environmental investigation agency

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BRIEFING

EIA UK POSITION ON CARBON CREDITS AND OFFSETTING

SYNOPSIS

EIA UK believes that carbon offsetting is a fundamentally flawed concept which does not deliver a genuine climate benefit, but instead undermines real mitigation and climate action.

Although EIA UK recognises that carbon credits can be used for purposes other than offsetting and accepts that stringently regulated market mechanisms can deliver emissions reductions in some cases, there remain significant systemic issues with carbon crediting which cannot be overlooked, regardless of how a credit is ultimately used or the mechanism under which it is traded.

This document outlines the issues with carbon offsetting and with the generation, sale and use of carbon credits before discussing in greater detail EIA UK's stance on the most prominent carbon trading mechanisms – voluntary carbon markets, Emissions Trading Schemes and Article 6 of the Paris Agreement.

SYSTEMIC ISSUES

CARBON OFFSETTING

At its core, carbon offsetting is flawed because it does not address the fundamental problem of continued greenhouse gas emissions. The concept assumes that pollution in one place can be balanced by reductions or removals elsewhere, yet this simply relocates the impact rather than eliminating it.

Offsetting effectively treats the atmosphere as a global ledger where additions and subtractions can be traded, but the underlying reality is that climate change is a global issue and climate stability requires rapid, absolute reductions in emissions at source.

By relying on the idea that emissions can simply be 'cancelled out', offsetting creates a dangerous illusion of progress while enabling high-emitting sectors to delay or avoid the structural transformations needed to rapidly eliminate greenhouse gas emissions.

With the remaining carbon budget for a 50 per cent chance to limit warming to 1.5°C likely to be exceeded by 2030, carbon offsetting which results in no net reduction in emissions is an irresponsible and insufficient response to the climate emergency.[1]

KEY TERMS

Carbon credit: A carbon credit is a tradeable permit representing one tonne of carbon dioxide equivalent (tCO_2e). In most cases, a carbon credit represents one tCO_2e that has been avoided, removed or sequestered from the atmosphere.

Carbon allowance: A carbon allowance also represents one tCO_2e. In this case, the allowance represents one tCO_2e that the holder is permitted to emit under a regulated system. In some systems, the terms 'carbon credit' and 'carbon allowance' are used interchangeably.

Carbon offsetting: When an individual, company or government engages in carbon offsetting, they are seeking to compensate for their own greenhouse gas emissions by paying another party for emissions reductions which they claim to have achieved. Offsetting usually occurs through the purchase and 'retirement' (use) of carbon credits.

Voluntary market: Voluntary markets are platforms where individuals, companies and organisations can choose to purchase carbon credits, most often to offset their greenhouse gas emissions.

Compliance market: Compliance markets are part of legally mandated systems established by governments or international bodies. Under these legal regimes, relevant entities are obligated to reduce their emissions, either directly or by acquiring emissions reductions credits/allowances on the market.

Cap-and-trade: In a cap-and-trade system, a government or regulatory body sets an overall limit on emissions and allocates a number of tradeable allowances in line with that cap. Emitters are required to hold allowances for each tonne of CO_2e they release.

Beyond value chain mitigation (BVCM): BVCM refers to investment in climate action outside an organisation's value chain. Most often, this involves the purchase of carbon credits on the voluntary market. Crucially though, when the purchased credits are 'retired', no offset is claimed against the purchaser's own emissions.

CARBON CREDITS

Most offset claims are based on carbon credits, which are tradeable permits representing one tCO_2e. Credits can be sold on either voluntary or compliance markets (discussed in the next section of this document) and can be generated based on almost any activity that is claimed to reduce, avoid or remove greenhouse gas emissions (see Table 1 for common examples).

Usually, to be considered 'legitimate', a credit generating activity must follow a defined methodology, although these methodologies and their requirements vary significantly across different markets. In most cases, the 'legitimacy' of a credit is contingent on meeting several defined criteria that will usually include at least the following:[2]

- **measurability:** It must be possible to accurately quantify and measure the emission reduction or removal
- **additionality:** The activity which reduces or removes emissions must be something that would not have happened without the sale of carbon credits
- **permanence:** The activity must lead to a permanent or long-lasting reduction or removal of emissions. For credits based on removals, this often means the carbon is sequestered for a set, significant period[3]
- **transparency:** The process of generating, tracking and retiring credits should be transparent and documented.

***Table 1:** Common activities undertaken to generate carbon credits*

ACTIVITY	DESCRIPTION	EXAMPLE METHODOLOGY
Generating electricity from renewable sources	Avoidance claim based on the displacement of fossil fuel-based power	Verra: VM0052 Accelerated Retirement of Coal-Fired Power Plants Using a Just Transition
Improving energy efficiency	Avoidance claim based on a reduction in the overall demand for energy	Verra: VM0050 Energy Efficiency and Fuel-Switch Measures in Cookstoves
Capturing and destroying waste or byproduct greenhouse gases	Avoidance claim based the prevention of emissions that would have otherwise occurred	American Carbon Registry (ACR): Destruction of Ozone Depleting Substances from International Sources
Afforestation, reforestation and forest conservation	Removal claim based on the sequestration of carbon in trees, plants and soil	Climate Action Reserve (CAR): US Forest Protocol
Carbon capture and storage	Removal claim based the sequestration of carbon through technological and industrial processes	Verra: VM0049 Carbon Capture and Storage

SYSTEMIC ISSUES WITH CARBON CREDITS

The systemic issues associated with the generation, sale and use of carbon credits are numerous.

Myriad scandals over the past 20 years have exposed crediting schemes that lack environmental integrity and fail to meet even their own basic criteria for legitimacy. Some of the most recent and high-profile of these are presented in Table 2 below.

Fundamentally, carbon crediting relies on shifting responsibility for emissions rather than eliminating them, creating practical and structural weaknesses.

PERMANENCE

One of the most prominent weaknesses is the temporal mismatch between short-term sequestration projects and the long-term impacts of greenhouse gas emissions.

Tree planting projects present a common example; the long atmospheric lifetimes of many greenhouse gases mean

that a tonne of CO_2 locked in a tree plantation for a few decades cannot credibly offset a tonne of emitted CO_2e, which could linger in the atmosphere for centuries to come.

This is an issue exacerbated by the challenge of setting accurate, meaningful baselines for both afforestation and forest conservation projects.[4]

TREE PLANTING

Tree planting (i.e., industrial afforestation using monospecific or very few non-native fast-growing tree species) is not an effective way to combat climate change.[39]

Fast growing plantation species cannot rival natural, biodiverse forests comprising slow-growing carbon-dense tree species. However, while protecting natural old-growth forests is essential, it too is insufficient to counter the accelerating accumulation of CO_2 in the atmosphere.

With the capacity of the world's natural forests to act as a carbon sink already overwhelmed and under threat, neither tree planting nor forest conservation can be justifiably used to 'offset' future emissions.[5]

Even if trees planted to offset CO_2 emissions could be guaranteed as long-term carbon sinks, according to recent research offsetting the carbon emissions from burning the oil, gas and coal reserves held by the world's 200 largest fossil fuel firms would require planting enough new forest to cover the entire landmass of North America, Central America and parts of South America combined.[6]

PERVERSE INCENTIVES

Another pervasive risk is that perverse incentives can be created, directly contributing to an increase in the polluting activities which the crediting programme claims to address.

The HFC-23 scandal, which took place under the Clean Development Mechanism (CDM, the precursor to today's Article 6 markets under the UN Framework Convention on Climate Change, or UNFCCC), is a clear example of this.[7]

Under the CDM, chemical firms in China and India were found to be over-producing byproduct HFC-23, a powerful greenhouse gas, simply to destroy it and claim lucrative carbon credits. The practice generated vast profits without real emission cuts, prompting the EU and UN to reform CDM rules and ban HFC-23 credits, exposing major flaws in global carbon-offset systems.[8]

ADDITIONALITY

Too often, credits have been issued for actions that would have happened anyway, contravening the principle of additionality and meaning that the volume of credits vastly exceeds the true mitigation achieved.[9]

These exaggerations are compounded by fraud and weak oversight, with many cases of credits being double-counted or sold multiple times, and with multiple actors claiming responsibility for the same project.

As a result, far from representing genuine climate action, many credits are little more than paper claims with little substance behind them. In fact, a 2024 study analysing about one billion tCO_2e of voluntary market credits found fewer than 16 per cent constituted real, verifiable emissions reductions.[10]

LEAKAGE

'Leakage' represents a systemic flaw in carbon markets whereby emissions reductions achieved through activities in one jurisdiction result in corresponding increases in that activity elsewhere, undermining the overall environmental benefit.[11]

A classic example occurs when a deforestation prevention project succeeds in its designated area, only for logging or land clearance to accelerate just beyond its boundaries.

DOUBLE COUNTING

Double counting erodes the integrity of carbon markets by allowing a single emissions reduction or removal to be claimed by multiple parties, thereby inflating the apparent climate impact of crediting activities.

This can occur when both the host country of a carbon project and the purchasing entity (e.g., a company or another country) count the same credit towards their respective climate targets.[12] For instance, a waste gas destruction project in the United States might generate credits sold to a European company, but if the US also includes those reductions in its national inventory, the same tonne of CO_2 is effectively counted twice.

Across some carbon market platforms, standards to reduce the risk of double counting have been developed, however oversight is generally weak and loopholes persist.[13]

SOCIAL AND EQUITY ISSUES

The social consequences of carbon credits are also troubling. Crediting schemes have often resulted in inequities and accusations of neo-colonialism, with wealthier polluters outsourcing their responsibility to poorer communities while continuing to engage in business-as-usual practices.

Further, some crediting activities can be directly harmful to local communities and indigenous populations (especially those based on 'protecting' areas of land or forest). Indeed, numerous cases have been raised in recent years citing human rights violations associated with carbon crediting projects, even under UN-endorsed programmes such as REDD+.[14]

In the broader global system, relying on carbon credits in lieu of real emissions reductions risks leaving the poorest nations and households with the most expensive and challenging decarbonisation measures, while the wealthy effectively buy their way out of change.

Taken together, these failures demonstrate that carbon credits not only fall short of delivering genuine reductions but also exacerbate pollution and inequity, delaying any genuine reckoning with the climate emergency.

A recent systematic review of the literature on carbon offsets noted that, despite repeated efforts to address them, core challenges of additionality, leakage, double counting, environmental injustice, verification and permanence remained, leading the authors to conclude that "over-crediting in carbon offsets is an intractable problem".[15]

Table 2: *Common activities undertaken to generate carbon credits*

PROJECT(S)	YEAR	SYNOPSIS AND SOURCE
'Phantom' rainforest credits (multiple countries)	2023	An investigation into Verra found that more than 90 per cent of the rainforest-based credits it issues are likely 'phantom credits' that do not represent actual reductions in carbon emissions. The study looked at satellite imagery and scientific reviews of numerous projects and found that baseline deforestation threats were greatly overstated, meaning the claimed climate benefit was vastly exaggerated. https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe
Kariba REDD+ project (Zimbabwe/ Switzerland)	2023	The Kariba REDD+ Project in Zimbabwe was one of the world's largest forest-conservation credit schemes, having issued about 36 million carbon credits since 2011. In 2023, concerns emerged regarding its forest-preservation claims and how effectively local communities have benefited, prompting a key partner, South Pole (a Swiss carbon offset developer), to end its involvement with the project and forcing Verra to pause credit issuance. https://www.reuters.com/sustainability/cop/carbon-offset-firm-south-pole-cuts-ties-with-zimbabwe-forest-project-2023-10-27/
C-Quest Capital cook-stoves project (Mozambique/USA)	2024	An investigation into C-Quest Capital's cook-stove carbon offset scheme in Mozambique showed the project fell far short of its promises. While the company claimed it would distribute efficient stoves to reduce wood use, improve health and generate climate benefits, many devices were unused or broken and some ended up being used indoors, raising health risks rather than reducing them. https://www.washingtonpost.com/climate-environment/2024/08/24/carbon-credits-cook-stoves-africa/

[i] (next page) For information on the functioning and financial workings of voluntary carbon markets, see Carbon Market Watch's FAQ: https://carbonmarketwatch.org/2024/08/14/faq-understanding-the-financial-workings-of-the-voluntary-carbon-market/

Table 2 (cont'd): Common activities undertaken to generate carbon credits

PROJECT(S)	YEAR	SYNOPSIS AND SOURCE
Beijing Karbon fossil fuel projects (China/Germany)	2024	An investigation by Deutsche Welle and ZDF uncovered major fraud in carbon credits linked to Chinese consultancy Beijing Karbon. The fraudulent projects, many of which purported to be newly built methane-capture or gas-flare reduction installations, were in fact often already operational before the required start date, indicating they should never have qualified for credit generation. At least 16 projects were under strong suspicion of being fraudulent, with the total value of credits issued by 2024 estimated to have reached as much as €1 billion. https://www.dw.com/en/how-a-chinese-firm-ran-a-billion-euro-carbon-credit-scam/a-71010148
Energy Australia's false claims about carbon offsetting (Australia)	2025	Energy Australia issued a formal apology to more than 400,000 customers and reached a settlement in a landmark legal case after it was accused of 'green-washing' its Go Neutral carbon-offset product. The company acknowledged that purchasing carbon offsets did not neutralise the environmental harm caused by fossil fuel use and admitted its marketing of the product may have misled customers into believing their energy consumption was genuinely carbon neutral. https://www.theguardian.com/australia-news/2025/may/19/energy-australia-apologises-to-400000-customers-and-settles-greenwashing-legal-action
'Independent' auditors overvalue carbon credit projects (multiple countries)	2025	A study examining 95 carbon credit projects registered under Verra found that roughly two-thirds of the accredited auditors failed to identify significant flaws, raising serious doubts about the independence and reliability of the auditing process. The research suggests the system effectively incentivises auditors to favour project developers as more issued credits generate greater revenue for registries and developers alike. https://news.mongabay.com/2025/09/independent-auditors-overvalue-credits-of-carbon-projects-study-finds/

VOLUNTARY CARBON MARKETS

Voluntary carbon markets allow companies or individuals to purchase carbon credits on a voluntary basis. In most cases, these credits are used to offset emissions which the purchaser has not otherwise mitigated or reduced themselves.[i (see note at bottom of previous page)]

One of the most common claims made by market actors is that the purchase of credits on the voluntary market drives corporate decarbonisation. Recent evidence refutes this claim, however, with a 2025 study conducted by the Öko-Institut finding that no clear conclusion can be drawn to show that the use of carbon credits has a causal effect on internal emission reductions.[16] At best, the corporate decarbonisation claim is unsubstantiated; at worst, it is actively misleading.

With no centralised or regulatory oversight, the credits sold on voluntary carbon markets suffer from persistent issues relating to additionality, permanence, perverse incentives and the transparency and verification of their emissions reduction claims. Despite recent efforts to standardise 'high integrity' credits through the Core Carbon Principles produced by the Integrity Council for the Voluntary Carbon Market (ICVCM), voluntary markets remain largely unregulated and susceptible to manipulation.[17]

As such, EIA UK believes that voluntary carbon markets are more likely to undermine genuine climate action and facilitate greenwashing than they are to secure any significant climate benefit – especially when the credits purchased are used for offsetting purposes.

Independently of offsetting, it is worth noting that some companies are now engaging in 'beyond value chain mitigation' (BVCM), which involves the purchase of carbon credits on the voluntary market for the sole purpose of funding climate action (i.e., the purchased credits are 'retired' but no offset is claimed against the purchaser's emissions).[18]

EIA UK acknowledges that, under some circumstances, BVCM can allow companies to channel finance toward climate action through voluntary markets. Because BVCM involves no offsetting claim, the need for perfect accuracy in quantifying emissions reductions or removals is less pressing; it could be enough to know that a crediting activity has a positive environmental impact, even if the scale of that impact can only be estimated.

Nonetheless, it is important to bear in mind that many of the systemic issues with carbon credits are not resolved by BVCM. Issues such as non-additionality, the creation of perverse incentives and concerns around equity and human rights remain issues regardless of how a credit is used. The suitability of BVCM as a means for funding climate action must therefore be considered on a case-by-case basis.

It is also important to bear in mind that only a very small proportion of the credits sold on the voluntary market are used for BVCM.[ii] Most companies generating voluntary carbon credits still earn the bulk of their profits through the sale of credits for offsetting purposes.[19]

COMPLIANCE CARBON MARKETS

Compliance markets are governed (to a greater or lesser extent) by national or regional regulation or by international bodies. In most cases, participation in a compliance market is mandatory for the entities within it and the market is intended to function as a mechanism through which legally mandated emissions targets can be met.

The scope and workings of compliance markets vary significantly across different sectors and jurisdictions. Some compliance markets, such as the market under Article 6.4 of the Paris Agreement, or the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), are functionally similar to voluntary markets. These markets facilitate offsetting in order to meet specific targets, with the stated end goal often being that the participating entities will achieve 'net zero' emissions by a given date. Ultimately, these markets exist to provide a degree of regulatory oversight to the trade of carbon credits.[20]

It is important to be clear that, despite being subject to at least some degree of regulatory oversight, the systemic issues associated with offsetting and with the generation and sale of carbon credits remain problematic even within these compliance market systems. As such, EIA UK believes they are more likely to undermine climate action than advance it.

Other compliance markets, such as the EU Emissions Trading System (EU ETS) or California Cap-and-Trade Programme, operate on cap-and-trade principles.[21]

Under a cap-and-trade system, a government or regulatory body sets an overall limit on emissions and allocates a number of tradeable allowances in line with that cap. Entities within the market are required to hold allowances for each tonne of CO_2e they emit. Depending on the specific market, carbon allowances (representing one tCO_2e that the holder is permitted to emit) may exist alongside carbon credits (representing one tCO_2e that a third party has reduced or removed elsewhere).

EIA UK recognises that regulated compliance markets operating under a cap-and-trade model can deliver genuine emissions reductions if robust guardrails are in place.[22]

Specifically, such markets must operate with a maximum emissions ceiling that is reduced over time and they must prohibit the use of low-integrity or non-additional carbon credits within the system (i.e., they must facilitate only the trading of carbon allowances, without permitting offset claims to count towards compliance with regulatory targets).

Enforceable controls must also be put in place to ensure that emissions trading does not become a substitute for meaningful emissions cuts in any given sector.

EMISSIONS TRADING SCHEMES

An Emissions Trading Scheme (ETS) operates on a cap-and-trade principle whereby polluters are issued a finite number of allowances. An ETS can be an effective mechanism to drive emissions reductions, when designed with a declining cap that ensures ambition increases over time. However, to function effectively, an ETS should not allow offset credits from external or unregulated sources to count towards compliance; tradeable allowances within an ETS must relate only to emissions directly controlled or regulated under the system.

Although imperfect, the EU Emissions Trading Scheme (EU ETS) serves as an example of a compliance market operating, broadly, according to these principles.[iii] Since its launch in 2005, the EU ETS has been the EU's flagship carbon-pricing tool, driving a 47 per cent reduction in emissions from covered sectors by 2023 (below 2005 levels).[23]

[ii] How a credit is used (i.e., whether it is for offsetting or BVCM) is ultimately down to the purchaser of the credit. Credit generating companies generally do not make public who has purchased their credits, nor do they usually record (or even have access to the information on) how their credits are used.

[iii] The EU ETS is a cap-and-trade scheme designed to reduce greenhouse gas emissions by setting a limit (the "cap") on total emissions from covered sectors, which include power generation, heavy industry and aviation within Europe. Companies hold emission allowances, each worth one tCO_2e, and they must surrender enough allowances each year to cover their verified emissions. Allowances can be traded with others within the system, creating a market price for carbon. Over time, the cap is reduced, lowering the number of allowances available and driving down overall emissions.

In the 2010s, following exposure of the CDM HFC-23 scandal (discussed in the previous section), the EU moved to protect the environmental integrity of its ETS by phasing out the permissible use of specific international carbon credits under the system.[24] Since 2021, the use of international credits under the EU ETS has been prohibited entirely.[iv]

EIA UK supports Emissions Trading Schemes as regulatory mechanisms when fully aligned with the goal of achieving deep and rapid emissions reductions through domestic decarbonisation and climate action. Strict oversight of the market, strict oversight of allowances traded, effective monitoring of emissions and consistent enforcement of penalties when transgressions occur are all essential elements of an effective ETS.

ARTICLE 6 OF THE PARIS AGREEMENT

Article 6 allows countries to cooperate via carbon markets to meet their climate targets. It includes decentralised cooperation (i.e., direct bilateral agreements) under Article 6.2, and a centralised market mechanism under Article 6.4.

In theory, Article 6 should raise ambition. In practice, it risks doing the opposite.

Under Article 6.2, nations may engage in bilateral or plurilateral arrangements to transfer Internationally Transferred Mitigation Outcomes (ITMOs) between countries. To mitigate the risk of 'double counting', the transfer of an ITMO requires the parties to the transaction to undertake a corresponding adjustment; essentially, this means the emission reduction is counted by the purchasing country and 'uncounted' by the selling country.

In principle, this mechanism was designed to uphold environmental integrity and prevent the double counting issue that plagued the Kyoto-era markets. However, under the rules currently agreed, these safeguards are weak and there is a "a relative lack of enforcement mechanisms or penalties that would disincentivise parties from selling or buying dubious or fraudulent credits".[25] For example, countries are merely requested, rather than required, to avoid using questionable credits that have been flagged during quality checks as potentially double-counted, leaving scope for manipulation and inconsistent implementation.[26]

The Article 6.4 mechanism, meanwhile, establishes a UNFCCC-supervised global market intended as a successor to the CDM. It permits private actors to develop emission reduction or removal projects, issuing Authorised Article 6.4 Emission Reductions (A6.4ERs) that can be traded internationally. In recent negotiations, parties agreed to include a "sustainable development tool" to help ensure social and environmental safeguards and to discourage the issuance of credits from activities that could lock in fossil fuel use.

Nevertheless, these developments largely restate existing principles, without providing new enforcement mechanisms or meaningful deterrents to low-quality crediting.[27]

A significant concern is the decision to allow the transfer of a huge volume of legacy CDM credits into the new Article 6.4 system, despite well-documented integrity issues associated with many of those projects.[28] This, combined with the limited oversight under Article 6.2, risks reproducing the systemic flaws of earlier market mechanisms.

While Article 6 was intended to facilitate international cooperation and investment in genuine emission reductions, its implementation risks replicating the weaknesses of the past, particularly the lack of stringent monitoring, reporting and verification and insufficient penalties for non-compliance.[29] Even new language on additionality and leakage does little to address the "intractable" quality problems that have persisted for decades.[30]

Unfortunately, research shows that countries are already using Article 6 to buy low-cost credits in lieu of domestic reductions, without corresponding increases in ambition.[31] This is particularly concerning in instances where highly emitting industrialised countries purchase credits from countries in the Global South, offloading responsibility and reducing the seller's ability to pursue future ambition due to the loss of 'low-hanging fruit' mitigation options.[32]

EIA UK therefore maintains that any use of Article 6 credits must be approached with extreme caution. While on paper, these mechanisms could deliver transparent and cooperative pathways for climate action, the evidence to date indicates they are far more likely to compromise environmental integrity and delay genuine decarbonisation.

EIA UK urges governments to avoid the use of Article 6, particularly as a substitute for domestic mitigation, and insists that any credits traded under these provisions must represent real, additional, permanent and independently verified reductions.

[iv] Although separate to the EU ETS, it is worth noting that, in 2025, the European Commission proposed an amendment to the European Climate Law. The amendment would set a 2040 target to reduce the EU's net GHG emissions by 90 per cent relative to 1990, but would allow up to five per cent to be met using international carbon credits. In December 2025, the European Parliament and the Council reached a provisional political agreement on this amendment.

CONCLUSION AND POSITION STATEMENTS

Carbon offsetting, in any form, cannot be a substitute for real climate action.

While carbon credits may serve a limited role in catalysing investment through BVCM, where domestic emissions are already being reduced in line with 1.5°C, their use must be strictly governed and should never undermine regulation or delay structural change.

Similarly, while cap-and-trade systems can be effective as mechanisms to achieve emissions reductions, they must avoid relying on offsetting to achieve compliance and must be subject to strict regulatory oversight and controls.

EIA UK ADVOCATES FOR:

- rapid, absolute reductions in greenhouse gas emissions at source, rather than reliance on offsetting or trading mechanisms that merely shift emissions elsewhere
- rejection of carbon offsetting as a credible climate strategy on the grounds that it perpetuates pollution and delays the systemic transformation required to mitigate the worst effects of the climate crisis
- the use of high-integrity ETS mechanisms only where they operate under a strict and declining cap, exclude offsets and deliver verifiable domestic decarbonisation
- extreme caution in the operationalisation of Article 6 and immediate strengthening of its governance to demand mandatory, transparent monitoring, reporting and verification and stringent penalties for non-compliance
- opposition to governments using any form of carbon trading, including under Article 6 of the Paris Agreement, as a substitute for domestic mitigation or the implementation of binding targets to reduce emissions
- alignment with international human rights and environmental justice standards, including respect for community sovereignty, ensuring that carbon market projects do not harm indigenous peoples or local populations.

ANNEX I: ISSUES SPECIFIC TO ODS AND HFC CREDITS

Banks of ODS and HFC in stockpiles, foams and end-of-life equipment represent a significant climate and ozone threat. EIA has published a dedicated briefing highlighting the issues with F-gas credits – Polluting the Protocol

Destruction of the remaining CFC bank alone has been estimated by the Montreal Protocol's Scientific Assessment Panel to be "the single most effective ozone depletion and climate change mitigation option" for controlled ODS. Acting on this issue, however, requires substantial upfront capital investment for activities that do not generate obvious revenue streams.

The current lack of financing for bank management activities under the Protocol has led some stakeholders to explore carbon markets as a potential funding source. Indeed, several carbon trading companies are now generating and selling carbon credits that are equivalent, in CO_2e terms, to the quantities of ODS and/or HFCs that they destroy or reclaim.

While big emitters benefit from buying carbon credits to offset their own emissions, and project developers and traders profit from selling the large number of credits generated, the communities in which credit-generating activities take place often see little of the profit, nor any contribution towards their own country's climate targets.

In the end, we are left with significant amounts of climate pollution which would never have been emitted if destruction/reclamation of ODS and HFCs were mandatory and appropriately supported under the Montreal Protocol or if fluorochemical companies were required to take responsibility for the harmful substances they produced through regulatory measures such as Extended Producer Responsibility (EPR) schemes.

EIA UK firmly believes Parties to the Montreal Protocol can work collaboratively to establish a means of funding ODS bank recovery and destruction and HFC bank management, without needing to resurrect and repackage their climate impact in saleable form.

On top of the general issues with carbon crediting discussed in this paper, EIA UK recognises a number of specific problems and challenges posed by ODS and HFC credits. These include:

- **violation of the Vienna Convention:** The generation and sale of ODS carbon offsets may contravene Article 2.1 of the Vienna Convention, which requires Parties to avoid adverse effects on the climate system when undertaking activities to protect the ozone layer. Trading ozone benefits for climate harm undermines the Convention's core principles and the Montreal Protocol's legacy

- **perverse incentives**: Carbon markets can create incentives for increased production of ODS and HFCs, as seen in the HFC-23 scandal under the Kyoto Protocol. Companies may produce more of a harmful product or byproduct simply to profit from its destruction, exacerbating environmental harm rather than mitigating it. This issue is of increasing prominence given Verra's December 2025 approval of a crediting methodology based on the destruction of HFCs, the production of which remains legal and, in some regions, unregulated

- **equity issues:** Local communities and Article 5 Parties, which are often the sources of ODS and HFC banks, receive little to no benefit from the profits generated by carbon credits. The financial gains predominantly flow to private companies and offset buyers, rather than supporting climate action or adaptation in vulnerable regions

- **undermining regulatory approaches:** Carbon credits disincentivise the implementation of robust regulatory frameworks, such as Extended Producer Responsibility (EPR) schemes. Companies and governments may avoid mandating refrigerant recovery and destruction if they can profit from voluntary offset markets instead

- **short-term climate harm:** When destruction credits are used to offset emissions sooner than the gas would have leaked, the equivalent climate harm is effectively accelerated. This exacerbates short-term warming, counteracting the urgent need for immediate emissions reductions

- **profit-driven exploitation:** Private companies prioritise high-GWP gases for destruction as these generate the greatest quantity of credits. This focus on profitability distorts priorities, privileging financial gain over genuine environmental benefit

- **inability to address lower-GWP gases:** As countries transition to lower-GWP refrigerants, the financial viability of carbon crediting activities diminishes. Without sustainable funding or regulatory frameworks in place, stockpiles of lower-GWP refrigerants could pose ongoing environmental threats. This underscores the need for proactive, long-term management solutions rather than reliance on volatile market-driven approaches

- **regulatory loopholes:** The accounting rules of the Montreal Protocol could allow countries to deduct destroyed ODS and HFCs from their production and consumption totals. In theory, this could incentivise increased production of controlled substances, undermining the Protocol's phase-out objectives

- **lack of additionality:** Many offset projects claim additionality, asserting that destruction or reclamation would not have occurred without carbon financing. These claims are difficult, if not impossible, to assess objectively. Further, such claims overlook the progress being made domestically in numerous countries, and under Montreal Protocol institutions, including the Multilateral Fund (e.g., under Decision 91/66).

ANNEX II: METHANE CREDITS

EIA UK has published a dedicated briefing highlighting the issues with methane credits – Methane Credits: A Dangerous Distraction from Real Solutions.

Global attention to methane has grown rapidly in recent years. The 2021 launch of the Global Methane Pledge, now joined by 160 countries, marked the first coordinated international effort to tackle methane emissions across sectors. This momentum has also prompted growing interest in market-based mechanisms.

Methane credits are tradable certificates issued to projects claiming to reduce or avoid methane emissions and are increasingly promoted as a simple, low-cost instrument for meeting climate goals. Each credit represents one tonne of methane, converted into carbon dioxide-equivalent (CO_2e) units units based on the gas' Global Warming Potential over 100 years (GWP100), which has supposedly been prevented or destroyed due to the projects in question. This equivalence is misleading, creating a false impression that methane and CO_2 are interchangeable, even though they have fundamentally different lifetimes and climate impacts.

Methane credits function in both compliance markets (e.g., shipping sector under EU ETS) and voluntary markets. Since 2004, only 19 million tons CO_2e of methane credits have been retired, accounting for less than one per cent of all voluntary offsets retired.[33] However, in 2024 retirements grew by 70 per cent, outpacing most of the market, which experienced a decline.[34] Use of methane credits is set to increase, driven by corporate demand and government policy changes.

Historically, landfill gas capture dominated methane crediting, but recent years have brought greater diversification of project types:

- **waste sector:** capturing landfill gas and using it for energy
- **energy sector:** plugging abandoned oil and gas wells to prevent leakage
- **agriculture sector**: reducing methane from manure management systems or implementing alternate wetting and drying in rice paddies
- **biogas sector:** transforming organic waste or agriculture residues to produce energy.

Methane credits risk becoming a substitute for long-term decarbonisation, when reductions in both gases should advance in parallel rather than one displacing the other.

Methane crediting inherits all the weaknesses of broader carbon markets while introducing additional problems unique to the gas itself. The first is a fundamental temporal mismatch. Methane stays in the atmosphere for just over a decade, while CO_2 lasts for centuries, yet most accounting systems treat the two as if they were the same. The GWP100 metric allows companies to offset immediate, high-impact methane emissions with credits from activities that reduce longer-lived gases such as CO_2 or chlorofluorocarbons (CFCs), where the climate benefits only appear much later.

When using GWP100, methane's strong but short-lived warming is averaged over a century. This averaging gives the false impression that constant methane emissions continue to drive additional warming each year when, in reality, if methane emissions stay constant their significant effect on temperature is felt mostly in the first decade, demonstrating the impact of methane emissions on short term warming.

Methane is also systematically undervalued. The US Environmental Protection Agency (EPA) values it at about $1,600 per tonne, excluding key impacts such as ozone-related mortality (which would add at least another $760 per tonne) and crop losses.[35] By contrast, voluntary carbon markets price methane credits between $2 and $8 per tonne, capturing less than one per cent of the real societal cost.[36]

Reliable monitoring and verification pose another challenge. Methane emissions are widely underreported. Standard emission factors do not work as reliably as they do for CO_2. In the energy sector alone, estimates suggest actual emissions are approximately 80 per cent higher than what countries report to the UNFCCC.[37]

Many governments and private certifiers lack the capacity, infrastructure and resources needed to operate credible monitoring systems, making it even harder to verify claimed reductions under methane projects.

KEY RECOMMENDATIONS

- **Reform methane accounting frameworks**: Methane-specific accounting systems must be developed to track reductions separately from CO_2 and incorporate health and climate co-benefits
- **Prioritise direct regulation:** governments must move beyond reliance on offset mechanisms and instead implement strong regulations including a dedicated methane mitigation target and robust national policies
- **Provide targeted financial support to Global South countries:** To avoid reliance on credits for methane mitigation, other forms of financial support need to be scaled up and expanded e.g., financial support for enabling activities and multilateral support from development banks and climate funds

ANNEX III: FOREST CARBON CREDITS

Carbon credits related to forests have dominated carbon markets since their inception, accounting for the highest number of credits produced (37 per cent).[38] Forest-based carbon crediting schemes cover a range of programmes focussed mainly on:

- **afforestation:** planting trees on an area that hasn't been recently forested
- **reforestation**: planting trees on an area that has recently been forested
- **improved forest management:** implementing practises such as Reduced Impact Logging into forestry standards
- **avoided conversion** of existing old growth native forests.

Of these programmes, afforestation and reforestation most commonly involve the industrial planting of monospecific species or a handful of non-native fast-growing tree species which is not an effective way to combat climate change.[39]

Fast-growing plantation species cannot rival natural biodiverse forests which are full of slow-growing carbon-dense tree species. As a result, intact natural old growth forests store an estimated 40 times (at least) more carbon than tree plantations.

While old growth forests can continue to sequester carbon for centuries, the regular harvesting and clearing of tree plantations releases any stored CO_2 back into the atmosphere at every harvest and subsequent processing cycle. Safeguarding natural old growth forests from deforestation and degradation is one of our best defences in the fight against climate change and averting the ongoing biodiversity crisis.[40]

Alongside issues with the reliance on monospecific species versus natural old growth for carbon storage, forest carbon credits have been a part of a number of scams and issues. A few of these scams are detailed in Table 2, but further issues with particular relevance to forest-based carbon credits include:

- **non-additionality:** instances in which the forest was never at risk or was already protected, meaning the credits do not represent additional carbon storage
- **lack of permanence:** forests are vulnerable to the carbon they sequester being released back into the atmosphere through forests fires, pests and illegal logging
- **leakage**: protecting one area from harmful activities (e.g., deforestation through logging) can cause those activities to shift to new areas, resulting in no net carbon or forest benefit
- **inflated baselines and over-crediting:** due to a lack of stringent methodologies, project developers have overestimated the deforestation their projects prevent, leading to credits being sold that do not reflect any real-world benefit
- **lack of funds to the communities:** due to fraud and corruption, project developers have often failed to share profits with local communities, even when it was promised they would receive revenue from crediting schemes.

One of the key issues is that there has been an international failure to mobilise the financing and protection mechanisms needed to safeguard and restore forests. Carbon credits have instead become a default for protection, despite the myriad concerns and risks they raise. This does not need to be the case, as several alternative approaches to offset-based finance have already been proposed.[41] These approaches emphasise:

- **direct support for indigenous peoples and local communities** (IPLCs) in conserving forests and ecosystems, grounded in rights-based and participatory governance
- **diversified and predictable funding sources**, including progressive taxation, philanthropic contributions and responsible private sector engagement, rather than offset revenues
- **alignment with international human rights and environmental standards**, as well as norms of transparency, accountability and environmental justice
- **long-term finance mechanisms** that strengthen local self-determination and ensure resources reach communities directly.

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