

Guidance on Role of Carbon Credits in Corporate Decarbonisation



1. Introduction

1.1 Preface

1.1.1 Climate change is an existential threat. The physical 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. Such efforts can catalyse the deployment of newer climate technologies, mobilise private sector funding, 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 and financing, and economic opportunities in a low-carbon future as consumers and investors become increasingly climate conscious.

1.2 Context

1.2.1 This guidance document is jointly developed by the National Climate Change Secretariat, the Ministry of Trade and Industry, and Enterprise Singapore, in close partnership with the Singapore Sustainable Finance Association (SSFA), industry partners, academics and international organisations.

1.2.2 The document is meant to guide companies (including those subject to Singapore's climate reporting requirements²) in using carbon credits, and disclosing such use, 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

¹ Emerging Economies need much more Private Financing for Climate Transition, Ananthakrishnan et al., International Monetary Fund Blog, 2023.

² ACRA: [Extended Timelines for Most Climate Reporting Requirements to Support Companies](#), August 2025.

neutrality” or “net zero” claims) should make clear which standard they are referencing for such claims and adhere to the relevant specifications accordingly.³

1.3 Corporate Decarbonisation

1.3.1 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.⁴ Such efforts contribute to emissions monitoring at the national and global level.

1.3.2 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 the Paris Agreement temperature goals;
- (b) Comprehensive emissions inventory across all emissions scopes, based on a clear definition of the company’s emissions boundaries;
- (c) Emission reduction strategies addressing all emissions scopes, and prioritising all technically, scientifically, and economically feasible abatement measures;
- (d) Short and long-term decarbonisation targets that align with the company’s emission reduction strategies;
- (e) Periodic review and update of targets and strategies, accounting for latest developments in decarbonisation solutions; and
- (f) Public disclosure of emissions data and progress towards targets, using standardised reporting formats. (See Section 3.4)

1.3.3 Third, companies need to **implement the initiatives set out in their decarbonisation plans**, prioritising all feasible emissions reductions and removals across all emissions scopes, before considering the use of carbon credits to address their remaining emissions. This is especially applicable 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 will enable them to decarbonise. (See Section 3.2 for more guidance on the use of carbon credits for corporate decarbonisation).

³ One example of a claims standard is the Voluntary Carbon Markets Integrity Initiative’s (VCMI’s) Claims Code of Practice. The Singapore Sustainable Finance Association (SSFA) is also developing a Claims Guidance Document at the time of writing.

⁴ The Greenhouse Gas Protocol (GHGP), International Organisation for Standardisation (ISO) and United Nations Framework Convention of Climate Change (UNFCCC) provides standardised methodologies for the calculation of such baseline emissions.

1.4 Role of Carbon Markets

1.4.1 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 can be generated from projects that reduce the amount of GHG released into the atmosphere (“reduction credits”) or remove GHG from the atmosphere (“removal credits”).

1.4.2 Carbon markets, which facilitate the buying and selling of carbon credits, channel capital into decarbonisation projects that would not have occurred in the absence of additional financing for/arising from the generation and sale of carbon credits. Such capital flows facilitate 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%.⁵

1.4.3 A robust carbon market which efficiently matches the demand and supply of high-quality carbon credits can be a complementary tool for companies to access an alternative decarbonisation pathway for hard-to-abate emissions, and support the raising of global climate ambition. Carbon markets can also generate sustainable development benefits in host countries, including job creation, community development and ecosystem protection. 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.⁶

1.4.4 Entities may purchase and retire carbon credits for compliance⁷ or voluntary purposes, including meeting decarbonisation targets or to address emissions arising from specific processes, activities, events or products.

⁵ State and Trends of Carbon Pricing, World Bank Group, 2016.

⁶ Carbon credits used for voluntary purposes do not require Article 6-aligned Implementation Agreements to be signed between countries. As such, companies can use carbon credits generated in any country, including domestically generated carbon credits.

⁷ 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 integrity**. Singapore's International Carbon Credit (ICC) Framework has set out seven principles to assess the integrity of a carbon credit,⁸ 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 voluntary carbon market (VCM), which could come from both reduction and removal projects, across nature-based and tech-based solutions.

Table 1 Attributes of a high-quality carbon credit, derived from the ICC Framework

Principle	Application 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"). ⁹
Additional	The certified emissions reduction or removals achieved would not have occurred without the project. The certified emissions reductions or removals must therefore exceed any emissions reduction or removals required by law or any regulatory requirement of the host country, and that would have otherwise occurred 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.

⁸ 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](#).

⁹ 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.

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.
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. The level of permanence and monitoring required will vary according to the project type and will be clearly stated by the carbon crediting standard or programme.
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. This will be determined by the relevant carbon crediting standard or programme.
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 Paris Agreement Crediting Mechanism (PACM), 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 typically provide a list of carbon crediting methodologies or crediting programmes that have been assessed to meet their quality criteria.

2.1.3 While meta-standards can assess quality 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 carbon credits in the VCM. This could include the use of third-party tools, services or programmes (see elaboration in Section 3.3). This guidance document does not seek to provide an exhaustive list of standards and programmes, and companies may wish to consider other tools/standards to demonstrate and/or safeguard carbon credit quality.

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 claim corresponds to an equivalent unit of genuine emissions reduction or removal.

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 or removals when countries trade Internationally Transferred Mitigation Outcomes (ITMOs).

2.2.3 **CA requirements do not apply to corporate buyers looking to meet their voluntary climate commitments** as these are accounted separately from NDCs. A high-quality carbon credit without CA, all else equal, simply means that the buyer is financing the reduction or removal of emissions in a host country while allowing the mitigation outcome to remain on the UNFCCC ledger of the host country.¹⁰ CA does not correspond to the quality of a carbon credit, which should be separately assessed.

2.2.4 **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 or on their behalf, and claiming credits only once in their value chain.

2.2.5 Some jurisdictions may separately impose CA requirements on corporate buyers, for instance, companies subject to Singapore’s carbon tax that seek to offset their tax liability with ICCs must ensure that their purchased credits include CA. Companies will need to assess whether they need to purchase and use credits with CA and if so, verify the CA status of their carbon credits with the selling party. Companies should transparently disclose whether their credits purchased include CA.

¹⁰ More information on the CA mechanism and its application is available on Singapore’s carbon credit cooperation website [here](#).

2.3 Clarifications on Vintage

2.3.1 The vintage of a carbon credit is the year in which the credit was issued or when the emissions reduction or removal activity associated with the credit took place. While vintage is not a direct indication of quality, it is best practice for companies to purchase and retire credits issued within their commitment periods. For example, a company committing to reduce their emissions in 2030 by half from 2020 levels should look to purchase carbon credits issued between 2021 and 2030.

2.3.2 This generally helps to ensure that climate action supported by the purchase of credits is based on up-to-date methodologies and baselines. Over time, new methodologies, techniques or technology may become available to more accurately measure the baseline and/or outcomes of a project.

2.3.3 This does not preclude companies from purchasing and retiring credits with older vintages outside their commitment period, provided these credits are high-quality and still in line with the latest methodologies and baselines.

3. Using credits

3.1 Overview

3.1.1 Carbon markets work best when high-quality supply is met by high-quality demand i.e., 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 emissions 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 emissions abatement measures. Options 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 emissions abatement measures;
- (c) Energy audits – to identify opportunities for improving energy efficiency; and
- (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 consider the use of carbon credits to address its remaining emissions and meet interim net emissions targets,¹¹ while ensuring that the use of carbon credits is complementary to, and does not substitute, its internal emissions abatement measures.

3.2.3 Ways to assess whether certain emissions abatement measures are feasible could include, and is not limited to, considering:

- (a) Technological feasibility, e.g., whether the technology exists, and is available at the appropriate scale for the company's facilities;
- (b) Economic viability, e.g., how does the measure's cost-effectiveness compare to the next best alternative or on the marginal abatement cost curve;

¹¹ 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.

- (c) Socio-environmental outcomes, e.g., whether the measure leads to a net improvement in decarbonisation outcomes, and whether there are concerns over the measure's impact on social, health or environmental outcomes.

3.2.4 As the feasibility of emissions abatement may change over time (e.g. with new solutions and technologies), companies should regularly review their decarbonisation plans. Reviews should also be carried out when there are changes that would affect a company's emissions profile moving forward, such as changes to the emissions boundary or operating environment. There are also opportunities for further work to develop robust, science-based methodologies to determine residual emissions¹² at a more granular level across different geographies and sectors.

3.3 Risk Management

3.3.1 Beyond individual carbon credit quality, **companies should also consider the quality and risk of the credits they purchase 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.

3.3.2 Labels and carbon ratings are possible tools companies can consider using when assessing the quality and risk of credits at the project level. While carbon ratings aim to provide an independent and objective assessment of the project quality, different service providers could use different rating scales and methodologies. As such, companies are encouraged to understand how the ratings are derived when using carbon rating tools.

3.3.3 As insurance becomes more available, companies can also consider their use to derisk their portfolio of carbon credits or projects.

3.4 Disclosures

3.4.1 **Companies should also consider transparently disclosing their use of carbon credits** to provide investors and consumers insights into the company's environmental impact and progress towards decarbonisation. This includes disclosing identifying information about the carbon credits, such as the project name or ID, the carbon crediting programme, the project type, project methodology, project location, where the credits were held (e.g., which registry), and third-party ratings if available. Companies

¹² Emissions that remain after all feasible measures have been taken to reduce emissions.

should also disclose information on the vintage of credits, the volume of credits being used, and the purpose of use (e.g., to meet interim targets or for other contributions).

3.4.2 Beyond compliance with regulations where applicable, such practices support credibility and accountability, and builds trust with stakeholders.

- (a) Singapore is implementing phased and proportionate climate reporting requirements based on 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 required under the IFRS Sustainability Disclosure Standards include:¹³
- i. their voluntary and compliance climate targets, their strategy and performance towards their climate targets, and 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) used, 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.

While the recommended disclosures in Para 3.4.1 go beyond the requirements of the IFRS Sustainability Disclosure Standards, companies subject to Singapore's climate reporting requirements are encouraged to consider applying this guidance in disclosing their planned and actual use of carbon 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 producing their first sustainability report incorporating ISSB-based climate-related disclosures.

¹³ Please refer to the [IFRS Foundation's website](#) for the full standard.

Annex: Glossary

Term	Definition
Carbon Credit	A certificate representing one tonne of greenhouse gas (GHG) emissions reductions or removals measured in tonnes of carbon dioxide equivalent (tCO ₂ e).
Carbon Crediting Programme	A programme under which carbon credits are issued. Examples include Verra, Gold Standard (GS), American Carbon Registry and Global Carbon Council
Carbon Crediting Standard	A set of rules and methodologies for the issuance of credits under the programme. Examples include Verra's Verified Carbon Standard or GS's Gold Standard for Global Goals.
Co-benefit	A benefit provided by a carbon credit project either to the area and/or people involved or impacted by the project, beyond the direct benefit of the reduction or removal of GHG emissions.
Emissions Boundary	Boundaries that determine which GHG emission are attributable to an entity, usually determined by which sources or sinks of emissions are owned or controlled by the entity, or arise from the activities of the entity.
Emission Scope	One of three categories of GHG emissions as defined under the Greenhouse Gas Protocol.
Greenhouse Gas (GHG)	Gases in the atmosphere that trap heat and thus raise the surface temperature of the planet. The seven GHG that Singapore tracks under its Nationally Determined Contributions (NDCs) includes carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF ₆) and nitrogen trifluoride (NF ₃).
Paris Agreement Temperature Goals	The goal in the Paris Agreement to hold the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the increase to 1.5°C above pre-industrial levels.
(Carbon Credit) Registry	A database which records key information about a (block of) carbon credit(s), including the relevant serial/identification number, various project information, the status of the credit, and an account under which the credit is credited.
Retire (a Carbon Credit)	The act of redeeming the GHG emission benefit certified by the carbon credit, usually done by informing the registry that you wish to retire the credit, rendering it no longer available for further trades. The record of its retirement will then be kept on the registry, and some crediting programmes/registries would also provide some certification of the retirement of the credit.