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The Emerging Spot Market for Certified Emission Reductions

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Twenty-three CDM projects have been registered with the CDM Executive Board to date and hence the day draws nearer when the first CERs will be issued. This paper describes the framework that will enable countries and companies to transact CERs. It outlines the various institutions that need to be established and requirements that need to be met before CERs can be transferred. Governments and the UNFCCC Secretariat still have to set up the CDM registry, the Independent Transaction Log and national registries. Governments will also need to invest substantial efforts into meeting the eligibility criteria for participating in the CDM and Art. 17 emission trading and to establish clear rules for the authorisation of private entities to participate in the mechanisms. Moreover, the EU needs to clarify if Art. 49(2) of the EU Registry Regulation is supposed to apply to the transfer of CERs, in which case the EU would need to conclude international agreements before any CERs could be transferred into the EU. If these efforts are neglected, the development of a spot market for CERs may take another one or two years. It may also be necessary to explicitly allow the parking of CERs in the pending account of the CDM Executive Board until the conditions for transferring them to their destinations have been met.[1]

The Clean Development Mechanism (CDM) was established as a project-based mechanism under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). It allows industrialized countries that have agreed to meet specified greenhouse gas emission targets under the Kyoto Protocol (called Annex I Parties[2]) to acquire Certified Emission Reductions (CERs) from CDM project activities undertaken in developing countries (Non-Annex I Parties) and count them towards their Kyoto targets. As several Annex I Parties are struggling to comply with their commitments, demand for CERs may well exceed the expected supply in the coming years.

At the time of writing, twenty-three CDM projects have been registered and it can be expected that the CDM Executive Board will soon start issuing CERs. It is therefore pertinent to explore the framework that will enable countries and companies to transfer CERs. The aim of this paper is to outline the various requirements concerning CER transfers and to make meaningful suggestions on the structure of the emerging market for CERs. In order to restrict the scope of our analysis, it has been confined to CERs, omitting long-term CERs and temporary CERs, the certificates generated by afforestation and reforestation projects that remove CO_2 from the atmosphere and store it in biomass ("sink projects").

[1] An earlier version of this paper was published as Langrock, Thomas and Wolfgang Sterk (2005): The Developing Market for CERs: Current Status and Challenges Ahead. In: Journal for European Environmental & Planning Law (JEEPL), Vol. 2, No. 2, pp. 101-111.

[2] Throughout this Article, Annex I Party means a Party to the UNFCCC included in Annex I, UNFCCC, which has ratified the Kyoto Protocol and which has a commitment inscribed in Annex B, Kyoto Protocol. The term Non-Annex I Party refers to a Party that ratified the Kyoto Protocol as well as the UNFCCC but is not included in these Annexes. This usage of the two terms is largely consistent with the Marrakesh Accords.

1 The Management Structure of the System

Similar to financial securities, CERs will be intangible units that exist merely in electronic databases. In order to accurately account for these units, a system consisting of national registries, the CDM registry and transaction logs will be established as outlined below.

1.1 National Registries

According to the Marrakesh Accords, named after the seventh Conference of the Parties (COP) to the UNFCCC that took place in Marrakesh, each Annex I Party is to establish and maintain a national registry.[3] The Marrakesh Accords stipulate that the national registries of the Annex I Parties have to contain:

- at least one holding account for the Party,
- at least one holding account for each legal entity authorised by the Party to hold Kyoto Units[4],
- various cancellation accounts,
- one retirement account.[5]

The EU Member States have already started setting up their national registries[6], both in legal as well as in practical terms, because they are integrating two functions into their system of national registries: serving as national registries for the purpose of the Kyoto Protocol on the one hand and accommodating emission allowances introduced under the EU company-level emission trading scheme (EU ETS) on the other hand.[7] Pursuant to the emission trading directive (ET Directive) and Decision 280/240/EC of the European Parliament and the Council of Ministers,[8] the initiative to set up registries within the EU has been with the European Commission. In October 2004, the Commission adopted the Registry Regulation,[9] which obliges all EU Member States to establish a national registry according to a uniform standard.

In addition to the accounts required by the Marrakesh Accords, national registries of EU Member States will also contain accounts for tracking emission allowances introduced by the EU ETS.[10] Every participant will receive either an "operator holding account" – if she is an operator of an installation that is covered by the EU ETS – or a "person holding account". The primary purpose of these accounts

[3] Para. 17, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[4] Kyoto Units are CERs, Assigned Amount Units (AAUs), which the Annex I Parties receive based on their Kyoto emission targets, Emission Reduction Units (ERUs), which are generated by Joint Implementation (JI) projects, and Removal Units (RMUs), which an Annex I Party can generate through land use, land-use change and forestry (LULUCF) activities (so-called sinks) on its own territory.
[5] Para. 21, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[6] Malta and Cyprus, the two EU Member States that are Non-Annex I Parties, have also started establishing national registries. The legal framework regarding transactions of Kyoto Units involving such voluntary registries has not been established yet and may very well raise new legal questions (see also section 2.4).
[7] The EU ETS has been introduced under the ET Directive, Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, Official Journal L 275, 25/10/2003, pp. 32-45. An introduction to the EU ETS can be found in Ellinghaus, Ulrich; Ebsen, Peter; Schloemann, Hannes, The EU Emissions trading Scheme (EU ETS): a Status Report. JEEPL 1 /2004, pp. 3-9.
[8] Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol, Official Journal L 49, 19.2.2004, pp.1-8.
[9] Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council, Official Journal L 386, 29/12/2004, pp. 1-77.
[10] Art 11, Regulation 2216/2004/EC.

is to accommodate EU Allowances, but they must also be "capable of holding Kyoto Units where authorised by the Member State or Community legislation."[11]

Due to the continual rescheduling of the start of the EU ETS it is reasonable to expect the complete system to be in operation towards the end of 2005. More importantly, it must be expected that the Member States will opt for a gradual introduction of the various functionalities – with the consequence that functionalities that are crucial for the EU ETS will be prioritised to the detriment of those functionalities that are necessary for the purposes of the Kyoto Protocol. The current status of all registries can be checked on a special website of the European Commission.[12]

1.2 The CDM Registry

For the purpose of issuing CERs and transferring them to the CDM project participants, the CDM Executive Board needs to establish a separate CDM registry and appoint an administrator to maintain it.[13] According to the Marrakesh Accords, the CDM registry is supposed to contain the following accounts:

- one pending account for the Executive Board into which CERs are issued before being transferred to other accounts,
- at least one holding account for each Non-Annex I Party hosting a CDM project activity or requesting an account,
- at least one account for cancelling CERs equal to excess CERs issued, where the accreditation of an Operational Entity[14] has been withdrawn or suspended,
- and at least one account for holding and transferring CERs corresponding to the share of proceeds for covering administrative costs and assisting developing countries in meeting the costs of adaptation to global warming, in accordance with Art. 12(8) of the Kyoto Protocol.[15]

The CDM Executive Board appointed the UNFCCC Secretariat to perform this function. After the Secretariat had selected a vendor for the support of the registry, Version 1 was developed and deployed in the Secretariat at the end of November 2004. This version can already be used to issue CERs. Version 2 of the registry is currently being programmed and will be ready to initiate communications with the Independent Transaction Log (see below) as soon as the Log becomes operational. With this second version it will be possible to process the transfer of CERs to the national registries of Annex I Parties and the reconciliation of data with the Independent Transaction Log.[16]

[11] Ibid, Arts. 16 & 20.
[12] http://europa.eu.int/comm/environment/ets/registrySearch.do.
[13] Para. 1, Appendix D, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol; Par 5(l), Annex to Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[14] Operational Entities are private certification companies which have been accredited by the CDM Executive Board to audit whether projects meet the CDM requirements, Para. 6(b), Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol; Paras. 5(f), 20-27, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[15] Para. 3, Appendix D, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[16] Para. 38(f), Addendum to the Annual report (2003-2004) of the Executive Board of the clean development mechanism to the Conference of the Parties.

1.3 The Independent Transaction Log and the Community Independent Transaction Log

All transactions between registries are checked by transaction logs, which serve to verify the validity of transactions. The UNFCCC Secretariat will establish and maintain an Independent Transaction Log (ITL) for the purpose of transfers under the Kyoto Protocol.[17] It is currently expected that the Log will be operational towards the end of 2006 at the earliest. Moreover, the EU Commission has established and become the Central Administrator of a Community Independent Transaction Log (CITL) for the purpose of trading under both the Kyoto Protocol and the EU ETS.[18] The EU Registry Regulation clearly states that the Community Independent Transaction Log conducts automated checks "for all processes concerning allowances, verified emissions, accounts and Kyoto units".[19] Transfers involving entities from EU Member States therefore entail an additional step of data verification: the data are first exchanged via the Independent Transaction Log, which then passes on the process to the Community Independent Transaction Log.[20]

2 The Transfer of CERs

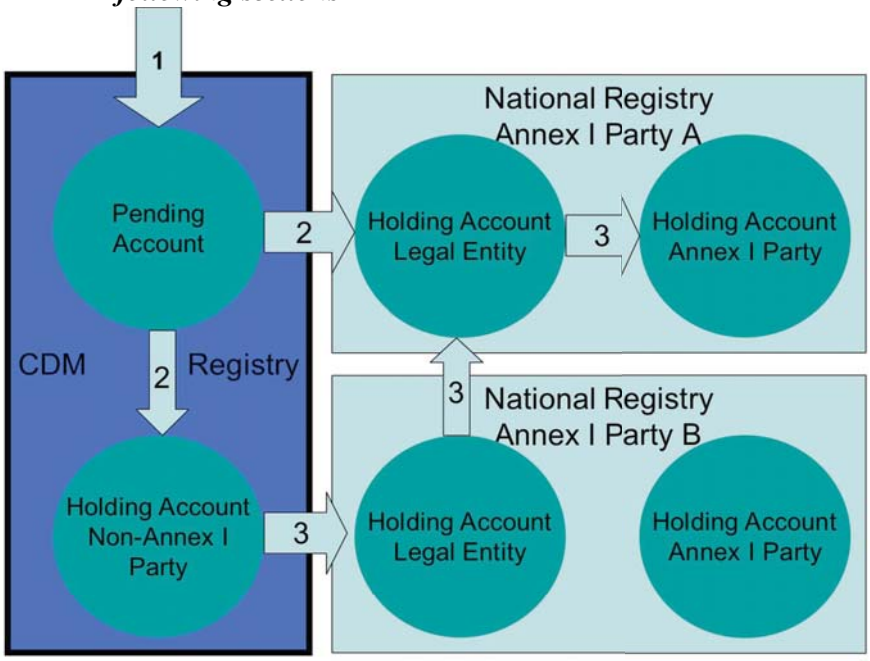
The registries, accounts and transaction logs are necessary to conduct transfers of CERs. Figure 1 illustrates the transactions that are conceivable under the Marrakesh Accords:

1. Issuance of CERs: the generation of CERs and their subsequent entry into the pending account of the Executive Board.
2. Transfer of CERs out of the Pending Account: the transfers out of the pending account of the Executive Board to accounts of the project participants.
3. Transfer of CERs from Non-Annex I Party Accounts to national registries, between two national registries and within one national registry: the transfers between accounts of participants in emission trading.
4. The surrender of CERs within the framework of the EU ETS and the Retirement of CERs: the transfers of CERs into accounts of Annex I Parties and the subsequent shift into retirement accounts. These are not included in Figure 1.

The legal basis for all these transactions is spread over a relatively wide set of provisions. The following sets out a thorough analysis of the requirements that will have to be met in order for a particular transaction of CERs to be executed and completed successfully.

[17] Para. 38, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[18] Art. 20, ET Directive and Art. 5, Regulation 2216/2004/EC.
[19] Art. 28.1, Regulation 2216/2004/EC.
[20] Art. 7, Regulation 2216/2004/EC.

Figure 1: Overview of the various transactions, numbered in order of appearance in the following sections



Source: Adapted from Langrock, Thomas and Wolfgang Sterk (2005): The Developing Market for CERs: Current Status and Challenges Ahead. In: Journal for European Environmental & Planning Law, Vol. 2, No. 2, pp. 101-111.

2.1 The Basic Structure of all Transactions

In a nutshell, every transaction of CERs is conducted in three phases: its initiation, the verification of the validity of the proposed transaction and its completion/termination.[21]

Only the Executive Board can initiate the issuance of CERs by directing the CDM registry administrator to carry out the process. The CERs are then issued and delivered to the specified destination accounts (see 2.2 and 2.3 below). These can be either accounts of Annex I Parties in their national registries, accounts of legal entities that have been authorised by Annex I Parties to acquire and transfer CERs, which will be established in the national registry of the Annex I Party that has authorised them, or accounts of Non-Annex I Parties in the CDM registry. Annex I Parties can then initiate further transfers by directing their national registries to carry out the proposed transactions.[22] Legal entities authorised by Annex I Parties to acquire and transfer CERs are not mentioned explicitly in the Marrakesh Accords. However, in practice legal entities will also be able to initiate transactions. With regard to Non-Annex I Parties that hold CERs in their accounts in the CDM registry, the Marrakesh Accords clearly state that only the Executive Board can initiate the transfer of CERs held in the CDM registry.[23]

[21] Most of the processes presented here also apply to transactions involving Kyoto Units other than CERs.
[22] Para. 39(f), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[23] Para. 40, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

After a transaction has been initiated, the initiating registry must create a unique transaction number and send out a record of the proposed transaction to the Independent Transaction Log. The Independent Transaction Log will then carry out an automated check. The content of the check varies according to the proposed type of transaction but it always contains a set of basic checks, e.g. whether the units involved were previously retired or cancelled or whether they exist in more than one registry.[24] If the registry of an EU Member State is involved, the transaction is then passed on to the Community Independent Transaction Log which performs its own checks. These checks on the one hand address whether the units to be transferred are actually held in the transferring account and if the accounts involved actually exist in the specified registries, on the other hand they address the transfer itself and vary between types of transfers. If the transaction is found to be valid, it can be completed.[25]

In the following sections various types of transactions will be analysed with respect to the following questions: First, who can initiate the transaction in question, second, what is the respective content of the automated check procedure, and finally, does the EU Registry Regulation formulate further requirements with regard to the transaction in question?

2.2 The Issuance of CERs

The issuance of CERs is triggered when the Designated Operational Entity chosen by the CDM project participants submits its certification report to the CDM Executive Board, which at the same time constitutes a request for issuing CERs equal to the verified amount of emissions reduced. This request is deemed final after 15 days have elapsed, unless a Party involved in the project activity or at least three Board members request a review. If there is no such request or the review has a positive result, the Executive Board initiates the issuance by directing the CDM registry administrator to issue the specified amount of CERs into the pending account of the Executive Board.[26]

The Independent Transaction Log will be involved in this transaction though it will only conduct the basic checks mentioned above.[27] The issuance will be completed once the CERs have been recorded in the pending account of the Executive Board in the CDM registry. Since no EU Member States are involved at this point, the EU Registry Regulation has no relevance here.

[24] Para. 42(a), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

[25] Paras. 39/40, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol, Arts. 34, 35 and 36, Regulation 2216/2004/EC. In contrast, a complicated procedure starts if a discrepancy is detected, under Para. 43, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol and Arts. 28, 29, and 30 of Regulation 2216/2004/EC. An analysis of the latter is beyond the scope of this article.

[26] Para. 64(f), Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.

[27] Para. 42(a), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

2.3 Transfer of CERs out of the Pending Account

The two transactions following the issuance of CERs do not need any additional initiation. After the successful issuance, the CDM registry administrator must transfer a quantity of CERs that corresponds to the share of proceeds (see 1.2 above) from the pending account of the Executive Board to the appropriate accounts in the CDM registry for the management of the share of proceeds. Subsequently, the CDM registry administrator transfers the remaining CERs to the registry accounts of project participants and Parties involved, in accordance with their request.[28] The details of the transaction depend on the specific destination account of the respective transfer.

If the destination is a Non-Annex I Party account in the CDM Registry, the transaction is only subject to the basic checks required by the Marrakesh Accords as outlined earlier (see 2.1 above).[29] The EU Registry Regulation does not apply, as the transaction does not involve EU Member States.

If the destination of the transfer is an Annex I Party account in a national registry, the transaction depends on whether the country is eligible to participate in the mechanisms.[30] The Marrakesh Accords lay out several sets of eligibility criteria. Nevertheless, it is not clear which one can be applied to this particular transaction. Box 1 outlines the different sets of criteria that can be found in the Marrakesh Accords.

One set of eligibility criteria is contained in the CDM modalities and procedures. These, however, refer to a Party's use of CERs for complying with its emission target, not to transferring CERs.[31]

Another section of the Marrakesh Accords sets out who can participate in Art. 17 of the Kyoto Protocol. This set of criteria does not apply in this case, however, because the transfer of CERs out of the pending account of the CDM Executive Board is part of the initial issuance of CERs, which is governed by Art. 12 and not Art. 17 of the Kyoto Protocol.[32]

Thus, the only set that is left to be applied to this particular transaction is contained in the principles, nature and scope of the mechanisms, under which eligibility to participate in the mechanisms is linked "to compliance with methodological and reporting requirements under Article 5, paragraphs 1 and 2 and Article 7, paragraphs 1 and 4 of the Kyoto Protocol."[33]

[28] Para. 66, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[29] Para. 42(a), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[30] Para. 42(b), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[31] Para. 31, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[32] See Langrock/Sterk 2005, Fn 1.
[33] Para. 5, Draft decision -/CMP.1 (Mechanisms), Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol.

Box 1: Differences between Eligibility Criteria laid out in the Marrakesh Accords

Eligibility to use CERs for Kyoto compliance[34]

A Party included in Annex I with a commitment inscribed in Annex B is eligible to use CERs for meeting its Kyoto target if

- it is a party to the Kyoto Protocol;
- its assigned amount has been calculated and recorded;
- it has in place a national system for the estimation of GHG emissions and removal by sinks;
- it has in place a national registry;
- it has submitted annually the most recent required inventory;
- it submits supplementary information on its assigned amount and makes the necessary adjustments to it.

Eligibility to participate in Art. 17 emission trading[35]

A Party included in Annex I with a commitment inscribed in Annex B is eligible to participate in Art. 17 emission trading if

- it is a party to the Kyoto Protocol;
- its assigned amount has been calculated and recorded;
- it has in place a national system for the estimation of GHG emissions and removal by sinks;
- it has in place a national registry;
- it has submitted annually the most recent required inventory;
- it submits supplementary information on its assigned amount and makes the necessary adjustments to it.

Eligibility to participate in the mechanisms[36]

A Party included in Annex I is eligible to participate in the mechanisms if:

- it has in place a national system for the estimation of GHG emissions and removal by sinks. This is supposed to be the case not later than one year before the start of the first commitment period.
- it incorporates in its annual inventory of GHG emissions and removals by sinks the supplementary information necessary for ensuring compliance with Art. 3 of the Kyoto Protocol.

Note that the criteria for participating in the mechanisms are much less stringent than the criteria to participate in Art. 17 emission trading and to use CERs for the Kyoto compliance. Interestingly, they do not contain the requirement to have ratified the Kyoto Protocol.

If the destination account is in the registry of an EU Member State, the Community Independent Transaction Log performs the automated checks described above (see 2.1). The question is whether the provisions of Art. 49(2) of the EU Registry Regulation apply. According to this Article,

> *Allowances may only be transferred from an account in a registry to an account in a third country registry or the CDM Registry, or acquired from an account in a third country registry or the CDM Registry by an account in a registry, where an agreement has been concluded in accordance with Article 25(1) of Directive 2003/87/EC…*

[34] Para. 31, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.
[35] Para. 2, Annex of Decision 18/CP.7, Modalities, rules and guidelines for emission trading under Article 17 of the Kyoto Protocol.
[36] Para. 5, Draft decision -/CMP.1 (Mechanisms), Principles, nature and scope of the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol.

Art. 25(1) of the ET Directive in turn stipulates that

> *Agreements should be concluded with third countries listed in Annex B to the Kyoto Protocol which have ratified the Protocol to provide for the mutual recognition of allowances between the Community scheme and other greenhouse gas emissions trading schemes in accordance with the rules set out in Article 300 of the Treaty.*

The wording of Art. 49(2) is ambiguous in so far as on the one hand it only refers to the transfer of allowances, which should mean that it does not apply to CERs. But on the other hand it also mentions acquisitions from the CDM registry, which is not going to contain allowances but CERs. One could therefore conclude that the purpose of Art. 49(2) of the EU Registry Regulation is to govern the transfer of all kinds of units, including CERs. However, in the transaction at hand the CERs are acquired from the pending account of the Executive Board, which is not a Party in the sense of Art. 25(1) of the ET Directive. It could be argued that an agreement is then to be concluded with the Non-Annex I Party which hosts the respective CDM project activity. Such an interpretation, however, would be at odds with the wording of Art 25(1) of the ET Directive, which clearly only refers to countries listed in Annex B to the Kyoto Protocol. Moreover, it would not conform with the purpose of this Article either, as it clearly refers to the linking of different domestic emission trading schemes, which cannot be compared to the operation of a CDM project activity in the respective country. Last but not least, having to conclude such an agreement for the mere purpose of acquiring CERs from the CDM registry would pose a significant administrative obstacle without providing any apparent benefit. For these reasons, one may probably conclude that Art 49(2) of the Registry Regulation is not supposed to apply to this particular kind of transaction.

If the destination is an account of a legal entity operating under the responsibility of an Annex I Party, all requirements that have been described for the transfer to the account of an Annex I Party apply to this transaction as well. In addition, the Independent Transaction Log will check the "authorisation of the legal entities involved to participate in the transaction."[37] It can be argued that this authorisation is implicitly included in the authorisation of private and / or public entities to participate in CDM project activities, since the paragraph in the Marrakesh Accords governing this authorisation also mentions the right of public and / or private entities to transfer and acquire CERs.[38]

For legal entities that operate in an Annex I EU Member State additional provisions must be fulfilled. The EU Registry Regulation stipulates that EU Member States can authorise account holders to hold Kyoto Units in their operator / person holding accounts.[39] It is not clear, however, how this authorisation matches with the Kyoto Protocol authorisation to participate in CDM project activities and Art. 17 emission trading (see 2.5 below). It is up to the EU Member States to adopt clarifying legislation regarding this matter when transposing the Linking Directive[40] into national legislation.

After the CERs have been transferred to the accounts of the participants or Parties involved, they can be further transferred between Parties or legal entities. While being less stringent than the eligibility requirements to use CERs for Kyoto compliance and to participate in Art. 17 emission trading, the

[37] Para. 42(a), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

[38] Art. 12.9, Kyoto Protocol and Para. 33, Annex of Decision 17/CP.7, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol.

[39] Arts. 16 & 20, Regulation 2216/2004/EC.

[40] The so-called Linking Directive amends the ET Directive with respect to CDM and JI inclusion in the EU ETS. Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms, Official Journal L 338, 13/11/2004, pp. 18-23.

eligibility requirements to participate in the mechanisms may pose a substantial obstacle to transfers out of the CDM registry. It is very likely that only a few, if any, Annex I Parties will meet these requirements at the time when the first CERs are issued. Moreover, the Independent Transaction Log will probably not be operational by the time the first CERs are issued, either. This implies that CERs will have to remain in the pending account for the time being.[41] The Executive Board seems to prepare for this situation as it agreed that the CDM registry would include temporary accounts for Annex I Parties and project participants from those Parties until their own national registries are operational.[42] The nature of these interim accounts is not clear from the decisions taken so far. It can be speculated that they may be established as sub-accounts of the pending account of the CDM Executive Board.[43] These sub-accounts could then serve as a provisional means of attributing legal ownership of CERs to project participants.

Box 2: CDM Participation of Non-Ratifiers?

As pointed out in Box I, the eligibility criteria to participate in the mechanisms do not contain the requirement to have ratified the Kyoto Protocol. This might be construed as a possibility for entities from non-ratifier countries such as Australia or the USA to acquire CERs. However, the Marrakesh Accords state that CERs are transferred to "project participants", which have been defined by the CDM Executive Board as (a) a Party involved, or (b) a private and/or public entity authorised by a Party involved to participate in a CDM project activity. A "Party involved" for its part is defined as a Party that provides a written approval, which is the authorisation of specific entity(ies)' participation as project proponents in the specific CDM project activity. The written approval needs to contain a statement that the Party has ratified the Kyoto Protocol. According to these definitions, entities from non-ratifier countries cannot be project participants and thus cannot receive CERs.[44] Still, the CDM Executive Board is only a subordinate body, it might therefore be advisable for the COP/MOP to clarify this issue.

One should note that even if it was possible to transfer CERs out of the CDM registry to project participants from non-ratifier countries such as Australia or the USA, these would need to establish national registries. There is no indication that either country is planning to do this. Moreover, while CERs could be transferred to entities in these countries, it would be impossible to transfer the CERs back out since these are transfers under Art. 17 which require ratification of the Kyoto Protocol. These CERs could thus only be used in the emerging sub-national emission trading systems in Australia and the USA.

[41] Rutger de Witt Wijenen even argues that no country will meet the eligibility criteria before 2008 and therefore no spot market for CERs will develop before 2008, either. The authors however do not share this assessment. De Witt Wijnen (2005): A sobering message. In: Carbon Finance, July 2005, pp.14-15.

[42] Para. 57(f), Annual report (2003-2004) of the Executive Board of the clean development mechanism to the Conference of the Parties.

[43] Establishing sub-accounts of the pending account rather than wholly new accounts should also be compatible with the legal framework. As the basic design of the CDM registry has been determined by the Marrakesh Accords, it might be illegitimate for the Executive Board to introduce new accounts.

[44] Revision of the "CDM Glossary of terms" regarding approval of proposed CDM project activities by Parties and authorization, Annex 4 to the report of the Seventeenth Meeting of the CDM Executive Board.

2.4 Transfer of CERs from Non-Annex I Party Accounts to National Registries

According to the transaction procedures, merely the Executive Board can initiate transfers from accounts of the CDM registry.[45] Thus, Non-Annex I Parties that hold CERs in their accounts must request the CDM Executive Board to initiate transfers out of their accounts. If this situation was maintained, the Non-Annex I Parties could not freely dispose of the CERs in their holding accounts within the CDM registry. The CDM Executive Board has decided to enable Non-Annex I Parties and entities from those Parties to transfer CERs from their holding accounts situated in the CDM registry to accounts in national registries. [46] This decision can probably be interpreted as an attempt to remove potential doubts about legal ownership that may arise because Non-Annex I Parties cannot freely dispose of the CERs on their accounts.

If the destination account of the requested transfer is an account in one of the national registries, the automated check will test the eligibility of the Parties involved and, if applicable, the authorisation of the legal entities involved in the transaction.[47] Regarding this test the situation is similar to the transaction from the pending account of the Executive Board to an Annex I Party account described in section 2.3. If the destination account of the requested transfer is an account in an EU Member State, here as well no agreement pursuant to Art. 25(1) ET Directive should be required (see discussion in section 2.3 above).

If a Non-Annex I Party requests to transfer CERs into an account of another Non-Annex I Party in the CDM registry, the transfer will be rejected. Such a transaction would violate the Art. 17 of the Kyoto Protocol, which only permits emission trading between Annex I Parties, and consequently such a transaction is not provided for in the Marrakesh Accords.

2.5 Transfer of CERs between two National Registries

Transactions between national registries are governed under Art. 17 of the Kyoto Protocol which defines emission trading.[48] At the outset of this kind of transaction, an Annex I Party or a legal entity authorised by the Annex I Party requests its national registry to transfer CERs.[49]

If a legal entity has initiated a transfer, the automated check will verify its authorisation to participate in the transaction according to Art. 17 of the Kyoto Protocol.[50] This authorisation is distinct from both the authorisation to participate in CDM project activities as well as the authorisation to acquire CERs from the pending account of the Executive Board. The criteria for the authorisation of legal entities are left to the Annex I Parties to decide on. For the sake of streamlining the process and giving all necessary authorisations in one step, EU Member States should ideally give this authorisation when implementing the Registry Regulation and the Linking Directive. Germany has partially done so, as outlined in Box 2.

[45] Para. 40, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[46] Para. 57(f), Annual report (2003-2004) of the Executive Board of the clean development mechanism to the Conference of the Parties.
[47] Para. 42, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under article 7, paragraph 4, of the Kyoto Protocol.
[48] The authors explain the interplay between the Article 17 emission trading and the CDM in detail in their article Langrock/ Sterk 2005, see Fn1.
[49] Para. 40, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[50] Para. 5, Annex of Decision 18/CP.7, Modalities, rules and guidelines for emission trading under Article 17 of the Kyoto Protocol.

Box 3: Case Study: The German authorisation to trade CERs

In Germany, the authorisation issue has been dealt with by using a combination of EU and German legislation. First, the EU Registry Regulation stipulates that operator and person holding accounts may hold Kyoto Units where authorised by Member State or Community legislation.[51] Second, the German emission trading act regulates the establishment and use of accounts and the transfer of EU Allowances for the purpose of the EU ETS. In essence, it states that account holders may dispose of their accounts in accordance with the EU Registry Regulation.[52] Third, the law on the project-based mechanisms, which inter alia amends the emission trading act, stipulates that CERs and ERUs can be held and transferred between accounts as if they were EU Allowances.[53] Thus all participants in the EU ETS can hold CERs on their accounts. They can furthermore transfer CERs onto accounts of German and EU participants of the EU ETS. The law is silent, however, on transactions into accounts within national registries of Non-EU Member States.[54]

The Independent Transaction Log will check the eligibility of the Parties involved in the transaction. Two sets of eligibility criteria apply: the criteria to participate in any of the mechanisms and the requirements to participate in Art. 17 emission trading (outlined in Box 1 above).[55] There is some ambiguity as to a potential involvement of Annex I Parties that have not ratified the Kyoto Protocol, as discussed in Box 3.

If the transfer involves an EU Member State and a Non-EU Member State, Art. 49(2) of the EU Registry Regulation might apply, pursuant to which an agreement must have been concluded in accordance with Art. 25(1) of the ET Directive (see section 2.3 above).[56] Since there are two Annex I Parties involved in this particular instance, the wording of the Regulation is more applicable than in the case of acquiring CERs from the CDM Executive Board's pending account. Still, as has been mentioned above, trading CERs with a Non-EU Member State is not necessarily equivalent to linking two emission trading schemes. Moreover, it is difficult to see the benefit of making a mere transfer of CERs contingent on the conclusion of an agreement according to Art. 25(1) of the ET Directive. One may therefore conclude that Art. 49(2) of the EU Registry Regulation is not supposed to apply to this kind of transaction, either.

For transactions between the national registries of two EU Member States the usual provisions for transfers between Annex I Parties apply. The EU Registry Regulation applies without posing further obstacles. In any transaction involving an EU Member State the Community Independent Transaction Log performs the automated checks described above (see section 2.1).

[51] Arts. 16 and 20, Regulation 2216/2004/EC.
[52] § 14, 16, 17, 18 and 24, Gesetz über den Handel mit Berechtigungen zur Emission von Treibhausgasen (Treibhausgas-Emissionshandelsgesetz – TEHG).
[53] Art. 2.4, Gesetz über projektbezogene Mechanismen nach dem Protokoll von Kyoto zum Rahmenübereinkommen der Vereinten Nationen über Klimaänderungen vom 11. Dezember 1997 und zur Umsetzung der Richtlinie 2004/101/EG.
[54] Art. 49, Regulation 2216/2004/EC.
[55] Para, 2, Annex of Decision 18/CP.7, Modalities, rules and guidelines for emission trading under Article 17 of the Kyoto Protocol.
[56] Art. 49.2, Regulation 2216/2004/EC.

2.6 Transfer of CERs within a National Registry

The Marrakesh Accords explicitly only address transfers "between registries".[57] Transfers within a national registry are therefore not subject to checks by the Independent Transaction Log. However, the Community Independent Transaction Log conducts automated checks "for all processes concerning allowances, verified emissions, accounts and Kyoto units", which means that the Community Independent Transaction Log is also going to conduct its automated checks for transfers within the national registries of the EU Member States.

2.7 The Surrender of CERs within the Framework of the EU ETS

For legal entities in EU Member States who are obligated to take part in the EU ETS, i.e. operators in the sense of the ET Directive, a special transaction within a national registry exists: operators can request the transfer of CERs from their operator holding account into the Party holding account for complying with their obligations under the EU ETS. Each EU Member State registry contains a verified emissions table and a surrendered allowances table, with specific sections in each table for each installation covered by the EU ETS.[58] When an operator surrenders CERs for compliance reasons, the number of transferred CERs is added to the entry in the section of the surrendered allowances table designated for her installation.[59] The compliance assessment for the installation consists of a comparison between its entry in the surrendered allowances table and its entry in the verified emissions table.[60]

The Registry Regulation thus implements the provisions of the Linking Directive, according to which Member States may allow operators to use CERs and Emission Reduction Units (ERUs)[61] for their compliance. According to this legislation, this action takes place through the issue and immediate surrender of one EU Allowance by the Member State in exchange for one CER or ERU held by the operator in the national registry.[62] In regards to the Independent Transaction Log, this transaction constitutes an ordinary transfer from the account of a legal entity authorised by an Annex I Party to the account of the Party itself. The transaction is therefore not subject to checks by the Independent Transaction Log but to checks by the Community Independent Transaction Log.

3 The Retirement of CERs

The most important transaction from an international policy maker's point of view is undoubtedly the retirement of CERs in order to achieve compliance with the Kyoto Protocol. The compliance assessment will be based on comparing the quantity of Kyoto Units which have been retired by the Party with its aggregate anthropogenic emissions of the six Kyoto gases from the sources listed in Annex A to the Kyoto Protocol during the respective commitment period.[63]

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[57] Paras, 38 and 41, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.
[58] Art. 24, Regulation 2216/2004/EC.
[59] Art. 53, Regulation 2216/2004/EC.
[60] Art. 55, Regulation 2216/2004/EC.
[61] See Fn 3.
[62] Art. 11(a), Paras 1 & 2, Linking Directive.
[63] Para. 14, Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

From the point of view of transactions the retirement of CERs is nothing but the transfer within a national registry from the holding account of the Party into its retirement account. This transaction, however, involves the check of the eligibility to use CERs for compliance with Art. 3 of the Kyoto Protocol (see Box 1).[64]

4 Policy Conclusions

The analysis undertaken in this article is far from being complete. Many of the issues raised deserve further attention. Nevertheless, this overview might be helpful in envisioning the future structure of the spot market for CERs. In addition, it allows to highlight a few key issues that need to be tackled to ensure that the market for CERs develops without major complications.

Issuance of CERs

The starting point of the development of the spot market for CERs obviously is the point in time when the first CERs are issued. It can be expected that this will take place during the second half of 2005.

One bottleneck that may prevent the issuance of CERs is the timely start of operation of the CDM registry. So far the development of the CDM registry appears to be on time; it does therefore not seem to pose an obstacle.

The step that immediately follows the issuance of CERs is the transfer into the accounts specified by the project participants. The transfer is straightforward if the destination account is one within the CDM registry. If it is one within a national registry of an Annex I Party, the transaction is contingent on the Annex I Party meeting the eligibility requirements to participate in the mechanisms described in Box 1. Meeting these eligibility requirements is challenging and probably cannot be expected before the end of 2006. Even then it may initially only be a relatively small number of countries that will be able to receive CERs in their registries. Moreover, these transfers are also contingent on the Independent Transaction Log being operational, which is probably not going to be the case before the end of 2006. Thus, the most likely scenario is that CERs will be parked in the CDM registry until the end of 2006, for many countries probably even longer.

> Conclusion 1:
>
> For legal reasons, that is to ensure that no doubts arise about legal ownership, it may be necessary that parking CERs in the pending account of the CDM Executive Board is made possible for Annex I Parties and legal entities from Annex I Parties. The CDM Executive Board has already taken up this issue. Maybe the COP/MOP should also consider extending the already existing legislation governing the CDM registry in this regard.
>
> Conclusion 2:
>
> Governments should invest into the establishment of the Independent Transaction Log to make sure that it is operational by the time countries are ready to receive CERs in their national registries.

[64] Para. 42 (d), Annex of Decision 19/CP.7, Modalities for Accounting of assigned amounts under Article 7, paragraph 4, of the Kyoto Protocol.

Transferring CERs

Even if the first transfer out of the CDM registry can be terminated successfully, this does not necessarily mean that the CERs can be passed on to accounts in the registries of other Annex I Parties. As explained in section 2.5, these transfers depend on meeting the eligibility requirements to participate in Art. 17 emission trading. These requirements are even more challenging than the requirements to participate in the mechanisms. Thus it must be expected that the spot market for CERs will initially consist of only a small set of Annex I Parties. From these observations the following key issues can be derived.

Conclusion 3:

Depending on the importance that Annex I Parties attach to the CDM, they must invest into efforts for meeting the eligibility requirements to participate in the mechanisms and in Art. 17 emission trading.

The way Annex I Parties authorise legal entities to participate in the market will also shape the spot market for CERs. As has been mentioned in section 2.3, the first transaction from the CDM Executive Board's pending account into an account in the national registry of an Annex I Parties does not require a special authorisation. However, all transaction between national registries thereafter will require the authorisation to participate in emission trading pursuant to Art. 17.

Conclusion 4:

Annex I Parties must set clear rules for the authorisation of legal entities to participate in Art. 17 emission trading.

Trading in the Case of EU Actors

For EU Member States an additional impediment may arise if Art. 49(1) of the Registry Regulation is interpreted such that agreements - between the European Commission and either the host country or the COP - in accordance with Art. 25 of the ET Directive are necessary for the transfer of CERs.

Conclusion 5:

Since there is no apparent benefit to making the transfer of CERs contingent on the conclusion of such agreements, the EU should amend its legislation to clarify that such agreements are not necessary.

Conclusion 6:

If Art. 49(1) is going to apply to the transfer of CERs, the European Commission must conclude agreements in accordance with Art. 25 of the ET Directive. In this case no actor within the EU will be able to acquire any CERs until this has been achieved.

The German example (see Box 2) suggests that EU Member States will at least give the authorisation to transfer CERs between participants of the EU ETS. Thus one segment of the spot market for CERs will initially consist of the participants of the EU ETS. This segment will be linked to other segments as soon as at least one EU Member State authorises legal entities to participate globally in Art. 17 emission trading and as soon as the applicability of Art. 49 of the Registry Regulation has been clarified.

Conclusion 7:

For the sake of expediency, EU Member States should authorise all participants in the EU ETS to trade CERs between EU Member States. Otherwise, the only way for installation operators to acquire CERs would be to directly invest in CDM projects. EU Member States must also make sure that the corresponding legislation regulates the authorisation to undertake transfers into or out of the EU.

The Involvement of Non-Ratifiers

Politically, the most interesting segment of the CDM spot market is the market that might develop within Annex I Parties that have not ratified the Kyoto Protocol. It is currently not clear if entities from these countries may be issued CERs. If this was possible, CERs could be used in the emerging sub-national emission trading systems in Australia and the USA. This might be a way to reattach these countries to the Kyoto regime. Trading CERs between Annex I Parties that have ratified the Kyoto-Protocol and those that have not, however, is not possible. This finding can be interpreted as an incentive to ratify the Kyoto Protocol.

Conclusion 8:

The COP/MOP should clarify whether entities from Annex I Parties that have not ratified the Kyoto Protocol may be CDM project participants and receive CERs.

Glossary of Terms and Acronyms

AAU	Assigned Amount Unit, the => Kyoto Units => Annex I Parties receive on the basis of their Kyoto emission targets.
Annex I Party	For the purposes of this paper, Annex I Party means a Party included in Annex I to the => UNFCCC with a commitment inscribed in Annex B to the Kyoto Protocol. They are mainly the traditional "industrialised countries".
CDM	Clean Development Mechanism.
CDM Executive Board	Determines and monitors the implementation of the => CDM.
CER	Certified Emission Reduction, the => Kyoto Unit generated by => CDM projects.
CITL	Community Independent Transaction Log.
CO_2	carbon dioxide.
COP	Conference of the Parties to the => UNFCCC.
COP/MOP	Conference of the Parties serving as Meeting of the Parties to the Kyoto Protocol.
DOE	Designated Operational Entity, private certification companies which have been accredited by the => CDM Executive Board to audit whether projects meet the requirements of the => CDM.
ERU	Emission Reduction Unit, the => Kyoto Unit generated by => JI projects.
EU	European Union.
EU Allowance	The trading unit introduced by the => EU ETS.
EU ETS	EU emission trading system.
GHG	greenhouse gas.
ITL	Independent Transaction Log.
JI	Joint Implementation.
Kyoto Unit	Unit which has been introduced by the Kyoto Protocol and can be used by => Annex I Parties for complying with their Kyoto emission targets: => AAUs, CERs, ERUs, RMUs.
Marrakesh Accords	The decisions taken by => COP 7 at Marrakesh which lay down the detailed rules for the implementation of the Kyoto Protocol.

RMU	Removal Unit, the => Kyoto Unit generated by national sink activities in the => Annex I Parties in accordance with Arts. 3.3 and 3.4 of the Kyoto Protocol.
UNFCCC	United Nations Framework Convention on Climate Change.

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