Role of Carbon Credits in Corporate Decarbonisation Action

1. Introduction

1.1 Preface

1.1.1 Climate change is an existential threat. The impact of rising sea levels and extreme weather patterns threatens millions of lives and livelihoods around the world. Addressing climate change requires a concerted effort by governments, companies, and individuals. As major contributors to global emissions, companies have a critical role to play in global decarbonisation efforts. The International Monetary Fund (IMF) estimates that 80% of the US$2 trillion per year required for the transition to net zero will have to come from businesses.[1]

1.1.2 Corporate decarbonisation can have outsized effects. They can catalyse the deployment of newer climate technologies, mobilise private sector financing, and support capacity-building for technology implementation. In addition, companies can create positive influence on stakeholders in their value chain.

1.1.3 Companies ahead in their decarbonisation journey stand to benefit from early access to new markets, customers, financing, and economic opportunities in a low-carbon future, as consumers and investors become increasingly climate conscious.

1.1.4 This document provides guidance on how companies can voluntarily use carbon credits as part of a credible decarbonisation plan. It is a live document to be updated as new information becomes available and the need arises. It is not meant to provide exhaustive guidance on all aspects of carbon credits usage. For example, companies that wish to make specific claims about their sustainability performance (e.g., “carbon neutrality” or “net zero” claims) should make clear which standard they are referencing for such claims and adhere to the specifications of that standard accordingly.[2]

[1] Emerging Economies need much more Private Financing for Climate Transition, Ananthakrishnan et al., International Monetary Fund Blog, 2023.
[2] One example of a claims standard is the Voluntary Carbon Markets Integrity Initiative’s (VCMI’s) Claims Code of Practice.

1.2 Corporate Decarbonisation

1.2.1 The first step in a company's decarbonisation journey is to **measure and report their baseline (also called base year) emissions**. This is the reference level of emissions and starting point for the company to identify opportunities and track progress in reducing emissions, thereby demonstrating transparency and accountability. Such efforts contribute to emissions monitoring at the national and global level.

1.2.2 Second, companies need to **put together a credible decarbonisation plan**, laying out strategies and pathways for their transition. Best practices for a credible decarbonisation plan include:

(a) Contribution to Paris Agreement temperature goals;
(b) Comprehensive emissions inventory across all emissions scopes, based on clear definition of a company's emissions boundaries;
(c) Emissions reductions strategies addressing all emissions scopes, and prioritising all technically, scientifically, and economically feasible emissions reductions;
(d) Periodic review and update of targets and strategies, accounting for latest developments in decarbonisation solutions; and
(e) Public disclosure of emissions data and progress towards targets, using standardised reporting formats.

1.2.3 Third, companies need to **implement the initiatives set out in their decarbonisation plans**, prioritising all feasible emissions reductions across all emissions scopes, before considering the use of carbon credits to address their remaining emissions. This is especially the case for hard-to-abate sectors for which decarbonisation technology is not ready or accessible, or where companies have limited influence to advance the solutions and technologies that enable them to decarbonise.

1.3 Role of Carbon Markets

1.3.1 **A carbon credit is a certificate representing one tonne of greenhouse gas (GHG) emissions reductions or removals** measured in tonnes of carbon dioxide equivalent (tCO2e). Carbon credits are generated from projects that remove GHG emissions from the atmosphere ("removal credits") or reduce the amount of GHG emissions released into the atmosphere ("reduction credits").

1.3.2 **Carbon markets, which facilitate the buying and selling of carbon credits, channel capital into decarbonisation projects that would not have otherwise occurred** in the absence of revenue from the sale of carbon credits. Such capital flow facilitates the development of mitigation projects where they are most cost-effective.

According to the World Bank State and Trends of Carbon Pricing report, international carbon markets could reduce GHG mitigation costs by up to 32%.[3] A study by Ecosystem Marketplace found that companies participating in the voluntary carbon market are investing three times more in emissions reduction efforts within their value chains, as compared to non-participants.[4]

1.3.3 A robust carbon market which efficiently matches the demand and supply of high-quality carbon credits provide companies a complementary tool to meet their decarbonisation targets in the face of hard-to-abate emissions, and support the raising of global climate ambition. Therefore, **the Singapore Government supports companies' participation in well-functioning carbon markets, and voluntary use of high-quality carbon credits as part of a credible decarbonisation plan**.

1.3.4 Entities may purchase carbon credits for compliance[5] or voluntary purposes. Carbon credits used by companies to meet their voluntary climate commitments are traded on the **voluntary carbon market (VCM)**.

[3] State and Trends of Carbon Pricing, World Bank Group, 2016.
[4] All in on Climate: The Role of Carbon Credits in Corporate Climate Strategies, Ecosystem Marketplace (A Forest Trends Initiative), 2023.
[5] Examples of compliance purposes include meeting regulatory requirements and national commitments under the United Nations Framework Convention on Climate Change (UNFCCC).

2. Choosing credits

2.1 Quality of carbon credits

2.1.1 For carbon markets to be credible and effective, **carbon credits must be of high environmental integrity**. Singapore's International Carbon Credit (ICC) framework has set out seven principles to assess the environmental integrity of a carbon credit,[6] in compliance with Article 6 of the Paris Agreement. While carbon credits for voluntary use are not bound to Article 6 and Singapore's ICC Framework, the principles nonetheless serve as a good guide on attributes of a high-quality carbon credit in the VCM.

Principle	Definition in the context of VCM
Not double-counted	The certified emissions reductions or removals must not be counted more than once. Examples are when the same credit is claimed by multiple organisations or multiple times by the same organisation ("double claiming"), or when the same project has issued credits under multiple carbon crediting programmes for the same mitigation outcome ("double issuance").[7]
Additional	The certified emissions reductions or removals must exceed any emissions reduction or removals required by law or any regulatory requirement of the host country, and that would otherwise occur in a business-as-usual scenario.
Real	The certified emissions reductions or removals must have been quantified based on a realistic, defensible, and conservative estimate of the amount of emissions that would have occurred in a business-as-usual scenario, assuming the project or programme that generated the certified emissions reductions or removals had not been carried out.
Quantified and verified	The certified emissions reductions or removals must have been calculated in a manner that is conservative and transparent, and must have been measured and verified by an accredited and independent third-party verification entity before the carbon credit was issued.

[6] Since 2024, under Singapore's ICC framework, Singapore's carbon tax-liable companies in Singapore can use eligible ICCs to offset up to 5% of their taxable emissions. More information can be found at the Singapore's Carbon Markets Cooperation website.

[7] The ICC Framework's definition of this principle differs slightly as it addresses double-counting of Internationally Transferred Mitigation Outcomes (ITMOs), which is not applicable to the VCM. See explanation in Section 2.2.

Permanent	The certified emissions reductions or removals must not be reversible, or if there is a risk that the certified emissions reductions or removals may be reversible, there must be measures in place to monitor, mitigate and compensate any material reversal of the certified emissions reductions or removals.
Do no net harm	The project or programme that generated the certified emissions reductions or removals must not violate any applicable laws, regulatory requirements, or international obligations of the host country.
No leakage	The project or programme that generated the certified emissions reductions or removals must not result in a material increase in emissions elsewhere, or if there is a risk of a material increase in emissions elsewhere, there must be measures in place to monitor, mitigate and compensate any such material increase in emissions.

2.1.2 To assess quality of carbon credits, companies should take reference from global meta-standards. Global meta-standards such as the Integrity Council for Voluntary Carbon Market (ICVCM)'s Core Carbon Principles (CCP), and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)'s Eligible Emissions Unit Eligibility Criteria have established principles and criteria to assess whether a carbon-crediting programme or standard is high-quality. These meta-standards have published lists of carbon crediting methodologies and / or programmes that have been assessed to meet their quality criteria.

2.1.3 While meta-standards can indicate environmental integrity at the programme or methodology level, carbon credit quality and the risk of failure can differ across projects due to various project-level factors, such as business risks faced by the project developer. Therefore, **companies should do their due diligence to ensure they are purchasing high-quality credits**. This could include the use of third-party tools, services or programmes (see elaboration in Section 3.3).

2.2 Clarifications on Corresponding Adjustments

2.2.1 The principle of "no double-counting" is important to ensure accurate carbon accounting such that each offsetting claim corresponds to an equivalent unit of genuine emissions reduction.

2.2.2 **A corresponding adjustment (CA) is an accounting mechanism under Article 6 of the Paris Agreement** to prevent the double-counting of emissions reductions when Internationally Transferred Mitigation Outcomes (ITMOs) are traded towards the achievement of countries' Nationally Determined Contributions (NDCs) or for other international mitigation purposes (e.g. CORSIA). When one country purchases and retires an ITMO from another country, the emissions offset from the receiving country's GHG emissions inventory would be added back to the host country's GHG emissions inventory. Host country authorisations provide a commitment that CA will be applied.

2.2.3 **CA requirements do not apply for corporate buyers looking to meet their voluntary climate commitments**, as these are not counted towards NDCs.[8] However, the buyer should still ensure that they have taken steps to prevent double-counting. This includes acquiring high-quality credits that have been registered with a reputable registry, claiming only credits retired in their name, and claiming credits only once in their value chain e.g., when there are multiple entities in the same corporate group.

2.2.4 Some jurisdictions may separately impose CA requirements on corporate buyers, such as companies subject to Singapore's carbon tax that seek to offset their tax liability with ICCs for compliance purposes. For voluntary use, companies should use their judgement in deciding whether to purchase correspondingly adjusted credits. Companies should transparently disclose whether their credits purchased include CA.

2.3 Clarifications on Vintage

2.3.1 The vintage of a carbon credit is the year in which the emissions reduction or removal activity associated with the credit took place. As best practice, companies should purchase and retire credits issued within their commitment periods.[9] While vintage is not a direct indication of quality, this generally helps to ensure that climate action supported by the purchase of credits is based on up-to-date methodologies and baselines.

[8] A high-quality carbon credit without CA, all else equal, simply means that the buyer is financing emissions impact in a host country while allowing the mitigation outcome to remain on the UNFCCC ledger of that country.

[9] For example, a company committing to reduce their emissions in 2030 by half from 2020 levels should only purchase carbon credits issued between 2021 and 2030.

3. Using credits

3.1 Overview

3.1.1 Carbon markets work best when high-quality supply is met by high-quality demand, and where it is used appropriately and credibly to enhance the user's climate impact.

3.2 Carbon credits as part of a credible corporate decarbonisation plan

3.2.1 To effectively implement their decarbonisation plans, companies need to be able to identify feasible abatement measures. Companies could consider the use of publicly available tools and resources, as well as professional carbon services, to support them in identifying feasible abatement measures. These include:

(a) Tools to identify mitigation potential at the sector and country level
(b) Marginal abatement cost curve tools – to identify and prioritise cost-effective abatement measures
(c) Energy audits – to identify opportunities for improving energy efficiency
(d) Benchmarking studies – to understand industry norms and best practices

3.2.2 **After a company has prioritised all feasible emissions abatement efforts, it should then consider the use of carbon credits to address its remaining emissions and meet its interim net emissions targets.**[10] As the feasibility of emissions abatement may change over time (e.g. with new solutions and technologies), companies should regularly review their decarbonisation plans. There are also opportunities for further work to develop robust, science-based methodologies to determine residual emissions[11] at a more granular level across different geographies and sectors.

3.3 Risk Management

3.3.1 Beyond individual credit quality, **companies should also consider the quality and risk of credits as a portfolio**. Carbon credit projects originally identified as high quality could still underdeliver due to factors such as uncertainty in the assumptions used to size a project's emissions impact, business risks faced by the project developer, or exogenous factors such as emissions reversals and force majeure circumstances.

[10] Under the International Sustainability Standards Board's (ISSB's) IFRS S2 standard, "gross" emissions targets reflect the planned change in emissions within the entity's value chain while "net" emissions targets reflect the gross emissions targets minus any planned offsetting efforts. Both gross and net emissions targets should be disclosed.
[11] Emissions that remain after all feasible measures have been taken to reduce emissions.

3.3.2 Labels and carbon project ratings are possible tools which companies could consider using when assessing the quality and risk of credits at the project level. Such labels aim to provide an objective indication on whether a project meets a desired standard or impact, while carbon project ratings aim to provide an independent and objective assessment of the project quality and the likelihood that it will achieve its stated emissions impact. Companies can also consider the use of insurance to derisk their portfolio of carbon credits or projects, as they become more available.

3.4 Disclosures

3.4.1 **We encourage companies to transparently disclose their use of carbon credits.** This includes the volume of credits, type of credits, project location, where the credits were held (e.g., which registry), purpose of use, and third-party ratings if available. Beyond compliance with regulations, such practice supports credibility and accountability, and builds trust with stakeholders. It provides investors and consumers insight into the company's environmental impact and progress towards decarbonisation.

(a) Singapore is implementing phased and proportionate climate reporting requirements aligned to the IFRS Sustainability Disclosure Standards issued by the International Sustainability Standards Board (ISSB). Under this standard, companies are to disclose any decarbonisation targets and their strategy to achieve such targets, including the planned use of carbon credits. Some details include:[12]

i. their voluntary and compliance climate targets, their strategy and performance towards their climate targets, and provide analysis of trends or changes in this performance;
ii. the extent to which, and how, achieving any net GHG emissions target relies on the use of carbon credits; and
iii. the type of carbon credits (e.g., technology-based or nature-based), which third-party scheme(s) will verify or certify the credits, and any other factors necessary for users to understand the credibility and integrity of the credits.

(b) Government support, including via Enterprise Singapore's Enterprise Sustainability Programme (ESP) and EDB's Resource Efficiency Grant for Emissions (REG(E)), is available to help companies measure, plan for and adopt decarbonisation solutions. EDB and Enterprise Singapore's Sustainability Reporting Grant (SRG) is available to help companies with their first climate-related disclosures aligned to the ISSB.

[12] Please refer to the IFRS Foundation's website for the full standard.