

Joëlle de Sépibus, Wolfgang Sterk, Andreas Tuerk

**Top-down, bottom-up or in-between:
how can a UNFCCC framework for
market-based approaches ensure
environmental integrity and market
coherence?**

This is an Author's Accepted Manuscript of an article published in **GREENHOUSE GAS MEASUREMENT & MANAGEMENT**, Vol. 3 (2013), No. 1-02, pp. 6-20. Published online: 09 Sep 2013, available online:
<http://www.tandfonline.com/10.1080/20430779.2013.798782>.

Joëlle de Sépibus ^{a,*}, Wolfgang Sterk ^b, Andreas Tuerk ^c

Top-down, bottom-up or in-between: how can a UNFCCC framework for market-based approaches ensure environmental integrity and market coherence?

^a University of Bern, Switzerland

^b Wolfgang Sterk, Wuppertal Institute for Climate, Environment and Energy, Wuppertal, Germany

^c Joanneum Research, Graz, Austria

* Corresponding author: Joëlle de Sépibus, University of Bern, Hallerstrasse 6, 3012 Bern, Switzerland

E-mail: joelle.desepibus@wti.org

Phone: +41 31 63130 78

I. Introduction

In December 2011, at the annual Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in Durban (COP17), Parties took decisions on the creation of new market-based mechanisms, a topic which had already been under discussion for several years, but with little progress (Marcu, 2011). COP17 took the decision to pursue two tracks. First, it decided to establish a centralised “new market-based mechanism” (NMM) that should be operated “under the guidance and authority of the COP” (UNFCCC, 2011). Second, it resolved to consider the establishment of a framework for “various approaches, including opportunities for using markets” (UNFCCC, 2011). For both the NMM (UNFCCC, 2011) and the Framework for Various Approaches (FVA) (UNFCCC, 2011) the UN conducted a work programme during 2012, with the aim to “elaborate modalities and procedures” for the former and “with a view to recommending a decision” for the latter (UNFCCC, 2011). Both processes were to culminate at COP18 in Doha in December 2012. However, due to fundamental differences between the Parties on key issues little progress was made and COP 18 therefore requested the UNFCCC’s Subsidiary Body for Scientific and Technological Advice (SBSTA) to conduct another two work programmes with somewhat more specificity on what issues are to be considered (UNFCCC, 2012a).

The reason for opting for a dual approach with respect to the creation of new market-based mechanisms is that a compromise had to be reached to address the diverging views of Parties (Marcu, 2011; Sterk et al., 2011). The submissions of Parties in the run-up to Durban had revealed a substantial divide between the views of countries. On the one hand, countries like Japan, New Zealand and the United States of America (US) have expressed a clear preference for decentralised governance of new market-based mechanisms, allowing for an “efficient, effective and flexible approach” suited to national circumstances and needs. On the other hand, the European Union (EU) and developing countries have favoured more centralised governance with common rules and a strong supervisory body ensuring the mechanism’s smooth functioning and guaranteeing its environmental integrity (de Sèpibus et al., 2011).

Japan and jurisdictions in North America are in fact already pursuing decentralised approaches outside the UNFCCC framework. Japan is devoting substantial resources to establishing a “Bilateral Offset Credit Mechanism (BOCM)” with developing and emerging economies. In North America, the US state of California and the Canadian province of Québec established emission trading systems in 2013 and plan to link them with each other. California and Québec may also develop their own international offset systems. These developments raise the question whether and under what conditions internationally traded emission credits that are generated outside the UNFCCC should be allowed to be used for meeting the emission reduction pledges made under the UNFCCC for the post-2012 period.

Given the numerous studies that have already been undertaken on centralised new market mechanisms (Butzengeiger-Geyer et al., 2012; Harrison et al., 2011; Butzengeiger et al., 2010; OECD, 2010; Aasrud et al., 2009; Schneider and Cames, 2009; Schmidt et al., 2008), this study puts the emphasis on the possible roles and design options for the FVA. It is structured as follows. First, it presents the Parties’

positions on the FVA (UNFCCC, 2012b). Second, it explores the various functions of the FVA. Third, it presents possible design options and evaluates them in the light of the objectives set by the outcome of the AWG-LCA in Durban (UNFCCC, 2011).

Regarding the scope of this article it is important to note that in the authors' view the UNFCCC and, hence, the FVA has a role only in relation to mechanisms with international application, such as the Japanese BOCM. The authors see no need for the UNFCCC to concern itself with systems that operate purely domestically, such as the systems currently being developed in China, since whatever happens within national borders will be captured in that Party's national emissions inventory. The question for the UNFCCC is how to handle systems where emission reductions that are achieved in one country are supposed to be traded internationally and counted towards the emission target of another country.

II. Countries' positions on the FVA

There were 25 submissions by Parties on the FVA in 2012, both from developed and developing countries (UNFCCC, 2012b). These positions were by and large repeated at two UNFCCC workshops in 2012 and at COP 18 (Sterk et al., 2012).

While among developed countries the EU, Norway and Switzerland are the proponents of a robust common system for unit generation and accounting, arguing that a centralised approach is needed to ensure environmental integrity, Japan, New Zealand and the US are strongly in favour of a variety of approaches reflecting national circumstances including a decentralized governance approach. Australia has adopted a similar though less explicit position. At COP 18 in Doha the other countries of the "Umbrella Group"¹, except Norway, also endorsed this position.

The **EU's** submission on the FVA stresses that any "tradable emission reduction units" resulting from the FVA would have to "meet the same standards" as those developed under the centralised NMM. **Norway's** submission underlines the indispensability of a robust common framework for unit accounting, which should be established along the lines of the GHG accounting system set up by the Kyoto Protocol and ensure the fungibility with Kyoto units. According to **Switzerland**, Parties should establish standards that ensure that the mechanisms developed under the FVA are of comparable quality, foster the fungibility of units and provide security to the private sector regarding their use. The UNFCCC would define common standards that include inter alia rules on the avoidance of double-counting, methodologies for crediting thresholds and rules on the tracking of units. Finally, Switzerland suggests that a process should be set up that allows the verification of whether the mechanisms meet the internationally agreed standards.

Japan had two submissions in 2012 and posits that a "one-size-fits-all" approach will not be the best suited for addressing the complex issues that Parties have to address in mitigating climate change. It also points to difficulties with the CDM (such as high transaction costs, inequitable geographical distribution, and

¹ Australia, Canada, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, the Ukraine, and the US

disproportionate CER issuance from certain types of projects) as a reason for calling for new mechanisms with decentralised governance. It views the FVA as a means to develop its own approaches and favours a decentralised governance system which allows Parties to develop their own standards, with assistance from the COP in providing basic principles and reporting rules and supporting Parties through the provision of best practices. Standards for implementation, however, would be developed by the Parties themselves.

In line with Japan's submission, **New Zealand** favours a decentralised governance system attributing no coercive or punitive powers to the UNFCCC, but an important coordination and guidance provision role, notably on how transparency can be ensured, how minimum common standards could be developed and how the international tracking of units can be guaranteed. To address the need for transparency New Zealand proposes the application of a "declaration model" under which Parties would provide information on the principal elements of the mechanism, which would then be made available by the Secretariat to other Parties for inspection. New Zealand suggests that if the declaration model approach was integrated into the biennial reports and the International Assessment and Review (IAR) and International Consultation and Analysis (ICA) processes for developed and developing countries that were established at COP 16 in Cancún to assess emission reduction progress in the post-2012 period, this would provide assurance that Parties were using market mechanisms in accordance with the details of their declaration.

Like Japan and New Zealand, the **US** views the task of the UNFCCC as purely facilitative, possibly playing a role in the tracking of units and the avoidance of double counting, but having no say in determining whether the credits may be used for compliance to meet international mitigation targets. While common principles for new mechanisms might be agreed under the UNFCCC, it would be left to governments to individually determine whether or not credits were generated according to these principles. To ensure transparency, the US stresses that any credits transferred internationally would have to be recorded in a registry. Further, Parties should provide detailed information on the use of standards and methodologies through existing channels for measuring, reporting and verification (MRV) in the UNFCCC, including biennial reporting. Similarly to New Zealand, the US suggests that any international transfer of credits could, for instance, be examined as part of the IAR and ICA processes, which would provide Parties the opportunity to request clarification. These processes could finally draw upon an international tracking system to verify that units reported in biennial reports are unique.

While not as explicit in its rejection of common standards as Japan, New Zealand and the US, **Australia** also expresses a preference for a merely facilitative role for the FVA. It proposes to make "arrangements for reporting on the design and operation of a MBA [market-based approach] against agreed information parameters, review by technical experts, discussion of MBAs through peer review or peer dialogue", but makes not mention that the FVA should have an approval function. As noted above, in Doha there was a further submission by the **Umbrella Group minus Norway**, which also followed this line.

The most comprehensive submission from developing countries stems from **AOSIS**. Representing probably the opposite extreme to the US position, it states that any units that are used by developed Parties to meet their mitigation commitments under the KP or the Convention will have to be based on a common set of internationally-agreed rules. Stressing the risks attached to programmes that use different accounting rules and diverging baseline methodologies and entail a significant risk of double counting, AOSIS states that only units that are established at the international level, apply internationally agreed accounting rules and baselines, operate in internationally agreed sectors and are under direct international oversight should be recognised.

According to **Bangladesh** on behalf of a group of developing countries,² the role of the FVA is to assist developing countries in achieving sustainable development and poverty eradication, while helping developed country Parties achieve compliance with their commitments under the Convention and the Kyoto Protocol. In their view, a regulatory body, operating under the authority of the COP, should oversee the FVA and ensure that a mechanism for the settlement of disputes is established. **Papua New Guinea** highlights that the FVA should include a “labelling function” to ensure that units are generated in conformity with standards elaborated under the UNFCCC.

China’s submission on the FVA reiterates the existing position that market mechanisms should only be available to developed country Parties that have committed to internationally legally binding emission reduction targets.

Bolivia also stresses that all mechanisms must operate under the COP and that bilateral or regional agreements should not be eligible for compliance with emission targets under the UNFCCC. In addition, Bolivia highlights that the FVA is intended to address not only market-based, but also non-market approaches and proposes the establishment of a "Climate Justice Mechanism". Bolivia considers that industrialised countries’ historical emissions constitute an ecological debt that requires a mechanism for compensatory payment. This position was later also subscribed to by the entire Group of “Like-Minded Developing Countries”³.

Being composed of Lichtenstein, Mexico, Monaco, South Korea and Switzerland, the **Environmental Integrity Group** straddles the Annex I – non-Annex I divide. Its submission stresses the need for common accounting elements and guidance for common standards and posits that the FVA should perform “conformity checks to allow recognition of activities as eligible for meeting emission reduction commitments under the Convention”. The common standards would inter alia include eligibility criteria for Parties, MRV, avoidance of double counting, net decrease and/or avoidance of emissions, and additionality when setting baselines.

3.2 The way forward

From the submissions and the discussion repeated at the negotiating sessions in Bonn, Bangkok and Doha it is obvious that very little consensus has yet been reached

² Bangladesh, Cameroon, Central African Republic, Congo, Costa Rica, Côte d’Ivoire, Democratic Republic of the Congo, Dominica, Dominican Republic, Fiji, Gabon, Ghana, Guyana, Honduras, Kenya, Pakistan, Panama, Papua New Guinea, Sierra Leone, Solomon Islands, Suriname and Uganda.

³ Bolivia, China, Cuba, Democratic Republic of the Congo, Ecuador, El Salvador, Iran, Iraq, Malaysia, Mali, Philippines, Saudi Arabia, Sudan and Venezuela.

with respect to the governance and the roles of the FVA. While the Umbrella Group with the exception of Norway favour a predominantly “bottom-up” approach, the Western European and developing countries argue that a centralised approach is needed to ensure environmental integrity. Given these political differences, it is doubtful that a bold decision will be taken on market mechanisms, be it at the level of the NMM or the FVA, in the near future. As a result, the current bilateral and regional bottom-up initiatives might well be further developed and implemented without any oversight, but also without recognition by the UNFCCC process.

The current deadlock, however, is no reason to abandon the concept of market mechanisms at the UNFCCC level altogether. There is a clear need to explore further the potential roles of a FVA and the possible designs of its governance. The two following sections will attempt to shed some light on these crucial issues.

III. Different roles of the FVA

Three potential roles of the FVA can be derived from Parties’ submissions (UNFCCC, 2012d).

Assisting developed countries in achieving their emission targets: Unlike the provisions regarding the NMM, the texts agreed upon in Durban and Doha do not mention whether credits generated by mechanisms meeting the conditions of the FVA may be used for compliance with post-2012 targets. Japan, New Zealand and the US, however, have made clear that they want to be able to do so (UNFCCC, 2012b). Indeed, if this was not the case, the international credits issued by Japan under its bilateral market-based mechanisms or the international offsets accepted under the Californian ETS could not be counted towards the respective national post-2012 pledges.

Ensuring environmental integrity as well as achieving net emission reductions: To ensure that the overall environmental outcome is not undermined, it is necessary to make sure that new mechanisms “deliver real, permanent, additional and verified mitigation outcomes”, in other words that “a tonne is a tonne”, irrespective of where it comes from. In addition, and in contrast to the CDM, new market mechanisms are supposed to go beyond mere offsetting and achieve a net reduction of GHG emissions. All submissions that address the issue of baselines and crediting thresholds therefore agree that the latter should be set below business as usual (BAU) levels, so that host countries would have to make a unilateral contribution to GHG emission reductions before credits can be generated (Sterk, 2012).

Coherence of the international carbon market: Currently, several market-based mechanisms are about to be implemented by Parties that may operate outside UN-based rules. Parties and observers are concerned that this activity may result in a fragmentation of the carbon market, decreasing the cost efficiency of international climate policy. In particular business organisations maintain that private sector involvement will crucially depend on the fungibility of credits generated through different approaches (CMIA, 2012). One of the potential roles the FVA may assume is hence to provide the “glue” that connects and recognises future national and regional mechanisms under the UNFCCC (Sterk, 2012).

Overall, a consensus seems to emerge that the FVA should create a process that recognises approaches developed outside the UNFCCC, allow units created thereunder to count towards post-2012 emission targets, as well as ensure that such approaches meet recognised standards for environmental integrity and "enhance the transparency and consistency in the generation and use of units from these approaches" (UNFCCC, 2012d).

IV. Design options under the FVA

While pursuing similar goals, Parties display a wide variety of views on the design options that should be used under the FVA. In their presentation at the UNFCCC workshop on the FVA on 19 May 2012, New Zealand identified five types of functions for the UN, which could, if need be, also be combined, i.e. a "Library of Parties' Approaches", a "Reviewer of Mechanisms", a "Provider of Best Practice Guidance", a "Rule Setter" and a "Centralised Approval Process" (New Zealand government, 2012). Building on this typology, this section of the paper explores how the various options could be implemented and how they interrelate.

a. The "Library of Parties' Approaches"

The "Library" reflects a model where the involvement of the UN is limited to providing transparency on various market approaches (hereafter "mechanisms") developed by Parties and to allow other Parties to scrutinise them. There would be no international assessment of the accuracy of the information provided by Parties.

The "lightest-touch" version of this model implies that Parties that have established a mechanism under the FVA are requested to provide basic information, possibly in English, on their procedures, projects and institutional setup, as Japan has done for its bilateral offset credit mechanism in its "New Mechanisms Information Platform".⁴

A more sophisticated model of the Library could foresee that in addition to their own websites Parties would have to provide information to the Secretariat according to standardised reporting formats. The Secretariat would then be entrusted with the task of compiling the information and displaying it on its website in a user-friendly form. This would ensure that the information provided by the Parties could be compared easily.

b. The "Reviewer of Mechanisms"

Building on the elements developed under the library approach, the Reviewer of Mechanisms model adds the obligation to submit the mechanisms to an international UN-based review process. Decisions would have to be made to determine its scope, objectives, frequency, processes and outputs.

The scope of a review would depend to a large extent on the form of governance chosen by the Parties (de Sépibus et al., 2011). If it follows a decentralised model a review would cover only the most basic elements. In particular, no review of the

⁴ See <http://www.mmechanisms.org/e/>

environmental integrity of individual projects carried out under the mechanisms would be undertaken.

Under a more centralised governance model, a review could play a far more extensive role. As proposed by the European Union on the NMM, the review could cover guidelines on MRV, the coverage of sectors and gases, baselines and crediting thresholds as well as criteria to determine their contribution to sustainable development (UNFCCC, 2012c).

In terms of process, the two-stage review foreseen by the IAR, including, most notably, a technical review and an international assessment, provides an interesting model. During the technical review, a team of experts checks the transparency, accuracy, completeness and consistency with reporting guidelines, as well as the comparability and timeliness of the information provided by the Parties and draws up a technical report. Notably, the Party concerned may interact with the experts and “share any additional information or views”.⁵ The second stage is a multilateral assessment, which allows a written and oral exchange of views on the technical review and other documents between the Party concerned and other Parties or observers under the aegis of the Subsidiary Body of Implementation (SBI). The SBI forwards conclusions to the relevant bodies under the Convention.

The suitability of the IAR review process depends on the scope of the review. If it covers some basic principles, a two-stage review as foreseen by the IAR represents a viable option. While the accuracy and the consistency of the information provided by Parties may be checked during the technical review, the multilateral assessment gives Parties a good opportunity to gain a more in-depth understanding of the functioning of the Mechanism.

If, by contrast, the scope of the review also covers the compliance of individual projects with international rules, the two-stage IAR model is inappropriate. In this case, a “mixed” review process, comprising a two-stage review for the assessment of the basic principles and a more “light-touch” technical review of all other rules set at the international level might represent a good compromise.

Irrespective of the scope and design of the review, it is important to keep in mind that under the “Reviewer of mechanism model” no international institution or body would be empowered to approve or reject a mechanism or the projects carried out under it. The output of the reviews would be limited to non-binding recommendations for the Party concerned.

c. A “Provider of Best Practice Guidance”

A Provider of best Practice Guidance model may fulfil several purposes. For instance, best practice guidance may serve as a source of information and trigger discussions among Parties that wish to set up new mechanisms. It can further ensure that lessons learned from Parties that are more advanced in this process are shared widely and will assist Parties that want to develop such mechanisms. Finally, it can help Parties to identify problems and gaps with respect to the mechanisms they have set up, but wish to improve.

⁵ See 2/CP. 17, Annex II.

The development of best practice guidance presupposes that Parties are able to agree on a set of evaluation criteria. In this respect the Durban decision on various approaches provides some principles in paragraph 83. Although the conditions set out therein leave considerable leeway for interpretation, they provide a valuable starting point. Given their lack of precision, it is, however, all the more important that the process leading to establishment of best practices is designed carefully.

An interesting model in this respect is provided by the process that has allowed the formulation of good practices for Technology Needs Assessments (TNAs) (UNFCCC, 2007). It took place over several years and involved a set of different actors. Initially, a mandate was given to the Expert Group on Technology Transfer (EGTT), whose task was to identify ways to facilitate the transfer of technology. Organised by the Secretariat, a series of workshops were held with representatives of governments and international organisations, as well as experts, to explore various options. Further, a survey on the implementation of TNAs was conducted to provide first-hand experience. Based on these findings a handbook was issued that provided step-by-step guidance on how to transfer technology. The latter was then field-tested and progressively refined. Based on these insights, the EGTT issued recommendations for good practices to the Subsidiary Body for Scientific and Technological Advice (SBSTA). Overall, this example shows that the provision of best practice guidance may be a lengthy process requiring the input of a wide variety of stakeholders.

If best practice guidance were to be provided for the mechanisms, an international body or institution would have to be entrusted with a clear mandate and endowed with sufficient financial means to carry out the task. The International Carbon Action Partnership (ICAP) intends to share best practices for countries establishing emissions trading schemes. There are, however, strong arguments for situating such an international body within the UNFCCC. While the procedures and routines through which it operates have been criticized as not being sufficiently effective, the UNFCCC represents the most comprehensive effort at multilateral cooperation and has afforded the UN an unrivalled degree of legitimacy and experience with greenhouse gas market mechanisms. It has put in place a sophisticated framework for formal negotiations and technical implementation and is endowed with an infrastructure comprising a professional staff of experts (Mehling, 2011).

In terms of substance and minimisation of transaction costs it would seem appropriate to entrust an already existing body with this task, for example the CDM Executive Board or the related unit of the UNFCCC Secretariat. If the Board was mandated to closely engage with and derive best practice from the emerging new mechanisms, this might also help to cross-fertilise the development of new schemes and the ongoing CDM reform. However, critics might assume that the Board would be too set in its own ways of doing things and would be biased against new approaches. Given that, as outlined above, one of the motivations behind developments such as the Japanese BOCM is strong disaffection with the CDM, the countries in favour of bottom-up approaches might prefer to have a new body installed for the provision of best-practice guidance.

d. The “Rule Setter” Model

Before exploring some design options for the Rule Setter model, a few clarifications are necessary. From a national law perspective “rules” are usually qualified as legally binding norms that are enforceable. From an international treaty law perspective, the meaning of a “rule” or a legally binding norm is more ambiguous. Based on a conventional international law treaty analysis, rules are only legally binding if they have received state consent and/or are adopted by an institution upon which the explicit authority to legislate has been conferred by its constituent treaty (Brunnée, 2002).

Through the lens of a conventional analysis, the COP may not play an important rule-making role. This “formal perspective”, however, does not provide an entirely satisfactory account of the role played by the COP in the field of law-making, in particular within the ambit of the flexible mechanisms. Hence, when referring to rules in this section, we do not refer exclusively to legally binding norms in a strict sense, but include all types of norms that have been adopted in the application of formally agreed procedural rules and which effectively influence the conduct of Parties and/or private actors (Brunnée, 2002).

In contrast to best practice guidance, which, if violated, does not entail sanctions, the breach of rules is not without consequences. For example, if a mechanism of a Party does not comply with rules set by the UN, the credits generated under it may not be taken into account in assessing compliance with the mitigation targets of that Party.

The question of the scope of the rule-setting is crucial in two respects. First, it determines the degree of control the international community has over the design of the mechanisms. If, for instance, “lawmaking” is limited to the setting of criteria for purposes of complying with disclosure requirements, Parties would remain essentially free of any constraints with respect to the design and implementation of their mechanisms.

Second, it is relevant for shaping the procedural rules governing the rule-setting process. If the “legislative” activities are meant to remain limited, then the COP could set the rules itself. If, on the contrary, the scope of the rules was to be extended to criteria regarding the institutional setup of the mechanism or even further, then the COP would have to set up a subsidiary body responsible for the rule-setting process, as it has done under the CDM. If the model of the CDM was to be followed, due account would have to be taken of the specificities of the FVA and the limitations that the design of the CDM governance has shown over time (Streck et al., 2008).

e. A “Centralised Approval Process”

The adoption of a rule-setter model as defined here necessarily implies the setup of a centralised approval process. Indeed, only if there is a centralised process during which the compliance of a mechanism with UN-based rules can be assessed and, in the case of a violation, sanctioned, will the rule-setter model be able to shape state conduct.

Various options have been discussed in the literature regarding the institutional and procedural requirements of a centralised approval process (de S epibus et al., 2011). Some of the key questions that will have to be addressed concern the composition, the functioning, and the financial endowment of the institution or the body that will carry out this task (Bakker et al., 2012).

The institutional and procedural setup of the CDM provides an interesting model. In this case, all major governance functions, including oversight of methodologies, baselines, compliance and the issuance of credits, would be controlled by the UNFCCC (de S epibus et al., 2011). Major design failures of the CDM model, such as the insufficient independence of the verifiers, should however be addressed appropriately.

The EU in its submission on an NMM builds on this approach, but posits that while there should be a common set of rules, including inter alia rules defining the sectors and the coverage of gases, the methods and criteria for determining baselines or the crediting thresholds or sector targets, flexibility could be retained for some more detailed design features and, as a rule, the implementation should rest with the host country (UNFCCC, 2012c).

f. The proposed typology and its combinations

This paper concludes that some of the models need to be implemented in combination with others. Hence, a review may be implemented only if some information has been disclosed previously by Parties and a rule-setter model may not be applied without a centralised approval process. The various models may further be combined piecemeal, applying a Library model to certain aspects of the Mechanisms while favouring a rule-setter model for others. For example, one option could be to combine a Library model for the implementation of projects with a review for the compliance of the Mechanism with basic principles. Another option could confer a rule-setter role upon the UN, regarding certain minimal institutional requirements, and a mandate to develop best practices for the implementation of projects.

g. The Typology and Parties' Positions

The following table provides an overview of the five types and their key features, as discussed above, and attempts to map Parties' positions against the typology. As discussed in Section II, there seems little common ground as Parties are apparently divided into two sharply opposed camps. While the Umbrella Group minus Norway strictly rejects giving the UN any kind of approval function, AOSIS, Bangladesh et al., Bolivia, the Environmental Integrity Group, the EU and Norway have also stated unambiguously that only UN-approved credits should be used for achieving targets. Therefore, none of the five options seems to have the potential to be acceptable to both groups of Parties.

Table 1: Design options and Parties' positions

Type	Key features	Party positions
Library of Parties' Approaches	UN role limited to providing transparency, collects information on Parties' approaches, possibly in standardised format, user-friendly publication format enables scrutiny of approaches by others	In line with positions of Umbrella Group minus Norway Not strict enough for AOSIS, Bangladesh et al., Bolivia, Papua New Guinea, EU, Norway, Environmental Integrity Group
Reviewer of Mechanisms	UN reviews Parties' approaches based on agreed criteria, either only systems or also individual projects	In line with positions of Umbrella Group minus Norway Not strict enough for AOSIS et al.
Provider of Best Practice Guidance	UN develops non-binding best practice guidance based on agreed criteria	In line with positions of Umbrella Group minus Norway Not strict enough for AOSIS et al.
Rule Setter	UN sets binding rules, only approaches that comply with rules may be used for meeting targets	In line with positions of AOSIS et al. Too strict for Umbrella Group minus Norway
Centralised Approval Process	Centralised assessment of approaches' compliance with binding UN rules	In line with positions of AOSIS et al. Too strict for Umbrella Group minus Norway

V. Evaluation of the various designs with the Durban mandate

As decided in Durban, the FVA should ensure that the standards adopted by Parties deliver real, permanent, additional and verified mitigation outcomes, avoid double counting of efforts, and achieve a net decrease and/or avoidance of GHG emissions. Any governance design will hence have to be measured in the light of these benchmarks set by Parties.

a. Standards that deliver real, permanent, additional and verified mitigation outcomes and achieve a net decrease and/or avoidance of greenhouse gas emissions

The requirements that the standards used by Parties must “deliver real, permanent, additional and verified mitigation outcomes” and “achieve a net decrease and/or avoidance of greenhouse gas emissions” boil down to the claim that the “environmental integrity” of the credits must be ensured. The notion at the heart of

the latter is the definition of “business as usual” (BaU), or in other words “what would have happened in the absence of the mechanism”? It is this inherent relativity of the notion of BaU which makes the debate on how to ensure the environmental integrity of international offset credits and, correspondingly, what the right level of governance for defining a robust FVA would be, so challenging.

Given that both buyer and seller countries of international credits have strong incentives to generate as many credits as possible, Parties favouring a more centralised approach towards governance stress the need for some form of international oversight that brings the reasonableness of the underlying assumptions under scrutiny and that may require changes if necessary. The Parties favouring a decentralised approach of governance, on the other hand, posit that flexibility and diversity is not contrary to environmental integrity provided that transparency is ensured.

Transparency is at the heart of the Library model. It allows scrutiny and thereby puts pressure on Parties to use reasonable assumptions and standards when establishing a mechanism. It is also vital to build trust that others are not cheating or abusing the mechanisms in the pursuit of other goals. To enable the information to be checked by other Parties without too much effort, it must, however, also be presented in a comprehensible manner. In addition, the information must be complete and display all the crucial elements of a mechanism. Finally, new social media, in particular video debates, online fora and chat areas on the UNFCCC website, as well as stakeholder platforms on the model of the “high-level policy dialogue on the CDM” could foster the exchange of ideas in a more informal but probably effective way. Only if these requisites are fulfilled, could the Library Model contribute towards nurturing confidence in the reality of the emission reductions achieved through a mechanism.

Whether information disclosure alone will be sufficient to guarantee the environmental integrity of international carbon credits remains to be seen. In the absence of an international review mechanism it will be up to interested Parties or actors from civil society to verify whether the information supplied is correct and provides sufficient safeguards regarding the environmental integrity of the credits. Such a check, however, requires both significant resources and in-depth knowledge. Finally, if the requirement for transparency is not combined with a duty to respond to questions and/or to remedy problems, there is a considerable risk that the pressure from stakeholders will not be strong enough to ensure the development of a reasonable set of standards.

An international UN-based review would ensure that the information disclosed is analysed in a systematic way by experts and possibly discussed by political bodies. The effectiveness of any review, however, depends very much on its scope, the resources devoted to it, the competence of the experts carrying it out, their independence, and the possibility of cross-checking information. Also, the absence of a right of the international community to suggest amendments or to sanction possible violations of international principles may substantially reduce the effectiveness of this instrument.

The best practices model provides an interesting tool for standard setting. Given the reluctance of many Parties to adopt coercive international rules, it may provide a

good middle way to develop standards step-by-step, based on the sharing of the knowledge of a wide array of stakeholders, involving representatives from both civil society and governments. The effectiveness of this model in ensuring the “environmental integrity” of credits will, however, very much depend on the process through which the standards are developed.

The rule-setter model, combined with a centralised approval process, offers three major advantages. First, it provides an effective counterweight to the inherent incentives of bilateral offset agreements to artificially inflate the number of credits generated. Second, common rules will have to be adopted according to a uniform procedure accepted by all Parties. Third, all Parties have to abide by a common set of rules, and in the case of violation they may be sanctioned. While these characteristics provide valuable safeguards for maintaining a level playing field and the respect of fundamental principles of procedural fairness, centralised governance by itself does not constitute a guarantee of an environmentally sound outcome. Indeed, notwithstanding the “top-down” architecture of the CDM, the environmental integrity of many of its credits remains disputed (de S epibus et al., 2011). Hence, the scope of the rules, a robust institutional design, including the ability to carry out reforms to address unforeseen shortcomings, sufficient resources and the possibility to apply effective sanctions for clear violations by Parties will be crucial to ensure the environmental integrity of the mechanisms.

b. Standards that avoid double-counting of efforts

If credits resulting from the FVA are used for compliance by developed countries, it is necessary to avoid the emission reductions they represent also being taken into account by developing countries in the fulfilment of their pledges. In such cases the same emissions reductions would be effectively counted twice in the global mitigation effort.

By providing transparency on the origin of the credits generated under the mechanisms, the Library model contributes to addressing the problem of double counting. However, it offers no solution in the case of conflicts. The same is true for the review and the best practices models. As none of these models provides enforceable rules regarding the attribution of credits in case of conflict, the risk of double-counting cannot be addressed with sufficient stringency.

To avoid double-counting, the only reliable solution would probably be provided by a rule-setter model, under which international rules, comprising inter alia common accounting rules for all countries, rules clarifying the “ownership” of international credits, and an international and national registry system comparable to the one that has been set up under the Kyoto Protocol would be made available.

Under Kyoto, all emission units sold by an industrialised country are deducted from its assigned amount. Developing countries, the US, and those countries that will not join the second Kyoto period, will not have AAUs post-2012, so another way of deducting sold units from pledges would need to be found. One potential option would be to add these units to the countries’ emission inventories. That is, the inventory would show x tonnes of emissions, and to that total y further tonnes would be added for each tonne of emission reductions the country has sold. The pledge would then be compared to the sum of x+y.

VI. Conclusions

Currently, emissions trading markets are emerging worldwide, bottom-up, in many regions or countries, such as in California, China, Japan and South Korea. While most of the emerging systems would only be domestic in scope, some of them, such as the Japanese BOCM, are being designed to have international application. This may possibly lead to a fragmented international carbon market outside the UN framework and thereby undermine the environmental integrity of the UNFCCC. In this context, the Durban Climate Conference agreed to consider the establishment of an overall framework for various mitigation approaches, including opportunities for using markets.

From the submissions of the Parties, three key roles for the FVA may be distinguished: to assist developed countries in achieving their emission targets, to ensure environmental integrity and achieve global net emission reductions, and to guarantee the coherence of the international carbon market.

This paper discussed and evaluated several design options for the FVA that range from decentralised to centralised: a “Library of Parties’ Approach”, a “Reviewer of mechanisms”, a “Provider of best Practice Guidance”, a “Rule Setter” and a “Centralised Approval Process”. The analysis shows that some of the models could be, and others need to be, implemented in combination with others.

The Library model allows scrutiny and puts pressure on Parties to use reasonable standards when establishing a mechanism. Its effectiveness in guaranteeing the environmental integrity of credits, however, is limited if it is not combined with a duty of the concerned Party to remedy possible problems. Moreover, in the absence of an international review that ensures that the information disclosed is analysed in a systematic way, it is uncertain whether Parties will be able to play an efficient supervisory role. The Review model addresses some of these problems, as it entails carrying out an international review. Its performance, however, will very much depend on its scope and the resources that are devoted to it. Also, in the absence of a sanctioning power of the international community, it may remain a blunt tool rather than a sharp stick. The Best Practices model may provide a good middle way to develop standards step-by-step, based on the sharing of the knowledge of a large array of stakeholders. Its effectiveness in ensuring a sound environmental outcome will, however, hinge on how the standard setting process is framed and whether best practices are broadly followed by Parties. The Rule-Setter model finally, combined with a Centralised Approval process, may offer major advantages, providing an effective safeguard against the temptation for Parties to inflate artificially the number of credits generated, a uniform standard setting procedure and a common set of rules. In the case of violation, Parties may be sanctioned. While these characteristics provide valuable safeguards for maintaining a level playing field, centralised governance by itself does not guarantee the environmental integrity of the credits generated. As the experience with the CDM has shown, a robust institutional design, sufficient resources and the possibility to impose effective sanctions for clear violations by Parties will be vital to ensure a satisfactory outcome.

It is difficult to foresee how the negotiations on the FVA will play out as widely differing opinions have been expressed by Parties on how to flesh out the system. While our analysis suggests that the Rule-Setter model combined with the

Centralised Approval process would be best suited for fulfilling the criteria set out in the Durban decision – and this view is probably subscribed to by a large majority of Parties – most of the Umbrella Group countries, in particular Japan, New Zealand and the US, have so far been strongly against assigning any oversight role to the UNFCCC. They would therefore only accept the Library model, the Reviewer model and the Best Practice model. By contrast, Western European countries and most developing ones have so far insisted just as strongly on binding rules with international oversight. They would therefore only accept the Rule-Setter model with Centralised Approval. These fundamentally diverging views will be hard to bridge.

However, the Umbrella Group countries (minus Norway) have a political advantage since the Reviewer model is the current status quo. With the Cancún Agreements, the UNFCCC has adopted a system of voluntary pledges with an international review process but no common accounting. While there is no agreement that units from bilateral systems such as the BOCM may be used for achieving the pledges, there is also no system to prevent countries from doing so. It therefore seems desirable to subject such systems to as much scrutiny as possible as soon as possible.

Western European and developing countries might therefore have to take the rhetorical commitment by the Umbrella Group to high standards at face value and as *quid pro quo* insist on establishing a strong review system in the framework of the IAR and ICA processes. The two-stage review foreseen by the IAR, which includes a technical review by experts, provides a formal hook for creating such a system but Parties will need to provide the IAR process with the necessary resources to actually allow for a detailed examination. If the UNFCCC review system is not endowed with the necessary resources, the task of scrutinising other countries' bilateral mechanisms would probably fall mostly on Western European countries, as most developing countries would probably have no capacity to spare for this purpose. Most UNFCCC Parties would therefore have to blindly believe the claims that bilateral mechanisms adhere to high standards.

Creating a strong central review capacity at UNFCCC level seems hence to be the only option that is acceptable to the Umbrella Group countries (minus Norway) but hopefully nevertheless able to assure other Parties that environmental integrity is in fact ensured. Still, it bears repeating that this would be a sub-optimal solution from the perspective of environmental integrity.

One may therefore hope that transaction costs will pose a natural limit to the carbon market's fragmentation. Japan and California are essentially replicating the CDM's entire infrastructure for the development of methodologies and approval of projects at considerable cost. While these jurisdictions expect that transaction costs per project will be lower in their systems due to greater standardisation than in the CDM, the overall transaction costs of the global market are likely to be higher with several systems operating in parallel instead of having only one system. Transaction cost problems will probably be even greater for developing countries, which would have to act as hosts for projects from multiple schemes in parallel instead of just one as has been the case so far. A proliferation of mechanisms would probably be especially hard to manage for least-developed and other poor countries, which are often already overtaxed by operating the CDM.

VII. Bibliography

Aasrud A., Baron R., Buchner B., McKall K., 2009, *Sectoral Market Mechanisms – Issues for Negotiation and Domestic Implementation*, International Energy Agency (IEA)/Organisation for Economic Co-operation and Development (OECD), Paris [available at https://www.iea.org/papers/2009/sectoral_market_mechanisms.pdf].

Bakker St. and Seijm J., 2012, *Design elements for new market mechanisms*, EU Side event SB 36, Bonn, 16 May 2012 [available at http://regserver.unfccc.int/seors/attachments/get_attachment?code=06ZVP3N6CKC2BSD98188RZMWKCJ1U6TT].

CMIA (Climate Markets & Investment Association) (2012). CMIA submission in response to para 81 of COP17 LCA Outcome [available at <http://unfccc.int/resource/docs/2012/smsn/ngo/162.pdf>].

Butzengeiger-Geyer S., Castro P., Dransfeld B., Michaelowa A., Okubo Y., Skogen A., Tangen K., 2010. *New Market Mechanisms in a Post 2012 Climate Regime – Challenges and Opportunities*, Report to the German Federal Environment Agency (unpublished).

Butzengeiger S., Dransfeld B., Cames M., Michaelowa A., Healy S., 2012, *New Market Mechanisms for Mitigation – Getting the Incentives Right*, in: A. Michaelowa (ed.), *Carbon Markets or Climate Finance? Low Carbon and Adaptation Investment Choices for the Developing World*, 146–167.

Brunnée J., 2012, *COPing with Consent: Law-Making Under Multilateral Environmental Agreements*, *Leiden Journal of International Law*, v. 15, 1–52.

De Sépibus J., Tuerk A., 2011, *New market-based mechanisms post-2012: institutional options and governance challenges when establishing a sectoral crediting mechanism*, *Environmental Liability*, 111–130.

Harrison D., Lo Passo F., Radov D., Nichols A., Klevnas P., Foss A., 2011. *Evaluation of Incentives in International Sectoral Crediting Mechanisms*, *A Report for Enel*, NERA Economic Consulting, Boston, Rome [available at http://www.nera.com/nera-files/PUB_Enel_Report_102411.pdf].

Helme N., Whitesell W., Houdashelt M., Osornia J., Ma H., Lowe A., Polzin Th., 2010, *Global Sectoral Study: Final report*, Center for Clean Air Policy, Washington, DC [available at <http://www.ccap.org/docs/resources/934/CCAP%20Final%20Sectoral%20Report.pdf>].

Japanese Government (2011). *New Market Mechanisms Express*. November 2011.

Marcu A., 2011a, *Post Durban: Moving to a fragmented carbon market world? Climate Change*, *CEPS Commentaries* [available at <http://www.ceps.eu/book/post-durban-moving-fragmented-carbon-market-world>].

Marcu A, 2011, *The Durban Outcome, A post 2012 Framework Approach for Green House Gas Markets*. In: The UNEP Risø Centre Energy and Carbon Finance Group, Progressing towards post 2012 carbon markets. 127–137.

Mehling, 2011. *Alternative Frameworks for International Climate Cooperation: Towards a Systematic Assessment Matrix*. ICPIA Working paper 2011. [available at http://icpia-project.wifo.ac.at/docs/WP_7.pdf].

New Zealand government, 2012. Presentation made by New Zealand on 18 May at the UNFCCC workshop in Bonn on various market approaches. Available at http://unfccc.int/files/bodies/awg-lca/application/pdf/20120519_nz_1850.pdf

Schmidt J., Helme N., Lee J., Houdashelt M., 2008, Sector-based approach to the post-2012 climate change policy architecture. *Climate Policy* **8**, 494–515.

Schneider L., Cames M., 2009, *A framework for a sectoral crediting mechanism in a post-2012 climate regime, Report for the Global Wind Energy Council, Öko-Institut*. Berlin. [available at <http://www.oeko.de/oekodoc/904/2009-022-en.pdf>].

Sterk W., 2012, *Current Proposals and Positions on New Market Mechanisms*, Wuppertal Institute for Climate, Environment and Energy, Wuppertal [available at http://www.jiko-bmu.de/english/background_information/publications/doc/1152.php].

Sterk W., Arens Ch., Mersmann Fl., Wang-Helmreich H., Wehnert T., 2011. *On the Road Again. Progressive Countries Score a Realpolitik Victory in Durban While the Real Climate Continues to Heat Up*, Wuppertal Institute for Climate, Environment, Energy, Wuppertal [available at <http://wupperinst.org/en/publications/publications/wi/a/s/ad/1593/>].

Sterk W., Arens Ch., Kreibich N., Mersmann Fl., Wehnert T., 2012. Sands Are Running Out for Climate Protection. The Doha Climate Conference Once Again Saves the UN Climate Process While Real Climate Action Is Shelved for Later, Wuppertal Institute for Climate, Environment, Energy, Wuppertal [available at <http://wupperinst.org/en/info/details/wi/a/s/ad/1979/>]

Streck Ch., Lin J., 2008. Making Markets Work: A Review of CDM Performance and the Need for Reform. *The European Journal of International Law* **19**, 409–442.

United Nations Framework on Climate Change (UNFCCC), 2007, Good practice for technology needs assessments, background paper. Workshop on sharing good practices with conducting technology needs assessments, Bangkok, Thailand, 27-29 June 2007 [available at <http://unfccc.int/ttclear/pdf/Workshops/Bangkok/Paper.pdf>]

United Nations Framework on Climate Change (UNFCCC), 2011, *Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*, FCCC/CP/2011/9/Add. 1, 15. March 2012, decision 2/CP.17.

United Nations Framework on Climate Change (UNFCCC), 2012a, *Draft decision - /CP.18, Agreed outcome pursuant to the Bali Action Plan, advance unedited version* [available at

http://unfccc.int/files/meetings/doha_nov_2012/decisions/application/pdf/cop18_agreed_outcome.pdf].

United Nations Framework on Climate Change (UNFCCC), 2012b, *Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Views on a framework for various approaches, Submissions from Parties, FCCC/AWGLCA/2012/MISC.4, 11 April 2012*. Note: some of the country submissions or update can be found in the 7 addenda of the document. [available at <http://unfccc.int/resource/docs/2012/awglca15/eng/misc04.pdf>].

United Nations Framework on Climate Change (UNFCCC), 2012c, *Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Views on a new market mechanism, Submissions from Parties, FCCC/AWGLCA/2012/MISC.6, 11 April 2012*. Note: some of the country submissions or update can be found in the addenda of the document. [available at <http://unfccc.int/resource/docs/2012/awglca15/eng/misc06.pdf>].

United Nations Framework on Climate Change (UNFCCC), 2012d, *Technical Paper established by the Secretariat on “Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries”*, FCCC/TP/2012/4, 24 August 2012 [available at http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600007027].