

CLIMATE ACTION PROJECTS





Introduction

In today's turbulent conditions, climate change and the need to take action to manage it has not only persisted but even gained relevance as one of the most pressing issues of our time.

This is confirmed by Articles 11 and 12 of the Sharm el-Sheikh Implementation Plan¹, the final document agreed at the COP27 summit held in November 2022 in Egypt. Under these Articles, greenhouse gas (GHG) emissions must be cut by 43% by 2030 relative to the 2019 level in order to limit global warming by 1.5 °C by 2050. This will require accelerated action in the current critical decade.

However, setting and, most importantly, delivering against ambitious corporate decarbonisation or net zero targets can prove a major challenge. A company can complete all stages on the path of developing a climate management system: identify all emissions sources, quantify them, analyse the results, and develop and implement a reduction strategy. And yet, all those efforts notwithstanding, there is a chance some of the emissions will still linger, as reducing or avoiding them is currently not technically feasible.

However, there is a way to offset non-reducible emissions, either by putting in place climate projects or by purchasing carbon credits as the key result of such projects.





Definition and types of climate action projects

A climate action project is a set of activities that seeks to achieve verified reduction of GHG emissions, prevent their generation or release, or even remove them from the atmosphere altogether. Climate action projects can be implemented in a wide range of industries, from energy efficiency and renewable energy (reduction/avoidance of GHG emissions) to natural ecosystems preservation and restoration (carbon sequestration). The volume of emissions removed/reduced as a result of carbon action projects is then converted into carbon credits, each of which represents one tonne of CO_2 and can be traded on designated exchanges.

Technically, the starting point for the development of the international carbon market and largescale implementation of climate projects is probably 2005, the year the Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) came into force. Article 6 of the Protocol provides for the possibility of using carbon credits from climate projects to achieve emission reduction targets, and article 12 defines the Clean Development Mechanism, one of the first standards in the field of climate projects.

Depending on the area of implementation, climate projects can be divided into two broad groups: natural climate projects (also known as nature-based solutions), i.e. projects aimed at conservation, restoration or effective sustainable management of natural ecosystems, and technology-based solutions, which are a set of activities to deliver optimisation and decarbonisation of various technological processes in many industries.





Types of climate action projects²

	Climate action proje	ects
	Ecosystem protection projects (e.g., prevention of deforestation)	Ecos
Nature-based solutions	Damaged ecosystem (e.g., reforestatio	s restoratio on, afforest
	Transport, buildings and industry electrification projects	Agr
Technology- based solutions	Energy systems modernization and decarbonization projects	H
	Carbon Capture, Use and Storage (CC Storage (DACCS), and Bioen	S/CCUS), ergy with C

system management projects (e.g., agroforestry)

on projects ation)

riculture GHG emissions reduction projects

ydrogen production, storage and transportation projects

Direct Air Capture with Carbon CCS (BECCS) projects



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Climate action projects standards

For a project to truly contribute to combating climate change, it must rely on a number of fundamental principles. Transparency and double counting avoidance are among the most essential of those. To ensure alignment with them, as well as confidence in the final impact of the project, a system is needed that establishes the requirements for the project and monitors the implementation.

A system like that exists in the form of crediting mechanisms. They represent the standards and procedures for the way climate action projects must be implemented. Crediting mechanisms are developed by various organisations that also oversee their implementation and often manage a registry of project data and carbon credits issued to date. All crediting mechanisms can be divided into three groups depending on the type of organisation that developed them³:

international crediting mechanisms established under international treaties – the Kyoto Protocol (including the Clean Development Mechanism – CDM) and the Paris Agreement;

independent crediting mechanisms include standards and crediting mechanisms managed by independent, non-governmental entities such as Verra. The most common and widely applied standards, including Verra's Verified Carbon Standard (VCS) or the Gold Standard, fall into this category;

domestic crediting mechanisms established by regional, national, or subnational governments, such as the California Compliance Offset Program and the Australia Emissions Reduction Fund.

The World Bank. 2022. "State and Trends of Carbon Pricing 2022" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. Licence: Creative Commons Attribution CC BY 3.0 IGO.





Sectors covered by some crediting mechanisms⁴

Name of the mechanism	Agriculture	CCUS	Energy efficiency	Forestry	Fuel switch	Fugitive emissions	Industrial gases	Manufactur ing	Other land use	Renewable energy	Transport	Waste
American Carbon Registry (1)												
Climate Action Reserve (1)												
Gold Standart (1)												
Verified Carbon Standart (1)				•			•	•				٠
Clean Development Mechanism (2)				•				•				
Australia Emission Reduction Fund (3)												
California Compliance Offset Program (3)												

⁴ The World Bank. 2022. "State and Trends of Carbon Pricing 2022" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. Licence: Creative Commons Attribution CC BY 3.0 IGO

- 1 Independent mechanisms/standards
- 2 International mechanisms/standards
- 3 Domestic mechanisms/standards



The mechanisms set out the basic principles of project implementation within the respective framework, along with detailed project requirements depending on the sector of implementation, unified project description forms developed or adopted by the standard methodology for quantifying greenhouse gas reductions or removals, etc.

The key basic principles that always underlie the requirements of each standard are additionality, exclusion of double counting, permanence, and regular independent audits5.

Additionality

A project activity is additional if it can be demonstrated that the activity results in emission reductions or removals that are in excess of what would be achieved under a "business as usual" scenario and the activity would not have occurred in the absence of the incentive provided by the carbon markets. Additionality is an important characteristic of GHG credits because it indicates that they represent a net environmental benefit and a real reduction of GHG emissions, and can thus be used to offset emissions.

Exclusion of double counting

Carbon credits can only be issued and claimed once. For instance, the same carbon credit cannot be redeemed both under voluntary net-zero reductions in jurisdictions without carbon regulation and under existing carbon regulation. To ensure this, carbon credits are assigned unique serial numbers when issued, and are transacted through special registries.

Permanence

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This is a principle important for areas such as nature-based projects related to forests. Any reduction or removal of greenhouse gases as a result of a project must be permanent. Trees and soil can sequester significant amounts of CO2, but this process is extended over time, leading to various risks associated with carbon release (e.g. forest fires). For such projects, the developers must put in place measures to protect forest areas throughout the project life.

Regular independent audits

One of the essential principles is conducting regular independent audits to confirm that a project meets the requirements of the standard. For climate projects, there are two types of audits: validation and verification.

the requirements of the standard.

Validation is a procedure to check project documentation. During validation, an independent auditor makes sure that all assumptions and preliminary estimates made at the project preparation stage are correct and the project complies with

Verification is a procedure to verify project results. During verification, an independent auditor checks whether the project operation has been monitored properly, whether a quantitative assessment of the project results (the number of reductions / removals of GHG emissions) has been correct, etc.

Validation and verification involve both desk reviews and the independent auditor's visits to project implementation sites.

Under the rules of many standards (such as CDM and VCS), it is only organisations accredited by these standards that can carry out validation and verification of projects in accordance with them. The list of accredited organisations is available on the standards' websites.





Climate action project implementation stages

Project documentation preparation

()2

Validation of documentation and registration of the project in the register

()3

Monitoring, reductions assessment, verification **APRIL 2023**



Carbon credit issuance

Preparation of project documentation

At this stage, the project developer selects the most relevant methodology to estimate greenhouse gas emission reductions from the project implementation. If necessary, some standards (including VCS) provide for an option for developers to come up with their own methodology. However, it must additionally be approved by representatives of the standard. After selecting the methodology, the developer prepares project documentation in accordance with the forms approved by the standard. Project documentation must describe the key parameters of the proposed climate project, including project type, general description, location, implementation timeframe, methodology for reductions assessment, preliminary assessment of projected reductions throughout the entire period of project operation, description of the baseline scenario, monitoring parameters, assessment of project impact on the environment, etc.

Validation of project documentation

During this stage, documentation prepared by the project developer must be validated. An independent auditor checks the project for compliance with the requirements of the standard and makes sure the preliminary assessment is correct. As a result, the auditor draws up its opinion in the form of a Validation Report. Once validation is complete, the project developer submits project documentation and the Validation Report to the standard for registration. In some cases, a fee can be charged for the registration of an account.

Monitoring, reductions assessment, and verification

After registering the project, the developer puts it into operation and starts monitoring. Project monitoring is carried out throughout the operation of the project but can be divided into any number of stages at the developer's discretion.

Upon completion of each stage of the monitoring process, the developer prepares a monitoring report in accordance with the form stipulated by the standard. The content of a monitoring report mostly overlaps with project documentation in terms of project description. It also contains the results of the monitoring process, quantification of the GHG emission reductions that occurred at this very stage of the monitoring process, and a description of any deviations from the operation plans, monitoring and assessment methodology. A monitoring report must be verified. An independent auditor makes sure that quantitative information presented in the report is correct, and issues an opinion in the form of a Verification Report. Some standards require that validation and verification be performed by separate independent auditors. At this stage, as well as at the stage of validation, in addition to desk review, auditors also visit project sites.

Carbon credits issuance

After successful completion of the verification procedure, the project developer submits a request for the issuance of carbon credits in the amount indicated in the verified monitoring report. Issued credits are transferred to the account of the project developer in the registry. In some cases, the procedure for issuing credits involves paying a fee for each credit issued.

Carbon credit market

In 2021, the carbon credit market grew by 48% compared to 2020, delivering the strongest year-on-year increase since 2012, the peak of carbon credits issuance. A total of some 478 million carbon credits were issued in 2021.

The vast majority of credits (73.8%) were issued under independent standards. For a detailed structure of carbon credits issuance and implementation of climate projects, see Figures 3 and 4.

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⁶ The World Bank. 2022. "State and Trends of Carbon Pricing 2022" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. Licence: Creative Commons Attribution CC BY 3.0 IGO

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Independent mechanisms/standards International mechanisms/standards Domestic mechanisms/standards

> Verified Carbon Standard - 61.7% Gold Standard - 9.2% American Carbon Registry - 1.8% Climate Action Reserve - 1.0%

Carbon credits issuance and number of registered projects in 2021⁷

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¹⁰ ⁷ The World Bank. 2022. "State and Trends of Carbon Pricing 2022" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. License: Creative Commons Attribution CC BY 3.0 IGO

Independent mechanisms/standards International mechanisms/standards

Domestic mechanisms/standards



Number of projects

registered

28	15		0	13	20 ●
0	6,4	0,86	1,4	12,41	3,03
Republic of Korea Offset Credit Mechanism	Saitama Forest Absorption Certification System	Saitama Target Setting Emissions Trading System	Spain FES-CO2 program	Switzerland CO2 Attestations Crediting Mechanism	Taiwan GHG Offset Management Program

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Demand for carbon credits is driven by a series of obligations established by international agreements and national laws, as well as voluntary commitments made by companies, governments, and other organisations.

As a result, based on demand drivers, the carbon credits market can be broadly divided into four main segments⁸:

International compliance markets primarily respond to commitments made under international agreements. They basically consist of (i) countries voluntarily purchasing/utilising credits or "mitigation outcomes" recognised under international treaties to help meet their emission reduction commitments (previously established under the Kyoto Protocol and more recently the Paris Agreement); and (ii) airlines purchasing credits eligible for meeting their obligations established under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA);

- domestic compliance markets involve companies purchasing credits that are eligible for meeting their obligations under a domestic law, usually an ETS or a carbon tax. These may include credits issued under international, domestic, or independent crediting mechanisms depending on the rules established by respective governments:
- voluntary carbon markets consist of (mostly private) entities purchasing carbon credits in order to comply with voluntary mitigation commitments. They largely consist of credits issued under independent crediting standards, although some entities also purchase those issued under international or domestic crediting mechanisms;
- results-based finance refers, in the context of the carbon market, to purchases of carbon credits by governments or international organisations to incentivise climate change mitigation or meet national targets. Results-based finance can also refer to broader payments in return for the achievement of emissions reductions, without any transfer of credits or other ownership.





Carbon markets prices



USD/tCO2



January 2023

Mandatory Complience Markets

Voluntary Markets



Carbon credit accounting

After the Kyoto Protocol ratification, various initiatives emerged in the area of accounting for carbon credits. The most notable ones were proposed by the Emerging Issues Task Force (EITF) and the International Financial Reporting Interpretations Committee (IFRIC) but were not pursued due to controversies.

Another approach was developed by the International Accounting Standards Board (IASB) with the Financial Accounting Standards Board (FASB) in 2007 and is currently the most widely used approach for carbon credit transactions.

There are some options available to account for Certified Emission Reductions (CER) depending on their form:

Table 1. Example of presentation of carbon credits asintangible assets

	Debit	Credit
Amortisation of carbon credits	Amortisation of intangible assets	Intangible assets

1. IAS 38 Intangible Assets treats emission allowances as intangible assets.

According to IAS 38, intangible assets are non-monetary assets which are without physical substance and identifiable. The main criteria of an intangible asset is that it is initially measured at cost, subsequently measured at cost or using a revaluation model, and amortised on a systematic basis over its useful life¹⁰. CER is a non-monetary asset that has no physical substance and is treated as an intangible asset. There are the following options to measure intangible assets after recognition: revaluation model: after initial recognition, the asset is carried at revalued amount, which is its fair value at the date of revaluation less accumulated amortisation and any impairment losses; cost model: after initial recognition, an asset is accounted for at cost less accumulated amortisation and any impairment losses.

Expenditure related to an intangible item is recognised as an expense unless the item meets the definition of an intangible asset, and:

it is probable that there will be future economic benefits from the asset; and

the cost of the asset can be reliably measured.





2. If a CER is held for sale and is self-generated by the entity in the ordinary course of business, these allowances should be accounted for as the valuation of inventories as per IAS 2 Inventories.

IAS 2 contains requirements on how to account for most types of inventories. The standard requires inventories to be measured at the lower of cost and net realisable value (NRV) and outlines acceptable methods of determining the cost of inventories, including specific identification (in some cases) and first-in, first-out (FIFO) or weighted average cost¹¹.

Inventories include assets held for sale in the ordinary course of business (finished goods), assets in the process of production for such sale (work in process), and materials or supplies that are consumed in the production process (raw materials).

For example, inventory costs may include:

research costs from exploring measures to reduce emissions; costs incurred in developing the selected alternative measures; registration fees with the UNFCCC.

3. Government assistance in the form of a government grant should be accounted for under the specific requirements of IAS 20 Accounting for Government Grants and Disclosure of Government Assistance¹². IAS 20 outlines how to account for government grants and other assistance. Government grants are recognised in profit or loss on a systematic basis over the periods in which the entity recognises as expenses the related costs for which the grants are intended to compensate. Presentation of grants related to assets requires either setting up the grant as deferred income or deducting it from the carrying amount of the asset. Government grants can exist in many forms. For example, companies can receive grants in the form of emissions certificates, land for green projects, forgivable loans, below-market interest rate loans, waivers of expenses, investment tax credits and other subsidies. Non-monetary grants, such as emission certificates, can be measured at fair value as well as at a nominal amount.

Table 2. Example of	Table 3. Example		
	Debit	Credit	
Recognition of the value of a carbon credit	Inventories (assets)	Expenses	Receipt of an emissions subsidy

¹¹ https://www.ifrs.org/issued-standards/list-of-standards/ias-2-inventories/

¹³ ¹²https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/ias-20-accounting-for-government-grants-and-disclosure-of-government-assistance.pdf

Example of presentation of an emission subsidy from the government

Debit	Credit
Cash	Deferred income

4. If a company produces emissions, it recognises a provision for its obligation to deliver allowances in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets.

IAS 37 outlines the accounting for provisions (liabilities of uncertain timing or amount), together with contingent assets (possible assets) and contingent liabilities (possible obligations and present obligations that are not probable or not reliably measurable). Provisions are measured at the best estimate (including risks and uncertainties) of the expenditure required to settle the present obligation, and reflects the present value of expenditures required to settle the obligation where the time value of money is material.

In this case, emissions are a contingent liability that is subject to redundancy. Provisions formed in accordance with the volume of emissions relate directly to the financial results of the current period.

There are many ways to account emission allowances according to IASB. Generally, a company should clearly understand the nature of a carbon credit, whether it is a government subsidy, inventory, or intangible asset.

Table 4. Examples of entries for carbon credit accounting¹³

Entry No.	Account	Debit	Credit
1	Carbon credit (in units)	USD 50,000	
	Permitted emissions (deferred income)		USD 50,000
2	Amortisation of permitted emissions	USD 20,000	
	Carbon credit (in units)		USD 20,000
3	Permitted emissions (deferred income)		
	Income from permitted emissions	USD 20,000	USD 20,000
4	Certified emission reduction (CER)	USD 10,000	
	Cash		USD 10,000

Table 4. Example of presentation of emissions as a contingent liability

	Debit	Credit
Recognition of a provision for emissions carried out	Expense/asset	Obligation – reserve

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