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Utilities

Carbon outlook – recovery from oversold position or dead cat bounce¹?

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Summary

- Since our December Carbon report, the EUA Dec 2009 forward price has fallen from €16 to €10 as weakening economic conditions have reduced industrial output in Europe and EU ETS industrials have sold forward allowances to raise finance at relatively attractive rates.
- Carbon price movements have become detached from the oil price. The EUA spot price has displayed significantly higher volatility than other energy commodities in 2009, having fallen by 50% this year to a low of €8 last week (vs -15% for Brent) to then rally 30% this week, with both movements undertaken with high volumes. Given the fixed nature of supply (allowances set by regulators) against a backdrop of declining demand, we expect this volatility to remain.
- With roughly half of the EU ETS emissions accounted for by the non-power industrials sector (oil, building materials, metals and paper), industrial output from these sectors will in the short term be a greater driver of emission reductions than the power generation sector (where we expect stable residential electricity demand and a 5% reduction in industrial electricity demand resulting in around a 2% overall demand reduction). We now forecast a 6.7% contraction in 2009 EU industrial output compared to a 2.7% decline forecast with our December report.
- As a result we have cut our cumulative Phase Two emission forecasts by 465mt to an annual average of 2,055mt (ex Aviation) but cut our Phase Three emission forecasts by only 171mt (to 2,330mt a year including Aviation). The forecast change results in an estimated average annual Phase Two pre-offset EUA long position of 90m (vs 3m short previously) and a combined average annual Phase Two/Three pre-offset short position of 143m (vs 192m short). Post the use of international offsets we forecast an average annual Phase Two long position of 265m (vs 172m) and Phase Two/Three short position of 24m (vs 73m).
- Our forecast short position for the cumulative 2008-2020 period means that we only marginally reduce our 2020 EUA forecast from €25 to €24 as it is driven by the estimated summer fuel switching cost based upon our commodity forecasts. However we have reduced our Dec 2009 EUA forecast from €13 to €8 and our 2012 forecast from €15 to €12 to reflect the lower demand and long position and our expectation that 2009 CER prices will trade around project development costs. We expect the strength in the EUA price to be sustained only temporarily.

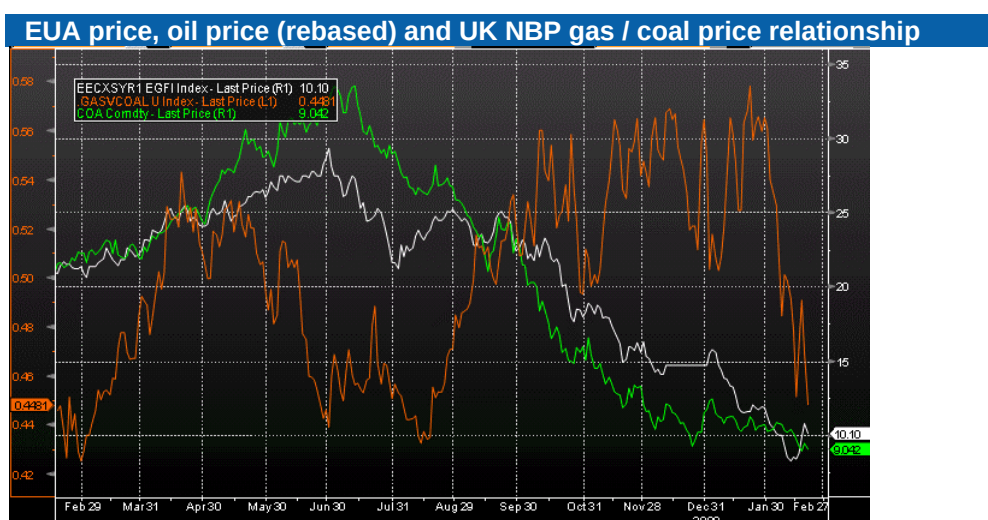
¹ Derived from the phrase “even a dead cat will bounce if it falls from a great height”

Carbon – revised EUA & CER forecasts

Investment view

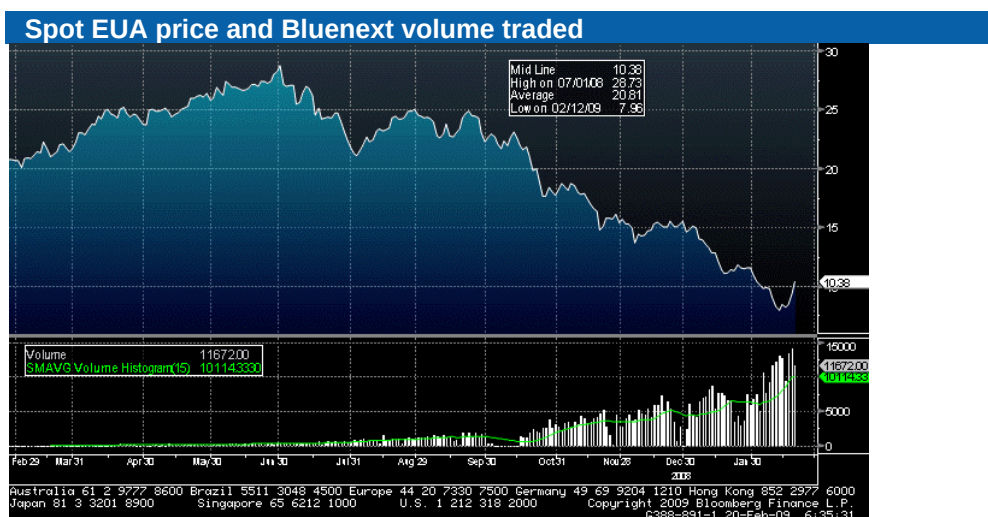
Historically the EUA carbon price has followed a close relationship with the oil price, despite the fact that fundamentally the fuel switching element of carbon pricing should have a greater correlation with the relationship between the gas price and the coal price (gas weaker than coal = fuel switching level down = carbon down).

The oil price relationship held up relatively well until February 2009 when the carbon price fell at much greater rate than the oil price, although this fall also coincided with the decline in the relative value of gas vs coal. The 30% spike up in the EUA over the past week has also corresponded with a rebound in the relative value of gas vs coal, although the gas/coal relationship has subsequently fallen back.



Source: Bloomberg.

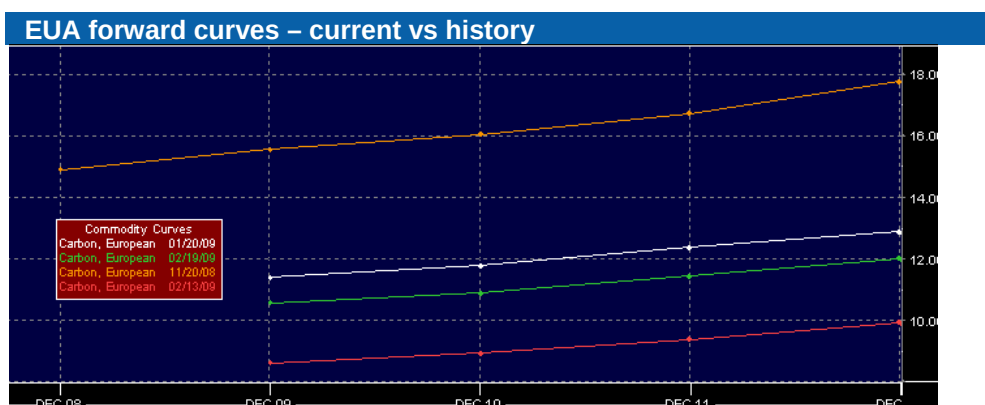
Both the decline and the rebound in EUA spot prices has been accompanied by record levels of exchange trading volumes. Given utilities were largely hedged for their 2009 power output at the end of 2008 we conclude that the increased volume is either being driven by non-power ETS industrials or speculative positions (financial and corporate although many financial participants have reduced their trading exposure in line with general capital reductions).



Source: Bloomberg

We believe the majority of the selling has been from ETS industrials who may either be selling surplus allowances created by lower output levels or who may be selling short to borrow forward allowances (can fulfil existing year emissions from next year's allowance, allowed to accommodate for exceptional demand – e.g. extreme weather).

We can understand why some corporates may view the forward EUA curve as a relatively attractive financing tool – assuming a 25BPS dealing spread the implied annual financing cost is around 500BPS for a four year period, equivalent to a mid-swap spread of about 230BPS. By comparison an EU ETS industrial such as Arcelor Mittal currently has five year debt priced at a benchmark spread of 750BPS (source: Iboxx). However we do not believe financing has been the principal driver for the EUA price as the shape of the forward curve has not really changed over the past few months (although the overall level has reduced) and believe the main weakness has been driven by lower output experiences/expectations.



Source: Bloomberg.

With roughly half of the EU ETS emissions accounted for by the non-power industrials sector (cement, steel, chemical companies), industrial output from these sectors will in the short term be a greater driver of emission reductions than the power generation sector (where we expect stable residential electricity demand and a 5% reduction in industrial electricity demand resulting in around a 2% overall demand reduction).

In forming our December carbon forecasts we based our forecasts on a 2009 EU 27 real GDP growth rate of -0.7% and a 2.7% decline in industrial output. Our current DIR economists forecast is for -2.1% 2009 EU27 real GDP growth and a 6.7% contraction in 2009 EU industrial output.

DIR revised ETS emission forecasts

	8 Dec forecast	Current forecast
EU Industrial Output 2009 growth	-2.7%	-6.7%
EU Industrial Output 2009-2013 average growth	1.1%	0.4%
Phase Two emissions (annual avg ex aviation)	2148	2055
Phase Two emissions (annual avg inc aviation)	2352	2330
Phase Two pre-offset EUA long/(short) (annual average inc aviation)	-3	90
Phase Two + Phase Three pre-offset EUA long/(short) (annual average inc aviation)	-192	-143
Phase Two post-offset EUA long/(short) (annual average inc aviation)	172	265
Phase Two + Phase Three post-offset EUA long/(short) (annual average inc aviation)	-73	-24

Source: DIR

As a result we have cut our cumulative Phase Two emission forecasts by 465mt to an annual average of 2,055mt (ex Aviation) and cut our Phase Three emission forecasts by 171mt (to 2,330mt a year including Aviation). The forecast change results in an estimated average annual Phase Two pre-offset EUA long position of 90m (vs 3m short previously) and a combined average annual Phase Two/Three pre-offset short position of 143m (vs 192m short). Post the use of international offsets we forecast an average annual Phase Two long position of 265m (vs 172m) and Phase Two/Three short position of 24m (vs 73m).

Given we are still forecasting a net short position post CER/ERU offset supply for the combined Phase Two/Phase Three period we are only marginally reducing our 2020 EUA forecast from €25 to €24, which is determined by our estimate of the summer fuel switching cost in the period. Our fuel switching forecasts are based on the following DIR commodity price assumptions:

DIR commodity price forecasts

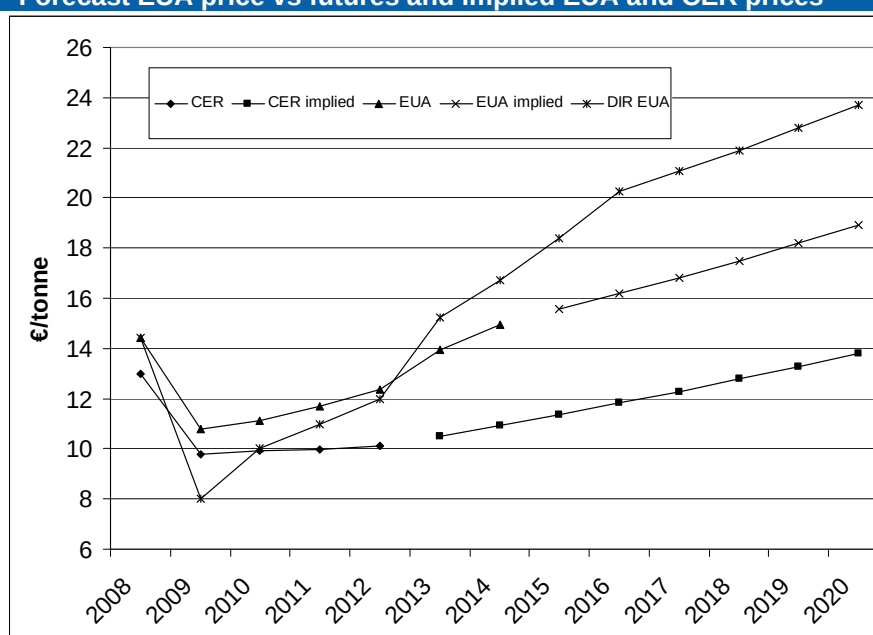
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Oil Price (\$/bbl)	73	97	67	87	102	100	100	100	100	100	100	100	100	100
API2 Coal price (\$/t)	89	140	105	105	96	96	96	96	96	96	96	96	96	96
UK Gas price (p/therm)	30	62	55	50	50	49	49	49	49	49	49	49	49	49
European Gas hhv price (€/MWh)	21	29	24	21	22	23	22	22	22	22	22	22	22	21
ETS CO2 certificates	19	23	8	10	11	12	15	17	18	20	21	22	23	24
UK Summer fuel switching level - coal to gas (€/t)	7	36	25	18	26	26	21	21	20	20	20	20	20	20
European summer fuel switching level - coal to gas (€/t)	36	45	33	26	35	36	29	29	29	29	29	29	29	28

Source: DIR

Theoretically, given that Phase Two and Phase Three are linked the 2009 price should be a NPV of the 2020 value – however in practice the price will be determined by annual supply and demand and we only expect compliance demand (i.e. non-speculative) to have a maximum three to four year horizon (the hedging period of most utilities). Given we expect compliance demand to be fulfilled by CER/ERU supply until 2014 (or to be long pre-offset in Phase Two), we expect the EUA price to trade at a tight spread to the CER price until at least 2010 (and more likely 2012).

In contrast to our December report our 2013 and 2014 EUA price forecasts are now higher than futures prices. Our 2009 EUA price forecast has been reduced from €13 to €8 as we expect CER prices in 2009 to trade in line with project developer costs (Trading Emissions plc states its primary CER costs are below €8). Our 2012 forecast has been reduced from €15 to €12 – in line with current futures prices.

Forecast EUA price vs futures and implied EUA and CER prices



Source: DIR, ECX ICE, Bloomberg.

Glossary

Additionality: A key eligibility test designed to generate carbon credits under the CDM and JI programmes. This test dictates that projects are only eligible for carbon credits if the resulting emission reductions were going to happen anyway (i.e. are additional to what would have occurred without the carbon credit incentive).

Assigned Amount Units (AAU): Scheme which allows the trading of assigned amount units between countries. AAUs can be used for compliance with the Kyoto treaty. Not valid for use in the EU ETS or to meet EU targets in the non-traded sector.

Certified Emission Reduction unit (CER): Certified emission reduction unit represents one tonne of CO₂ equivalent reduced under Joint Implementation.

Clean Development Mechanism (CDM): Scheme which allows credits to be issued from projects reducing GHG gases in Kyoto non-Annex 1 countries (developing countries). Credits are valid in the EU ETS and to meet EU targets in the non-traded sector, up to certain limits

Emission Reduction Unit (ERU): Emission Reduction Unit represents one tonne of CO₂ equivalent reduced under Joint Implementation.

European Trading Scheme (ETS): The EU European Trading Scheme (EU ETS) scheme applies to five carbon intensive industries (electric utilities, oil, building materials, metals and paper) which account for 45% of total EU CO₂ emissions and covers over 12,000 individual installations.

Green Investment Schemes (GIS): Some countries are attaching Green Investment Schemes to AAUs in order to overcome buyers' concerns about additionality. Examples of GIS include direct investment in projects or policies to encourage non-fossil energy use, improvement in energy efficiency or projects to slow the rate of deforestation.

Joint Implementation (JI): Scheme which allows credits to be issued from projects that reduce emissions of GHGs in Kyoto Annex I countries. Credits are valid in the EU ETS up to certain limits.

Voluntary Credits: Credits generated by a wide variety of projects and sold to companies or individuals wishing to offset their emissions. No mandatory regulation. Currently no credits from these schemes can be used in the EU ETS or to meet EU targets.

Source: Climate Change Committee, carbonpositive

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