June 27, 2024

Financial Law Board

Summary of Discussion:

The Status of Carbon Credits under Private Law,

Focusing on Their Legal Nature and the Legal Principles of Attribution and Transfer

1. Introduction

In recent years, greenhouse gas reduction has become a pressing issue worldwide, and carbon credit trading has drawn attention as a mechanism to efficiently reduce greenhouse gases through market mechanisms. Japan is no exception: Japan's GX Promotion Act, which was established in May 2023, sets out the goal of promoting a smooth transition to a decarbonized growth economic structure throughout all Japan. Moreover, the Japanese government adopted the Pro-Growth Carbon Pricing Concept as part of its measures to realize that goal and is conscious that further revitalization of carbon credit trading is crucial for achieving carbon neutrality in Japan[1].

Incidentally, the terms "carbon credits" and "emissions trading" are often used without clarity. Details about the terms can be found below in section 2, but it should be mentioned here that this study covers carbon credits created without a legislative basis in offset credit schemes, which fall outside the scope of mandatory emissions trading schemes[2] (see section 2.(c) below; such carbon credits, "**Carbon Credits**").

Such Carbon Credits do not have a clear legal basis, and their status and handling under civil law is not necessarily clear. In Japan, however, a foundation for trading is under development, as exemplified by the Ministry of Economy, Trade and Industry publishing the Carbon Credit Report in June 2022[3] and the Tokyo Stock Exchange opening a carbon credit market[4] in October 2023, which are expected to increase Carbon Credit trading in the country[5]. In light of this situation, clarifying the

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[1] In December 2021, the Study Group on Preparing an Operational Environment to Ensure Proper Use of Carbon Credits to Achieve Carbon Neutrality was formed, and several study group meetings have been held from that time until the present.

[2] A "mandatory emissions trading scheme" means a scheme that imposes a legal obligation to reduce greenhouse gas emissions on those subject to the scheme and permits them to perform that reduction obligation by trading an emission allowance (i.e., emissions amount). If reference is simply made to an "emissions trading scheme," it may sometimes mean offset credit schemes as well. Therefore, the term "mandatory emissions trading scheme" is sometimes used to refer unambiguously (only) to the schemes based on there being a legal obligation to reduce. In this document, a "mandatory emissions trading scheme" is referred to as such.

[3] The Study Group on Preparing an Operational Environment to Ensure Proper Use of Carbon Credits to Achieve Carbon Neutrality, "Carbon Credit Report" (June 2022) (the "**Carbon Credit Report**").
https://www.meti.go.jp/shingikai/energy_environment/carbon_credit/pdf/20220627_2.pdf

[4] https://www.jpx.co.jp/english/equities/carbon-credit/index.html. Trading of excess reduction quota on the GX-ETS market is expected to start in November 2024.

[5] Further, the GX-ETS, which has been operating since FY2023, allows J-Credits and JCM Credits to be used as eligible carbon credits in order to achieve reduction targets participating companies have set, and it is possible that demand from companies

status of Carbon Credits under civil substantive law is a pressing issue.

Below, after first clarifying the handling of Carbon Credits trading in practice, this document will summarize and study the above issues, with a particular focus on Carbon Credits' nature under private law and on the legal principles of attribution and transfer (i.e., effectuation requirements and perfection requirements)[6]. Incidentally, this study is not merely an interpretive theory based on current law; it was written with the assumption that it will also be referenced as a theoretical basis if, in the future, legislative action is carried out to stabilize Carbon Credit trading practices.

Incidentally, discussion points on private law concerning emissions trading schemes have also been studied to some extent by the Study Group for Legal Issues Related to a Japanese Emissions trading scheme established by the Ministry of the Environment[7]. However, because that study was premised on an emissions trading scheme being legislated on, it is not possible to directly reference or rely on it in relation to Carbon Credits' status under current law.

2. Overview of Carbon Credits and their handling in practice

As a preamble for studying Carbon Credits' nature under private law and the legal principles of their attribution and transfer, first, here is an overview of Carbon Credits as well as an explanation on how Carbon Credits are created, transferred, and disposed of in practice.

(a) Mandatory emissions trading schemes and offset credit schemes

First, emissions trading schemes are classifiable into two types, depending on their nature. One type is mandatory emissions trading schemes. A typical example thereof is cap-and-trade, which is a mechanism in which a certain emissions allowance from a specified organization or facility is allocated and if actual emissions go beyond the allowance, emission allowance for the excess are purchased from companies that have kept their emissions below the emissions allowance[8]. Mandatory emissions trading schemes other than cap-and-trade schemes also exist, however. For example, the emissions trading scheme established by the Tokyo Metropolitan Government is a

participating in GX-ETS will increase in the future.

[6] Examples of important issues include the feasibility of secured transactions and trusts; handling in compulsory execution; handling if a related party is bankrupt; consequences if a transfer is made by an unauthorized person; feasibility of good faith acquisitions; and legal relationships concerning deposits (bailment) or indirect holdings. This document addresses the issues stated in the main text.

[7] The Study Group for Legal Issues Related to a Japanese Emissions Trading Scheme, "Legal Issues Related to a Japanese Emissions trading scheme (1st – 4th Interim Reports)" (March 2012) https://www.env.go.jp/content/900444463.pdf

[8] The Carbon Credit Report, page 4.

scheme that imposes obligations on owners of office buildings and the like. In that scheme, an emissions allowance isn't granted in advance; rather, the reduced amount falling below the reduction obligation is traded (i.e., it's a baseline credit scheme, as described below). A distinguishing feature of mandatory emissions trading schemes is that they come into being only if a scheme exists that requires eligible parties to reduce emissions. In short, if no obligations are being imposed, no emissions trading scheme exists.

The second type of scheme is a mechanism that is generally referred to, among other names, as an "offset credit scheme." In this type of scheme, Carbon Credits are created that can be used to comply with obligations imposed by a mandatory emissions trading scheme. As is clear from that definition, offset credit schemes apply to emissions from sources other than those covered by a mandatory emissions trading scheme (i.e., emissions from sources other than organizations and facilities subject to the mandatory emissions trading scheme). This means that if Carbon Credits are created and used, total emissions in the mandatory emissions trading scheme increases.

(b) Cap-and-trade schemes and baseline credit schemes

Emissions trading schemes are commonly classified by using the concepts of "cap-and-trade" and "baseline-credit" (Cap-and-trade schemes are defined above). A baseline credit scheme is a mechanism in which the reduced amount of greenhouse gases effectuated by a project is certified as credits that are tradeable[9].

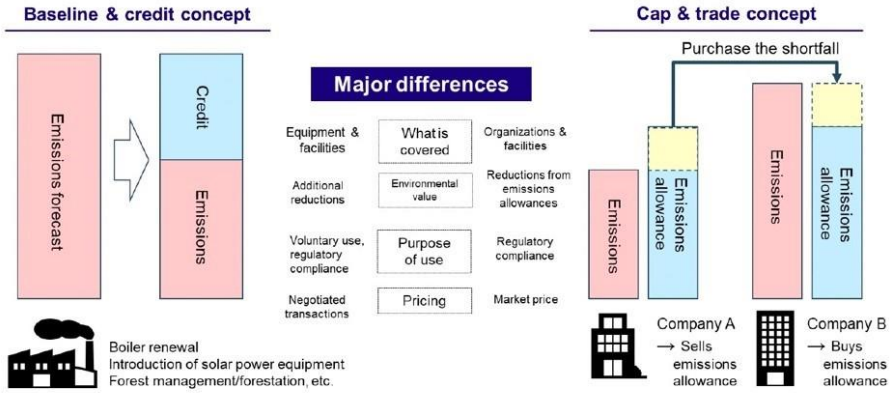

Figure 1 Differences between baseline-and-credit and cap-and-trade

Source: Excerpt from page 5 of the Carbon Credit Report

When discussing this classification, attention must be paid to the meaning with and context in

[9] In the Carbon Credit Report, credits created based on a baseline credit scheme are defined as "carbon credits."

which “cap-and-trade” and “baseline-credit” are used. In other words, it’s important to ask (i) whether the term is being used with a focus on the logic, means, and calculation methods used to recognize and generate Carbon Credits (i.e., the technical aspects), and (ii) whether the term is being used to refer to fundamental differences between a “mandatory emissions trading scheme” and an “offset credit scheme.” As is clear from its definition, a “cap-and-trade scheme” is a scheme that assumes that a reduction obligation is imposed on involved parties. Due to that, when a “cap-and-trade scheme” is referred to, in many cases it’s indicating a mandatory emissions trading scheme. However, as described above, mandatory emissions trading schemes other than cap-and-trade schemes exist, so care must be taken when using the term “cap-and-trade scheme.” In contrast, a “baseline credit scheme” is sometimes used to mean a mandatory emissions trading scheme (e.g., the emissions trading scheme implemented by Tokyo Metropolitan Government). In reality, however, a “baseline credit scheme” is often used to mean an offset credit scheme. The concept of a reduction obligation does not exist for offset credit schemes, so the method for recognizing and generating Carbon Credits is naturally determined by baseline-credit. Due to that, in reality, the term “baseline credit scheme” is often used to mean “offset credit scheme.”

In light of the above, it appears that confusion can be avoided if the terms “cap-and-trade” and “baseline-credit” are considered to refer to a mere technicality concerning the logic, means, and calculation methods used to recognize and generate Carbon Credits. Various reports and other sources often state that any emissions trading scheme can be classified as a cap-and-trade scheme or a baseline credit scheme. However, strictly speaking, the following description is correct:

> An emissions trading scheme can be classified as (i) a mandatory emissions trading scheme, for which imposition of a reduction obligation is a prerequisite or (ii) an offset credit scheme, for which imposition of a reduction obligation is not a prerequisite and in which Carbon Credits are created that can be used to comply with reduction obligations. Mandatory emissions trading schemes often adopt a cap-and-trade scheme, but some are based on a baseline credit scheme. For offset credit schemes, a reduction obligation is not a prerequisite, and therefore, as a matter of course, a baseline credit scheme is adopted.

(c) Carbon Credits covered in this study

Based on the above understanding, the following clarifies the scope of Carbon Credits covered in this study. First, this study does not cover Carbon Credits that are based on mandatory emissions trading schemes. The reason is as follows: mandatory emissions trading schemes are premised on a reduction obligation being in place, and if a reduction obligation is imposed, then a legal basis for that exists and, it’s conceivable that treatment of emission allowances under private law is

clarified to a certain degree, including matters such as means by which emissions allowances are transferred. Therefore, this study will cover Carbon Credits that are based on offset credit schemes.

Various types of offset credit schemes exist. One example is an offset credit scheme called the "Clean Development Mechanism" (CDM), which is an emissions trading scheme based on the Kyoto Protocol. This is a mechanism that generates Carbon Credits called "Certified Emission Reductions" (CER) from greenhouse gas reduction projects carried out in developing countries that are not subject to reduction obligations under the Kyoto Protocol. An emissions trading scheme based on the Kyoto Protocol was enacted into Japanese law by the Act on Promotion of Global Warming Countermeasures (Act No. 117 of 1998; including subsequent amendments, the "**Global Warming Countermeasures Act"**). Kyoto credits, including CERs, are defined as "calculated assigned amounts" (Article 2(7) of the Global Warming Countermeasures Act) and certain rules under private law were established, including requirements for transferring Kyoto credits. In this study, such offset credit schemes that have been passed into law are not covered. The reason for this non-inclusion in this study is the same as that stated above in relation to mandatory emissions trading schemes. Consequently, the Carbon Credits that this study covers are those that have not been legislated on and that are based on an offset credit scheme[10, 11].

Further, carbon credit schemes are extremely diverse. The most widely used ones in practice include VCS, Gold Standard, American Carbon Registry, and Climate Action Reserve, which are schemes that are sponsored by overseas companies or private organizations (NPOs, etc.). However, this study does not cover those Carbon Credits. The reason for not including them is that the governing law for terms and conditions of each carbon credit scheme sponsored by an overseas organization is not Japanese law, and the registries and the like are located overseas (i.e., they're managed overseas). Although there is a strong need to study the legal nature, transfer requirements,

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[10] Such Carbon Credits are generally called "voluntary carbon credits." Overseas, Carbon Credits are sometimes referred to as "verified carbon credits," with the focus on the process used to create them and the like (described below). To illustrate this point, 2022 ISDA Verified Carbon Credit Transactions Definitions (Version 2 – February 2024) contains the following definitions:

- "Verified Carbon Credit" or "VCC" means a unit with a unique serial number, measured in tCO2e, representing an Emission Reduction and quantified, verified and Issued into a Registry Account.
- "Registry Account" means, in respect of a VCC, any digital record of a person in the relevant Registry that is eligible to record the holding, transfer, acquisition, Retirement or cancellation of that VCC.
- "Registry" means, in respect of a VCC, the electronic database that is established by, or operated pursuant to, the relevant Carbon Standard or on its behalf, including for the holding, delivery, Retirement and cancellation of that VCC.
- "Emission Reduction" means, in respect of a VCC, the removal, reduction, avoidance, sequestration or mitigation of emissions of GHGs measured in tCO2e from the atmosphere which are capable of being represented in a form of unit of measurement pursuant to the relevant Carbon Standard Rules.

Carbon Credits studied in this document are assumed to also have the characteristics of verified carbon credits that have the meaning defined above.

Paras 19 and 20 of the UNIDROIT Revised Issues Paper (see footnote 26 below) discuss the pros and cons of using the term "voluntary" and states that the final policy on it will be determined in the future.

[11] The J-Credit Scheme, which is part of this study's focus, is a public scheme operated with the Ministry of Economy, Trade and Industry; the Ministry of the Environment; and the Ministry of Agriculture, Forestry and Fisheries acting as scheme administrators. However, the scheme is operated in accordance with rules and regulations determined by the scheme administrators, and it does not have a particular legal basis. Therefore, J-Credits also constitute Carbon Credits, as defined in the main text.

and other matters concerning these overseas Carbon Credits, there is also the issue of whether simply studying them from a Japanese-law perspective is sufficient, and it is expected that studying them would become fairly complicated. Due to that, this study principally studies Carbon Credits created in Japan with terms and conditions governed by Japanese law, while expanding the scope of study to overseas Carbon Credits to the extent possible. In short, this study focuses on the J-Credit Scheme (described below).

(d) Uses and Purposes of Carbon Credits in Japan

Before proceeding to a detailed explanation of the J-Credit Scheme, first is a clarification of who is trading Carbon Credits in Japan and the purpose for trading them.

(1) Reduction obligation

As of the time of this document's publication, no statutory obligation to reduce greenhouse gases exists in Japan. Due to that, even if Carbon Credits are acquired, they cannot be used to fulfill a reduction obligation (or, to be more accurate, there is no such obligation that needs to be fulfilled). As described above, both in principle and historically, an offset credit scheme makes sense only if a mandatory emissions trading scheme is in place. However, because no mandatory emissions trading scheme exists in Japan, it must be noted that reasons for acquiring Carbon Credits (in legal terms) are fairly weak. Having said that, certain reasons to trade Carbon Credits do exist, which are described below.

(2) Reporting and disclosures under statues and the like

Pursuant to Article 26(1) of the Global Warming Countermeasures Act, specified emitters defined thereunder must report calculated amounts of greenhouse gas emissions (incidentally, the act does not set forth a reduction obligation). In the emissions reporting scheme under the Global Warming Countermeasures Act, aside from reporting actual emissions, it is possible to also report emission amounts after adjustment by using Carbon Credits or the like (i.e., emissions amount after deducting the amount of retired Carbon Credits). Only J-Credits and the like can be used for adjusting — overseas voluntary carbon credits, such as VCS and Gold Standard, cannot be used.

(3) Voluntary use

In addition to the above use, even if not required by statues and the like, reductions can be publicly announced as an initiative carried out as part of a voluntary framework. To be specific, in an international initiative to obtain corporate environmental information, such as the Keidanren Carbon Neutrality Action Plan or as a response to a CDP questionnaire, it is conceivable for credit acquisition to be reported as a target achievement (or a response). It appears that most of the trading of Carbon Credits currently taking place in Japan is for such voluntary use.

(e) J-Credit Scheme

One well-known carbon credit scheme in Japan is the J-Credit Scheme[12]. The J-Credit Scheme, which has operated since 2013, is administered by the Ministry of Economy, Trade and Industry; the Ministry of the Environment; and the Ministry of Agriculture, Forestry and Fisheries. In the scheme, the government certifies as credits the amount of CO_2 absorbed and reduced in specified domestic projects that reduce or absorb CO_2. The scheme's credits are considered to be highly credible. As Carbon Credits are already traded through negotiated transactions in Japan, they were traded in the carbon credit market demonstration project conducted on the Tokyo Stock Exchange from September 2022 to January 2023[13]. As a result of the demonstration project, the Tokyo Stock Exchange, as mentioned above, opened a carbon credit market for J-Credits in October 2023. In the manner described here, J-Credits are Carbon Credits that have been traded to a certain degree in Japan and that are expected to be traded in the future too. Below, J-Credits will be used as an example to explain how Carbon Credits are created, transferred, and retired.

(1) Credit creation

For Carbon Credits to be created, broadly speaking, four stages must be completed: (I) project registration, (II) monitoring and calculation, (III) verification, and (IV) review and certification.

(I) Project registration

The project implementer prepares a project plan that meets the requirements of the credit

[12] https://japancredit.go.jp/
[13] https://www.jpx.co.jp/english/corporate/news/news-releases/0060/20230131-01.html

scheme[14], has it confirmed by the verification organization[15] in advance, and then makes an application to the scheme administrator (for the J-Credit Scheme, the administrator is the government) in order to have the project registered.

(II) Monitoring and calculation

The project implementer implements the project according to the project plan, monitors the project's results (i.e., results of CO_2 reduction activities), and prepares a monitoring report.

(III) Verification

The project implementer is verified by a verification organization[16] to confirm that monitoring is being carried out in accordance with the project plan and that the project meets necessary requirements.

(IV) Review and certification

Based on the verification report prepared by the verification organization, the verification organization or the scheme administrator certifies credits and based on that certification, the scheme administrator issues credits (no physical certificate exists; the credits exist only as an electromagnetic record). Under the J-Credit Scheme, the scheme administrator notifies the account holder designated by the project implementer of the identification number assigned to the credits (a number is assigned for each 1 ton of CO_2) and promptly publicly announces the content of the monitoring report and the verification report[17].

(2) Attribution and transfer of J-Credits

Carbon Credits are normally assigned a unique serial number for each unit of CO_2 (i.e., 1 ton)[18] and are then managed in a registry system. Under the J-Credit Scheme Implementation Guidelines, J-Credits are attributed to an account holding entity by recording them in the J-Credit Registry, and an assignment of J-Credits is not effective unless an increase is recorded

[14] Under the J-Credit Scheme, as stated in Article 3.1.3 of "Certifying Scheme for Emissions Reduction and Absorption Carried Out As Global Warming Countermeasures in Japan (J-Credit Scheme) Implementation Guidelines Ver.7.0" (May 8, 2024) (the "**J-Credit Scheme Implementation Guidelines**") (https://japancredit.go.jp/about/rule/data/01_youkou_v7.0.pdf), requirements include the project being implemented within Japan, a project with the same details not being registered in a similar scheme, and the project being based on a methodology approved by the J-Credit Scheme.

[15] Under the J-Credit Scheme, this refers to the organizations stated on the following webpage (referred to as a validation organization): https://japancredit.go.jp/about/vvb/

[16] In the J-Credit Scheme, verification is carried out by each organization listed as a validation organization.

[17] J-Credit Scheme Implementation Guidelines, Article 3.1.8.

[18] The greenhouse gases to be reduced are not necessarily CO_2, but they are converted to CO_2 when they are turned into credits.

in the transferee's J-Credit Registry as a result of transfer and acquisition based on the registry rules[19].

In the J-Credit Registry System, an account holder's J-Credit balance is displayed as shown below. The alphanumeric strings that start "JCL-400-000-142" in the below table are serial numbers given to each J-Credit (equivalent to 1 ton of CO_2).

[19] J-Credit Scheme Implementation Guidelines, Article 3.2.

Balance Inquiry Results Screen

Account No: JP-100-20000-00001-09999-00
Corporate Name: Test Corporation
Balance of Held Credits (t-CO_2): 199

Item No.	Scheme Codes and Credit-Specific Numbers					Credit Volume (t-CO_2)
	Scheme Code	Credit Type	Issue Commitment Period		Applicable Commitment Period	Credit Certification No.
	Renewable Energy Coefficiency (kl)	Calculated Amount of Renewable Energy (Electricity: MWh)	Calculated Amount of Renewable Energy (Heat: GJ)	Non-Fossil Energy (Electricity: kWh)	Non-Fossil Energy (Heat: GJ)	
1	JCL-400-000-142-701-343 to JCL-400-000-142-701-541					199
	JCL	ERL		01	01	1093201
				1,234,567,890		

Source: Page 85 of "The J-Credit Registry System User Manual (J-Credit Holder Screening Organization) Version 4.0" by the Ministry of the Environment (July 9, 2024)[20].

There are two specific procedures for transferring credits: (I) "total-credit-amount-specification method" (a method in which the total amount of credits to be transferred is specified, and credits are transferred up to that specified amount in order from the lowest credit serial number first) and (II) "credit-serial-numbers-specification method" (a method in which the serial numbers of credits to be transferred are specified; for example: credit serial numbers JCL-400-000-142-701-343 to JCL-400-000-142-701-442)[21].

(3) Retirement of credits

Generally speaking, to use Carbon Credits for their purpose, they must be "retired." To cite an example, if Kyoto Protocol credits are transferred to a retirement account established by a country, the credits can no longer be traded, and the country's reduction obligation has thereby been performed. The J-Credit Scheme uses the term "retirement." In the case of J-Credits, credits to be retired are specified by using the total-credit-amount-specification method or the credit-serial-numbers-specification method, and then credits are retired by transferring them to a retirement account by using the registry system. Credits transferred to a retirement account cannot be transferred any further[22]. This is a mechanism that prevents double use of the same credit. By retiring a credit, the CO_2 reduction effect linked to the credit is attributed to the entity

[20] https://j-creditregistry.go.jp/docs/japancredit_usermanual.pdf
[21] J-Credit Registry System User Manual (see above footnote), page 63.
[22] J-Credit Scheme Implementation Guidelines, page 2

that held the credit[23].

3. Study (I): The nature of Carbon Credits under private law[24]

Below is a specific study that is based on the above understanding about Carbon Credit trading practices. As stated at the beginning, in this document, the focus is on the nature of Carbon Credits under private law and the legal principles of attribution and transfer[25]. The former will be studied first.

(a) General comments

What is the legal nature of Carbon Credits? The answer to that question is unclear and is being studied from various perspectives in Japan as well as overseas[26].

As described above, transactions pertaining to Carbon Credits are executed by recording them in an account registry. There are two different views on how to understand the relationship between records in a registry and rights related to Carbon Credits (assuming they exist) as follows[27]:

(x) the position that rights pertaining to Carbon Credits exist outside of records and that attribution and transfer are certified and governed by records in account registry; and

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[23] The fact that a J-Credit has been retired can be confirmed by checking the record in the account of the entity that implemented the procedure, and it can also be verified by printing out the following retirement notice (pdf): https://japancredit.go.jp/pdf/application/mukouka_tsuuchi_sample.pdf

[24] Rights themselves that are subject to attribution and legal disposition and the objects of those rights should be clearly differentiated each other and then discussed. In Suizu Taro's "The Civil Code Framework and the Concept of Things" on pages 62 and 71 of "Property Diversification & Civil Code Studies" (edited by Katsumi Yoshida and Naoya Katayama) (Shojihomu, 2014), the following is pointed out: "intangible subjects" must be clearly separated into rights and non-rights; the distinction between control rights and the objects of those rights must also apply to the discussion of control rights over intangibles; and the subject of disposal can be nothing other than rights. In this context, Carbon Credits fall under the latter (i.e., the object of a right), but please take note that in this document, which recognizes the difference between the two, Carbon Credits are sometimes simply referred to with the former meaning (i.e., the right itself).

[25] As long as the nature of Carbon Credits under private law remains unclear, the legal principles of attribution and transfer, which should be applied to Carbon Credits, will also remain unclear. These two issues are inseparable.

[26] At UNIDROIT, a study group was established to discuss the legal nature of Carbon Credits (https://www.unidroit.org/work-in-progress/voluntary-carbon-credits/), and a certain amount of discussion points have been summarized. As of the time of this document's publication, the following documents have been publicly released:

- "Issues Paper (10-12 October 2023); Study LXXXVI – W.G.1 – Doc. 2, October 2023" (https://www.unidroit.org/wp-content/uploads/2023/10/Study-LXXXVI-W.G.1-Doc.-2-Issues-Paper.pdf) (the "**UNIDROIT Issues Paper**");
- "Summary Report of the First Session (2024); Study LXXXVI – W.G.1 – Doc. 3, January 2024" (https://www.unidroit.org/wp-content/uploads/2024/01/Study-LXXXVI-W.G.1-Doc.-3-Report.pdf) (the "**UNIDROIT Summary Report**");
- "UNCITRAL/UNIDROIT study on the legal nature of verified carbon credits issued by independent carbon standard setters; Distr.: General 14 March 2024" (https://uncitral.un.org/sites/uncitral.un.org/files/1191_advance_copy_1.pdf);
- "Issues Paper (22-24 April 2024); Study LXXXVI – W.G.2 – Doc. 2, April 2024" (https://www.unidroit.org/wp-content/uploads/2024/04/Study-LXXXVI-W.G.2-Doc.-2-Revised-Issues-Paper.pdf) (the "**UNIDROIT Revised Issues Paper**").

Further, the ISDA has also conducted a similar study: ISDA, "The Legal Nature of Voluntary Carbon Credits: France, Japan and Singapore" (https://www.isda.org/a/PlcgE/Legal-Nature-of-Voluntary-Carbon-Credits-France-Japan-and-Singapore.pdf) (the "**ISDA Document**")

[27] UNIDROIT Issues Paper, para 67 onwards; UNIDROIT Summary Report, para 50 onwards; UNIDROIT Revised Issues Paper, para 81 onwards.

(y) the position that views records in account registry themselves as rights pertaining to Carbon Credits and does not believe rights exist outside of records

With position (y) above, akin to crypto-assets, circumstances outside the record concerning creating Carbon Credits (for example, section 2.(e) above) are not particularly taken into account and instead the record itself in the account registry is found to have the nature of a right. According to this concept, the record's and right's locations always match, and it is relatively straightforward to explain that the record transfer is treated as a right transfer.

Such an explanation, however, can be seen to deviate from the general understanding shared by parties to transactions of Carbon Credits. As is explained in more detail below (see section 3.(b)(2)(ii) below), for Carbon Credits, there is ample leeway to find that certain proprietary rights exist based on circumstances outside the record[28].

Some Carbon Credits may be revoked after issuance if non-compliance with verification procedures at the time of issue is discovered[29]. For such types of Carbon Credits, circumstances outside the record directly affect the Carbon Credits' existence, and this would not be consistent with the premise of the position (y) above.

Based on the above, it seems that the position (x) above would be more in line with the current market practice and the views shared therein. The below study is based on that premise.

(b) Study

(1) Can Carbon Credits be the object of ownership?

The first question to ask is can Carbon Credits be the object of ownership? Only tangible objects can be objects of "ownership (*shoyu-ken*)" (Article 85 of the Civil Code). Carbon

[28] While the above description acknowledges the existence of rights pertaining to Carbon Credits outside of the record, there is no intention here to deny that the rights and (rights pertaining to) a parallel blockchain record can be created by using a means similar to that used for security tokens.

[29] UNIDROIT Issues Paper, para 76.

To provide an example in relation to J-Credits, a prominent Carbon Credit in Japan, if the project implementer is later discovered to have breached the base document, although an obligation will, in principle, be placed on the project implementer to make up an equivalent amount of Carbon Credits, and it is not contemplated that any J-Credits issued will be extinguished subsequently. However, in exceptional cases in which the J-Credits are under the control of the project implementer (i.e., cases in which they have not been transferred to a third party), the scheme administrator is allowed to force the cancellation of the relevant J-Credits (Article 4.2 of the J-Credit Scheme Implementation Guidelines). In such ways, even in the J-Credit Scheme, there could be circumstances outside of the record that directly affect the Carbon Credits' survival and the like, albeit in limited cases.

Credits do not have an accompanying physical object, and their existence is based (only) on records in an account registry, so they are not tangible objects. Therefore, Carbon Credits cannot be the object of ownership[30].

(2) Possible legal theories

In overseas discussions, the main legal theories discussed on the nature of Carbon Credits are as follows: (i) the concept of viewing Carbon Credits as a bundle of contractual rights or a claim against an account administrator[31] and (ii) the concept of viewing Carbon Credits as a type of proprietary rights (other than rights explicitly set forth under law, such as real rights (*bukken*) and claims (*saiken*)) ("**Other Proprietary Rights"**)[32]. These can also be described as the theory in which the existence of an addressee is a prerequisite (i.e., theory (i) above) and the theory that doesn't depend on such a prerequisite (i.e., theory (ii) above).

These theories have been presented as models that are based on the basic mechanism of, and business practices for, Carbon Credits. They can serve also as a useful starting point for studies in the context of Japanese law. Below, with reference also to those described above, possible legal theories under Japanese law are studied in order.

(i) Concept of viewing Carbon Credits as a bundle of contractual rights or a claim against the account administrator

Overseas, (I) it is argued that it is possible to view Carbon Credits as a bundle of rights based on a series of contracts executed between related parties up until when Carbon Credits are issued (e.g., a contract between a project implementer and a carbon standard entity (i.e., the entity that determines rules for issuing the Carbon Credits), a contract between a project implementer and a certifying organization, and a contract between a project implementer or a Carbon Credit holder and an account administrator)[33].

Further, in addition to the view that views Carbon Credits as a bundle of contractual rights held with various related parties, (II) there is also an argument that, as described above, only by retiring Carbon Credits can a holder be definitively recognized as having contributed to greenhouse gas reduction; in that sense, Carbon Credits' intrinsic value and

[30] Overseas as well, discussions are taking place on the premise that Carbon Credits do not constitute tangible assets.
[31] UNIDROIT Issues Paper, para 68 onwards.
[32] UNIDROIT Issues Paper, para 73 onwards.
[33] UNIDROIT Issues Paper, para 68 onwards. In that paper, it is not necessarily clear whether such a bundle of contractual rights includes a series of contractual statuses, but in this document, the discussion doesn't deny that possibility exists at present.

significance is in the holder's status and right to retire them, and, based on that understanding, Carbon Credits are made up of those rights[34].

Specifically, given that retirement is carried out by an account administrator managing Carbon Credits on an account registry system (i.e., by deleting the record), it is argued that the Carbon Credits' holder can require the account administrator to "perform procedures pertaining to retiring Carbon Credits held by the holder" and that Carbon Credits represent such a right[35]. With this argument, because, when an account is opened, the Carbon Credit holder agrees to the account registry rules established by an account administrator, such agreement would be considered the basis for the claim arising.

However, under the theories (I) and (II) above, procedures required to transfer Carbon Credits or to satisfy perfection requirements would remain unresolved[36]. This point is further discussed below.

Further, regarding the theory (I), although it is true that various contracts are executed in the process leading up to issuing Carbon Credits, holders of Carbon Credits (including initial acquirers of Carbon Credits) are not necessarily in a relationship in which they hold rights against related parties pursuant to those contracts[37]. Putting this point aside, it has also been indicated that performance of most of these contractual obligations is complete when Carbon Credits are issued (i.e., almost no contractual rights themselves remain to be assigned)[38].

Regarding the theory (II) also, the procedure for making a request about retirement to the account administrator is merely a final step required in relation to Carbon Credits' use purposes (e.g., such as carbon offsetting), and doubt exists about whether the procedure can be simplified such that intrinsic value related to Carbon Credits is concentrated in the

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[34] The UNIDROIT Summary Report also indicates that Carbon Credit holders' right to direct the retirement of Carbon Credits is a transferable right (paras 54, 87, etc., in that report).

[35] For example, under the terms of use for Verra (i.e., the account administrator of a Carbon Credit called "VCS"), the credit holder (i.e., user) can request Verra to retire credits (i.e., an instrument). On the other hand, the J-Credit Scheme maintains that "the system user can transfer, retire, or cancel J-Credits or the like recorded in the user's own account, in accordance with separately determined procedures" and does not contain wording that explicitly states that users are entitled to make requests to the administrator. However, it appears that there is room to question the administrator's liability for non-performance of an obligation if, due to the administrator's negligence, a holder of J-Credits was unable to retire J-Credits. Therefore, the wording does not immediately remove the "bundle of contractual rights" nature of the J-Credits.

[36] It has also been pointed out that if Carbon Credits are treated as a bundle of contractual rights, then, under English law (for example), certain procedures, such as notification to and consent by obligors, are required for assignment and would create an inconvenience for transactions. (See para 72 of the UNIDROIT Issues Paper.) The ISDA, citing this point as a reason, has stated that it is not desirable to treat Carbon Credits as a bundle of contractual rights and that they should be treated as Proprietary Rights, as described below (page 11 of the ISDA Document).

[37] Holders of Carbon Credits are not parties to many of the various contracts mentioned above.

[38] UNIDROIT Issues Paper, para 71; UNIDROIT Summary Report, para 87.

procedure. Further, according to the theory (II), concern has been expressed that rights pertaining to Carbon Credits will become worthless if the account administrator becomes insolvent or otherwise falls into bankruptcy[39].

(ii) Concept of viewing Carbon Credits as Other Proprietary Rights

As described, the theories stated in (i) above have weaknesses and, further, there is concern that they do not sufficiently capture Carbon Credits' essence.

Rather, it would be more accurate to consider Carbon Credits as existing separately from rights under a series of contracts executed up until Carbon Credits are issued and separately from the right to request retirement based on an account-use contract; and it would be truer to consider that as a proprietary interest that enjoys a greenhouse gas emissions reduction effect (including using the reduction effect as a carbon offset) resulting from activities of everyone at project implementers, certifying and verification bodies, scheme sponsors and the like carried out in accordance with carbon standards and other certain rules, Carbon Credits exist independently from those contracts[40].

To this point, overseas, the following explanation[41] on the intangible-asset nature of Carbon Credits has been given, which has the same gist as the above: "[voluntary carbon credits] can be seen as representing exclusive access to a finite resource – namely, an independently verified certification that the holder either directly or indirectly has reduced or removed from the atmosphere one metric ton of carbon dioxide equivalent, in accordance with relevant carbon standards and registry rules."

The question to ask here is, how are such proprietary interests treated under the Civil Code? The current Civil Code adopts the term "proprietary rights (*zaisan-ken*)" as a substantive concept to broadly encompass real rights (*bukken*), claims (*saiken*), and other proprietary interests which can be subject to an exclusive attribution, and it is thought that proprietary interests that meet certain requirements (i.e., utility, exclusive attribution, and

[39] UNIDROIT Summary Report, paras 148, etc. It has also been indicated that no special bankruptcy processing legislation or regulation pertaining to preventive measures, such as those for financial institutions or the like, have been introduced for Carbon Credit account administrators.

[40] It has been indicated that digital money users have the right to request performance of the entrusted duty of transferring funds via a transfer between accounts to the funds-transfer-service provider that is the entity where the account was opened. (Legal Issues Study Group on the Nature of Digital Money Under Private Law, "Digital Money Rights and Transferring Digital Money", Volume 43 No. 1 of Monetary and Economic Studies, page 8 (January 2024)). This is an example of how contractual rights held against an entity where an account was opened and rights concerning account transfers can be separate.

[41] UK Law Commission Digital Assets: Final Report (https://lawcom.gov.uk/document/digital-assets-final-report/) ("**UK Law Commission Final Report**"), Article 4.74.

assignability) can be recognized as "proprietary rights"[42, 43]. Moreover, elements that constitute this exclusive attribution in respect of subject assets include the capacity to enjoy the benefits of the subject's utility (i.e., a situation in which one can enjoy benefits of the subject without limitation and exclusively) and the capacity to dispose of the subject (i.e., the capacity to create the same situation for another based on one's own intent)[44].

As described above, when a holder retires Carbon Credits, the greenhouse gas reduction effect represented by the Carbon Credits is definitely attributable to the holder, and only the holder can retire those Carbon Credits. Therefore, the holder can exclusively enjoy benefits (i.e., reduction effect attribution) from the Carbon Credits (i.e., the holder has the capacity to enjoy the benefits). Further, the holder has the capacity to dispose of Carbon Credits because the transfer of Carbon Credits on the registry to a third party enables the third party to enjoy the same benefits (i.e., disposability). Based on the foregoing, it is possible to consider that Carbon Credits are attributed to the holder as proprietary rights.

(c) Reference: Discussion in the UK

Regarding this point, in the UK Law Commission Final Report, the eligibility of Carbon Credits as a subject of proprietary rights was also studied, and some of that study is of useful reference. It argues that, under English law, in order to recognize that a right other than a right to tangible things or legal rights or claims enforceable by action has eligibility as a proprietary right, it is necessary for the right to have rivalousness in terms of use and consumption (rivalousness refers to when a person using or consuming an object hinders the use or consumption of that object by another person)[45]. A cautious position has been presented regarding the eligibility of Carbon Credits as proprietary rights arguing that there is no guarantee that a single Carbon Credit will not

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[42] Hiroki Morita, "Property Dematerialization and Property Laws" in "Property Diversification & Civil Code Studies" edited by Katsumi Yoshida and Naoya Katayama (Shojihomu, 2014) ("**Morita Paper (2014)**"), page 117. For information on the meaning of "disposition" under the Civil Code, see Ume Kenjirō, "Civil Code Essentials Volume 2 Real Rights Compilation", pages 104, etc. (Yuhikaku, 1911).

[43] Regarding this, on the subject of virtual currency, the following sources argue that an "XX right" (i.e., a right under the law) refers to a right recognized and guaranteed under substantive law and even if any interest or legal status is protected under law, it cannot be called an "XX right" unless expressly stipulated by the law; provided that the legal principle of real rights (*bukken*) should be applied mutatis mutandis, to the extent that the nature of such interests allows:

- Yoshihiro Kataoka, "Discussion Points Regarding the Nature of Virtual Currency Under Private Law" LIBRA504, page 12;
- Yoshihiro Kataoka, "Re-visiting the Nature of Virtual Currencies Under Private Law: My Theory in Detail Based on the Morita Paper (Application Mutatis Mutandis of real rights legal principles)", Banking Law Journal No. 2106, page 8;
- Yoshihiro Kataoka, "Virtual Currency: Regulation Law and Legal Issues (Vol. 1)" NBL1076, page 53.

[44] Morita Paper (2014), pages 111 to 116. For a study on the attribution of information as a subject of proprietary rights under private law based on this concept, see Akira Kamo, "Information Trading and Trusts" in "The Cutting Edge of Fiduciary Duty Research" edited by Hiroyuki Kansaku (Yuhikaku, 2023), page 33.

[45] UK Law Commission Final Report, para 4.5.

be double spent[46]. The paper concludes[47] that, although it depends on the Carbon Credits' mechanism, it is possible to see Carbon Credits as having eligibility as proprietary rights, based also on the counterargument[48] that it is difficult to double spend Carbon Credits in the system in which they are recorded and traded.

Although the above is directly related to a discussion on English law, it has some implications for studying the exclusive capacity to enjoy benefits and disposability of Carbon Credits under Japanese law. In other words, if the account registry recording system can certainly prevent double spending, it would be possible to conclude that Carbon Credits are subject to proprietary rights.

4. Study (II): Attribution and transfer of Carbon Credits (effectuation requirements and perfection requirements)

(a) Conclusions derived from determining the legal nature of Carbon Credits

(1) If Carbon Credits are viewed as a bundle of contractual statuses and rights or a claim against the account administrator

As described in section 3.(b)(2)(i) above, if a right pertaining to Carbon Credits is viewed as a contractual status, then the other party's consent (Article 539-2 of the Civil Code) is required to transfer the Carbon Credits[49]. Further, if a right pertaining to Carbon Credits is viewed as a claim (*saiken*), then to satisfy third party perfection requirements for assignment, the written notification to obligor or the obligor's written approval with a fixed date (Article 467 of the Civil Code) is required.

On the other hand, in terms of trading in practice, as described above, the transfer of Carbon Credits is managed only with records in an account registry, the transfer of Carbon Credits on a record is treated as a transfer of the Carbon Credits to a third party, and the above procedures such as the other party's approval or notification/approval are not performed. In this case, the question to ask is: Is it possible to conclude that transferring records in the account registry completes necessary procedures for transferring rights pertaining to Carbon Credits and for

[46] UK Law Commission Digital Assets: A Consultation Paper (https://lawcom.gov.uk/document/digital-assets-consultation-paper/), Chapter 9.
[47] Law Commission Final Report, para 4.67 onwards.
[48] UK Law Commission Final Report, footnote 337.
[49] Under the Civil Code, no perfection requirements system pertaining to transferring contractual status or other general transfers is in place.

satisfying perfection requirements?

(2) If Carbon Credits are viewed as Other Proprietary Rights

Further, as described in section 3.(b)(2)(ii) above, even if rights pertaining to Carbon Credits are viewed as Other Proprietary Rights, such characterization does not directly determine rules for attribution and transfer of Carbon Credits[50]. Accordingly, such a characterization does not directly lead to the conclusion of attribution and transfer being based on records in the account registry, as described above.

(3) Summary

As described, the findings of the study into Carbon Credits' legal nature does not necessarily support the current commercial practice in respect of Carbon Credits.

(b) Carbon Credits as "fungible" rights recorded in an account registry

(1) Discussion on transferring rights to securities of the same type as those managed by account management institutions

On the other hand, the fact that an increase record in a book-entry transfer account registry is stipulated as a requirement for rights transfer to take effect for paperless securities might serve as a potential reference for schemes or discussion that could possibly constitute a foundation for attribution and transfer based on records in account registry, irrespective of Carbon Credits' legal nature.

In other words, with regard to book-entry transfer securities under the Act on Book Entry of Corporate Bonds and Shares (the "**Corporate Bonds and Shares Book Entry Act**"), it is expressly set forth in law that rights attribution is determined by an account entry or record in a book-entry transfer account registry[51], and a transfer of rights goes into effect in accordance with a record of an increase or decrease (i.e., transfer) in an account[52, 53].

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[50] Financial Law Board, "Summary of Discussion on Status of Virtual Currency under Private Law" (December 12, 2018), page 9. Page 17 of Hiroki Morita's "The Nature of Virtual Currency under Private Law" in the Banking Law Journal No. 2095 suggests that, even if a transaction is executed using the blockchain as an information infrastructure, regulations related to rights attribution and transfer may differ depending on the type of proprietary rights that are recorded on the blockchain.

[51] Corporate Bonds and Shares Book Entry Act, Articles 66, etc.

[52] Corporate Bonds and Shares Book Entry Act, Articles 70 and 73.

[53] Under the Global Warming Countermeasures Act too, a system was established for acquiring and transferring calculated assigned amounts in accordance with the quota account register's transfer procedures, and rules related to that transfer of rights that are

For book-entry transfer corporate securities, the theoretical implications of stipulating that recording an increase in the book-entry transfer account registry is a requirement for rights transfer to take effect can be explained from several viewpoints. The Financial Law Board's document related to effectuation requirements and perfection requirements for assigning security tokens is of useful reference in this context. The document states that when transferring rights that are "fungible" as a result of being standardized and divided into units (such as paperless securities) and that are recognized through account balances, the subject of such transfer can be specified only by recording it in an account held by a particular holding entity and by ascertaining the amount thereof or the number of units thereof, and therefore the account's record is a requirement to effectuate rights transfer[54].

(2) Study on effectuation requirements and perfection requirements in relation to transferring security tokens

In connection with the above point, in the past, the Financial Law Board conducted a study of effectuation requirements and perfection requirements related to transferring security tokens[55]. The security tokens focused on in that study were "fungible rights, which were standardized and divided into units […], arising under individual contracts between two parties." Further, it was also assumed therein that "the mechanism is designed such that rights can be transferred only via the balance record or number of units on the blockchain[56]." Based on the above, regarding the theoretical implications of transferring rights to paperless securities through a book-entry transfer account, it was argued with a focus on how to "specifying" fungible rights as follows[57]:

> "Rights to securities of the same type managed by an account management institution are all uniform in content and cannot be identified individually. With the focus on the 'fungibility' of securities recorded in such accounts, when transferring rights to such securities, specifying the subject of transfer, which is required for such transfer, must be carried out by making increase/decrease records in accounts. The general principle that

roughly equivalent to those in the Corporate Bonds and Shares Book Entry Act were introduced (Global Warming Countermeasures Act, Articles 48, etc.).

[54] See Financial Law Board, "Effectuation Requirements and Perfection Requirements Related to Assigning Security Tokens (Particularly in Relation to Assignment of Silent Partnership Equity and Trust Beneficiary Rights)" (November 9, 2022) ("**Financial Law Board (Security Token)**") and Hiroki Morita, "Basic Theory About for Making Securities Paperless" Monetary and Economic Studies Volume 25 (2006), which is cited therein.

[55] Financial Law Board (Security Token).

[56] Financial Law Board (Security Token), page 7.

[57] For details, see Financial Law Board (Security Token) and various documents cited therein.

rights are transferred only by agreement between the parties to the assignment is based on the premise that the rights to be transferred are specified to a degree that makes them identifiable from other rights, so unless securities to be transferred to the assignee of the securities recorded in the assignor's book-entry transfer account registry are specified in a manner that makes them identifiable from other assignor-held securities, the rights transfer cannot be recognized as having taken effect [omitted]. Therefore, when a reduction in the assignor's account is recorded and then an increase in the assignee's account is recorded, it can be understood that the securities rights have definitively been specified as the object of assignment, and the point in time at which the increase is recorded in the assignee's book-entry transfer account registry can naturally be seen as linked to the time of the rights transfer[58]."

"The reason why the attribution or transfer of rights to paperless securities [omitted] managed in an account cannot be recognized independently from account records is because all rights managed in an account are fungible rights, that is, they are all uniform in content and have 'fungibility' whereby it is not possible to distinguish an individual right from any other. If an agreement is made to assign a certain number of fungible rights recorded in an account, in order for the assignment of the rights to be recognized, it is necessary to specify the rights to be assigned to a degree whereby they are distinguishable from other rights. As has already been seen herein, with regard to fungible rights, which are uniform and divided into units, that legal characteristic is recognized because specifying what is to be assigned independent from account records is difficult to do. Regarding movable property with 'fungibility' (i.e., a class of thing (*shurui-butsu*)), it is possible to specify what is to be assigned by physically isolating it (Article 401(2) of the Civil Code), but intangible rights exist conceptually, so they cannot be specified by physical isolation. Further, for monetary claims and other claims (*saiken*) in general, it is possible to specify what is to be assigned by using information such as the claim's type, the cause for the claim arising, the obligor's name, or the date on which the claim arose; however, the account rights discussed here are rights that have fungibility as a result of being uniform and divided into units and are recognized as rights by the account balance, and therefore cannot be specified by using such a method. Regarding such fungible rights, recording them in an account held by a specific holding entity and ascertaining their amount or number of units can be viewed as functioning as a legal technique that grants specificity or individuality to a fungible right existing conceptually. To specify fungible rights to be transferred by isolating them from other rights held by right holders, the person

[58] Financial Law Board (Security Token), page 11.

intending to transfer rights and the person intending to acquire rights must be an account holder, and the transfer must be corroborated by a record of a reduction in the account of the right holder as transferor and a record of an increase in the transferee's account, from which it can be concluded that account records are a requirement for a rights transfer to go into effect"[59].

(3) Study related to Carbon Credits

The above details basically apply also to Carbon Credits that are managed according to records in account registry and for which it is assumed that transferring rights in a manner independently from those records will not take place.

In this regard, because a serial number is assigned for each ton of CO_2 of Carbon Credits, it is possible to distinguish any Carbon Credit (i.e., representing one ton of CO_2) from any other Carbon Credit by using serial numbers, and, in this sense, it can be argued that Carbon Credits are non-fungible (i.e., it is possible to isolate and specify a single Carbon Credit from other Carbon Credits held by right holders, irrespective of whether the record increases or decreases).

However, Carbon Credits originating from the same project are the same in the sense that they each represent a greenhouse gas reduction of one ton of CO_2 due to that project and, further, another commonality is that by retiring a Carbon Credit, the CO_2 reduction effect linked thereto is attributable to the holder. The Carbon Credits are assigned serial numbers in order to differentiate what are essentially identical Carbon Credits and manage them in an account to prevent them from being traded or disposed of in duplicate. In other words, because Carbon Credits' serial numbers are assigned only for the sake of records in account registry and are not assigned for the purpose of differentiating Carbon Credits from other ones[60], Carbon Credits are inherently fungible and there appears to be room to apply the above legal principle[61].

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[59] Financial Law Board (Security Token), page 12.

[60] Overseas, the following argument has been made: Although each banknote (i.e., paper money) has a (traceable) serial number, each is fungible from the viewpoint that each satisfies monetary obligations, and, similarly, the fact that Carbon Credits have serial numbers does not immediately mean that they are not fungible. (See ISDA, "Legal Implications of Voluntary Carbon Credits" (https://www.isda.org/a/38ngE/Legal-Implications-of-Voluntary-Carbon-Credits.pdf), page 16). However, whether fungibility as discussed by the ISDA is the same as the "fungible rights" at issue when the Financial Law Board studied effectuation requirements and perfection requirements in relation to assigning security tokens requires separate study.

[61] Even if attributing and transferring Carbon Credits is based on the record in an account register, that does not imply that rights themselves pertaining to Carbon Credits are primarily attributable to the holding entity under the record (regardless of the success or failure of any claim for return of unjust profit), even in cases such as where the record in the account register is increased without being based on the holding entity's intent. Generally, Carbon Credits are not used as a payment means as deposits or crypto-assets are, so there is little need for a legal structure similar to theirs, and, further, it would not necessarily be considered as appropriate. Rather, as stated in the main text, the rules for book-entry transfer corporate bonds and the like have more affinity.

Even if the above legal principles serve as the basis for reaching an interpretive conclusion that records in account register are both an effectuation requirement and a perfection requirement in relation to Carbon Credit attribution and transfer, different arguments might be made as described above, and further study will be required for the issues such as how strong such an interpretation is, and to what extent the same interpretation can apply to Carbon Credits other than J-Credits.

Although there remains some points requiring further attention as described above, as stated at the beginning of this document, the legal principles described herein should not merely to be referenced as interpretive theory under current law – they may serve also as a theoretical basis when taking legislative action.