Climate change refers to both global warming and the resulting large-scale shifts in weather patterns. In recent years, an increasing number of governments have issued climate emergency declarations, and, in doing so, have committed to prioritising and devising measures to mitigate climate change.

In tandem with this global direction, there is a growing trend of companies internally pricing their emissions, as they find it increasingly necessary to assign a monetary value to emissions and factor the same in their financial decisions. Investor pressure is also mounting – the financial sector is increasingly vocal on climate action. Blackrock, the world’s biggest asset manager with US$6.9 trillion assets under management, announced in January 2020 that it would put sustainability at the heart of its investments and divest from fossil-fuel companies.

The global drive towards reducing carbon footprint has spawned two main categories of regulated carbon pricing initiatives: carbon taxes and emissions trading systems (ETS). Carbon taxes explicitly put a price on carbon, which may be offset by carbon credits, whereas ETSs are policy instruments where entities face compliance obligations relating to their emissions and can trade carbon credits to meet these obligations.

Singapore introduced a carbon tax of S$5/tonne (US$3.7/tonne) of emissions in 2019, which will be raised over the years to incentivise emission reductions. Taxable entities will pay taxes by surrendering fixed-price credits bought from the National Environment Agency. The feasibility of sanctioning the use of international credits or linking the existing framework with international ETSs is also being studied.

The EU ETS is the world’s first and to-date largest carbon market. It operates on a cap-and-trade basis, where a cap is set on the amount of emissions, with EU allowances...
EUAs to cover their emissions, and can keep companies who purchase credits to offset responsibility (CSR) goals and addressing meeting climate or corporate social carbon markets cater to wider groups of emissions for myriad reasons, including targets on regulated entities, voluntary or trade spare EUAs. The cap will be reduced over time to encourage emission reductions.

Unlike ETSs which impose mandatory targets on regulated entities, voluntary carbon markets cater to wider groups of companies who purchase credits to offset emissions for myriad reasons, including meeting climate or corporate social responsibility (CSR) goals and addressing investor pressure.

Carbon credits are issued under ETSs or carbon-tax systems, as well as by crediting mechanisms in respect of approved emission-reduction activities, including emission avoidance (e.g. renewable energy or avoided deforestation) and sequestration (e.g. reforestation or tech-based removals).

The legal nature of carbon credits can have practical ramifications on matters such as security of title, security interests, taxation and insolvency.

Notwithstanding these differences, there are some generally accepted rights in respect of property such as exclusion, alienation and management. Carbon credits display such proprietary characteristics insofar as they are subject and consequences in the event of theft.

The ability to use carbon credits as security is important as it allows entities to monetise dormant credits. Granting security also facilitates lending to projects and credit holders. However, the use of credits as security has not received universal acceptance. Some jurisdictions like Belgium do not permit the use of EUAs as security. In others, like Germany, there is no clear prohibition. However, the framework for securities under the German Civil Law Code provides that the creation of a lien on a right follows the rules for its transfer. Transfers of EUAs require registration, but the Registry Regulation does not allow registration of security interests.

In the UK, it was held in Armstrong that EUAs are intangible property capable of supporting the existence of equitable interests, which indicates that other types of third-party interests such as security interests can conceptually exist. However, even where it is conceptually possible to grant security over credits, there remains practical issues including the need to perfect the interest through registration and
protect the beneficiary’s interest vis-à-vis purchasers or in the event of the holder’s insolvency.

Without registration, title could be transferred without the purchaser having notice of the prior security interest. One practical solution is to restrict the credit-holder’s ability to dispose of EUAs by nominating the security-holder as an ‘additional authorised representative’ whose approval is required for any transactions (Article 23(3), Registry Regulation 389/2013). However, this control is tied to the account rather than the allowance itself, and there are exemptions from the approval requirement such as transfers to ‘trusted accounts’, which include accounts belonging to the same account-holder.

Conflict of laws issues may also arise. In the insolvency context, for instance, proceedings are generally governed by the law of the jurisdiction where the insolvent entity is situated. However, if the credits forming part of the insolvent entity’s assets are regarded as being situated in another jurisdiction (e.g. registered in a foreign register at the time of creation of the security), the courts may apply the laws of such jurisdiction to determine whether the security was an effective disposition. This is the established approach for intellectual property rights. A contrasting view is that where credits originate from different jurisdictions and are fungible, no other system of law can be applied consistently, so that the lex fori should apply by default: see Financial Markets Law Committee, Issue 116 – Emission Allowances: Creating Legal Certainty, [3.6].

**Taxation**

As credits are transferable property with recognisable value, it is important to note the tax treatment of gains or losses arising from carbon credit transactions and the applicability of value-added or goods and services tax (GST), which may differ across jurisdictions.

France, Germany, Belgium and Poland impose value added tax (VAT) on EUA transactions, for instance, whereas supplies of eligible emissions units in Australia are GST-free.

In Australia, the cost of acquiring credits for compliance is tax deductible, with the deduction deferred on a rolling balance method until the year in which the credit is sold or surrendered. By contrast, in New Zealand, compliance expenses accrue as the emissions are produced. While the Australian position is less complex, the regime in New Zealand arguably better matches the emission costs to the production process: see Black, C. (2011). Tax Accounting for Transactions under an Emissions Trading Scheme: An Australasian Perspective. Carbon & Climate Law Review, p98.

With the growth of carbon markets and more cross-border transactions resulting from the linking of markets, it is increasingly important to have an understanding of these attendant tax considerations.

**Theft**

The risk of fraud is prevalent in carbon markets. The EU ETS has been linked to extensive and various criminal activities, including theft of EUAs. To address the theft problem, the EU created a centralised registry (the Union Registry). The Registry Regulations have, however, been the subject of much controversy. For one, Article 40(3) prevents rectification of the registry, ostensibly to avoid disruptions to the market (paragraph 8, preamble to the Registry Regulations). However, an aggrieved party is not precluded from exercising other rights in the case of fraud or technical error. Insofar as other forms of liability may exist, simply

“the ability to use carbon credits as security is important as it allows entities to monetise dormant credits”
having an un-rectifiable register is cold comfort.

Further, to protect innocent purchasers of stolen allowances, Article 40(4) also establishes a defence of good faith. The interpretation of ‘good faith’, however, is left to national law, giving rise to the risk of conflicting interpretations amongst member states. The potential uncertainty as to the concept of ‘good faith’ was demonstrated in Armstrong, where the purchaser’s receipt of the EUAs was held to be unconscionable because it had proceeded with the transaction without receiving satisfactory responses to its due diligence questions.

These findings have been criticised, as the fraudulent seller had agreed to transfer the EUAs before receiving payment, abrogating the purchaser’s need for the know-your-customer (KYC) information. Critics argue that the foremost concern on a trader’s mind is counterparty risk (e.g. risk of default or insolvency), not fraud, and the finding of unconscionability on the purchaser’s part was unjustified: see Low, K., & Lin, J. (2015). Carbon Credits as EU Like It: Property, Immunity, TragiCOmedy? Journal of Environmental Law, 27(3), 377–404.

In any event, in the absence of any legislative clarification as to concepts such as good faith, it would be prudent for a purchaser to conduct extensive due diligence, as Armstrong demonstrates a judicial preference to allocate fraud risks according to transactional proximity and parties’ relative abilities to avoid the fraud. On a practical level, the risk of fraud can be addressed through technology such as blockchain-based tokens and fraud-detecting algorithms. Blockchain networks can be seen as cross-checking instruments – a transaction is run by multiple parties and if most of them consider the transaction to be correct under a consensus mechanism, the transaction is merged into a cryptographic code and built into a block, which is appended to a previous block. To be tamper-proof, individual sections of the blockchain process are encrypted, and transaction blocks are decentralised and can be viewed by all parties involved: see Climate Ledger Initiative, Navigating Blockchain and Climate Action: An Overview (Dec 2018).

However, while the potential application of blockchain technology appears promising, this has to be weighed against concerns such as high energy consumption and the need for bottom-up network architecture hindering scalability.

Creating certainty
Companies are under growing pressure to reduce their carbon emissions and adopt sustainability plans. Where a company is unable to or finds it too costly to reduce its emissions, it will have to purchase carbon credits as a way to offset its carbon emissions. Currently, there are multiple carbon exchanges, such as the Carbon Trade Exchange in London and Sydney as well as the AirCarbon Exchange in Singapore.

In May 2021, it was announced that a new global carbon exchange, Climate Impact X (CIX), will be launched in Singapore by end of the year for the trading of high-quality carbon credits. The Monetary Authority of Singapore promoted CIX as a “promising solution to the problem we face today of fragmented carbon credit markets characterized by thin liquidity and credits of questionable quality.”

As this article suggested, countries, regulators and market players should be more united in defining the legal nature of carbon credits as the legal uncertainties appear not to be fully appreciated by all the stakeholders. With global carbon transactions valued at around €229 billion (US$273.3 million) in 2020 and voluntary carbon markets estimated to be worth upwards of US$50 billion by 2030, more should be done to address these uncertainties which have been illustrated in cases like Armstrong.