

Carbon Markets Update – Q4 2022

December 2022



Susy Bullock
Partner, London
SBullock@gibsondunn.com



Abbey Hudson
Partner, Los Angeles
AHudson@gibsondunn.com



Brad Roach
Partner, Singapore
BRoach@gibsondunn.com



Lena Sandberg
Partner, Brussels
LSandberg@gibsondunn.com



Jeffrey L. Steiner
Partner, Washington D.C.
JSteiner@gibsondunn.com

Over the last few years, market conditions have changed so dramatically that today, no matter its products or services, every company is also in the environmental business. Prompted by the real-world impacts of climate change, many consumers now demand environmental action from corporations and prefer to buy products marketed as environmentally friendly. Many companies therefore market their products as “net-zero” or “carbon neutral”—and make pledges to be, as a business, “net-zero” by a certain date. In support of these pledges, companies often buy carbon credits from voluntary carbon markets to offset or mitigate their carbon emissions voluntarily.

Voluntary carbon markets present opportunity, but also create financial, regulatory, and litigation risks. Because the voluntary markets are often fragmented, suffer from a lack of transparency and, above all, are not subject to any statutory common standards, there is a lack of trust in the credits issued under these system which also limits the tradability of the credits.

This quarterly newsletter aggregates the knowledge and experience of Gibson Dunn attorneys around the globe as we help our clients across all sectors navigate the ever-changing landscape of voluntary carbon markets.

INTERNATIONAL UPDATES

Independent Governance Bodies

Four of the most well-established voluntary certification organizations are (i) the Verified Carbon Standard (VCS), established in 2005 by Verra (an NGO); (ii) the Gold Standard, established in 2003 by the World Wildlife Fund; (iii) the Climate Action Reserve (CAR), established in 2008 by the State of California; and (iv) the Carbon Offsetting Reduction Scheme for International Aviation (CORSA), established in 2016 by the International Civil Aviation Organization (ICAO), a specialized agency of the United Nations. Under programs established by these organizations, companies invest in voluntary emission reduction projects of various types (renewable energy plants, forests, livestock, etc.) and receive credits which correspond to a certain volume of carbon removed.

Precisely because the rules for issuing credits by these organizations vary, two noteworthy US-based independent governance bodies have attempted to develop higher-quality standards for the credits: the Integrity Council for the Voluntary Carbon Market (ICVCM) is an independent governance body established by the Taskforce on Scaling Voluntary Carbon Markets, which, in turn, was established by the US-based Institute of International Finance, an association representing the finance sector worldwide backed by 250 members



Gibson Dunn ranked Top Tier and Abbey Hudson named Next Generation Lawyer for Industry Focus – Environment – Litigation.

(including carbon credits traders and financial service providers); and the Voluntary Carbon Markets Integrity Initiative (VCMI), a consortium led by the Meridian Institute (a non-profit consultancy specializing in multi stakeholder processes). Both released draft guidance this year.

On July 27, 2022, ICVCM released a draft of its Core Carbon Principles (CCPs).¹ Made up of ten principles, the CCPs seek to establish threshold standards for high-quality carbon credits that create real, additional and verifiable climate impact.² The CCPs will be applied by carbon-crediting organizations, such as the Verified Carbon Standard.³ These principles underwent public comment and are set to be issued by the end of this year.⁴

On June 7, 2022, VCMI released a draft of its Claims Code of Practice. The VCMI Claims Code of Practice seeks to (1) provide clear guidance to companies and other nonstate actors on when they can credibly make voluntary use of carbon credits as part of their net zero commitments and (2) ensure the credibility of claims made by companies and other private nonstate actors regarding this use of carbon credits.⁵ Companies will be able to use VCMI Claims Code of Practice to make enterprise-wide claims or brand, product, and service-level claims. By establishing this guidance, VCMI hopes not only to allow companies and individuals to make credible use of voluntary carbon credits, but also to allow other stakeholders to judge the credibility of a company’s climate achievements.⁶ Companies will be able to use VCMI Claims Code of Practice to make enterprise-wide claims or brand, product and service-level claims.

2022 United Nations Climate Change Conference

UN Greenwashing Report

In November, during the 2022 United Nations Climate Change Conference (also known as COP27), the UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities issued its report on corporate net-zero pledges.⁷ The report is largely seen as targeting “greenwashing”—the practice of making an organization/entity appear more environmentally friendly (or less environmentally damaging) than it really is.

The Expert Group’s report outlines 10 recommendations to make net-zero pledges credible, and sets definitions for what it actually means to be “net-zero.” On the subject of carbon credits and offsets, the report concludes that:

- Corporations cannot claim to be net-zero while building or investing in new fossil fuel supplies .
- “Cheap credits that often lack integrity” cannot be a substitute for cutting a corporation’s own emissions. Credits should only be used “above and beyond” efforts to meet a 1.5 C goal, as a means to increase financing and to help decarbonize developing countries.
- Corporations should move from voluntary initiatives to regulated net-zero requirements to level the economic playing field and avoid greenwashing.

- At the minimum, a high-quality carbon credit should meet two criteria: (1) additionality (that the emission reduction would not have happened otherwise) and (2) permanence (that the emission reduction will not disappear). These credits should be associated with a credible standard-setting organization and should be verified.

Carbon Credit Rulemaking

COP27 established a new kind of carbon credit—the “mitigation contribution.” These credits are generated by actual reductions in emission levels—not by offsetting—and may be counted towards either the host country’s Paris goals or as a “contribution claim” for financing mitigation efforts. This development, acknowledging and formalizing a division between credits that are designed to offset and those that are designed to truly mitigate, echoes debates within organizations in the voluntary market that are seeking to establish frameworks for more verifiable, higher-quality credits. This dichotomy also reflects an emerging theme from credit-related litigation: companies that treat “offsetting” as synonymous with “mitigating” in their net-zero or carbon neutrality claims, supported by use of carbon credits, may face a greater risk of consumer complaints.



Energy Transition Accelerator Program Proposal

US Climate Envoy John Kerry used COP27 to announce the Energy Transition Accelerator (ETA)—a plan to allow developing countries to sell carbon credits to fund decarbonization of their energy sectors.⁸ Initial reactions from some groups questioned whether this would be another avenue for potential corporate “greenwashing.”⁹

Kerry countered these concerns by emphasizing that the ETA would base its credits on verified emissions reductions. ETA planners are also reportedly considering participation from companies with pre-2050 net-zero commitments that are anchored by science-based targets. Working with the Rockefeller Foundation and the Bezos Earth Fund, the US hopes to have the ETA operational by COP28.

Africa Carbon Markets Initiative (ACMI)

African leaders used COP27 to announce an effort to promote African generation of carbon credits, harnessing more climate financing for the continent. The ACMI plans to work with credit buyers and financiers to make advanced commitments for African carbon credits, creating a market demand for existing and future credits—and enabling the continent to unlock its carbon credit potential. ACMI also hopes to develop voluntary carbon markets in Africa, bringing stakeholders together.

Credits Lawsuits in the United States

The US still only has limited regional compliance carbon credit markets, but many corporations are still making voluntary carbon-related commitments, which has led to an increase in US litigation. Lawsuits over corporate use of voluntary carbon credits highlights an essential tension in the voluntary carbon market: the more that a corporation relies on credits to offset emissions, and advertises itself as carbon neutral or “net-zero” based on these credits, the more the corporation must be prepared to prove that their credits actually achieve the advertised “net-zero” results. If the corporation cannot, it may be accused of “greenwashing”—or, more actionably, fraud and violation of other consumer- and shareholder-protection laws.

Two recent cases of note are described below:

Dakus v. Koninklijke Luchtvaart Maatschappij (filed September 2022 in the U.S. District Court for the Southern District of New York. This case is in initial pre-trial management and no substantive motions have been filed.)

A consumer sued KLM Royal Dutch Airlines, seeking to bring a class action complaint against the carrier for its allegedly fraudulent use of carbon offset credits to enable travelers to offset the environmental impact of their flights. KLM's optional offset program allows consumers to purchase carbon credits for tree planting, and tells consumers that they can "Fly Responsibly" and help to achieve "the targets defined in the Paris Climate Agreement."¹⁰ KLM's website states that it purchases its reforestation carbon credits from FORLIANCE.¹¹

The suit alleges that it is false to assert that purchasing offsets negates the environmental consequences of flying, in large part because the offsets allegedly do nothing to address the non-CO₂ greenhouse gases associated with commercial aviation. The suit also questions the inherent worth of tree-planting offsets, as trees only store CO₂ temporarily—and a tree could die at any time.

Dorris v. Danone Waters of America (filed October 2022 in the U.S. District Court for the Southern District of New York. The plaintiff is planning to file an amended complaint, with a due date of January 9th, 2023.)

This class action suit alleges that Evian's labeling advertises its products as carbon neutral, but that consumers will not understand that this is achieved through Evian's purchase of carbon credits to offset their emissions. The filing claims that most consumer will read "carbon neutral" as "carbon-free"—and that the purchased credits don't actually work to make Evian's products carbon neutral. The lawsuit questions the validity of Evian's practice of offsetting emissions through the Livelihood Carbon Fund (LCF), which was co-founded by Evian's corporate parent. This project funds ecosystem restoration, agroforestry, and rural energy projects with a joint goal of combatting climate change and improving rural food security. LCF appears to be a true offset project—not engaging in the kinds of mitigation activities that COP27 endorsed.¹²

This suit highlights the risk inherent to using the language of neutrality without making it clear that "neutral" means that emissions have been offset, not eliminated.

European Union "Fit for 55" Updates

On July 14, 2021, the European Commission (EC) published a package of new proposals, named "Fit for 55," aimed at achieving the new European Union (EU) greenhouse gas emissions reduction goal of 55% compared to 1990 emissions levels, including the incorporation of aviation credits into the EU Emissions Trading System (EU ETS). The Fit for 55 package also aimed to establish a certification framework for carbon removals, and on November 30, 2022, the EU proposed a new Regulation¹³ establishing an EU certification framework for carbon removals with the aim of certifying green claims from carbon removals using a standard methodology throughout the EU and thereby countering "greenwashing."¹⁴ Under the new proposal, only carbon removals that meet the quantification, additionality, long-term storage and sustainability criteria may be certified. The carbon removal benefit must fulfil the criteria of (i) "quantification," i.e., that the benefit can be quantified; (ii) "additionality," meaning that the extent to which the carbon removal goes beyond Union and national statutory requirements is identified; (iii) "long-term storage of carbon," meaning that there is a monitoring mechanism entailing that risks of any carbon release is mitigated and that that the release of the stored carbon is sanctioned and entail possibilities for legal redress; and (iv) "sustainability," i.e., that the carbon removal activity is neutral or generates co-benefits (i.e., additional benefits) for climate change; sustainable use and protection of water and marine resources; transition to a circular economy; pollution prevention and control; and protection and restoration of biodiversity and ecosystems. Certification is carried out by certification bodies established nationally by the Member States.

While the EU ETS, which is the EU's cap and trade program, has not, since its introduction in 2005, recognized voluntary carbon offsets, in July 2021, the EC proposed to allow Emission Units (credits) issued under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) program to be submitted as credits under the EU ETS.¹⁵ CORSA aims at ensuring that net CO₂ emissions from

international aviation in ICAO member states from 2020 onwards will remain at the same level. While CORSIA will remain a voluntary certification program until 2027, it will become compulsory thereafter. Commercial airlines and other aircraft operators may apply for receiving Emission Units for having invested in emission reduction projects (such as forests and renewable energy generation plants) in order to offset their CO2 emission increase beyond their 2020 levels.

Asia

Fragmented Market

Rich in natural resources, Southeast Asia has enormous potential for nature-based solutions to create offsets for voluntary carbon markets, like reforestation, afforestation, forest conservation and peatland and mangrove restoration. According to research conducted by the Centre for Nature-based Climate Solutions in Singapore, *“the Asia Pacific region has the highest concentration of the most profitable carbon projects, which can generate returns on investment at close to US\$25 billion per year.”*¹⁶

According to the World Bank,¹⁷ as of 2020, Malaysia has about 191,140 km² of forest area, while Indonesia has about 921,332 km² of forest area. Both countries are home to REDD+ (Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon

stocks in developing countries) projects. For example, the Rimba Raya, which is located in Kalimantan, Indonesia, and developed and operated by InfiniteEARTH, a Hong Kong-based for-profit project development company,¹⁸ is one of the largest REDD+ projects in the world—it is anticipated to avoid nearly 130 million tonnes of carbon emissions over its 30-year project timeline.¹⁹ With the vast majority of Indonesia’s greenhouse gas emissions arising from land-use change, forest degradation and deforestation, we have noticed a focus on agreements to conserve existing forests or regenerate logged forests in the region. Indonesia and Norway signed a memorandum of understanding in September 2022 to support Indonesia’s efforts to reduce greenhouse gas emissions from forestry and other land use. Norway is reportedly expected to make results-based financial contributions in the millions based on verified emission reductions in Indonesia pursuant to a separate contribution agreement signed in October 2022, with the first contribution of US\$56 million made for independently verified emission reductions of 11.2 million tonnes from Indonesia’s reduced deforestation and forest degradation in the forest year 2016/2017.²⁰

Voluntary carbon credits in Asia are at an early stage of development and largely exist outside any defined statutory framework. Without clear regulations, offset credits may be perceived to lack integrity due to the fragmented nature of the market and the varying standards that are used to generate such credits. While private initiatives to establish threshold



quality standards for high-quality carbon credits have been undertaken by organizations such as the ICVCM (discussed above in this newsletter), there is limited government regulation. Some newspapers, such as The Guardian, have also raised concerns about the quality of carbon credits generated from forest protection schemes: “There are concerns about the inherent problem of looking into the future and predicting which trees would and would not have been felled, and of proving additionality – that the project itself made a difference to the outcome....”²¹

Concerns have also been expressed over the impact of offset schemes on local communities and level of consultation. A recent example is the Nature Conservation Agreement signed by the Sabah State Government in October 2021, which is reported to provide for carbon trading and monetizing other non-carbon and natural capital from 2 million hectares (an area as big as Colombia) of Sabah’s forest. Under the agreement, Hoch Standard, a Singapore company, will reportedly control Sabah’s forest areas for 100 years and is entitled to 30% of the revenue from the sale of Sabah’s carbon credits.²² The agreement has been criticized by the indigenous communities and other NGOs for a lack of prior consultation and execution details,²³ and the opacity of the agreement resulted in a court order for discovery (which the High Court in Kota Kinabalu upheld in March 2022).²⁴ Consultation with the indigenous communities is required under Articles 19 and 32(2) of the United Nations Declaration on the Rights of Indigenous Peoples.²⁵ These Articles provide that states shall “*consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent*” before adopting and implementing legislative or administrative measures that may affect them, and before approving any project affecting their lands or territories and other resources. In light of such reports, the State Attorney-General of Sabah subsequently issued a press statement in February 2022 expressly declaring that “[n]o carbon trading will be agreed to nor implemented without the free prior informed consent of Native Communities whose customary rights may be impacted by such programs.”²⁶ The press statement also clarified that the Nature Conservation

Agreement was signed on the condition that it was a non-binding framework agreement that was subject to, among others, the “*identification and obtaining of free prior informed consent from all affected Native Communities.*”

Select Southeast Asian Developments

Presently, most Asian jurisdictions do not have statutory frameworks for voluntary carbon markets.

Indonesia is one of the first countries to actively intervene in the voluntary market by temporarily suspending the issue of 2021 vintages²⁷ to domestic carbon projects in April 2022, which contributed to a drop in REDD+ retirements due to a fall in supply. Indonesia is reportedly the world’s fifth-largest supplier of voluntary credits, after India, China, the US and Brazil,²⁸ but Indonesia has not issued any credits in 2022.²⁹ According to a source of S&P Global Commodity Insights, the Indonesian government sent a letter to voluntary market standards organizations, including Verra, stating that its permission would be needed for issuances of credits 2021 onwards.³⁰ This increased government oversight over forestry credits in Indonesia increases regulatory risk to voluntary carbon markets as it may delay projects that are pending third-party certification and highlights that some countries may not be comfortable with international companies (international NGOs and their national affiliates are most actively involved in REDD+ project development in Indonesia)³¹ using their resources to generate offsets that are used by companies to offset emissions outside the country.

The fate of carbon offset projects in Indonesia faces more regulatory uncertainty in light of a recent regulation on domestic and international carbon trading (Ministry of Environment and Forestry Regulation No. 21 of 2022 concerning the Procedures for the Application of Carbon Economic Value) adopted in October 2022. The new carbon trading regulation requires each targeted sector to help meet Indonesia’s commitment under the Paris Agreement before applications may be made for offset sales to Indonesian or foreign buyers, and a certain percentage of credits generated by each project to be withheld in a government reserve (including 10-20% for international offsets).³² Carbon tax (at a rate of approximately US\$2 per

tonne) was supposed to be progressively rolled out in Indonesia starting on April 1, 2022, but the carbon tax has since been postponed to 2025 according to the Coordinating Minister for Economic Affairs.³³ The carbon trading regulation is pending clarification through implementing regulations.

Singapore, the first Southeast Asian nation to introduce a carbon tax in 2019 (at S\$5, or approximately US\$3.70, per tonne until 2023), has ambitions to become the regional hub for carbon services and trading. In a few years, Singapore will lead Asia in terms of carbon prices.³⁴ Singapore does not regulate the voluntary market. Voluntary carbon credits may be traded through sale and purchase agreements or on global voluntary exchange platforms, such as Air Carbon Exchange and Climate Impact X. Under the compliance carbon market in Singapore, business facilities in Singapore which emit greenhouse gas above certain thresholds³⁵ have to register under the Carbon Pricing Act 2018 (CPA 2018) and pay carbon tax by surrendering fixed-price carbon credits bought from Singapore's National Environment Agency.³⁶ The Carbon Pricing (Amendment) Bill passed in November 2022 introduced changes to the CPA 2018, including an international carbon credits framework (ICC framework) to enable carbon tax-liable facilities to purchase and surrender high-quality international carbon credits to offset up to a limit of taxable emissions to be prescribed in subsidiary legislation.³⁷ This limit is currently intended to be 5% of taxable emissions from 2024.³⁸ This ICC framework only applies to companies that are liable for carbon tax and are surrendering credits to offset carbon tax liabilities—it does not apply to the voluntary carbon market. Singapore's Minister for Sustainability and the Environment, Grace Fu, has commented in Parliament that the voluntary marketplace is expected to be shaped by leading international and corporate initiatives (such as the ICVCM and VCMI (discussed above in this newsletter)), which “*develop guidelines that promote the trading of voluntary carbon credits with high environmental integrity.*”³⁹ Singapore will be strict on the quality of credits to be used to offset emissions, and the National Environment Agency has signed memorandums of understanding with Verra and Gold Standard to enable companies to acquire and surrender eligible ICC from projects registered with these programmes to offset carbon tax liabilities.⁴⁰

Malaysia ranks seventh globally in potential low-cost nature-based solutions, according to a McKinsey report, but trails far behind Indonesia, Cambodia and Thailand in issued carbon credits.⁴¹ Malaysia has yet to enact any federal regulations governing the trading of carbon credits, but the Government of Malaysia recognizes the impact of climate change and the importance of emissions reductions. The implementation of the voluntary carbon market is one of the main measures under Malaysia's Budget Plan 2022.⁴² The Sarawak State Government passed the Forests (Amendment) Bill 2022 earlier this year, which contains a provision that empowers the Sarawak State Government to make regulations on matters relating to carbon or greenhouse gas stocks, carbon credits units and carbon trading. Similar to developments in Indonesia, Bursa Malaysia, the stock exchange of Malaysia, is expected to launch a voluntary carbon market exchange in late 2022, which will adopt the Verified Carbon Standard.⁴³ There is no carbon tax in Malaysia yet, but the government is considering introducing a carbon tax regime.⁴⁴

Endnotes

1. The Core Carbon Principles, THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET, <https://icvcm.org/the-core-carbon-principles/> (last visited Dec. 5, 2022).
2. *Core Carbon Principles, Assessment Framework and Assessment Procedure*, THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET, 11 (July 2022), available at <https://tinyurl.com/nhsyae7x>.
3. *Id.* at 12.
4. The Core Carbon Principles, THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET, <https://icvcm.org/the-core-carbon-principles/> (last visited Dec. 5, 2022).
5. *Provisional Claims Code of Practice*, VOLUNTARY CARBON MARKETS INTEGRITY INITIATIVE, 13 (June 7, 2022), available at <https://tinyurl.com/34rd4p3x>.
6. *Id.*
7. UNITED NATIONS' HIGH-LEVEL EXPERT GROUP ON THE NET ZERO EMISSIONS COMMITMENTS OF NON-STATE ENTITIES, INTEGRITY MATTERS: NET ZERO COMMITMENTS BY BUSINESSES, FINANCIAL INSTITUTIONS, CITIES AND REGIONS (2022), https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf?_gl=1*11vunvg*_ga*MjEyMjkxMjU5LjE2NjgwMjczNTg.*_ga_TK9BQL5X7Z*MTY2ODAyNzM1OC4xLjAuMTY2ODAyNzM1OC4wLjAuMA.
8. Michael Ball, Cop 27: US plans GHG credit program to help countries, ARGUS (Nov. 9, 2022), <https://www.argusmedia.com/en/news/2389397-cop-27-us-plans-ghg-credit-program-to-help-countries>.
9. Michael Sheldrick, Kerry's Carbon Market Proposal Needs More Scrutiny Before It's Hailed A Climate Change Breakthrough, FORBES (Nov. 11, 2022, 1:53pm), <https://www.forbes.com/sites/globalcitizen/2022/11/11/kerrys-carbon-market-proposal-needs-more-scrutiny-before-its-hailed-a-climate-change-breakthrough/?sh=35fb2d3e4b23>.
10. According to a report entitled "*Scoping voluntary corporate climate action in the European aviation sector*" (Oct. 10, 2022) prepared by Öko-Institut for Carbon Market Watch (<https://carbonmarketwatch.org/wp-content/uploads/2022/10/Scoping-voluntary-corporate-climate-action-in-the-European-aviation-sector.pdf>), the largest airline operators in the EU facilitate the offsetting of emissions by their employee and passenger flights. This includes easyJet, Ryanair, Lufthansa, British Airways, Air France, KLM, Wizz Air and SAS Airlines, which account for around 65% of verified EU ETS emissions for the aviation sector, including the emissions of their airline groups (i.e., Lufthansa Group, IAG and Air France-KLM), and which were selected for assessment in the study. The report found that nearly all of the airlines assessed relied upon relatively cheap forestry projects in developing countries and raised a serious concern that "*the promotion of 'carbon neutral' flying via the purchase of carbon credits only encourages further growth in air travel at a time when we should, in the short term, be reducing demand until more sustainable forms of aviation become available.*" Despite increased criticism that voluntary offsetting schemes are insufficient to offset airlines emissions, certain airlines and industry players have introduced or expanded the scope of emissions offset programs. In September 2022, SMBC Aviation Capital, the world's second largest aircraft leasing firm, announced that it would start offering its airline customers carbon credits in its leasing contracts to help them execute on their CORSIA commitments (SMBC Aviation Capital launches sector-leading sustainability solution for airlines, Press Release by SMBC Aviation Capital (Sep. 20, 2022), <https://www.smbc.aero/>

[news/2022/smbc-aviation-capital-launches-sector-leading-sustainability-solution-airlines](#)). In November 2022, British Airways announced an additional means for its passengers to offset their emissions—purchasing carbon removal credits in addition to existing options of verified carbon offsets and sustainable aviation fuel (British Airways Enables Customers to Purchase Carbon Removal Credits, Offering Them Even More Ways to Address Their Carbon Footprint, Press Release by British Airways (Nov. 23, 2022), <https://mediacentre.britishairways.com/news/23112022/british-airways-enables-customers-to-purchase-carbon-removal-credits-offering-them-even-more-ways-to-address-their-carbon-footprint/>).

11. *Reforestation*, KLM.NL, <https://www.klm.nl/en/information/sustainability/compensate-co2-emissions> (accessed on Dec. 12, 2022).
12. *Carbon Compensation: Yes, But What Kind of Compensation? THE LIVELIHOODS FUNDS POINT OF VIEW*, LIVELIHOODS.EU (Jan. 30, 2020), <https://livihoods.eu/carbon-compensation-livihoods-point-of-view/>.
13. *Proposal for a Regulation of the European Parliament and of the Council establishing a Union certification framework for carbon removals*, https://climate.ec.europa.eu/system/files/2022-11/Proposal_for_a_Regulation_establishing_a_Union_certification_framework_for_carbon_removals.pdf.
14. *European Green Deal: Commission proposes certification of carbon removals to help reach net zero emissions*, Press Release by the European Commission (Nov. 30, 2022), https://ec.europa.eu/commission/presscorner/detail/en/IP_22_7156.
15. *ETS aviation: Council and Parliament strike provisional deal to reduce flight emissions*, Press Release by the Council of the European Union (Dec. 7, 2022), available at: <https://www.consilium.europa.eu/en/press/press-releases/2022/12/07/ets-aviation-council-and-parliament-strike-provisional-deal-to-reduce-flight-emissions/>.
16. *NUS to lead S\$15 million research project to improve the credibility of nature-based carbon projects in Southeast Asia*, Press Release by National University of Singapore (Nov. 11, 2022), <https://news.nus.edu.sg/nus-to-lead-s15-million-research-project-to-improve-the-credibility-of-nature-based-carbon-projects-in-southeast-asia/>.
17. *Forest area (% of land area)*, The World Bank, <https://data.worldbank.org/indicator/AG.LND.FRST.ZS> (accessed on Dec. 8, 2022).
18. *What is REDD+?*, Rimba Raya Biodiversity Reserve, <https://rimba-raya.com/redd-success-story/> (accessed on Dec. 7, 2022).
19. *Carbon Streaming Announces Carbon Credit Stream Agreement on the Rimba Raya Biodiversity Reserve and Strategic Partnership With Infinite-EARTH Founders*, Press Release by Carbon Streaming Corporation (Aug. 3, 2021), <https://www.businesswire.com/news/home/20210803005415/en/Carbon-Streaming-Announces-Carbon-Credit-Stream-Agreement-on-the-Rimba-Raya-Biodiversity-Reserve-and-Strategic-Partnership-With-Infinite-EARTH-Founders>.
20. *Indonesia and Norway plan to launch new pact to curb deforestation*, Reuters (Sep. 12, 2022), <https://www.reuters.com/business/environment/indonesia-norway-plan-launch-new-pact-curb-deforestation-2022-09-12/>; and *Contribution Agreement Concluded: Norway Delivers US\$ 56 Million In Results-Based Support For Indonesia's FOLU Net Sink 2030 Climate Goals*, Press Release by the Norwegian Government (Oct. 19, 2022), [https://www.regjeringen.no/no/aktuelt/norway-delivers-us\\$-56-million-in-results-based-support-for-indonesias-folu-net-sink-2030-climate-goals/id2936675/#:~:text=The%20Contribution%20Agreement%2C%20following%20the,Indonesian%20Environment%20Fund%20\(IEF\).](https://www.regjeringen.no/no/aktuelt/norway-delivers-us$-56-million-in-results-based-support-for-indonesias-folu-net-sink-2030-climate-goals/id2936675/#:~:text=The%20Contribution%20Agreement%2C%20following%20the,Indonesian%20Environment%20Fund%20(IEF).)

21. *Carbon offsets used by major airlines based on flawed system*, warn experts, The Guardian (May 4, 2021), <https://www.theguardian.com/environment/2021/may/04/carbon-offsets-used-by-major-airlines-based-on-flawed-system-warn-experts>.
22. *Sabah 100-year carbon trading deal: Controversy as indigenous communities bemoan lack of consultation*, details, Channel NewsAsia (Mar. 15, 2022), <https://www.channelnewsasia.com/asia/sabah-nature-conservation-agreement-carbon-trading-hoch-standard-singapore-2562841>.
23. *Id.*
24. *NCA: KK High Court dismiss the bid by Hoch*, Daily Express (Mar. 30, 2022), <https://www.dailyexpress.com.my/news/189751/nca-kk-high-court-dismiss-the-bid-by-hoch/>.
25. UNITED NATIONS DECLARATION ON THE RIGHTS OF INDIGENOUS PEOPLES (2007), https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf. Malaysia voted in favor of the declaration.
26. *Press Statement of the State Attorney-General's Chambers of Sabah Regarding the Proposed Nature Conservation Agreement*, State Attorney-General's Chambers (Feb. 9, 2022), <https://www.documentcloud.org/documents/21201880-press-statement-sagc-9222>.
27. *Each credit has a specific vintage year*, which is the year in which the emission reduction occurred, and a specific issuance date, which is when the credit is available on the market. Some projects will issue offsets every year while others in multi-year increments.
28. *Voluntary Carbon Market Dashboard*, Climate Focus, <https://app.powerbi.com/>
29. *ANALYSIS: Overwhelming loss of market confidence in REDD in 2022 as uncertainty bites demand*, Carbon Pulse (Nov. 22, 2022), <https://carbon-pulse.com/181420/>.
30. *Carbon credit issuances from Indonesia on hold*, developers await clarity, S&P Global Commodity Insights (Apr. 7, 2022), <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/040722-carbon-credit-issuances-from-indonesia-on-hold-developers-await-clarity>.
31. Erin Sills, Erin Myers Madeira, William D. Sunderlin, Sheila Wertz-Kanounnikof, *The evolving landscape of REDD+ projects*, available at https://www.cifor.org/publications/pdf_files/Books/BAngelsen090221.pdf.
32. Article 7 of Ministry of Environment and Forestry Regulation No. 21 of 2022 concerning the Procedures for the Application of Carbon Economic Value.
33. *Carbon Tax Postponed Until 2025*, CNBC Indonesia (Oct. 13, 2022), <https://www.cnbcindonesia.com/news/20221013175437-4-379582/pajak-karbon-ditunda-sampai-2025>.
34. The World Bank. 2022. "State and Trends of Carbon Pricing 2022" (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. License: Creative Commons Attribution CC BY 3.0 IGO, available at <file:///C:/Users/21448/Downloads/9781464818950.pdf>.

35. Only facilities that produces more than 25,000 kilotonne CO emissions per annum are subject to the carbon tax in Singapore (section 16(1) and 7(1)(c) read with Part 1 of the Second Schedule of CPA 2018).
36. Sections 2 and 17 of the CPA 2018, available at <https://sso.agc.gov.sg/Act/CPA2018>.
37. Section 29 of the Carbon Pricing (Amendment) Bill, available at <https://sso.agc.gov.sg/Bills-Supp/27-2022/Published/20221003?DocDate=20221003#pr28->), which introduced new sections 33A to 33D in the CPA 2018.
38. Carbon Pricing (Amendment) Bill Second Reading, Opening Speech by Minister for Sustainability and the Environment (Ms Grace Fu Hai Yien) (Nov. 8, 2022), available at <https://www.msc.gov.sg/resource-room/category/2022-11-08-opening-speech-by-minister-grace-fu-carbon-pricing-amendment-2nd-reading>.
39. Carbon Pricing (Amendment) Bill Second Reading, Closing Speech by Minister for Sustainability and the Environment (Ms Grace Fu Hai Yien) (Nov. 8, 2022), available at <https://www.msc.gov.sg/resource-room/category/2022-11-08-the-closing-speech-by-minister-grace-fu-carbon-pricing-amendment-2nd-reading>.
40. *Id.*
41. *How carbon markets can help Malaysia achieve its climate targets*, McKinsey Sustainability (Sep. 19, 2022), <https://www.mckinsey.com/capabilities/sustainability/our-insights/how-carbon-markets-can-help-malaysia-achieve-its-climate-targets>.
42. Dr Wei-nee Chen (Head of Carbon Market, Group Sustainability, Bursa Malaysia), Bursa Malaysia Voluntary Carbon Market Exchange, available at https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content_entry617bfd2839fba20f54a06574/632bbd555b711a1976102da6/files/Bursa_Malaysia_VCM_Exchange.pdf?1664349271.
43. *BURSA MALAYSIA TO LAUNCH VOLUNTARY CARBON MARKET EXCHANGE BY YEAR-END*, Press Release by Bursa Malaysia (Aug. 15, 2022), https://www.bursamalaysia.com/sites/5bb54be15f36ca0af339077a/content_entry5c11a9db758f8d31544574c6/62f9c18b5b711a43802a7373/files/15_AUGUST_2022_Bursa_Malaysia_To_Launch_Voluntary_Carbon_Market_Exchange_By_Year-End_.pdf?1660535365.
44. *Malaysia introduces tax incentives in boost for CCS*, *Energy Voice* (Oct. 10, 2022), <https://www.energyvoice.com/renewables-energy-transition/450253/malaysia-introduces-tax-incentives-in-boost-for-ccs/>.

| | | | |
|--------------|-----------|---------------|------------------|
| Beijing | Dubai | Los Angeles | Paris |
| Brussels | Frankfurt | Munich | San Francisco |
| Century City | Hong Kong | New York | São Paulo |
| Dallas | Houston | Orange County | Singapore |
| Denver | London | Palo Alto | Washington, D.C. |