



## **CARBON CREDIT TRADING: EXPECTATIONS AND CURRENT SCENARIO**

**Lumen Shawn Lobo\* & Dr. Raghavendra\*\***

\* Assistant Professor, Department of Commerce, Manipal University, Manipal, Karnataka

\*\* Associate Professor, Department of Commerce, Manipal University, Manipal, Karnataka

### **Abstract:**

*Carbon trade is a mechanism used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. A limit on the amount of a pollutant that may be emitted is set. The limit or cap is traded in the form of carbon credits. These are normally quoted in Euros per tonne of carbon dioxide. They can be sold in the international market at the prevailing market price. Introduced in the year 2005, until the global slowdown in 2008, carbon was one of the most profitable commodities, nearly doubling in value between 2007 and 2008. It was predicted that carbon credits would be the world's biggest commodity traded by the year 2012. In September 2006, one tonne of carbon credit was quoted around Euro 22. According to World Bank estimates, India was expected to earn approximately \$100 million annually by trading in the carbon credits and Indian companies were expected to corner at least 10 per cent of the global market in the initial years. The cost of a tonne of CER was estimated to rise to \$45 by the year 2012. When recession hit the globe in the year 2008, there was a sharp decline in sales and hence manufacturers had to reduce the manufacturing, resulting in companies producing lower carbon. As a result, demand for carbon credits was substantially lower than the supply resulting in a fall in the price of carbon credits. From a high of 30 euros per carbon credit, the prices fell to less than 1 euro, thus encouraging companies to buy these carbon credits rather than invest in technology to reduce emissions, since the cost of buying credits was substantially lower than upgrading technology for reduced emissions. Overall, Indian-registered projects are expected to generate 815 million CERs by 2020. Indian companies stand to face a real loss on unsold credits with prices falling below one euro. Industry estimates peg the notional loss at Rs. 10,500 crore for credits to be issued between 2013 and 2019. Although it is termed as notional loss in the realm of finance, it is perceived as real loss to the overall industry. The paper concludes that emissions trading is the best way to mitigate climate change, but monitoring, estimating and verifying of actual emissions is still required, which can be costly. Along with carbon credit trading, there is a need to introduce new tools such as carbon tax on polluting companies, to force them to reduce the emission levels.*

### **Introduction:**

The concept of trading in carbon credits emerged as a result of growing awareness of the need for controlling pollution and emissions. Carbon trade is a mechanism used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. A limit on the amount of a pollutant that may be emitted is set. The limit or cap is traded in the form of carbon credits. These represent the right to discharge a specific volume of specified pollutant. Each credit represents a ton of CO<sub>2</sub>. The prices are normally quoted in Euros per ton of carbon dioxide. It is a part of global attempts to limit greenhouse gases. These units can be sold in the international market at the prevailing market price. Since they are traded internationally, they enable credits to be bought and sold between countries. Initially, the aim of the developed countries was to reduce the emission by stabilizing their

emissions at 1990 levels by the year 2000. After the signing of the United Nations Framework Convention on Climate Change (UNFCCC) treaty, parties to the UNFCCC met regularly to discuss the road ahead. It was inferred that the objective of stabilizing their emissions at 1990 levels by the year 2000 was not feasible, and subsequent discussions lead to the Kyoto Protocol. The Kyoto Protocol set emissions targets for developed countries that are binding under international law. The modalities were formalized in the Kyoto Protocol with international agreement among more than 170 countries. The Kyoto Protocol treaty was negotiated in December 1997 and came into force in February 16th, 2005. It is a legally binding agreement under which industrialized countries are required to reduce their collective emissions of greenhouse gases by 5.2% compared to the year 1990. Compared to the emissions levels that was expected by 2010 without the Protocol, this target represented a 29% cut. The goal is to reduce overall emissions from six greenhouse gases - carbon dioxide, nitrous oxide, methane, sulfur hexafluoride, PFCs and HFCs - calculated as the average of the five-year period of 2008-12. The target for emission reduction varies between countries - 8% reduction for the European Union, 7% for the USA, 6% for Japan, 0% for Russia, and an increase of 8% for Australia and 10% for Iceland.

Carbon credits create a market for reducing greenhouse emissions by assigning a monetary value to the cost of polluting the air. This means that carbon becomes a cost of business and is treated as similar to other inputs such as raw materials or labor. Plantation companies, waste disposal units and chemical plants could sell carbon credits and earn revenue. Companies that cut their emissions earn credits. If they exceed their quotas, they are required to acquire credits. These credits are traded on stock exchanges similar to other commodities.

A company has two ways to reduce emissions. It can reduce the greenhouse gases by adopting new technology, or it can tie up with developing nations and assist them in setting up eco-friendly new technology, thereby helping them or their companies to earn credits. India, China and a few other Asian countries have the advantage being the developing countries. Under the UNFCCC charter, any company from the developed nations can collaborate with a company in the developing nation that is a member of the Kyoto Protocol. The companies in developing countries are required to adopt newer technologies, emitting lesser gases, and save energy.

Under the carbon trading mechanism, only a part of the total earnings of carbon credits of the company can be transferred to the company of the developed countries. The polluters cannot buy 100 per cent of the carbon credits they are required to reduce. They need to induce 75 per cent locally by various means in their own country. They can buy only 25 per cent of carbon credits from developing countries.

India is the world's sixth largest emitter of carbon dioxide with its present share in global emissions estimated at 6 percent. Introduced in the year 2005, until the global recession in 2008, carbon was one among the most profitable commodities, its value nearly doubling between 2007 and 2008. It was predicted that carbon will be the world's biggest commodity market by the year 2012. India's Multi Commodity Exchange (MCX) became first exchange in Asia to trade carbon credits.

#### **Earlier Projections:**

Carbon credit was expected to trade on world's leading stock exchanges. Its price was to be determined by a function of demand and supply. India and China were expected to emerge as the biggest sellers and Europe to be the biggest buyer of carbon credits. In September 2006, one tonne of carbon credit was quoted around Euro 22. It was traded on the European Climate Exchange. More than 112 Indian companies,

including Tata Steel and Hindustan Lever Ltd were expected to trade in carbon credits, as they were ready with clean technologies to bring down the emission levels and sell Certified Emission Reductions (CERs) to developed countries.

According to World Bank estimates, India was expected to rake in \$100 million annually by trading in carbon credits; Indian companies were expected to corner at least 10 per cent of the global market in the initial years. Globally, greenhouse gas emissions were expected to come down by 2.5 billion tonne by 2012. According to industry estimates, Indian companies were expected to generate at least \$8.5 billion at the rate of \$10 per tonne of CER during 2006-07. The cost of a tonne of CER was estimated to rise to \$45 by the year 2012.

In 2005, Gujarat Fluor chemicals Limited (GFL), an Indian company, became the first company to sell carbon credit in European market and earn revenues. The company produces refrigerant gases. A by-product of refrigerant gases is a greenhouse gas called HFC23 which is one of the most dangerous gases in terms of global warming; one ton of HFC23 being equivalent to 11,700 tons of carbon. Under the carbon credit scheme, GFL installed new technology to capture and recycle HFC23. The savings in carbon due to the installation of new technology was converted into carbon credits and was sold in the European Energy Exchange. By this, GFL earned 27 million euros in the last quarter of 2006, just one year after installing the new technology, which was triple its total earnings for the same period the year before. The World Bank has also purchased CERs from 10 companies. HLL, Tata Steel, Jindal Vijaynagar Steel, Bharat Heavy Electricals Ltd (BHEL), Kalpataru Power Transmission Ltd, Clarion power project, Dehar power project and Essar Power have ventured into new projects to take advantage of the opportunity. The projects range from cement, steel, biomass power, municipal solid waste to energy and natural gas power. By the third quarter of 2006, Indian companies had earned carbon credits worth Rs 188.44 crore.

#### **Current Scenario:**

Due to global recession, in the year 2008, there was a sharp decline in sales and manufacturers were forced to reduce the volume of manufacturing. A global decline in manufacturing meant that companies were producing lower than expected carbon. As a result, demand for carbon credits was substantially lower than the supply. This led to companies with carbon credit dumping their credits in the market. Following the global economic slowdown, CER prices fell drastically. There were several companies that failed to monetize on these credits even when prices were being quoted around 10 Euros in 2011, hoping that the demand would pick up subsequently.

With price of carbon credits falling below 1 Euro, Indian companies that had invested in clean development mechanism projects under the Kyoto Protocol to seek certified emission reduction (CER) units or carbon credits face a real loss on unsold credits. For credits to be issued between 2013 and 2019, the estimated notional loss is of around Rs 10,500 crore. Although it is termed as notional loss in the realm of finance, it is perceived as real loss to the overall industry. Indian CER holders have been struggling to sell their CERs to countries with maximum emission of greenhouse gases. The developed countries which used to ratify these CERs under Kyoto protocol have stepped back. This has reduced the demand for carbon credits, leading to fall in price. Indian CER holders are now looking forward to sell their CERs through validation and subsequent verification in certain other voluntary schemes. Most banks, trading companies and funds have closed their carbon trading desks. The options left to Indian companies are limited and reducing gradually over time and are forced to sell carbon credits at prevailing prices.

Companies such as GHCL have accumulated around 20,000 CERs but are unable to sell them. Overall, Indian projects are expected to generate 815 million CERs by 2020. Out of this, 189 million CERs are already issued. Remaining 626 million CERs are expected to be issued to Indian companies by 2020. Although most of the companies do not account for unsold carbon credits in their financial statements, unissued CERs too are at a risk. Only after the sale of CERs are these accounted as capital receipts. CER prices may go up in case a legally binding Kyoto Protocol phase II is agreed in December 2015 with the announcement of deeper cuts and various restrictions on industrial CERs. Till that time, only select projects with select buyers could see actual value.

**Conclusion:**

An emission trading through carbon credits is perceived as the best way to mitigate climate change. Enforcement of the caps is an issue, but unlike traditional regulation, emissions trading markets can be easier to enforce because the government overseeing the market does not need to regulate specific practices of each pollution source. However, monitoring, estimating and verifying of actual emissions is still required, which can be expensive.

It is argued that an emission trading does not solve the pollution problem, as the industries that do not pollute sell their conservation to the polluting industries that continue to pollute; overall reduction in the greenhouse gas emissions would not occur. Critics of carbon trading, such as Carbon Trade Watch argue that it places disproportionate emphasis on individual lifestyles and carbon footprints, distracting attention from the wider, systemic changes and collective political action that needs to be taken to tackle climate change.

Carbon credits create a market for reducing greenhouse emissions by assigning a monetary value to the cost of polluting the air. But currently, auditors certifying the carbon credits check only for greenhouse gases, ignoring other types of pollution. Hence this is one area that needs to be addressed.

When from a high of 30 euros per carbon credit, the prices fell to less than 1 euro, it encouraged companies to buy carbon credits rather than invest in technology to reduce emissions, as the cost of buying credits was substantially lower than upgrading technology for reduced emissions.

Hence, along with carbon credit trading, there is a need to introduce new tools such as carbon tax on polluting companies, to force them to reduce the emission levels. The developed countries are not showing much interest in these schemes and hence, there is an immediate need to make these schemes more effective with an objective of lower emissions to make the world a better place to live.

**References:**

1. [http://en.wikipedia.org/wiki/European\\_Climate\\_Exchange](http://en.wikipedia.org/wiki/European_Climate_Exchange)
2. [http://en.wikipedia.org/wiki/Carbon\\_credit](http://en.wikipedia.org/wiki/Carbon_credit)
3. United Nations Framework Convention on Climate Change
4. <http://www.dailymail.co.uk>
5. [www.investopedia.com](http://www.investopedia.com)
6. [www.carbonplace.eu](http://www.carbonplace.eu)
7. [http://www.epa.gov/climatechange/emissions/co2\\_human.html](http://www.epa.gov/climatechange/emissions/co2_human.html)
8. <http://www.nytimes.com/2007/06/20/business/worldbusiness/20iht-money.4.6234700.html>
9. <http://www.bloomberg.com/apps/news?pid=20601087&sid=awS1xfKpVRs8&refer=home>
10. <http://www.alertnet.org/thenews/newsdesk/L12929039.htm>

11. <http://timesofindia.indiatimes.com/business/india-business/Companies-holding-carbon-credits-stare-at-real-loss/articleshow/31803387.cms>
12. <http://www.rediff.com/money/2008/feb/05inter1.htm>
13. <http://www.rediff.com/money/2005/sep/05carbon.htm>
14. <http://www.rediff.com/money/2007/jun/18carbon.htm>
15. <http://in.rediff.com/money/2006/sep/22carbon.htm>
16. <http://www.kyotoprotocol.com/>
17. <http://europa.eu.int/comm/environment/climat/emission.htm>
18. <http://www.ieta.org/>