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A Carbon Market for the Gulf

Justin Dargin, ricercatore ed esperto di legislazione internazionale dell'energia, può vantare un'approfondita esperienza in molti settori del comparto energetico e possiede una consolidata conoscenza del mercato dell'energia nell'area dei Paesi del Golfo. Tra l'altro, è stato uno dei promotori del progetto Dolphin, *illustrato tempo fa dallo stesso autore in un contributo apparso sul nostro periodico (numero 1-2008, pagina 56). L'articolo pubblicato su questo numero di* Nuova Energia *tratta un argomento di grande importanza per quanto concerne le azioni finalizzate a combattere il* global warming *anche nell'area mediorientale, e cioè il mercato locale del carbonio.*
I Paesi in questione, infatti, non sono solo grandi produttori ed esportatori di petrolio, ma anche fonti *significative di anidride carbonica. Un solo dato al riguardo: le emissioni medie annue di un cittadino residente negli Emirati Arabi Uniti sono pari a 55 tonnellate. Più del doppio, quindi, rispetto ai valori altrimenti "da record" di un americano (22 tonnellate/anno). Da qui la scelta – e la necessità – di sviluppare anche in quest'area del Pianeta un* carbon market, *con proprie regole e specifiche finanziarie. È particolarmente interessante, a tal proposito, quanto l'autore illustra sull'utilizzo dei* sukuk, *strumenti finanziari islamici (corrispondenti grosso modo ai* bond *occidentali), utili per sostenere lo sviluppo del mercato del carbonio. Il mercato internazionale dei* sukuk *– riferisce Dargin – si è più che raddoppiato dal 2006-2007, raggiungendo i 62 miliardi di dollari contro i 27 miliardi di dollari del periodo precedente; le prospettive al 2010 sono di superare i 200 miliardi di dollari.*

e.s.

WHAT IS CARBON FINANCE?

Carbon finance, a subfield of environmental finance, is an analytical matrix that utilizes market-based tools to formulate a "price" for carbon dioxide emissions. A price is necessary because carbon emissions can no longer be expeditiously externalized. Since the mid to late 1990s, environmental concerns generally, and climate change specifically, evolved from fringe ecological movements to the mainstream corporate boardroom.

Climate change now constitutes a major part of corporate financial strategy that requires chief executive officers (CEOs), chief financial officers (CFOs), and boards of directors to develop credible strategies that calculate the impact of carbon emissions on the financial statement. Even though initially slow to consider the impact of carbon emissions, firms realize that carbon emissions can be either a potential liability that invites class action suits and unilateral regulatory changes, or an asset class for those who assume a pioneering role. This recognition suggests that, because the introduction of carbon finance into the mainstream financial market is almost inevitable, the only question is how does one cope with it, and assure that it is positive and voluntary in scope, rather than negative and irrepressible.

The implications of carbon finance are quite expansive in this climate modified world, where more intense weather patterns are expected, and major droughts and flooding become the order of the day. The drive to mitigate Green House Gas (GHG) emissions will do much more than force companies to internalize a carbon price; it will also precipitate changes in other financial products and services, such as weather derivatives, catastrophe bonds and generalized insurance products. The key objective of carbon finance is to modify the markets and mitigate greenhouse gas emissions at the lowest possible cost to the economy as a whole, both nationally and globally.

Carbon finance analyzes the financial results of living and working in a carbon conscious society, where GHG emissions, (principally carbon dioxide) impose a cost. Generally, *Carbon finance*:

- Analyzes and explores the financial risks and opportunities for carbon mitigation strategies.
- Represents one subfield of environmental finance.
- Frames climate change and carbon dioxide emissions as part of strategic management decision making.
- Forecasts the availability and utilization of market-based instruments to realistically disperse environmental risks and reach environmental goals.

Grossly simplified, carbon finance forces companies and consumers to notice the carbon output of the products they produce or purchase. Given the global action to mitigate GHG emissions, it is inevitable that Carbon emissions will be internalized on the international market.

THE BRIEF HISTORY OF CLIMATE CHANGE

The public interest in climate change truly reached a turning point with former US Vice President Al Gore's 2006 documentary, *An Inconvenient Truth*, which illustrated the drastic modifications taking place around the world as it attains steadily increasing temperatures. However, the study of climate change took place much earlier. French Mathematician and physicist Joseph Fourier (1768-1830), who conducted numerous studies in the field of terrestrial and radiant heat, concluded that the atmosphere could indeed act as a trapping mechanism. Fourier's study provided an impetus for Swedish Scientist Svante Arrhenius (1859-1927), who saw atmospheric Carbon Dioxide's role in heating up the earth's surface. Most climate scientists credit Arrhenius with the creation of certain metrics that enhanced measurement of atmospheric Carbon Dioxide

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that resulted from the burning fossil fuels during the Industrial Revolution. Arrhenius, who recognized that GHG content in the atmosphere could possibly heat the surface of the Earth, was the first scientist to publish the prediction that a doubling of CO_2 levels would increase surface temperature by an average of 1.5 to 5.5 degrees Celsius. Current scientific predictions are in the same range.

The rise in carbon emissions cannot be denied. Figure 1, which shows the steady increase in carbon emissions since the industrial revolution, illustrates the truly gigantic volumes spewed into the atmosphere. The Earth's surface temperature has increased an average by 0.6 °C since the opening of the twentieth century (see Figure 2). These early studies were later buttressed by the United States National Academy of Sciences study, which warned in 1979 that, "*The current trajectory of CO_2 emissions levels could produce 6 degrees Celsius warming by 2150 and may change the world climate*".

When the 1979 warning was issued, environmental activism was primarily concerned with the degradation ground water, the local pollution of waterways, and smog levels of the major metropolitan areas in the industrialized North. However, the global focus on climate change dramatically entered mainstream science with the dual publication of the Intergovernmental Panel on Climate Change's First Assessment (1990) and the subsequent Stern Review on the Economics of Climate Change (2006). Not only did these two studies force a decisive shift in world opinion among the policy makers and general public, they also thrust the naysayers of global warming into the fringes of acceptable thought, where they lack credibility.

A CARBON MARKET IN THE GULF

The Gulf Cooperation Council countries (GCC), long viewed as one of the main causes of global warming are now taking serious first steps in the fight against climate change. Collectively, the GCC states have one of the highest carbon footprints per capita in the world; this however, places them in a unique position to capitalize on the emerging carbon trading market. Many GCC nations have recently undertaken multi-billion dollar investment plans in order to bill themselves as being "green".

Abu Dhabi, launched a $15 billion (US) future energy initiative house in the Emirate's Energy City. This initiative is aimed at making the world's first "zero-pollution, zero waste city". The company which the Emirate commissioned with carrying out its vision is the Abu-Dhabi based Masdar Company. Masdar will leverage the funds to produce a clean energy portfolio, which will then invest in clean energy technology across the Middle East and North African region. To further capitalize on the synergy developed by the

FIGURE 1

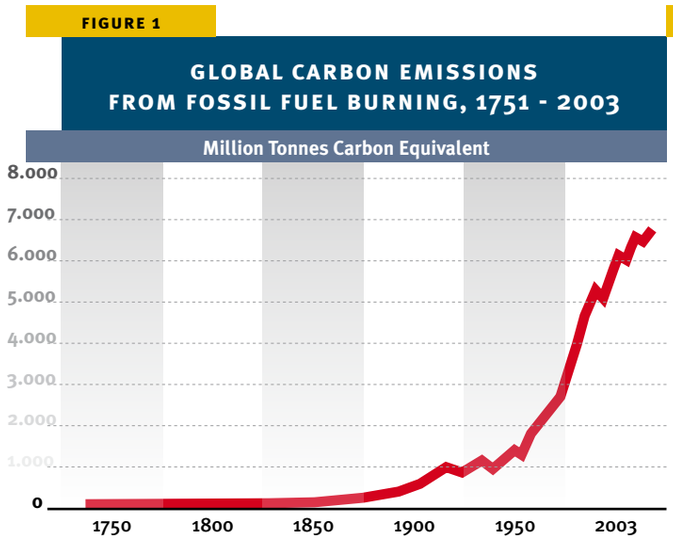
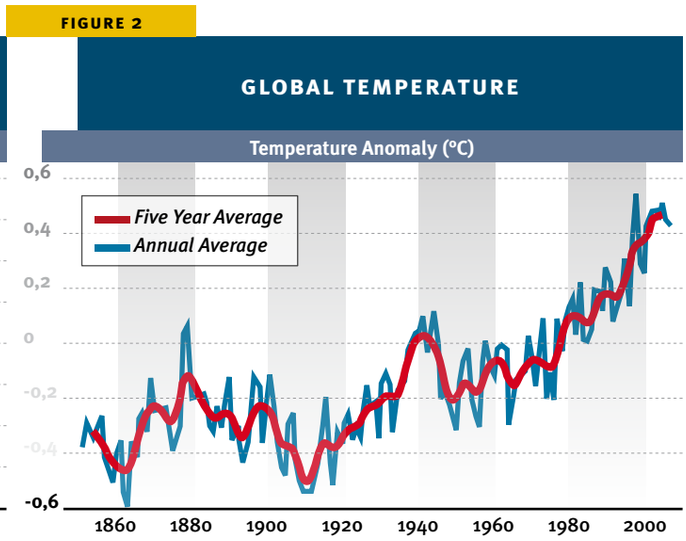


FIGURE 2



Source: Earth Policy institute, based on Worldwatch, ORNL, BP figures

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▲ Enoc's headquarter (Emirates National Oil Co) in Dubai

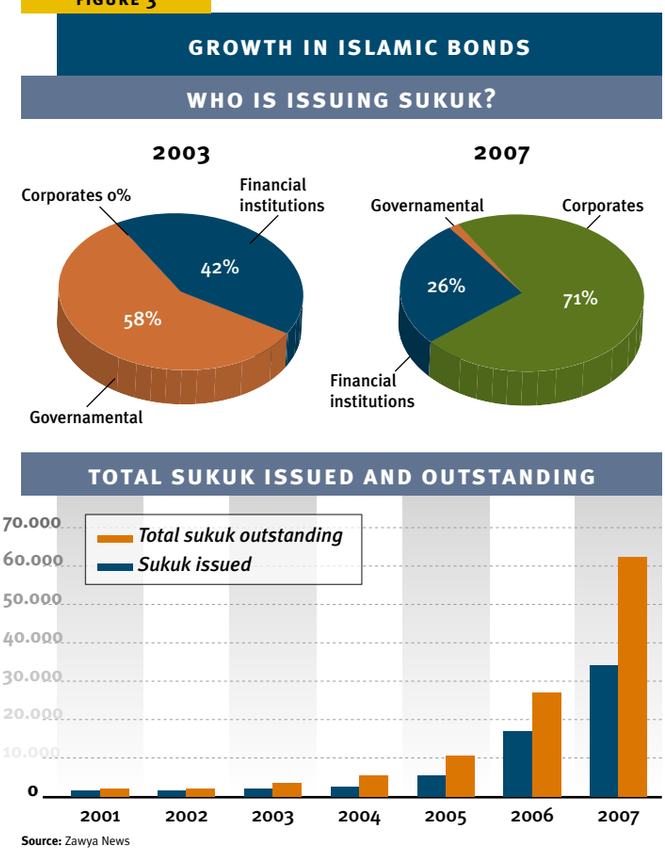
initiative, Masdar announced a strategic plan to construct regional carbon capture storage facilities in the Gulf, to take advantage of an emergent carbon trading exchange planned in Dubai for 2009.

One of the major projects destined to change how the Gulf emits greenhouse gases is the UAE-Bahrain carbon capture agreement. On July 23, 2008, Masdar signed a strategic agreement with Bahrain's Gulf Petrochemical Industries Company (GPIC) to jointly reduce greenhouse gas emissions under the United Nation's Clean Development Mechanism and earn certified emission reductions (CER) certificates for sale on the open market to firms in industrialized nations. The project seeks to capture carbon dioxide from flue gas as feedstock to produce urea and methanol at GPIC's fertilizer facility in Bahrain. The objective is to cut 100,000 tons per annum of carbon dioxide by 2010. Yet, the overall potential market for carbon trading in the Gulf is much more enormous.

Carbon trading in the GCC region will spur its booming financial market, with Dubai as a regional trading hub, and the Islamic finance sector and the carbon offset market, as integral parts of a dynamic mix. The region is a major contributor to greenhouse gas emissions through its oil and gas industry that produces over 30 percent of global oil supply and over 10 percent of the world's natural gas. The world's dependence on Gulf energy has caused the GCC countries to have some of the largest "carbon footprints" in the world. For example, the UAE emits approximately 55 tons per capita annually, which is more than double the US per capita footprint, at 22 tons per year. The UAE, cognizant of its role as a major contributor to climate change, launched several governmental initiatives aimed at reducing emissions by approximately 40 percent.

Currently, there are two competing plans to develop carbon exchange centres in the Gulf, one is in Dubai, and to be built jointly by the State-run Dubai Multi Commodities Centre (DMCC) and the London listed carbon-credit company EcoSecurities before the end of 2009. And the other proposed exchange is to be built in Doha, Qatar, by the Doha Bank in 2009. Each project is designed to make its respective country the hub of global carbon credits trading in the region, and take advantage of the bourgeoning carbon capture projects being developed to earn CER certifications under the UN Clean Development Mechanism. These announcements ride the wave of the momentous decision made by the Chicago Climate Exchange in August of 2007 to start offering CER futures contracts.

FIGURE 3



Source: Zawya News

THE ROLE OF ISLAMIC FINANCE
USING THE SUKUK TO DRIVE THE CARBON MARKET

In anticipation of a carbon exchange in Doha, the Doha bank planned a $1 billion *sukuk* issuance to finance the development of the Qatari carbon exchange. *Sukuk* are Islamic financial instruments that can be considered the equivalent of a bond. However, it complies with the Islamic prohibition on usury, thus making it permissible.

The *Sharia* (Islamic law) compliant financial market is growing at a tremendous rate, and has become *de rigueur* to such an extent that Western financial giants such as Citibank and Germany based Dresdner bank are heavily involved in this sub sector. A report issued by Damac Capital International estimated that the global *sukuk* market more than doubled from 2006-2007, reaching $62 billion from $27 billion a year earlier. The study further estimated that the market is well on its way to topping $200 billion by 2010.

Figure 3 illustrates that a rapid growth of Islamic bonds has taken the world by storm.

The attraction offered by the two fast growing segments of the market, the growth of trading in CERs and the increase in Islamic securitization will combine and influence each other into a very potent mixture. As illustrated by the Dubai and Doha initiatives, regional banks are already combining the two markets, and the larger global financial houses are eagerly watching in the wings to see how it develops.

In 2008, the central Bank of Bahrain, approved that region's first *Shariah* compliant bank, christened, the first energy bank, devoted exclusively to the investment needs of the energy sector, with start up capital of $750 million. This government-business pairing is representative of the growing trend to capitalize on the investment growth in the energy sector and its Islamization. Following the formation of "energy cities" across the world, the logical next step is the melding of banks, Islamic finance and carbon financing, as the First Energy Bank so poignantly illustrates.

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