



Blockchain & EU ETS: potential developments and suggestions

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Tackling Climate Change with Blockchain

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OUTLINE

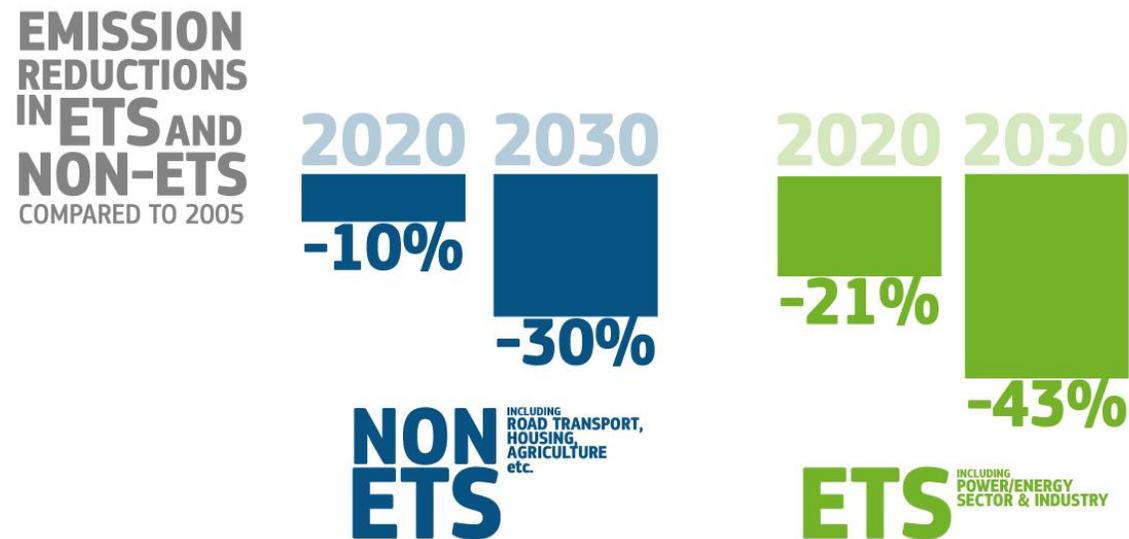
1. EU Emissions Trading System & Fit for 55
2. Blockchain potential

“Carbon emissions must have a price. Every person and every sector will have to contribute.” European Commission President, Ursula Von der Leyen

“The transition needs to be ‘just’ or it is just not going to happen.” European Commission Executive Vice-President, Frans Timmermans

EU EMISSIONS TRADING SYSTEM

- **Cornerstone** of the EU's climate policy: a key and effective tool to reduce GHG emissions since 2005.
- Covers more than **11,000** installations in more than 30 countries+ flights within the EEA, **45%** of total EU GHG emissions



EU EMISSIONS TRADING SYSTEM

- **'Cap-and-trade'** system:
 - Puts a **quantity limit (cap)** on emissions for installations under the ETS
 - This limit is **reduced** each year
 - Emission **allowances** are **auctioned** and companies can buy and sell emissions. **Free allocations** to address risk of 'carbon leakage'
- puts a **price on GHG emissions** to harness economic forces
- **Flexibility** for companies to cut their emissions in the most **cost-effective** way
- **Generate revenues to tackle climate change**

ETS and the Fit for 55 Package

- **Effective carbon pricing** throughout the economy is an important element for delivering climate neutrality by 2050
- Review and revise all relevant legislative measures and make **proposals by July 2021 to deliver on the increased ambition of -55% by 2030**. Comprises the ETS , possibly including an extension to new sectors such as maritime, transport and buildings
- **Full decarbonisation in the EU will require a huge effort from all the industry and the society at large including individuals. New digital technologies such as blockchain could make the transition possible**

Blockchain Potential: Improving ETS and its Extension

- Fundamental **role of smart contract** in a blockchain-based ETS. It is digitized, as such, automates processes, document workflows, CO2 computations, data gathering, direct trading with no intermediaries
- The **implementation of the forthcoming EU ETS for shipping** could be facilitated by blockchain and other digital technologies (satellite monitoring, IoT). Leading shipping companies (Mærsk A/S, Hyundai Merchant Marine Co., Samsung SDS Co.) have already invested heavily in blockchain
- Blockchain could make technically possible to cover **downstream emissions in new ETS sectors** such as transport and buildings. This could complement the proposed upstream approach

Blockchain Potential: Digital ETS for Individuals

- The transition needs to be '**just**' or it is just not going to happen
- Change needs to be incentivised but one needs to consider impact on households and individuals
- An **ETS for households** might also be used as a financial mechanism/incentive to facilitate just transition
- A **Digital ETS** covering directly small emitters and individuals could be not only an effective market mechanism tool, cutting down GHG emissions, but also an important **climate justice instrument**