Foreword

The idea of using financial markets to control pollution was first proposed by the American economist Thomas Crocker in 1966. In his book *Pollution, Property and Prices*, he suggested introducing a market-based system that would use instruments to limit water pollution caused by industrial waste. At that time, few could have predicted that environmental pollution would go far beyond visible water contamination, affecting entire ecosystems and posing a serious threat to our planet.

Since 1966, much has changed. Today, emissions trading has become a central part of environmental policy. CO_2 certificates and those emission certificates regulated by the European Union are now seen as standard financial products and are increasingly used as investment opportunities. In 2023, South Korea led the world by covering 98.5% of its emissions CO_2-pricing through such a system. Among the top ten countries, eight are in Europe, including Switzerland (Statista). This makes the European Union by far the biggest player in emissions trading, well ahead of other major economies like the United States and China. Germany, the EU's largest economy, is expected to account for €13.34 billion of the €22.49 billion global market value of the Emissions Trading System in 2025—making it one of the top participants (Statista). While this is a positive development, there are still major regional differences, and emissions trading remains relatively small when compared to the overall economic output of many countries. However, as environmental regulations are expected to become much stricter in the coming years and decades, emissions trading is likely to grow significantly in importance.

As is often the case, several developments have come together—and emissions trading is now intersecting with the emerging phenomenon of tokenization. Like any financial product that requires either an analog or digital registry entry, emissions trading instruments can be tokenized using distributed ledger technology, particularly blockchain. A prominent example of this is the emergence of Voluntary Carbon Credits (VCCs). The idea behind VCCs was first introduced in the Kyoto Protocol, further developed in the Paris Agreement, and has now entered the realm of tokenization.

This handbook aims to explore both developments—technological and regulatory—from technological, economic, legal and legal-policy perspectives. It highlights the specific advantages and opportunities that blockchain technology can offer in the trading of VCCs, as well as the challenges it presents. In this respect, the value of this handbook can hardly be overstated. It represents a significant scientific and societal contribution in terms of sustainability and the advancement of tokenization.

The reader is guided through the process of tokenization and its specific conditions in the context of VCCs in a detailed and structured manner. The book includes engaging interviews that shed light on past and present challenges in VCC trading, as well as a major case study analyzing emerging implementations and their practical hurdles.

https://doi.org/10.1515/9783111706719-203

From a civil law perspective, key legal questions regarding the ownership, transferability and liability of VCCs are carefully examined. A particular focus is placed on the crucial step of retirement, which is discussed in depth.

The editors and authors lead the reader on an engaging and intellectually rewarding journey. Their timely and meaningful contribution to this dynamic and increasingly important field deserves the highest recognition.

Dr. Johannes Meier, Marburg University, Germany