

Will We Learn From Experience?

Between 2008-12 the market seems to be expecting a price of carbon in the €20/€30 per tonne range. According to Dr Anthony White and Coralie Laurencin of Climate Change Capital, it could be lower but there are reasons for expecting that in Phase Three prices will be higher than Phase Two.

Setting the scene

The ETS is the EU's main instrument for reducing emissions in the EU by 20% in 2020. Phase One of trading was unsuccessful, because neither its creators, nor its participants, had access to accurate emissions data at the outset. As a consequence, the market did not fully understand the supply and demand fundamentals and the price of CO₂ crashed half-way through the period, when reliable data became available.

Phase Two of trading is able to build on the data from Phase One, so the market expects a credible price will emerge and lead to actual emissions reductions in the EU. For some time now, the market has been confident that it understands the price drivers for 2008-2012 and the price is widely expected to be in the €20 to €30/t range.

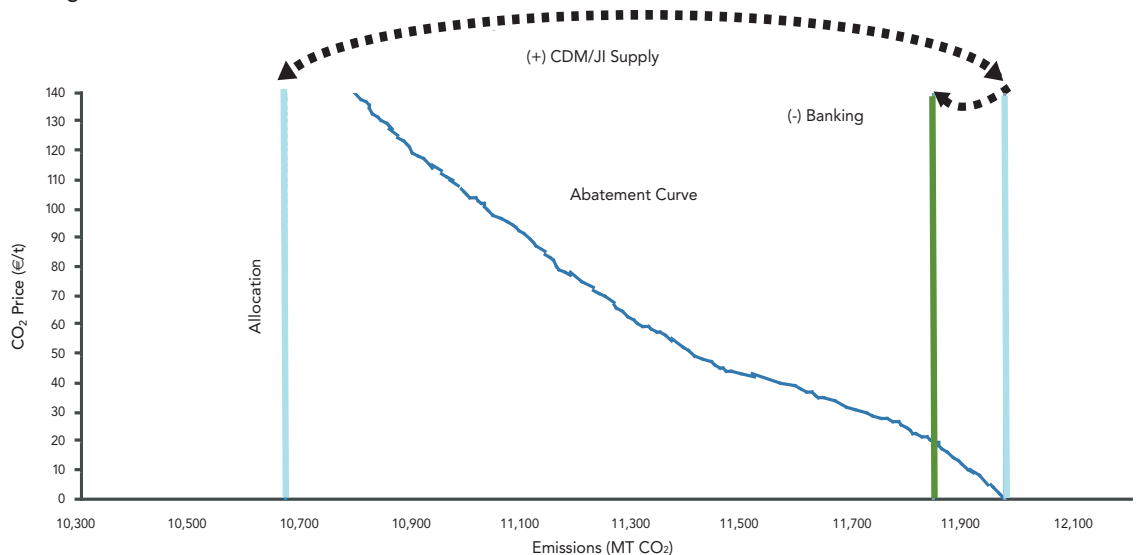
Traders expect fuel switching between gas and coal at power stations to deliver the marginal abatement opportunities.

Therefore, CO₂ price forecasts are being driven by expectations of coal and gas prices. But with the experience of Phase One there remain, however, numerous uncertainties surrounding the supply and demand fundamentals and this could lead to significant price volatility.

Focus on fuel switching

Phase Two requires the EU to reduce emissions by 1.5bn tonnes and it is expected that roughly 1.3bn tonnes of this will come from imported credits; i.e. CDM projects delivering emission reductions outside the EU that can be used to comply with emissions targets in the EU. This is shown in **Figure 1 below**. The market expects that fuel switching inside the EU will provide the remaining reductions to meet the cap. As a result, CO₂ prices are being driven by variations in coal and gas prices. The market seems content with this equation and the prices of coal, gas, electricity and carbon continue to chase each other. ▶

Figure 1 – Phase Two Fundamentals



Source: Climate Change Capital

Could the price be lower than expected?

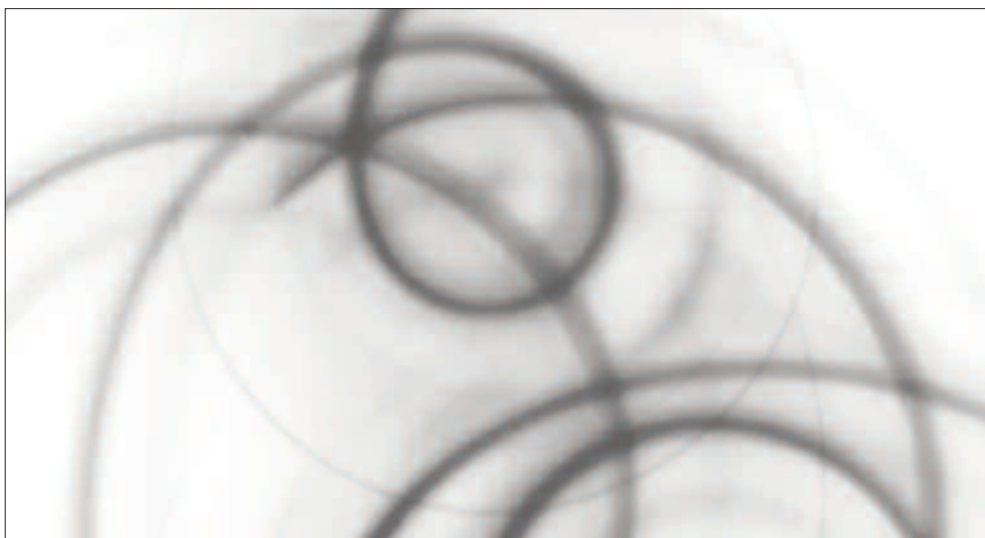
One of the risks in Phase Two price is that, again, the supply and demand fundamentals could be misunderstood or evolve in such a way that the market will be forced to reassess its assumptions leading to price volatility. Because data on the level of demand is only published once a year, any deviation from the expected emissions could lead to a brutal adjustment, as was the case in April and May 2006. Both supply and demand factors could impact on the level of demand in the ETS market:

- ◆ The level of demand depends on the climatic conditions which drive electricity demand. A series of warm winters and cool summers and/or higher than average hydro availability would reduce emissions from electricity production and in turn reduce the need for abatement in the electricity sector. We anticipate that extreme weather conditions can increase or reduce emissions by up to 100 million tons per year causing the price of carbon in Phase Two to increase or drop by approximately €10/t.
- ◆ Another risk to the CO₂ price could come from changes in the electricity supply mix. An increase of capacity of renewables or a cancellation of decisions taken to phase-out nuclear will reduce the emissions coming from the electricity

sector. In particular, on January 23rd the EU Commission published a draft Directive to develop renewables capacity so that 20% of all energy needs can be met by renewables in 2020. This effectively requires renewable sources to provide around 35% of power in the EU, which, if achieved, would significantly reduce emissions at the end of Phase Three.

- ◆ In addition, in March 2007, the Council of Ministers agreed to take steps to improve Europe's energy efficiency by 20% by 2020. Member States are already developing policies to implement these targets and this could lead to emissions reductions in the electricity and heating sectors, both of which are covered by the ETS and could impact on emissions before 2012.

The possibility of a lower internal abatement requirement places the market at risk of a price drop from current level above €20/t to levels below €15/t. This, perversely, would be counter-productive because the confidence in the market would be affected and investors would be making investment decisions based on a lower carbon price. In this case, the ETS, which is designed first and foremost to provide the incentives to allow industry and energy companies to invest in lower carbon intensive capacity, would not deliver its objective. ►



Learning by doing

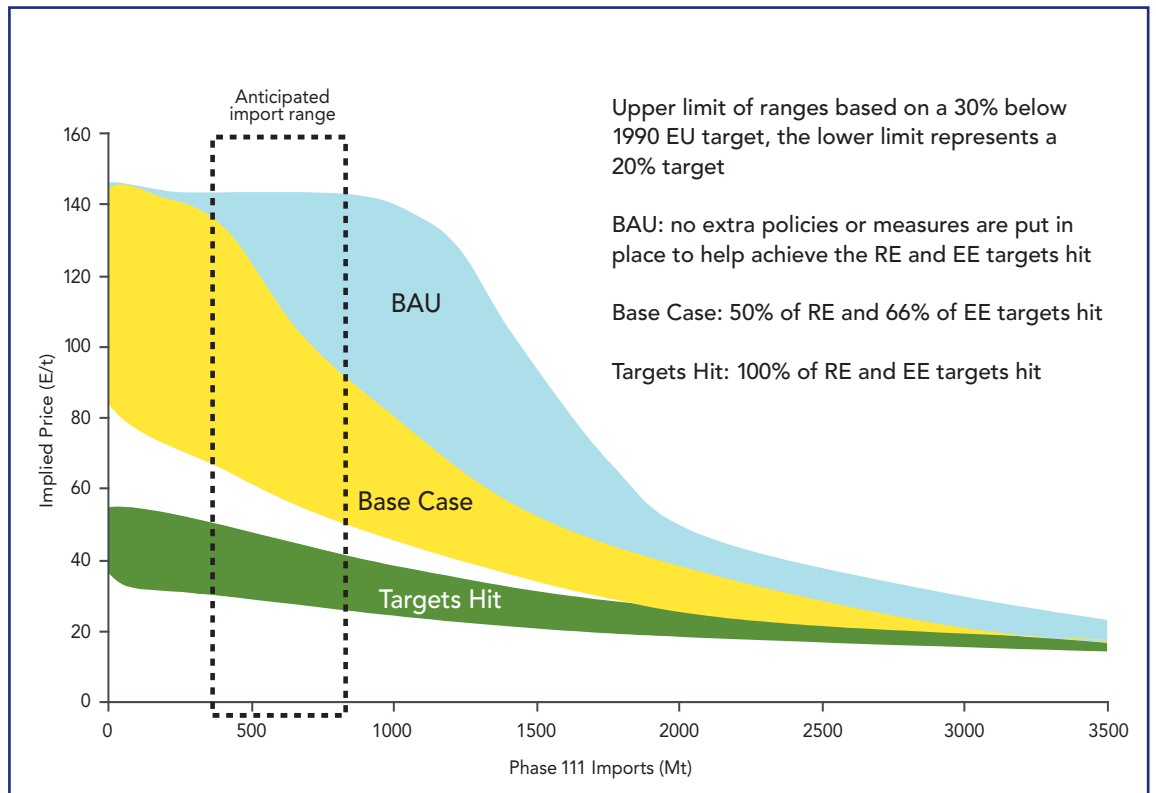
The architecture of Phase Three is designed to mitigate these risks and to lead to effective investments in low-carbon technologies across Europe. The centralisation of cap-setting, the reduction of the volume of imported credits available for compliance and the large auctioning of allocations, will set the stage for a more competitive environment, where the price of carbon will be set by the actual costs of reducing emissions through investments in the EU, rather than reliance on the CDM market for the bulk of the abatement.

Figure 2 below shows our expectation of possible price ranges depending whether, or not, the EU is successful in meeting the combined targets of a 20%

reduction in overall emissions, 20% contribution from renewables and a 20% improvement in energy efficiency. It shows that we expect that the carbon price in Phase Three will be higher than the price in Phase Two.

Owing to the possibility of using Phase Two allowances to meet obligations in Phase Three, we expect that, at some time during Phase Two, prices for allowances will move in line with Phase Three prices, discounted by the time value of money. Investors will be hoping that, as the EU discusses the third phase of trading during 2008, policy makers will have learned their lesson and the ensuing price of CO₂ will indeed provide a clear signal for investment in low-carbon technologies. ■

Figure 2 – Phase Three Supplimentarity and Policy Scenarios



Source: Climate Change Capital