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secretariat@hcch.net www.hcch.net

Regional Office for Asia and the Pacific (ROAP) Bureau régional pour l'Asie et le Pacifique (BRAP)

Regional Office for Latin America and the Caribbean (ROLAC) Bureau régional pour l'Amérique latine et les Caraïbes (BRALC)

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Proposal for Exploratory Work: Private International Law Issues related to Carbon Markets

I. Introduction

- 1 This Preliminary Document outlines the private international law issues related to carbon markets and includes a proposal for future work on these issues.¹ The 1997 Kyoto Protocol² to the United Nations Framework Convention on Climate Change (UNFCCC)³ introduced the concept of carbon credit, with the objective of creating a mechanism by which the emission of greenhouse gases into the atmosphere could be reduced. The Paris Agreement⁴ included carbon trading as a crucial component in the initiative to reduce carbon emissions in international and domestic supply chains.
- 2 The sustainable growth of global carbon markets is considered an essential element of international cooperation efforts to combat the challenges posed by climate change, through the marketisation of greenhouse gas (GHG) (that is, carbon) reduction and removal.⁵ Two types of carbon markets have emerged:
- a. State-developed emissions-trading systems (ETS) and compliance carbon markets (CCMs), which implement obligations under international agreements, and
 - b. the evolution of voluntary carbon markets (VCMs) through demand and investment by State and non-State actors.

These multistakeholder and diverse markets provide significant market value and sustainable development opportunities.⁶ Carbon markets have seen investment in diverse projects providing significant environmental benefits, innovative energy transition mechanisms, implementation of sustainable agricultural practices, preservation of biodiversity, as well as benefits for communities, including access to more energy-efficient technologies and employment opportunities.⁷

1 The PB wishes to thank Professor Fabrício Bertini Pasquot Polido, Partner, L.O. Baptista, Associate Professor of Private International Law, Comparative Law and New Technologies, Universidade Federal de Minas Gerais (Brazil), John Ho, Head, Legal, Financial Markets, Standard Chartered Bank (Singapore), and Jason Norman Lee, Managing Director, Legal & Regulations, Temasek (Singapore) for their invaluable contributions to the preparation of this Preliminary Document.

2 [Kyoto Protocol to the UNFCCC](#), 11 December 1997, 2303 UNTS 162.

3 [United Nations Framework Convention on Climate Change](#), 9 May 1992, 1771 UNTS 107.

4 [Paris Agreement to the UNFCCC](#), (UN, 2015) (“Paris Agreement”), 12 December 2015, TIAS No 16-1104.

5 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](#) (Report, UN Climate Conference (COP27), 8 November 2022), pp. 6-7; see also World Bank Group, [What You Need to Know About Article 6 of the Paris Agreement](#) (17 May 2022).

6 The World Bank reported on 23 May 2023, that revenues from carbon taxes and ETS reached almost US\$95 billion globally, see World Bank Group, [State and Trends of Carbon Pricing 2023](#) (2023, Washington DC, USA), p. 26; World Economic Forum, [Scaling Voluntary Carbon Markets: A Playbook for Corporate Action](#) (White Paper, September 2023), pp. 4-6 (“WEF 2023 White Paper”). From data taken from a market-wide survey, Trove Research estimate that over \$36bn has been invested in carbon credit projects in the last 10 years, including \$18bn in the past three years – see Trove Research, [Trove Research Webinar: 3Q23 VCM in Review - The Changing Landscape of the Global Carbon Market](#), YouTube, 19 October 2023 at 9:22.

7 C. Blaufelder, C. Levy, P. Mannion and D. Pinner, [A blueprint for scaling voluntary carbon markets to meet the climate challenge](#) (McKinsey & Company, January 2021), p. 3; World Bank Group and Partnership for Market Readiness, [Country Perspectives: Opportunities and Challenges for International Carbon Markets in the context of the Paris Agreement](#) (April 2021), p. 6; WEF 2023 White Paper, p. 23.

II. Background: Carbon Markets

A. Cap-and-Trade Systems vs. Baseline-and-Credit Systems

- 3 Broadly, and while fundamental concepts and definitions remain unsettled,⁸ carbon markets are markets where, with the aim of reducing the overall quantity of GHG in the atmosphere, carbon, as the tradeable unit (equating to one metric tonne of carbon)⁹ is commodified. Global carbon markets may be characterised as either of the following systems: cap-and-trade or baseline-and-credit.¹⁰
- 4 Cap-and-trade systems generally allocate participants a permit or allowance of a maximum amount of GHG emissions (the “cap”) over a specified period.¹¹ Participants can trade the permits or allowances to meet or stay within broader regulatory targets.¹² In baseline-and-credit systems, “credits” are issued as the result of a mitigation activity (*i.e.*, a carbon offset or removal project), after measurement or verification against particular criteria or methodologies by a regulator or standard (in the context of VCMs, private bodies),¹³ for reduction of emissions and purchased to offset or reduce against a baseline.¹⁴ While each market has unique features, generally, CCMs are cap-and-trade systems, whereas VCMs are generally baseline-and-credit systems.¹⁵
- 5 The “units” that circulate within carbon markets also differ: they may be described as “tradeable mitigation outcomes”, “reductions”, “certificates”, “allowances” or “permits”. They may be tangible or intangible. However, at the highest level, they represent certain tradeable rights in relation to GHG emissions.¹⁶ There is no agreed international framework or definition as to what the tradeable unit is, what tradeable rights attach to each unit, at what point those rights may arise, or who is entitled to hold or enforce those rights.¹⁷
- 6 Determination of the legal nature of tradeable units, as well as their legal treatment and applicable rights, is made with reference to national laws, whose content differ between jurisdictions. In many jurisdictions, they can be viewed as some form of intangible property. For example, whether these units constitute a form of property must be established by reference to whether they are “definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability”.¹⁸ For example, in the United States of America (USA), “units” are generally considered securities (unless there is physical delivery / settlement of the underlying asset), so that while they may be traded, they are not considered property and the holder is not granted property rights.¹⁹ In the European Union (EU) ETS, the legal character of such “units” differs

⁸ International Institute for the Unification of Private Law/*Institut International pour l'Unification du Droit Privé* (UNIDROIT), *UNIDROIT Working Group on the Legal Nature of Voluntary Carbon Credits*, Issues Paper, October 2023, Study LXXXVI – W. G.1 – Doc. 2, 14.

⁹ R. Betz, A. Michaelowa, P. Castro, R. Kotsch, M. Mehling, K. Michaelowa and A. Barazini, *The Carbon Market Challenge: Preventing Abuse Through Effective Governance* (Cambridge University Press, 2022), p. 1.

¹⁰ Betz *et al*, *supra* note 9, p. 3; C. Streck and M. von Unger, “Creating, Regulating and Allocating Rights to Offset and Pollute: Carbon Rights in Practice”, *Carbon and Climate Law Review* (2016) 10(3), 179.

¹¹ Betz *et al*, *supra* note 9, p. 1.

¹² A. Dawes, C. McGeady and J. Majkut, *Voluntary Carbon Markets: A Review of Global Initiatives and Evolving Models*, CSIS Briefs (31 May 2023, Centre for Strategic and International Studies), p. 2.

¹³ Taskforce of Scaling Voluntary Carbon Markets, *Phase II Report* (8 July 2021), p. 52.

¹⁴ C. Streck and M. von Unger, *supra* note 10, p. 179; A. Dawes, C. McGeady and J. Majkut, *supra* note 12, p. 2; Betz *et al*, *supra* note 9, p. 1.

¹⁵ C. Streck and M. von Unger, *supra* note 10, p. 186.

¹⁶ C. Streck and M. von Unger, *supra* note 10, pp. 178-179.

¹⁷ International Swaps and Derivatives Association (ISDA), *Legal Implications of Voluntary Carbon Credits* (December 2021), p. 4; Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 52; C. Streck and M. von Unger, *supra* note 10, p. 187.

¹⁸ *National Provincial Bank v Ainsworth* [1965] AC 1175; see ISDA, *ibid.*, p. 9.

¹⁹ Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 52; C. Streck and M. von Unger, *supra* note 10, pp. 183-184. Under US legislation, the rights associated with such “units” are generally understood to be limited to rights to emit certain amounts of GHG. For example, the US Public Health and Welfare Act (see Chapter 85 - Air Pollution Prevention and Control - sub-ch IV-A - Acid Deposition Control - Sec. 7651b. Sulfur dioxide allowance program for existing and new

between Member States: some Member States consider them to be public law rights, or bundles of contractual rights, whereas others treat them as financial instruments or as intangible property.²⁰ Finally, there are other jurisdictions which do not specifically define or address the legal nature of “units”. Rather, the legal treatment, and rights attached to those units, are determined by consideration of the applicable carbon standard, registry rules, and any contractual arrangements.²¹

B. CCMs and VCMs

- 7 Some jurisdictions have created CCMs through the implementation of domestic legislative frameworks. CCMs have been formally established in ~~Australia~~, Canada, China, Japan, Mexico, New Zealand, the Republic of Korea, Switzerland, the United Kingdom (UK) and the USA at the domestic level. The EU ETS carbon reduction regime has also been established at the regional level. At a sectorial level, the global aviation industry has also adopted the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) which, as of January 2024, counts 124 participating States. An overview of these carbon markets is provided in Annex I.
- 8 In parallel, a demand for carbon credits from entities not required to participate in mandatory carbon markets and from actors in jurisdictions without mandatory carbon markets has arisen. This has created the voluntary offsetting markets, also known as VCMs. The term “offsetting” generally includes all voluntary approaches to compensating (incl. internalising or neutralising) the climate impact of GHG emissions from a specific activity.²² Offsetting involves, first, an offset provider estimating a polluter’s carbon footprint (incl. both direct and indirect emissions from, for example, the use of electricity) through emissions’ calculations or a carbon audit. The offset provider then proposes to offset these emissions at a certain price per tonne. The price may vary depending on the type of project²³ in which the offsetting company invests, with more reliable (and, correspondingly, more expensive) projects generating credits meeting more guarantees of additionality, permanence, traceability and compliance with other specific criteria. The type of credit is the dominant determinant of the price of the offset.
- 9 Voluntary Carbon Credits (VCCs) being traded in VCMs consist of a certification stating that the holder, either directly or indirectly, has reduced or removed from the atmosphere one metric ton of carbon dioxide equivalent in line with the applicable rules and requirements. Participants in VCMs may purchase VCCs to offset their emissions in order to help meet their net-zero goals. Given that a significant proportion of the projects that generate VCCs is located in emerging economies and the Global South, VCMs may allow an increased cross-border flow of capital to emerging market

units) provides “[t]he term ‘allowance’ means an authorization, allocated to an affected unit by the Administrator under this title, to emit, during or after a specified calendar year, one ton of sulfur dioxide.” Further, at s403(f), the Act states that the “nature of allowances [...] [as] allocated under this [Act] [...] is a limited authorization to emit sulfur dioxide in accordance with the provisions of this title. Such allowance does not constitute a property right. Nothing in this title or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.” Similarly, the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32) defines “allowance” as “an authorization to emit, during a specified year, up to one ton of carbon dioxide equivalent.” The California Code of Regulations (Cal. Code Regs. Tit. 17, § 95820), Compliance Instruments Issued by the Air Resources Board, further clarifies that “[e]ach compliance instrument issued by the Executive Officer represents a limited authorization to emit up to one metric ton in CO₂e of any greenhouse gas specified in section 95810, subject to all applicable limitations specified in this article [...]. A compliance instrument issued by the Executive Officer does not constitute property or a property right.”

²⁰ C. Streck and M. von Unger, *supra* note 10, pp. 184-185; Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 52; ISDA, *supra* note 17, pp. 9-10; ISDA, [The Legal Nature of Voluntary Carbon Credits: France, Japan and Singapore](#) (November 2022), pp. 4-9.

²¹ ISDA, [The Legal Nature of Voluntary Carbon Credits: France, Japan and Singapore](#), *ibid.*, p. 10.

²² A. Brohé, N. Eyre and N. Howarth, *Carbon Markets: An International Business Guide*, (Routledge: 2009), p. 274

²³ There are primarily five types of projects: forestry, renewable energy, destruction of fluorinated gases, and energy efficiency projects related to waste management or recovery of methane, see A. Brohé, N. Eyre and N. Howarth, *ibid.* p. 275.

economies. For such complex cross-border transactions to take place smoothly, a robust private international law (PIL) framework is necessary to ensure legal certainty and to support work being done nationally and internationally to better understand the legal nature of carbon credits and the carbon markets.

C. Interaction between CCMs and VCMs

10 As accounting mechanisms and other preparatory steps towards implementation of a framework for inter-State cooperation and cross-border transfer of carbon credits (Internationally Transferrable Transferred Mitigation Outcomes or ITMOs) envisaged under Article 6 of the Paris Agreement²⁴ progress,²⁵ future market growth and transactions are likely to see increased convergence between CCMs and VCMs.²⁶ Exploratory work into the harmonisation, where possible, of relevant international standards, definitions and rules of PIL will be important to ensure improved legal certainty, transparency and increased confidence in carbon markets. This work will contribute to advancing international efforts to address climate change, reduce carbon emissions, meet net-zero targets, and achieve the objectives of the Paris Agreement. In turn, this would contribute to the achievement of the 2030 Agenda for Sustainable Development and the United Nations Sustainable Development Goals (SDGs), in particular SDGs 13, 16 and 17.

III. PIL Issues related to Carbon Markets

11 Questions on the technical PIL aspects of carbon markets have been raised by experts, academics, industry bodies, standards bodies, professional service providers, and international organisations.²⁷ Such PIL questions, in conjunction with the various initiatives by private entities and international bodies, illustrate the global relevance and importance of PIL frameworks.

12 From a PIL perspective, the variety of participants or actors potentially involved in a single carbon market transaction, as well as the origins and nature of the relevant carbon projects, may challenge the application of traditional connecting factors, as there may be a number of connecting factors to a number of jurisdictions.²⁸ For example:

- a. where a unit is created as the result of a carbon project in one jurisdiction, it must be certified by a carbon standard, according to their particular methodology and pursuant to the contractual arrangement between the standard and the project developer;
- b. the unit is then verified by bodies that are accredited by a carbon standard, and again, through a contractual arrangement, usually with the carbon standard, or alternatively, with the carbon project developer;

²⁴ Paris Agreement, Art. 6.

²⁵ UNFCCC, "[UN Body charts a path for robust carbon market rules ahead of COP28](#)" (UNFCCC, 3 November 2023).

²⁶ See *Conference of the Parties serving as the meeting of the Parties to the Paris Agreement*, Decision 3/CMA.3 Rules, modalities and procedures for the mechanism established by Art. 6, para. 4, of the Paris Agreement, FCCC/PA/CMA/2021/10/Add.1 (adopted 12th plenary meeting, 13 November 2021); United Nations Development Program, [What is Article 6 of the Paris Agreement, and why is it important?](#) (9 November 2022); World Bank Group, *State and Trends of Carbon Pricing 2023*, *supra* note 6; World Economic Forum, *The Voluntary Carbon Market: Climate Finance at an Inflection Point* (Briefing Paper, January 2023) [WEF The Voluntary Carbon Market 2023.pdf](#) (weforum.org), 8; World Bank Group and Partnership for Market Readiness, [Country Perspectives: Opportunities and Challenges for International Carbon Markets in the context of the Paris Agreement \(April 2021\)](#), p. 9; World Bank Group, *What You Need to Know About Article 6 of the Paris Agreement*, *supra* note 5.

²⁷ See, for example, Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 53; United Nations' High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities; World Economic Forum, *The Voluntary Carbon Market: Climate Finance at an Inflection Point* (Briefing Paper, January 2023) [*WEF The Voluntary Carbon Market 2023.pdf](#) (weforum.org); ISDA, *supra* note 17; C. Blaufelder, C. Levy, P. Mannion and D. Pinner, *supra* note 7; UNIDROIT, *UNIDROIT Working Group on the Legal Nature of Voluntary Carbon Credits*, Issues Paper, October 2023, Study LXXXVI – W. G.1 – Doc. 2.

²⁸ ISDA, *supra* note 17, p. 18.

- c. once verified, the unit is entered into a registry (which may be subject to private self-regulation, or public regulatory frameworks), which effectively tracks the unit throughout its life cycle;
- d. the unit can then be sold by the carbon project developers, either on an over-the-counter basis, or through brokers or intermediaries;
- e. once purchased, the unit is held or traded, until the relevant holder of the unit elects to retire or cancel that unit. ~~Once a unit is retired, it cannot be traded or used in any other way in the market and will count towards the holder's emissions offsets.~~²⁹

13 Each of the above transactions may occur, in different jurisdictions or geographical locations. Similarly, each of the participants in the transactions may also be located in different jurisdictions. Whether traditional connecting factors may be applied to allow for identification of a specific jurisdiction, such as a specific party's location (depending at what point in the transaction or unit lifecycle from creation to retirement issues arise), warrants further consideration, noting that contractual arrangements between market participants, particularly in the VCMs, may differ considerably.³⁰

14 Aside from the more usual lifecycle of carbon units as described above in paragraph 12, further complexity in the carbon markets that may give rise to PIL concerns include:

- a. the digital or online certification of units,
- b. the tokenisation of units (incl. the interplay of carbon credits with distributed storage mechanisms such as those based on distributed ledger technology),³¹
- c. the revocation of units, including the matter of authorisation under Article 6 of the Paris Agreement,³² and
- d. the extent to which units are potentially subject to cross-border securities transactions³³ and insolvency proceedings.³⁴

15 These contractual arrangements also raise PIL questions regarding the applicable law, which would, amongst other issues, determine the legal nature (characterisation) of the unit. Other PIL questions relate to the relationships between participants in carbon markets and particular transactions, including between project developers, standards, registries, intermediaries and the beneficial holders or owners of the units. It is not clear whether the contractual arrangements between these entities in VCMs include considerations of party autonomy, including whether there can be an express choice of law, and/or questions of whether objective connecting factors apply. The potential overlap with overriding mandatory rules, or public policy considerations in the jurisdiction where the issuance or registration of units is made, is another question that may arise. Indeed, recognising these risks, the Taskforce of Scaling Voluntary Carbon Markets has recommended and proposed key general trading terms for such contracts, including nomination of choice of court, choice of jurisdiction, including an express clause in relation to dispute resolution.³⁵ Of course, PIL questions regarding the applicable law will eventually need to be tested with

²⁹ ~~ISDA, *supra* note 17, p. 26.~~

³⁰ Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, pp. 50–58.

³¹ See “Proposal for Work: Private International Law Issues Relating to Digital Tokens”, Prel. Doc. No 5B of January 2024, available on the HCCH website www.hcch.net under “Governance” then “Council on General Affairs and Policy”.

³² Paris Agreement, *supra* note 4.

³³ See the study on the 2006 Securities Convention and digital developments in respect of securities markets, mandated by Conclusion and Decision (C&D) No 43 of CGAP 2023, available on the HCCH website at www.hcch.net under “Governance” then “Council on General Affairs and Policy”.

³⁴ See “Private International Law Aspects of Restructuring and Insolvency: Update”, Prel. Doc. No 6 of January 2024, and Conclusion and Decision (C&D) No 10, 11 and 12 of CGAP 2023 available on the HCCH website www.hcch.net under “Governance” then “Council on General Affairs and Policy”.

³⁵ Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 58.

reference to the existing substantive laws and rigorously examined with live transactions (and preferably with disputes).

- 16 To complicate further the above considerations relating to applicable law, VCMs and the life cycle of VCCs involve a variety of actors and participants, namely, project developers, standards, verifiers, intermediaries / brokers and other market participants, including private companies, States and individuals.³⁶ More specifically, assignors and assignees of carbon credits in particular would benefit from clarity in relation to the applicable law. This gives rise to a complex web of contractual relationships that span across national borders, with implications as to the applicable law, holding and evidencing of rights, and relevant jurisdiction.³⁷
- 17 The development of carbon markets has not been coordinated or uniform, leading to a highly fragmented, overlapping, and multi-jurisdictional, multistakeholder market.³⁸ As reflected in Annex I, there is a lack of consistency and clarity around legal characterisation of the tradeable “units” or “credits”, their legal treatment, and the rights attached to them.³⁹ A subject-matter expert has also noted that the same lack of consistency and clarity exists as regards the questions of applicable law, and the analysis of the legal character and treatment of the registries, certification mechanisms, third party assignments, and transfers of credits in the carbon markets. Market coverage is also patchy, with different carbon crediting mechanisms at different stages of development and implementation, operating at subnational, national, and regional levels, with little or no interoperability, transferability or recognition between these mechanisms outside of the relevant jurisdictions of their operation.⁴⁰ Additional complexity and fragmentation arise in VCMs, which currently comprise over 20 different standards,⁴¹ each with unique methodologies, project types (whether nature- or technology-based, for carbon reduction or removal), and market participants.
- 18 This lack of standardisation, interoperability and legal certainty, spanning across borders and jurisdictions⁴² and particularly in relation to VCMs, is consistently identified by industry participants as the reason for hesitancy of increased or new participation. It is also the reason most constantly provided as to why carbon markets are not attracting participation or investment in high-quality and high-integrity projects to sufficiently reduce carbon levels, as the lack of legal certainty raises the risks of exploitation, legal and regulatory loopholes, and greenwashing.⁴³ Improving current market

³⁶ ISDA, *supra* note 17, p. 27.

³⁷ Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 52; UNIDROIT, *UNIDROIT Working Group on the Legal Nature of Voluntary Carbon Credits*, Issues Paper, October 2023, Study LXXXVI – W. G.1 – Doc. 2, 20-29.

³⁸ Betz *et al*, *supra* note 9, p. 8. For example, South Africa listed approximately 13 million credits issued by international or independent entities (operating in the VCM) as well as its domestic market, World Bank Group, *State and Trends of Carbon Pricing 2023*, *supra* note 6, p. 35; see also Taskforce of Scaling Voluntary Carbon Markets *supra* note 13, pp. 12 and 40.

³⁹ Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 40.

⁴⁰ See Annex I.

⁴¹ “Standards” are the private bodies that set the rules for issuance and certification of carbon credits generated from carbon projects, see Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13, p. 16.

⁴² A. Dawes, C. McGeady and J. Majkut, *supra* note 12, pp. 7-8; ISDA, *supra* note 17, p. 30.

⁴³ WEF 2023, Briefing Paper in collaboration with Bain & Company, [The Voluntary Carbon Market: Climate Finance at an Inflection Point](#) (January 2023). WEF 2023 White Paper, 3, 5-12; Clifford Chance LLP, [COP26: Article 6 Rulebook for the New Global Carbon Market Mechanism Agreed](#) (November 2021). There are significant concerns regarding the integrity of the projects and “credits” issued in the VCMs, particularly in relation to “greenwashing”. A number of collaborative projects and initiatives have examined, or are currently examining, ways in which the integrity in the VCM can be improved. See, for example, the Voluntary Carbon Markets Integrity Initiative (VCMI), [Claims Code of Practice](#), (VCMI, 28 June 2023); Taskforce of Scaling Voluntary Carbon Markets, *supra* note 13. Noting also the recent recommendations of the 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”* (Report, UN Climate Conference (COP27), 8 November 2022) [high-level_expert_group_n7b.pdf \(un.org\)](#). As a result, the World Bank reported that in 2022 carbon market growth slowed by 21% in comparison to that in 2021, see World Bank Group, *State and Trends of Carbon Pricing 2023*, *supra* note 6, p. 34. Similarly, it was recently observed that Q3 of 2023 was the lowest quarter of issuances of verified carbon credits to enter the market for the last three years, with carbon project developers not issuing all the

participation and investment is essential, noting the World Economic Forum reports that limiting global warming to 1.5 °C will require annual investments of over US\$4 trillion in global climate finance by 2030 (almost five times that of 2021).⁴⁴ Resolving PIL questions would address the need for standards, interoperability and legal certainty in a global framework that would allow the fostering of projects, initiatives and transactions on carbon credits, cross-border offsetting schemes, and other practical concerns. The resulting minimum ground for a harmonised PIL framework would contribute to the goals of stakeholders in the carbon markets.

- 19 Despite the many PIL questions that may continue to arise in carbon markets, it has been suggested that the proposed study should, at least at the initial stage, focus on specific areas where there is a greater need for guidance. Especially in relation to VCCs, it has been suggested that the study focus on choice-of-law rules in these specific areas:
- a. Issuance and creation of the VCCs in accordance with the relevant standards
 - b. The appropriate legal treatment of
 - i. the nature of the VCCs;
 - ii. VCCs traded in the secondary market between participants who have no legal connection with the standards; and
 - iii. reversals and cancellations of VCCs; and
 - c. The retirement of the VCCS at the appropriate registry.
- 20 Further, as noted above in paragraph 7, there are certain carbon schemes such as CORSIA that are international or supra-national, including any future schemes to regulate maritime emissions. It is therefore important to focus on the PIL questions regarding applicable law relating to these schemes since they operate on a cross-border basis, engaging multiple jurisdictions that may not have an established mechanism for private actor dispute adjudication and which by their nature of being consensus-driven may be difficult to amend to adapt to the dynamics and unanticipated changes of the sector to which they apply. Moreover, it has been noted by some experts that some systems of law may be inappropriate to serve as the applicable legal system for certain elements of the carbon credit lifecycle.
- 21 Finally, experts have noted that the carbon markets, both compliance and voluntary, are complex and that there are challenges to identify the appropriate mandatory laws that might apply. These could include capital markets regulations (relating to trading, investor protection, mis-selling and licensing), or tax and fiscal laws (relating, for example to the application of value-added tax to a transaction). Therefore, the study should defer to overriding mandatory rules, and where necessary, attempt to adequately identify to the extent possible the relevant factors that might determine the appropriate mandatory laws in a transaction in the carbon market.

IV. Status of Joint Work with UNIDROIT and UNCITRAL

- 22 In light of the importance of coordinating work in the field of climate change and carbon markets, taking into account available resources at the HCCH, and following on express invitations to collaborate, this Section reports on the status of joint work with UNIDROIT and UNCITRAL.

credits they could, which it attributed to a number of factors, including price, sentiment, and changing standards, see Trove Research, "Trove Research Webinar: 3Q23 VCM in Review - The Changing Landscape of the Global Carbon Market", *supra* note 6 at 10:42.

⁴⁴ WEF 2023 White Paper, p. 5, with reference to European Parliament, Background information for the BUDG-CONT joint workshop on [The Role of the EU Budget in International Climate Finance](#) (January 2023).

A. UNIDROIT Project on the Legal Nature of Voluntary Carbon Credits

- 23 On 24 January 2022, ISDA submitted a proposal to UNIDROIT recommending that UNIDROIT consider a project to analyse the legal nature of VCCs. At its 101st session from 8 to 10 June 2022, the UNIDROIT Governing Council established a Working Group (UNIDROIT VCC WG) to work on the UNIDROIT Project on the Legal Nature of Voluntary Carbon Credits (UNIDROIT VCC Project), which was unanimously endorsed by the UNIDROIT General Assembly at its 81st session on 15 December 2022. The project is conducted in close collaboration with the World Bank Group. Included among the legal aspects that UNIDROIT considered would need to be covered by the project is the question, where a cross-border element is present, of applicable law.⁴⁵
- 24 To date, UNIDROIT has held two exploratory consultative workshops on the UNIDROIT VCC Project, the first on 27 March 2023 at the offices of ISDA in London, and the second on 11 July 2023 at the World Bank offices in Vienna. The Annotated Agendas and Discussion Papers that were circulated in advance of each of these two workshops listed the topic of conflict of laws and related questions as an item for discussion.⁴⁶ The UNIDROIT Secretariat informed the Permanent Bureau (PB) that, at the second meeting, the Secretary-General of UNIDROIT explained to the group that consideration of the conflict of laws aspect of the UNIDROIT VCC Project would be postponed to a later date and hopefully addressed in the presence of, and with input from, observers from the HCCH.⁴⁷
- 25 UNCITRAL's Commission, at its 56th Session, gave its Secretariat a mandate to conduct exploratory work in the area of VCCs in cooperation with UNIDROIT and other organisations.⁴⁸ In this context, the UNIDROIT Secretariat is joining its efforts to that of the UNCITRAL Secretariat in order to most efficiently fulfil their respective mandates.
- 26 In a letter dated 25 August 2023, the UNIDROIT Secretariat invited the HCCH to join the UNIDROIT VCC WG as an observer. On 11 September 2023, the PB accepted the invitation to participate as observer. In bilateral consultations with the UNIDROIT Secretariat, the PB noted that the HCCH did not have work related to carbon markets on its current Work Programme. As such, the PB would contribute as an observer to UNIDROIT's ongoing work under the framework for cooperation and collaboration between the two Organisations. The PB informed UNIDROIT that the PB would seek a mandate from its governing body, the Council on General Affairs and Policy (CGAP), for further collaboration on this work.
- 27 From 10 to 12 October 2023, the first session of the UNIDROIT VCC WG was held at the seat of UNIDROIT in Rome, Italy, and online. The issues paper circulated by UNIDROIT ahead of the first session noted

“128. Conflicts of applicable law are intrinsic to VCMs, considering that the law governing the Carbon Project is often different from that governing the resulting carbon credit (*i.e.*, the certificate). Even if, currently, registration systems in VCMs tend to be mostly domestic, the situation may change in the near future, with the development of the market and the tokenisation of VCCs. Additionally, some VCC Registries are actively involved in marketing themselves by declaring to operate under specific applicable law.

⁴⁵ UNIDROIT, [Item No. 4 on the agenda: Proposals for the New Work Programme for the triennial period 2023-2025](#), UNIDROIT Governing Council, 101st session, UNIDROIT 2022 C.D. (101) 4 rev. (May 2022), para. 55; see also UNIDROIT, [Item No. 7 on the agenda: Update on certain high-priority projects on the 2023-2025 Work Programme \(b\) Legal nature of Voluntary Carbon Credits](#), UNIDROIT Governing Council, 102nd session, UNIDROIT 2023 C.D. (102) 14 (April 2023), para. 19.

⁴⁶ UNIDROIT, see section II.L of the Discussion Paper for the second exploratory consultative workshop, UNIDROIT Study LXXXVI – E.W. 2 – Doc.2 – Discussion Paper, on file with the PB.

⁴⁷ E-mail from G.S. Previti, Legal Officer, on behalf of the Secretary-General of UNIDROIT, to the Deputy Secretary General of the HCCH, dated 13 July 2023, on file with the PB.

⁴⁸ See *infra* paras 30 and 31.

129. In light of potential institutional collaboration, consideration of matters regarding applicable law and jurisdiction will be postponed until HCCH's participation has been clarified."⁴⁹

The PB participated online as an observer at this meeting, with support from Professor Fabrício Bertini Pasquot Polido (Brazil) as subject-matter expert.

- 28 On 2 February 2024, UNIDROIT, in collaboration with the World Bank, will organise a one-day meeting at the premises of the World Bank in Vienna, in order to focus on the UNIDROIT VCC WG mandate and develop the normative instrument on the legal character of VCCs mandated by the UNIDROIT Governing Council. UNIDROIT has also planned for the second session of the UNIDROIT VCC WG to be held in April 2024 at the premises of UNIDROIT in Rome.

B. UNCITRAL Work on Aspects of International Trade Law related to VCCs

- 29 At its 54th annual session, held from 28 June to 16 July 2021, UNCITRAL considered a proposal of the Net Zero Lawyers' Alliance, with the support of the UK, to examine (a) how existing UNCITRAL texts could be aligned with climate change mitigation, adaptation and resilience goals, and (b) whether further work could be done by UNCITRAL to facilitate those goals in the implementation of those texts or through the development of new texts.
- 30 On 12 and 13 July 2023, the UNCITRAL Secretariat organised a colloquium on Climate Change and International Trade Law in conjunction with UNCITRAL's 56th annual session. At this session, UNCITRAL requested its secretariat, within the UNCITRAL mandate and in cooperation and collaboration with UNFCCC, UNIDROIT, the HCCH and other organisations with relevant expertise, to consult with all Member States of the United Nations, in particular developing countries, with a view to developing a more detailed study on the aspects of international trade law related to VCCs.⁵⁰ At this session, the PB again clarified that the HCCH did not have work related to carbon markets on its current Work Programme. As such, the HCCH would contribute as an observer to this work under the tripartite framework for cooperation and collaboration. The PB informed UNCITRAL that the PB would seek a mandate from CGAP for further collaboration on this work.
- 31 On 31 January and 1 February 2024, a joint meeting of the UNCITRAL Expert Group and the UNIDROIT VCC WG will be held at the premises of UNCITRAL in Vienna. The Joint Meeting will review a joint draft study on the aspects of international trade law related to VCCs, including the legal nature of VCCs, the issuance, ownership and transfer of VCCs, secured transactions as well as treatment in case of insolvency. The results of the Joint Meeting will be presented to the UNCITRAL Commission in June-July 2024. The HCCH has been invited by the UNCITRAL Secretariat to attend this joint meeting as an observer.

V. Proposal for CGAP

- 32 The PB invites CGAP to note the issues described in this Preliminary Document on the PIL aspects relating to carbon markets. Having in mind the limited resources at the PB, the PB proposes the following Conclusions & Decisions for CGAP's consideration:
- CGAP mandated the PB, in partnership with relevant subject-matter experts and Observers and subject to available resources, to study the PIL aspects of carbon markets. CGAP thanked Professor Fabrício Bertini Pasquot Polido for his involvement, complementing the

⁴⁹ UNIDROIT, Issues Paper, UNIDROIT Working Group on the Legal Nature of Voluntary Carbon Credits, First Session, 10-12 October 2023, UNIDROIT 2023 Study LXXXVI – W.G. 1 – Doc. 2, (October 2023), paras 128-129.

⁵⁰ UNCITRAL. UN Doc. [A/78/17](#), para. 199.

participation of the PB in these projects. The PB will report to CGAP at its 2025 meeting on the outcomes of this study, including proposals for next steps. CGAP mandated the PB

- (a) as invited by UNIDROIT, to contribute to the UNIDROIT Project on the Legal Nature of Voluntary Carbon Credits, and
- (b) as requested by the UNCITRAL Commission at its 56th Session, to work in cooperation with the UNCITRAL Secretariat, the UNFCCC, UNIDROIT and other organisations with relevant expertise to develop a more detailed study on the aspects of international trade law related to VCCs.

ANNEXES

Annex I: Selected Survey of Domestic Legislation and Other Developments relating to Carbon Markets

NO.	LOCATION	MARKET NAME, COVERAGE AND STATUS	UNITS	DESCRIPTION / DETAILS FOR PIL CONSIDERATION
1.	Australia	<p>Australian Emissions Reduction Fund ACCU Scheme (ETS) (national)</p> <p>Status: Implemented; operational</p>	Australian Carbon Credit Units (ACCUs)	<p>Geographic coverage / jurisdiction: National; Australia only</p> <p>Scope / sectors covered: Agriculture, energy efficiency, forestry, fugitive emissions, other land use, transport, waste.¹</p> <p>Legal classification and rights: An ACCU is classified as <u>personal property</u> – the person in whose Registry account there is an entry for the ACCU is the <u>legal owner</u>. That person holds, and may pass good title in the ACCU. Note: They are also classified as ‘financial products’ under the <i>Corporations Act 2001</i> (Cth), and <i>Australian Securities and Investments Commission Act</i>.</p> <ul style="list-style-type: none"> • An ACCU is a unit issued to a person by the Clean Energy Regulator (Regulator) by making an entry for the ACCU in an account kept by the person in the electronic Australian National Registry of Emissions Units (Registry). • An ACCU can only be issued to a person if the person has a Registry account. • ACCUs (if not surrendered, cancelled or relinquished) may be: <ul style="list-style-type: none"> ○ traded; ○ subject to a security interest (<i>i.e.</i>, a mortgage) ○ held on behalf of others under trust or other beneficial ownership arrangement ○ subject to equitable interests ○ transmitted by assignment. • ACCUs are transferable in Australia only, between accounts in the Registry. • Any transmission, however, has no force until the Regulator removes the entry for the relevant ACCU in the transferor’s Registry account and makes an entry for the ACCU in the transferee’s account.² <p>Transferability / recognition: Australia only, ACCUs cannot be transferred to foreign registries.</p>

¹ World Bank Group, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), ‘Australia’ (updated 31 March 2023) (‘World Bank, *Carbon Pricing Dashboard: Carbon Crediting Mechanisms*’).

² Australian Government Clean Energy Regulator, [‘Australian Carbon Credit Units’](#) (27 June 2023).

				Legislation: Carbon Credits (Carbon Farming Initiative) Act 2011 (Cth) and the Australian National Registry of Emissions Units Act 2011 (Cth) .
2.		Indo-Pacific Carbon Offsets Scheme (regional) Status: To be developed	To be developed	Initiative of Australian Government. In November 2021, the Australian Government announced four draft design principles, namely that the market design will provide for (1) transparent and inclusive governance; (2) alignment with the Paris Agreement and Sustainable Development Goals; (3) responsibility and cooperation amongst parties; and (4) high-integrity units. ³
3.	Austria (also part of EU ETS)	Austrian National Emissions Trading System (national) Status: Implemented; operational		Geographic coverage / jurisdiction: National; Austria ⁴ Scope / sectors covered: Sectors not covered by the EU ETS; ⁵ transport, buildings, industry, and power. ⁶ Legal classification and rights: ⁷ <ul style="list-style-type: none"> 'national emission allowance' means the allowance entitling the holder to emit one tonne of carbon dioxide equivalents in a given trading period of the national emission allowance trading scheme.⁸ Trading participants must be registered with the competent authority [the Austrian Customs Office with the Office for National Emissions Trading] In the introduction and transition phase (2022-2025), the number of allocated allowances is not capped, and are sold for a fixed price, increased annually.⁹ A market phase will follow from 2026. Transferability / recognition: ¹⁰ Currently no provisions in place, though aspects may transfer to the EU ETS II. Legislation: Federal Act on National Certificate Trading for Greenhouse Gas Emissions (National Emissions Trading Act 2022 – NEHG 2022) StF: Federal Law Gazette I No 10/2022 (NR: GP XXVII RV 1293 AB 1306 p. 139. BR: 10860 AB 10866 S. 937.)

³ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, 'Indo-Pacific Carbon Offsets Scheme'; '[Supporting Climate Change in the Indo-Pacific Region](#)' (Australian Government, Department of Climate Change, Energy, the Environment and Water, updated 17 November 2023).

⁴ World Bank Group, [Carbon Pricing Dashboard](#), 'Austria ETS' (updated 31 March 2023) ('World Bank Group, [Carbon Pricing Dashboard](#)').

⁵ [Austrian Federal Act on National Certificate Trading for Greenhouse Gas Emissions](#) [English Translation], section 1.

⁶ International Carbon Action Partnership, '[Austrian National Emissions Trading System](#)' (2023).

⁷ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, 'Austria ETS'.

⁸ [Austrian Federal Act on National Certificate Trading for Greenhouse Gas Emissions](#) [English Translation], section 3.

⁹ International Carbon Action Partnership, '[Austrian National Emissions Trading System](#)' (2023).

¹⁰ *Ibid.*

4.	Brazil	National Greenhouse Gas Emissions Reduction System / Brazilian Greenhouse Gas Emissions Management System (national) Status: Under consideration / to be developed	To be developed	<p>Geographic coverage / jurisdiction: National; Brazil only¹¹</p> <p>Proposed scope / sectors covered: Power / electricity, transportation, manufacturing, chemicals, pulp and paper, mining, construction, health services, agriculture and livestock¹²</p> <p>Legal classification and rights:¹³</p> <ul style="list-style-type: none"> • ‘Carbon credit’ - financial, environmental, transferable asset representing the reduction or removal of one tonne of carbon dioxide equivalent, which has been recognized and issued as a credit in the voluntary or regulated market; • ‘Methane credit’ - financial, environmental, transferable asset representing the reduction or removal of one tonne of methane, which has been recognized and issued as a credit in the voluntary or regulated market; • ‘Certified emissions reduction credit’ - carbon credit that has been registered with Sinare [the National System for the Reduction of Greenhouse Gas Emissions];¹⁴ • ‘Greenhouse gas emissions offset’ - a mechanism by which a person or legal entity, of public or private law, offsets greenhouse gas emissions generated as a result of its activities through its own removals accounted for in its greenhouse gas inventory, or through the acquisition and effective retirement of certified emission reduction credit; • ‘Carbon stock unit’ - a financial, environmental and transferable asset representing the maintenance or storage of one tonne of carbon dioxide equivalent, which includes all means of carbon storage, except for greenhouse gases present in the atmosphere. <p>Legislation: Decree No. 11,075, of May 19, 2022</p>
5.	Canada	Alberta Emission Offset Scheme (subnational)	Alberta Emissions Offsets	<p>Geographic coverage / jurisdiction: Subnational; Province of Alberta, Canada</p> <p>Scope / sectors covered: Agriculture, CCS/CCU, energy efficiency, forestry, fugitive emissions, industrial gases, manufacturing, renewable energy, waste¹⁵</p>

¹¹ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘Brazil ETS’; International Carbon Action Partnership, ‘Brazil’ (2023).

¹² ‘Brazil’s government establishes parameters for a regulated carbon market’ (Mattos Filho, 29 June 2022).

¹³ [Decree No. 11,075, of May 19, 2022](#) establishing the procedures for the preparation of Sectoral Plans for Climate Change Mitigation, and establishing the National System for the Reduction of Greenhouse Gas Emissions, and amending Decree No 11,003, of March 21, 2022, Article 2 [English Translation]; Renata Campetti Amaral, Giovanni Bruno Tomasoni and Alexandre Salomao Jabra, ‘Brazil: Federal Decree sets up national system for reduction of greenhouse gas emissions and sectoral plans for climate change mitigation’ (*Global Compliance News*, 28 July 2022).

¹⁴ A ‘single digital centre for registering greenhouse gas emissions, removals, reductions, and offsets, and for trading, transferring, transacting and retiring certified emissions reduction credits’, *ibid.*

¹⁵ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘Alberta Emission Offset Scheme’.

		<p>Status: Implemented; operational</p>		<p>Legal classification and rights:¹⁶</p> <ul style="list-style-type: none"> • ‘Emission offset’ means an instrument serialized on the Alberta Emissions Offset Registry in recognition of a reduction or sequestration of carbon dioxide that meets requirements under relevant industry/sector regulations¹⁷ • The Alberta Emissions Offset Registry processes project reports and issues unique serial numbers to verified emission offsets, and are made publicly available by the Registry on the registry platform (but no price disclosure). • The registry posts reports to each project on the registry platform once serialization is complete. • Once serialized, the emission offsets may be used or sold to another party. • All changes of ownership and intention to submit emission offsets for compliance or retirement purposes require tracking by the registry. • Transactions between buyer and seller are managed outside the Registry; the registry is a tracking and listing service only. • The scheme does not accept offsets/units from other systems to be used for compliance, however, it does not prevent its Alberta Emissions Offsets to be used in other eligible offset systems, and tracked on the Registry. • Alberta Emission Offsets recognized offset programs and protocols for the Canadian Federal Output Based Pricing System (OBPS) (only projects that use protocols meeting all eligibility criteria outlined in the federal OBPS Regulations are eligible under their Recognized Offset Programs and Protocols for the federal OBPS). <p>Transferability / recognition: Province of Alberta; and recognised by the Canadian Federal Output Based Pricing System (OBPS) (only projects that use protocols meeting all eligibility criteria outlined in the Federal OBPS Regulations are eligible under the ‘Recognised Offset Programs and Protocols for the Federal OBPS).</p> <p>Legislation: Technology Innovation and Emissions Reduction Regulation (Alberta Regulation 133/2019)</p>
6.		<p>British Columbia Offset Program (subnational)</p>	<p>British Columbia Offset Units</p>	<p>Geographic coverage / jurisdiction: Subnational; Province British Columbia</p> <p>Scope / sectors covered: Energy efficiency, forestry, fuel switch, waste¹⁸</p>

¹⁶ [Technology Innovation and Emissions Reduction Regulation \(Alberta Regulation 133/2019\)](#), section 1(p).

¹⁷ *Ibid.*

¹⁸ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘British Columbia Offset Program’.

				<p>Status: Implemented; operational</p>	<p>Legal classification and rights:</p> <ul style="list-style-type: none"> • ‘Compliance unit’ means an offset unit, a funded unit, an earned credit or a recognized unit • ‘Recognized unit’ means a unit of another jurisdiction that under the regulations is, or is deemed to be, the equivalent of an offset unit for the purpose of meeting compliance obligations • Credits can be used for voluntary purposes or to meet compliance obligations under the Federal OBPS program. • Appears units can be transferred between Registry accounts, with each unit assigned a unique identifier for tracking in the Registry.¹⁹ <p>Transferability / recognition: Units may be sold to facilities covered under the GGIRCA—a baseline-and-credit ETS, such as LNG operators, to satisfy their legislative requirements; recognised by the Canadian Federal Output-Based Pricing System program (ETS).</p> <p>Legislation: Greenhouse Gas Industrial Reporting and Control Act 2014 (GGIRCA); <i>GHG Emission Control Regulation</i></p>
7.	Canada Federal GHG Offset System (<i>national</i>)	To be developed	be developed	<p>Status: To be developed</p>	<p>Proposed geographic coverage / jurisdiction: National; Canada</p> <p>Proposal: Development of a Federal GHG offset system is in progress, building on the Pan-Canadian Greenhouse Gas Offsets Framework (Offsets Framework) agreed by the Canadian Council of Ministers of the Environment (CCME) in 2018.²⁰ The main purpose of the system is to generate offset credits for use in the federal OBPS, thereby increasing the supply of compliance units for the system and reducing compliance cost while creating incentives for voluntary GHG mitigation projects.</p>
8.	Quebec Offset Crediting Mechanism (<i>subnational +</i>)	Quebec Offset Credits	Offset Credits	<p>Status: Implemented; operational</p>	<p>Geographic coverage / jurisdiction: Subnational + other jurisdictional/system recognition; Quebec, Canada</p> <p>Scope / sectors covered: Industrial gases, waste²¹</p> <p>Legal classification and rights:</p>

¹⁹ [Greenhouse Gas Industrial Reporting and Control Act 2014, section 1.](#)

²⁰ See Canadian Council of Ministers of the Environment (CCME), ‘[Pan-Canadian Greenhouse Gas Offsets Framework](#)’ (2019); World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘Canada Federal GHG Offset System’.

²¹ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘Quebec Offset Crediting System’.

				<ul style="list-style-type: none"> Unclear whether legal definition is provided for in legislation, noting that an offset credit represents ‘issued for each ton of GHG emissions in CO2 equivalent that is reduced or removed’²² Credits may be bought and traded by voluntary participants (individuals and organisations) in the market.²³ <p>Transferability / recognition: Operates in conjunction with Quebec ETS, and is linked with California’s ETS as part of ‘Western Climate Initiative’. Crediting program established for organisations wanting to meet compliance obligations under the ETS.²⁴</p> <p>Legislation: Regulation respecting a cap-and-trade system for greenhouse gas emission allowances, under the Environmental Quality Act</p>
9.		<p>Quebec ETS</p> <p>Status: Implemented; operational</p>	Emission Allowance	<p>Geographic coverage / jurisdiction: Subnational + other jurisdictional / system recognition; Quebec, Canada</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> ‘Emission allowance’ means any emission allowance referred to in the second paragraph of section 46.6 of the <i>Environment Quality Act</i> (chapter Q-2), namely a greenhouse gas emission unit, offset credit or early reduction credit, and any emission allowance issued by a partner entity, each allowance having a value corresponding to one metric ton of greenhouse gas CO2 equivalent.²⁵ An emission allowance may be traded only between emitters, participants and clearing houses registered with the Minister or a partner entity. An emitter or a participant may only hold emission allowances for their own use and not on behalf of another person having an interest in or control the emission allowances. In addition, only emission allowances recorded in a general account may be traded. Subject to section 15, once recorded in a compliance account, emission allowances may only be used to cover GHG emissions. Trade / transactions of emissions allowances must follow procedure set out in regulations, including using transaction requests and acceptance processes between buyers and sellers through the emissions allowance accounts system.

²² Ministère de l’Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs, ‘[Offset Credits](#)’ (updated 12 July 2023).

²³ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘Quebec Offset Crediting System’.

²⁴ *Ibid.*

²⁵ See [Regulation respecting a cap-and-trade system for greenhouse gas emission allowances](#), regulation 3(5).

				<p>Legislation: See Chapter IV of Appendix B.1, of the Regulation respecting a cap-and-trade system for greenhouse gas emission allowances, under the Environmental Quality Act</p>
10.		<p>Saskatchewan GHG Offset Program (subnational)</p> <p>Status: To be developed</p>	<p>To be developed</p>	<p>Proposed geographic coverage / jurisdiction: Subnational; Province of Saskatchewan</p> <p>Proposed sectors to be covered: Carbon capture storage / use, waste²⁶</p>
11.	Chile	<p>Framework Law on Climate Change (national)</p> <p>Status: To be developed</p>	<p>To be developed</p>	<p>Proposed geographic coverage / jurisdiction: National; Chile²⁷</p> <p>Proposed sectors to be covered: The specific design of the emissions limits system is not yet defined and could be implemented either as an ETS or a tradable performance standard.²⁸ Article 9 of the ‘Framework Law on Climate Change’ [English Translation] provides that ‘the following sectoral plans shall be developed:</p> <ul style="list-style-type: none"> • Biodiversity, including terrestrial and marine ecosystems; water resources; infrastructure; health; mining; energy; forestry and agriculture; fisheries and aquaculture; cities; tourism; coastal zone; and transport.²⁹ <p>The ‘2022-2026 Energy Agenda’ provided for a pilot ETS project, focusing on the energy sector.</p> <p>Proposed Legal classification and rights: Article 15 of the ‘Framework Law on Climate Change’ [Translated] provides:</p> <ul style="list-style-type: none"> • ‘Certificates of reduction or absorption of greenhouse gas emissions’ [are] Certificates certifying the reduction or absorption of greenhouse gas emissions, obtained through the implementation of projects in Chile for this purpose, [and] may be used to comply with emission standards....subject to such reductions or removals being additional, measurable, verifiable, permanent, having environmental and social benefits, and complying with the Nationally Determined Contribution. • ...The Superintendence of the Environment shall verify compliance with the respective emission standard... Once used to prove compliance with an emission standard, certificates must be cancelled. • The Ministry of the Environment shall establish, by means of a regulation, the criteria for determining the maximum number of certificates that will be allowed to be used, in a given

²⁶ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘Saskatchewan GHG Offset Program’.

²⁷ International Carbon Action Partnership, ‘Chile’ (2023).

²⁸ *Ibid.*

²⁹ [Framework Law on Climate Change / Ley Marco De Cambio Climático](#) Law 21455 [English Translation], *Biblioteca del Congreso, Nacional de Chile / BCN; Ley Chile* (13 June 2022), Article 9.

				<p>period of time, to comply with the standard, as well as the requirements for the origin of such projects, the procedure for their processing, the background information that must be accompanied, the criteria that must be met by the methodologies for verifying such emission reductions or removals, and the other complementary methodologies that may be necessary, the requirements for the issuance of the corresponding certificate and the administration of the project registry and certificates of reductions or removals. The Ministry of the Environment may accept those methodologies contemplated in international standards for projects that also demonstrate environmental and social benefits and comply with the provisions of the Nationally Determined Contribution.</p> <ul style="list-style-type: none"> • Additionally, within the framework of the cooperation established at the international level in Article 6 of the Paris Agreement, the Ministry of the Environment will regulate emission reduction or absorption certificates, promoting sustainable development, environmental integrity, transparency and the application of robust accounting.³⁰ <p>Transferability / recognition: N/A – to be developed.</p> <p>Legislation: Framework Law on Climate Change / Ley Marco De Cambio Climático</p>
12.	China, People's Republic of	<p>China Carbon Emission Trading System (national)</p> <p>Status: Implemented: operational Beijing Forestry Offset Mechanism (subnational)</p> <p>Status: Implemented; operational</p>	<p>China Carbon Emission Allowances (CEAs)</p>	<p>Geographic coverage/jurisdiction: National; China</p> <p>Scope/sectors covered: Power generation industry</p> <p>Legislation: Interim Regulations for the Management of Carbon Emission Trading (decree of the State Council No.775, released on January 25, 2024) National Rules for the Administration of Carbon Emission Trading (Trial) (released by Ministry of Ecology and Environment on December 31, 2020) Geographic coverage / jurisdiction: Subnational; Municipality of Beijing (Note: runs in parallel to the China GHG Voluntary Emission Reduction Program (national crediting mechanism))</p> <p>Scope / sectors covered: Forestry carbon sequestration activities, within the Beijing municipality.³¹</p> <p>Legal classification and rights: N/A.</p> <p>Transferability / recognition: Beijing Pilot ETS (compliance use only)</p>

³⁰ *Ibid.*, Article 15.

³¹ ~~World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), supra note 1, 'Beijing Forestry Offset Mechanism'.~~

		<p>China GHG <u>Voluntary Certified Emission Reduction Program Trading System</u> (national)</p> <p>Status: Implemented; operational</p>	<p>Chinese Certified Emission Reductions (CCERs)</p>	<p>Legislation: N/A</p> <p>Geographic coverage / jurisdiction: National; China</p> <p>Scope / sectors covered: <u>Forestation, grid-connected solar thermal power generation, grid-connected offshore wind power generation, mangrove vegetation creation, Wind, solar PV, household biogas, hydro, biomass generation, CMM power generation (project), natural gas power generation, waste heat power generation, cogeneration, forest carbon sink, other (transportation & landfills generation)</u>³²</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • CCERs may be traded within the voluntary markets subject to compliance with the rules applicable to the applicable scheme. • Participants may trade CCERs within a Pilot Scheme even if the project generating the CCER is located in a different region. • The CCER registration system only accepted members that were registered as a legal person in China (information as of August 2022).³³ <p>Transferability / recognition: China's national ETS, Beijing pilot ETS, Tianjin pilot ETS, Shanghai pilot ETS, Guangdong pilot ETS, Shenzhen pilot ETS, Chongqing pilot ETS, Hubei pilot ETS, Fujian pilot ETS, Sichuan pilot ETS, CORSIA</p> <p>Legislation: <u>National Rules for the Administration of Voluntary Greenhouse Gas Emission Reduction Trading (Trial) (jointly released by Ministry of Ecology and Environment and State Administration for Market Regulation on October 19, 2023)</u>N/A</p>
		<p>Beijing Forestry <u>Offset Mechanism Pilot Carbon Emission Trading System</u> (subnational)</p> <p>Status: Implemented; operational</p>	<p><u>Beijing Carbon Emission Allowances (BEAs)</u></p>	<p>Geographic coverage / jurisdiction: Subnational.; Municipality of Beijing (Note: runs in parallel to the China GHG Voluntary Emission Reduction Program (national crediting mechanism))</p> <p>Scope / sectors covered: <u>Cement manufacture, petrochemical production, heating production and supply, transportation, service, and other industry</u>Forestry carbon sequestration activities, within the Beijing municipality.³⁴</p> <p>Legal classification and rights: N/A.</p>

³² World Bank, Carbon Pricing Dashboard: Carbon Crediting Mechanisms, supra note 1, 'China GHG Voluntary Emission Reduction Program'.

³³ Richard Mazzochi, Su Meng (Molly), Gu Jieyu (Janet) and Claire Potter, China's Carbon Markets – A Key Tool for Achieving Net Zero (KWM, 3 August 2022).

³⁴ World Bank, Carbon Pricing Dashboard: Carbon Crediting Mechanisms, supra note 1, 'Beijing Forestry Offset Mechanism'.

			<p>Transferability / recognition: Beijing Pilot ETS (compliance use only)</p> <p>Legislation: Administrative Measures of Beijing Municipality for Carbon Emission Trading (Trial) (released by the People’s Government of Beijing Municipality on May 28, 2014) N/A</p>
	<p><u>Tianjin Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p><u>Tianjin Carbon Emission Allowances (TJEAs)</u></p>	<p>Geographic coverage/jurisdiction: Subnational, Tianjin</p> <p>Scope/sectors covered: Iron and steel industry, chemical industry, petrochemical industry, building materials Industry, oil and gas mining industry, nonferrous industry, machinery and equipment manufacturing industry, agricultural and foodstuff processing industry, electronic equipment manufacturing industry, food and beverage industry, pharmaceutical manufacturing industry, mining industry, air transportation industry (airports)</p> <p>Legislation: Rules for the Administration of Carbon Emission Trading in Tianjin (Trial) (released by the General Office of the People’s Government of Tianjin Municipality on June 10, 2020)</p>
	<p><u>Shanghai Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p><u>Shanghai Carbon Emission Allowances (SHEAs)</u></p>	<p>Geographic coverage/jurisdiction: Subnational, Shanghai</p> <p>Scope/sectors covered: Industrial industries in which enterprises with annual energy consumption of more than 10,000 tec, including iron and steel, petrochemical industry, chemical, nonferrous metals, textile industry, paper, electronics, automobiles, food, medicine, gas, tobacco etc. Non-industrial industries including buildings, ports, airports, water transportation, aviation, data centers, etc.</p> <p>Legislation: Rules for Carbon Emission Management of Shanghai Municipality (Trial) (released by the People’s Government of Shanghai Municipality, November 18, 2013)</p>
	<p><u>Chongqing Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p><u>Chongqing Carbon Emission Allowances (CQEAs)</u></p>	<p>Geographic coverage/jurisdiction: Subnational, Chongqing</p> <p>Scope/sectors covered: Industrial Enterprises</p> <p>Legislation: Measures of Chongqing Municipality on the Administration of Carbon Emission Trading (Trial) (released by the People’s Government of Chongqing Municipality on February 20, 2023)</p>
	<p><u>Guangdong Pilot Carbon Emission Trading System (subnational)</u></p>	<p><u>Guangdong Carbon Emission Allowances (GDEAs)</u></p>	<p>Geographic coverage/jurisdiction: Subnational, Guangdong Province (Shenzhen excluded)</p> <p>Scope/sectors covered: Cement, steel, petrochemicals, papermaking, civil aviation, ceramics (construction, sanitary ceramics), transportation (ports), and data centers</p>

	<p>Status: Implemented; operational</p>	<p>Legislation: Rules for Carbon Emission Management in Guangdong Province (Trial) (released by the People’s Government of Guangdong province on January 15, 2014)</p>
	<p><u>Hubei Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p>Hubei Carbon Emission Allowances (HBEAs)</p> <p>Geographic coverage/jurisdiction: Subnational, Hubei province</p> <p>Scope/sectors covered: Cement industry, chemical industry, iron and steel industry, petrochemical industry, nonferrous metals industry, equipment manufacturing industry, paper-making industry, pharmaceutical industry, food and beverage industry, automobile manufacturing industry, textile industry, glass and other architectural material industry, ceramic industry, water production and supply industry, heat generation and supply industry, other industry.</p> <p>Legislation: Interim Rules of Hubei Province for the Management of Carbon Emissions Trading (released by the People’s Government of Hubei province on December 29, 2023)</p>
	<p><u>Shenzhen Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p>Shenzhen Carbon Emission Allowances (SZEAs)</p> <p>Geographic coverage/jurisdiction: Subnational, Shenzhen</p> <p>Scope/sectors covered: Power supply, water supply, gas supply, data center, bus, subway, hazardous waste treatment, solid waste treatment, sludge treatment, sewage treatment, port, manufacturing, hotel supermarket and other service industries, colleges and universities.</p> <p>Legislation: Regulations on Ecological and Environmental Protection of Shenzhen Special Economic Zone (released by the Standing Committee of Shenzhen Municipal People’s Congress on July 6, 2021) Measures for the Administration of Carbon Emission Trading in Shenzhen (released by the People’s Government of Shenzhen Municipality on May 29, 2022)</p>
	<p><u>Fujian Pilot Carbon Emission Trading System (subnational)</u></p> <p>Status: Implemented; operational</p>	<p>Fujian Carbon Emission Allowances (FJEAs)</p> <p>Geographic coverage/jurisdiction: Subnational, Fujian Province</p> <p>Scope/sectors covered: Power industry, petrochemical industry, chemical industry, building material industry, steel and iron industry, nonferrous metal industry, paper industry, aviation industry, ceramics industry.</p> <p>Legislation: Interim Measures of Fujian Province for the Administration of Carbon Emission Trading (amended by the People’s Government of Fujian province on August 7, 2020)</p>

<p>13.</p>	<p>European Union</p>	<p>European Union Emissions Trading Scheme (EU ETS) (<i>regional +</i>)</p> <p>Status: Implemented; operational</p>	<p>EU Allowances (EUAs)</p>	<p>Geographic coverage / jurisdiction: Regional; 27 EU Member States + Iceland, Liechtenstein and Norway³⁵</p> <p>Scope / sectors covered: Energy sector and manufacturing industries, carbon capture and storage installations, production of petrochemicals, ammonia, nonferrous and ferrous metals, gypsum, aluminium, as well as nitric, adipic, and glyoxylic acid (various thresholds), aviation (including flights departing the EU to Switzerland and the UK).³⁶ Maritime transport (from 2024). ETS 2 was created in 2023 to cover fuel combustion in buildings, road transport and additional sectors and is planned to be launched in 2027.³⁷</p> <p>Legal classification and rights:³⁸</p> <ul style="list-style-type: none"> • Directive 2014/65/EU classifies EU ETS emission allowances as financial instruments.³⁹ The associated derivatives can hence be traded on secondary markets. • The total number of emission allowances available gives them a value (supply and demand). • Each allowance gives the holder the right to emit one tonne of CO2 or the equivalent amount of nitrous oxide (N2O) and perfluorocarbons (PFCs). • Allowances can be used only once. A heavy fine is applied if companies do not hold enough allowances to match their emissions. • Companies can buy additional allowances or use surplus from previous years. • International credits were allowed to be used until 2020. • Anyone with an account in the Union registry can buy or sell allowances. Trading can be done directly between buyers and sellers or through intermediaries. <p>Transferability / recognition: As of 2021, the use of offsets is not allowed. As per the linking agreement between the EU and Switzerland, the registries of the EU ETS and Swiss ETS are linked, and regulated entities are permitted to transfer allowances from an account in one system to an account in the other system.⁴⁰</p>
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³⁵ International Carbon Action Partnership, ‘EU Emissions Trading System (EU ETS)’ (2023); Regina Betz, Axel Michaelowa, Paula Castro, Raphaela Kotsch, Michael Mehling, Katharina Michaelowa and Andrea Barazini, *The Carbon Market Challenge: Preventing Abuse Through Effective Governance* (Cambridge University Press, 2022, DOI 10.1017/9781009216500), 3- 4.

³⁶ World Bank Group, *Carbon Pricing Dashboard*, *supra* note 4, ‘EU ETS’.

³⁷ EU ETS dedicated page at Europa.eu (8 December 2023): https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/scope-eu-emissions-trading-system_en.

³⁸ EU ETS Factsheet (2016), European Commission, available at: https://climate.ec.europa.eu/document/download/5dee0b48-a38f-4d10-bf1a-14d0c1d6febd_en?filename=factsheet_ets_en.pdf.

³⁹ See [Directive 2014/65/EU](#), Annex I, Section C.

⁴⁰ International Carbon Action Partnership, ‘EU Emissions Trading System (EU ETS)’ (2023).

				<p>Legislation: ETS Directive (Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC); Directive 2014/65/EU.</p>
14.	Japan ⁴¹	<p>Green transformation (GX) League</p> <p>Baseline-and-credit system (GX) and emissions trading system (ETS)⁴²</p> <p>Status: Under consideration</p>	<p>Green transformation (GX) and Japan ETS</p>	<p>Geographic coverage / jurisdiction: National, Japan</p> <p>Scope / sectors covered: Yet to be decided.</p> <p>Legislation: GX Basic Plan</p>
		<p>Support for High-efficiency Installations for Facilities with Targets (SHIFT) Program⁴³</p>	<p>J-Credits</p>	<p>Geographic coverage / jurisdiction: National, Japan</p> <p>Scope / sectors covered: No limits for project participants</p> <p>Legal classification and rights:⁴⁴</p> <ul style="list-style-type: none"> • J-Credits are produced from energy saving, renewable energy, and domestic forest managements activities. • J-Credits can be sold and bought via direct bilateral trading; official auctions conducted by the Scheme Secretariat; brokerage websites, and carbon credit markets administrated by Japan Exchange Group. <p>Legislation: Act on Promotion of Global Warming Countermeasures</p>
		<p>Saitama Target Setting Emissions Trading System⁴⁵</p>	<p>Saitama's Prefecture ETS</p>	<p>Geographic coverage / jurisdiction: Saitama (Saitama's ETS is linked to Tokyo's Cap-and-Trade Program.)</p>

⁴¹ Many types of carbon credits schemes exist in Japan. This table attempts to provide a general overview of some of the main schemes but does not purport to be a comprehensive list of the existing or forthcoming schemes.

⁴² International Carbon Action Partnership (ICAP), Japan's Cabinet approves policy roadmap including plans for national ETS (February 2023), available at: <https://icapcarbonaction.com/en/news/japans-cabinet-approves-policy-roadmap-including-plans-national-ets> (accessed 12 December 2023).

⁴³ Japan, Ministry of Economy, Trade and Industry, Outline of J-Credit scheme (August 2023), available at: <https://japancredit.go.jp/english/> (accessed 12 December 2023).

⁴⁴ *Ibid*; International Carbon Action Partnership (ICAP), Japan Factsheet, available at: <https://icapcarbonaction.com/en/ets/japan> (accessed 12 December 2023).

⁴⁵ International Carbon Action Partnership (ICAP), Japan – Saitama Target Setting Emissions Trading System Factsheet, available at: <https://icapcarbonaction.com/en/ets/japan-saitama-target-setting-emissions-trading-system> (accessed 12 December 2023).

	<p>Status: Implemented; operational</p>		<p>Scope / sectors covered: Consumption of fuels, heat, and electricity in commercial and industrial buildings.</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • Each facility has its own cap which serve as the baseline from which it must achieve its reduction target. • Offset credits are allowed to complement the emissions reduction credit. For example, such credits can also be via emission reductions achieved from large facilities outside of Saitama Prefecture, Tokyo credits, and forests (inside Saitama) absorption credits. • Borrowing is not allowed. • Tokyo and Saitama credits are fungible in the two jurisdictions. • Secondary market: Covered facilities trade over the counter. Businesses wishing to buy or sell credits can go through a private intermediary to find a buyer and negotiate the price. <p>Transferability / recognition: All offsets must be verified by verification agencies.</p> <p>Legislation: Saitama Prefecture Global Warming Strategy Promotion Ordinance, Regulation on Saitama Prefecture Global Warming Strategy Promotion Ordinance</p>
	<p>Tokyo Cap-and-Trade Scheme⁴⁶</p> <p>Status: Implemented; operational</p>	<p>Tokyo ETS</p>	<p>Geographic coverage / jurisdiction: Metropolitan area of Tokyo (Tokyo ETS is linked to Saitama Prefecture ETS).</p> <p>Scope / sectors covered: Large buildings, factories, heat suppliers, and other facilities that consume large quantities of fossil fuels.</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • Each facility has its own cap which serve as the baseline from which it must achieve its reduction target. • Offset credits are allowed to complement the emissions reduction credit. For example, such credits can also be via emission reductions achieved from large facilities outside of the Tokyo area and Saitama credits. • Tokyo and Saitama credits are officially eligible for trade between the two jurisdictions. • Secondary market: Covered facilities and other entities who hold trading accounts trade credits over the counter. Businesses wishing to buy or sell credits can also go through a private intermediary to find a buyer and negotiate the price.

⁴⁶ International Carbon Action Partnership (ICAP), Japan – Tokyo Cap-and-Trade Program Factsheet, available at: <https://icapcarbonaction.com/en/ets/japan-tokyo-cap-and-trade-program> (accessed 12 December 2023).

				<p>Legislation: Tokyo Metropolitan Security Ordinance and Regulation for the Enforcement of the Tokyo Metropolitan Environmental Security Ordinance, Tokyo Environmental Master Plan</p>
15.	Malaysia	<p>Bursa Malaysia (national + / global)</p> <p>Status: Implemented; operational</p>	Units	<p>Geographic coverage / jurisdiction: Based in Malaysia (+ potentially global coverage)</p> <p>Scope / sectors covered (voluntary): The Bursa Carbon Exchange (BCX), established in December 2022, is Malaysia’s VCM exchange, and part of the nation’s commitment towards achieving net zero GHG emissions by 2050. BCX is a global multi-asset, Shariah compliant, environmental exchange that facilitates the trading of high-quality carbon credits via standardised carbon contracts. Corporate entities may purchase these credits to offset their carbon footprint while the sale of carbon credits, in return, will help to finance and drive the development of domestic GHG emission reduction and removal solutions and projects.⁴⁷</p> <p>Legal classification and rights: The BCX Rules relevantly provide:</p> <ul style="list-style-type: none"> • ‘Market’ means the market operated by the Operator for trading in the Contracts known as Bursa Carbon Exchange; • Scheme means, in relation to a Unit, the international or national voluntary programme, platform or other arrangement that facilitates the creation, holding, transfer and Retirement of Units; • ‘Unit’ means, save where the Contract Specifications state otherwise in respect of a particular type of unit, any type of unit issued on a Scheme by a Scheme Authority approved by the Operator for trading on the Market via a Contract, where the unit relates to the removal, limitation, reduction, avoidance, sequestration or mitigation of one metric ton of emissions of GHGs, measured in CO2e; • ‘Unit Custodian’ means the Operator or any trustee appointed by the Operator to own and operate the Unit Custodian Scheme Account; and • ‘Unit Custodian Scheme Account’ means the account maintained by the Unit Custodian at a Scheme Registry for the receipt and settlement of Units held on trust by the Unit Custodian as bare trustee for the benefit of Participants.⁴⁸ • In terms of Unit ownership / title, clause 3.12 provides Seller representations and warranties: <ul style="list-style-type: none"> ○ The Seller (which includes a Broker in an instance where the Broker is acting in its capacity as a Seller whether for itself or for its Clients) represents and warrants to the Operator ...and the Buyer who purchases Units from that Seller, that immediately prior to matching of orders: (a) it, or its Client (where applicable, in the

⁴⁷ [‘About Us’ Bursa Malaysia](#) (accessed 12 December 2023).

⁴⁸ [‘Rules of Bursa Carbon Exchange’](#), *Bursa Malaysia* (22 August 2023), clause 1.01.

				<p>case of a Broker) held full beneficial title to each of the Units free and clear of any liens, security interests, claims or other encumbrances or title defects; and (b) it, or its Client (where applicable, in the case of a Broker) has no claim to the Units under any voluntary or mandatory GHG Reduction programme or as part of its own mitigation or carbon neutrality target.⁴⁹</p> <ul style="list-style-type: none"> • BCX offers four contract types available for trading (with the Eligible Scheme Authority being Verra Registry): <ul style="list-style-type: none"> ○ (1) Global Technology-Based Carbon Contract (GTC); ○ (2) Global Nature-Based Carbon Contract (GNC); ○ (3) Global Nature-Based Plus Carbon Contract (GNC+); and ○ (4) Malaysia Nature-Based Plus Carbon Contract (MNC+).⁵⁰ <p>Transferability / recognition: Units appear to all be verified/certified according to third-party standard, Verra.</p> <p>Legislation: Rules of Bursa Carbon Exchange (as at 22 August 2023)</p>
16.	Mexico	Mexico pilot ETS Status: Implemented	Mexican ETS	<p>Proposed geographic coverage / jurisdiction: National, Mexico</p> <p>Scope / sectors covered: Energy and industry sectors.</p> <p>The Ministry of Environment and Natural Resources (SEMARNAT) is expected to publish the regulations of the operational phase of the ETS in the first half of 2023.⁵¹</p> <p>Legislation: General Law of Climate Change; Agreement on the establishment of the preliminary basis of the Pilot Program of the Emissions Trading System (implementing regulation of the pilot); Regulation of the General Law of Climate Change on the National Emissions Register</p>
17.	New Zealand	NZ ETS Cap-and-Trade scheme	Emissions Unit (NZU)	<p>Geographic coverage / jurisdiction: National, New Zealand</p> <p>Scope / sectors covered: ⁵² All sectors of New Zealand's economy, apart from agriculture, pay for their emissions through their NZ ETS surrender obligations.</p> <p>Legal classification and rights:⁵³</p>

⁴⁹ *Ibid*, clause 3.12.

⁵⁰ *Ibid*, Appendix 1, Schedules 1-5.

⁵¹ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, 'Mexico Pilot ETS'.

⁵² Government of New Zealand, Ministry of Environment (8 December 2023): <https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/ets/about-nz-ets/>.

⁵³ *Ibid*.

		<p>Status: Implemented; operational</p>		<ul style="list-style-type: none"> • Businesses that carry out activities covered by the NZ ETS are required to buy and surrender to the Government, one NZU for every one tonne of carbon dioxide equivalent (CO₂-e) emissions they produce. • Prices of the emissions units (NZUs) are defined by supply and demand. However, there are price controls at auction level that act as safety valves to meet the emission budgets. • The government auctions NZUs but it is also possible to trade NZUs at the secondary market, which counts with some trading platforms. <p>Legislation: Climate Change Response Act 2002</p>
18.	Kenya	<p>Kenyan Carbon Market (national (+))</p> <p>Status: In development; to be implemented</p>	Carbon Credits	<p>Geographic coverage / jurisdiction: National, (+ potentially global coverage)</p> <p>Scope / sectors covered: Public and private entities may transfer and transact emission reduction units, mitigation outcomes or offsets generated through carbon initiatives, programmes and projects subject to compliance of national and international laws.⁵⁴ Under the <i>Climate Change Amendment Act 2023</i>, ‘Carbon Projects’ is broadly defined as ‘carbon reduction, carbon capture, removal or carbon avoidance projects.’⁵⁵ The Act also refers to nature, land and technology-based projects.</p> <p>Legal classification and rights: The <i>Climate Change Amendment Act 2023</i> does not contain any express provisions regarding the legal nature of carbon credits. It does however, define</p> <ul style="list-style-type: none"> • ‘carbon credit’ as a credit created when the equivalent of one metric ton of carbon dioxide is prevented from entering the atmosphere and is equal to one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas reduced, sequestered, or avoided; • ‘carbon standards’ as a complete set of established rules, procedures, and methodologies that guide on the generation and issuance of certified carbon credits; • ‘internationally recognized entity’ means any entity that is accredited under an established set of rules as properly constituted to oversee a carbon market; • ‘voluntary carbon market’ as a market where private investors, governments, non-governmental organizations, and businesses voluntarily buy and sell carbon credits that represent certified emissions removals or reductions of greenhouse gases in the atmosphere; and • ‘whitelist’ as a non-binding, non-exhaustive periodic list of activities or technologies that can deliver mitigation outcomes as provided for in the Nationally Determined Contributions and that are preferred by the Government of Kenya for Article 6.2 bilateral cooperation.⁵⁶

⁵⁴ [Climate Change Amendment Act 2023](#), section 2.

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

				<p>Policy guidance will be provided to national and county governments, public and other stakeholders and apply to all carbon markets, prescribing (among other things):</p> <ul style="list-style-type: none"> • Carbon reduction credits, carbon removal or sequestration credits; • Technologies and projects on the ‘whitelist’; and • Emission credits.⁵⁷ <p>Transferability / recognition: The <i>Climate Change Amendment Act 2023</i>, with references to internationally recognised entities, recognised credible international bodies (entities tasked with accreditation of internationally recognised entities), parties to, and mechanisms under, the <i>Paris Agreement</i>, it is clear that it is intended to allow potential expansion of the geographical coverage of the market through the recognition of credits and/or projects outside Kenya.</p> <p>Legislation: The Climate Change Act (No. 11 of 2016), as amended by the Climate Change Amendment Bill 2023 (the latter, signed by President William Ruto on 1 September 2023).⁵⁸</p>
19.	Republic of Korea	<p>Korea Emissions Trading Scheme (KETS)</p> <p>Cap-and-Trade scheme</p> <p>Status: Implemented; operational</p>	<p>Korean Allowance Units (KAUs)</p> <p>Other types of carbon credits are available via the Carbon Offset Programme (ROK)⁵⁹</p>	<p>Proposed geographic coverage / jurisdiction: National; Republic of Korea</p> <p>Scope / sectors covered: Includes power generation, industry, buildings, transport, aviation, and waste.⁶⁰</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • The Act regulating the allocation and trading of KAUs does not contain any provisions regarding the legal nature of carbon credits. • According to Article 19(1) of the legislation, emission permits may be sold, bought, or otherwise traded. • Individuals wishing to engage in emission rights trading must register an emission rights trading account in the emission rights registration system. However, registration for foreign corporations and individuals is allowed only under conditions specified by Presidential Decree. • Allocated emission rights can be traded through sale or other methods, and the transfer of emission rights resulting from trading shall take effect at the time the transaction details are registered in the emission rights registration system.

⁵⁷ *Ibid.*, sections 6(fa) and 23A.

⁵⁸ [‘Kenya’s Plan to Unlock Carbon Credit Market’](#) (*Business Daily Africa*, 4 September 2023).

⁵⁹ Asian Development Bank Report, “The Korea Emissions Trading Scheme: Challenges and Emerging Opportunities” (November 2018). Available at: <https://dx.doi.org/10.22617/TIM189641-2>.

⁶⁰ *Ibid.*

			<ul style="list-style-type: none"> To ensure fair price and the stability and efficiency in transactions of emission rights, the competent authority may designate, or establish and operate an emission permits exchange. Regulations regarding market price manipulation, fraudulent transactions, information usage in relation to transactions in an emission permits exchange should be applied, mutatis mutandis, in accordance with relevant provisions of the "Financial Investment Services and Capital Markets Act". The competent authority may designate the Korea Development Bank, the Industrial Bank of Korea, the Export-Import Bank of Korea, or other persons prescribed by Presidential Decree as a maker of emission permit markets for stable management of markets. <p>Legislation: The Act on The Allocation and Trading Of Greenhouse-gas Emission Permits (Act No. 17104, Mar. 24, 2020).</p>
20.	Singapore	<p>Singapore Carbon Tax (national (+))</p> <p>Status: Implemented; operational</p>	<p>Geographic coverage / jurisdiction: National; Singapore (though there has been progress to expand / open the market to international carbon credits)⁶¹</p> <p>Scope / sectors covered: The carbon tax applies to all facilities with annual direct GHG emissions of 25 ktCO₂e or more, with no exemptions. This tax rate is set to increase to SGD45/tCO₂e in 2026 and 2027, with a view to reaching SGD50-80/tCO₂e by 2030. From 2024, companies will also be able to surrender high quality international carbon credits to offset up to 5% of their taxable emissions.⁶²</p> <p>Legal classification and rights: In October 2023, the Ministry of Sustainability and the Environment and the National Environment Agency announced the Eligibility Criteria under the International Carbon Credit Framework, introduced in November 2022, and to be aligned with Article 6 of the <i>Paris Agreement</i>. The Eligibility Criteria set out seven principles to ensure the integrity of carbon credits, including that they are not double-counted, they are additional, real, quantified and verified, permanent, with no net harm, and no leakage.⁶³ Further, under the <i>Carbon Pricing Act 2018</i>:</p> <ul style="list-style-type: none"> 'carbon credit' means a carbon credit mentioned in section 26;⁶⁴ Section 26 provides for the pricing, crediting, surrender, cancellation and refund of carbon credits, which are credited, held, and dealt with through the Carbon Credits Registry.⁶⁵ Transactions involving carbon credits are to be carried out through the 'Emissions Data Monitoring and Analysis system' (EDMA system), operated by the National Environment

⁶¹ ['Singapore Sets Out Eligibility Criteria For International Carbon Credits Under The Carbon Tax Regime'](#) (Ministry of Sustainability and the Environment, Singapore, 4 October 2023).

⁶² World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, 'Singapore Carbon Tax'.

⁶³ ['Singapore Sets Out Eligibility Criteria For International Carbon Credits Under The Carbon Tax Regime'](#), *supra* note 61.

⁶⁴ [Carbon Pricing Act 2018](#), s 2.

⁶⁵ [Carbon Pricing Act 2018](#), ss 26-33.

			<p>Agency.⁶⁶ Electronic records, or copies or printouts of these transactions through the EDMA are admissible as evidence of facts, in any proceedings under the <i>Carbon Pricing Act</i>.⁶⁷</p> <p>Transferability / recognition: As above, progress has been made, including negotiations and MOUs concluded with other countries as to the requirements and processes, for international Article 6-compliant carbon credit cooperation, including recognition of international carbon credits.⁶⁸</p> <p>Legislation: Carbon Pricing Act 2018; Carbon Pricing (Carbon Tax and Carbon Credits Registry) Regulations 2020; Carbon Pricing (Registration and General Matters) Regulations 2018</p>
21.	South Africa	<p>South Africa Carbon Tax (national (+))</p> <p>Status: Implemented; operational</p>	<p>Geographic coverage / jurisdiction: National; South Africa (with potential expansion of the geographical coverage/scope through the recognition of credits from projects outside South Africa).⁶⁹</p> <p>Scope / sectors covered: The carbon tax covers all types of fossil fuels emissions by large businesses across industry, power, and transport sectors. Partial exemptions exist (between 60% to 95%, depending on the sector, the presence of fugitive emissions, level of trade exposure, emission performance, offset use and participation in the carbon budget program). The tax covers approximately 90% of South Africa's total GHG emissions, with only agriculture, forestry, land use, and waste excluded.⁷⁰ The carbon tax does not apply to the residential sector.</p> <p>A carbon offset mechanism was established under the <i>Carbon Tax Regulations 2019</i> (as amended), where 'taxpayers' may utilise offsets using carbon credits, up to a capped percentage specified under the relevant legislation.⁷¹</p> <p>Legal classification and rights: The <i>Carbon Tax Regulations 2019</i> (as amended) provide:</p> <ul style="list-style-type: none"> • 'approved project' means: <ul style="list-style-type: none"> ○ A CDM project; ○ A VCS project; ○ A Gold Standard project; or

⁶⁶ [Carbon Pricing \(Carbon Tax and Carbon Credits Registry\) Regulations 2020](#), regulation 7; [Carbon Pricing \(Registration and General Matters\) Regulations 2018](#), regulation 10.

⁶⁷ [Carbon Pricing \(Registration and General Matters\) Regulations 2018](#), regulation 16.

⁶⁸ 'Singapore Sets Out Eligibility Criteria For International Carbon Credits Under The Carbon Tax Regime', *supra* note 61.

⁶⁹ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, 'South Africa Crediting Mechanism'.

⁷⁰ 'South Africa Carbon Pricing and Climate Mitigation Policy' (Selected Issues Paper, International Monetary Fund, June 2023), [2].

⁷¹ [Carbon Tax Act 15 of 2019](#) (South Africa), section 13.

				<ul style="list-style-type: none"> ○ A project that complies with another standard approved by the Minister responsible for Energy or delegated authority; ● ‘CDM’ means the Clean Development Mechanism as defined in the Kyoto Protocol to the United Nations Framework Convention on Climate Change; ● ‘CDM registry’ means an electronic database system in which the issuance and distribution of certified emission reductions relating to CDM projects are recorded and maintained by the secretariate established under Article 8 of the Kyoto Protocol to the United Nations Framework Convention on Climate Change; ● ‘certificate of voluntary cancellation’ a document issued by the CDM, VERRA, Gold Standard or a national registry certifying that a carbon credit has been cancelled for the purpose of being used in the South African carbon tax offset scheme; ● ‘offset’ means an avoidance, a reduction or a sequestration of carbon dioxide equivalent (CO₂e) emissions recognised in terms of an approved project; ● ‘offset owner’ means a person who owns an offset, whether by generating that offset by means of a CDM project, a Gold Standard project or a VCS project or by purchasing that offset from another person.⁷² <p>Transferability / recognition: The <i>Carbon Tax Regulations 2019</i> (as amended) recognise credits / offsets certified by certain international standards (namely, VERRA (VCS), Gold Standard and CDM).⁷³ As above, there is also potential expansion of the geographical coverage of the market through the recognition of credits from projects outside South Africa.⁷⁴</p> <p>Legislation: Carbon Tax Act 15 of 2019; <i>Carbon Tax Regulations 2019</i> (of 29 November 2019, as published in Government Gazette G. 42873GoN 1556, and as amended, of 8 July 2021, as published in Government Gazette G. 44818 GoN 595)</p>
22.	Switzerland	Swiss ETS (national +)	Swiss Units (CHUs) ⁷⁵	<p>Geographic coverage / jurisdiction: National + (with EU ETS recognition); Switzerland</p> <p>Scope / sectors covered: Domestic Aviation (this now includes flights to the European Economic Area, and the UK), Industry (including cement, chemicals, pharmaceuticals, paper, refining, and steel), and Power. Participation is mandatory for large, energy-intensive entities and voluntary for medium-sized entities.⁷⁶</p>

⁷² [Carbon Tax Regulations 2019](#) (as amended), regulation 1.

⁷³ [Carbon Tax Regulations 2019](#) (as amended), regulations 2-3; see also ‘Standards’, *South African Carbon Offset Administration System* (accessed 12 December 2023).

⁷⁴ World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘South Africa Crediting Mechanism’.

⁷⁵ Betz et al, *supra* note 35, 5.

⁷⁶ [641.71 Federal Act of 23 December 2011 on the Reduction of CO₂ Emissions](#) (Switzerland) (CO₂ Act) [English Translation], sections 15-16a; World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘Switzerland ETS’.

				<p>Legal classification and rights: Allowances do not qualify as financial instruments under Swiss financial market regulations. Emissions allowances may form the underlying asset of derivative contracts which are covered by the ‘<i>Financial Market Infrastructure Act</i>’.⁷⁷ Article 2 of the 641.71 Federal Act of 23 December 2011 on the Reduction of CO₂ Emissions (Switzerland) (CO₂ Act) [English Translation] provides:</p> <ul style="list-style-type: none"> • Emission allowances are tradable rights to emit greenhouse gases allocated or auctioned by the Confederation or by states or communities of states with emissions trading schemes (ETS) recognised by the Federal Council. • Emission reduction certificates are internationally recognised tradable documents attesting to reductions in emissions achieved abroad in accordance with the Kyoto Protocol of 11 December 1997 to the United Nations Framework Convention on Climate Change.⁷⁸ <p>Transferability / recognition: Covered entities in the Swiss ETS can use allowances from the EU ETS for compliance, and vice versa. Market participants from the EEA need an account in the Swiss Emissions Trading Registry in order to participate. The two systems run separate auctions, with allowance transfers between the EU and Swiss registries generally executed twice a week (Tuesday and Thursday). Swiss allowances are not traded on regulated trading platforms but may be traded over-the-counter. EU ETS allowances, which can be used for compliance in the Swiss ETS, are traded on multiple exchanges, including ICE Futures and EEX. Since 2021, no offsets or international credits can be used for compliance.⁷⁹</p> <p>Legislation: 641.71 Federal Act of 23 December 2011 on the Reduction of CO₂ Emissions Ordinance of 30 November 2012 for the Reduction of CO₂ Emissions</p>
23.	United Arab Emirates (UAE)	Abu Dhabi Global Market (ADGM) (Pilot Phase) (<i>global</i>) Status: Pilot phase; to be implemented	Environmental Instruments	<p>Proposed geographic coverage / jurisdiction: Based in Abu Dhabi, UAE (+ potentially global coverage)</p> <p>Proposed scope / sectors covered (voluntary): ADGM, in partnership with AirCarbon Exchange (ACX), a digital carbon trading exchange, intends to form a trading exchange and clearing house. ACX is to be established as a recognised investment exchange and will be regulated by ADGM.⁸⁰</p> <p>Legal classification and rights: Carbon is treated as a commodity. The platform will allow companies to trade and finance carbon credits in a similar way to conventional financial assets (referred to as ‘environmental</p>

⁷⁷ International Carbon Action Partnership, ‘[Swiss ETS](#)’ (2023).

⁷⁸ [641.71 Federal Act of 23 December 2011 on the Reduction of CO₂ Emissions](#) (Switzerland) [English Translation], Art. 2.

⁷⁹ International Carbon Action Partnership, ‘[Swiss ETS](#)’ (2023); World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘Switzerland ETS’.

⁸⁰ [‘Announcement: Abu Dhabi to launch the first regulated carbon credit trading exchange and clearing house in the world’](#) ADGM (accessed 12 December 2023).

			<p>instruments’).⁸¹ There are also proposals that eventually ACX will offer carbon credit futures as commodity derivatives for trading. ACX proposes using distributed ledger technology to produce digital tokens for carbon credits, and which clearing house, ACX Clearing Corporation, will then settle and clear all digital tokens using blockchain smart contracts.⁸² ACX applies English common law directly to its legal and regulatory regime.⁸³ ACX’s Market Rules define:</p> <ul style="list-style-type: none"> • ‘ACX Contract’ as an Environmental Instrument, representing underlying Digital Registry Receipts, admitted to trading on ACX’s Market and Settlement and Custody on ACC Ltd’s facilities, subject to the Rules and ACX Contract Specifications.⁸⁴ • ‘Environmental Instrument’ as defined in FSRA Regulations, a Financial Instrument, that is recognised by the FSRA, which: (1) Enables its holder to emit greenhouse gases into the atmosphere, in accordance with any emissions trading scheme (i.e. emissions allowances or equivalent); (2) Attests to the reduction or removal of greenhouse gases into the atmosphere (i.e. carbon credits or equivalent); or (3) Attests to the environmental attributes of an underlying unit (i.e. renewable energy or environmental attribute certificates).⁸⁵ <p>Governing terms: ‘Regulation’ ACX Website; ACX Market Rules; ACX Contract Specifications; ACX Participant Agreement; other rules (risk disclosure, fee schedule)</p>
24.	Dubai Financial Market (DFM) (Pilot Phase) (global)	Carbon Credit Securities	<p>Proposed geographic coverage / jurisdiction: Based in Dubai, UAE (+ potentially global coverage)</p> <p>Proposed scope / sectors covered (voluntary): A pilot program for trading carbon credits, during the first half of COP28. DFM provides a regulated platform where project capital raising, carbon credit trading and safekeeping are explored in support of the UAE Government’s net zero by 2050 goal.⁸⁶</p> <p>Legal classification and rights: Credits are verified by independent third-party verification bodies. As part of the pilot phase, Carbon Credits that have successfully undergone the verification process may be listed as Securities on the DFM trading platform (‘DFM Platform’, and will represent a right to retire carbon credits). The DFM Platform will conduct real-time execution and reporting of all orders and transactions. These carbon credits once admitted, shall be referred to as ‘Carbon Credit</p>

⁸¹ [‘Regulation’ ACX](#) (accessed 12 December 2023).

⁸² [‘Announcement: Abu Dhabi to launch the first regulated carbon credit trading exchange and clearing house in the world’](#), *supra* note 80.

⁸³ [‘Regulation’ ACX](#) (accessed 12 December 2023).

⁸⁴ [ACX Market Rules](#) (v1.1 May 2023), p. 5.

⁸⁵ *Ibid*, p. 9.

⁸⁶ [‘Pilot Phase: Voluntary Carbon Credit Market’ DFM](#) (accessed 12 December 2023).

				Securities'. ⁸⁷
25.	United Kingdom of Great Britain and Northern Ireland	UK Emissions Trading Scheme (UK ETS) Cap-and-Trade scheme (<i>national</i>)	Allowances	<p>Governing terms: Terms of Use: Pilot for the Trading and Retirement of Carbon Credits</p> <p>Geographic coverage / jurisdiction: National; United Kingdom</p> <p>Scope / sectors covered: Energy-intensive industries (steel making, meat processing, etc); power generation; and aviation. There are projections that from 2026 the scheme will apply to large maritime vessels of 5000 gross tonnage and above, and from 2028, waste incineration and energy generated from waste.⁸⁸</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • <u>'Allowance'</u> means an allowance created under <i>The Greenhouse Gas Emissions Trading Scheme Order 2020</i> (a Statutory Instrument made in exercise of the powers conferred by sections 44, 46(3), 54 and 90(3) of, and Schedule 2 and paragraph 9 of Schedule 3 to the <i>Climate Change Act 2008</i>) • <u>Allowances are classed as 'financial instruments' (see paragraph 11 of Schedule 2 to the Financial Services and Markets Act 2000 (Regulated Activities) Order 2001) and as such are captured by UK financial services law</u> • Article 18 of the Order provides: (1) The UK ETS authority may create allowances in the registry for the purposes of the UK ETS; (2) An allowance is an allowance to emit 1 tonne of carbon dioxide equivalent; (3) Allowances may be held only in accounts in the registry.⁸⁹ • Article 23 provides that 'allowances may be traded, except where prohibited by other legislation.'⁹⁰ • A portion of allowances issued for free (that is, a certain quantity of emissions is permitted before different sectors must start paying for carbon), with (separately allocated) allowances for aviation operators and installation operators • The UK Emissions Trading Scheme Registry (UK ETS Registry) is accessed and hosted using a secure web-based application, and is used for holding allowances. • Holding accounts in the UK ETS Registry are required to acquire and surrender allowances. There are separate UK ETS Trading Accounts available for the holding and trading of UK allowances as an activity unrelated to UK ETS compliance. Trading accounts cannot be

⁸⁷ ['Terms Of Use Pilot For The Trading And Retirement Of Carbon Credits'](#), *DFM* (accessed 12 December 2023), see, in particular, clause 20.1.

⁸⁸ Government of the United Kingdom, ['Guidance: Participating in the UK ETS'](#) (4 September 2023).

⁸⁹ [The Greenhouse Gas Emissions Trading Scheme Order 2020](#), Art. 18.

⁹⁰ *Ibid*, Art. 23.

				<p>used for UK ETS compliance. Those industry operators covered by the UK ETS are able to use their holding accounts they are required to open with the UK ETS Registry to trade.⁹¹</p> <ul style="list-style-type: none"> • Allowances are auctioned in accordance with the Greenhouse Gas Emissions Trading Scheme Auctioning Regulations 2021 <p>Legislation: The Greenhouse Gas Emissions Trading Scheme Order 2020</p>
26.	United States of America	American Carbon Registry (<i>independent; national +</i>) Status: Implemented; operational	Verified Emission Reductions (VERs)	<p>Geographic coverage / jurisdiction: Independent; global (projects primarily in the United States, though as at March 2023, there were five countries where projects were located); VCMs and CCMs</p> <p>Administrative body: Winrock International</p> <p>Description: The ACR was the first independent voluntary offset program in the world, and includes credit emission reductions for both voluntary and compliance markets (e.g. CORSIA, and Washington State CAR).</p> <p>Scope / sectors covered: Agriculture, CCS/CCU, energy efficiency, forestry, fuel switch, industrial gases, manufacturing, renewable energy, transport, waste⁹²</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • Verified Emission Reductions (VERs) ‘a serialized and registered ...Emission Reduction Ton (ERT), denominated in metric tons of CO2’ and includes ‘emission reductions and removal enhancements (<i>i.e.</i> enhanced sequestration)’. • ACR will not issue ERTs for GHG emission reductions or removals when an emission mitigation activity has not yet occurred or is not yet verified. • The Project Proponent (<i>i.e.</i> carbon project developer) shall provide documentation and attestation of undisputed title to all carbon credits prior to registration. • Title to credits shall be clear, unique, and uncontested. • ACR will issue ERTs into the associated Project Developer Account on ACR only if there is clear, unencumbered, and uncontested title.⁹³ <p>Standard: The ACR Standard</p>

⁹¹ [‘Guidance: Participating in the UK ETS’](#), *supra* note 88.

⁹² World Bank, [Carbon Pricing Dashboard: Carbon Crediting Mechanisms](#), *supra* note 1, ‘American Carbon Registry’.

⁹³ ACR at Winrock International, [The ACR Standard: Requirements and Specifications for the Quantification, Monitoring, Reporting, Verification, and Registration of Project-Based GHG Emissions Reductions and Removals](#) (Version 8.0, July 2023), 11, 19-20; Taskforce of Scaling Voluntary Carbon Markets, [Phase II Report](#) (8 July 2021), 52.

27.		<p>Regional Greenhouse Gas Initiative (RGGI) CO2 Offset Mechanism (subnational)</p> <p>Status: Implemented; operational</p>		<p>Geographic coverage / jurisdiction: Subnational; Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Virginia⁹⁴</p> <p>Description: A mandatory market-based program to reduce GHG emissions by the USA. RGGI is a cooperative effort among eastern-states.⁹⁵</p> <p>Scope / sectors covered: CO2 emissions from the power sector only.⁹⁶</p> <p>Legal classification and rights: The RGGI Model Rule specifies that allowances are limited authorizations by the participating state’s regulatory agencies to emit up to one tonne of CO2.⁹⁷</p>
28.		<p>California Compliance Offset Program (subnational +)</p> <p>Status: Implemented; operational</p>	<p>California Allowances</p>	<p>Geographic coverage / jurisdiction: Subnational + other jurisdictional/system recognition; United States</p> <p>Scope / sectors covered: Agriculture, forestry, fugitive emissions, industrial gases⁹⁸</p> <p>Transferability / recognition: California ETS, Quebec ETS⁹⁹</p>
29.	<p>Viet Nam</p>	<p>Viet Nam ETS / Crediting Mechanism (national (+))</p> <p>Status: To be developed</p>	<p>Environmental license / carbon credit</p> <p>To be developed</p>	<p>Proposed geographic coverage / jurisdiction: National; Viet Nam¹⁰⁰</p> <p>Scope / sectors covered: ETS is proposed to (initially) cover steel, cement, and thermal power sectors.¹⁰¹</p> <p>Legal classification and rights:</p> <ul style="list-style-type: none"> • ‘environmental license’ means a document issued by a competent authority to an organization or individual (hereinafter referred to as ‘entity’) involved in business activities, permitting such organization or individual to discharge waste into the environment and

⁹⁴ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘RGGI’.

⁹⁵ *Ibid.*

⁹⁶ *Ibid.*

⁹⁷ International Carbon Action Partnership, ‘[USA - Regional Greenhouse Gas Initiative \(RGGI\)](#)’ (2023).

⁹⁸ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘California CaT’; International Carbon Action Partnership ‘[USA – California Cap-and-Trade Program](#)’ (2023).

⁹⁹ *Ibid.*

¹⁰⁰ World Bank Group, [Carbon Pricing Dashboard](#), *supra* note 4, ‘Vietnam ETS’.

¹⁰¹ International Carbon Action Partnership, ‘[Vietnam](#)’ (2023).

				<p>manage waste and scrap imported from foreign countries as production materials in accordance with environmental protection requirements as prescribed by law.</p> <ul style="list-style-type: none"> • ‘carbon credit’ means any tradable certificate representing the right to emit one tonne of carbon dioxide (CO₂) or one tonne of carbon dioxide (CO₂) equivalent.¹⁰² <p>Transferability / recognition:</p> <ul style="list-style-type: none"> • The domestic carbon market covers the exchange of GHG emission quotas and carbon credits obtained from the participation in domestic and international carbon credit exchange and offsetting mechanisms in accordance with regulations of law and international treaties to which Viet Nam is a signatory. • Every GHG-emitting facility participating in the domestic and international carbon credit exchange and offsetting mechanisms in accordance with regulations of law and international treaties to which Viet Nam is a signatory is allowed to exchange carbon credits on the domestic carbon market,... and shall exchange, auction, borrow, pay for and transfer carbon quotas and credits in accordance with regulations of law and international treaties to which Viet Nam is a signatory.¹⁰³ • The mandatory ETS is scheduled to be implemented from 2028 onwards, and provisions will allow for participation under Article 6 of the <i>Paris Agreement</i>.¹⁰⁴ <p>Legislation: Law on Environmental Protection (Law No. 72/2020/QH14, 17 November 2020); Decision to Approve National Strategy for Addressing Climate Change through 2050 (Decision No. 896/QĐ-TTg) (dated 26 July 2022).</p>
30.	Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)	<p>CORSA (<i>global – aviation industry</i>)</p> <p>Status: Implemented; operational</p>	<p>CORSA-accepted units (a mix of units)¹⁰⁵</p>	<p>Geographic coverage / jurisdiction: As of January 2024, 126 participating states¹⁰⁶</p> <p>Scope / sectors covered: International aviation</p> <p>Legal classification and rights / Eligible Emissions Units: Please see ‘CORSA Eligible Emissions’ document. Eligible emissions units are those approved by the ICAO Council to supply CORSA Eligible Emissions Units for a particular compliance period. CORSA Eligible Emissions Units are identified as such by an Emissions Unit Programme, according to each programme’s respective Scope of Eligibility referred to in the linked document, including to reflect Eligible Unit Dates, and any specifications regarding activity, and/or unit types, methodologies, programme</p>

¹⁰² [Law on Environmental Protection](#) (Law No. 72/2020/QH14, 17 November 2020), Art. 3.

¹⁰³ *Ibid*, Arts 139.1, 139.6-139.7.

¹⁰⁴ International Carbon Action Partnership, ‘[Vietnam](#)’ (2023).

¹⁰⁵ Betz *et al*, *supra* note 35, 5.

¹⁰⁶ CORSA, ‘[CORSA States for Chapter 3 State Pairs](#)’ (CORSA, January 2023).

				elements, and/or procedural classes. ¹⁰⁷
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¹⁰⁷ [CORSIA Eligible Emissions Units](#) (International Civil Aviation Organisation (ICAO), March 2023).