



The World Conference on Management, Business, and Finance

07-08 December 2023

Dubai, United Arab Emirates

Carbon Offsetting and Climate Innovation

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Abstract

We examine the global landscape of carbon emission reduction efforts. Starting with the fundamental international agreements, we investigate the developments that have taken place over the last two decades in different regions of the world. We discuss and propose the reasons where the efforts have been successful and where they have lagged. Carbon offsetting trends are highly dependent on the valuation of carbon. Net zero targets for entities ranging from countries and corporations to households are influenced by the asset pricing models for carbon. We present the evolution of financial instruments based on carbon with a focus on the creation and trading of carbon credits. The trading ecology of carbon-based financial products and the transition from over-the-counter markets to organized exchanges around the globe are examined. We also investigate the broader climate innovation mechanisms, techniques, and the utilization of creativity in the development of climate based financial instruments. We compare and contrast such developments across specific regions of the world: the United States, the European Union, and the Far East with a focus on China and Japan. We conclude by exploring the profit potential and risk management in climate innovation.

Keywords: carbon credits; carbon-transition risk; climate change; environmental finance; greenhouse gases