IETA

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UNLOCKING CARBON MARKETS IN INDONESIA

THE ROLE OF ARTICLE 6, INTERNATIONAL STANDARDS AND THE ETS IN SUPPORTING GREEN GROWTH

Recommendations for the new administration on the various “routes to market”

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INTRODUCTION

INDONESIA, SOUTHEAST ASIA'S LARGEST ECONOMY BY GDP, POPULATION, AND NATURAL CAPITAL VALUE, IS A GLOBAL ECOLOGICAL POWERHOUSE. IT LIES AT THE HEART OF THE CORAL TRIANGLE, HOME TO 70% OF THE WORLD'S CORAL SPECIES, AND HOSTS THE WORLD'S LARGEST MANGROVE ECOSYSTEMS, TROPICAL PEATLANDS, AND THE THIRD-LARGEST TROPICAL RAINFOREST.

Recognised as one of the world's 17 "megadiverse"[1] countries by UNEP-WCMC, Indonesia's ecosystems provide critical ecosystem services[2], which are vital for both local livelihoods and global climate stability. However, the dual pressures of economic growth and a burgeoning young population have driven deforestation and ecosystem degradation, exacerbated by rising commodity prices that incentivise land conversion for mining and agriculture. Between 2001 and 2023, Indonesia lost 19% of its tree cover[3], while annual emissions surged by 131%[4], underscoring the urgency of sustainable solutions. To achieve its vision of a "Golden Indonesia 2045", meet its Nationally Determined Contributions (NDCs)[5], and advance the Sustainable Development Goals (SDGs), carbon markets can play a key part in Indonesia. Carbon markets place a price or value on greenhouse gas emissions, which incentivise emitters to lower their carbon intensity and invest in green innovation, as well as drive funding to protect and restore natural ecosystems.

Indonesia has long been a leader in global carbon markets, ranking as the 5th largest issuer of carbon credits under the Kyoto Protocol's Clean Development Mechanism (CDM)[6] and 6th largest issuer of credits in the voluntary carbon market[7], mainly through REDD+[8] and Improved Forest Management (IFM)[9] projects. However, in recent years, international carbon financing to Indonesia has effectively come to a halt following a series of regulations by the former administration aimed at improving the governance of such projects and ensuring NDC alignment under the Paris Agreement[10]. While these efforts have strengthened the oversight of carbon crediting projects, it has also stalled international carbon financing flows supporting conservation measures and low-carbon development in Indonesia.

As Indonesia now moves into the next phase of its NDC implementation, the new administration has a vast opportunity to unlock international carbon markets to support its sustainable growth targets. **This whitepaper outlines the pathways Indonesia can take to meet its carbon financing needs, ensuring a well-functioning carbon market framework that can drive both economic prosperity and global climate action.**

(1) 2040 Climate Target Communication

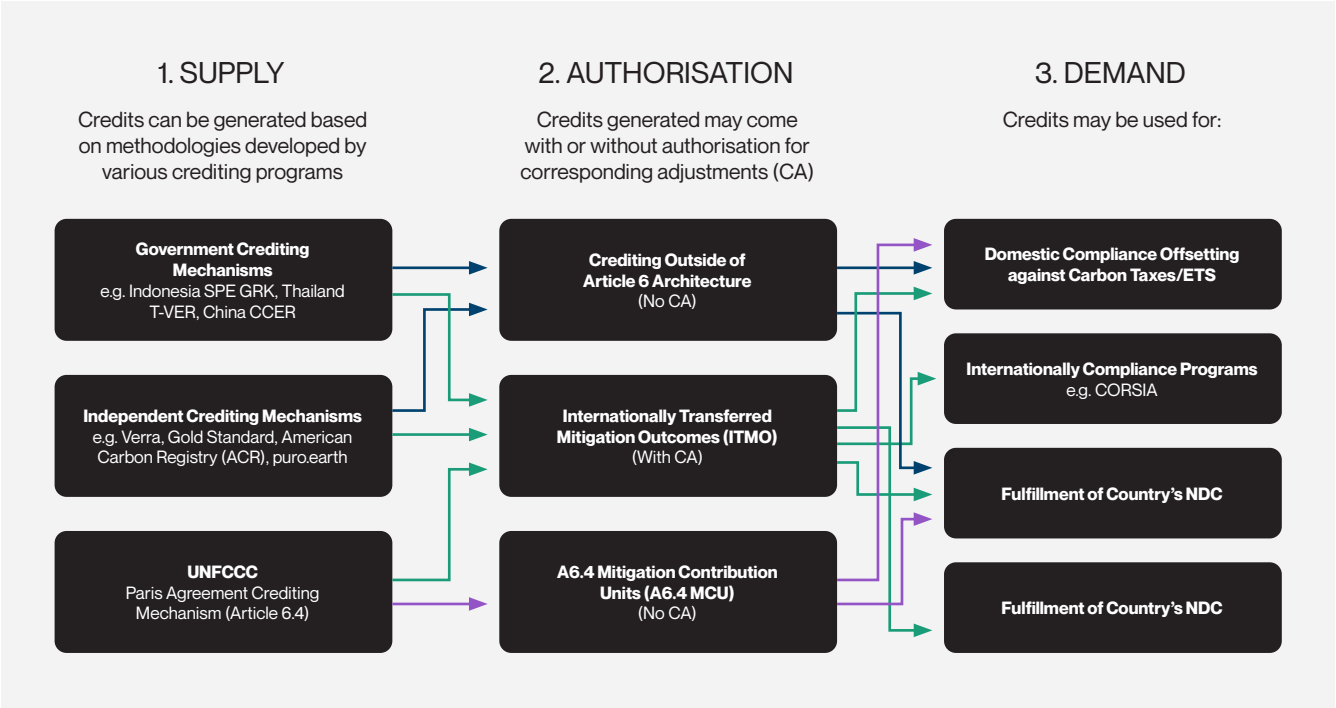
ROUTES TO MARKET

Indonesia's carbon market is governed by an extensive regulatory framework that spans various sectors, including energy, waste, industrial processes, agriculture, forestry, transportation, power generation, plantations, and manufacturing. The national carbon market was largely established under Presidential Regulation No. 98 of 2021, which provides the overarching framework that delegates specific responsibilities to designated ministries for coordinating oversight across sectors and lays the institutional foundation for implementing carbon pricing instruments, including an emissions trading system (ETS) and mandatory registration of projects on the national registry (Sistem Registri Nasional "SRN").

This has been followed by a number of regulations such as MOEF 21/2022, which sets out the sets out the provisions of a Carbon Trading Roadmap in Indonesia; Law No. 4/2023 and OJK Regulation 14/2023 which specifies carbon credits as securities and outlines the trading rules on Indonesia's Carbon Exchange (IDXCarbon); and subsequent sectoral laws for the ETS and carbon trading in the forestry sector. For a full list of the relevant legislation and details on Indonesia's regulatory landscape, consider the 2024 whitepaper developed by PwC in partnership with the Indonesian Carbon Trade Association (IDCTA).[11]

As Indonesia moves ahead with reshaping its carbon market framework, it is of utmost importance to have a clear understanding of the various routes to market available and how each of the instruments can support competitiveness and green growth. Following the finalisation of Article 6.2 and Article 6.4 of the Paris Agreement, the introduction of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and expansion of voluntary carbon markets (VCM), governments must carefully assess their options to unlock the value of carbon markets.

What is often simplistically divided into a 'voluntary carbon market' and a 'compliance carbon market' is, in reality, a converging marketplace for carbon credits and allowances that can be traded for several different use cases, generated by different crediting bodies. The risk of oversimplifying the market is that countries and corporations lose out on important carbon financing opportunities, thereby increasing the overall cost of reaching global climate targets (e.g. by requiring corresponding adjustments for units that don't need it). In the figure below, we have outlined the various existing routes to carbon markets, linking the generation of credits and their authorisation status, to the use cases and sources of demand.



IN THE FOLLOWING SECTIONS, WE AIM TO OUTLINE THE OPPORTUNITIES FOR INDONESIA IN THIS NEW CARBON MARKET LANDSCAPE.

01 SUPPLY

Firstly, a carbon credit (not to be confused with government-issued permits or "allowances") shall represent 1 tonne of CO2e reduced against a baseline or removed from the atmosphere, in line with criteria and specific methodologies developed by crediting bodies. The crediting body may be a government (e.g. Indonesia), an independent private organisation (e.g. NGO or private sector entity), or a supranational body like the UNFCCC. Over the last 15 years, the supply of credits to the market has effectively shifted from the United Nations' Clean Development Mechanism (CDM) towards independent crediting bodies such as Verra and Gold Standard, and in more recent years there have been a significant increase in the number of government-run crediting mechanisms, such as the Thailand Voluntary Emission Reduction (T-VER) Program and China's Certified Emission Reduction (CCER) Program. In addition, the ongoing transition of the CDM to Article 6.4 of the UNFCCC Paris Agreement, is opening another door of carbon credit supply to the market. What is important to note is that each crediting programme comes with pros and cons regarding the methodologies applied, monitoring frameworks, flexibility, transaction costs, integrity, trust, sustainability assessments of projects and so on. As an example, whilst Verra serves a broad base of more than 30+ methodologies and project types, other programmes such as puro.earth have specialised in methodologies available only for durable carbon removal (CDR) projects.[12] The timeframe of assessments, fee structures and governance frameworks of each programme also varies considerably.

With increasing scrutiny of the quality of carbon crediting projects in recent years, several independent bodies have emerged to improve supply-side integrity. Notably, the Integrity Council for Voluntary Carbon Markets (ICVCM) has established the Core Carbon Principles (CCPs), which assess carbon-crediting programs and methodologies against 10 key integrity principles. For service providers, the International Carbon Reduction and Offset Alliance (ICROA) has established an Accreditation Programme which approves carbon market intermediaries in line with the ICROA Code of Best Practice. At the same time, carbon rating agencies who analyse specific project characteristics and rate their quality, have gained increasing prominence in the market. Understanding the role each route of supply generation can play in driving decarbonisation and meeting market demand is crucial for governments like Indonesia, which is seeking to take a comprehensive, strategic approach to their carbon market framework.

02 ARTICLE 6 AUTHORISATION

IMPORTANTLY, WITH THE ADOPTION OF ARTICLE 6 OF THE PARIS AGREEMENT, INTERNATIONAL CARBON MARKETS HAVE MOVED INTO A NEW PHASE. SPECIFICALLY, UNFCCC GUIDANCE ADOPTED AT COP26 OUTLINES THE NEED FOR AUTHORISATION AND CORRESPONDING ADJUSTMENTS FOR CARBON CREDITS IN SPECIFIC USE CASES. IMPORTANTLY, THESE RULES DO NOT APPLY TO ALL CARBON CREDITS IN THE MARKET, AND THE APPLICATION OF CORRESPONDING ADJUSTMENTS DOES NOT REPRESENT A STAMP OF HIGH INTEGRITY. THIS IS EXPLAINED IN THE SECTION BELOW.

i) Article 6.2 & Corresponding Adjustments
Article 6.2 of the Paris Agreement sets the foundation for countries to voluntarily engage in cooperative approaches that involve the use of internationally transferred mitigation outcomes (ITMOs) towards Nationally Determined Contributions (NDCs). Article 6.2 ITMOs can be authorised for use towards other countries' NDCs or Other International Mitigation Purposes (OIMP), such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). These units require a corresponding adjustment (CA) to avoid double counting, meaning that after being transferred, they cannot be accounted towards the climate target (NDC) of the selling country. It is the government of the host country that holds the prerogative to decide whether to provide a letter of authorisation (LOA) for credits to become ITMOs. In prevailing cases, they will do so considering the marginal abatement costs of their NDC, financially underserved sectors and sustainability co-benefits. Article 6.2 has been operational for a few years, and a growing number of cooperative approaches are forming around the world. A full list of cooperative approaches for which annual information has been submitted can be found here. IETA also tracks the implementation of cooperative approaches here.

Due to the flexible nature of cooperative approaches, countries are free to decide which methodologies and projects to authorise and what the ITMOs can be used for. Typically, these ITMOs are generated from projects already registered through independent crediting programmes – and the only difference between ITMOs and non-ITMOs from the same project and characteristics, would be that ITMOs have a wider use case. Credits issued by government crediting programmes can also become ITMOs if authorised by the host country, although that is less prevalent in the market. Overall, Article 6.2 ITMOs with Corresponding Adjustments are not of higher integrity by nature. However, they remain highly attractive due to the potential for use towards a country's NDC or CORSIA, as outlined below.

ii) Article 6.4 Paris Agreement Crediting Mechanism (PACM)
The PACM is a carbon crediting program maintained and operated by the UNFCCC, under Article 6.4 of the Paris Agreement. It is, in essence, the transition of the CDM from the Kyoto Protocol, and methodologies largely build on what was developed during the CDM. The PACM is governed by an international Supervisory Body with expert members nominated by governments, which is responsible for overseeing the mechanism, approving methodologies, registering projects, managing the registry, and ensuring environmental integrity. The day-to-day tasks of running the PACM are managed by the staff of the UNFCCC Secretariat.
Any project seeking to register under the PACM needs to get approval first by the host country government (Designated National Authority) and then by the Supervisory Body. Credits generated by the PACM are known as Article 6.4 Emission Reductions (A6.4ERs), and can, similarly to other types of credits described above;

1. Be authorised by the host country for NDC/OIMP use with corresponding adjustments, turning the A6.4ERs into ITMOs; or
2. Not seek authorisation, after which the generated credits would not require corresponding adjustments but can be used by domestic or international buyers for voluntary purposes (e.g. corporate net-zero commitments). These credits are known as 6.4 Mitigation Contribution Units (MCUs).

Following the conclusion of Article 6 negotiations at COP29 in Baku last year, the Supervisory Body is looking to approve the first Article 6.4 methodologies in 2025. Several project developers have already requested the transition of existing CDM projects to the new PACM, and the first A6.4ERs are expected to be issued later this year. This represents a new opportunity for countries and project developers looking to align with international UN standards. At the same time, the PACM introduces several new complexities, including the mandatory cancellation of 2% of credits for 'Overall Mitigation in Global Emissions' and 5% share of proceeds towards the UN Adaptation Fund; some of which risk making the mechanism less attractive for developers compared to other programmes in the market.[13]

03 DEMAND FOR CREDITS

As outlined in the diagram, there are 4 main sources of demand for credits:

i. Domestic Compliance with Carbon Taxes or ETS

Domestic compliance demand refers to companies covered under national or regional regulations such as carbon taxes or Emissions Trading Schemes (ETS) which mandate entities to reduce emissions or procure allowances and/or offsets to meet fixed targets. Compliance markets are growing rapidly in terms of jurisdictions covered, revenues collected, and the number of companies covered. Today, there are 75 carbon taxes and emissions trading schemes in operation worldwide, covering 24% of global emissions – coverage is set to increase to 30% if schemes in consideration now are implemented[14]. Revenues from carbon taxes and ETSs reached a high of 104 billion USD in 2023. These mechanisms incentivise cost-effective emissions reduction and green competition where implemented.

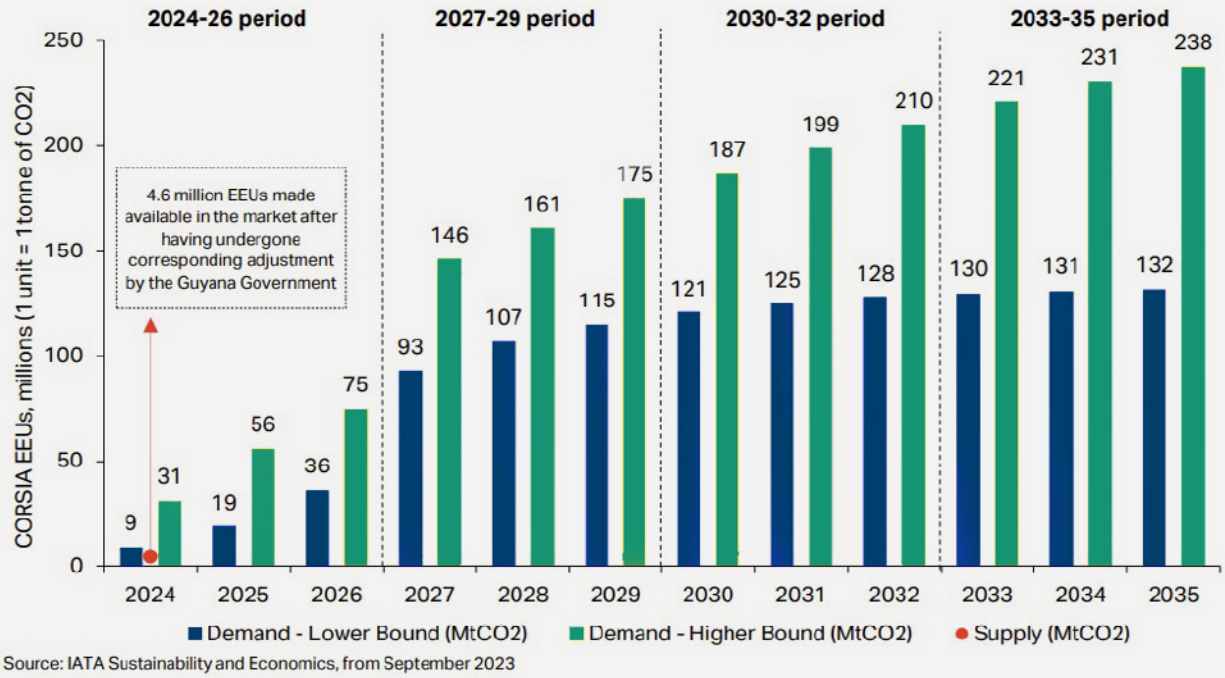
Of these 75 carbon pricing instruments in operation, 7 carbon taxes and 23 ETSs), allow for the use of carbon credits generated outside the system to offset liabilities. However, most do so with restrictions, typically allowing only credits generated domestically (e.g. Chile, Colombia, South Africa, Mexico), or to a certain percentage. Importantly, as carbon pricing systems are expanding and governments are looking to support green transition efforts, a growing number of systems are looking to allow the use of Article 6 ITMOs. Singapore has been a pioneer in this, allowing for 5% of the carbon tax obligations to be offset by ITMOs from their partner countries. Japan is also leading on a similar path, utilising their Joint Crediting Mechanism (JCM) under Article 6.2 to generate ITMOs which is expected to be used by compliance entities under their new GX-ETS.[15] Similarly, South Korea is also looking to allow for Article 6.2 and 6.4 ITMOs to be used in their compliance ETS, as long as projects are implemented by a Korean entity. The integration of international offsets is especially important in countries where the cost of mitigation is high, and efficiencies can be found by supporting mitigation where the marginal cost of abatement is lower. To prevent double counting, such compliance schemes intending to support NDC achievement in the implementing country should allow only credits with corresponding adjustments.

In addition to following Article 6.2 rules, buying governments may apply specific eligibility criteria with regards to allowed standards, project types and methodologies. For example, in the case of Singapore, renewable energy credits are only eligible if they are linked with energy storage systems, come from Least-Developed Countries, or use offshore wind technology, or waste-to-energy technology. Reducing Emissions from Deforestation and Forest Degradation (REDD+) credits are not eligible in countries with High Forest cover, Low Deforestation (HFLD)[16].

The total demand for carbon credits to be used in domestic compliance schemes is expected to grow with the expansion of existing markets and the development of new compliance mechanisms allowing international offsets – representing a significant opportunity for host countries such as Indonesia.

AVIATION'S DECARBONIZATION REQUIRES MORE CORSIA CREDITS

DEMAND AND SUPPLY FOR CORSIA ELIGIBLE EMISSION UNITS (EEUs) ACROSS COMPLIANCE PERIODS



Source: IATA Sustainability and Economics, from September 2023

ii. International Compliance Programmes

In addition to domestic compliance programmes, international compliance programmes such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) represents an important source of demand for carbon credits. The CORSIA scheme was agreed by the International Civil Aviation Organization's (ICAO) in 2016, as the first global market-based measure for any sector, a shift towards cooperation, instead of a "patchwork" type of national or regional regulatory initiatives. Under CORSIA, airlines must monitor and report their emissions and meet a carbon neutral growth trajectory following agreed targets. To do this, airlines will have to procure a significant number of eligible carbon credits, alongside improvements in operational and fleet efficiency, and increase their use of eligible Sustainable Aviation Fuels (SAF).

In the pilot phase, running from 2021 to 2023, and the first compliance phase, running from 2024 to 2026, participation by states is voluntary. In the second phase, beginning in 2027, participation is mandatory and will apply to international flights between all countries above a certain share of global aviation activities (with some exceptions). Despite its voluntary nature, over 126 countries have signed up for participation in the first phase running from 2024-2026, representing a significant share of global air traffic and emissions. As traffic is growing, the estimated demand for carbon credits by airlines to meet their targets ranges from 64 to 162 million tons.[17]

However, within the system, airlines cannot use any type of carbon credit to meet their obligations. ICAO has developed a stringent set of "CORSIA Emissions Unit Eligibility Criteria" that credits must meet to be used towards obligations. These criteria include provisions around additionality, permanence, sustainable development as well as double claiming.

So far, six programmes have been approved for the 2024 – 2026 compliance perio[18], including the American Carbon Registry (ACR), Architecture for REDD+ Transactions (ART), Climate Action Reserve (CAR), Global Carbon Council (GCC), The Gold Standard (GS), and Verra's Verified Carbon Standard (VCS). Under these programmes, only certain methodologies have received the final stamp of approval. In addition, to avoid double counting, carbon credits must be authorised for OIMP and eventually correspondingly adjusted by the host country to become Eligible Emissions Units (EEUs).

Existing analysis by IATA, Abatable and many others, projects that the demand for EEUs will far outweigh supply for the first phase compliance deadline by 31 January 2028[19,20,21] due to a combination of the eligibility criteria and need for host country authorisation. As a result, EEUs that can be used for CORSIA are expected to carry a significant price premium compared to other carbon credits. Until now, the only available EEUs on the market have been the Jurisdictional REDD+ ART TREES credits from Guyana, which sold for $21.70/tonne at an IATA procurement event in January 2025.[22]

As we enter the compliance phase of CORSIA, this demand provides a significant opportunity for countries to align methodologies with CORSIA EEU criteria, authorise projects for corresponding adjustments towards OIMP, and unlock international carbon financing flows towards low-carbon development.

For host countries looking to authorise credits towards CORSIA, IETA together with IATA, A6IP and the Air Transport Action Group have published a Guidance Document for Host countries concerning the issuance of CORSIA EEUs.

iii. Corporate Voluntary Offsetting

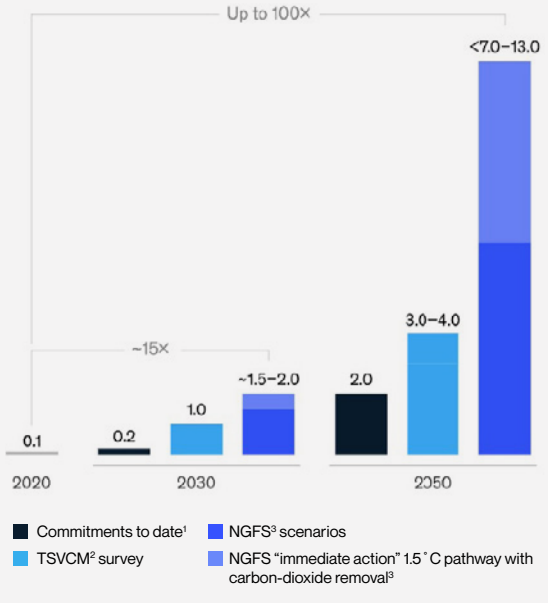
In recent years, an increasing number of corporations have started disclosing their GHG emissions, set public climate targets and made pledges to become carbon neutral. Organisations like the Science-based Targets Initiative (SBTi) has implored companies to publicly commit to net-zero targets – such that the goals of the Paris Agreement could be achieved. As of now, more than 92% of global GDP is covered by some form of net-zero target, and half of the world's largest companies have pledged to net-zero[23].

To meet their voluntary targets and support global climate action, many corporates have turned to carbon credits as a way to offset their residual emissions. Globally, programmes such as Verra's VCS and the Gold Standard has been the leading sources of credit supply. As the credits are not being used for compliance purposes at the national level, corresponding adjustments are not necessary. From being a small and relatively fringe market, the VCM grew rapidly to a peak of $2.1 billion in 2021, with optimistic projections expecting a growth of up to $1.1 trillion annually by 2050[24].

However, in recent years, the VCM has seen a turn, with the value of credits traded stumbling to $1.9 billion in 2022, and $723 million in 2023[25] due to raised concerns about the quality and integrity of credits. Journalists, consumers, activists and legislators have spurred the onset of negative media coverage of carbon credit usage, uncovering of fraudulent projects, overstated crediting benefits, and legal battles against corporations. With the rise of criticism, public scrutiny and legislation of green claims, corporations around the world have been deterred from making carbon neutrality claims, thereby suppressing the demand of credits for voluntary usage.

MANY CORPORATES HAVE TURNED TO CARBON CREDITS AS A WAY TO OFFSET THEIR RESIDUAL EMISSIONS.

VOLUNTARY DEMAND SCENARIOS FOR CARBON CREDITS (Gigatons per year)



Despite these setbacks, as mentioned above, a number of new initiatives have been formed to address the criticism raised by stakeholders. To strengthen demand, organisations such as ICVCM and ICROA are looking to improve integrity on the supply-side, whereas organisations like the Voluntary Carbon Markets Initiative (VCMI) has developed a Claims Code of Practice to support the buy-side of the market.[26] IETA has also recently published our "Guidelines for the High Integrity Use of Carbon Credits", to facilitate the use of carbon credits by companies to support net zero delivery in a manner consistent with the Paris Agreement definitions.[27] In addition, new carbon rating agencies such as Sylvera, BeZero and Calyx Global, are looking to provide another venue of due diligence on project-level quality and integrity.

Due to the recent uncertainties, corporates using credits for voluntary purposes have become more risk averse and are increasingly looking for carbon credits that follow international best practices, are aligned with CCPs and other specialised criteria such as Verra's Climate, Community & Biodiversity Standards (CCB) or ABACUS labelling.[28] Whilst recent years have seen a slowdown of the VCM, different projections still show the market growing to $7-$35 billion by 2030 and $45-$250 billion by 2050.[29]

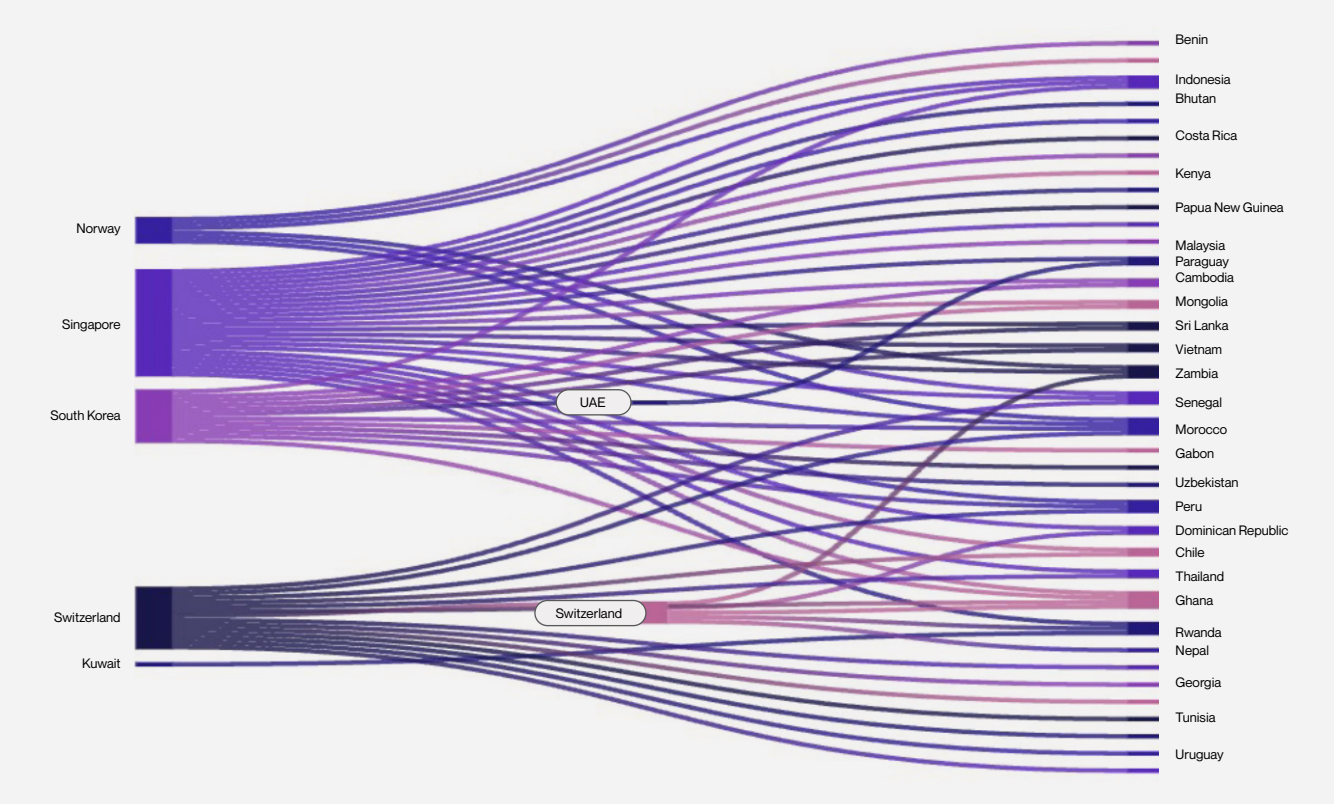
Capturing these trends in the VCM is key to unlock the full value of the market, which can helpfully be used to finance conditional parts of the NDC, with a higher degree of flexibility and without application of corresponding adjustments.

iv. Fulfilment of NDC

While demand from corporate voluntary offsetting has slowed down in recent years, the advent of Article 6 has introduced a new source of demand by countries looking to buy ITMOs to meet their NDCs under the Paris Agreement.

As shown in the diagram, buyer countries on the left - Norway, Singapore, South Korea, Switzerland and Swede[30], have engaged in numerous Article 6.2 cooperative approaches with host countries. These agreements between buyer countries and seller host countries represent potential government-to-government purchases of carbon credits from various projects. In their Biennial Transparency Reports (BTR) several buyer countries have indicated their intentions to procure ITMOs to meet their NDC targets. Some countries like Singapore (2.5 million tCO2 annually) and Japan (100 million tCO2 by 2030) have even set out clear purchasing targets, for which they are now actively sourcing. As compared to demand in the voluntary market, these sovereign buyers have shown a willingness to pay a higher price for ITMOs that meet their domestic criteria. Some of these buyers accept credits generated by independent crediting programmes (such as Verra, GS), whereas other countries have their own methodologies and programmes that project developers need to follow to tap into this demand.

Indonesia should seek to leverage these market trends to deliver a high-integrity supply of carbon credits to the global market, helping to finance the achievement of its climate targets. As seen from the various supply and demand scenarios above, certain project types (e.g. biochar) using international standards may be better suited for voluntary offsetting markets, whereas others (such as eligible AFOLU projects) may find a higher price and more stable demand if aligned with international compliance buyers such as CORSIA or sovereign country criteria. To support the achievement of Indonesia's green growth targets, a holistic carbon market framework is necessary.



THE ROLE OF JURISDICTIONAL AND PROJECT-BASED REDD+

With Indonesia being home to the third largest tropical rainforest in the world and the world's largest tropical peatlands and mangrove forests[31], the forestry sector plays a key part in the development of the country's carbon market framework. Under previous administrations, several regulations have been introduced and partnerships formed to address forest degradation and deforestation. For example, since 2010, Indonesia has had a partnership with Norway on reducing emissions from deforestation and forest degradation (REDD+) through which $216 million in results-based contributions have been channelled to the Indonesian Environment Fund (BPDLH). The government has also engaged with the World Bank's Forest Carbon Partnership Facility (FCPF) in East Kalimantan, signing an Emissions Reductions Purchase Agreement (ERPA) worth $110 million (contingent on verified emission reductions) for the jurisdictional programme. However, these partnerships still fall short of the necessary funding to meet Indonesia's targets under the FOLU Net Sink 2030 initiative,[32] which has been estimated to as much as US$12.4 billion, according to a former Indonesian government official.[33] Significant concerns have also been raised regarding benefit sharing with local communities, the amount of financing provided, social and environmental safeguards, as well as issues of Free, Prior and Informed Consent (FPIC) with Indigenous Peoples in implementation areas.[34]

At the same time, similar issues, as well as critical questions around land tenures, carbon leakage, permanence, additionality and over crediting have been raised with several of the project-based carbon crediting activities having taken place through the voluntary carbon market in Indonesia. Together with the adoption of the Paris Agreement in 2015 and need for developing countries to submit their own climate strategies, this has led to increasing calls for larger jurisdictional scale programmes and nested REDD+ approaches. In recent years, new initiatives such as the Architecture for REDD+ Transactions (ART) TREES and Verra's JNR framework have been formed to support carbon crediting from Jurisdictional REDD+ (JREDD+) programmes alongside project activities, allowing for land management on a larger scale and alignment with national baselines. The increasing interest in jurisdictional approaches, driven by Article 6 developments and multilateral funding, suggests potential for a growing role for these programmes.

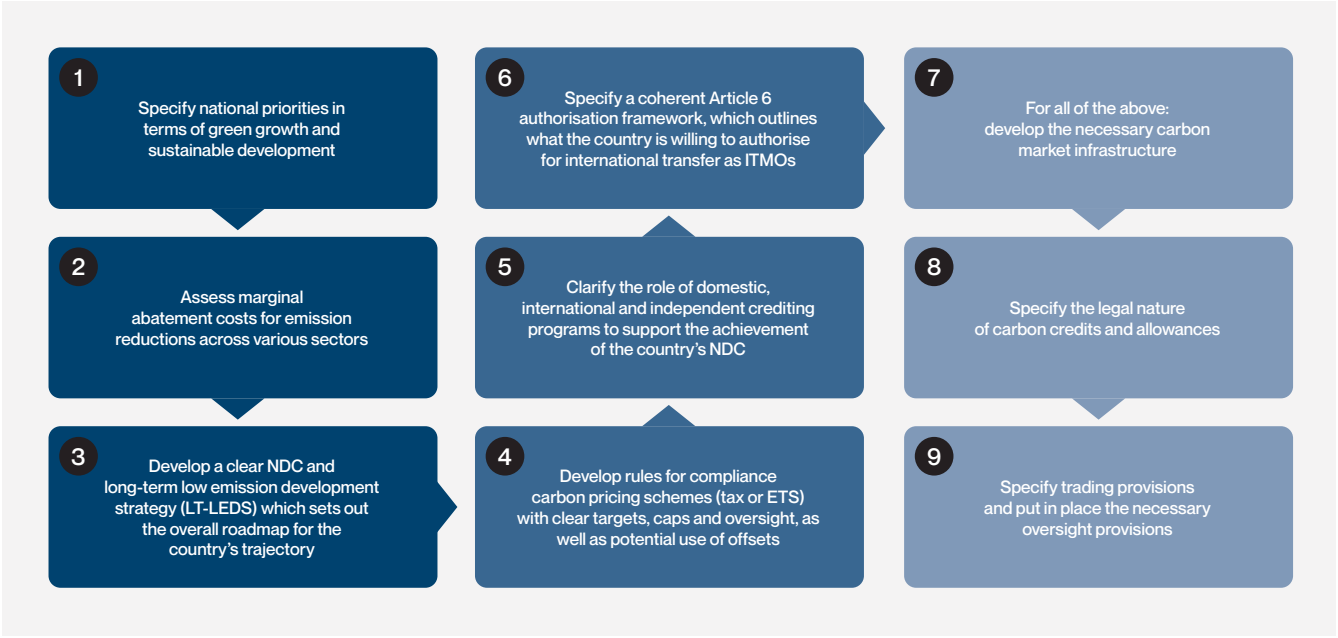
However, this does not preclude the role of project-based REDD+ approaches, which still form a vast majority of the market and have the potential to channel finance towards critical areas, fostering local engagement, building confidence in carbon markets, establishing foundational MRV processes and protecting critical ecosystems. Importantly, to address the global issue of deforestation and increase international financing, governments should look to leverage the strengths of project and jurisdictional approaches together, not decide whether one should replace the other.

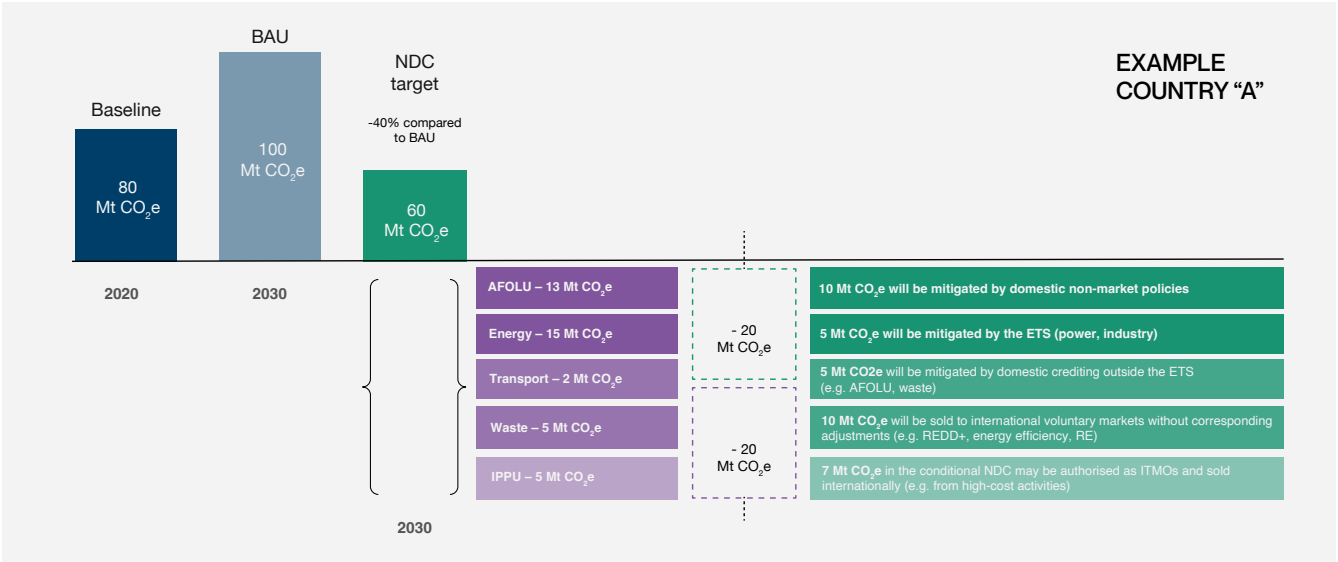
Over time, the nesting of initiatives on different scales to ensure harmonised baselines and ex-post measured results, avoiding double-issuance of credits and improving benefit sharing based on measured results will play an important role. Nesting can be designed in many ways, including where activities happening within project boundaries apply a larger jurisdictional baseline, which together with additional coordination amongst involved actors can help manage leakage, integrate accounting practices, and better monitor and enforce project safeguards across multiple projects. For more details, see IETA's discussion paper on Jurisdictional & Project Approaches.[35] This allows for a context-specific response to the complex challenge of forest loss, leveraging the strengths of both bottom-up project engagement and top-down jurisdictional frameworks to achieve greater scale, impact, and integrity in the VCM.

DEVELOPING A HOLISTIC CARBON MARKET FRAMEWORK

UNDERSTANDING THE SUPPLY AND DEMAND SIDE OF THE MARKET, GOVERNMENTS ARE ENCOURAGED TO CONSIDER THE FOLLOWING STEPS TO SET UP A CLEAR AND COMPREHENSIVE CARBON MARKET FRAMEWORK – WHICH ALLOWS FOR SUSTAINED AND HIGH-INTEGRITY GROWTH.[36]

This brief paper will not explain all steps in detail, but importantly, to exemplify the choice taken at stage 5, consider the NDC of Example Country A below. The country has made a clear distinction within its carbon market strategy which policy measures will be introduced by domestic efforts and financing to meet its NDC, what sectors may be covered by a national ETS, what projects can be credited for the domestic offset mechanism, what can be sold on the international voluntary carbon market (without corresponding adjustments) and what can be authorised as ITMOs for NDC or Other International Mitigation Purposes. This provides clarity for market participants, including project developers and financiers, and sets out a robust roadmap for how the country intends to mobilise finance utilising carbon market mechanisms towards the achievement of its NDC.





BUILDING SCALE AND INTEGRITY IN INDONESIA'S CARBON MARKET

THE INDONESIAN GOVERNMENT IS ALREADY ON TRACK TO UNLOCK THE CARBON ECONOMIC VALUE IN THE COUNTRY, THROUGH THE INTRODUCTION OF THE ETS, THE ESTABLISHMENT OF SRN, AND THE OPENING UP OF IDX CARBON TO INTERNATIONAL PARTICIPANTS.

However, importantly, the specific requirements for developers on the supply side and buyers on the demand side may need to be better integrated to allow for a robust and scaled-up market. Concretely, building scale and integrity in the market at this stage would require:

1. Alignment with international standards and best practices
2. Opening up the market for non-correspondingly adjusted credits

No.01: As highlighted in the section above, the alignment or mutual recognition between Indonesia's domestic crediting mechanism and international standards (such as Verra, Gold Standard, and others) as well as foundational integrity criteria (notably, the Core Carbon Principles), is critical to provide comfort to international corporates looking to purchase credits for voluntary purposes. Additionally, facilitating alignment with CORSIA eligibility criteria will help unlock another key source of demand for Indonesian credits – bringing much needed finance into the country.

No.02: The role of non-correspondingly adjusted credits, whether issued by independent crediting programmes, the domestic mechanism or the Article 6.4 PACM, can play a critical role in facilitating finance to underserved sectors and activities within or outside the NDC, as these units do not require authorisation and CA. Even as credits are bought and retired abroad, the mitigation outcomes underpinning those credits will stay within the country's accounting system and count towards Indonesia's NDC in accordance with the final Article 6 rules. In the previously issued Presidential Regulation 98/2021, provisions are still unclear for the process of selling such non-CA credits outside of Indonesia. This should ideally be amended and streamlined to help Indonesia unlock the full stream of carbon revenues towards the achievement of its NDC.

For each of the routes to market described above, the Indonesian government may usefully continue the tracking of projects on SRN to ensure proper accounting and transparency. For authorised and correspondingly adjusted Article 6 credits (ITMOs), to avoid overselling and ensure NDC achievement, the Indonesian government may usefully:

- Clarify and report on sector-specific NDC target achievements, setting aside specific volumes of emissions that may be authorised as ITMOs;
- Uphold and communicate a positive list of project activities that fall outside the scope of the unconditional NDC and will be eligible for Article 6 authorisation;
- Clarify and clearly communicate the process for obtaining a letter of authorisation, the responsible ministry and coordinating authority;
- Develop and submit the Initial Report to the UNFCCC, outlining the fulfilment of Article 6 participation requirements and the chosen ITMO accounting path (averaging or multi-year);[37]

If considered necessary to introduce a fee for corresponding adjustments (flat or %) or withhold ITMOs for NDC achievement, the government should carefully balance the costs associated with such provisions, as it may impact the attractiveness for international participants in the mechanism.

For Article 6.4 projects, it is important to highlight that whilst the government needs to provide an initial approval of the project before it can be registered with the UNFCCC SBM and issue any credits, it does not need to authorise the project or credits issued. Instead, as described above, the project could issue MCUs that can be sold internationally without corresponding adjustments and be used for voluntary purposes (e.g. by a corporate looking to meet their net-zero target).

For credits looking to be sold to the international market, it will be of utmost importance to reflect high-integrity criteria outlined by the ICVCM CCPs, i.e. additionality, permanence, robust quantification, sustainable development safeguards, effective governance and independent third-party validation and verification. In the forestry (FOLU) sector, the importance of avoiding leakage, addressing the risk of reversals (e.g. from fires or logging), and human rights issues are especially critical for the viability of each project and the market as a whole. Increasing rates of deforestation, cases of displacement or inadequate sharing of benefits towards local communities and indigenous peoples (IPLCs) where relevant, may risk undermining the market and have spill-over effects on the pricing of credits generated in the country, if not handled appropriately.

The Indonesian government should therefore usefully establish a robust regulatory framework that helps enhance and establish trust in the integrity of the market. This, in turn, will be able to drive higher prices, stronger demand and increased carbon financing to key sectors in the country.

CONCLUDING RECOMMENDATIONS

IN CONCLUSION, WE FULLY SUPPORT THE INDONESIAN GOVERNMENT'S STRENGTHENED EFFORTS IN BUILDING A ROBUST AND TRUSTWORTHY CARBON MARKET FRAMEWORK, WHICH CAN HELP DELIVER A LOW-CARBON ECONOMIC GROWTH TRAJECTORY FOR THE COUNTRY AND THE WORLD.

Building on the considerations raised, we summarise our key recommendations below:

1. Open the Market for Credits without Corresponding Adjustments:
The government should clearly distinguish which types of projects and credits require a Corresponding Adjustment and which do not. Non-correspondingly adjusted credits issued under the Article 6.4 PACM, independent crediting programmes or the SRN can all play a key role in attracting carbon finance for projects within and outside the NDC, ensuring mitigation outcomes remain within the country's inventory. Streamlining the process for selling non-CA credits internationally, including clarifying provisions in Presidential Regulation 98/2021, will help maximise carbon revenue potential while safeguarding NDC achievement.

2. Establish a Clear Process for Authorisation of ITMOs:
For authorised credits requiring corresponding adjustments under Article 6, the government should clarify the process for obtaining letters of authorisation, the roles of responsible ministries, and eligible project types. To unlock international financing towards projects, longer-term authorisation frameworks which support forward sales of ITMOs is critical. Outlining a positive list of activities, considering marginal abatement costs, establishing clear provisions around share of proceeds or fees for corresponding adjustments, and reporting to the UNFCCC how such cooperation helps Indonesia meet its NDC and LT-LEDS is key.

3. Define the Role of Independent Crediting Programmes:
Independent crediting programmes have a crucial role to play in aligning with international standards, enhancing market integrity, and ensuring investor confidence. Clarifying how these programmes interact with Indonesia's domestic crediting mechanism will help harmonise the market and attract international corporate buyers, particularly those seeking credits for voluntary purposes. Ensuring that credits meet high-integrity standards, such as the ICVCM's Core Carbon Principles, will further enhance credibility and demand.

4. Clarify the Purpose of the Domestic Crediting Mechanism:
The domestic mechanism should have a clear and defined purpose. It could primarily serve as a source of offsets for Indonesia's national ETS or align with international standards in the longer term to enable broader participation in markets such as CORSIA. Linking to the ETS would provide a clear route for driving domestic demand whilst ensuring national control, whereas harmonisation with international standards and CORSIA eligibility criteria may over time deliver a higher price per credit but provide less flexibility for adaptation to local needs and considerations.

5. Scale the Market Responsibly While Protecting Integrity:
While it is essential to activate the international market and unlock carbon financing, this must be done with due care to avoid undermining long-term market trust. Learning from historical experiences and global best practices will be crucial to avoid pitfalls. Rushed or poorly coordinated regulatory actions could harm the market's long-term viability, whereas a well-regulated market, underpinned by an ambitious NDC, robust standards and clear sustainability safeguards, will help attract higher prices, stronger demand, and unlock sustainable investment in key sectors.

IETA, through its Business Partnership for Market Implementation (B-PMI), is excited to continue strengthening our collaboration with the Indonesian government and relevant institutions to support the establishment of a credible, high-integrity carbon market of scale. We look forward to working with the new administration and stand ready to respond to any further questions.

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ABOUT IETA'S B-PMI

IETA's Business Partnership for Market Implementation (B-PMI) aims to support the emergence of a new global carbon pricing architecture where different domestic and international markets co-exist in an integrated and interoperable ecosystem. IETA's B-PMI is building on the successes of the Partnership for Market Readiness (PMR) and aims to complement the World Bank's Partnership for Market Implementation (PMI) in building capacity from a private-sector perspective. With more than 25 years as market champion, IETA is ideally positioned to promote common understanding with local businesses in countries with emerging carbon market regulations, share best practices and assist in the market design and policy development processes. The development of this document has been kindly supported by the sponsors of B-PMI, which are available here: https://www.ieta.org/initiatives/b-pmi/

ENDNOTES

(1) The UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) has identified 17 mega-diverse countries which are home to 70% of the world's terrestrial biological diversity. (2) Ecosystem services have been defined by the 2004 Millennium Ecosystem Assessment. (3) Global Forest Watch (4) Global Carbon Atlas (5) NDC Targets include reducing greenhouse gas (GHG) emissions by 31.89% (unconditional) and 43.2% (conditional) by 2030 compared to BAU. They have also announced a plan for "FOLU Net-Sink" by 2030. (6) https://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html (7) Berkeley Voluntary Registry Offsets Database (8) Reducing emissions from deforestation and forest degradation + sustainable management of forests and conservation and enhancement of forest carbon stocks (9) Improved forest management (10) E.g. Pres. Reg. 98/2021 (11) https://www.pwc.com/id/en/publications/esg/indonesia-carbon-market-white-paper.pdf (12) Puro.earth (2025) (13) https://www.ieta.org/resources/reports/article-6-in-action-business-insights-implementation-trends/ (14) World Bank (2024), State and Trends of Carbon Pricing (15) The JCM is a system to cooperate with developing countries for reducing greenhouse gas emissions, under which the amount of emission reduction is assessed as a contribution by both partner countries and Japan. (16) https://www.carbonmarkets-cooperation.gov.sg/environmental-integrity/overall-eligibility-list/ (17) https://www.iata.org/en/iata-repository/publications/economic-reports/aviations-decarbonization-requires-more-corsia-credits/ (18) For more details on the scope of eligibility, eligibility timeframes, eligible unit dates, refer to the ICAO document. (19) Abatable, 2024, CORSIA carbon credit demand expected to outstrip supply by 2030 – Abatable analysis (20) IATA, 2024, Aviation's decarbonization requires more CORSIA credits (21) MSCI, 2024, CORSIA: Costs and Implications for the Airline Industry (22) IATA, 2025, https://www.iata.org/en/pressroom/2025-releases/2025-01-22-01/ (23) https://zerotracker.net/ (24) BloombergNEF's (BNEF's) Long-Term Carbon Offsets Outlook 2024 (25) Forest Trends' Ecosystem Marketplace. 2024. State of the Voluntary Carbon Market 2024. (26) https://vcmintegrity.org/vcmi-claims-code-of-practice/ (27) IETA, 2024, https://www.ieta.org/resources/reports/guidelines-for-high-integrity-use-of-carbon-credits/ (28) Verra, 2024, https://verra.org/verra-launches-abacus-label-for-ecosystem-restoration-and-reforestation-credits/ (29) MSCI, 2025, Frozen Carbon Credit Market May Thaw as 2030 Gets Closer (30) Sweden and UAE are both buyer and seller countries (31) World Bank, 2024, https://www.worldbank.org/en/country/indonesia/overview (32) MOEF/KLHK, 2023, https://www.menlhk.go.id/cadmin/uploads/PHOTO_BOOK_FOLU_NET_SINK_Indonesia_s_Climate_Actions_Towards_2030_a3d4f1fa43.pdf (33) Antara, 2023 https://en.antaranews.com/news/272856/need-rp204-trillion-to-meet-folu-net-sink-target-govt (34) Forest Peoples Programme, 2024, https://www.forestpeoples.org/en/report/world-bank-redd-east-kalimantan (35) IETA, 2023, https://ieta.b-cdn.net/wp-content/uploads/2023/11/IETA-2023-NCS-Report.pdf (36) IETA, 2024 (37) These Article 6 considerations are further explained in the 2023 IETA Paper: How Governments Can Implement NDCs Cooperatively and Encourage Private Sector Investment.

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