

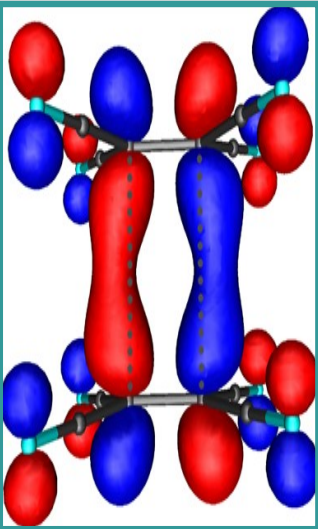
MANAGEMENT OUTLOOK

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THE WORLD CARBON MARKET



The worldwide carbon market developed as a response to the threat of climate change caused by the excessive emission of greenhouse gases, and in particular carbon. Today 182 countries are working to limit carbon emissions, although the biggest polluter, the USA, has yet to ratify the accord.

Carbon is the fourth most common chemical element in existence, after hydrogen, helium and oxygen. It forms literally millions of different compounds, including diamonds and graphite. Carbon is found in large quantities in the fossil fuels of coal, peat and oil. Inorganic carbon compounds do not represent an environmental threat, but when carbon-rich compounds such as fossil fuels are burnt, they release carbon complexes such as carbon dioxide. Carbon dioxide is found in abundance in the earth's atmosphere. It is produced by animals as the exhalation of the respiration process, and consumed by plants for photosynthesis.

However excessive use of fossil fuels seems to be releasing large amounts of carbon dioxide and other complexes that can be harmful if they build up beyond normal levels. High levels of carbon compounds in the atmosphere trap the sun's heat in much the same way as a greenhouse, hence the name greenhouse gases. Raising the earth's temperature

by a couple of degrees, as scientists now fear greenhouse gases will do, could have catastrophic environmental consequences.

The world therefore came together at Kyoto in an effort to reverse the trend of growing carbon emissions. It was felt that taxes or bans would not have the desired effect, and that a market-based system would spur great innovation in energy efficiency, developing alternative energy sources, and increasing the amount of carbon absorption using reforestation and advanced technologies. The carbon market approach is that of a cap-and-trade system. The government or body running the carbon market will set an annual cap on the amount of emissions that participants such as industry and governmental bodies can cause.

If their emissions fall under the limit, then they are given credits that can be sold. Organisations who emit more than the cap will have to buy credits through the market. This system allows emission levels to be monitored, and incentivizes participants to reduce their emission levels. Critics, however, point out that there is no proof that carbon markets have reduced emissions levels. In particular they say there has been a glut of carbon credits available. With



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Low prices, it is easier for polluters to buy credits than to change their ways.

Supporters point out that market dynamics have not yet kicked into gear. Although the cap starts high (mean that credits are plentiful), the cap is lowered each year. As emission levels drop, less credits will be available, and yet more credits will be needed to cover the additional excess. Over time, it is argued, participants will have no choice but to find ways of reducing pollution and investing in carbon reduction strategies.

The World Carbon market has started from essentially nothing to have become a major business. Carbon trading has raised \$14 billion in renewable energy investment in developing countries between 2002 and 2006. The global carbon trading market was worth an estimated \$30 billion in 2006, a 200 per cent increase on 2005.

The European Union is currently responsible for over 80 per cent of the global market. As of mid 2007, it has driven approximately \$13 billion in investments in 60 carbon funds, up from around \$5 billion invested in 40 carbon funds at May 2006. Consensus forecasts are for carbon prices to reach \$37 per ton by 2010 and \$54 by 2020, with optimism that this will lead to a reduction in EU emissions during that period.

The EU carbon market, the European Union Emissions Trading Scheme (EU ETS) is expected to witness carbon credit shortages by 2010, and this will lead to improvements in efficiency and increased usage of renewable energy sources. Indeed, carbon prices will be key to the success of the EU ETS and of similar markets elsewhere in the world - or of a global carbon market. Europeans are increasingly expecting a global market to be formally created after the Kyoto Protocol lapses in 2012. They believe that the early signs of success are there, and that the learnings gained so far are applicable on a worldwide scale. Until that time, there are a number of formal and semi-formal worldwide schemes active or soon to be launched.

Regional and Local Carbon Markets

The EU ETS - The biggest and most famous market, the EU ETS came into effect in 2005, covering not only the 27 EU members but several other European partners

The US emission trading scheme is planned to be nationwide, but no details have been released. Several regional schemes are however in play. The Midwestern Greenhouse Gas Accord - This came into effect in November 2007 and covers six US states and one Canadian province. The Western US states of Arizona, California, New Mexico, Oregon and Washington, along with Utah, Montana and the Canadian regions of British Columbia and Manitoba have agreed to develop a scheme that would reduce emissions by 15% by 2020.

The Canadian Emissions Trading Scheme. This is scheduled to become effective in 2010. Participants must reduce emissions by 20 by 2020, vis-a-vie 2006 emission levels, and with 2 per cent annual reductions thereafter

The Australian Carbon Market has just been announced and is currently being formulated. The New Zealand Emissions Trading Scheme has come online this year, but legislation is not yet in place

The Japanese Voluntary Emissions Trading Scheme started in 2005 and was joined by thirty one businesses. The Japanese government is now considering the development of a mandatory nationwide program

