

Towards standards and guidelines for environmental integrity in international carbon markets

A resource for use when considering cooperative approaches

A work in progress shared with markets negotiators – Katowice, 1 December 2018

Version: 0.3

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Foreword

Relationship to the Ministerial Declaration on Carbon Markets

The Ministerial Declaration on Carbon Markets was a statement made at the Paris Conference of the Parties in December 2015 about the important role of international market mechanisms in enhancing mitigation ambition and the need for environmental integrity in those mechanisms. Twenty-one countries have now endorsed this Declaration, the text of which and list of signatories is attached as Appendix A.

Officials from these countries have met regularly to discuss environmental integrity in international market mechanisms in the context of the Paris Agreement. This work is intended to support the development of standards and guidelines for the environmental integrity of international market mechanisms.

This resource has been worked on by officials from many of the Declaration countries.

There are two important caveats with this resource:

- It is not intended to be standards and guidelines. Instead it provides explanation and narrative that may form the basis for future standards and guidelines.
- It is not government policy or the Party position of any Declaration member.

This resource is offered now for the input of others, and for potential use by those considering cooperative approaches.

Feedback on this resource should be directed to environmentalintegrity@mfe.govt.nz

We invite Parties that are not yet signatories to the Ministerial Declaration on Carbon Markets to add their support and join the task of working on this resource in 2019 and beyond.

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Introduction

What does ensuring environmental integrity in international carbon markets mean?

Environmental integrity is key to effective international carbon markets, and more broadly, to the effectiveness of any mitigation effort. There are a wide range of potential cooperative approaches that may be used to achieve mitigation. In practice, different approaches will require practitioners to consider different issues or implement different means to ensure environmental integrity (for example an ETS linkage will require considering different features from a project-crediting scheme).

Practitioners having access to a broad range of potential cooperative approaches provides flexibility for achieving mitigation. This flexibility will help to allow international cooperation and its benefits (e.g. allowing for higher ambition) to be used across a broad range of national contexts.

This flexibility of approach, however, does not extend to flexibility of outcome. Environmental integrity must be ensured no matter the cooperative approach and all Parties to the Paris Agreement have agreed that this is necessary. In simple terms – if a tonne of emissions reductions is being claimed, regardless of how it is done, emissions must have been reduced by (at least) a tonne.

Our initial work on standards and guidelines focused on principles; unpacking and understanding what different people meant when they used the term ‘environmental integrity’. While different people used different language and had different reference points (e.g. experience in the UNFCCC, projects, or ETSs...), there was commonality. Participants discussed principles relating to:

- objectives (i.e. what ensuring environmental integrity meant); and
- means (i.e. how to ensure environmental integrity).

The table in Appendix B summarises our discussion from mid-2017.

The principles can be considered in the context of overall objectives: to do no harm; and allow for higher ambition.

Objective 1: Do no harm

The Paris Agreement recognises that Parties may choose to pursue voluntary cooperation in the implementation of their nationally determined contributions (NDCs) to allow for higher ambition in mitigation actions. Fundamental to this is ensuring that:

COOPERATIVE APPROACHES MUST NOT RESULT IN AN INCREASE IN GLOBAL EMISSIONS

COMPARED TO THE COUNTERFACTUAL CASE IN WHICH ACTION ONLY OCCURRED DOMESTICALLY

Objective 2: Allow for (and do not pose a barrier to) higher ambition

Alongside this context for cooperation, the Paris Agreement establishes a clear direction for Parties' mitigation efforts. Parties nationally determine their contribution to the global effort; however these contributions are to:

- reflect highest possible ambition; and
- progress beyond the previous contribution.

The Agreement also establishes that Parties aim to reach net zero global emissions in the second half of this century. Parties are further encouraged to formulate long-term low emissions development strategies.

This forms important context for all mitigation efforts including those undertaken cooperatively. Therefore:

COOPERATIVE APPROACHES SHOULD BE CONSISTENT WITH PROGRESSION AND LOW EMISSIONS DEVELOPMENT

Objective 3: Design cooperative approaches to deliver on the two objectives above

The design of cooperative approaches should deliver on the objectives above. Means that support this include:

- Ensuring that mitigation that is transferred is:
 - real, additional, anthropogenic, and permanent;
 - able to be quantified, measured and verified;
 - estimated using conservative methods;
 - not double counted;
 - tracked and accounted for in a transparent, accurate and timely manner.
- Shared responsibility between the Parties participating in a cooperative approach to ensure the environmental integrity of transfers of mitigation outcomes, and the related mitigation activities.

Principles such as these help to deliver on the objectives expressed in objectives 1 and 2. For example, ensuring that mitigation that is transferred is real, additional, and permanent; is able to be quantified, measured and verified; and is estimated using conservative methods are all means to help ensure that a cooperative approach does not result in an increase in global emissions.

Principles regarding the means for ensuring environmental integrity should then be reflected in the design of cooperative approaches. In practice, Parties using different types of approaches, such as project crediting, policy crediting, or linked ETS, will have to implement these principles in ways that are appropriate to, and consistent with the intervention logic of that approach.

What is this binder?

This binder brings together thinking on how to ensure environmental integrity in international carbon markets. It is intended to be a resource for practitioners to draw from and add to when considering the design and implementation of cooperative approaches. It includes descriptions of key issues and provides checklists of issues to consider.

This resource is described as a binder (rather than a document or textbook). This is because the resource is a snapshot, a compilation of thinking at one point in time. It does not contain all the answers and is not exhaustive.

This binder is offered now knowing that it will need to be added to – concepts contained within will need to be practically implemented and new forms of cooperative approaches may arise. This resource is a binder – it is expected that practitioners may take this and add, insert, flesh-out and overwrite sections as lessons are learned and approaches are developed and adapted.

How is this binder organised?

This binder is organised by drawing on a framework proposed by the Environmental Defense Fund (Environmental Defense Fund, 2017). Key elements of a cooperative approach, and the features that might impact its environmental integrity, are broken down into three areas:

- the partner;
- the programme; and
- the transfer.

In short, to have confidence in the environmental integrity of a cooperative approach, it is necessary to have confidence in these three areas – i.e. confidence in the partner jurisdiction; confidence in the mitigation programme; and confidence in the transfer of mitigation outcomes.

Alongside EDF's framework, this binder includes explicit acknowledgement that the Paris Agreement context is dynamic and sets a clear direction for Parties' collective mitigation efforts. This dynamic context, which is discussed in the following section, must be considered in the design of cooperative approaches.

This binder is organised into the following sections:

- Acknowledging that the Paris Agreement context is dynamic
- **Theme 1:** Confidence in partners
- **Theme 2:** Confidence in programmes
Theme 2 first deals with common issues across all mitigation programmes, followed by specific issues relating to particular types of mitigation programmes.
- **Theme 3:** Confidence in transfers

What is not included in this binder?

This binder deliberately focuses on environmental integrity in the context of international carbon markets.

Consideration of other benefits of risks

This binder does not consider other benefits or risks beyond those relating specifically to the environmental integrity of international carbon market mechanisms.

For example, this binder does not consider non-climate environmental impacts of mitigation activities – these are considerations for all activities, not specifically those relating to international carbon markets.

Another example is that the binder only considers the benefits of stakeholder consultation that relate to, or build trust in, environmental integrity of international carbon market mechanisms.

Similarly, several elements in this binder may have broader market impacts which are not discussed here. For example, many elements discussed may improve transparency of information and increase trust in the mitigation delivered by a programme; this may have market or brand benefits which are not discussed in this binder.

Standards and guidelines

This binder does not contain standards or guidelines. Instead it contains material and narrative that, we hope, will support the future development of standards and guidelines.

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The Paris Agreement context

The Paris Agreement context is dynamic

Collectively, Parties to the Paris Agreement aim to reach net zero global emissions in the second half of this century. This provides a clear direction for Parties' mitigation efforts. This context of decarbonisation accelerates changes in existing economic and industrial systems. This makes the Paris Agreement context dynamic in that practices, technologies and behaviours will need to change in an accelerated manner to deliver on the Agreement's goals to decarbonize. In particular, business-as-usual may change quickly - what was once cutting-edge may quickly become standard; and what was novel may become common practice.

This dynamism must be acknowledged when considering measures to reduce emissions and increase removals. Over time, actions may not be additional, or baselines may no longer be appropriate because the context has changed, and assumptions have been overtaken. For example, an ETS cap once thought to be stringent may no longer be, due to the arrival of a disruptive technology in key sectors. Such changes will impact on the environmental integrity of transferring mitigation.

These issues are challenging. For markets, they expose a tension between the policy objective (reducing emissions with environmental integrity) and the means to achieve it (financial incentives that drive cost-effective investment and behaviour). This tension, alongside the obligation to ensure environmental integrity, requires careful consideration in the design of cooperative approaches.

In theory, acknowledging this dynamism might occur via the:

- design of specific features in a cooperative approach – for example, through dynamic baselines, declining caps, or short crediting periods; and/or
- overarching design of the approach – for example, through requirements for periodic review, independent analysis, or the conditions for renewing a time-bound cooperative approach.

The Paris Agreement context is new

All Parties, including those that participated in previous market mechanisms, have to consider the use and design of markets in light of the new Paris Agreement context and their own long-term economic transition. The fact that all Parties now have mitigation targets is a fundamental change.

Many Parties are currently in the early stages of either planning the implementation of their first NDC or forming a long-term low-emissions development strategy. In order to promote the uptake of high-integrity practices it will be important to ensure that lessons from the early stages of Paris Agreement implementation can be learned and shared.

We are in this together

Cooperating parties share a mutual responsibility for ensuring environmental integrity.

This binder has been written with this mutual responsibility in mind. To this end, it is not meant to be read as one partner judging the other. Instead, it is meant to be read as cooperating partners building confidence in each other, the programmes they will use, the

transfers they will make and, ultimately, having confidence that they are able to ensure environmental integrity together.

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Theme 1: Confidence in partners

Description

This theme is about both partners establishing confidence in each other. The theme is underscored by the shared responsibility of Parties participating in cooperative approaches to ensure their environmental integrity. Confidence between partners relates to the knowledge that the partners have the capability, competence and will to implement cooperative approaches with environmental integrity. Forming a view on this will require consideration of climate change related factors, as well as broader factors such as institutional arrangements.

This theme has been organised into two sections:

- *Key environmental integrity issues regarding partners* – these are elements that are critical to ensuring environmental integrity; and
- *Additional factors which may improve confidence in a potential partner* – if satisfactorily addressed, these factors may improve confidence in a partner, and confidence in the environmental integrity of cooperative arrangements with them.

Key environmental integrity issues regarding partners

Relating to institutional arrangements and competence

In this context, competence relates to which entity is institutionally/legally authorised to make decisions. When making decisions, agreements, arrangements or contracts, it is important that this is done by the 'competent' entity. A lack of competence or conducting business with an entity that does not have authority to do so (i.e. is not competent) risks outcomes or contracts that: do not have legal status; do not fulfil specifications or terms; or are misrepresented or fraudulent.

It is possible that within a jurisdiction different entities are competent for different aspects of implementing a cooperative approach and transferring mitigation outcomes. When cooperating, it will be necessary to involve the entity/entities that are institutionally competent to:

- account for cooperative approaches with other Parties (Article 6.2);
- authorise cooperative approaches with other Parties (Article 6.3); and
- administer emissions reduction programmes.

Both partners will need to involve their entity/entities competent to authorise and account for cooperative approaches. In contrast, there may be only one entity which administers a mitigation programme across both partners (e.g. in an approach that is co-governed by cooperating partners).

Actions taken in any one of these three areas (accounting, authorisation, and administration) will need to align with those taken in others, and systems must be in place to ensure this. Alignment is necessary to ensure that actions taken under a mitigation programme are appropriately authorised and accounted for at the Party level – and that accounting at a Party level results from authorised and real action within mitigation programmes.

It is important to note that mitigation programmes may be administered or implemented by a variety of entities, not only Parties to the Paris Agreement. For example, sub-national entities

might administer emissions trading schemes, or NGOs might administer crediting programmes. Parties might authorise and account for international transfers of mitigation outcomes relating to these non-Party programmes.

Relating to climate change

Ability to measure, report and verify relevant emissions

The ability to measure, report and verify (MRV) relevant emissions or removals is fundamental to ensuring environmental integrity. MRV allows cooperating partners to demonstrate that each tonne of mitigation transferred is the result of achieving and sustaining at least one tonne of mitigation.

Cooperating partners must have the ability to robustly MRV relevant emissions – (i.e. in the sectors, facilities, or projects where mitigation actions will occur and be transferred from). Where this capability does not currently exist, the cooperative partners may be able to develop it in order to allow for robust future transfers. Where this capability already exists, partners should endeavour to improve their MRV capacities over time to allow for the most accurate quantification of emissions, reductions and removals.

In addition to environmental integrity benefits, transparent information and robust and accurate MRV can help to build trust between cooperating partners and potentially increase the attractiveness of cooperation. It will also enhance the trust of the international community in the environmental integrity of the cooperative approach.

Clarity of the NDC

The coverage of cooperating partners' NDCs must be clear, transparent and understandable in order to ensure robust accounting. This clarity enables cooperating partners to correctly apply any applicable accounting guidance to ensure robust accounting and the avoidance of double counting – and help cooperating partners demonstrate this to the international community. In practice this means clarity on NDC coverage means clarity on sectors, sources, sinks, and gasses covered, as well as the time frame for which the NDC applies.

Clarity on the level of action entailed by a potential partner's NDC may further improve confidence between partners. This may involve understanding reference points, assumptions or scenarios used in setting the NDC. Knowing the level of action required, and the scale of the potential cooperative approach, may:

- build trust between partners by allowing them to contextualise the cooperative approach in terms of their overall climate policy, NDC achievement, and economic transition; and
- demonstrate that the partner also shares your values (e.g. relating to undertaking domestic emissions reductions, or undertaking similarly stringent action); and
- provide an indication of potential environmental integrity and reputational risks – such as the cooperative approach potentially endangering a party's ability to meet their own NDC.

In addition, knowing the accounting treatment for mitigation and the level of action entailed by a partners' NDC may help cooperating partners to consider if this creates perverse incentives or risks to environmental integrity – and if so, how these might be mitigated.

Additional factors which may improve confidence in a potential partner

Climate policy context

Long-term plans

Amongst other things, the Paris Agreement sets an aim of net zero global emissions in the second half of the century. Alongside this, the Agreement sets two expectations for NDCs over time – that Parties will broaden (i.e. move towards economy wide targets) and deepen (i.e. take on progressively higher ambition) NDCs over time. NDCs are nationally determined; however poorly designed cooperative approaches have the potential to disincentivise these behaviours.

Countries that have established long-term low-emission development strategies or plans for NDC progression, may be better placed to demonstrate how cooperative approaches are consistent with (and do not undermine) their NDC, progression over time, or domestic low-emission development.

Disclosure of cooperative arrangements

Similar to what is described under the 'Clarity of the NDC' heading above, being able to disclose the full range and scope of cooperative approaches that a jurisdiction is considering/implementing will help potential partners assess risks. It can also contextualise and demonstrate how a specific cooperative approach is consistent with low-emissions development. One avenue for such disclosure may be through the prompt inclusion of any new activities or transfers in biennial reporting under the Enhanced Transparency Framework.

It is also worth noting that in some instances, Parties participating in separate cooperative approaches with the same partner might impact upon each other or indirectly cooperate (e.g. if X cooperates with both Y and Z). This reinforces the need for disclosure, and for all cooperative approaches to be conducted with integrity – to avoid unintended flow-on effects.

Government / business context

Other factors relating to 'good governance' may support confidence in a partner. These may include: transparent and publicly available information; ability to access official information; disclosure and management of conflicts of interest; fair process etc.

These factors also support environmental integrity by ensuring that information and decision making can be subject to scrutiny.

Theme 1: Partners' checklist

Checklist: factors relating to environmental integrity to address when two or more parties are considering cooperating together

<p>1A: Competence</p>	<p>What entity(s) in each jurisdiction have competence to:</p> <ul style="list-style-type: none"> – account for cooperative approaches (Article 6.2) at a Party level; – authorise cooperative approaches (Article 6.3) at a Party level; and – administer a mitigation programme. <p>What legal or institutional arrangements evidence that these entities have legal competence (e.g. statutory prescriptions, delegations)?</p> <p>How will these entities be involved in the proposed cooperative approach?</p> <p>What measures will ensure alignment between entities responsible for the accounting and authorisation of cooperative approaches and the administration of the mitigation programme?</p>
<p>1B: MRV</p>	<p>What systems will be in place to measure, report and verify relevant emissions?</p> <ul style="list-style-type: none"> – How transparent is the MRV approach? – How granular is the MRV approach? – What differences in MRV exist between partners? – How and when has the MRV system been reviewed or updated? When will this occur in future?
<p>1C: NDC</p>	<p>What do the partners' NDCs mean?</p> <ul style="list-style-type: none"> – Is the coverage of the NDC clear regarding: <ul style="list-style-type: none"> – sectors, sources and sinks – gases – timeframe – conditional vs unconditional aspects – What numbers, assumptions, projections, or methodological approaches underpin the NDC (e.g. reference point)? <p>Has each partner identified, planned, or communicated policies and measures to achieve its NDC?</p> <p>What is the scale of the proposed cooperative approach in relation to each NDC?</p>
<p>1D: Economic transition</p>	<p>Does each partner have a low emission development strategy, or other long-term plan or targets for mitigation?</p> <ul style="list-style-type: none"> – What does this say about the sectors in which the proposed cooperative approach may take place? – Is the proposed cooperative approach consistent with this plan?
<p>1E: Other cooperative approaches</p>	<p>Are the partners considering other cooperative approaches?</p> <ul style="list-style-type: none"> – Have partners disclosed whether they are considering or implementing other cooperative approaches (e.g. multilaterally)?

	<ul style="list-style-type: none"> - Can a partner disclose bilaterally whether they are considering other approaches? - If so what are the potential scale of these?
1F: Transparency and access to information	What factors support the ability to scrutinise information and decision making in each partner jurisdiction (e.g. transparent and publicly available information, ability to access official information)?
1G: Other	...

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Theme 2: Confidence in mitigation programmes

Description

This theme is about establishing confidence in the environmental integrity of a mitigation action and the generation of mitigation outcomes with environmental integrity. When we claim a tonne of mitigation and propose to transfer it internationally, our aim is to ensure that we have in fact achieved, and sustained, at least a tonne of mitigation.

There is a wide variety of mitigation actions that can reduce emissions or increase removals. Similarly, there is a range of different programmes that governments – or other entities delegated or authorized by a government – can put in place to ensure that these actions happen. Although the aim is always the same (for each tonne of mitigation that is claimed, at least one tonne of mitigation must have occurred) there will be different methods to achieve this depending on the nature of the programme.

Approach taken

This theme discusses general issues that affect all types of programme, then focuses on two specific types of mitigation programmes that are often considered for international markets – crediting programmes, and linked cap-and-trade schemes.

General issues

At a basic level, ensuring that a cooperative approach does not result in an increase in global emissions, requires certainty that the approach has achieved and sustained at least the claimed amount of mitigation. To have confidence in this, the mitigation that is claimed must be real, additional, and permanent. The activity should also not have resulted in emissions leakage beyond the activity.

Lastly, factors relating to programme governance and transparency can help to build confidence that mitigation delivered by the programme is credible.

Real

Mitigation must be real – that is to say that the mitigation outcome has actually occurred, and this is able to be proven. Claims that mitigation is real are supported by the ability to quantify, measure, and verify mitigation.

Quantifiability and **measurability** are about ensuring the right quantity of mitigation is claimed.

Verifiability relates to the ability for a third party to confirm with confidence that the mitigation outcomes claimed were, in fact, achieved as claimed.

Additional

Mitigation is additional if there is assurance that it is the result of one or more definable policy actions, and that it would not have occurred in the absence of those actions. Consequently, when we estimate the amount of mitigation that an action has achieved, we estimate it

relative to a counterfactual scenario in which the mitigation action did not occur, but everything else is the same as in the real situation. If an action does not deliver the claimed result, then the mitigation outcome would have occurred anyway due to other factors – and claiming it in the context of a cooperative approach would result in an increase in global emissions.

Assessing whether an action delivers additional mitigation is difficult, and the method of assessment needs to be tailored to the intervention logic of the programme (e.g. it may be different for crediting programmes vs linked emissions trading schemes).

Permanent

Permanence relates to the idea that a mitigation outcome has been sustained. However, 'permanence' is a misnomer – absolute permanence is not achievable. Nobody can guarantee that an action will never be reversed.

The risk of reversal is a prominent issue for emissions removals, for example, forest removals only lock up carbon until the wood burns or decays over time. However, other types of mitigation action might also be reversed.

Where there is a material risk of non-permanence measures should be in place to address this risk – for example, through making provisions to compensate if a mitigation outcome is reversed.

Prevention of leakage

Leakage refers to the idea that activities designed to reduce emissions in one location may lead to emissions increasing elsewhere. For example, if a forestry project protected an area of woodland so that a local community was no longer able to use the forest for building materials, they may start to deforest an adjacent unprotected forest.

The aim in preventing leakage should be to avoid a material increase in emissions elsewhere due to implementation of the mitigation project. However, if leakage is likely to occur there should be procedures in place to monitor the risk/occurrence of leakage and address this.

One way of addressing this issue is by using baselines, caps, or reference levels that aggregate emissions and mitigation activities (for example aggregation at a national level, would capture any shifts in activity from one sub-national area to another).

Programme governance and transparency

Decisions taken within programmes are key determinants in ensuring that only real, additional, and permanent mitigation is counted (and hence able to be transferred and accounted for).

Arrangements relating to governance and transparency of programmes can help to build confidence in decisions and confidence that mitigation delivered by the programme is credible. This is true for programmes administered by both Parties and non-Parties. In contrast, opaque decision making or a lack of information may mean that the environmental integrity of mitigation cannot be scrutinised and erode trust in the programme.

Factors relating to governance and transparency that may increase confidence in a mitigation include:

- public decision-making and/or statements of reasons;
- procedures to manage conflicts of interest for decision makers, staff and contractors;

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- the use of independent advice;
- transparent procedures for stakeholder input;
- record-keeping and procedures to enable access to records; and
- records of authorisations / competence for the programme.

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Theme 2.1: Crediting programmes

Description

A crediting programme offers something of value, or a 'credit', to private or public sector developers in return for carrying out projects or other activities that deliver emission reductions. A crediting programme would be expected to have its own detailed rules and developers must comply before they receive the credit.

Examples of crediting programmes include the Joint Crediting Mechanism (JCM) and the Kyoto Protocol flexibility mechanisms (CDM and JI). The Article 6.4 mechanism of the Paris Agreement may work in a similar way, while benefiting from lessons learned from these mechanisms. These policies started with the notion of credit for an individual project activity, and later they allowed the replication of project activities to create a programme of activities (POA).

The use of a crediting programme is often described as 'offsetting' – the credit is generated by one entity and transferred or bought to compensate for the emissions of another entity. However, offsetting other emissions is not an essential feature in crediting programs - a crediting programme may be a policy designed to achieve mitigation for its own sake, or as part of a domestic strategy to implement a NDC.

The requirements for a mitigation activity to be eligible under a certain crediting program are typically established by program authorities through detailed program rules and methodologies. In this context, a project activity is a mitigation action structured as a distinct project, with several features designed to allow assessment of the mitigation that it achieves. Typically, these include a:

- defined conservative baseline;
- assessment that the project delivers emissions reductions that are additional;
- finite crediting period; and a
- timeline to reassess the above.

Crediting programmes typically use a 'project cycle' for the proposal and implementation of a project activity.

- The proposed activity is transparently documented up-front (often using a rigorous methodology already approved by the crediting programme authority).
- The proposal is validated by independent experts.
- Contingent upon a positive validation, the project activity can then be approved for participation in the mechanism.
- The project activity is implemented in accordance with the approved methodology.
- The mitigation achieved throughout the crediting period is regularly reported.
- These reports are independently verified.
- Contingent upon positive verification, the project activity is provided credit for the mitigation achieved.

Where there is a material risk of non-permanence or leakage, ongoing monitoring and mechanisms to mitigate these risks may be necessary.

A Programme of Activity (POA) is the same except that there is no pre-determined boundary. The activity can be replicated or scaled up without any need to be documented and approved again, as long as it complies with the rules of the programme.

Summary of key issues for crediting programmes

Setting baselines and demonstrating that mitigation is additional

A key characteristic of a crediting programme is that the estimation of mitigation, and assessment that mitigation is additional is done with reference to a baseline. This means the rules and safeguards within the programme to set baselines are critical.

To ensure that mitigation is additional, the baseline should be conservative and timely (i.e. defined as a situation below current BAU). It is not acceptable to set a baseline that simply assumes the mitigation activity did not occur (as it may occur due to factors other than the crediting programme); this would not give any assurance that the resulting mitigation is additional.

Where possible, baselines should be set at as high a level of aggregation as possible (particularly where there may be risks of non-permanence or leakage).

A crediting programme may also only be partially responsible for mitigation that occurs within a project boundary (for example where more than one policy intervention with different objectives may contribute to achieving mitigation). In this situation, we can at best demonstrate the crediting programme has partially contributed to the outcome (and credit should only be provided accordingly). This requires using an appropriate method to attribute and proportion the mitigation outcomes to the different interventions.

Finite crediting periods and timeline for reassessment

Another key issue for crediting programmes is the crediting period. Crediting period refers to the time period over which a mitigation activity may be issued credit for mitigation. The length of a crediting period, including the possibilities of crediting period renewal, is determined by the crediting programme authorities.

A finite period is used and should not exceed the time period over which the baseline is expected to remain valid. This ensures that credit is not awarded for an activity that has become business-as-usual. A corollary of this is that renewing a crediting period requires re-evaluation of the baseline scenario to confirm the project continues to deliver additional emissions reductions.

Rules relating to crediting periods impact environmental integrity. A period that is too long increases the risk that credit is provided for mitigation that is no longer additional.

Project cycle

A particular crediting programme will have detailed rules for each stage of the project cycle and requirements for project implementers. In this section we set out our expectations about what such a rule set should contain.

Proposing an activity and getting approval

These stages help to establish that the project, and mitigation generated, is real and additional. To this end:

- Project proposals should be well planned and documented. This should include a robust and credible method for estimating mitigation, and a plan for monitoring and reporting.
- Prior to approval, the project must be demonstrated to achieve mitigation which is additional, and a conservative baseline must be set.
- The proposal should be independently validated.
- Transparency (this may include disclosure of information, public availability of methodologies, public or stakeholder input and consultation)

Implementing the project and reporting mitigation

- Implementation should be done in accordance with the project proposal.
- Monitoring of the project should occur throughout the crediting period (including monitoring of mitigation delivered, and ongoing monitoring of non-permanence and leakage risks where these are material).
- The results of monitoring should be reported regularly.
- Monitoring and reporting should be independently verified.
- Verification of the mitigation delivered is necessary prior to the disbursement of credit.

Variations on crediting programmes

Sectoral and policy-crediting approaches

Transformative mitigation action at scale will be needed to meet the mitigation goals of the Paris Agreement. Scaled-up crediting approaches, which go beyond project or POA level activities, may help to deliver mitigation at scale. Sectoral or policy-crediting approaches are two possible methods for doing this.

Sectoral approaches can be distinguished from project or programmatic approaches as they credit aggregate activity that occurs over a large number of GHG sources (e.g. all those found within a sector or subsector).

As an example, a sectoral crediting threshold could be set where a government requires a reduction of x% in emissions from a particular sector. The crediting threshold would then be set below both BAU and this x% reduction against BAU.

Policy crediting refers to the provision of results-based payments for mitigation outcomes generated by national policy measures. Policy crediting has not been attempted in practice to date, but early plurilateral work is underway through the World Bank's Transformative Carbon Asset Facility (TCAF) to support pilot policy-crediting approaches and test implementation with a view to replication and dissemination of lessons.

Key issues for sectoral and policy-crediting approaches

Setting baselines and demonstrating that mitigation is additional

It is likely to be easier to derive robust crediting baselines and demonstrate that mitigation is additional when NDCs are annual, absolute and contain explanation of any conditional elements.

A related issue arises from the fact that many Parties are currently in the early stage of identifying and modelling measures to meet their NDCs. Accordingly, it may currently be clear if a candidate-sector/policy might be necessary for meeting the NDC (i.e. whether mitigation delivered through the measure is additional). When considering engaging with such a partner, it may be worth considering additional measures to safeguard against regrets (e.g. by modelling the marginal abatement cost of competing measures sufficient to exceed the NDC beforehand).

Interaction with complementary policies

As discussed earlier, a crediting programme may only be partially responsible for mitigation. For scaled-up approaches the likelihood of this increases – there may be many overlapping complementary policies driving behaviour. This increases the difficulty of, and need for, robustly attributing and proportioning mitigation to different interventions.

Use of economic modelling

Particularly for policy-crediting approaches, baseline setting will likely require robust economic modelling. This may require developing new approaches to support baseline determination.

Further sources on crediting programmes and international cooperation

On scaled-up crediting approaches

- Partnership for Market Readiness, 2017. *Establishing scaled-up crediting program baselines under the Paris Agreement: Issues and options*.
<http://hdl.handle.net/10986/28785>
- Transformative Carbon Asset Facility, 2018b. *Programme development*.
<https://tcaf.worldbank.org/programs/program-development> (Accessed November 2018)
- Transformative Carbon Asset Facility, 2018b. *Core parameters*.
https://tcaf.worldbank.org/sites/tcaf/files/TCAF_Core%20parameters_July%202018.pdf

Theme 2.1: A crediting programme checklist

Checklist: factors to address when considering the environmental integrity of a crediting programme

<p>2.1A: Setting baselines crediting periods and determining whether mitigation is additional</p>	<p>How are baselines in the programme defined?</p> <ul style="list-style-type: none"> – What are they relative to – e.g. benchmarks, best available technology...? – Are the assumptions underlying the baseline transparent? – How are baselines updated over time and when? – What triggers a reassessment or update to a baseline? <p>How are crediting periods set?</p> <p>How is whether mitigation is additional assessed?</p> <ul style="list-style-type: none"> – How are other policy interventions taken into account? – Is this reassessed over time and when? – What triggers a reassessment of additionality?
<p>2.1B: Independent validation and verification</p>	<p>How is independent validation and verification conducted?</p> <p>How is independence assured?</p> <ul style="list-style-type: none"> – How are conflicts of interest managed? – What financial incentives are there for validators / verifiers? <p>What qualifications and/or technical competency are validators / verifiers required to have?</p>
<p>2.1C: MRV</p>	<p>How does MRV occur?</p> <ul style="list-style-type: none"> – How regularly does reporting occur?
<p>2.1D: Non-permanence</p>	<p>Is there a material risk of leakage? How is this assessed, and what measures address it?</p> <p>Is there a material risk of non-permanence? How is this assessed, and what measures address it?</p>
<p>2.1E: Programme approaches to avoiding double counting</p>	<p>What measures within the programme address double-counting (e.g. double issuance and double registration)?</p>
<p>2.1F: Sectoral and policy-crediting approaches</p>	<p>How does the programme model and measure the relationship between the programme's intervention and the mitigation outcome?</p> <ul style="list-style-type: none"> – How are other complementary policies taken into account? – How is the mitigation outcome attributed to different interventions?
<p>2.1G: Other</p>	<p>...</p>

Theme 2.2: Linked cap-and-trade schemes

Description

How cap-and-trade works

Cap-and-trade schemes are policy instruments that regulate emissions for a group of participants. In their most simple form, a regulator:

- places a cap on the emissions allowed under the scheme in a given period;
- distributes a number of allowances that correspond to the cap to entities covered by the scheme, through auctioning and/or free allocation;¹
- allows participants to exchange allowances; and
- requires regulated entities to surrender back a number of allowances equal to their actual emissions at the end of a specified compliance period.

In this way a cap-and-trade system establishes a legal limit of the total emissions of participants covered by the scheme. If the cap is stringent (i.e. below the total emissions expected from participants) and enforced, the system requires participants to reduce their total emissions to the cap.

How linking cap-and-trade schemes can drive emissions reductions

When two cap-and-trade schemes are linked, there may be a net flow of allowances from one scheme to another. Net unit flows are likely to occur when linked markets have different marginal abatement costs (for example due to different emissions or technology profiles).

A net flow of allowances from a jurisdiction means that these allowances are no longer available in that jurisdiction for participants in that scheme to surrender to cover their emissions. In this way, the link leads to the emissions of that jurisdiction being lower than the cap (in an amount equivalent to the net flow). Although the term 'additionality' is not often used in the cap-and-trade context, a net-flow of allowances from a scheme that has a stringent and enforced cap drives additional mitigation from entities covered by that scheme.

This chapter now focuses on factors relating to the scheme from which a net flow of allowances occurs. This is because this is the scheme where the additional emissions mitigation will occur.

Key environmental integrity issues for cap-and-trade schemes

A stringent cap

Establishing whether a cap is stringent requires clarity on what emissions are covered by the ETS.

¹ In all schemes each allowance has a quantified relationship to 1 tCO₂e. In most schemes this relationship is one allowance is equal to one tonne of CO₂e.

A cap is stringent if it is below the total emissions otherwise expected from covered entities. All other things remaining equal, the further the cap is below the expected emissions, the greater the confidence that a cap is stringent (analogous to a conservative baseline). Assessing whether a cap is stringent has three elements.

The first is projected emissions, which is forward looking. Robust, credible, and transparent projection methodologies will enhance trust in these projections.

After establishing confidence in the emissions projections, the next step is to establish confidence in the level of the caps – which corresponds to the headline supply of allowances in the scheme.

Lastly, allowances in a cap-and-trade system are distributed by a variety of means (free allocation, auctioning, reserves of units etc). The rationale for choosing particular methods will differ across jurisdictions. However, it is important to scrutinise these methods to assess the risk of any of them (either severally or in concert) breaching the headline supply.

For example, some methods may have ex-ante absolute limits. Others may have flexibility (e.g. to reduce auction volume if free allocation volumes increase). Regardless, it is important to understand if, how and when these methods might act/interact to supply more allowances to the scheme than the headline cap.

Enforcing the cap

Measurement and estimation of emissions

A key factor that contributes to the credibility of a cap-and-trade scheme is the ability to measure / estimate emissions from covered sectors. Strong MRV underpins the accurate measurement and estimation of emissions. However, different sectors and emissions sources may have different technical limits to accuracy. In addition, an ETS may be designed, for policy reasons, to allow inaccuracy – for example, a jurisdiction might use default emissions factors for some small participants (rather than require the same MRV as for large participants), in order to lower administrative burden and expand coverage.

Where there is inaccuracy in the measurement / estimation of emissions from a source, this should be adjusted for – for example by using conservative approaches that overestimate emissions from that source, or with buffers/reserves.

Compliance regime

Participants regulated under an ETS must comply with their legal obligations in order for the cap-and-trade scheme to be effective. Compliance regimes will vary between jurisdictions, and within a jurisdiction different tools may be used to target different types of non-compliance (for example, simple procedural errors vs non-surrender of units).

A compliance regime must have appropriate tools to promote and enforce compliance; and detect, deter, sanction and rectify non-compliance. These tools help to ensure that non-compliance with the obligations of the scheme do not undermine the cap and environmental outcomes of the scheme.

Additional factors that may need to be addressed

Stringency and enforcement of the cap are headline issues when considering whether the net flow of allowance from a cap-and-trade scheme causes additional emissions reductions within that scheme and therefore, whether this has environmental integrity. However, cap-and-trade

can be intricate, containing many policy levers within. Some of these design features may impact the environmental integrity of the scheme and the impact of a net-flow of allowances from it. Some of these features are listed below, along with explanation of the potential environmental integrity issues that may need to be addressed if a scheme has these features.

Price controls and quantity reserves

Price controls or quantity reserves can affect the availability of allowances within a cap-and-trade scheme (and therefore whether emissions reductions will be caused by the net flow of allowances from that scheme). All cap-and-trade schemes currently include some form of price control or quantity reserve. The potential risk one of these measures poses to the normal operation of a scheme is a function of both:

- how it operates (e.g. limited or unlimited volume, within or outside of a cap and, if outside, is it backed in anyway?)
- the likelihood of it being triggered (e.g. if price triggered, how far away from the trigger prices are market prices?)

Offsets

In some schemes covered entities may be allowed to use offsets to meet compliance obligations. Offsets must have environmental integrity, including when used within an ETS. Please see discussion under Theme 2, and 2.1 (crediting programmes).

Regarding offsets in cap-and-trade schemes - most emissions trading schemes that allow the use of offsets place both qualitative and quantitative limits on the use of offsets. By limiting the use of offsets to ones deemed to have integrity (or those which have integrity and support other objectives), parties can limit exposure to environmental integrity risks from offset programmes external to their scheme and guarantee a level of domestic emissions reductions.

Borrowing

Borrowing is a feature in some schemes – entities are given temporal flexibility to meet their emissions obligations by borrowing from future years' allocations to meet a current compliance obligation.

Borrowing can have the effect of deferring emissions reductions to a future date; and may create uncertainty about the reliability of the scheme to deliver emissions reductions in a given time period.

If borrowing is a feature of a scheme, the impacts of it on the cap and the ability to enforce a cap in a given time period need to be carefully thought through.

Exceptions to compliance

A scheme (or the broader legal framework) may legally allow participants to not meet compliance obligations under exceptional circumstances (e.g. force majeure or bankruptcy). The impacts of this on the integrity of the overall cap need to be considered - including both how these exceptions work, and the likelihood of them occurring.

Variations on cap-and-trade schemes

Non-cap-and-trade emissions trading schemes

Most established emissions trading schemes are based on the cap-and-trade model. However some schemes and proposals use alternate intervention logic, such as baseline-and-credit or output-based-pricing. If such schemes proliferate and are linked internationally it will be increasingly important to consider the environmental integrity issues specific to such schemes.

Hybrid pricing instruments

Carbon pricing instruments have often been discussed as either a price-based model (e.g. a carbon tax – which sets price but delivers an unknown volume of mitigation), or a volume-based model (e.g. a cap-and-trade scheme which sets emissions, but results in an unknown price). As noted earlier, some cap-and-trade schemes contain hybrid elements (i.e. price controls).

However, an emerging number of carbon taxes contain hybrid elements. In some of these monetary tax obligations can be met instead through the surrender of units representing emissions reductions. Other jurisdictions have chosen to implement their tax in such a way that the behind-the-scenes architecture either uses, or may facilitate the future use of, units.

Example - a Fixed-Price Credit-Based Mechanism

Carbon taxes can be designed to facilitate the use of international carbon credits.

Singapore is implementing a carbon tax from 2019 onwards with a Fixed-Price Credit-Based (FPCB) mechanism. In the initial phase, covered entities will purchase non-tradeable, fixed priced credits from the government.

Implementing a carbon tax in this way lays key building blocks (e.g. credit registry infrastructure) required to facilitate the use of international carbon credits and offsets, and the possible future linking of the carbon tax framework to external carbon markets. In addition, experience gained in the initial phase by covered entities will build capacity and may be able to be transferred, of in the future the tax framework is linked to external markets.

Linking of heterogeneous carbon pricing instruments

As emissions trading schemes and other forms of carbon pricing evolve, jurisdictions may adopt different forms of pricing and consider linking these. This might occur through the direct exchange of units between schemes, or indirectly (e.g. if two different pricing instruments draw from a common pool of units).

If direct links between heterogeneous instruments are considered and implemented, it will become increasingly important to consider the environmental integrity issues specific to different linkage types.

Further sources on emissions trading schemes and international cooperation

On cap-and-trade schemes

- International Carbon Action Partnership and Partnership for Market Readiness, 2016. *Emissions Trading in Practice: A handbook on design and implementation*.
https://icapcarbonaction.com/en/?option=com_attach&task=download&id=364

On linking cap-and-trade schemes

- International Carbon Action Partnership, 2018. *A Guide to Linking Emissions Trading Systems*.
https://icapcarbonaction.com/en/?option=com_attach&task=download&id=572

NOT GOVERNMENT POLICY OR PARTY POSITIONS

Theme 2.2: A linked cap-and-trade scheme checklist

Checklist: factors to address when considering the environmental integrity of a net flow of allowances between linked emissions trading schemes

2.2A: Coverage	Is the coverage of two schemes clear? – What emission sources do they cover?
2.2B: Cap	Does each scheme have a cap? Is the cap stringent? – Is the cap below the level of emissions expected from sources covered by the scheme? – Are these emissions projections credible? – Can the supply of allowances into each scheme be managed in line with the cap? – Can the supply of allowances breach the cap? – What is the risk (likelihood and scale) of this occurring?
2.2C: MRV	Are measurements and estimations of emissions robust? – How do MRV systems contribute to this? – Where there is inaccuracy (either technical or policy driven) are conservative approaches used?
2.2D: Compliance	What is the risk that non-compliance materially impacts the environmental performance of the schemes? – What is the scale and severity of known non-compliance? – Do regulators have appropriate tools to promote or enforce compliance? – Do regulators have appropriate tools to detect, deter, sanction and rectify non-compliance? – What gaps are there in the coverage of these tools?
2.2E: Price controls and quantity reserves	Do the schemes have a price control or quantity reserve? – What is the impact of this on the cap? – What is the likelihood of it being triggered?
2.2F: Offsets	Do the schemes allow offsets? – What quantitative limits are there on offsets? – How do these address offsets being real, additional and permanent? – What qualitative limits are there on offsets? – How does the use of offsets relate to the cap?
2.2G: Borrowing	Is there borrowing in either scheme? – How might this impact on the cap in a given period and future time period(s)? – Are there limits on this?
2.2H: Exceptions to compliance	Are there circumstances in which participants do not have to comply? – How does this impact on the cap?
2.2I Programme approaches to	What measures within the programme address double-counting (e.g. double issuance and double registration)?

avoiding double counting	
Theme 2.2: Other	...

NOT GOVERNMENT POLICY OR PARTY POSITIONS

Theme 3: Confidence in transfers

Description

This theme is about establishing confidence in the transfer of a mitigation outcome. This is considered in two sections:

- ‘Integrity of accounting’ – ensuring that the numbers that are accounted for are an accurate reflection of what occurred (i.e. of the environmental outcome achieved) and that this can be demonstrated.
- ‘Integrity of transfers’ – ensuring that transfers themselves are recorded, reliable, secure and authorised.

If either of these aspects fail, they can directly impact the environmental integrity of the transfer – through the double counting of a mitigation outcome, through accounting of mitigation that did not occur, or through inappropriate accounting (i.e. accounting in a way that does not reflect the environmental outcome).

Environmental integrity issues regarding transfers

Integrity of accounting

Robust accounting and the avoidance of double counting

Robust accounting is broader than the avoidance of double counting. Robust accounting should ensure that what is accounted is an accurate representation of what occurred (in this context, of the environmental outcome achieved). The application of robust accounting is likely to become more complicated the more dissimilar the NDCs involved are.

Simply, double counting means that one tonne of mitigation is claimed more than once (e.g. used by two different entities towards their emissions reduction targets).

In practice double counting could occur in a variety of ways, through double: claiming; use; issuance; or registration. In particular, guarding against double issuance/registration relates to the issue of legal competence (which entity or programmes are able to register or issue in a jurisdiction) and the transparency of information about programmes and mitigation activities.

EXPLANATORY BOX

Double counting

Double counting can occur in multiple ways; several are listed below. Double counting in any form allows a cooperative approach to increase global emissions. Therefore, double counting in all forms must be avoided.

- **Double claim** – when two or more entities claim the same mitigation outcome. This might occur by:
 - the originating Party (where the mitigation activity took place) transferring mitigation outcomes for use by other Parties towards their NDCs, without making a corresponding adjustment.
- **Double use** – when the same mitigation outcome is used two or more times. This might occur by:
 - two entities using the same mitigation outcome towards their NDC accounting; or
 - the same mitigation outcome is used towards targets in two different systems (e.g. achievement of an NDC, and compliance with CORSIA obligations).
- **Double registration** – when the same mitigation activity is registered in two or more different programmes (which may contribute to two different mitigation objectives).
- **Double issuance** – when credit is issued two or more times from the same mitigation outcome. Double issuance may occur as a result of double registration.

UNFCCC accounting for cooperative approaches

At the NDC level, Parties shall apply robust accounting to ensure, inter alia, the avoidance of double counting. The Paris Agreement work programme has a mandate to deliver guidance for this purpose. This guidance has not been finalised (as at November 2018), but satisfactory guidance, along with requirements for transparency, should enable robust and transparent accounting for cooperative approaches at a Party / NDC level.

Relationship between UNFCCC and programme level accounting

Actions within a mitigation programme may not automatically be reflected in accounting for NDCs. If Parties wish to claim mitigation delivered by programmes towards NDCs, they have to deliberately account for it. For these claims to have credibility there must be a clear link between: the accounting for a tonne of mitigation at the NDC level; and the achievement of (at least) a tonne of mitigation by a programme. This requires transparent, accurate and complete information.

Accounting for NDCs must be transparent, including when using markets. Regarding transfers, the numbers that show up when accounting for NDCs must be able to be traced back to actions at the programme level.

Features of programmes that may aid this traceability include unique identifiers and/or identifiers with embedded information (e.g. year, host country, authorisation, issuing programme, unit type, metric, methodology, mitigation action). Traceability may also be

facilitated by a robust registry system/tracking system that keeps/holds serialized mitigation outcomes/compliance units and tracks their movement from creation to final use and retirement.

Example - Use of Kyoto Protocol mechanism units towards emissions reduction targets

Project units issued under the Kyoto Protocol can be traced back to the project that generated them, and the methodology used in the design of this project.

When Parties met their Kyoto Protocol targets using project units, each unit could be traced to the mitigation action that generated them.

Ideally, cooperating partners will use the same metric, based on the most recent science (i.e. IPCC Assessment Reports). If Parties account using different GWP metrics, it is important that differences between metrics do not lead to the inflation of mitigation when it is transferred (i.e. where metrics differ, the lower metric should be used). This is needed to ensure the traceability of internationally transferred mitigation outcomes to actions within a programme, to not allow the apparent 'creation' of tonnes of mitigation via transfers, and to guard against gaming.

Integrity of transfers

The medium of transfer, and systems that allow access to transfer are key considerations for ensuring that transfers are recorded, reliable, secure, and authorised.

Similar to other non-carbon market arenas where assets are transferred, or contractual arrangements made (e.g. the electronic transfer of funds to a friend, or lodging a contract to buy a house with the government authority responsible for transferring title), there are a variety of ways carbon market transfers could be implemented. However, what is common across these different methods is that measures are in place to

- record and track;
- give clarity on legal status;
- prevent fraud; and
- limit access and the ability to transfer only those authorised to do so.

In essence, when we see a transfer (either at the time, or after the fact) we want to have confidence that this is legitimate – i.e. it has been done deliberately, with mutual agreement, by the entities that are authorised to do so, and that it is not the result of technical malfunction or miscommunication.

Features that may enhance confidence in the legitimacy of a transfer can include: notifications of transfers being undertaken; know-your-customer requirements; authentication of identity; reconciliation reporting; auditing; checks for unusual behaviours or transfers; IT security measures; IT transfer protocols and systems compatibility.

CASE STUDY**Registries**

A number of Parties have considerable experience designing, maintaining and using registry systems for carbon markets. Loosely, a registry is an IT data recording system in which holdings, transfers and cancellations of units can be recorded.

Typically registries allow for limitations to be placed on access and transfers, as well as being built with IT security in mind. The computerised nature of a registry allows information in it to be interrogated, and some tasks (such as identification of unusual transfers, or reconciliation of transactions) can be automated. The use of common specifications (e.g. the draft Data Exchange Standards) means many existing registries have some degree of compatibility.

A registry system is not strictly needed to facilitate transfers. For example, one can imagine that a cooperative approach involving a government-to-government arrangement that results in a single annual transfer. Measures could be put around this to ensure the accounting and transfer integrity of this approach, and a computerised registry may not be necessary.

However, as the number of actors or transfers involved in a cooperative approach increase, a computerised registry system is likely to become an attractive solution. For example, while an ETS could function like a pre-computer stock exchange, all ETS use computerised registry systems.

NOT GOVERNMENT POLICY OR PARTY POSITIONS

Theme 3: A transfers checklist

Checklist: factors to address when considering the environmental integrity of a net flow of allowances between linked emissions trading schemes

3A: NDC accounting guidance	Will transfers of mitigation outcomes be accounted for in accordance with UNFCCC guidance? <ul style="list-style-type: none"> - What systems are in place to ensure this? - How and when will corresponding adjustments be made?
3B: Avoidance of double counting	How is double counting avoided? <ul style="list-style-type: none"> - How is double claiming avoided? - How is double use avoided? - How is double issuance avoided? - How is double registration avoided?
3C: Traceability of NDC accounting	Can NDC accounting be traced back to programme-level actions? <ul style="list-style-type: none"> - How are programme level actions aggregated into NDC accounting? - How can NDC accounting be traced back to programme level actions? - Is information transparent, accurate and complete? - What features (such as unique identifiers) allow information to be traced?
3D: Secure and reliable transfers	How do transfers occur? <ul style="list-style-type: none"> - What systems are in place to ensure transfers are recorded, reliable, secure and authorised by the participating Parties? - What data recording systems are used (e.g. a registry)?
3E: Other	...

References

Environmental Defense Fund framework

Environmental Defense Fund, 2017. *Environmental integrity of cooperative approaches in a “bottom-up” world*.

http://www.minambiente.it/sites/default/files/archivio/allegati/sviluppo_sostenibile/g7_cmp_keohane_edf_2017_09_28_rome.pdf

Resources

On scaled-up crediting approaches

Partnership for Market Readiness, 2017. *Establishing scaled-up crediting program baselines under the Paris Agreement: Issues and options*. <http://hdl.handle.net/10986/28785>

Transformative Carbon Asset Facility, 2018b. *Programme development*. <https://tcaf.worldbank.org/programs/program-development> (Accessed November 2018)

Transformative Carbon Asset Facility, 2018b. *Core parameters*. https://tcaf.worldbank.org/sites/tcaf/files/TCAF_Core%20parameters_July%202018.pdf

On cap-and-trade schemes

International Carbon Action Partnership and Partnership for Market Readiness, 2016. *Emissions Trading in Practice: A handbook on design and implementation*. https://icapcarbonaction.com/en/?option=com_attach&task=download&id=364

On linking of cap-and-trade schemes

International Carbon Action Partnership, 2018. *A Guide to Linking Emissions Trading Systems*. https://icapcarbonaction.com/en/?option=com_attach&task=download&id=572

Appendix A – The Ministerial Declaration on Carbon Markets

Ministerial Declaration on Carbon Markets

We warmly welcome the Paris Agreement and its recognition of voluntary cooperation between Parties in delivering their nationally determined mitigation contributions. We highlight the important role that international market mechanisms will play in enhancing mitigation ambition and facilitating the delivery of mitigation contributions under the Paris Agreement. We are committed to environmental integrity, transparency and the avoidance of double counting when market mechanisms are used. Through this declaration we want to send a clear signal to the global carbon market and provide certainty that there is an important role for markets in the post-2020 period.

We will work together to ensure the development of standards and guidelines for the environmental integrity of international market mechanisms used towards nationally determined mitigation contributions. We are committed to the timely delivery of these standards and guidelines, which we will encourage other Parties to support and apply, to complement the Paris Agreement and with the ultimate aim of strengthening action under the United Nations Framework Convention on Climate Change.

Declared in Paris on this 12th day of December 2015

For and on behalf of:

Australia
Canada
Chile
Colombia
Germany
Iceland
Indonesia
Italy
Japan
Mexico
Netherlands

New Zealand
Panama
Papua New Guinea
Poland (joined 2018)
Republic of Korea
Senegal
Singapore (joined 2017)
Ukraine
United States of America
United Kingdom (joined 2016)



Appendix B – 2017 work on principles for environmental integrity in international carbon markets

Plain language	Principle – general language	Principles - UNFCCC jargon	Variants on principles
<i>The use of international carbon markets allows for higher ambition in climate change mitigation and adaptation action.</i>	<ul style="list-style-type: none"> Each tonne of emissions reductions / removals that is transferred must have resulted from, or have triggered, a real and lasting reduction / removal of at least one tonne in the transferring country. 	<ul style="list-style-type: none"> Each tonne of internationally transferred mitigation outcomes (ITMOs) must have resulted from, or have triggered, a real and lasting reduction / removal of at least one tonne in the transferring Party. ITMOs must be additional, and able to be quantified, measured, and verified. 	<ul style="list-style-type: none"> The transfer and use of ITMOs must not result in an increase in global emissions The use of carbon markets leads to greater volumes of emissions reductions than a world without these markets. ITMOs must be verifiable and permanent, and result from real scarcity or be additional, as appropriate.
<i>What we trade is real and we can prove it.</i>	<ul style="list-style-type: none"> Emissions reductions / removals that are transferred must be additional, and able to be quantified, measured, and verified. 	<ul style="list-style-type: none"> Conservative approaches must be used when estimating ITMOs 	<ul style="list-style-type: none"> Estimation of emissions reductions is done using robust methodologies.
<i>We avoid overestimation, as this could lead to an increase in global emissions.</i>	<ul style="list-style-type: none"> Conservative approaches must be used when estimating emissions reductions / removals. 	<ul style="list-style-type: none"> Conservative approaches must be used when estimating ITMOs 	<ul style="list-style-type: none"> Estimation of emissions reductions is done using robust methodologies.
<i>We track and account accurately and openly. This helps to ensure and demonstrate that there is no double counting.</i>	<ul style="list-style-type: none"> The transfer, use, cancellation, and banking of emissions reductions / removals must be tracked and accounted for accurately, transparently, and in a timely manner. 	<ul style="list-style-type: none"> ITMOs must be tracked and accounted for accurately, transparently, and in a timely manner. 	<ul style="list-style-type: none"> Parties that cooperate share accountability... Parties that cooperate share responsibility for ensuring environmental integrity of ITMOs.
<i>Both Parties involved in transfers have a stake in, and a duty to ensure environmental integrity.</i>	<ul style="list-style-type: none"> Parties that cooperate share responsibility for ensuring the environmental integrity of their transfers of emissions reduction / removals and the mitigation activities these result from. 	<ul style="list-style-type: none"> Parties that cooperate share responsibility for ensuring the environmental integrity of ITMOs. 	<ul style="list-style-type: none"> Parties that cooperate share accountability... Parties that cooperate share responsibility for ensuring environmental integrity and this is demonstrated to the CMA.

Material for discussion – draft principles to support environmental integrity

Environmental integrity is key to effective international carbon markets. Standards and guidelines are necessary to ensure environmental integrity, and these should be based upon principles: meaningful, clear and accessible guiding statements.

This material is not the position of any Party. It does not represent the views of the countries of the Ministerial Declaration on Carbon Markets (the Declaration) either jointly or severally, neither is it endorsed by Ministers. This material may be incomplete, and non-exhaustive.

We are releasing this material as a technical contribution to stimulate conversation on this important topic. It has been prepared by officials from some but not all of the Declaration countries following informal discussions on environmental integrity in carbon markets.

The principles on the right are organised into five rows, and start with a plain language expression of the key concept we want to capture. To the right are multiple expressions of the concept, nuanced in different ways which show a range of thinking - some used generalised language, some are explained in UNFCCC terms etc.

We see value in broadening the conversation on environmental integrity. We welcome and look forward to views on this material from others, including views on what is missing from it.