply determined under very different market conditions.

The value of the pre-2013 primary CER market declined once again in 2011 as a consequence of the imminent end of the first commitment period of the Kyoto Protocol. Market value fell by 32%

1. The Fukushima disaster was a consequence of the earthquake and tsunami in Japan in March 2011.

2. Prices for December 2012 delivery of EU Allowances (Dec 12 EUA) and December 2012 delivery of Certified Emission Reductions (December 12 CERs) fell by 50% year on year (yoy) and 62% yoy respectively, from January 3, 2011, to December 30, 2011. Source: IntercontinentalExchange (ICE) Futures Europe.

3. Differences in 2010 figures reflect changes in the methodology to calculate the value and volume of trades. For detailed information regarding the methodology used to measure asset volumes and values, see the Methodology section at the end of this Report.

Table 1:
Carbon market at
a glance, volumes
and values, calendar
2010-2011

	2010		2011	
	Volume (MtCO ₂ e)	Value (US\$ million)	Volume (MtCO ₂ e)	Value (US\$ million)
Allowances market				
EUA	6,789	133,598	7,853	147,848
AAU	62	626	47	318
RMU	-	-	4	12
NZU	7	101	27	351
RGGI	210	458	120	249
CCA	-	-	4	63
Others	94	151	26	40
Subtotal	7,162	134,935	8,081	148,881
Spot & Secondary offset market				
sCER	1,260	20,453	1,734	22,333
sERU	6	94	76	780
Others	10	90	12	137
Subtotal	1,275	20,637	1,822	23,250
Forward (primary) project-based transactions				
pCER pre-2013	124	1,458	91	990
pCER post-2012	100	1,217	173	1,990
pERU	41	530	28	339
Voluntary market	69	414	87	569
Subtotal	334	3,620	378	3,889
TOTAL	8,772	159,191	10,281	176,020

Sources: World Bank, Forest Trends-Ecosystem Marketplace for data on the voluntary market and Thomson Reuters Point Carbon for data on the California offsets
Subtotals and totals may not add up due to rounding

yoy to US\$1.0 billion (€0.7 billion). The size of the ERU and Assigned Amount Unit (AAU) markets also decreased, by 36% and 49% respectively. In stark contrast to this, the post-2012 primary market increased by a robust 63% yoy to US\$2 billion (€1.4 billion) despite depressed prices. Although China remained the largest source of contracted CERs, African countries – largely bypassed in the pre-2013 market – emerged stronger in 2011 and accounted for 21% of post-2012 CERs contracted during the year. Despite the increase in post-2012 volumes, purchase agreements became less binding due to lingering uncertainties regarding residual compliance demand and the eligibility of international credits in existing frameworks and schemes under development.

The year ended with the 17th Conference of the Parties (COP) in Durban, South Africa. While COP 17 did not adopt the incremental emission reduction commitments necessary to close the gap as per the ambitious level set by the UNFCCC Parties, it signaled a political commitment to resolve critical issues that were far from certain prior to the meeting. In particular, three key results formed the backbone of the Durban Platform for Enhanced Action: (i) the formal provision for a second commitment period of the Kyoto Protocol;⁴ (ii) the launch of the Green Climate Fund to scale up long-term climate finance to developing countries; and (iii) the formal provision for a roadmap toward a global legal agreement on climate change (the “Durban Platform”) to be agreed in 2015 and

4. To become a reality, the necessary decision to that effect will need to be adopted at COP 18.

take effect in 2020. The decision on a new market mechanism further strengthens the international trust in the UNFCCC process. Still, the restricted geographic scope of the Kyoto Protocol's second commitment period and prospects for a global deal to take effect in 10 years did not satisfy the immediate needs of the existing carbon market infrastructure, and the Durban Platform could not reverse the downward spiraling of the carbon price that produced record lows through early 2012.

At a time when uncertainties surround the existing carbon markets, it becomes more important than ever to take stock of the cumulative impact of carbon market mechanisms. To date, US\$28 billion worth of pre-2013 CERs have been contracted forward (US\$30 billion, combined with ERUs); if all underlying projects are implemented, these contracts will have supported additional investments of more than US\$130 billion in developing countries^{5,6} and confirm that project-based mechanisms have the capacity to mobilize capital efficiently toward cost-effective low-carbon investments. More broadly, low-carbon initiatives, including market mechanisms, have broken the inertia and significantly raised awareness of the climate challenge.

In this context, several domestic and regional low-carbon initiatives, including market mechanisms, gained increasing traction in both developed and developing economies in 2011 and early 2012. The global carbon market welcomed the news in late 2011 that the Australian Parliament had passed the ambitious Clean Energy Act, which will bring a nationwide cap-and-trade scheme to Australia by 2015. The scheme is expected to cover roughly 60% of the country's 600 million tons of CO₂e per year. In 2011, California's cap-and-trade regulation was adopted by the California Air Resources Board. California's plan is set to go into effect in 2013; with a coverage expansion planned

for 2015, the plan is expected to cover 85% of California's annual emissions. Québec, which emits 12% of Canada's annual GHG emissions, adopted its own cap-and-trade plan, and the province is now working toward linking it with California's (within the context of the Western Climate Initiative) starting in 2013. In addition, both Mexico and the Republic of Korea got their comprehensive climate bills passed a few days apart in April 2012. These initiatives combined mean five new jurisdictions are adopting economy-wide cap-and-trade schemes. These events are particularly noteworthy in contrast to 2010, when no such initiatives were launched. Now the world looks with particular attention to China, which is also among the frontrunners in the race to become a low-carbon economy. Its advanced plan to pilot several regional cap-and-trade schemes is expected to provide the foundation for a nationwide scheme in the coming years.

Initiatives that attract competitive private sector participation are essential to identifying and implementing least-cost solutions for climate change mitigation and adaptation, and market-based mechanisms can catalyze such participation. However, the allocation of private capital toward the deployment of new low-carbon technologies at scale has been constrained by the low price prevailing in the short term and the absence of a price signal in the long term, and compounded by nervous financial markets that favor exposure to less risky assets and markets. More ambitious targets are needed from a larger number of countries to foster demand that can set the groundwork for a truly transformational carbon market – one that can emerge from fragmented but workable market initiatives. The challenge then will be to chart a course to further evolve these initiatives through linking and potentially reshaping the global carbon map.

5. World Bank estimates from 2011 and based on CDM projects in its own pipeline led to an average 1°:5 ratio between CER purchase values and the additional investments required for the underlying project to be implemented.

6. This value refers to the cumulative 2.4 billion CERs contracted in the primary market from 2002-2011. The value does not ensure the actual transfer of funds from the buyer to the seller as payments for emission reductions purchased in the primary market are commonly made upon delivery.