

# Green Financial Indexes in the Environmental Markets

The growing awareness of the benefits of green trading has called for and enticed expansion into greenhouse gas, renewable energy, and energy efficiency. And as demand for green trading and environmental risk management evolves so too is the need for more efficient metrics that allow for accurate valuation of market and corporate risks. Central to the debate is how crucial are price transparency and market indexes to the evolution of this market? By **PETER FUSARO & ANTOINE EUSTACHE**.

**OVER THE LAST** few years green trading has emerged as a powerful tool for financing emission reduction. This has been particularly true in the US where the established sulphur dioxide allowance has evolved into a six billion dollar market. This practice has caught the attention of opinion leaders around the globe to the point that emission trading is now becoming an integral component of environmental policies in Europe, Asia, and North America.

Central to the debate is the question of how crucial are price transparency and market indexes to the evolution of this market? Trade organisations on both sides of the Atlantic, including the Emissions Marketing Association (EMA), are working diligently toward an answer. Regardless of the routes chosen, the success of these efforts will depend on their ability to find a solution that speaks to the needs of the industrial community, environmentalists, as well as Wall Street financiers.

## Why are Market Indexes so Important?

Started over seven years ago, the SO<sub>2</sub> market, which runs as an annual auction by the Chicago Board of Trade for the US EPA, has become a multi-billion dollar business. It has become a model for green trading the world over. Because government mandates are the primary market driver for environmental financial products, the scope of activity has, at present, been limited to a small number of players, but that is expected to ramp up rapidly.

Nonetheless, the growth of emission trading and profit opportunity have attracted a new generation of traders in the market. Commodity traders from the world's largest banks and financial institutions are responding to these opportunities by opening trading operations on both sides of the Atlantic but are faced with one serious problem i.e. the lack of price discovery mechanisms.

The lack of a reliable index has so far muted their efforts to create a more liquid market. For instance, the current

encourage inefficient price signals that could create profit opportunities for a small number of arbitrageurs. With vast amounts of resources at their disposal these market agents often specialise in profiting from imbalances in the price of a good across time and space. This often involves the purchase of a good or service at one price and the concurrent sale of that good at a higher price, resulting in a risk-free profit. Although legitimate, these activities have limited benefits to suppliers and con-

> The lack of a reliable index has so far muted their efforts to create a more liquid market <

trading environment is handicapped by the operational complexity of having adequate allowance inventory on hand to complete a trade. This limits access only to those with ample allowances or those that can borrow allowances. Furthermore, it takes time to transfer allowances from one party to another and the process can take weeks, limiting traders' ability to enter or exit the market with ease. An index would remove this impediment making it possible to attract more players into the market, by allowing more trade structures, and by turning the environmental market into a cash settled operation.

In emerging markets like CO<sub>2</sub> or renewables, where the trades will be scarce at first, lack of transparency will inevitably keep buyers and sellers on the sidelines. This in turn could

sumers. Reliable market indexes will bolster confidence in the prevailing market price and enable buyers and sellers to agree on the true market value of their allowances or green certificates. Greater confidence in the true market value will ultimately generate more liquidity making it easier for sellers to find buyers willing to transact.

## Compilation of Green Financial Indexes

Constructing an index for a market that is in its early stages of development is extremely problematic. It is time consuming, requires a tremendous amount of intellectual capital and often, the returns outweigh the costs. As a result, only a small number of specialised organisations are

involved in the index business. These are, for the most part, organisations with vast intellectual assets. These organisations often play the role of market facilitators, bringing together market participants seeking to trade a particular product. Their services range from assisting the market with product standardisation to defining rules governing trading practices. In the process they often create a series of elaborate mechanism for collecting

This phase usually lasts several years until market participants grow accustomed first to new market practices and then to the tools and technologies crucial to the development of a real-time market. As a result, most indexes published during this embryonic phase of market development may be based on voluntary reporting of transactional prices. In this case the reporting arrangement could revolve around informal data submission by market

similar to the fixing mechanism used in The British Bankers' Association London Inter-Bank Offered Rate (BBA LIBOR). This approach is most widely known to traders dealing in short-term interest rates. The BBA LIBOR is one of most widely used methods for fixing short-term interest rates. It is used for more than 20% of all international bank lending. The BBA LIBOR is fixed daily for the British pound, Canadian dollar, Euro, US dollar, Australian dollar, Japanese yen and Swiss franc. It is published simultaneously on more than 300,000 screens worldwide by major information vendors such as Money Line Telerate, Thomson Financial, Reuters, Bloomberg, Nomura Research, S&P Comstock, and Quick.

> ... green financial indexes could be compiled based on a method similar to the LIBOR fixing <

trade data that can be traced back to the sources. In the absence of a formal clearing mechanism they play an auditing function that lays to rest any doubts about the validity of the data used to compile the indexes.

Given its early phase of development, green trading will certainly face some similar issues and lack of liquidity will make real-time indexes impossible.

participants to various pricing services. Although limited by the quality of the underlying data this method is widely used in the oil, natural gas, and power industries where market indexes serve as the key benchmarks used for pricing financial swaps and options worth tens of billions of dollars.

Alternatively, green financial indexes could be compiled based on a method

Though, potentially a more reliable means of generating indexes for an emerging market like green trading, the BBA LIBOR approach requires a level of commitment that goes beyond what most trade publications may be able to provide. For instance, most trade publications do not generate any direct revenue from indexes. They typ-

# ConEnergy HPFC

ically use price indexes as marketing tools that help sell their news. The commitment involved in the fixing approach would far outweigh the benefits for many of these institutions. Furthermore, any compilation method based on the BBA LIBOR would require commitment at the most senior levels from firms involved in green trading. Only a handful of trade publications can deploy the kind of resources necessary to secure that kind of commitment. Most certainly, commodity exchanges such as the Nymex, the CBOT, LIFFE, or the CME would have the means to do so. Although some of these exchanges are beginning to explore the benefits of green trading indexes it is not yet clear to many the extent to which their members will commit to them. This means that efforts by organisations such as the EMA need to extend to these institutions as well if they ought to reach their intended objectives.

### Benefits of Green Financial Indexes

Besides providing the necessary tools for managing market and corporate risks, green financial indexes could certainly help reduce the costs of doing business. The emerging environmental markets will need a certain level of price transparency to function efficiently. Without that transparency, traders will need to rely on their own price gathering mechanism. This could prove expensive, time consuming and unreliable. Even the most elaborate price gathering systems will not be a substitute for an independent source of information on which most traders can agree. As a result, many would rather use indexes published by a neutral party as a reference benchmark. These benchmarks are often purchased at a fraction of the costs involved in gathering their own information.

Green financial indexes could also serve as major trigger for capital investment and technology transfer in markets exposed to environmental risks. There are many players ready to enter this market. These are for the most part investment banks, insurance and reinsurance firms, oil and gas firms; gas and electricity utilities, metals, pulp and paper industry participants, auto makers and others vulnerable to the GHG issue. Many of these

firms will be the solution providers as environmental markets converge with capital markets. A number of these players will be reluctant to move in too

energy credits, and energy efficiency avoided emissions will be necessary in determining the need to go forward on investment as well as determining the

## > Ultimately, the elements included in green financial indexes will determine their usefulness <

early for fear of diverting valuable resources from profitable activities. Nor do they want to miss out on a great opportunity by waiting until it's too late. As a result, many will time their entry around the publication of reliable market indexes.

Ultimately, the elements included in green financial indexes will determine their usefulness. The data used to compile them will also have a major bearing on their accuracy and reliability. To the extent they are based on the voluntary reporting approach, buyers and sellers must be ready to disclose the true price at which they buy or sell green products. Given a large enough pool of market participants, these surveys may be able to promote liquidity in this emerging market. The impact, however, could be limited. To the extent these indexes are based on a more involved approach such as the BBA LIBOR, they could accelerate the growth of financial futures and options at a rate that may astound even the most ardent proponents of these markets. The onus lies with organisations such the emission marketing associations, especially in their ability to attract financial investors and other creators of liquidity.

### The Market Opportunity

A major market opportunity exists for the \$205 billion environmental industry to create new financial services related to the challenge of climate change. Green financial indexes are one means to jump start this emerging commodity market as climate change directly affects the energy and agricultural industries in both current operations and for future investment. More stringent environmental standards are now being implemented in many countries that are having an impact on decisions about future investment. Quantitative services to evaluate greenhouse gas allowances, renewable

value of these environmental externalities. Much of this work will be oriented toward project finance credit securitization as well as structured finance for green trading. Price discovery is still an important function for establishing liquidity in emerging markets. Indexes will add to the development of these markets and assist in the participation of many of these new market participants ■

**PETER FUSARO & ANTOINE EUSTACHE** are principals in the New York office of Global Change Associates (GCA). Fusaro is a leading energy and environmental trading expert and Dr. Eustache was former global index editor for Dow Jones. GCA is on the forefront of creating structured environmental products and indexes for the emerging green markets. Further information on GCA is available at:  
[www.global-change.com](http://www.global-change.com)