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## Editorial

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I am delighted to introduce this Special Issue of the *International Journal of Global Energy Issues (IJGEI)* on 'Carbon Markets from an International Perspective'. The present volume, in my view, brings new evidence on the increasing role played by the sphere of carbon markets worldwide, especially the European Union Emissions Trading Scheme (EU ETS) and the Kyoto Protocol's Clean Development Mechanism (CDM).

This Special Issue is composed of two Sections dedicated to, respectively, the 'Econometric Analyses of Carbon Markets' and 'Climate Policy Issues'.

### 1 Econometric analyses of carbon markets

Econometric analyses are important to understand the relationships (and especially price relationships) between the new carbon assets, based on the historical data at hand. The diversity in the following papers is notable.

Pinho and Madaleno study the links between spot and futures allowances on the ECX and EEX markets. Building on previous work by Chevallier (2010), they find positive forward premia for both Phase I and Phase II and for the two different European markets, indicating the prevalence of contango, for the majority of the futures contracts under analysis.

Feng, Liu and Wei evaluate how carbon price changes in the EU ETS. By using variance ratios and the Ensemble Empirical Mode Decomposition, they show that the carbon price is influenced by temperatures, market mechanisms and a heterogeneous environment. Their research also provides some recommendations on how to regulate the EU ETS.

Mi and Zhang focus on estimating the 'Value at Risk' of European carbon futures prices based on the Extreme Value Theory. Their results show that this approach can be used to reliably measure the extreme risk of carbon futures markets of the EU ETS, both for Phase I and Phase II.

Mansanet-Bataller and Pardo evaluate the implications of including Phase II EUAs in diversified portfolios. By extending the first mean-variance optimisation paper by Chevallier (2009), their analysis based on portfolio management techniques shows that the opportunity set for investors increases when short positions in Phase II EUAs are taken.

Finally, Lujan, Delarue, Chevallier and D'haeseleer estimate the CO<sub>2</sub> abatement opportunity achievable in the UK through fuel-switching under the EU ETS (2005–2008). Based on the E-Simulate simulation model, their results assess the relative contribution of different factors such as carbon prices, fuel prices and load in the power sector.

Taken together, these econometric analyses bring fruitful results to the literature on carbon markets, by emphasising that a deeper understanding of how emissions markets work can be achieved through the use of advanced econometric modelling methods.

## 2 Climate policy issues

Various climate policy issues related to the development of carbon markets are also tackled in the second Section of this Special Issue of the *IJGEI*. General conclusions across the realm of possibility in climate change negotiations are often difficult.

Kohler and Lefèvre provide a comparative analysis of city-based Emission Trading Schemes (ETS). In evaluating the key design and management factors for environmental cost effectiveness, they demonstrate that the legal nature of tradable credits must be well defined, and that overlaps between local ETS and other regulations must be limited.

Bowman applies insights from the behavioural economics literature to design options in climate policy, and to make suggestions on how to create (and pass) effective climate regulation. The author concludes that climate policy needs to target the finance sector, particularly the banking industry, in order to encourage capital flows.

Wolff conceptualises the construction of global carbon markets through the mechanism called 'Reducing Emissions from Deforestation and Forest Degradation in Developing Countries' (REDD). The author sets out a set of interacting factors as causes of and influences on the development of international carbon markets.

Overall, these policy papers provide an opportunity to enlighten the public debate on the global climate architecture, as well as to discuss the key conditions that are necessary for carbon markets to develop, from the local to the international levels.

This Special Issue of the *International Journal of Global Energy Issues* dedicated to 'Carbon Markets from an International Perspective' has been made possible by the Editor-in-Chief, Dr. M.A. Dorgham, as well as by the constant support of Janet Marr, Jim Corlett and Darren Simpson. I would like to thank them gratefully, as well as all the contributing authors, for all the hard work that has been done in order to publish this special journal.

## References

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