ARTICLE 6 EXPLAINER

CARBON MARKETS

COMPLIANCE + VOLUNTARY

THE PARIS AGREEMENT

EVERYTHING YOU NEED TO KNOW

1 WHAT ARE CARBON MARKETS?

Trading systems in which carbon credits or allowances are bought and sold. They operate under either compliance or voluntary schemes.

COMPLIANCE CARBON MARKETS

Legally mandatory markets governed by international, supranational, national, or regional regulations. Typically 'cap-and-trade' systems, these markets usually apply to large-emitting companies only. (e.g. EU ETS, California Cap-and-Trade Program)

VOLUNTARY CARBON MARKETS

Decentralised markets where companies or individuals voluntarily buy and sell carbon credits, typically to offset emissions. Although not directly regulated, they are subject to standards and verification. (e.g. Gold Standard, Verra, American Carbon Registry)

The Paris Agreement, adopted by 195 nations in 2015, created a new framework for international carbon trading.

ARTICLE 6 OF THE PARIS AGREEMENT

Created a framework for countries to cooperate with each other to achieve their national emission reduction targets (NDCs) via carbon trading between governments, carbon crediting, and other cooperative approaches.

ARTICLE 6

'Parties recognize that some will choose to **pursue voluntary cooperation in the implementation of their Nationally Determined Contributions (NDCs)** to allow for higher ambition in their mitigation and adaptation actions, and to promote sustainable development and environmental integrity.'

AS MANY AS FOUR-FIFTHS OF COUNTRIES INTEND TO USE ARTICLE 6 MECHANISMS TO MEET THEIR CARBON-CUTTING NDCs

2 WHY ARE CARBON MARKETS IMPORTANT?

They *can* jointly advance two goals in climate policy: **cooperative climate action** and **cost-effective mitigation.**

ENHANCING COOPERATION

Increased cooperation across nations and the private sector is necessary to achieve the collective goals of the Paris Agreement.

REDUCING EMISSIONS

They should, in theory, enable the scaling of emission reductions and removals, and incentivise cross-border investments in low-carbon technologies.

CHANNELLING FINANCE

They can help direct finance to where it's most needed globally, particularly to developing and emerging economies.

WHAT ARE CARBON CREDITS?

Tradeable certificates that represent the reduction or removal of a specified amount of greenhouse gas (GHG) emissions, usually one tonne of CO_2 equivalent (CO_2e).

TYPE OF CREDIT

EMISSION REDUCTIONS OR REMOVALS

Carbon credits can represent either EMISSION REDUCTIONS or CARBON REMOVALS

EMISSION REDUCTIONS INCLUDE 'AVOIDED EMISSIONS' WHICH HAVE HISTORICALLY MADE UP THE BULK OF VOLUNTARY CARBON MARKET CREDITS

USE OF CREDIT

COMPENSATION

Normally used as an offset in an **attempt to compensate** for one's own emissions, for compliance or voluntary purposes.

CONTRIBUTION

Can be purchased and retired without use as an offset through a **Beyond Value Chain Mitigation (BVCM)** contribution.

COMPLIANCE CARBON MARKETS

Carbon markets that are driven by the need for entities to comply with regulation or legislation

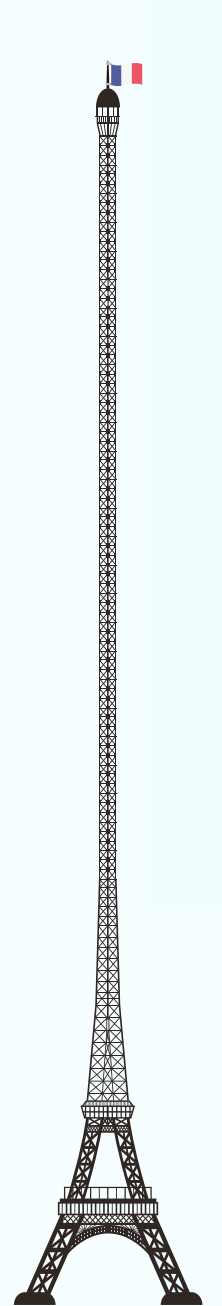
- Usually cap-and-trade programmes.
- The emissions cap typically reduces annually to meet the jurisdiction's overall mitigation goals.
- Companies typically trade carbon 'allowances' or 'permits' that are either freely allocated or auctioned to them.
- Companies with emissions below the cap can sell their extra allowances to those emitting more than the cap, thereby creating an incentive to reduce emissions.

EU EMISSIONS TRADING SCHEME (EU ETS)

A cornerstone of EU climate policy, the ETS covers roughly 40% of its greenhouse gas emissions, and more than 10,000 power plants and factories participate. These entities have to:

(i) Reduce emissions by 62% below 2005 levels by 2030
(ii) Achieve net zero greenhouse gas emissions by 2050.

By implementing a cap-and-trade system, the EU has helped to drive massive reductions in emissions.



VOLUNTARY CARBON MARKETS (VCM)

Markets for carbon credits that are driven by companies or individuals wanting to offset emissions voluntarily

- Generated by projects that reduce or remove emissions beyond a business-as-usual (BAU) scenario.
- Projects might include renewable energy, reforestation, ecosystem restoration, biochar or Bioenergy with Carbon Capture and Storage (BECCS).
- Most projects follow rules established by independent standard bodies e.g. Gold Standard.

TACKLING THE 'CREDIBILITY CRISIS'

Initiatives like the **Integrity Council for the Voluntary Carbon Market (IC-VCM)** and the **Voluntary Carbon Markets Integrity Initiative (VCMI)** are working to rebuild trust in VCMs, long criticised for weak oversight and scientific rigour. The IC-VCM's 'Core Carbon Principles' set out ten benchmarks on issues like additionality, permanence, and double counting.

Meanwhile, the University of Oxford's **Offsetting Principles** advocate for a transition to high-quality offsets aligned with net zero, emphasising a shift from reduction to removal-generated offsets as mid-century approaches.

3 WHAT IS ARTICLE 6 OF THE PARIS AGREEMENT?

It establishes new rules to govern international carbon markets. In 2021, following years of inconclusive negotiations, countries agreed on a framework to govern and implement carbon market mechanisms under the United Nations Framework Convention on Climate Change (UNFCCC). In 2024, agreement was reached to operationalise Article 6.2 and 6.4.

MARKET APPROACH

ARTICLE 6.2

NATION-TO-NATION CARBON TRADING*

An accounting framework where **Internationally Transferred Mitigation Outcomes (ITMOs)** are tranparently tracked in registries and require **corresponding adjustments** to prevent double counting.

BROADER AND MORE FLEXIBLE THAN ARTICLE 6.4 — ITMOs CAN BE CREDITS, ALLOWANCES OR OTHER TYPES OF MITIGATION OUTCOMES

MARKET APPROACH

ARTICLE 6.4

PARIS AGREEMENT CREDITING MECHANISM

Project developers can generate Authorised Credits (A6.4ERs) or Mitigation Contribution Units (MCUs) through a UN-centralised mechanism and sell them to buyers. These credits can then be used to meet climate targets or contribute to global mitigation efforts.

NARROWER THAN ARTICLE 6.2 — IT'S CONCERNED WITH THE GENERATION OF PROJECT-BASED CARBON CREDITS

NON-MARKET APPROACH

ARTICLE 6.8

NON-MARKET APPROACHES PLATFORM

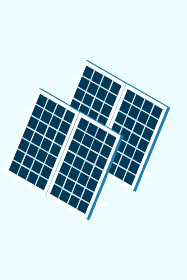
Allows countries to collaborate outside of markets, such as by offering financial or technical support, sharing knowledge, or engaging in other forms of cooperation.

*Article 6.2 applies to nations, not companies directly, but the private sector can be involved if nations set up domestic systems for private trading of ITMOs. Article 6 also allows ITMOs to be used for 'other mitigation purposes,' such as airline compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

3.1. THREE EXAMPLES TO HELP BRING ARTICLE 6 TO LIFE

I. NATION-TO-NATION TRADING (ARTICLE 6.2)

Kenya invests heavily in solar energy, surpassing its carbon-cutting NDC pledge. Meanwhile, Japan, unable to meet its NDC pledge through domestic action alone, signs a bilateral agreement to purchase 10 million **ITMOs** (equivalent to 10 million tonnes of CO_2e) from Kenya's surplus. Japan then counts these toward its own NDC pledge.



ITMOs
INTERNATIONALLY TRANSFERRED MITIGATION OUTCOMES

KENYA (HOST NATION)

Will still meet its emissions-cutting NDC and gets financially rewarded. It must add 10 $MtCO_2$ (10m credits) to its emissions inventory as a **corresponding adjustment.**

ARTICLE 6.2

Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of **Internationally Transferred Mitigation Outcomes (ITMOs)** towards NDCs, promote sustainable development and ensure environmental integrity and transparency, including... the avoidance of double counting.

JAPAN (BUYING NATION)

The **ITMOs** helps Japan meet its own emissions-cutting NDC pledge. It subtracts 10 $MtCO_2$ (10m credits) from its emissions inventory as a **corresponding adjustment.**

The hypothetical agreement between Kenya and Japan **could allow companies to trade ITMOs**, creating opportunities for private sector participation. The actual bilateral cooperation agreement between Switzerland and Peru expressly states that ITMOs can be used by companies based in both nations.

WHAT ARE CORRESPONDING ADJUSTMENTS?

If host nation **KENYA** were to sell 10 million ITMOs credits to the buying nation **JAPAN** to help the latter reach its emissions-cutting target, both nations must adjust their emission inventories accordingly: a corresponding adjustment.

THIS HELPS TO PREVENT EMISSION REDUCTIONS OR REMOVALS FROM BEING COUNTED TWICE BY TRADING NATIONS

KENYA must **add** 10 million tonnes (Mt) of CO_2e to its emissions inventory

JAPAN must **subtract** 10 million tonnes (Mt) of CO_2e from its emissions inventory

ITMOs
INTERNATIONALLY TRANSFERRED MITIGATION OUTCOMES

The catch? Any ITMOs a host nation sells, the fewer emission reductions or removals it can count towards its own emissions targets under its carbon-cutting NDC.

II. PARIS AGREEMENT CREDITING MECHANISM (ARTICLE 6.4)

Apple, acting as a project developer following Article 6.4 methodologies, establishes an additional reforestation project in Indonesia, generating 10 million **A6.4ERs**. It sells 5 million **A6.4ERs** to Japan to support its emissions-cutting NDC and 5 million to Microsoft for its voluntary mitigation pledge.

INDONESIA
(FOR AUTHORISATION)

SUPERVISORY BODY
(FOR APPROVAL)

A6.4ERs
ARTICLE 6.4 EMISSION REDUCTIONS OR REMOVALS

APPLE (PROJECT DEVELOPER)

Apple develops the CO_2-removing reforestation project with the intention of selling the resulting credits.

ARTICLE 6.4

'A mechanism to contribute to the mitigation of greenhouse gas emissions is hereby established, to:
(a) Promote the mitigation of emissions;
(b) Incentivize and facilitate participation in the mitigation of emissions by public and **private entities**;
(c) Contribute to the reduction of emission levels in the host nation;
(d) Deliver an overall mitigation in global emissions.'

JAPAN & MICROSOFT (BUYERS)

Buying the **A6.4ERs** enables Japan to achieve its 2030 NDC pledge and Microsoft to achieve its voluntary 'carbon negative' by 2030 target.

A project developer could be a government, but **Article 6.4 is designed for private sector involvement.** Companies seeking to offset their unavoidable residual emissions or make Beyond Value Chain Mitigation (BVCM) contributions can purchase **A6.4.ERs** or **MCUs**, helping to finance mitigation projects globally.

WHAT DOES THE SUPERVISORY BODY DO?

The Article 6.4 Supervisory Body is tasked with developing standards, guidance, baselines, and methodologies for the **Paris Agreement Crediting Mechanism**. It's mandated to oversee the mechanism. The Body consists of 12 alternating members, drawn equitably from nations that have signed the Paris Agreement.

APPROVING PROJECTS

The Supervisory Body assesses project developers' applications to generate A6.4ERs. Applications can be approved or rejected.

ENVIRONMENTAL AND HUMAN RIGHTS ARE PROTECTED THROUGH A 'SUSTAINABLE DEVELOPMENT TOOL', WHICH ASSESSES AND MONITORS THE IMPACTS OF PROJECTS

DEFINING HIGH INTEGRITY

It's tasked with defining murky concepts such as when a project is **additional** and/or **durable**, and therefore whether the resulting carbon credits are valid.

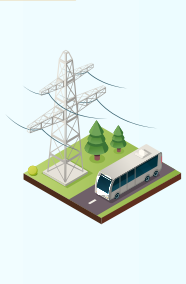
RESOLVING GRIEVANCES

An **Appeals and Grievances Procedure** resolves complaints when, for example, project developers infringe on Indigenous peoples' rights.

THE PROCEDURE IS THE FIRST OF ITS KIND UNDER A UN CREDITING MECHANISM

III. NON-MARKET APPROACHES (NMA) PLATFORM (ARTICLE 6.8)

To facilitate collaboration and accelerated decarbonisation, Germany shares its domestic blueprint for electricity transmission upgrades on the NMA Platform, providing free access to other nations seeking to replicate the technical, groundbreaking strategy without a market transaction taking place.



NON-MARKET APPROACHES (NMA) PLATFORM
(e.g. FINANCE, TECHNOLOGY TRANSFER, OR CAPACITY BUILDING)

GERMANY (DONOR NATION)

Publicly shares its strategy for electricity transmission rollout (which helped it to decarbonise faster than expected).

ARTICLE 6.8

'Parties recognize the importance of integrated, holistic and balanced **non-market approaches** being available to Nations to assist in the implementation of their nationally determined contributions.'

RECEIVING NATIONS

Other national governments, especially those in developing nations, benefit from the knowledge transfer.

3.2. A MATTER OF PROCESS: ARTICLE 6.2 vs ARTICLE 6.4

Both processes begin with low-carbon project development and host nation approval. **ITMOs** and **A6.4ERs** are generated and recorded in separate registries. At the first international transfer, **corresponding adjustments** must be recorded in emission inventories, which inform national progress toward carbon-cutting NDC pledges.

ARTICLE 6.2 PROCESS
NATION-TO-NATION TRADING

ACTIVE NOW — COUNTRIES ARE ESTABLISHING AGREEMENTS

PROJECT DEVELOPER IN HOST NATION REDUCES OR REMOVES EMISSIONS

HOST NATION (i) APPROVES PROJECT + (ii) AUTHORISES UNITS

TRANSFERRED INTERNATIONALLY (E.G. FROM KENYA TO JAPAN)

ITMOs
INTERNATIONALLY TRANSFERRED MITIGATION OUTCOMES

AUTHORISATIONS, INCLUDING POTENTIAL REVOCATIONS, CAN OCCUR BEFORE THE FIRST TRANSFER, BUT NOT AFTER IT

CORRESPONDING ADJUSTMENT REQUIRED

HOST NATION ADDS TO ITS EMISSIONS INVENTORY

BUYER SUBTRACTS FROM ITS EMISSIONS INVENTORY

DEPENDING ON THE TYPE OF AUTHORISATION **BUYERS CAN USE FOR ...**

ITMOs

- **Meeting carbon-cutting NDC pledge.**
- **Other international mitigation purposes.** Effectively for CORSIA, the global aviation industry's emissions trading scheme.
- **Other purposes.**

'OTHER PURPOSES' IS CONTROVERSIAL BECAUSE IT OPENS THE DOOR TO USING ITMOs OUTSIDE NATIONS' OFFICIAL CLIMATE TARGETS — WITH LIMITED TRANSPARENCY, OVERSIGHT OR INTEGRITY

UNDER ARTICLE 6.2, THE TRANSFER OF ITMOS DOES NOT REQUIRE AUTOMATIC CANCELLATION (MITIGATION RULE) OR SHARE OF PROCEEDS (ADAPTATION RULE), BUT COUNTRIES ARE STRONGLY ENCOURAGED TO APPLY THEM VOLUNTARILY

ARTICLE 6.4 PROCESS
PARIS AGREEMENT CREDITING MECHANISM

ACTIVE NOW — FIRST CREDITS EXPECTED IN 2025

PROJECT DEVELOPER REDUCES OR REMOVES EMISSIONS, IN LINE WITH UN SUPERVISORY BODY METHODOLOGIES

PROJECT DEVELOPER REQUESTS APPROVAL FROM:

HOST NATION + SUPERVISORY BODY

APPROVED

A6.4ERs
ARTICLE 6.4 EMISSION REDUCTIONS / REMOVALS

AUTHORISED BY HOST NATION

A6.4ERs
AUTHORISED EMISSION REDUCTIONS / REMOVALS

CORRESPONDING ADJUSTMENT REQUIRED

A6.4ERs BECOME ITMOs IF TRANSFERRED INTERNATIONALLY

HOST NATION CAN USE FOR ...

A6.4ERs

- **Meeting NDC.**
- **Transferring internationally** to other nations or companies. (see above)

NOT AUTHORISED BY HOST NATION

MCUs*
UNAUTHORISED MITIGATION CONTRIBUTION UNITS

*IMPORTANT: MCUs ARE NOT SUBJECT TO CORRESPONDING ADJUSTMENTS

HOST NATION CAN USE FOR ...

MCUs

- **Meeting NDC.**
- **Domestic use only** e.g. results-based climate finance, mitigation pricing schemes, or price-based measures.

COMPANIES CAN BUY AND RETIRE MCUs TO CONTRIBUTE TO THE HOST NATION'S NDC BUT NOT USE FOR OFFSETTING PURPOSES

ARTICLE 6.4 OBLIGATIONS TO STRENGTHEN GLOBAL CLIMATE ACTION

2% MITIGATION RULE

2% of Article 6.4 issuances are automatically cancelled to increase ambition and contribute to an 'Overall Mitigation of Global Emissions' (OMGE), an important aim of Article 6.4.

5% ADAPTATION RULE

5% of proceeds are given to the Adaptation Fund as a 'Share of Proceeds' (SOP). The Fund can re-sell the units to generate revenues for global adaptation efforts.

A POSITIVE DEVELOPMENT — FOR THE FIRST TIME, CARBON MARKETS ARE BEING RECOGNISED NOT AS A ZERO-SUM GAME, BUT AS A TOOL FOR ACHIEVING ACTUAL GLOBAL EMISSION REDUCTIONS

3.3. HOW ARTICLE 6 COULD UNDERMINE CLIMATE ACTION

If the framework allows nations to dilute pledges or fall short of 'highest possible ambition' to cut emissions and meet the Paris Agreement's temperature goals, it may undermine achieving an overall reduction in global emissions (OMGE).

PERVERSE INCENTIVES

Article 6 could lead to less ambition than more. For example, countries may opt to set less ambitious mitigation targets than they otherwise would in order to sell more ITMOs allowances.

LOWEST POSSIBLE AMBITION?

The number one priority, bar none, should be reducing one's own emissions — reflecting nations' 'highest possible ambition'. Only then should they really engage in carbon trading (Article 6.2 or 6.4).

NO SINGLE NATION IS ON A 1.5°C COMPATIBLE PATHWAY — AND ARGUABLY NO BUYING NATION HAS DONE ENOUGH DOMESTICALLY TO POSTPONE CARBON-CUTTING ACTIONS THROUGH BUYING ITMOs

LOST IN TRANSIT

Despite promises of unlocking more finance, doubts remain over whether financial flows are actually reaching developing countries — or if these mechanisms are shortchanging them.

Article 6 does not currently differentiate between the role of emission **REDUCTIONS** and **REMOVALS**, which is needed to ensure real progress on the path to net zero. Since **Article 6 is not explicitly aligned with net zero**, there are risks of 'NDC washing', similar to widespread corporate greenwashing in the voluntary carbon market.

3.4. HOW ARTICLE 6 MIGHT INFLUENCE OTHER CARBON MARKETS

We know that Article 6 rules will influence compliance and voluntary markets, but not replace them. New norms on integrity agreed by governments and the Supervisory Body will have a bearing on domestic compliance markets and independent voluntary standards, even if they impose no direct requirements.

ARTICLE 6 RULES COULD INFLUENCE ...	COMPLIANCE CARBON MARKETS e.g. EU ETS, CHINA'S ETS	VOLUNTARY CARBON MARKETS (VCM) e.g. VERRA, GOLD STANDARD
... THE CREDIBILITY OF CARBON CREDITS	If Article 6 enhances transparency enough, compliance systems like the EU ETS could, once again, be linked with international carbon credits.	New Article 6 / Supervisory Body rules and norms should incentivise VCMs to adopt similar rigorous methodologies and verification processes.
... STANDARDISATION OF INTERNATIONAL RULES	More uniform standards may lead to a more connected global marketplace. The EU ETS could, for instance, link with other cap-and-trade schemes.	Unless VCM bodies (e.g. Gold Standard) ensure their credits meet equally high standards, they will be regarded as lower quality by comparison.
... THE PREVENTION OF DOUBLE COUNTING	Should the EU ETS choose to accept ITMOs under Article 6, it would need to commit to making corresponding adjustments.	Corresponding adjustments are not required, but corporate demand and stakeholder pressure could drive some VCM bodies to adopt this measure.
... DEMAND DYNAMICS IN OTHER MARKETS	Regulatory bodies of emissions trading schemes will need to assess whether to, and to what extent, allow A6.4ERs.	If carbon credit standards converge and higher quality results, demand for VCM credits could increase. If they don't converge, demand may decline.
... OVERALL MITIGATION IN GLOBAL EMISSIONS	More nation-to-nation trading could put pressure on governments to tighten the domestic emission caps of their respective emissions trading schemes.	Nations are calling on VCM bodies to adopt the 2% 'Mitigation Rule' (automatic cancellation of credits) and the 5% 'Adaptation Rule' (share of proceeds).

WHAT DOES ARTICLE 6.4 REPLACE?

The **Clean Development Mechanism (CDM)** was established under the 1997 Kyoto Protocol to allow developed nations to cost-effectively meet emissions-cutting obligations by investing in mitigation projects in developing nations.

ARTICLE 6 EVOLVES AND IMPROVES THE CDM, WHICH WAS WIDELY SEEN AS DEEPLY FLAWED

CDM credits, known as **CERs**, can transition to **A6.4ERs**:

i If the project is approved by the host country; and
ii It satisfies the new Article 6.4 rules.

INCLUDING WHEN THE PROJECT WAS FIRST REGISTERED

CAN **CERs** BECOME **A6.4ERs**?

PROJECT REGISTERED IN OR AFTER 2013? ✓

PROJECT REGISTERED BEFORE 2013? ✗

CANCELLING CREDITS

Article 6.4 aims to achieve an Overall Mitigation in Global Emissions (OMGE) by cancelling 2% of credits after transfer. This is significant because all governments involved in Article 6.4 have mitigation pledges, unlike the CDM, where only buying (developed) nations had commitments.

4 ARE ALL CARBON CREDITS CREATED EQUAL?

Not even close. How they're generated, and what they truly deliver, matters enormously to net zero.

TRANSITIONING TO REMOVALS

To stabilise temperatures and stop human-caused climate change, nearly all credits should represent removals by the global net zero date around mid-century.

This is because achieving net zero requires balancing any hard-to-eliminate residual emissions with durable carbon removals.

EMISSION REDUCTIONS

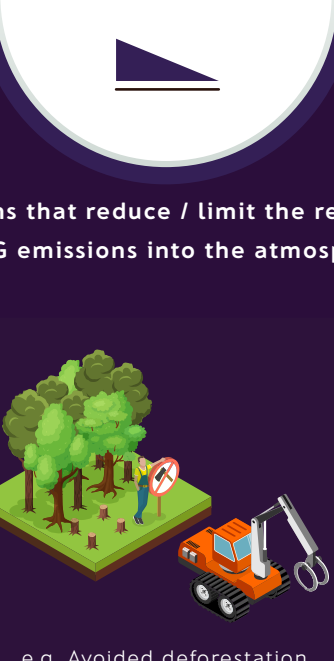
Actions that reduce / limit the release of GHG emissions into the atmosphere.

CARBON REMOVALS

Actions that remove CO_2 from the atmosphere and store it durably.

NATURE-BASED PROJECTS

Techniques that contribute to protecting, restoring or managing nature's land and ocean carbon sinks, such as forests, peatlands, wetlands, grasslands, mangroves and ocean-based resources.

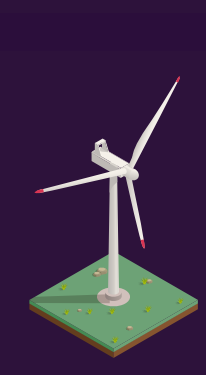


e.g. Avoided deforestation

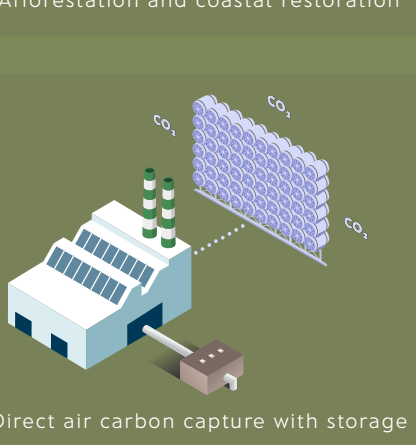
e.g. Afforestation and coastal restoration

ENGINEERED-BASED PROJECTS

Techniques that contribute to the reduction of emissions and the removal of CO_2 from the atmosphere through the use or deployment of engineering, technological or energy efficiency solutions.



e.g. Renewable generation deployment



e.g. Direct air carbon capture with storage

ARTICLE 6
WHERE METHODOLOGIES ARE AT ...

Debates are ongoing as to what exactly constitutes a high integrity project for generating carbon credits.

The whole mechanism will be reviewed in 2028.

AGREED:

Emissions avoidance, whereby a project makes assumptions about how its existence prevented potential emissions, **do not currently qualify** as a basis for generating credits under Articles 6.2 and 6.4.

'EMISSIONS AVOIDANCE' IS DIFFERENT FROM 'AVOIDED DEFORESTATION' WHICH IS DEFINED AS AN EMISSIONS REDUCTION BY THE UNFCCC

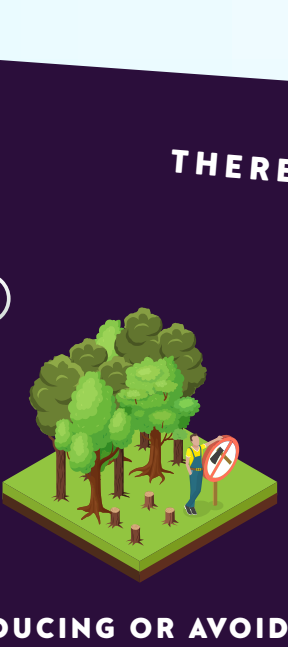
AGREED:

Guidance on **reversal risks** has been agreed for projects susceptible to carbon storage loss (e.g. new forests may release carbon through future wildfires or illegal logging).

Reversals must be remedied, a Reversal Risk Buffer Pool has been established, and participants should maintain insurance for avoidable reversals.

REVERSAL RISKS APPLY TO BOTH EMISSION REMOVALS AND REDUCTIONS

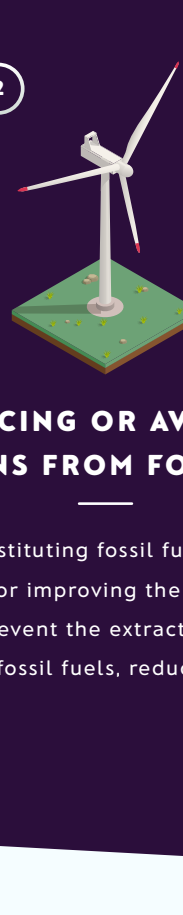
THERE ARE THREE BROAD CATEGORIES OF EMISSION REDUCTIONS



1 **REDUCING OR AVOIDING EMISSIONS FROM THE BIOSPHERE**

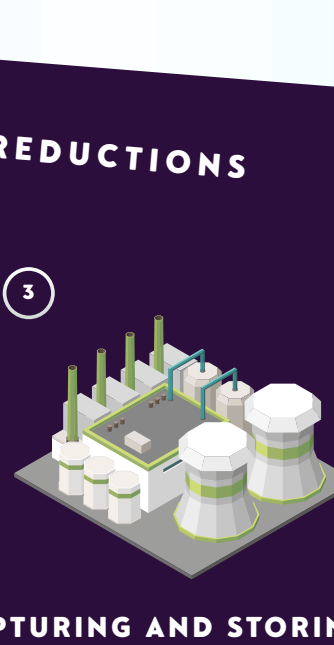
For example, protecting ecosystems such as forests, peatlands and mangroves from damage or degradation.

AVOIDING EMISSIONS ARE SUPPLEMENTS TO, NOT SUBSTITUTES FOR, REDUCING ONGOING EMISSIONS



2 **REDUCING OR AVOIDING EMISSIONS FROM FOSSIL FUELS**

For example, substituting fossil fuel power plants with new renewables or improving the energy efficiency of buildings can prevent the extraction, processing and burning of fossil fuels, reducing emissions.



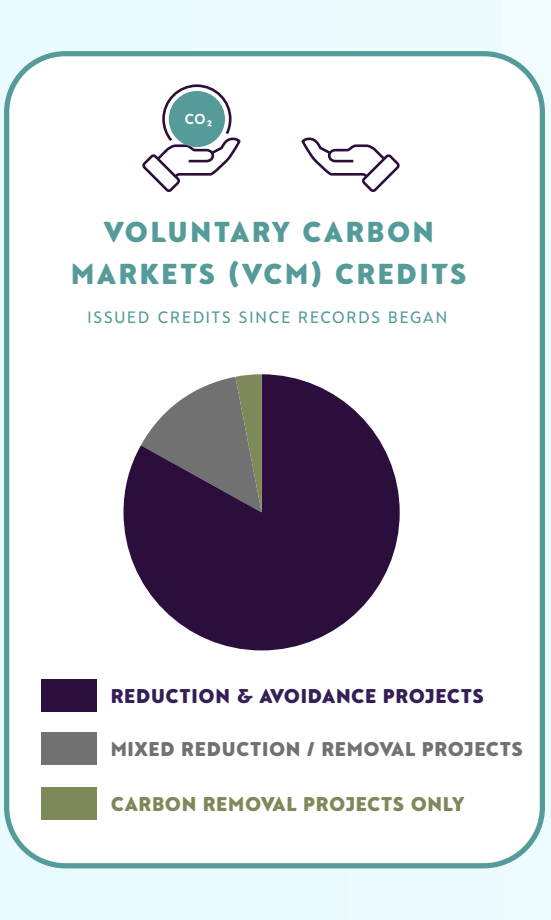
3 **CAPTURING AND STORING CO_2 BEFORE ENTRY INTO ATMOSPHERE**

For example, effective carbon capture and storage (CCS) on fossil-fuelled power stations or industrial plant sources e.g. oil refineries.

FOSSIL FUEL POWER PLANTS WITH CCS *DO NOT REMOVE CARBON FROM THE ATMOSPHERE*. THE CO_2 THEY CAPTURE AND STORE ORIGINATES FROM UNDER THE GROUND (THE LITHOSPHERE)

Back to the voluntary carbon market (VCM) for a moment...

4.1. MOST VCM CREDITS TODAY REPRESENT REDUCTION OR AVOIDANCE PROJECTS



VOLUNTARY CARBON MARKETS (VCM) CREDITS
ISSUED CREDITS SINCE RECORDS BEGAN

Across the four major voluntary carbon credit registries — Verra, American Carbon Registry, the Gold Standard, and Climate Action Reserve — the bulk of issued carbon credits since records began have been from avoidance projects.

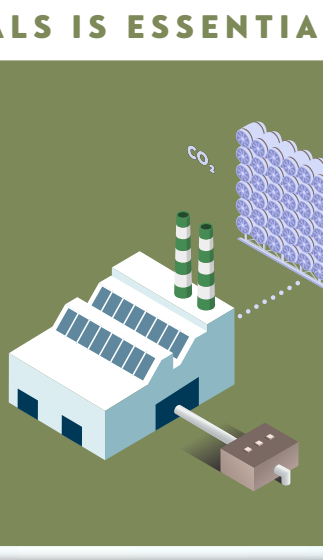
- Historically, **80%** have been generated from **REDUCTION & AVOIDANCE** projects.
- Only **3%** of credits were generated from pure **CARBON REMOVAL** projects — mostly afforestation, reforestation and revegetation. And just a sliver of that 3% represents **highly durable** removals, those with project lengths of 100+ years.

Reduction and avoidance credits will play vital roles in the short to medium term — helping protect carbon in vulnerable ecosystems and accelerate the shift to a low-carbon society. But as the world nears net zero around mid-century, the scope for further emission reductions will inevitably narrow.

SCALING UP CREDITS GENERATED FROM CARBON REMOVALS IS ESSENTIAL

The only way to achieve net zero and halt human-caused climate change is by first reducing emissions as much as possible, then counterbalancing any unavoidable residual emissions with durable **CARBON REMOVALS** at the net zero target date.

Organisations aiming for net zero using voluntary carbon credits should gradually increase the share of credits generated from carbon removal, with the goal of reaching mostly durable **CARBON REMOVALS** by the global net zero target date around mid-century.



WAIT, WHERE SHOULD VOLUNTARY CREDITS FIT IN?

For companies, buying carbon credits should be supplements to, not substitutes for, deep emission reductions. Carbon credits should be used for unavoidable 'residual emissions,' after other mitigation actions have been taken.

THE UN EXPERT GROUP ON NET ZERO RECOMMENDS THAT VOLUNTARY CARBON CREDITS SHOULD NOT BE COUNTED TOWARD A NON-STATE ENTITY'S INTERIM EMISSION REDUCTIONS REQUIRED BY ITS NET ZERO PATHWAY

1 **REDUCE**

Prioritise reducing or limiting direct and indirect emissions from within the value chain.

INCLUDES AVOIDING EMISSIONS

2 **REMOVE**

Scale up durable removals within the value chain to counterbalance hard-to-reduce emissions.

3 **COMPENSATE**

Purchase high integrity carbon credits to 'balance' unavoidable emissions.

4 **CONTRIBUTE**

Invest in additional Beyond Value Chain Mitigation to contribute to achieving net zero across society.

If used, carbon credits should be **additional, verifiable, monitored, correctly accounted for, have a low risk of reversal**, and **minimise negative unintended consequences to ecosystems and communities.**

5 THE BOTTOM LINES

If the **Article 6.4 Paris Agreement Crediting Mechanism** achieves high-integrity certification, it could incentivise project developers to bring genuine emission reductions and removals to market. This would push voluntary carbon market developers to enhance integrity to stay competitive.

If the **Article 6.2 Accounting Framework** standards on transparency and integrity are implemented and strengthened over time, it will build confidence in its use.

ARTICLE 6

If high integrity and transparency prevail, it could drive high quality emission reductions and removals, directing finance to where it's needed most.

VOLUNTARY CARBON MARKETS

If new Article 6 rules and norms are ignored or insufficient in preventing low-quality credits (including from avoided emissions), these credits may crowd out genuine emission reduction and removal projects.

REDUCTIONS TO REMOVALS

Scaling up durable carbon removal credits over the coming years is crucial to achieving net zero emissions, our one and only solution to halting global warming this century.

SOURCES

Carbon Direct – The State of the Voluntary Carbon Market (Apr. 2024); Carbon Market Watch – COP27 FAQ: Article 6 Explained (Nov. 2022); Carbon Market Watch – FAQ: Everything You Need to Know About Article 6 at COP28 (Nov. 2023); IISD – Will International Carbon Markets Finally Deliver? (Nov. 2023); Nature Conservancy – Article 6 Explainer (2023); Nature Conservancy – COP29 Article 6 Key Outcomes (Apr. 2024); OffsetGuide – Carbon Credit Guide (Feb. 2025); Smith School – Article 6 Focus: Bottlenecks and Breakthroughs (Bonn) (Jun. 2023); Smith School – Article 6 Focus: Outcomes at COP29 (Apr. 2024); Smith School – Oxford Principles for Net Zero Aligned Carbon Offsetting, Revised (Feb. 2024); UNFCCC – Article 6.4 Mechanism; UNFCCC – Article 6.4 Supervisory Body; UNFCCC – Cooperative Implementation; World Bank – What You Need to Know About Article 6 of the Paris Agreement (May. 2022).

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