

Mitigation Value, Networked Carbon Markets and the Paris Climate Change Agreement

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This Paper was commissioned and supported financially by the World Bank Group through its “Networked Carbon Markets” (NCM) initiative. It complements ongoing work undertaken by the NCM initiative to explore the services and institutions needed for the next generation of carbon markets.

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This Paper has been the subject of extensive stakeholder consultations convened by the Climate Markets and Investment Association, Pricewaterhouse Coopers, Baker & McKenzie and the World Bank Group. It has also been peer-reviewed by Mr. Jean-Yves Caneil (Head of Climate Policy, EDF), Mr. Justin Macinante (Consultant, First Climate Group); and Mr. Louis Redshaw (Founding Director, Redshaw Advisors) and staff at the World Bank Group.

Abstract

Carbon markets are undergoing a significant transformation, moving from what could be called Greenhouse Gas (GHG) Markets 1.0, to a new state that may be called GHG Markets 2.0. GHG Markets 2.0 is comprised of a diversity of domestic carbon pricing approaches, as countries choose different approaches depending on their national circumstances and what is politically feasible. A global carbon market remains a key objective, but may take some time to become a reality.

A global market could be achieved in a number of ways, including through the “classic” linking approach, which aims to harmonize differences between systems. It implies that a linking agreement has been negotiated between jurisdictions, which then enables trade between the two jurisdictions.

Networked Carbon Markets (NCM) offers an alternative approach, which recognizes differences and aims to put a relative value on the units that emerge from different systems. NCM does not seek to ‘police’ but rather seeks to ensure that jurisdictions have the information they need to make their own decisions about connecting and trading with other carbon markets.

This Paper assumes that a carbon unit can have three values, all of which are central to NCM: a Mitigation Value (MV), a Compliance Value (CV) and Financial Value (FV).

MV refers to the relative value of a unit versus a defined Standard Unit of reduction. It is important to emphasize that the concept refers to units in the carbon market, not tons. Therefore, MV does not challenge the reality that the atmospheric impact of emitting or reducing a ton of greenhouse gas (GHG) is the same everywhere in the world.

The Paper identifies four scenarios with increasing centralized governance for the framework of markets under the upcoming 2015 Paris agreement. It argues that unless a centralized framework is put in place, it is unlikely that there will be overlap and conflict between the international agreement framework and an NCM.

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1. Objective

The objective of this Paper is to understand if, and how, Networked Carbon Markets (NCM), one of the possible models for creating a future global carbon market, could co-exist with a post-2020 UNFCCC climate change regime.

The concepts of Mitigation Value (MV) and NCM represent an approach that needs to be accepted, and entered into voluntarily. They cannot, and should not, in any way be imposed. Importantly, NCM does not seek to intervene by ‘policing’ but rather seeks to ensure that jurisdictions have the information they need to make their own decisions about connecting and trading with other carbon markets.

This approach must not be perceived in any way as a challenge to the reality that the atmospheric impact of emitting or reducing a ton of GHG is the same everywhere on the globe.

Connecting domestic carbon markets is desirable, even if such an outcome is not necessarily imminent. A global market will be especially challenging to achieve in the bottom-up, heterogeneous carbon market that is currently emerging, and which is illustrated by the many different types of carbon pricing mechanism in operation or being developed. Therefore, there is benefit in giving thought to the functions that will be needed, as well as the services and institutions that might be required, to accomplish these functions.

While the mandate of this Paper is to focus on the interaction between NCM and the new international climate regime, it is recognized that many jurisdictions do not intend to use international carbon markets in the short to medium term. This does not mean that some of the concepts identified in this Paper are not relevant for domestic systems that do not seek to link with an International System.

To the contrary, the concepts could help countries to assess the mitigation value of their own domestic instruments (e.g., Renewable Portfolio Standards, energy efficiency policies, carbon pricing systems), which could serve many benefits, including supporting their domestic trade and exchange.

This Paper will try to provide answers to a number of questions:

1. What are some basic issues and definitions that are used in these discussions? This will include a close examination of the concept of NCM, as well as the characteristics that will determine its interaction with the UNFCCC framework.
2. What are the possible scenarios for the role of markets in a UNFCCC climate regime?
3. Is NCM a relevant concept in the context of an international climate change regime, how would it work under different scenarios, and what, if anything, needs to be put in place to make them compatible?

2. Background

Climate change is a fundamental threat to sustainable economic development and the fight against poverty. Carbon markets have been an important policy tool in driving emission reduction in the most flexible and cost-effective way, while simultaneously addressing other important development objectives.

Since 1997 when the agreement was reached on the KP, it can be argued that the most tangible and visible face of mitigation efforts has been through carbon markets. Putting a price on carbon through domestic markets (e.g. the European Union Emissions Trading Scheme (EU ETS)) and international instruments (e.g. the Clean Development Mechanism (CDM) and Joint Implementation (JI)) has led to significant mitigation actions.

We are now moving to a post-KP world, whose contours will start to emerge through the international climate change agreement to be finalized in Paris at the end of 2015. In this new world, it is expected that carbon pricing mechanisms will emerge in a number of shapes and architectures, which will lead towards a more global market¹

It is not the objective of this Paper to explore why a global carbon market is desirable, but there is a wealth of literature that indicates that it can help to: boost liquidity, offer a greater variety of low cost mitigation options; enhance competitiveness and reduce the risk of carbon leakage, with many seeing a global market as one of the remedies for this risk.

The KP currently offers a framework for global carbon markets and market instruments. It takes a centralized approach, which, among other characteristics, means that all units are defined and issued by the meeting of the Parties to the KP (CMP), and the CMP also makes the decision about what is good for compliance with KP obligations. This, together with the very limited number of domestic markets that have emerged, and their close relationship with the UNFCCC framework, has ensured that, so far, there has been no contradiction between the UNFCCC markets framework, and (very limited) attempts to create a global carbon market by linking domestic carbon pricing mechanisms.

With more decentralized UNFCCC governance expected in the Paris agreement in 2015, and more heterogeneous types of domestic markets already starting to materialize, it is important to examine if all approaches that may lead to create a global carbon market will be able to co-exist

¹ More details on the emerging carbon markets can be found at the World Bank Group's NCM website (<http://www.worldbank.org/en/topic/climatechange/brief/globally-networked-carbon-markets>)

with the new international climate change regime. This includes NCM, which is discussed in this Paper, and which has been examined in far less detail than the more “classic” linking approach.

3. Basic Concepts

A number of concepts and definitions need to be examined, and well understood, as they will appear frequently in this Paper and used to answer the questions identified in Section 2. It is especially important to understand what NCM is, and especially what it is not.

The concepts that will be reviewed include:

- Value of Units: Financial, Mitigation, Compliance
- Markets: Natural vs. Regulatory;
- Markets: Under international agreement vs. outside international agreement
- Markets: Linked vs. Networked
- NCM

3.1 Value of units

The premise of this Paper is that units in GHG markets can have a number of values: Financial Value (FV), Mitigation Value (MV) and Compliance Value (CV). The concept of MV is fundamental to the discussions on NCM, as is the relationship between the MV and CV.

MV

MV refers to the relative value of a unit versus a defined Standard Unit of reduction. It is important to emphasize that the concept refers to units in the carbon market, not tons.

The concept of MV can be described as a relative value that helps in facilitating the fungibility of units between heterogeneous carbon markets, where it is difficult to compare the mitigation value of different units.

MV does not refer to the atmospheric impact of a unit of a ton of CO₂e reduced. One expression that has been sometimes used in relation to NCM and MV is that “a ton is not a ton”. This has sometimes been interpreted as implying that a ton of GHG reduced in one place does not have the same environmental effect in terms of combating climate change. That is not the case and is not the intent.

The MV, as a relative value, can be said to have two components. A first component is the value of the effort to reduce a unit (e.g. a ton of CO₂e) relative to a standard, or to another jurisdiction.

This component of the MV could also be described as the value stakeholders/society attaches to the effort to reduce a unit in terms of what **it thinks** that the jurisdiction **should do** to address climate change.

From this perspective, the MV can be a function of a number of factors, which may include:

- The level of the effort that is promised and undertaken
- Characteristics of the economy – what is the abatement cost curve
- Characteristics of the program or activity undertaken to reduce GHG – that is the quality of the program and the certainty of delivery of the reduction.
- Resources available to dedicate to mitigation efforts.
- Capacity to undertake mitigation efforts

At the global level, the MV can also be *interpreted as* assessing a jurisdiction's relative climate mitigation contribution and whether its climate mitigation targets are perceived as a sufficient contribution to the global effort to limit global warming. The objective of this approach is to incentivize jurisdictions to increase their level of effort.

A second component of MV is probabilistic, or risk based, and refers to the probability that a unit of reduction represents its face value (e.g. a Certified Emission Reduction (CER) is a ton of CO₂e reduced). For illustration purposes, in this case, the MV is therefore a 1 ton x MV= amount of CO₂e reduction that a unit represents. From this perspective, the elements of risk that define the MV are discussed below.

Program level - Carbon Integrity risk

This risk relates to the extent to which a specific low-carbon program or activity (e.g., Regulatory instrument, price instrument and quantity instrument) will achieve its intended outcome. The challenge is to establish an approach that can accommodate the wide range of new and heterogeneous low-carbon programs that are now emerging. Currently, systems like the CDM provide largely a binary, 'yes or no' outcome, based on its defining component - whether the project is additional or not.

However, this limits the ability to differentiate among projects that have met minimum requirements, or to evaluate to what degree projects perform, vis-à-vis the threshold. As a result, there a wide range of low-carbon programs and activities whose overall benefits/risks are not captured by this approach. This is evident in certain sectors, geographies and areas of activity with the highest sustainable development potential, or those, which contribute most to transformational change.

Jurisdiction level - Policy/Regulatory risk

Policy/Regulatory risk relates to the extent to which a jurisdiction's collective low-carbon policies will achieve the intended outcomes. It involves technical considerations, such as the extent to

which the set of policies designed to achieve the mitigation target within the existing policy context are likely to achieve the intended outcome. It also involves political considerations, such as the extent to which the government has the political will, track-record, and institutional strength to maintain or adjust policies to achieve appropriate mitigation targets.

In creating an international carbon market from units emanating from heterogeneous systems, one important element of risk or uncertainty is associated with the confidence in the Monitoring Reporting and Verification (MRV) protocol for each system. The mutual recognition and MV value assigned to different units will be highly dependent on the MRV of the respective system.

It is important to note that both components of the MV outlined above represent an AND condition. The former sees relativity in the effort that is put into reducing a ton of CO₂ in different jurisdictions. The latter sees relativity in what the probability that a unit reduction in a jurisdiction represents 1 ton of CO₂e.

They share some commonalities and will have preponderance depending on the type of system the units emanate from, but will both be present in the determining the MV.

In the case of a cap-and-trade system with an absolute target, reductions are relative to a cap that is linked to a jurisdiction's emission reduction targets, against a base year. While future GHG emissions may be known, the actual GHG emissions reduction effort that is required to meet the target, is uncertain because future emission levels are unknown.

In the case of a cap-and-trade system with an intensity target, reduction targets are relative to projections for future economic output. In this case, the level of effort to meet the target is more certain, but the probability that each unit represents 1 tonne of emission reduction is less certain, because future economic output is unknown.

In the case of a baseline and credit system, abatement is relative to projected future emission levels against a business-as-usual projection. The risk is, therefore, more associated with the probability that the unit represents a real reduction, especially whether it is additional or not. Some elements of risk will also be associated with MRV and baseline definition, but the risk of being an additional reduction will carry a significant amount of weight.

What these two concepts also share is a degree of subjectivity in assigning value, whether it is to the relative effort, or the probability of delivery. The body of knowledge and experience developed in assigning probability of outcome is much better understood.

The MV of a unit can be determined and assigned by a Regulator, or by any stakeholder. Those that wish to assign a MV to a unit of GHG reduction can use many algorithms and factors.

For illustration purposes we will provide an example. When the KP was agreed, Assigned Amount Units (AAUs) were assigned by the Regulator (the COP) at a MV=1. However, as circumstances changed, and “hot air” emerged as an issue, the MV of an AAU from the former Eastern Block was seen as less than 1, and less than the MV of a Japanese or NZ AAU.

This is a relative and judgmental value, but there was a clear differentiation that emerged. AAUs from one jurisdiction were seen as representing a certain level of effort and a high probability of representing 1 ton of reduction, while the other ones, rightfully or wrongfully, were seen as less probable as representing 1 ton of reduction. This was reflective of the desire of those purchasing an AAU that it represent a 1 ton actual effort to reduce, not an incidental reduction.

The MV of CERs provides another example. Gold Standard CERs and “regular CERs”, in spite of having gone through the same CDM Regulatory cycle, receive a higher MV from stakeholders. The added Gold Standard filter re-assures those willing to purchase CERs or reductions that it has a high probability to actually represent a ton CO₂e reduced and having significant co-benefits.

Compliance value

This is the value that the Regulator decides to assign to a unit used for compliance purposes in a jurisdiction. A unit could have multiple CVs:

- Domestic, in the jurisdiction where it was issued
- Domestic, in the jurisdiction where it is imported, and used for compliance.
- International, when used for international compliance

As opposed to the MV of a unit, where any stakeholder can assign a MV, only the Regulator that can decide CV in a given jurisdiction. Alternatively, the Regulator may decide, voluntarily, that it delegates that decision to another body.

For illustration purposes, CERs resulting from HFC projects have different CVs. Whereby a CER is worth a ton for UNFCCC compliance, it is valued at 0 (zero) for compliance under the EU ETS. It is therefore possible that the issuing Regulator and the Regulator that controls the compliance process, if not the same, may assign different values to the same unit.

Relationship between MV and CV

An important element in creating fungibility across heterogeneous markets is the relationship between MV and CV. That relationship is not well understood, and yet it can be used to explain many of the symptoms emerging in GHG markets, and which need to be addressed.

As discussed above, the Regulator, or any stakeholder can set a MV. It is an important value as it provides the credibility of the GHG market, which is purely Regulatory in nature, and therefore needs a license to operate.

The tendency of the Regulator is to set (assume) a $CV=MV=1$. As long as this equation holds true, the GHG market will maintain credibility, and stability, and will be given societal license to operate.

Once the set CV start to deviate from the generally accepted MV, then the market losses credibility, and is under pressure to introduce measures to address the situation. A few examples can illustrate this type of situation.

When KP was signed, the COP, as a Regulator, saw AAUs as having as $MV=CV=1$. Stakeholders initially accepted this MV. However, as soon as significant amounts of “hot air” starting to emerge in Russia, Ukraine, etc. perception of AAU having a MV less than 1 became prevalent. However, the CV of the AAUs was maintained at 1 for KP compliance, which led to a loss of credibility of AAUs (the ones available on the market were from former Eastern Block countries) as a trading for compliance unit, while maintaining its accounting function.

This situation eventually led to pressure to “do something” about surplus AAUs. That pressure materialized in Doha, when provisions were introduced to eliminate the surplus AAU in the Second Commitment Period of the KP.

The EU ETS currently finds itself in a situation that is not dissimilar. There is currently a huge surplus of EUAs primarily due to the economic recession (could be seen as EU ETS “hot air”). This has led the MV of the European Union Allowance (EUA) to be seen as less than it assigned CV, resulting in efforts to address the situation in an ad-hoc manner through back loading, and through the Market Stability Reserve (MSR), on a more permanent and predictable basis.

One aspect that needs to be highlighted is the fact that the MV and CV of units, can be **binary or risk adjusted**. For illustration purposes, currently a CDM project is deemed to be additional (and meet the rest of the Regulatory cycle). In the case that project is deemed additional a CER is issued. If not there is no issuance.

The reality is that as a counterfactual argument, a project can never be said with 100% certainty to be additional or not. As such, an alternative approach would be to assign it a **risk-adjusted** value (between 0% and 100%). This would be an approach more in line with the realities of the how credits are created and the MV of a unit of reduction.

FV

This is the value that the market assigns to a compliance unit, and will be dependent on a number of issues, including demand/supply balance, market liquidity of the product, etc.

However, the FV is likely to be dependent on the MV as well as the perceived relationship between the MV and the CV. The FV is a function of the MV in two ways.

Firstly, if the $CV=MV$ then the market will pay accordingly. Alternatively, if there is a discrepancy between the determined MV, and assigned CV, this leads to the expectation of a Regulatory intervention, with implications for its FV.

While market actors set the FV in the marketplace, it is by no means a rare occurrence to have legislation of regulation or legislation interfere in setting a FV.

3.2 Types of Markets

Markets: Natural vs. Regulatory

Most markets are natural markets where the traded commodity is a physical commodity, or one that is traded without a Regulator setting the constraint or deciding what is good as a compliance instrument in that market. This is the case with oil, coal, orange, juice, etc.

The GHG market is purely Regulatory and seen as addressing a “market failure”, in the sense that society, and the marketplace, if left to themselves are unable or unwilling to recognize the scarcity of how much GHG can be emitted. In GHG markets the Regulator also decides what is good for compliance obligations.

Since in both these markets only the Regulator is issuing the “Paper”, and only the Regulator can decide what is good for compliance, one could argue that there is a certain amount of similarity between these two markets from this standpoint.

Markets: Under internal agreement vs. outside international agreement

Certain markets operate purely to meet a domestic constraint, as is currently the case for California, Quebec, RGGI or the Korean ETS. In this case the jurisdiction does not have an obligation to meet an obligation set by another Regulator (e.g. international body). It can accept any out of jurisdiction units, at any value it chooses, as it does not need to use those units to comply with another obligation.

The alternative is a market in a jurisdiction that has a compliance obligation to an external Regulator (e.g. international body). In this case the domestic Regulator has to ensure that any domestic external/international units that are used to comply (by those covered by the domestic obligation) meet a number of conditions:

- They can be used to comply with the international obligation of the jurisdiction
- They are used for domestic compliance at a CV that is equal to the CV for that unit that is set by the international Regulator

If these conditions are not met, then the domestic installations that use these external units will meet their domestic obligations, but the jurisdiction itself may not meet its obligation to the external Regulator.

The KP is a case in point. Certain markets operate under the KP, which implies that, besides the national Regulator, there is a higher-level Regulator, the COP. The EU ETS is a good example of a market that functions under the KP framework, whereby all international units that are accepted for compliance under the EU ETS need to also be good for compliance under the KP, and assist the EU to meet its KP commitment. If that is not the case, EU ETS covered installations will use external units for compliance with the EU ETS, but the EU may not use these units to meet its KP obligations.

This conditionality also explains why any ETS in a Party under the KP can only link to another ETS under another KP Party, or at least not in both directions.

Markets: Linked vs. NCM

These two concepts aim for the same outcome, a global carbon market with fungible units, but address it in different ways.

There are fundamental differences between these two approaches, as discussed further below. In a decentralized system, with heterogeneous carbon pricing mechanisms, there will be clear differences between countries.

In a nutshell, “linking” carbon pricing systems is being achieved by negotiating the differences between the systems and linking only when there is equilibrium, and especially when the “level of effort” (the MV to some degree) is perceived to be the same.

NCM offers an alternative approach. It allows for differences to be accepted and recognized through the MV, avoiding the complex and politically loaded effort to negotiate differences away.

Linked Carbon Markets

Linked carbon markets imply that a linking agreement has been negotiated between jurisdictions, which then create fungibility between the units of the two jurisdictions.

As the units are fungible, it follows that both Regulators accept that the MVs in both jurisdictions are equal and set the same CV. Therefore, for linked domestic ETS, $MV1=MV2=CV1=CV2$. In this case the two parties to the linking agreement set the standard.

If either or both MV change, to maintain the equation, the Regulator needs to make adjustments to the CV. This may be simple, and doable, in a bilateral linking agreement, but could get very complicated in the case where a large number of jurisdictions get involved.

This is the case of ETS linked outside an international agreement, currently exemplified by the linked ETS in California and Quebec.

In the case of linked carbon markets under an international agreement the situation is not dissimilar, except that the international Regulator sets the standard, which cannot be changed as it represents the international compliance unit. If a $MV1=CV1=AAU=1$, but $MV2=CV2$ but not equal to 1, then the two Parties will need to create an exchange rate of $MV2/MV1$.

NCM

Currently we are in a heterogeneous world, where many market instruments will be used and different units will be issued. The climate change impact of a ton of GHG reduced cannot differ from jurisdiction to jurisdiction. The environmental impact is the same and will stay the same. However, the probability that a *unit* of reduction represents a ton, and the effort that it takes to reduce a ton, will differ from jurisdiction to jurisdiction, determined by factors discussed above in the section on MV.

While at any time stakeholders/market actors can decide to determine the MV of a unit, NCM is characterized by the use of the MV and CV. Those jurisdictions that agree to be NCM participants de facto accept the idea that the market will assign a relative value to units from each jurisdiction.

In currency markets the marketplace sets the value of a unit of currency internationally. Similarly, NCM allows the “market” (where stakeholders are market players) to set MV, which can be used by Regulators as an input to decisions about CV. As described further below, Regulators could also designate the institutions that set MV.

In NCM, for jurisdictions outside an international agreement, the Regulator can either not set a CV and accept the determined MV or, in the long-term, will set the CV equal to the determined MV. NCM creates fungibility between two or more jurisdictions as part of a dynamic process, determined by market forces and set by stakeholders.

NCM recognizes that these domestic carbon pricing systems could benefit from an overarching, coordinating framework that establishes: common language, concepts and general principles; methodologies to organize the collection and interpretation of data; and tools to help guide users in receiving the information.

3.3 Institutional Structures

The fundamental element of NCM is the setting of the MV which is discussed above. This implies that the Regulators accept that one, or more, institutions set the MV of the units they issue which then they might choose to accept as a CV.

The Regulators can designate the institution setting the MV collectively, or they could accept that the marketplace made up of institutions interested in rating MVs for units will make that choice. If NCM is adopted, units rated for their MV is fundamental and both that are issuing the units as well as those that may want to use units issued by other jurisdictions would have an interest that this activity be done.

There are other institutions that could play a role in NCM. It is not the purpose of this Paper to describe or discuss them, as that work has either been commissioned or is in the process of being commissioned by the World Bank Group's NCM initiative². It is, however, important to refer to the other components of NCM that have been under discussion.

One possible structure is a pooled reserve of carbon assets or an 'International Carbon Asset Reserve' (ICAR). The ICAR builds on the idea that carbon markets and the mitigation of their inherent risks can be made more efficient by increased connectivity and pooling of risk mitigation measures on an international level.

While the form, scope and functions of an ICAR are still being explored, it is intended that such an international (or inter-jurisdictional) instrument would not replace but rather complement and support market stabilization instruments on the level of individual jurisdictions/ markets.

An ICAR could offer buy-side and sell-side services to participating jurisdictions to assist them in managing carbon market risks. In doing so, an ICAR could allow participating jurisdictions to manage carbon market supply and demand imbalances by providing an institution for them to both sell domestic units (if a domestic market becomes excessively oversupplied) and buy units (if a domestic market becomes excessively undersupplied).

Another structure to support a network of carbon markets is an International Settlement platform to track cross-border trades and potentially provide a clearing- house function.

4. Existing and Emerging Markets

This section will discuss how current markets map under the concepts discussed above, including how the three different units values are treated in each of the examples.

Some of the important issues to understand are:

- Is there a role, and what is the role, for MV?
- Who sets the CV value of a domestically issued unit nationally, and internationally?

² <http://www.worldbank.org/en/topic/climatechange/brief/globally-networked-carbon-markets>

- What is the relationship between the domestic and international CV of a unit
- Is there a standard for the MV unit, and who sets it?

4.1 Current UNFCCC Framework for Markets

The UNFCCC has a provision that allows for the use of international cooperative approaches. However, its provisions under the KP have created the framework that has catalyzed the creation of carbon markets at two levels: domestic (e.g. EU ETS) and international (trades in AAUs, ERUs and CERs).

Firstly, Articles 3.10-3.12 of the KP recognise the ability to account for compliance for emission reduction units from other jurisdictions. This has created the possibility for a carbon market in the context of the KP.

Article 17 of the KP has led to the creation of a market in AAUs. It also provided a major facilitation for linking carbon markets in jurisdictions that are under the KP, as was the case for Australia and the EU, when the process of linking presented a real possibility.

Finally, the two international mechanisms (CDM and JI), which are baseline-and-credit, have allowed for the entry into the marketplace of developing countries without caps and budgets under the KP, as well as providing an indirect link (CERs and ERUs) for cap-and-trade markets that are not formally linked.

In the case of the international framework, the international Regulator set the CV of all units: $AAU=CER=ERU=1$. Since these are only units good for compliance with the KP, the situation is relatively straightforward.

The domestic systems that wish to link to each other, and are in jurisdictions under the KP, seem to want to use the $AAU=1$ as a standard for the MV of their domestic units, and all set the $CV_{\text{domestic units}}=AAU=1$. No linking has taken place so far, but the discussions that had started for the EU/Australia were taking place under those assumptions.

4.2 Existing domestic markets

Currently, a number of domestic ETS have emerged, and they all have somewhat different characteristics, especially as they relate to their international aspect. As discussed above, the discussion on using NCM to create a globalized GHG market, and its relationship to the UNFCCC post-2020 regime, must rest on understanding how the CV and MV of the units are set, nationally and internationally. Consequently, a good understanding of how these existing ETS set the CV and MV of their units is important, both at the domestic and international levels.

EU Emissions Trading Scheme (EU ETS)

The EU ETS was created as the centerpiece of the EU climate change policy, and as a tool to help it reach its KP commitments. The EU is seen as domestic market, in that the EU, through the EU ETS Directive, sets its parameters and governance. However, the EU ETS is also part of the international market, as it has provisions for accepting international units and linking to other systems.

The EU ETS is an EU-wide market with the one Regulator. The unit of trade is the EUA, but it has also accepted CERs and ERUs for compliance with obligations under the EU ETS.

The EU sets the EUA CV. For the transfer of EUAs between Member States of the EU, EUAs transfers have been shadowed by AAUs (and now is being netted). The EU, which is the domestic Regulator therefore implicitly assigns the EUAs a $CV=AAU=1=MV$. As discussed above, many stakeholders are currently contesting that the EUA's $MV=1$, which is driving changes to the EU ETS.

The EU ETS also has provisions to link to other ETS around the world, but that has not yet happened. As a member of the KP, the EU in linking to another ETS, has to ensure that any domestic units that it imports are backed by AAUs. That restricts its linking possibilities to the members of the "club", in this case the KP club. Otherwise, it could enter into a scenario where it would allow units for compliance with the EU ETS that may have a very well accepted and regarded MV, could assign them a CV in the EU ETS as it sees fit, but would have no CV under the KP/UNFCCC.

The EU had planned to link its EU ETS to Australia, another member of the KP. The exchange of EUA and Australian units was to be shadowed/netted by transfers of AAUs. This implied that both the EU and Australia would accept that the CV, and the MV, of their respective domestic units was 1 (and equal to an AAU).

As a more general rule, as long as the Party has a budget-type commitment (as Annex 1 countries have under the KP), the domestic Regulator can assign, together with its linking partner, any international CV it wishes to domestic units, provided that at the end of the compliance period the netting between the two Parties takes into account an identical international CV.

This situation is to be expected when a linking agreement is negotiated, where the negotiating parties try to reach an agreement where the MV of their units is equal and the units are fungible.

In trading periods 1 and 2, CERs and ERUs had been assigned a $CV=1=MV$ in the EU ETS. However, at the end of P2, (after the industrial gas debate and continued controversy over the MV of a CER), as the MV of CERs was seen by EU stakeholders as less than 1, only CERs from LDC were accepted,

and continued to be assigned a CV= 1. The rest were banned from EU ETS, effectively matching the MV=0.

Korean ETS

The Korean ETS (KETS) is, for the moment, a purely domestic Regulatory market, with KAUs used as units used for allocation. The KETS has currently no provisions for linking to other ETS. The Korean ETS has provisions for accepting domestic credits including CERs that are from Korean projects, which are issued as domestic credits. There are no provisions for accepting international credits, for the first two periods that is, until 2020.

During Phase 3, 2021 to 2025, credits will be allowed (CERs offshore and ERU onshore) for 11%. The only CERs allowed are those that are from the poorest countries.

Looking at these rules through the prism of the MV and CV, the Korean ETS has provisions, through market stabilizing measures to address perceived imbalances between MV and CV.

The Regulator assigns a CV=0 to any offshore credits at this time. It is unclear if there is a MV for CERs, or it is simply the reaction to the desire to spend all money dedicated for GHG mitigation efforts domestically, while ROK has no international obligations. It is anticipated that some CERs, probably from Least Developing Countries (LDCs), will be allowed in the KETS post-2020. This implies that ROK Regulator sees a future MV for LDC CERs as higher than 0.

California ETS

The California ETS is the only ETS that is currently linked. A linking agreement has been negotiated, agreed, and operationalized with the Canadian province of Quebec. California also accepts out of state produced credits and has provisions that will allow it to accept international credits at some point in the future.

It must also be noted that the US (and therefore California) is not part of the KP “club”. Quebec, the ETS that California is linked to, is also not part of the KP “club”. This makes their linking practical and politically and technically feasible.

As such, the California ETS is an instrument for meeting a domestic target, but at the same time it is also part of an international market, as it accepts Quebec units for compliance.

As discussed above, in a linking agreement, negotiations in terms of the caps and the quality of the units naturally results in the MV of the two units being equal. The CV is set by the Regulator in the two jurisdictions as being equal to the MV.

Both systems are new and there is not enough track record on their operation and how the MV and CV may differ in the future. We must, however, note that there are market stability

mechanisms in the two systems that will allow for adjustments in case the MV and CV become out of sync.

5. Future Trends for GHG Markets

GHG markets are undergoing a significant transformation, moving from what could be called GHG Markets 1.0, to a new state that may be called GHG Markets 2.0.

GHG markets are driven by domestic considerations, but without any doubt, also by the current state, as well as expectations, for the international regime. The state of deep freeze that markets are currently in is due to the expectation of change, domestically, but especially internationally.

GHG markets have been impacted by the economic recession, the inability of the Regulator (in the EU) to react and correct design imperfections in the EU ETS (which was, and still is, the main GHG market). All of this is combined with the uncertainty about the outcome of negotiations for a post-2020 international climate change regime, including the shape and ambition of a future agreement, as well as the lack of clarity on the role and architecture of carbon markets post-2020.

What is clear is that carbon pricing remains a potent concept, with many Parties and business organizations signalling their support during the 2014 UNSG Climate Change Summit in New York. GHG Markets 2.0, while they are likely to keep some elements of the previous generation of markets, they are also going to be very different in many aspects.

While the KP has driven many of the characteristics of GHG Markets 1.0, the post 2020 climate regime is also expected to drive the GHG Markets 2.0. However, the expectation is that the market will be much more decentralized and heterogeneous, and it is unclear that the international agreement will have as much influence on the shape of the GHG markets as the KP did.

How the framework for markets will look in the 2015 UNFCCC agreement is largely a matter of (informed) speculation, with many possible scenarios possible. However, to have serious basis for discussions, a number of assumptions need to be made.

5.1 UNFCCC Agreement Post 2020: Assumptions

The 2015 agreement is just beginning to take shape through the ADP text from Geneva, as well as the discussions markets that have taken place in SBSTA over the last few years and in Geneva in February 2015. Some assumptions, relevant to our discussions of carbon pricing and markets can be made:

a. INDC. Different Parties will have different INDCs/commitment types. This is already emerging from the INDCs submitted so far by Parties at the time this Paper is being written.

- Some will be economy-wide absolute caps, translatable in budgets
- Some will be reduction from a business-as-usual scenario

- Some may include caps subnational, either geographically or sectorally.
- Others may be expressed in ways that are not translatable into caps.

b. International transfers. There will be a desire, and need, by certain Parties to transfer units and mitigation outcomes internationally. There is one important clarification that needs to be made. It is unlikely that Parties that have international commitments under the INDCs will be willing to accept in their domestic systems external units that cannot be used for international compliance. The assumption is then made that all units imported into a domestic system will be compatible, and good for use, with international obligations by the importing Party at an international CV that it is either equal to the domestic value it assigns, or one that is understood by, and acceptable to it.

c. Market types Markets post-2020 are likely to be divided in a number of groupings

- Created by the COP and operated by the COP under the Paris agreement. This may include mechanisms such as CDM+, REDD+, sectoral crediting, etc. There may be one such mechanism, more than one, or one with a number of windows. Such a COP-run mechanism is likely to be a baseline-and-credit instrument
- Domestic markets may have regional/national/subnational coverage. They are likely to be cap-and-trade type markets for most countries currently in Annex 1 of KP, plus some mid-level G77 countries. Most developing countries are likely to continue to use baseline-and-credit type mechanisms.

d. Unit types. The units that will exist in the post-2020 period are likely to fall in the same categories as the ones currently in use, with potentially the one significant exception of AAUs. AAUs currently apply to all KP Annex 1 Parties, but not to non-Annex 1. They have a number of important functions:

- Define the Party budget under KP
- Unit of accounting under KP
- Allows transfers between Parties directly
- As they are allocated to Parties they can be “shadow”/net domestic units when transferred to another KP Party under “linked ETS” e.g. Australia/EU - make domestic units fungible for KP compliance.

In addition to these functions that are well recognized, AAUs also play an unstated role as “standard” for MV of domestic units. This function is currently not in evidence, as there is no linking between ETS from Parties under the KP.

It is unclear at this time if AAUs will be retained as part of the post-2020 architecture. It is likely that the “brand name”, too closely associated with the KP, may need to be changed. However, many of the functions listed above are necessary and may be fulfilled by a new unit, such as an International Standard Carbon Unit (ISCU) = 1 ton of CO₂e, which would also become the standard against which the MV of domestic units will be measured. It is also possible that units from the UNFCCC mechanisms (e.g. CERs) may have not have a MV=1 obligatorily set at one.

The units in circulation are also likely to include:

- Units issued from domestic mechanisms or markets. These units will have a domestic MV and CV, set by the Regulator. The Regulator will also set the $CV=MV$. However, the MV determined by other entities may challenge the mitigation value set by the Regulator.
- Units issued by UNFCCC mechanisms (e.g. CERs from CDM). These units currently have a $MV=CV=AAU=1$. One could see a scenario whereby the CER-type units will not all have a $MV=CV=1$, but that the MV may vary, potentially resulting in different CVs.

e. Registries. All Parties will have a National Registry.

f. Governance. With regards to the governance of international transfers, the 2015 international agreement can be more, or less, centralised. The use of the terms ‘top-down’ and ‘bottom-up’ may not be the most appropriate. The mechanisms/protocols for creating reductions are likely to emerge both bottom-up (at the national/domestic level) and top-down, by being created and operated under the authority of the COP (same as the CDM).

It is the framework for tying these diverse types of approaches together, to count their outcomes for international compliance that will be more, or less, centralised. In other words, it is the governance of the conformity rules, which define what is counted (is good) for compliance, and what is not, which is the defining issue (will it be more centralized or less centralized?).

With respect to the centralisation of the framework for international transfers, a number of alternatives could be identified and are discussed below in more detail.

5.2 Scenarios for Markets in the post 2020 UNFCCC regime

Under the UNFCCC, negotiations on the role of markets have been part of the Bali Road Map (2007) and the Durban Platform (2011). The Durban Platform led to a decision on, “various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote mitigation actions”.

This provided for (i) a framework for, “various approaches” to offer structure or guidance to both market and non-market mitigation activities as well as Greenhouse Gas (GHG) crediting programs developed outside the UNFCCC; and (ii) the establishment of a New Market Mechanism (NMM) operating under the guidance and authority of the Conference of the Parties (with modalities and procedures to be elaborated). All these elements were being negotiated under the SBSTA track. That has been an on-going process that has been largely stalled.

During the Lima COP, and the first 2015 ADP session in Geneva in February 2015, the issue of markets has been introduced in the ADP as part of the discussion of the post-2015 architecture. It currently includes 6 options, and while it is a complex text with a lot of repetitions, some trends

are emerging. However, many questions remain to be answered, and their outcome may depend on how the Paris agreement shapes up.

Some of the basic questions that seem to emerge from the current version of the ADP text and from discussions include which of the elements described below would emerge in the final architecture (even if they are not fully detailed in the Paris text).

1. The need to have a provision similar to Articles 3.10 to 3.12 of the KP that will give legitimacy to transfers between Parties and specify that they can meet commitments under the Party's INDC. This is an important discussion with many ramifications in terms of giving markets legal certainty, but less relevant to the objectives of this Paper.
2. Parties that would meet certain types of conditionalities (e.g. absolute economy wide cap, have an inventory, etc.) would be able to therefore transfer mitigation units, not dissimilar to what is currently happening under Article 17 of the KP.
3. Parties that do not meet the conditionalities referred above would be able to use a UNFCCC baseline and credit market mechanism, a successor to the current CDM. Units created from such a mechanism would be good for compliance with any obligations under the UNFCCC.
4. A procedure to be created (the question may also be "should it be created?") that will allow domestic units, created outside the UNFCCC process, to become COMPATIBLE with, and be usable for, UNFCCC compliance obligations. Currently many Parties are developing domestic mechanisms (e.g. the Japanese Joint Crediting Mechanism (JCM)). Given the issues outlined above (liquidity, cost containment, etc.) some Parties may be in need import/export domestic units, and therefore some international architecture for transfer of domestic units internationally, needs to be created.

This Paper is examining the relationship between the use of NCM and the UNFCCC framework for markets. How centralized the governance system for allowing domestic units in the UNFCCC compliance system is very relevant, as it is essentially an indication of who sets the international CV of a domestic unit, through what process, and at what level.

The questions that emerge, and which are relevant to our discussions in this Paper are:

- Should such a process (of determining if domestic units are good for international compliance, and at what CV) be in the Paris agreement?
- If yes, how centralized it should?
 - Should an international Regulator approve the units, or simply the characteristics made publicly available are enough for quality assurance?
 - Should the focus be on units, or the systems/protocols that produce the units?
 - Should the conformity check be done ex-post (i.e. like CDM), or ex-ante?

The level of centralization of the governance will for markets can be boiled down to four scenarios which are outlined below

- I. Broadly decentralised climate change regime, where each **country is able to use any international units** it chooses for compliance, without any global standards. This means that the domestic Regulator sets the international CV of any imported unit. The market provisions in the 2015 agreement need to be relatively minimalistic. It may need to include provisions that:
 - a. Recognise the right to use international units (or reductions/outcomes, such as in the case of the Japanese JCM) for compliance. International units are units not produced in the Party that uses them for compliance.
 - b. Define market mechanisms that are created through the UNFCCC (what is now called New Market Mechanisms). These could be CDM like or sectoral based crediting mechanisms. They could be:
 - A family that will be usable by all Parties, at their discretion.
 - Alternatively, there could be criteria under which they can be used (similar to JI T1 and T2).
 - c. Recognise that each Party sets standards for environmental integrity of the units it uses for global compliance.
 - d. Standardise the way each jurisdiction describes the characteristics of the international units it uses for compliance according to the environmental standards.
 - e. Ensure that there is no double counting for issuance and usage for compliance. The way to operationalise this approach could be for the avoidance of double counting to be addressed at the national level in the case of issuance, and for UNFCCC compliance, at the global level. This would ensure that the responsibility is allocated where the information is available, without creating additional unnecessary bureaucracy.
 - f. Ensure that information for accounting purposes is made available. For B+C, an ITL type provision is an option. Others only see a need for netting of transfers between Parties at the end of the compliance period. Such an arrangement is possible, but would result, in our view, in an overly complicated system, and would also negatively impact market confidence.
 - g. Recognise the need for national registries. These registries already exist in many jurisdictions and their function could be provided at the global level for those jurisdictions that don't have the capacity, resources, or inclination to develop their own.
- II. Decentralised climate change regime with some minimum environmental standards provided, **as guidance only**. As above, this means that the domestic Regulator sets the international CV of any imported unit.

The units used for UNFCCC compliance by Parties would be expected to observe those guidelines, but no approval is needed. In addition to what is listed above in (I), the agreement may need to include provisions that:

- a. Define environmental standards that all units need to meet. The COP would define these standards at the global level.
- b. Standardise the way each jurisdiction describes the characteristics of the international units it uses for compliance vs. the global environmental standards.

III. Environmental standards must be observed, but no approval required for the units used for compliance. This means that the domestic Regulator sets the international CV of any imported unit.

This would represent only a very small incremental step when compared to the approach in (II) above, and has been called a “transparency approach”. In this case, in addition to what is in (I), the agreement should include provisions to:

- a. Define environmental standards that need to be observed.
- b. Standardise the way each jurisdiction describes the characteristics of the international units it uses for compliance according to the environmental standards.
- c. Describe units characteristics used in each jurisdiction, and how they meet the standards set by the COP.
- d. Create a global body that would review units used for compliance by each jurisdiction (peer review) against the COP standards, but without power to approve or reject units, or systems that produce units.

IV. Centralized governance regime. In this case the international Regulator sets international CV of any imported unit.

Global environmental standards are **defined by the COP, and must be observed**. The COP must approve the units, or systems that produce units used for UNFCCC compliance. In this case, in addition to what is in (I), the agreement should include provisions to:

- a. Define environmental standards at the global level (by the COP).
- b. Define the process for approving the accession of units (or systems that create international units) to be used for compliance with UNFCCC commitments.
- c. Create an international Regulator that would check units, or systems that create units used internationally, against environmental standards set by the COP. This international Regulator would likely be set up on the model of the CDM Executive Board, but with a remit to approve the systems that produce units that are to be used for compliance with UNFCCC obligations and which are produced in jurisdictions other than those in which they were produced /issued. The approval could be done ex-ante or ex-post – that is at the time of issuance of the units, or at the time of use for compliance. It is likely that a system of ex-post certification would create too much uncertainty in the markets.

5.3 Towards a global GHG market

While markets are likely to develop in a much more heterogeneous manner, they will be driven, by a number of factors, to a broader, and ultimately, global, architecture. What is likely to drive enlargement from domestic to global, not always according to a grand plan, will include:

- Regulatory developments (e.g. Australia/EU)
- Where is the demand (EU, Japan acted as clusters in KP)
- Market functioning (i.e. is there a need)
- Marginal abatement costs (how high)
- Economic ties & trade flows (East Asia)
- Political signals (Quebec/California)

The movement to a global market can take place under one of the four scenarios of the UNFCCC framework for carbon markets outlined above, or may take place in the absence of a global agreement.

Markets can evolve globally through negotiating linking agreements. In this case efforts will be made in the negotiating process to equalize efforts and reach a commonly accepted MV equal to the CV.

This is a complex process, but a doable one, especially if we follow a “snowball” or “docking station” model for going global. In such a scenario the first jurisdictions that join essentially set up the model, with the later ones likely having less of a say.

As the MV value over time starts to depart from the initial value of 1 accepted by the linked jurisdictions for all domestic units, different tools may be used to re-adjust and ensure that all CVs and MVs are aligned, as discussed above.

However, as the number of linked systems increases, the efforts to keep MV and CV aligned in all systems may become increasingly complex. While this has not been experienced, as there is no history of linked systems outside the Quebec/California link, this is a distinct possibility that needs to be factored in. The issues emerging when there are discrepancies between MV and CV in a system, or when MVs are not equalized across systems, seem to have to some degree directly and indirectly been documented, even if not identified under this specific banner, and cannot be ignored.

NCM offers an alternative approach for creating a global carbon market. This is analyzed below in accordance with different scenarios of a post-2020 UNFCCC framework.

6. NCM and the UNFCCC regime post-2020

The four scenarios that need to be considered in analyzing how NCM fit with the post-2020 UNFCCC framework for markets are described above, and they show an increasing level of centralization in the governance to decide what the CV of a domestically produced unit, used internationally for compliance with UNFCCC obligations.

NCM is characterized by the importance that is given to the MV of units and its relationship with the CV, which is assigned by the Regulator. As such the main issues that needs to be examined are:

- Is NCM a relevant concept in the context of an international climate change regime with compliance obligations?
- How would it work under different scenarios, and what provisions, if any, need to be put in place to make NCM compatible with individual scenarios?
- Who sets the CV, for domestic and international compliance purposes?
- How do the domestic and international CVs relate to each other, and how do they relate to the MV of the unit?

One thing that needs to be emphasized is that this is the case of domestic markets in jurisdictions under an international agreement. As such, it will need to ensure that all international units used for domestic compliance have the same domestic and international CV, or the Party takes the risk and may have to make up the difference for international compliance.

Scenario 1: Decentralized, no international guidance on CV

From a markets point of view, this scenario is not dissimilar to not having a UNFCCC post 2020 agreement, as there is no international Regulator assigning an international CV to a domestically issued unit. Each domestic Regulator is free to assign any domestic and international CV to any unit.

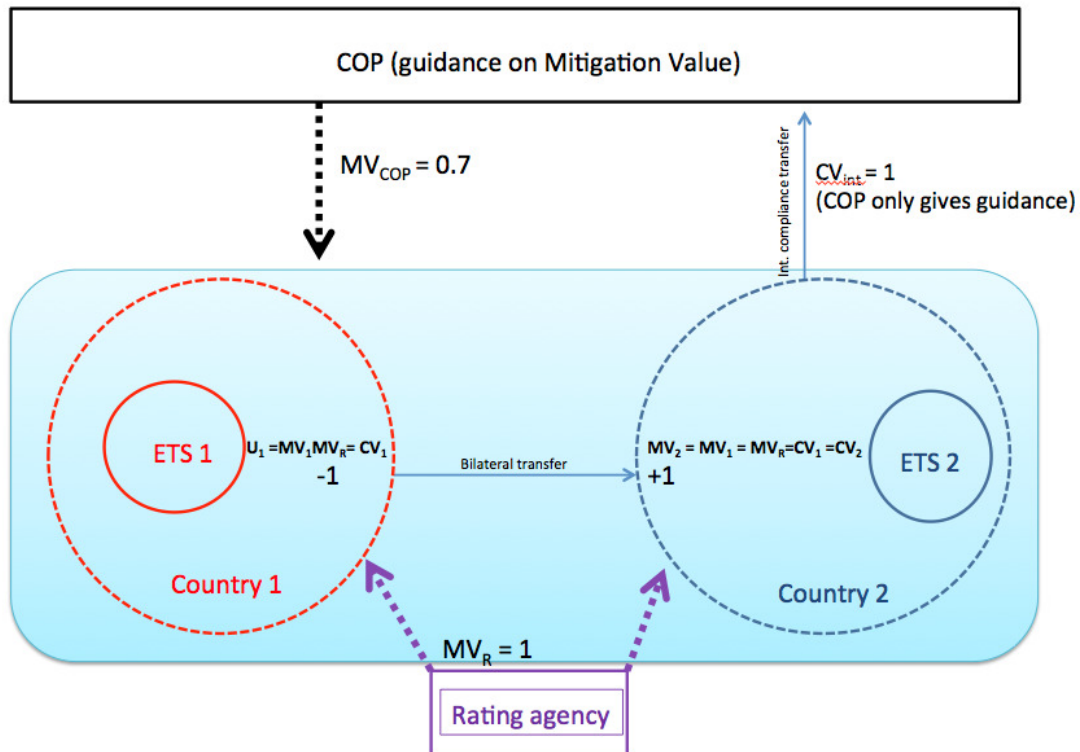
In this case, NCM can function without any concerns of overlap or conflict between NCM and the UNFCCC framework for markets. The conflict would emerge if the international Regulator would set an international CV to domestic units, which would be different from the one set by national Regulator.

Under such a scenario Parties are free to use any units they choose for international compliance. The international CV is decided at the domestic level (decided by the user). As such, a Party, through its national Regulator, may use any domestic units issued in another jurisdiction that it has purchased, and assigns it a CV (national and international).

How does this CV relate to the MV of unit? Since the domestic Regulator sets the CV, a number of scenarios should be highlighted. One scenario is that the domestic Regulator, which imports the unit, sets its CV (international and domestic) at what it perceives/determines the MV to be.

Another scenario is that it will set the CV (domestic and international) at the CV in the domestic jurisdiction that had issued the unit.

A final alternative is that the MV is set at the same level as the CV. It seems logical that the same CV should apply in this case nationally and internationally.



Both countries accept that $MV_R = CV$

Who will set the MV for a unit in this scenario? One possibility is that there will be market players and stakeholders which will determine what the MV is. There may be, more than one MV produced. Each Party will be free to use the MV it chooses in setting the CV for its jurisdiction. Alternatively, a 'club' could be formed that will decide on an organization whose MV those in the club will use.

As discussed above, if the CV set at the national level differs dramatically and consistently from the generally accepted MV, then the credibility of the market suffers. The FV will hold for a while

but it will move in the direction of the MV, in the expectation that the Regulator will take steps to adjust the CV to the level of the MV.

Scenario 2: Decentralized with guidance on CV

This scenario has slightly stronger governance than Scenario 1. In this case the COP provides some international guidance on what is good for compliance with international obligations. This would be likely expressed in terms of environmental quality. What this implies is that a domestically issued unit may have an international CV of 0 or 1, under some conditionality, and that the COP guidance will indicate what is equivalent to 1.

Technically this will not in any way change the relationship between NCM and the UNFCCC framework for markets when compared to the discussion under Scenario 1 above. There is still no international Regulator assigning an international CV to domestically issued units.

However, in this scenario, the guidance of the international Regulator may influence the MV of a unit and with it, its FV. However, there would be no conflict and NCM can function under this type of UNFCCC framework for GHG markets without any constraints.

Scenario 3: Decentralized, guidance must be observed, but no approval

This third scenario moves further away from the COP not setting an international CV for domestic units used internationally for compliance with UNFCCC obligations, and closer to having an approval role.

In this scenario the COP provides guidelines for the characteristics of a unit that has a CV=1, and they must be observed. However, the COP, as an international Regulator does not have, under this scenario, the authority to set the international CV for these units.

This scenario may also include the requirement for the international compliance user of the unit to provide transparency, in the form of information on their environmental characteristics, and how they match with the COP guidelines.

Given these characteristics, there is no conflict, or constraint, between the UNFCCC market framework, and NCM. More so than in Scenario 2, the MV is bound to be influenced by the guidance on conditionality set by the COP.

This influence on the MV, as mentioned before, is likely to influence the FV, if a unit's CV is very different from the COP guidelines and the MV. The FV is likely to move in the direction of the MV in the expectation that the Regulator will adjust the CV, sooner or later. The Regulator, should seek to determine CV in accordance with transparent criteria so that the market is positioned to pre-empt any adjustments. This is intended to reduce uncertainty in the market and any large price swings that might occur when the Regulator decides to adjust the CV of certain units.

Scenario 4: Centralized governance, the COP assigns the international CV

This scenario represents the other side of the spectrum when it comes to market governance under the UNFCCC. In this case the Paris Agreement would have a provision that the COP (or the Parties to the Paris Agreement), which is the Regulator, is the only entity that has the right to say what is good for compliance in regime set up under the Paris agreement. It could create an international Regulatory body, under the COP, which could be comparable to a “super CDM EB”.

It would also state that the Regulator would set the international CV of any unit issued domestically and used internationally, for compliance with obligations under the UNFCCC.

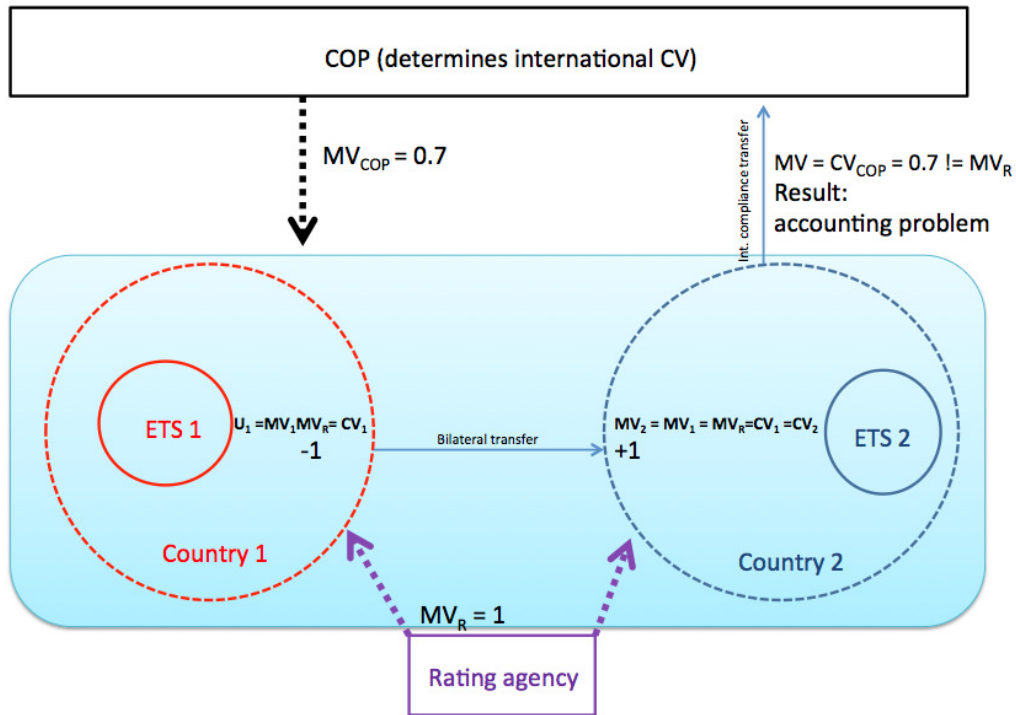
Under this scenario, there are constraints in using NCM together with the UNFCCC markets framework. If the COP sets the international CV for domestic units (for UNFCCC compliance) this may clash with the CV set by the domestic jurisdiction that imports these units for domestic and international compliance at a $CV=MV$ (MV determined as discussed above, and which is different from the international CV set by the COP).

For illustration purposes, a domestically issued, internationally transferred, may have a COP set $CV_1=0.7$. The same unit could be given under NCM a $MV_2=CV_2=1$ by the importing domestic system.

Under this scenario a Party imports a unit and allows its use by installations covered by its ETS to at $CV_2=1$. However, as Party, it can only use it a $CV_1=0.7$ for compliance with UNFCCC obligations. The installation will be in compliance domestically, but the Party will be short 0.3 with its international obligations as the UNFCCC does not recognize the $CV_2=1$ but the $CV_1=0.7$.

As such, running NCM inside a centralized UNFCCC GHG market framework requires that certain provisions be put in place. This conflict between the CV set by the MV of a unit through the NCM and the right of the Regulator (COP) to set the CV inside a compliance regime can be addressed by setting up a “compliance bubble” inside the UNFCCC regime.

In setting up a “compliance bubble”, and trading and transferring inside the bubble, the Parties that choose to operate through NCM can choose to set the CV of units at any MV they see fit, even if it results in a CV different from what the COP would assign. All transfers take place inside the bubble, and all that needs to happen is to ensure that the CV seen outside the bubble is what the COP accepts. This does not matter, as it is the whole bubble that has to comply.



Both countries accept that $MV_R = CV$

There are provisions for setting up a “compliance bubble” in both the UNFCCC and the KP. All EU Member States are Parties to the KP but the EU uses the “compliance bubble” provision. This is a provision that implies joint UNFCCC compliance and obligations (notwithstanding that both the EU and EU MS are Parties). This may not be easily attained, except of a more general level of integration such as is the case for the EU.

Hiving off the ETS part under a bubble provision is possible but it would have to ensure that the UNFCCC compliance looks at the total for the bubble and is not affected by the transfers that take place at a CV, which is different from the one that the COP assigns.