United Nations A/CN.9/1120

General Assembly

Distr.: General
15 May 2022

Original: English

United Nations Commission on International Trade Law
Fifty-fifth session
New York, 27 June–15 July 2022

Work Programme

Possible future work on climate change mitigation, adaptation and resilience

Note by the Secretariat

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V.22-01562 (E) 230322 240322

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I. Introduction

1. At its fifty-fourth session, in 2021, the Commission heard a proposal 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. It was added that public-private partnerships could be an area of focus for stocktaking existing texts, while legal uncertainty regarding the legal status of carbon credits traded in voluntary carbon markets could be a focus for future legislative work.[1]

2. Broad support was expressed for the Commission to consider the proposal further, based on more precise information on the work involved. It was added that member States might need to carry out further internal consultations across different government agencies before a decision on future work could be taken, and that such work would need to be undertaken within existing public international law frameworks, such as the Paris Agreement on climate change of 2015.[2]

3. After discussion, the Commission requested the secretariat to consult with interested States with a view to developing a more detailed proposal on the topic for presentation to the Commission for its consideration at its next session, in 2022.[3]

4. The consultations carried out by the secretariat in response to that request have revealed considerable interest by various Member States for examining further how existing UNCITRAL texts could be applied to support achieving climate change mitigation, adaptation and resilience goals, and whether UNCITRAL could further contribute to facilitating those goals in the implementation of those texts or through the development of new texts.

5. In the light of those positive responses, the secretariat has commissioned a study on private law aspects of climate change ("the Study") by an outside expert, professor Géraud de Lassus St-Geniès, of Laval University in Québec (Canada). This note summarizes the findings and recommendations of the Study with a view to assisting the Commission consider the desirability and feasibility of undertaking work in this area.

II. Overview of the Study on Private Law Aspects of Climate Change

6. The Study examines the scope for a contribution by UNCITRAL to the climate change mitigation, adaptation and resilience by assessing: (a) private law issues relating to clean investments; (b) private law and the incorporation of climate considerations into business decisions; and (c) UNCITRAL instruments and climate action. The Study concludes by setting forth the possible scope of UNCITRAL contribution in this area.

A. Private law issues relating to clean investments

7. To avoid the most catastrophic adverse impacts of climate change, the world economy needs to drastically reduce its greenhouse gas (GHG) emissions and reach carbon neutrality around the mid-century.[4] This requires considerable investments, especially in the fields of clean technologies, infrastructure, and renewable energies.

[1] *Official Records of the General Assembly, Seventy-sixth Session, Supplement No. 17* (A/76/17), para. 244.
[2] Ibid., para. 245.
[3] Ibid., para. 246.
[4] Intergovernmental Panel on Climate Change (IPCC), *Global warming of 1.5 °C. An IPCC Special Report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global*

8. The critical role of "climate-friendly investment" in the fight against climate change is widely recognized. The Paris Agreement, for instance, mentions as its third objective, to make "financial flows consistent with a pathway towards low greenhouse gas emissions and climate resilient development".[5]

9. An analysis of the legal literature reveals that private law could contribute to creating a more favourable environment for climate-friendly investment in various areas. Chief among them is carbon trading, but other areas such as carbon capture, utilization and storage are also mentioned in the literature. The following subsections present the main current private law issues that can be observed in these two areas, with an emphasis on carbon trading.

1. Private law issues relating to carbon trading

10. Carbon trading is the process of buying and selling so called "carbon credits", that is, tradable permits that entitle the holder to emit 1 ton of CO_2 equivalent. Carbon credits are traded through contractual arrangements, either over-the-counter or on futures exchange.

11. There are two different types of carbon credits: emission allowances and offset credits. Emission allowances are created by governments through their regulatory power. They are usually freely allocated by public authorities to entities that emit GHG, or sold, often by auction. An offset credit is created when a promoter carries out a project that avoids GHG emissions that would have otherwise occurred, or that absorbs GHG already present in the atmosphere.[6] Thus, while the creation of an offset credit always requires an initial investment, emission allowances may be obtained freely.

12. Carbon credits can be traded on two different types of carbon markets: the mandatory carbon markets and the voluntary carbon market. Mandatory carbon markets are created by governments and are governed by domestic laws and regulations or international agreements. They usually take the form of a cap-and-trade system, also known as an emissions trading system (ETS).[7] In an ETS, a government defines a carbon budget (the "cap") that can be emitted in its jurisdiction during a certain period. Based on that cap, the GHG emitters of this jurisdiction receive – and are given the opportunity to purchase – from the government a certain quantity of emission allowances. At the end of the period, these entities are legally obliged to surrender one allowance for each ton of CO_2 equivalent they have emitted during that period. As emission allowances can be traded between participants, entities that lower their emissions can sell their allowances to entities that are likely to emit more than the number of allowances they have received or have been able to purchase. In many ETS, entities can also carry out projects to obtain offset credits that can be used for compliance purposes. A key principle of the functioning of an ETS is that, over time, the "cap" declines and fewer emission allowances are allocated. As such, ETS are

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greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty, 2018 (hereafter "IPCC, *Global warming of 1.5*"), p. 12.

[5] Paris Agreement, art. 2.1 (c) (United Nations, *Treaty Series*, vol. 3156). This treaty also refers, indirectly, to the need to stimulate private investment in its article 6.4 (b), which establishes a market-based mechanism to "incentivize and facilitate participation in the mitigation of greenhouse gas emissions by public and private entities authorized by a Party".

[6] Offset credits are sometimes referred to as "carbon certificates". However, the expression can also be used in a different context, as some institutions deliver "carbon certificates" to certify that companies have achieved carbon neutrality.

[7] Mandatory carbon markets may also take the form of purely offset programmes, such as the Clean Development Mechanism, which was created by the Kyoto Protocol to the United Nations Framework Convention on Climate Change ("Kyoto Protocol"), article 12 (United Nations, *Treaty Series*, vol. 2303, p. 162), or the Sustainable Development Mechanism which has been established by the Paris Agreement (article 6.4). Offset programmes have also been implemented in domestic jurisdictions. In that case, offset credits can be traded and used for compliance purposes by entities whose emissions have exceeded the threshold limits prescribed by regulations.

instruments that are designed to achieve GHG emissions reductions. Examples of ETS in operation can be found in nearly 70 jurisdictions around the world,[8] including in China, the European Union, New Zealand, the Republic of Korea, and the United Kingdom of Great Britain and Northern Ireland, and in different subnational jurisdictions in Canada and the United States of America.[9]

13. Unlike mandatory carbon markets, the voluntary carbon market is not governed by laws and regulations. There is no "cap" and no centralized oversight by a public authority. On the voluntary carbon market, the carbon credits that are traded are exclusively offset credits that have been generated through projects certified by private entities called carbon standards (e.g. The Verified Carbon Standard, The Gold Standard, Climate Action Reserve, American Carbon Registry). Carbon standards ensure that projects have resulted in GHG emissions reductions and "create" the corresponding amount of offset credits. These credits are located on registries that carbon standards operate, or that are operated by other entities with which they have concluded a partnership. Once created, offset credits can be traded and, at any moment, their holders can decide to "retire" them (i.e. to remove them from the market) to claim that they have offset their GHG emissions. Purchasing offset credits is part of the corporate social responsibility strategy of a growing number of companies that have set themselves a carbon neutrality target.[10] As a result, analysts anticipate that the demand for offset credits on the voluntary carbon market will increase in the coming years.[11]

14. The following paragraphs discuss three private law issues that relate to different aspects of carbon trading, namely: the lack of certainty in the legal treatment of carbon credits in domestic law; the divergences in the legal treatment of carbon credits across jurisdictions; and the exposure of market participants to regulatory risks.

(a) Lack of certainty in the legal treatment of carbon credits

15. Defining the exact legal nature of carbon credits is often considered a "fundamental issue"[12] in achieving an adequate level of legal certainty to encourage private entities to invest in offset credits or to be in a position to sell their emission allowances. For instance, in a jurisdiction covered by an ETS, market participants should be able to know whether the emission allowances represent a revocable administrative licence to emit GHG, an asset that is subject to property rights, or an administrative licence with certain property characters. On the voluntary carbon market, where the carbon credits are not issued by public authorities, a project developer whose offset credits are recorded on a registry located in a given jurisdiction should be able to know whether its offset credits constitute intangible property or have another legal status.

16. The legal qualification of carbon credits may determine: the rights that a holder can assert over these credits and the possibility to bring a claim against the government for interfering with its property rights if its credits are cancelled by public authorities; whether carbon credits can support security interests; the ways in which these credits are treated upon insolvency and bankruptcy, and in the event of succession;[13] or the tax and accounting rules that are applicable.

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[8] World Bank, *State and trends of carbon pricing 2021*, 2021, https://openknowledge.worldbank.org/handle/10986/35620.

[9] Quebec, California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia.

[10] As of April 2021, 482 companies accounting for an estimated annual revenue of USD 16 trillion have adopted some kind of neutrality target. Nicolas Kreibich, Lukas Hermville, "Caught in between: credibility and feasibility of the voluntary carbon market post-2020", *Climate Policy*, vol. 21, No. 7, 2021, p. 950.

[11] Taskforce on Scaling Voluntary Carbon Markets, *Final Report*, 2021, preface, www.iif.com/Portals/1/Files/TSVCM_Report.pdf.

[12] Kevin F.K. Low, Jolene Lin, "Carbon credits as EU like it: property, immunity, tragiCO2medy?", *Journal of Environmental Law*, vol. 27, No. 3, 2015, p. 378.

[13] In some ETS, market participants can be natural persons.

17. In most jurisdictions covered by an ETS, the statutory provisions that establish the scheme define emission allowances in a manner that does not specify their legal character.[14] Indeed, carbon credits are often defined "in relation to their objective features as opposed to the legal relationship they are capable of supporting".[15] The result is that these "schemes leave the relationship between the government and the holder of an emission entitlement unclear, as well as the rights of third-parties in relation to an entitlement".[16] Further clarity on the legal treatment of carbon credits is sometimes provided by other laws and legal documents than those establishing an ETS, for instance, in statutes or policy documents relating to securities markets.[17] While provisions of this kind can help in clarifying the rules applicable to carbon credits and offer valuable indications as to how carbon credits would likely be qualified by tribunals, they do not provide clear and comprehensive answers about the legal nature of these credits and the way in which they shall be treated under domestic law. The same goes with prospective legal analysis based on the interpretation of existing laws[18] or based on the interpretation of judicial decisions in which courts had to decide, for instance, whether an entitlement (e.g. milk quotas,[19] fishing permits,[20] waste management licence[21]) could be considered as intangible property or had to clarify the meaning of statutory provisions relating to bankruptcy and insolvency.[22]

18. The legal status of carbon credits has, in some jurisdictions, been clarified by courts. In the European Union, for instance, the Directive that established the ETS did not define the legal nature of emission allowances,[23] which was left to the discretion of the Member States. While some States have defined the legal status of the allowances in their legislation (such as France[24]) others have not done so, and the question was eventually examined by tribunals. In *Armstrong DLW GmbH v. Winnington Network Ltd.*, the High Court of Justice of England and Wales ruled that "an EU allowance is 'intangible' property".[25] Also, in a case before the Court of

[14] See, for instance *Environment Quality Act* (Quebec), art. 46.6; *Federal Act on the Reduction of CO_2 Emissions* (Switzerland), art. 2.c; or *Act on the Allocation and Trading of Greenhouse-Gas Emission Permits* (Republic of Korea), art. 2.3.

[15] Hope Johnson, Pamela O'Connor, Bill Duncan, et al., "Towards an international emissions trading scheme: legal specification of tradeable emissions entitlements", *Environment and Planning Law Journal*, vol. 34, No. 1, 2017, p. 13.

[16] Ibid., p. 18.

[17] The *Climate Change Response Act 2002* of New Zealand does not specify the legal character of carbon credits, but section 18(1A) of the *Personal Property Securities Act 1999*, expressly indicates that carbon credits can be subject to a security interest. Similarly, in Quebec, the authority responsible for financial regulation issued a policy statement in which carbon credits are qualified as intangible commodities that are excluded from the scope of application of some aspects of the legal framework relating to derivatives (*Policy Statement to Regulation 91-506 Respecting Derivatives Determination* (Quebec), Part 2, para. 2(d)).

[18] For instance, in Switzerland, it is considered that "As emission allowances are freely tradable, it can – at least *theoretically* – be *assumed* that the allowances may be pledged under Swiss law" (emphasis added). Evelyn Frei, Michael Lips, "Climate regulation in Switzerland", *Lexology*, 20 November 2019, www.lexology.com/library/detail.aspx?g=40dd7964-bd96-4b17-9660-7fd3c2f5c601.

[19] *Swift and Another v Dairywise Farms Ltd. and Others* [2003] 1 WLR 1606 (United Kingdom).

[20] *R. Baker Fisheries Ltd. v. Widrig*, 1998 NSCA 20 (Canada).

[21] *In re Celtic Extraction Ltd* [2001] ch 475 (United Kingdom).

[22] *Saulnier v. Royal Bank of Canada* [2008] 3 SCR 166 (Canada).

[23] *Directive 2003/87/EC of the European Parliament and of the Council of the 13 October 2003 establishing a scheme for greenhouse gas emission allowances trading within the Community and amending Council Directive 96/61/EC.*

[24] According to article L. 229-15 of the *Environment Code*, "Greenhouse gas emission allowances issued to the operators of facilities authorized to emit these gases are movable assets exclusively materialized by being listed on the account of their holder in the national register mentioned in Article L. 229-16. They are negotiable, transmissible by transfer from account to account, and confer identical rights upon their holders. They may be transferred as soon as they are issued, subject to the provisions of [para. II] of Article L. 229-12 and Article L. 229-18" [our translation].

[25] *Armstrong DLW GmbH v. Winnington Networks Ltd* [2012] EWHC 10 (United Kingdom), para. 52.

Justice of the European Union (CJEU), an advocate general held that while there is no statutory definition of the legal nature of allowances in Belgium, "they are considered to be intangible movable property".[26]

19. Leaving the determination of the legal status of carbon credits for courts may not be the best approach over the long term. As court rulings may evolve over time, an express provision in a legislative text is likely to provide greater legal stability and confidence to private actors. Moreover, court precedent clarifying the legal status of carbon credits may not dispel all uncertainties surrounding their legal treatment. For instance, despite the *Armstrong DLW GmbH v. Winnington Network Ltd.* ruling, in some European Union Member States there were still doubts as to whether law provided "adequate protection and enforceability for security interests over emission allowances"[27] and it was noted that "practical problems" could prevent the use of European Union ETS allowances as security interests.[28] Even if the legal status of carbon credits were specified by a statutory provision, uncertainties and practical legal issues could still arise in relation to the legal treatment of those credits.[29] Should carbon credits be qualified as property rights in the legislation, private actors would still have to know whether those credits must be treated as financial products and what rules regulate their trading. Likewise, if the law recognizes that carbon credits are capable of supporting security interests, practical difficulties could appear if a lender, who is not a registered participant to a mandatory carbon market and as such does not hold an electronic account, seeks to enforce its security over emission allowances.

20. Another reason for a specific characterization of the legal nature of carbon credits is their double nature, that is: as tradeable intangible property on the one hand; and as administrative permits issued under a regulatory scheme, to serve a public policy objective, on the other. In order to ensure that ETS yield concrete benefits for the climate, public regulators reserve the power to intervene in that market, when necessary, by cancelling carbon credits in circulation (sometimes even retroactively) to preserve the environmental integrity of the ETS.

21. Uncertainties about the legal nature of carbon credits and their possible legal treatment under domestic law can also be found on the voluntary carbon market. On the one hand, voluntary offset credits could be qualified as intangible property. In some countries (e.g. United Kingdom, New Zealand, Australia), for a thing to be considered as property it is usually necessary to establish that it is "definable, identifiable by third parties, capable in its nature of assumption by third parties and [that it has] some degree of permanence or stability".[30] In other legal systems (e.g. Canada, United States, France), the criteria traditionally used to define property tend to revolve around the questions of whether a thing has an economic value, whether it can be transferable, and whether a person can use it without interference from third parties.[31] In relation to voluntary offset credits, it seems that these criteria would be met. Voluntary offset credits are identifiable (they appear in an electronic registry), they have an economic value, and they are transferable. Moreover, an offset credit can only be used by its holder, and for its sole benefit.

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[26] Opinion of Advocate general Wathelet delivered on 7 September 2016, CJEU, Case C-453/15, para. 49 (EU).

[27] Marta Ballesteros, Matthieu Wemaëre, Leonie Reins, et al., *Legal nature of EU ETS allowances. Final report*, report prepared for the EU Commission, 2018, p. 65, https://op.europa.eu/en/publication-detail/-/publication/9d985256-a6a9-11e9-9d01-01aa75ed71a1.

[28] Ibid., p. 70.

[29] Ibid., p. 186.

[30] *National Provincial Bank v. Ainsworth* [1965] AC 1175, p. 1247–1248 (United Kingdom).

[31] Yaëll Emerich, "Les biens et l'immatérialité en droit civil et en common law", *Les Cahiers de droit*, vol. 59, No. 2, 2018, p. 401; *Caratun v. Caratun*, 1992 CanLII 7715 ONCA (Canada), *International News Service v. Associated Press* (1918) 248 US 215 (United States). See also: Thomas W. Merrill, "Property and the right to exclude", *Nebraska Law Review*, vol. 7, issue 4, 1998, pp. 730–755.

22. On the other hand, voluntary offset credits may also be regarded as a bundle of private law contractual rights. This possible qualification stems from the fact that the existence of the voluntary carbon market rests exclusively on a bundle of private law contracts. For instance, for a company to obtain voluntary offset credits through a mitigation project, several contracts must be concluded: one with a carbon standard to start the certification process of the project; one with a third-party verifier that will certify that the project meets the rules and requirements of the carbon standard; and one with another third party that will assess the quantity of GHG emissions that the project has avoided or sequestered and confirm the number of corresponding credits that can be issued. It is only through the existence of these contractual arrangements that voluntary offset credits come to life. Therefore, it may be possible to characterize offset credits as a contractual right that an entity has to benefit from these credits by virtue of the different contracts it has concluded with the carbon standard, the verifiers and/or the institution that operates the registry.[32]

23. Whether voluntary offset credits are treated as intangible property or a bundle of contractual rights may determine, like in the case of mandatory carbon markets, the legal treatment that will be reserved to these credits. The answer can thus affect how ownership rights in these credits can be transferred, whether these credits can be used for collateral purposes and how they "would be treated following insolvency (including with regard to netting)".[33] Yet, at the moment, it appears that the legal status of these credits has not been specified by legislative or judicial means in many jurisdictions, and some legal experts are of the view that greater certainty over the legal status of voluntary offset credits is desirable as it "would contribute to a more robust market".[34]

(b) Divergences in the legal treatment of carbon credits

24. In jurisdictions that have an ETS, significant divergences can sometimes be observed in the way in which carbon credits are treated under domestic law. This is the case, for instance, in Quebec and California, where the legal status conferred to carbon credits differ despite the fact that the ETS of these two jurisdictions are linked since 2014. While in Quebec the legal status of emission allowances is not defined in the law and the question of whether these allowances are capable of supporting propriety rights remains open, in California a statutory provision expressly clarifies the legal status of the emission allowances as "compliance instruments" that do not "constitute property or a property right",[35] thus giving more regulatory space for the public authority to intervene in that market. However, because the emission allowances issued by Quebec and California are fungible, the difference between the legal status of the allowances issued by each jurisdiction tend to generate legal uncertainty for private actors, in particular in cross-border trade.

25. Similar conclusions have been reached by analysts of the European Union ETS, where divergences over the legal status of emission allowances also exist. In certain Member States (e.g. France, Belgium), emission allowances are treated as intangible property, while in others (e.g. Germany, Poland) their legal status includes elements of both property and administrative rights.[36] Therefore, it has been suggested that these divergences "could significantly impede upon the development of the market"[37]

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[32] International Swaps and Derivatives Association (ISDA), *Legal implications of Voluntary Carbon Markets*, 2021, p. 10, www.isda.org/2021/12/01/legal-implications-of-voluntary-carbon-credits.

[33] Ibid., p. 16.

[34] Ibid.

[35] *California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms*, 17 CCR § 95820 (c).

[36] Ballesteros, et al., op. cit., p. 51.

[37] Ruth Fox, Habib Motani, Ed Murray, et al., *Emission allowances: creating legal certainty*, Financial Markets Law Committee, issue 116, 2009, p. 5, http://fmlc.org/wp-content/uploads/2018/02/Issue-116-Emission-allowances-1.10.2009.pdf.

and that "a clarification on a common legal definition would at least eliminate potential threat to market liquidity".[38]

26. Differences in the legal treatment of carbon credits across jurisdictions creates legal uncertainty not only for jurisdictions that participate in a regional carbon market or that have linked their respective ETS, but also among completely autonomous carbon markets, since the complexity and unpredictability of the regulatory environment is burdensome for private entities operating on a global scale. This could also hinder the interconnection of ETS, which are a cost-effective way to enable private actors to take advantage of cheaper mitigation options, as well as development of the cooperative approaches referred to in article 6.2 of the Paris Agreement which involve international transfers of mitigation outcomes. As pointed out by an author, for a global carbon market to emerge, "It is important for governments to seek consensus as to the legal characteristics of the basic unit of exchange in this market".[39]

27. As for voluntary offset credits, their legal nature remains at the moment unspecified in many jurisdictions. This situation creates a risk as these credits could eventually receive different legal qualifications across jurisdictions, which would be highly undesirable given the transnational dimension of the voluntary carbon market. The complex legal problems that could result can be illustrated by the following example: a project that led to the creation of offset credits can be located in one country different from the place of business of the investing company which has obtained the offset credits; the carbon standard that has certified and issued the offset credits can operate in a third country; and the entity that runs the offset credits registry can be located in yet another country. If the investing company enters into an insolvency proceeding, and if the question arises as to whether the offset credits that this company holds are an asset that may be liquidated, the legal status of these offset credits could be determined by reference to at least four different laws and difficulties could emerge in determining the applicable law.[40] Differences in the legal qualification of offset credits across jurisdictions could then result in legal uncertainties and potential disputes, which would likely have a "chilling" effect on the development of the voluntary carbon market. To avoid this situation, some legal experts have called "global legal standards setters such as the United Nations Commission on International Trade Law (UNICTRAL) and the International Institute for the Unification of Private Law (UNIDROIT) to produce legislative guidance on substantive legal issues – most importantly, on the legal nature of [voluntary carbon credits] – for states across all regions".[41]

28. Whether on the mandatory or voluntary carbon markets, the way in which carbon credits are treated under domestic law may influence their commercial value. For instance, in some countries carbon credits can support the existence of securities interest, while in others[42] carbon credits cannot be used for that purpose. However, it has been suggested that the commercial value of emission allowances tend to increase when the law clearly provides that emission allowances are capable of supporting the existence of security interests and establishes a registration mechanism for such interests.[43]

(c) Exposure of market participants to regulatory risks

29. In mandatory carbon markets, public authorities have the power to change the rules that govern this market at their discretion. A government may decide to reduce

[38] Ballesteros, et al., op. cit., p. 109.

[39] Jillian Button, "Carbon: commodity or currency? The case for an international carbon market based on the currency model", *Harvard Environmental Law Review*, vol. 32, issue 2, 2008, p. 572.

[40] ISDA, *Legal implications of Voluntary Carbon Markets*, p. 19.

[41] Ibid., p. 6.

[42] Ballesteros, et al., op. cit., p. 70; Jay Junyong Lee, Sangmin Kim, Tong Keun Seol, "In brief: GHG emission regulation and allowances in South Korea", *Lexology*, 24 September 2020, www.lexology.com/library/detail.aspx?g=6cbabd80-4cb8-4886-a9e9-97dab33be3fd.

[43] European Court of Auditors, *The integrity and implementation of the EU ETS*, European Union, 2015, p. 25, www.eca.europa.eu/Lists/ECADocuments/SR15_06/SR15_06_EN.pdf.

the quantity of allowances that are freely allocated, diminish the number of emission allowances that can be purchased through auction, or change the protocols that must be followed to obtain offset credits. A government can also take the more radical decision to dismantle its ETS and/or to put an end to a linkage agreement it has concluded with another jurisdiction.[44] In addition, some individual decisions that are taken by the regulator of a carbon market may have important adverse impacts for the market participants to which they apply. A regulator could also erroneously allocate too many emission allowances to an entity, or issue offset credits that do not satisfy the requirements prescribed by regulations, and thus retroactively hold these credits to be invalid.[45]

30. The way in which a public authority "governs" its carbon market can have important economic consequences for market participants and affect their ability to perform their contractual obligations. This is especially the case when "forward" contracts (i.e. a derivative contract between two parties to buy or sell an asset at a specified price on a future date) are used as sellers might become unable to deliver the amount of carbon credits that was agreed.

31. To facilitate the over-the-counter trading of carbon credits, various standardized carbon contracts have been developed by industry associations, such as the International Emissions Trading Association (IETA) and the International Swaps and Derivatives Association. In 2012, the IETA published the International Emissions Trading Master Agreement (IETMA), which is a standardized contract designed to be used for transactions in all ETS through a system of sub-schedules that can be added.[46] In the IETMA, as in other similar trading documents, the main tool through which regulatory risks are addressed is a *force majeure* clause. However, given the limited scope of the *force majeure* provision,[47] it remains unclear as to what set of facts will enable a party to successfully invoke this clause in the event of regulatory changes.

32. In the case of the IETMA, another element of complexity results from the parties' ability to choose the applicable law.[48] Over time, different jurisdictions may develop different interpretations about the applicability of the *force majeure* clause in the context of regulatory changes. Furthermore, the content of a carbon contract might not always provide a sufficient legal basis to solve the private law issues that may arise as a direct consequence of the intervention of the regulator on the market. For instance, if carbon credits that have been sold multiple times and across multiple jurisdictions were retroactively held to be invalid by the regulator, it would be difficult for private actors to anticipate how, and on the basis of what legal principles, such a situation would be resolved.

33. Regulatory risks also exist on the voluntary carbon market. As carbon standards represent "civil regulatory bodies",[49] the regulatory risks stem in this market from the unilateral decisions that these entities can take and that may adversely impact market participants. For instance, some carbon standards reserve the right to amend the rules of their programme,[50] or terminate an account "at any time, for any reason, and

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[44] In June 2018, soon after a change of government following a provincial election, Ontario decided to dismantle its ETS and to withdraw from the linkage agreement it had concluded with California and Quebec.

[45] Peggy Rodgers Kalas, Alexia Herwig, "Dispute resolution under the Kyoto Protocol", *Ecology Law Quarterly*, vol. 27, No. 1, 2000, p. 111.

[46] International Emissions Trading Association, "Trading documents", International Emissions Trading Association website, www.ieta.org/Trading-Documents.

[47] Chester Brown, "International, mixed, and private disputes arising under the Kyoto Protocol", *Journal of International Dispute Settlement*, vol. 1, No. 2, 2010, p. 472.

[48] IETMA, art. 18.

[49] Lisa Hodes Rosen, Adrienne Bossi, "Due process rights in the carbon markets", *Sustainable Development Law and Policy*, vol. 11, issue 2, 2011, p. 12.

[50] Verified Carbon Standard, VCS registration deed of representation, para. 2.3.4, https://verra.org/project/vcs-program/rules-and-requirements. This provision is drafted as follows: "Verra has an absolute right to amend any of the VCS Program Rules at any time and shall not bear any liability for loss or damage or liability of any kind sustained by the

without advance notice".[51] Carbon standards may also issue less credits than that which a project developer had anticipated because of a change of policy. Moreover, as private entities, carbon standards are free to suspend their commercial activities and are exposed to the risk of bankruptcy. Thus, a range of factors beyond the control of the participants to the voluntary carbon market may affect their ability to perform their contractual obligations and lead to disputes. It should be noted that the Terms of Use of carbon standards and registry operators usually contain provisions that limit their liability.[52] If a market participant suffers economic losses or is held liable for breach of a carbon contract because of regulatory changes made by the carbon standard, its chances of bringing a successful claim against the carbon standard and to obtain compensation would be low.

34. To support the development of the voluntary carbon market, a private-led initiative, the Taskforce on Scaling Voluntary Carbon Markets, has been launched in 2020. This task force comprises a Working Group on Legal Principles and Contracts whose mandate is to "contribute to streamlining the legal landscape for Standards' Terms of Use and for trading" of voluntary carbon credits, by "providing clarity over use cases, operational requirements for Standards, as well as general trading terms".[53] An issue this group is currently working on is the development of "Standards terms which Parties may integrate in their trading documents" in order to reduce legal expenses and streamline processes.[54] Through this process, market participants could thus eventually have access to standardized provisions specifically designed to manage the regulatory risks to which they are exposed.

2. Private law issues relating to the commercial use of captured carbon

35. Given the worldwide GHG emissions trajectory and the current level of GHG concentration in the atmosphere, there is a growing consensus on the fact that achieving the mitigation goals of the Paris Agreement will likely require the use of technologies that capture carbon.[55] There are two main technological processes through which carbon can be captured. The first, called Carbon Capture and Sequestration (CCS), involves trapping the carbon at its emission source (like at a facility's exhaust stack) instead of releasing it in the atmosphere. Once trapped, the carbon is then transported and stored in underground geological structures. The other technology, known as Direct Air Capture (DAC), consists in capturing carbon directly from the ambient air (rather than from an emission source) and storing it underground. Given the risks associated with the storage of carbon, various legal frameworks have been established over the years, both at the international and domestic level, to regulate this activity,[56] also in view of the controversy that the technology generates.[57]

Registration Representor or any other party involved in the Project in any way under the VCS Program as a consequence of such amendment".

[51] Gold Standard, Terms and conditions, art. 13, www.globalgoals.goldstandard.org/standards/T-PreReview_V1.1-Terms_and_Conditions.pdf.

[52] Ibid., art. 3.3. Also: Verra, Terms of use, Verra registry, art. 12, https://verra.org/wp-content/uploads/2019/07/Verra-Registry-Terms-of-Use-FINAL.pdf.

[53] Taskforce on Scaling Voluntary Carbon Markets, *Phase II Report*, Taskforce on Scaling Voluntary Carbon Markets, 2021, p. 40, www.iif.com/Portals/1/Files/TSVCM_Phase_2_Report.pdf.

[54] Ibid., p. 43.

[55] IPCC, *Global warming of 1.5 C.*, pp. 14–15.

[56] Ian Havercroft, Richard Macrory, Richard Steward, eds., *Carbon capture and storage: emerging legal and regulatory issues*, Hart Publishing, 2018, p. 400.

[57] Some see it as "neither economically sound nor proven at scale", with "limited potential to deliver significant, cost-effective emissions reductions" (Christina E. Hoicka, Matthew Paterson, Angela Carter, et al., *Letter from scientists, academics, and energy system modellers: prevent proposed CCUS investment tax credit from becoming a fossil fuel subsidy*, 19 January 2022, https://cehoicka.lab.yorku.ca/files/2022/01/Letter-from-Academics-re-CCUS-tax-investment-credit_January-2022-4.pdf?x98920), whereas others opine that the commercial use of carbon is essential to decarbonizing the world economy (David Sandalow, quoted in Renee Cho, "Capturing carbon's potential: these compagnies are turning CO_2 into profits", *State of the*

36. The market of CO_2 utilization comprises four main categories of participants: emitters of CO_2, capturers of CO_2, transporters of CO_2 (which can be transported by pipelines or ships[58]), and users of CO_2. While one entity can perform several of these functions (e.g. an industrial facility may function as both an emitter and a capturer), the journey between the initial emission of CO_2 and its final utilization usually involves various participants that are linked through a chain of commercial arrangements. With the possibility to use CO_2 for commercial purposes, this substance (and thus the fact of emitting CO_2) has started to acquire an economic value and has become a "thing" that can be traded either domestically or across borders.

37. Although the international market for CO_2 utilization is still at its early stages, various private law issues regarding its functioning can already be identified. For instance, an important question relates to the way in which CO_2 is qualified under domestic law. This substance could indeed be considered as an ordinary commodity or be qualified as a hazardous waste. Yet, in the latter case, the international trade of CO_2 could fall under the scope of the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal which would have the effect of imposing stricter conditions on transporters of CO_2 that operate at the international level.[59] The tax and accounting rules that will apply to CO_2 and the question of whether CO_2 represents an asset capable of serving as security for a loan are also issues that may be influenced by the way in which CO_2 is qualified under domestic law. Thus, the legal qualification of CO_2, as well as the development of standardized sales contracts and commercial practices, are likely to have an impact on the development of an international market for this substance.

38. Another area of uncertainty relates to the legal treatment of situations of CO_2 leakage. In the jurisdictions that have established a carbon pricing mechanism, the amount of CO_2 that is captured will not be priced. However, the leak may occur in a jurisdiction that will not demand the entity responsible for the leak to pay for the CO_2 that has been emitted. Without appropriate standardization efforts, the CO_2 market could then have the unintended result of enabling the transfer of CO_2 emissions from jurisdictions where they would have normally been priced to jurisdictions where they are not priced, or less priced. In the case of leakages, the potential liabilities of the emitter, the capturer, the transporter, and the user of CO_2 would also have to be clarified.

Planet, Columbia Climate School, 29 May 2019, https://news.climate.columbia.edu/2019/05/29/co2-utilization-profits).

[58] Hisham Al Baroudi, Adeola Awoyomi, Kumar Patchigolla, et al., "A review of large-scale CO_2 shipping and marine emissions management for carbon capture, utilisation and storage", *Applied Energy*, vol. 287, 2021, pp. 1–42.

[59] Andy Raine, "Transboundary transportation of CO_2 associated with carbon capture and storage projects: an analysis of issues under international law", *Carbon and Climate Law Review*, issue 4, 2008, pp. 353–365.