

CARBON TRADING: CAPITAL MARKET CHALLENGES AND REGULATORY REFORMS FOR ISLAMIC FINANCE

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ABSTRACT

The present research is a first attempt that envisages the place of Emission Trading in capital markets considering the introduction of Islamic financial industry. The paper highlights the facts and challenges in the way of regulation of capital markets and explores the potential areas for investment in Emission Trading. The methodology covers the review of conventional Emission Trading and finance, complexities of carbon trade presently taking place under the conventional system, and financial opportunities for Islamic investors. Product designing and regulatory issues are highlighted with reference to environmental issues and Shariah principles. The present model of Islamic financial products would be extended to Carbon Market.

Keywords: Carbon Trading, Islamic Finance, Potential investment, Capital market reforms

INTRODUCTION

The carbon market has grown so fast that it is estimated to be the world's largest trading market. According to estimation the current worth of carbon market is over US\$100 billion annually (Lohmann, 2009). On the other hand Islamic financial industry's annual growth rate is about 23 percent since 1994 and Islamic financial institutions have more than \$700 billion in assets globally (Hersh, 2011). The question of integration of Emission Trade and Islamic finance is twofold; one, Shariah's permissibility for trade in carbon credits and second, how the integration is made practical and the role of financial institutions is defined.

The main objective of the research is to figure out the potential projects for Islamic finance in Carbon Trading, highlight the major challenges in regulating the capital markets dealing carbon trade based on Islamic finance and suggest measures to develop a network of investors, institutions and policy experts to execute the process successfully.

Carbon Trading Procedure and Capital Market Growth

According to UNFCCC (2008) under Kyoto Protocol in 1997, major economies of the world; developed countries (Annex 1) and developing (Annex 2) agreed to reduce the emission level of Green House Gases (GHGs) from 1990 level. In carbon trading it is not the sale and purchase of carbon but trading is the right to emit (GHGs) in the form of units having different rules and regulations; Assigned Amount Units (AAUs), Certified Emissions Reduction Units (CERs), Emissions Reduction Units (ERUs), Removal Units (RMUs), and European Union Allowances (EUs).

Thousands of financial institutions world-wide are engaged in its trade; buyers' companies, seller's companies, brokers and market players, service providers, and governments and political leaders. Renowned financial institutions which are engaged in carbon trade are Morgan Stanley, Deutsche Bank, Barclays Capital, and BNP Paribas Fortis etc. Whereas new institutions have been set up for example, South Pole Carbon Asset Management, Sindicatum

Carbon Capital, etc. Since all these institutions are already working in the field of emission trading, it would be late for Islamic financial institutions to take part in this field.

Permit Trading System works through Credit and Allowances. If the level of emission is set at 200 units then maximum of 200 permits with each of one unit permit is issued. Polluters are allowed to trade these permits; either to buy the unit of permit to get the Right to Pollute or abate whichever method is a cheaper option. Low cost abater will sell their permit and vice versa thus achieving the target level at an aggregate level. Under a Pollution Credit System a polluter earns credit if it emits below an establish standard. Under Pollution Allowances each permit gives the bearer right to pollute to a given extent. These two are marketable. While allocating allowances the overall quantity of emissions under the cap is divided between different polluters, then each of these polluters receives a permit for an allocated allowance of emissions which they are not allowed to exceed. These permits are distributed to the polluters for free or at a cost through auction. The governing organization sets a cap then distributes or auctions off Emission Allowances or bank them for future use. The cap is fixed, if the cap is set very high i.e. the base limit, excess emissions go in the environment thus making the scheme not very effective. If cap is very high, the value of allowances would be reduced and the firms which have already reduced their emissions and have banked extra credits face losses. In case cap is set very low, it also affects prices of allowances by making them scarce and overpriced. In such a case some credits are kept in Safety Valves, so in case of any imbalances, additional credits are issued to stabilize the prices. The parties are allowed through trade to take benefit from the projects outside their country. In carbon trade different methods are used; sale and purchase of allowances within companies including companies abroad, through Broker to approach buyers and sellers i.e. over- the- Counter (OTC), spot market trading at Climate Exchange for example Chicago Climate Exchange, European Climate Exchange. There are different mechanisms known as Kyoto mechanisms through which emission is controlled and reduced: Clean Development Mechanism (CDM) in which developed countries trade carbon credits for projects and activities in developing countries, CDM projects produces CERs (certified emission reduction); Joint Implementation (JI) in which developed countries trade in other developed countries or economies in transition, JI projects produce Emissions Reduction Units (ERUs); International Emissions Trading (IET) of credits takes place with other signatory countries where it is more expensive to reduce emissions (Clifton, 2009).

The European Union Emission Trading System (EU ETS) created in 2005 is the world largest trading scheme (Bartlam, 2011 ; Chapple, Clarkson & Daniel, 2010). In the USA, Emission Trading started from Acid Rain Program 1990 (Bartlam, 2011). Presently the value up to £89 billion, the World Bank estimates that carbon markets will increase to £1 trillion by 2025* thus resulting in capital market growth worldwide. The first Emission Trading period/ Phase I (2005) expired in December 2007 and the Phase II would be expired in December 2012. Phase III would start from January 2013 and would expired in Dec.2020 (Ellerman & Joskow, 2008).

Emission Trading, Finance and Complexities

Carbon Trading is designed to manage risk. The producing units are required to estimate the risk about carbon price and carbon reduction and to formulate hedging strategies. However the market is unable to identify an adequate risk premium associated with the proposed Emission Trading.

* The report "One World Capital- Why Carbon Credits?" is available at <http://www.oneworldcapital.co.uk/why-carbon-credits.php>, downloaded on April 8, 2012, P.2. One World Capital Lt. is a U.K. based Carbon broker.

There is not only problems in determining the future price mechanism of carbon but under allocation and over allocation of carbon credits also create many difficulties for financial market. For example during the first phase of EU ETS carbon allowances were given free of charge at high volume that gave huge profits (around £9 billion) to market players. This all happened mainly because of non-availability of verified emission data and secondly the projection of carbon finances was based on such data (Chapple, Clarkson & Daniel Gold, 2010). In such cases the burden falls on general consumers.

One of the major problems in carbon trading is data base about carbon emission. As mentioned earlier wrong projection leads to over or under allocation of allowances that results in market volatility and give wrong signal to capital market. An organization Carbon Disclosure Project (CDP) was formed in London in 2000 to conduct emission data survey so as to give information to potential investors. It is so far the largest one in the world. Other institutions are collaborating with CDP to use supply chain for measurement, analysis and management especially under the Kyoto Protocol higher phases[†].

Now the matter has become so serious that the firm value is also based on the emission level and its management. The academic research has shown results of the relationship between financial performance and environmental performance in different ways. Some used direct effect of environmental performance on the value of the firm some others used Event Study. However, from 2006 to 2008 the emission data shows that 500 firms (S&P) has experience of negative relationship between the value of the firm and carbon emission and positive relationship between cost of debts and carbon emission (Chapple, Clarkson & Daniel, 2010). The firms are making strategies to diversify or merge with those companies having less pollution in order to avoid national and international legislative restrictions or to take benefit from undertaking with clean energy technologies.

Product Designing, Regulatory Issues and Challenges for Islamic Finance in Emission Trading

There are two different aspects of dealing with Islamic financial products; one to identify and reconstruct the conventional products according to Shariah rules, second to develop and design new products especially to bring new areas under Islamic finance. In capital market the task is twofold; product for debt and product for equity. Presently, there are more than 265 Islamic banks having market capitalization of \$13 billion, assets \$262 billion, deposits around \$ 202 billion and annual growth up to 20%. Islamic finance still accounts less than 1% of global financial instruments (Parker, 2011).

The establishment of Islamic indices first by Malaysian RHB Unit Trust Management BHD in 1996, followed by Dow Jones Islamic Market Index (DJIM), the Kuala Lumpur Shariah Index (KLSI) by Bursa and the FTSE Global Islamic Index in 1999 is a great breakthrough in Islamic capital market. Since rules have already been developed for securitization products, for example debt, equity, investment, broking and other services so it is easy to establish an index design for Islamic emission market. This will result in expansion and growth of Islamic capital market.

Saudi Economic and Development Company (SEDCO) established Alfanar US Equity Hedge Fund in 2003, the world's first Islamic hedge fund. Besides, there are other numbers of Islamic mutual funds. Islamic equity fund size is estimated to be \$ 3.3 billion with a growth of

[†] The Carbon Disclosure Project (CDP) is an independent organization developing largest database of corporate climate change in the world. About 3,000 organizations in the world disclose their Greenhouse Gas emissions, make climate strategies through CDP. The data is collected on behalf of 534 institutional investors, with assets of \$64 trillion. Available on www.cdproject.net downloaded on April 7, 2012

above 20%. Establishing Islamic Environmental market would pave the way to develop mutual and equity funds for this new market (Al-Rifai, 2003).

The regulation of Islamic Environmental market is an important part of the capital market growth; data profile of companies, monitoring of capital adequacy, risk management, environmental project designing for Islamic financial industry and projection in environmental emission market to save it from liquidity mismanagement and over and under-allocation of carbon tradable units etc.

In Emission market, deficiency of corporate data is leading to estimating risk and liabilities thus price mechanism is affected leading to uncertainty[‡]. Another most important part of the emission market is to deal with international obligations; how much and for how long the countries are supposed to cut down emissions, and obligations under WTO and other international bodies, is a matter of concern for the entire corporate sector. The Kyoto Protocol (1997) is the main protocol to the United Nations Framework Convention on Climate Change (UNFCCC), obligations are to be considered under other Agreements for example Montreal Protocol on Substances that Deplete the Ozone Layer (1987)[§].

Presently in Islamic financial world the mixed contribution of Shariah compliant and non compliant securities have some complexities for example the securities of the company will be classified as Shariah compliant if the contributions from non-permissible activities do not exceed the benchmark say 5% for the activities that are clearly prohibited such as interest, gambling, liquor etc.^{**}. In emission trade projects are however based on environmental protection but designing Islamic financial products of carbon trade for those companies which are producing Shariah non-compliant products need separate classification. Further multiple regulatory systems and standards create further complexities. However the pollution and carbon emission of non Shariah compliant production activities can't be ignored and need Fatwas. In addition, there is clear difference between interest free finance and Islamic finance because not all interest free transactions are Islamic whereas Islamic finance must be free from interest bearing transactions.

In emission market price volatility depends on weather conditions and economic growth, changes in political agendas, incentives in economic policies or structural reforms. Islamic financial institutions and capital market have to accommodate these aspects as well. Further the detail of trade treaties, property laws all are required to formulate the emission trading procedures in Islamic capital market.

Capital market development requires the proper status of the institutions, whether it is Islamic investment companies or Islamic banks so as to avoid regulatory complexities in the integration process of environment with Shariah compliant businesses. For example, in Egypt the Central Bank remained reluctant to take responsibility to protect investors in a private Islamic company, whereas the investors considered the company as a bank. Al Rayan and some other Islamic investment companies collapsed resulting in loss of saving of more than one million small investors in 1988 (Wilson, undated).

The expansion of the Islamic Emission trading requires not only the operational facilitation by the institutions but also determining the direction of investment to make the growth and expansionary process more effective. Carbon credits generated from different sources are not

[‡] Available at <http://www.tradecarboncredits.org/2009/03/list-of-climate-exchanges.html>

[§] Wikipedia available on http://en.wikipedia.org/wiki/Kyoto_Protocol downloaded on April 5, 2012

^{**} The report "The Evolution of the Malaysian Islamic Capital Market: Towards a Global Hub" is available on http://www.afaanz.org/openconf/2010/modules/request.php?module=oc_program&action=view.php&id=223, downloaded on March, 23, 2012. P.6

equivalent and interchangeable because the sources of greenhouse gases are different and carbon saved by technical innovation is different from carbon sequestered in sinks. So this complexity requires different rules and trading criteria.

There are scandals in trading of buying credits stolen or used for money-laundering because sales happen so quickly. The carbon allowances have a serial number but with few clicks thousand numbers are gone which are difficult to trace. The buyer is unaware that he is buying a stolen number (Mason, 2011). The theft cases had been reported in many countries including Germany, Greece, Romania, Austria etc. In Czech Republic, through fake internet sites unlawful access resulted in stealing €34 million worth of carbon permits (CTW, 2011).

There is great influence of speculators from large financial institutions and banks on carbon market prices. The lobbying segment is also very strong because carbon cap, credit trade and permit is a political decision. These factors result in price volatility.

The Proposed Market: Islamic Environmental Market

Following steps must be considered before developing the proposed market:

- a. Data Base Construction; Emission Profile of Companies (with Pollution Credits and with Pollution Allowances) and Investor's Profile in Islamic Financial Industry
- b. Islamic Emission Index
- c. Islamic Carbon Projects; Carbon Takaful, Emission Ijara, Carbon Sukuk, Shariah Joint Implementation (SJI), Islamic Clean Development Mechanism (ICDM)
- d. Environmental Projects Avenues for Islamic Investment; Forest conservation, Tree plantations, Afforestation and reforestation, Renewable energy projects, Fuel switches, Wind farms, Hydroelectric dams, Agro-fuels, Biochar, Storage of carbon dioxide from coal-fired power plants
- e. Agriculture, Mining and Metal production, Waste handling and waste disposal and waste water treatment plants, Transport to improve vehicle fuel efficiency

Presently there is no institution and accounting system to properly manage the complexity of the carbon market. The line on which the present trading system is conducted is not permissible under Shariah; transferring the emission from one part of the world to the other under the "right to emit" system, the role of the speculators and banks in manipulating the permits and price of carbon, the windfall gains by the market players at carbon exchanges, banking carbon credits for future use, money laundering through carbon trade and all other fraudulent methods of stealing carbon credit numbers etc. On the basis of these practices the present system has to be replaced. Rejecting and declaring carbon trading as illegitimate is not the solution because Islam is not against the share management of natural resources. Secondly if Islamic financial industry will not enter in this market then the environment and the economy is at the mercy of conventional players who are already expanding their network, dragging it to Subprime Carbon as feared by analysts. This trading is dominated by elitist and corporatist who serve their own interests. This is a high time for Islamic financial industry to enter the market. There is a need for an independent regulator from the beginning with the establishment of a Shariah board and experts of environmental economists to look into the matter of **carbon corporate management, Investment and financial advisory** services and litigation issues. Further steps include:

- I. Fixing the cap by the national environmental and policy institutes and not by the political elites
- II. Defining and limiting the areas of carbon credit sales to the areas where carbon allowances are available in order to avoid transfer of emission to others' boundaries

- III. Carbon unit and project price on the basis of costs of emission including social costs so as to avoid price volatility
- IV. The underlying asset should be clearly defined. This asset should be the project constructed for abatement rather than “carbon” itself

Extension of Islamic Financial Products' Model



Figure 1. Model showing Islamic Environmental Market

CONCLUSION

The application of Islamic financial industry in environmental market especially in carbon trading is a new idea but it will open new doors of investment and growth for global capital

market. There is a need to make rules and regulations that suits the economy, the environment and the Islamic finance so as to have sustainable development in a more sustainable way. Carbon Takaful, Emission Ijara, Carbon Sukuk, Shariah Joint Implementation (SJI), Islamic Clean Development Mechanism (ICDM) are the new proposed products that can solve the problem.

REFERENCES

- Al-Rifai, Tariq (2003). Islamic Equity Funds: Workshop, *An overview of Islamic finance and The growth of Islamic funds*. Presented to Islamic Funds World 2003.
- Barker, T. *et al.* (2007). Carbon Leakage, In B. Metz *et al.* *Mitigation from a cross-sectoral perspective*. Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, U.K., and New York, N.Y., U.S.A.
- Baumert K, Herzog, T. and Pershing, J. (2005). Navigating the Numbers: Greenhouse Gas Data and International Climate Policy, available at www.wri.org/climate/pubs_description.cfm.
- Bartlam, M. (2011). The Carbon Trading Market—Bold Political and Financial Decisions Required, *Capital Market Law Journal*, Vol.6, Issue 4- PP 470-481.
- Callan, S. and Thomas, J. (1996). *Environmental Economics and Management, Theory, Policy and Application*, Harcourt Publisher, USA. pp 144-150.
- Capoor K, and Ambrosi, P. (2008). State and Trends of the Carbon Market 2008, World Bank, Washington, D.C.
- Chapple, C. and Daniel, G. (2010). The Cost of Carbon: Capital Market Effects of the Proposed Emission Trading Scheme (ETS), This study is based on Daniel Gold's Honors' thesis completed in the UQ Business School at The University of Queensland, Australia
- Clifton, S.J. (2009). *A Dangerous Obsession; The Evidence Against Carbon Trading and for Real Solutions to Avoid a Climate Crunch*, a report prepared by Friends of the Earth England, Wales and Northern Ireland, available online at: www.foe.co.uk/resource/reports/dangerous_obsession.pdf
- CTW, (2011). Letting the Market Play: Corporate Lobbying and The Financial Regulation of EU Carbon Trading, *Carbon Trade Watch*, available at <http://www.corporateeurope.org/publications/letting-market-play>
- Ellerman, D. and Joskow, P. (2008). *Emissions Trading System in Perspective*, Prepared for the Pew Center on Global Climate Change, Massachusetts Institute Of Technology, USA.
- Hepburn, C. (2006). Regulating by Prices, Quantities or Both: Un Update and An Overview, *Oxford Review of Economic Policy*, Vol. 22 (2), PP: 226–247
- Hersh, S. (2011). Islamic Finance and International Financial Regulation, *Journal of international Service*, Vol.20, No.1
- Ilias, S. (2010). Islamic Finance: Overview and Policy Concerns, CRS Report for Congress, *Analyst in International Trade and Finance, Report Prepared for Members and Committees of Congress*, 7-5700, Congressional Research Service, RS22931

- International Organization of Securities Commission, (2004). Islamic Capital Market Fact Finding Report, *Report of the Islamic Capital Market Task Force of the International Organization of Securities Commissions*, available at <http://www.sc.com.my/eng/html/icm/ICM-IOSCO Fact%20finding%20Report.pdf>
- Leonard, A. (2009). The Story of Cap and Trade, *The Story of Stuff Project*, Available at www.storyofstuff.com/capandtrade/capandtrade.php
- Lohmann, L. (2009). Neoliberalism and the Calculable World: The Rise of Carbon Trading, for Kean Birch, Vlad Mykhnenko and Katherine Trebeck (eds.), *The Rise and Fall of Neoliberalism: The Collapse of an Economic Order?* London, Zed Books
- Mason, R. (2011). The Great Carbon Trading Scandal, *The Telegraph*, available at <http://www.telegraph.co.uk/finance/newsbysector/energy/8290533/The-great-carbon-trading-scandal.html>
- Parker, M. (2011). Role of Regulation in Developing ICM, *Arab News*. Available at <http://www.arabnews.com/>
- UNFCCC, (2008). United Nations Framework Convention on Climate Change, *CERs issued*, Available at http://cdm.unfccc.int/Issuance/cers_iss.html
- World Bank, (2010). World Development Report 2010: Development and Climate Change, *The International Bank for Reconstruction and Development*, Washington DC 20433
- Wilson, R. (undated). Regulatory challenges posed by Islamic capital market products and services, University of Durham, UK IOSCO task force on Islamic capital market, available at <http://www.sc.com.my/eng/html/iaffairs/ioscoislamicpdf/regulatorychanges.pdf> downloaded on April,5, 2012
- Yeter, Y. (2010). Islamic Finance for Development; Present status and future prospects, Kuwait Turkish Participation Bank, Istanbul