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SD-Benefits in Future Market Mechanisms under the UNFCCC

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SD-Benefits in Future Market Mechanisms under the UNFCCC

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Kurzbeschreibung

Dieses Vorhaben untersucht für das Umweltbundesamt die Möglichkeit, die Rolle von Nachhaltigkeitszielen in den zukünftigen Marktmechanismen unter der UNFCCC zu stärken. Die Ergebnisse des Vorhabens sollen Eingang in die öffentliche Debatte finden um interessierten Parteien bei der Meinungsbildung zum laufendem Prozess zu unterstützen, insbesondere in Bezug auf den Artikel 6. Die Arbeit ist dabei in drei Teile gegliedert: Im ersten Teil werden die Positionen relevanter Akteure in den Debatten zur Ausgestaltung existierender und zukünftiger Marktmechanismen diskutiert. Der zweite Teil beschreibt die Barrieren für die Integration der Nachhaltigkeitsziele sowie mögliche Lösungen dieser Hindernisse. Schließlich werden Empfehlungen für Entscheidungsträger in Entwicklungsländern (Teil 3) erarbeitet.

Abstract

This research project assesses possibilities for enhancing the role of SD-benefits in the context of activi-ties supported by future market mechanisms under the UNFCCC. It can contribute to the public debate, and may also assist parties and observers to engage with the ongoing negotiation process regarding the Paris market mechanisms. The project is divided into 3 parts: Part 1 identifies the prospects for sustain-able development in the debate on market mechanisms, while Part 2 focuses on barriers for the integra-tion of SD-benefits and possible solutions. Furthermore, the project provides recommendations and guidance for policy makers in prospective host countries (in part 3).

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Abbreviations

ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AE	Accredited Entity
AIPP	Asia Indigenous People Pact
ALBA	Bolivarian Alliance for the Peoples of Our America
BUR	Biennial Update Report
CA	Cooperative Approaches
CA	Cooperative approaches according to Art. 6.2 UNFCCC
CCBA	Climate, Community & Biodiversity Alliance
CCBS	Climate, Community & Biodiversity Standard
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CMIA	Climate Market & Investment Association
CO_2e	Carbon Dioxide Equivalent
COMIFAC	Commission des Forêts d'Afrique Centrale
COP	Conference of the Parties
DFI	Development Finance International
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board (of the CDM)
EIG	Environmental Integrity Group
ETS	Emissions Trading System
EU	European Union

FCPF	Forest Carbon Partnership Facility
FCS	Fairtrade Climate Standard
FREL	Forest Reference Emission Levels
FTEM	Forest Trend Ecosystem Marketplace
FVA	Framework for Various Approaches
GCF	Green Climate Fund
GHG	Greenhouse Gas
GS	Gold Standard
ICROA	International Carbon Reduction and Offsetting Alliance
IE	Implementing Entity
IETA	International Emissions Trading Association
IFC	International Finance Corporation
IFI	International Finance Institutions
IISD	International Institute for Sustainable Development
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
IRM	Independent Redress Mechanism
IT	Information Technology
ITMO	Internationally Transferred Mitigation Outcomes
JI	Joint Implementation
KP	Kyoto Protocol
LDC	Least Developed Country
LEDS	Low Emission Development Strategies

LoA	Letter of Approval
MATA CDM	Multi-Attributive Assessment of CDM Projects
MDG	Millennium Development Goals
MM	Mechanism to contribute to mitigation and support sustainable development according to Art. 6.4 UNFCCC
MRV	Measurement, Reporting, Verification
NAMA	Nationally Appropriate Mitigation Actions
NCB	Non-carbon Benefits
NDA	National Designated Authority
NEFCO	Nordic Environment Finance Corporation
NGO	Non-Governmental Organisation
NMM	New Market Mechanism
ODA	Official Development Aid
OWG	Open Working Group
PDD	Project Design Document
PMR	Partnership for Market Readiness
PoA	Programme of Activities
REDD	Reducing Emissions from Deforestation and Forest Degradation
REDD+	Reducing Emissions from Deforestation and Forest Degradation including enhancement of forest carbon stocks
SBSTA	Subsidiary Body for Scientific and Technical Advice
SCS	Social Carbon Standard
SD	Sustainable Development
SDG	Sustainable Development Goals

SDM	Sustainable Development Mechanism
SEA	Swedish Energy Agency
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP DTU	United Nations Environment Programme (UNEP) Collaborating Centre comprising of two Centres: Centre on Energy, Climate and Sustainable Development, and the Copenhagen Centre on Energy Efficiency.
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
W+	WOCAN Plus: Women Organizing for Change in Agriculture & Natural Resource Management
WOCAN	Women Organizing for Change in Agriculture & Natural Resource Management

Executive Summary

Background

Market mechanisms for climate change mitigation have had a mixed record with regard to sustainable development in the past: while the Clean Development Mechanism (CDM) has mobilized many highly beneficial projects and programs in developing countries, it has at the same time been criticised by NGOs and media for a lack of a rigorous approach to foster sustainable development. Indeed, some projects were seen as problematic as host country approval bodies apparently did not check whether they provide sustainable development benefits at all, or whether their implementation was consistent with plans submitted to the regulatory bodies at UN level. This affected the public perception of the CDM and led to emergence of import barriers for reduction credits and contributed to a multi-year stalemate in negotiations on new market mechanisms.

Rather unexpectedly, negotiators of the Paris Agreement were able to agree on two new market mechanisms in a dedicated article of the Agreement: a mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development (SDM) was established in Art. 6 paragraph 4[1] and Cooperative Approaches (CAs) are foreseen in Art. 6 paragraph 2. Their rules need to be defined in the next years. There is now a window of opportunity not to repeat mistakes made in the context of the Kyoto Mechanisms and to put the Paris Mechanisms on a robust footing with regard to their sustainable development benefits. A market mechanism based on a set of internationally recognized sustainable development goals and indicators is more likely to deliver a continuous revenue stream in the long-term than a mechanism which leads to a race to the bottom with regard to sustainable development and thus scares off potential credit buyers. Assuring international comparability of sustainable development assessments under the Article 6 mechanisms will bolster demand as buyers will not only be buying greenhouse gas mitigation credits but credibly contribute to sustainable development. Enhanced guidance coupled with capacity building for assessment of sustainable development components of activities can also positively spill over to host countries' ability to secure international climate finance thanks to strengthened capability to demonstrate beneficial outcomes from planned mitigation initiatives. Also, the recent adoption of the SDGs provides a unique opportunity to further streamline and align efforts under the Paris Agreement with other international agreements and initiatives that promote sustainable development.

This research project assesses possibilities for enhancing the role of SD-benefits in the context of activities supported by future market mechanisms under the UNFCCC. It can contribute to the public debate, and may also assist parties and observers to engage with the ongoing negotiation process regarding the Paris market mechanisms. The project is divided into 3 parts: Part 1 identifies the prospects for sustainable development in the debate on market mechanisms, while Part 2 focuses on barriers for the integration of SD-benefits and possible solutions. Furthermore, the project provides recommendations and guidance for policy makers in prospective host countries (in part 4).

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[1] Many analysts of the Paris Agreement and actors involved in the market mechanisms debate, including the World Bank (Widge 2015), the Centre for European Policy Studies (Marcu 2016), Norton Rose Fulbright (2015) and PwC (2015) use the term Sustainable Development Mechanism. This is also echoed by documents from government agencies, including the German Ministry of Environment (BMUB 2015, 2016). Recently, attempts emerged to introduce new terms because some stakeholders do not like the focus on SD implied by the name SDM. IETA (2016, p. 8) wants to use "Emission Mitigation Mechanism" arguing that the Paris Agreement "requires SD as desired co-benefit of emissions mitigation which is the principal purpose of the mechanism".

Positions on SD-benefits

The sustainable development concept plays an important role in the debate on designing GHG mitigation instruments. Pro- and contra views on measuring SD-benefits are summarized below for the individual mechanisms assessed in this study.

In the context of the **CDM**, civil society organisations frequently demand greater international oversight over SD results, while host countries insist on their sovereignty in defining SD criteria and evaluation approaches. Buyers and Annex I countries were largely in support of monitoring SD-results through e.g. the SD tool developed by the UNFCCC Secretariat. On the other hand, civil society organizations criticize that in absence of multilateral oversight on SD many countries would water down SD concerns and the market would be weakened by a fragmented SD approach. Overall, there seems to be a trade-off between national determination of SD-benefits, mobilization of vast mitigation potentials and rigorous fostering of SD-benefits among project-based market instruments.

Given that the **voluntary markets'** selling point is in the demonstration and verification of SD-benefits of project-based emissions reductions, SD is treated more stringently in this market. Here, buyers are supporting efforts required to demonstrate and verify SD-benefits by voluntarily paying a price premium compared to credits sold on the compliance market. Reknown standard organisations have been the drivers to continuously develop new approaches to measure and ensure SD-benefits and they have long been calling for enhanced collaboration between development- and climate agencies. While buyers and project developers in the voluntary markets are somewhat concerned that mandatory SD-benefits assessments could introduce additional costs or complexity, which would lower the attractivity of projects, they are generally in favour of a common procedure on assessing SD. Most are of the view that – also going forward – there should be room for a voluntary market, in which players can define the level and quality of SD results and assessments.

Many host country governments which implemented **NAMAs** see their national mitigation actions in the context of their own development agenda. Certain donor agencies already ask for some demonstration of SD aspects in funding proposals. In contrast, most climate finance donor countries focus on GHG mitigation, and see SD impacts as secondary. These contrary interests contributed to the difficulties in funding and implementing NAMAs. It appears that host countries want to avoid interference between the mitigation-SD-benefits discussion and development assistance. It is important to bear in mind that the landscape of NAMAs is very heterogeneous and expectations and efforts regarding the assessment of SD-benefits or SD contributions is highly divergent between different countries and financiers.

Many countries perceive the so-called Non-Carbon-Benefits (NCB) as a very important element of **REDD+** activities. This is reflected in the Warsaw Framework for REDD+, which recognized the important role of NCB "for the long-term sustainability" of REDD+ activities. NGOs (e.g. Tebtebba 2014, International Work Group for Indigenous Affairs (IWGIA et al. 2014)) have highlighted the need to involve local and indigenous communities and to ensure their land rights. Some countries (e.g. COMIFAC countries 2014) wanted NCB to be included in requirements for results based payments. Certain countries (e.g. China, Japan) see the need for REDD+ to keep its main focus on carbon benefits, while recognizing the importance of NCB. Countries such as Brazil and Malaysia did however not want NCB to become a requirement for result based payments due to their added complexity. The decision on NCB taken at COP21 recognizes the necessity to base SD-benefits rules on national circumstances and invites countries to provide information on NCB and potential related funding needs. Once these communications on NCB emerge, they will provide further information on how countries address and report NCB. The previous discussion on results-based payment and whether or not NCB asssessments should be required or not could also become relevant in other contexts of the climate regime.

SD plays an important role under the **GCF** and is also reflected in the governing instrument of the GCF; stakeholders and member parties emphasize SD impacts. In late 2015, there were no specific indicators on a programme level for SD-benefits, but this can be decided upon on a case-by-case basis. Experiences from the first projects in measuring SD impacts might hence provide new input to the discussion. The discussion on SD potential and the link to a paradigm shift could also become relevant in other areas of the climate regime.

Under the **Partnership for Market Readiness (PMR)**, so far SD-benefits are not a major focus; technical groups are, however, exploring the topic.

There is a general understanding among observers to the negotiations that in the **future market mechanisms under the UNFCCC** SD-benefits will be slightly more important than in the past mechanisms. The Article 6 of the Paris Agreement highlights the need to promote SD results, but does not provide further specification of the basic rules on how to address it. Voluntary carbon market stakeholders generally are in favour of stronger SD provisions, also from future UN mechanisms. Some parties are notoriously opposed to any market instruments (most notably the ALBA negotiation group) and some (e.g. China and India) are opposed to multilateral market mechanism. Host countries are likely to insist on retaining souvereignty rights for defining SD for activities within their territories, which points towards a framework of treating SD in a rather generic or decentralized manner. Also compliance carbon market project developers oppose overly stringent provisions on SD to limit complexity and costs. The debate might become more lively over the course of negotiations as rules, modalities, procedures and guidance for Article 6 need to be elaborated. The past debate on market instruments pre-Paris has shown that SD criteria will probably be defined at the host country level but under some more stringent guidance and following a defined institutional procedure.

In summary, positions for- and against a more rigorous approach to SD are:

- Arguments **against a rigorous approach toward** SD-benefits come from:
  - **Stakeholders in carbon markets**, mainly buyers of certificates for the compliance market, who fear that overly stringent rules limit the attractiveness of a mechanism and effectively limit its mitigation potential.[2] Arguments here comprise the increasing complexity of market mechanisms, the trade-off between GHG emission reduction and SD-benefits, and the need to focus on core elements of mechanisms (i.e. GHG reduction);
  - **Host countries,** which claim their souvereignity rights of defining sustainable development within their territory. This includes also the conviction that SD needs to be driven at the local level and cannot be imposed from the outside[3].
  - **Host countries** that do not want a discussion on SD-benefits to intersect too much with current levels of development assistance, as one argument is to tap additional finance for SD-benefits from funding sources beyond the carbon market (such as climate finance or ODA budget). This aspect has been a contentious aspect in the negotiations.

[2] See for instance Interviews No. 1,2, 3, 11,13,14.

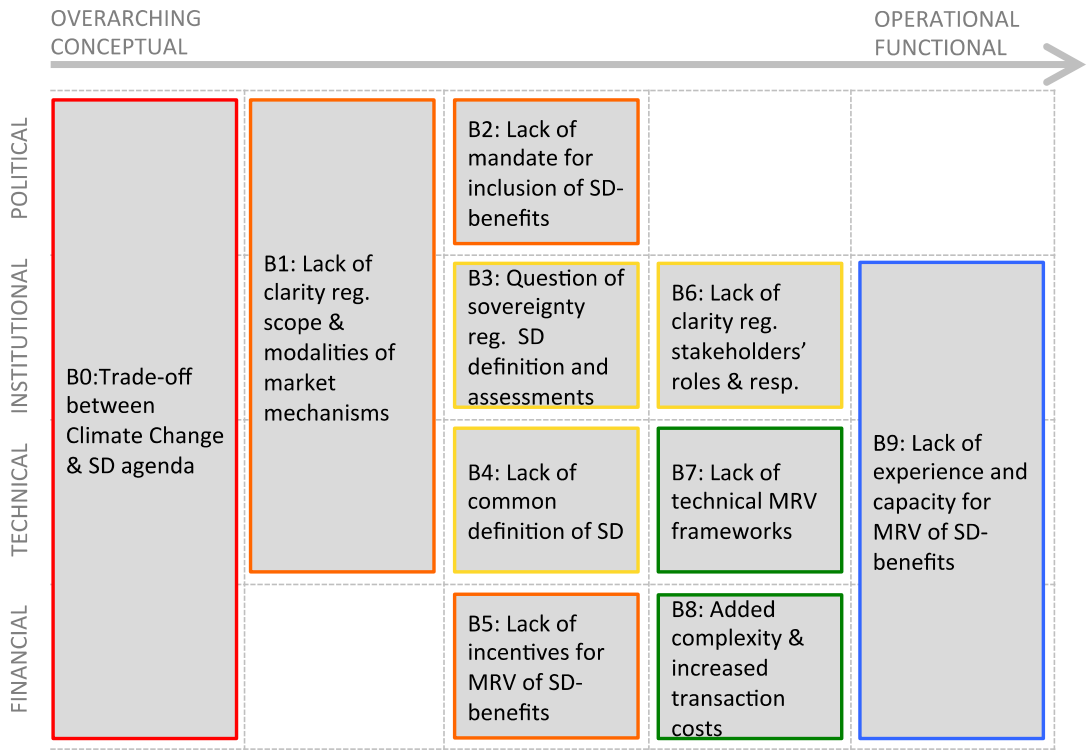
[3] See e.g. interviews No. 8, 9, 11.

- Major **support** for a **more rigorous approach to** SD-benefits comes from:
  - **Stakeholders in the voluntary markets**, mainly project developers and regulators, who have a comparative advantage in SD assessments and/or (perceived) high SD projects[4];
  - **Buyers in the voluntary markets**, who would like to access high-SD projects for showcasing corporate sustainability efforts;
  - **Civil society representatives** such as environmental NGOs or local communities, who see a clear benefit in moving beyond the pure carbon impact of market mechanisms[5];
  - Some potential **financiers/donor agencies** of non-market based mitigation action seeking greater transparency and lower risk exposure of prospective mitigation investments[6].

Barriers to integration of SD benefits under market-based mechanisms

Through a structured and iterative process drawing on literature review, interviews and the authors' expert judgment, 10 barriers have been identified that currently limit the consideration of SD-benefits in existing climate policy instruments.

Figure 1: Landscape of barriers according to type and cluster



Source: Authors

[4] See interviews No. 10 and 12.
[5] See interviews No. 6 & 7.
[6] See interview 3 and 7.

The landscape of identified barriers (Figure 1) shows a gradual transition from overarching and conceptual challenges to more operational and functional ones, whereas the first group has more political and institutional barriers and the second one more technical and financial barriers. The barriers are grouped into five color clusters of closely related barriers. To tackle them, it is suggested to follow a logical sequencing from one cluster to another (from the left to the right), starting with:

1. the almost philosophical trade-off between dual goals of climate change mitigation and sustainable development (B0);
2. the question on why and for what purpose SD-benefits should be assessed in the first place (orange cluster with barriers B1-B2;B5);
3. the question on the definition of SD and the stakeholder group entitled to determine this definition (B3-B4;B6);
4. questions on how to measure SD-benefits and respective transaction costs (B7-8); and
5. challenges related to the lack of experience and capacity in assessing SD-benefits (B9).

This sequencing implies that it does not make much sense to try to address the more functional/operational challenges without solving the overarching, usually more difficult, conceptual issues, which are mainly of political and/or institutional nature.

Despite the overarching nature of barrier B0 "Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development", addressing it, is not regarded as a pre-condition to tackle the additional nine barriers. However, general awareness raising and facilitation of dialogue among stakeholders under UNFCCC and the development cooperation community about the synergies of climate change mitigation/adaptation and SD-benefits would be helpful.

Barrier B3 on the "Question of sovereignty regarding the definition and assessment of sustainable development" is regarded as the politically most challenging and contentious barrier, followed by other fundamental barriers (B1, B2 and B5) around the basic purpose and function of SD-benefits under UNFCCC market mechanisms. These four barriers, along with barrier B4 about the "Lack of a common definition of SD", represent the five key barriers that would require an extensive dialogue at the UNFCCC level in order to bridge diverging views and reach a political solution.

Solutions to promote integration of SD-benefits

The analysis of potential solutions suggests that SDGs could become a key instrument and provide an overall solution for more inclusion of SD-benefits, which can affect several barriers at once. In general, SDGs are seen as a legitimate instrument as their definition and design were developed and adopted by developing and developed nations together. A binding top-down SD-assessment framework based on indicators derived from the SDG process and respective SD-safeguards would be the most straightforward solution, but is likely to face strong political resistance. A more flexible approach of non-binding guidance criteria based on a modular definition of SD (based on SDGs) would allow countries to prioritise the indicators that are most important to them. This would probably be a politically more feasible solution. In addition to a standardised SD MRV framework, differentiated levels of MRV stringency (e.g. third party verification vs self-assessments) depending on project type and/or size could facilitate cost-efficiency. Also, more high level solutions such as facilitating an international dialogue and raising awareness about SD-benefits should be promoted.

The barriers are strongly connected to the various motives of stakeholder groups. A first step in tackling these barriers is to understand the main motivations of key stakeholder groups in relation to SD benefits and try to find a common denominator for inclusion of SD benefits. Hence, it is central to identify the most feasible solution approaches for the inclusion and strengthening of SD-benefits and to mobilize

the responsible entities and stakeholders willing to implement them. Given the nature of the more fundamental and political cluster of barriers, it will be crucial to test the political will to compromise and agree on certain fundamental principles regarding SD assessments.

The analysis also emphasizes that some barriers and respective solutions could be of benefit beyond the UNFCCC market mechanisms and therefore could stimulate potential co-funding or other aligned interests from stakeholders other than UNFCCC parties. However, this might be difficult, as the interaction with relevant stakeholder groups underscores that SD-benefits are not at the core of the debate at the moment.

Recommendations for policy makers

While in the context of market mechanisms, the focus of attention is often on mitigation impacts, sustainable development is a key priority for prospective host countries. Both the Paris Agreement and the 2030 Agenda for Sustainable Development, under whose umbrella the Sustainable Development Goals (SDGs) have been formulated, call for a greater harmonization of these complementary goals. In order to design and operate the mechanisms established in Article 6 of the Paris Agreement with a high degree of legitimacy, the mechanisms' design ought to ensure that activities supported by market instruments effectively promote – or at the very least do not harm the sustainable development of participating countries. Moreover, the development of mitigation activities with high sustainable development benefits should be incentivized sufficiently, by transparent rules and internationally comparable assessment approaches and a reliable and fair price for credits as determined largely by industrialized countries' level of ambition and their willingness to include mitigation actions not within their own borders as part of their NDC.

The process to define the operational rules for the Paris Agreement has begun. Thus, there is a window of opportunity for working towards a robust role of sustainable development in market mechanisms. We recommend taking action early on in the UNFCCC negotiations to ensure swift development and agreement on international guidance for cooperative approaches as per article 6 paragraph 2 as well as the rules, modalities and procedures for the mechanism established by article 6 paragraph 4. These regulatory documents will be key for the operationalization of these mechanisms. They are to be developed by the SBSTA and should according to the Paris decision be adopted by the CMA at its first session. These documents should envisage striking a credible balance between the various interests of market mechanism stakeholders, ranging from achieving mitigation at lowest possible cost to maximizing co-benefits at a given carbon price. In addition, possible linkages to "a framework for non-market approaches to sustainable development" as defined in Art. 6.9 could be explored.

In order to achieve these objectives, we recommend a step-wise approach:

- **First**, we recommend a round of reflection within Parties and Observers on their views and to formulate a clear position on the policy design questions posed in this study on the possible international rules both for ex-ante and ex-post assessments of sustainable development impacts of activities supported by market mechanisms.
- **Second**, we recommend developing a strategy to promote this position among Parties with similar interests as well as country groups or non-governmental organizations and beyond. The aim should be to achieve an internationally accepted understanding of what constitutes sustainable development. This could include building on the SDGs.
- **Third**, we recommend a proactive engagement with a second set of countries and institutions involved in the UNFCCC negotiations (including multilateral development banks), which may be less closely aligned, but still share the objective of strengthening the integrity of market mechanisms. This could be done by forming a high-quality coalition on mitigation market

mechanisms or cooperative approaches building on existing platforms such as the G7 Carbon Market Platform.

- **Fourth**, we recommend to test the proposed framework design by applying the ruleset in a number of pilot activities in order to further refine the framework and develop tools and methodologies for assessing sustainable development benefits.
- **Fifth**, we recommend to refine the proposed framework by iteratively aligning processes, methodologies etc. on sustainable development with similar efforts under other international processes such as the operationalization of the SDGs.

Zusammenfassung

Hintergrund

Marktmechanismen als Instrument zur Eindämmung des anthropogenen Klimawandels unter der UNFCCC weisen hinsichtlich ihrer Nachhaltigkeitseffekte bislang starke Unterschiede auf: Während der Clean Development Mechanism (CDM) viele Aktivitäten in Entwicklungsländern ermöglichte, wurde er zur gleichen Zeit wegen schwacher Vorgaben zur Nachhaltigkeit insbesondere seitens der Zivilgesellschaft und von den Medien kritisiert. In der Tat können einige Projekte als problematisch eingestuft werden, da die entsprechenden Institutionen in den Gastgeberländern die Nachhaltigkeitseffekte offenbar nicht prüften, sowie zum Teil Inkonsistenzen mit bei der UN eingereichten Dokumenten vorlagen. Dies beschädigte die Glaubwürdigkeit des CDM, führte zu Importbarrieren von CERs und trug auch zu einem Jahre andauernden Stillstand der Verhandlungen über neue Marktmechanismen bei.

In den Verhandlungen zum Übereinkommen von Paris (PA) konnte man sich in Artikel 6 unverhoffter Weise auf zwei neue marktbasierte Instrumente einigen. Artikel 6.2 bietet den Vertragsstaaten des PA die Möglichkeit, international übertragbare Minderungsergebnisse (internationally transferrable mitigation outcomes – ITMOs) zum Erreichen ihrer nationalen Klimaschutzziele zu nutzen. Artikel 6.4 definiert einen zentral organisierten Mechanismus für nachhaltige Entwicklung (von einigen Beobachtern bereits Sustainable Development Mechanism, SDM, getauft). Das Regelwerk für diese Mechanismen muss in den kommenden Jahren ausformuliert werden.

Hier bietet sich nun die Gelegenheit die Erfahrungen der Kyoto-Mechanismen zu reflektieren und den Artikel 6 mit einem stärkerem Fundament für Nachhaltigkeitseffekte zu versehen. Somit kann ein Beitrag geleistet werden zu einer stärkeren Integrität des Mechanismus und erhöhter Qualität der Minderungsbeiträge. Verbesserte Richtlinien in Verbindung mit einer gestärkten Kapazität für die Bewertung von Nachhaltigkeitseffekten der Mechanismen können auch zusätzliche positive Auswirkungen auf die Gastgeberländer haben, unter anderem positiv im Lichte der Zuwendung internationaler Klimafinanzierung. Besonders relevant für die nachhaltige Ausgestaltung des Artikel 6 ist die Verabschiedung der UN Nachhaltigkeitsziele im Kontext der Agenda 2030 (UN Sustainable Development Goals, SDGs), welche als Referenz für Nachhaltigkeit im Rahmen der UN, und somit als Treiber für Nachhaltigkeit unter Artikel 6 interpretiert werden.

Vor diesem Hintergrund untersucht dieses Vorhaben für das Umweltbundesamt die Möglichkeit, die Rolle von Nachhaltigkeitszielen in den zukünftigen Marktmechanismen unter der UNFCCC zu stärken. Die Ergebnisse des Vorhabens sollen Eingang in die öffentliche Debatte finden um interessierte Parteien bei der Meinungsbildung zum laufendem Prozess zu unterstützen, insbesondere in Bezug auf den Artikel 6. Die Arbeit ist dabei in drei Teile gegliedert: Im ersten Teil werden die Positionen relevanter Akteure in den Debatten zur Ausgestaltung existierender und zukünftiger Marktmechanismen diskutiert. Der zweite Teil beschreibt die Barrieren für die Integration der Nachhaltigkeitsziele sowie mögliche Lösungen dieser Hindernisse. Schließlich werden Empfehlungen für Entscheidungsträger in Entwicklungsländern (Teil 3) erarbeitet.

Positionen zu Nachhaltigkeitseffekten

Die Bedeutung von nachhaltiger Entwicklung spielt grundsätzlich eine wichtige Rolle in der Debatte um die Ausgestaltung der Instrumente zur Treibhausgasreduktion. Die Meinungen von relevanten Akteursgruppen zur Rolle von Nachhaltigkeitseffekten in existierenden und zukünftigen Minderungsinstrumenten werden im Rahmen der Untersuchung erfasst und diskutiert.

Im Kontext des **CDM** fordern insbesondere Organisationen der Zivilgesellschaft regelmäßig eine größere Gewichtung der Nachhaltigkeitseffekte in der Ausgestaltung des Mechanismus. Gastgeberländer

hingegen wollen das Thema „Nachhaltigkeitseffekte“ nach ihren Vorstellungen gestalten; sie unterstützen einen multilateralen und zentralistischen Ansatz oftmals nicht, da sie auf ihre Hoheitsrechte bei der Definition von Nachhaltigkeit pochen. Das Fehlen straffer multilateraler Vorgaben und das Anlegen nationaler Vorgaben für die Prüfung von Nachhaltigkeitseffekten kann aus Sicht von Zivilgesellschaft und NGOs allerdings zu einer sinkenden Integrität der Nachhaltigkeit und einer internationalen Fragmentierung führen. Viele Käufer- und Industriestaaten unterstützen zumindest die Einführung des so genannten freiwilligen „SD Tool“.

Ein Schlüsselmerkmal von projektbasierten Aktivitäten im **freiwilligen Markt** ist der systematische Nachweis von Nachhaltigkeitseffekten neben der Emissionsreduktion. Hier unterstützen Käufer die Berücksichtigung von Nachhaltigkeitseffekten mit freiwilligen Preisaufschlägen, während Prüfgesellschaften neue Ansätze zur Messung von Nachhaltigkeitseffekten vorantreiben. Käufer und Projektentwickler sind gleichwohl besorgt über zusätzliche Kosten die durch den Aufwand zum Nachweis von Nachhaltigkeitseffekten entstehen und somit die ökonomische Attraktivität der Projekte schmälern könnten. Der freiwillige Charakter des Marktes macht es gleichwohl möglich, dass Akteure die Quantität und Qualität der umsetzbaren Nachhaltigkeitseffekte selbst definieren, und nationale/internationale Anforderungen nicht voll umgesetzt werden müssen.

NAMAs werden von Regierungen der Gastgeberländer im Kontext ihrer Entwicklungsagenda gesehen; dabei werden prioritär individuell definierte Nachhaltigkeitseffekte angestrebt, THG-Minderungseffekte sind eher zweitrangig. Auch bestimmte Entwicklungsagenturen fordern die Adressierung von Nachhaltigkeitseffekten im Rahmen der NAMA Entwicklung. Viele Geber-Länder setzen die Priorität im Kontext der Effekte von NAMAs hingegen in erster Linie auf THG-Minderung und bewerten Nachhaltigkeit eher zweitrangig. Dies kann zu einem Interessenkonflikt bei der Finanzierung und Implementierung von NAMAs führen, da Gastgeberländer die Diskussion zur Finanzierung von NAMAs und deren Nachhaltigkeitseffekten nicht mit dem Thema Entwicklungshilfe verknüpfen wollen. Grundsätzlich ist zu beachten, dass die NAMA-Landschaft äußerst heterogen ist; die Erwartungen und Anstrengungen bezüglich Nachhaltigkeitseffekten sind daher differenziert nach Land und Geber zu betrachten.

Diverse Länder betrachten die so genannten „Non-Carbon-Benefits (NCB)“ als sehr relevant für **REDD+**. Dies spiegelt das „Warsaw Framework“ für REDD+ wieder, welches die Wichtigkeit der NCB für eine langfristige Nachhaltigkeit von REDD+ Aktivitäten anerkennt. NGOs haben in diesem Kontext die Notwendigkeit der Einbeziehung der einheimischen Bevölkerung und indigenen Gemeinden und die Wahrung ihrer Rechte in den Vordergrund gestellt. Ausgestaltungsoptionen für REDD+ umfassen ein weites Spektrum, von der reinen Konzentration von REDD+ auf Emissionsreduktionen, bis hin zur Integration von NCB in die Ausgestaltung ergebnisbasierter Bezahlungen. Die COP21 Entscheidung zu NCB erkennt die nationalen Gegebenheiten von Nachhaltigkeitseffekten an und lädt die Länder ein, Informationen über NCB und potentiellen Finanzierungsbedarf bereit zu stellen. Hieraus werden weitere Erkenntnisse zur Adressierung und Dokumentation von NCB durch Gastgeberländer abgeleitet werden können.

Nachhaltige Entwicklung spielt auch eine wichtige Rolle unter dem **GCF** und ist im Regelwerk („Governing Instrument“) des GCF berücksichtigt. Schlüsselakteure und zugehörige Parteien heben die Wichtigkeit von Nachhaltigkeitseffekten hervor. Bis Mitte 2016 gab es noch keine Erwähnung von Nachhaltigkeitseffekten auf Programmebene; erste Erfahrungen aus Projekten mit einer Bewertung der Nachhaltigkeit könnte die Debatte neu anfachen.

Unter dem **PMR** wird das Thema Nachhaltigkeit auf Arbeitsgruppenebene behandelt, wobei Nachhaltigkeitseffekte bislang kein Hauptthema sind.

Hinsichtlich der **zukünftigen Marktmechanismen unter der UNFCCC** nehmen Nachhaltigkeitseffekte schließlich die Rolle eines wichtigen Nebeneffektes („co-benefit“) ein. Das Thema Nachhaltigkeitseffekte hat in den letzten Jahren unter der Debatte zum NMM und FVA zwar keine große Aufmerksamkeit gewonnen; der Artikel 6 des Paris Agreement hebt die Förderung von Nachhaltigkeitseffekten nun gleichwohl hervor. Die NMM und die FVA Debatte hat hier gezeigt, dass i) Gastgeberländer sich wohl auf ihre Hoheitsrechte in der Definition von Nachhaltigkeitseffekten zurückziehen, und ii) folglich die Kriterien zur Bewertung von Nachhaltigkeitseffekten selber auswählen werden.

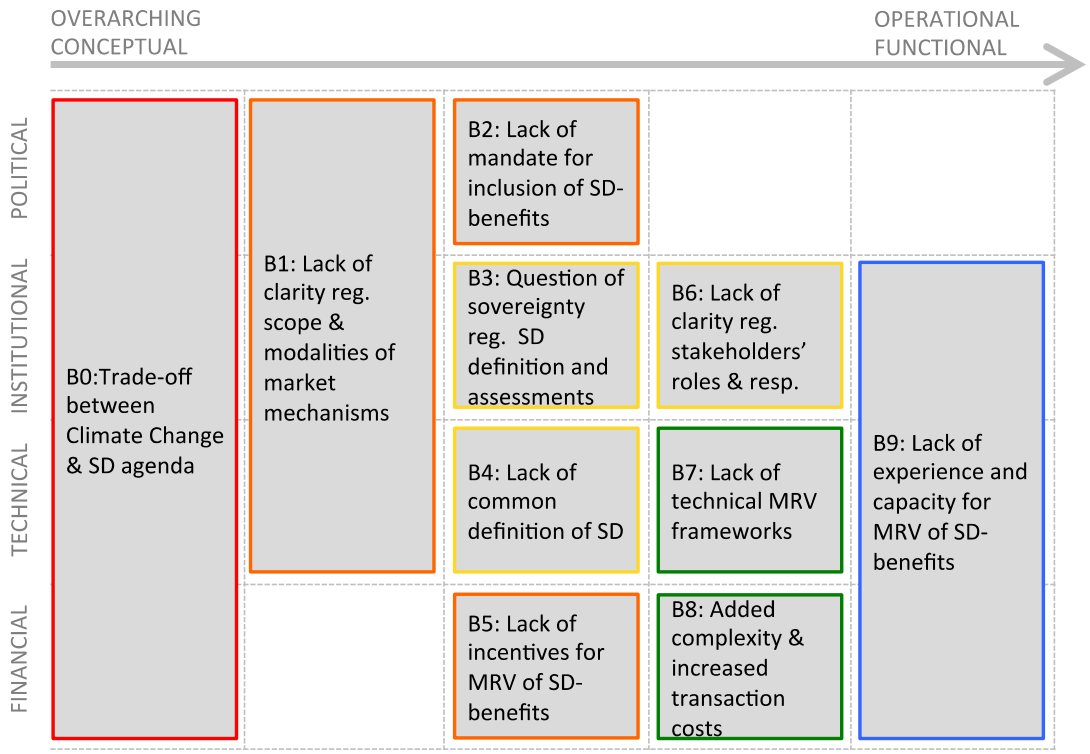
Der Vergleich der Debatte zu Nachhaltigkeitseffekten einzelner Mechanismen und Initiativen zeigt:

- Argumente **gegen eine strenge Regulierung** von Nachhaltigkeitseffekten kommen von:
  - Akteure des Emissionsmarktes, hauptsächlich Zertifikate-Käufer, die zu strenge Regeln und dadurch einen geringeren Anreiz zur Emissionsreduktion fürchten. Die Argumente zielen vor allem auf die erhöhte Komplexität des Marktmechanismus ab. Die Emissionsreduzierung und Nachhaltigkeitseffekte würden sich gegenseitig behindern; der Fokus sollte auf dem Schlüsselelement des Mechanismus, der Treibhausgasreduktion, liegen.
  - Gastgeberländer, die ihre Souveränität eigene Entwicklungsziele zu definieren in Gefahr sehen. Dies beinhaltet die Überzeugung, dass Nachhaltigkeitsziele nur auf der lokalen/nationalen Ebene vorangetrieben werden dürfen, ohne Einflussnahme von außen ;
  - Gastgeberländer, die eine Diskussion über Nachhaltigkeitseffekte in Verbindung mit der aktuell laufenden Entwicklungszusammenarbeit vermeiden möchten. Dies könnte als Argument für die Reduzierung zusätzlicher Finanzierung für Nachhaltigkeitseffekte führen, die über die direkte THG-Minderung hinausgehen (z.B. Klimafinanzierung oder ODA Budget).
- **Befürworter einer strengen Regulierung** von Nachhaltigkeitseffekten sind:
  - Akteure im freiwilligen Markt, hauptsächlich Projektentwickler und Aufsichtsbehörden, die zum Teil einen monetären Vorteil von SD Beurteilungen haben und/oder Projekte mit Nachhaltigkeitseffekten bearbeiten.
  - Käufer im freiwilligen Markt, die gerne mit hohen Nachhaltigkeitseffekten die Nachhaltigkeitsbemühungen verstärken und der Öffentlichkeit präsentieren würden.
  - Vertreter der Zivilgesellschaft, wie umweltnahe NGOs oder lokale Gemeinden, die einen klaren Vorteil von dem Schritt weg vom reinen Emissionsmarkt zum einem auf Nachhaltigkeit ausgerichteten System sehen.
  - Einige potentielle Geldgeber von nichtmarktbasierten Minderungsmaßnahmen, die größere Transparenz und geringere Risiken bei zukunftsweisenden Investments anstreben.

Barrieren der Integration von SD Benefits in marktbasierten Mechanismen

Die Untersuchung hat über einen strukturiert-iterativen Prozess basierend auf Literatur, Interviews und Expertenbeurteilung 10 Barrieren identifiziert (siehe Barrierenlandschaft), welche derzeit die Berücksichtigung von Nachhaltigkeitseffekten in bestehenden und zukünftigen klimapolitischen Instrumenten begrenzen.

Figure 2: Barrierenlandschaft nach Typ und Bündel



Quelle: Autoren

Die Barrierenlandschaft (siehe Figure 2) zeigt eine Transition von eher übergeordneten und konzeptionellen Herausforderungen zu Barrieren, die eher von operationeller oder funktionaler Natur sind. Diese Transition deckt sich auch weitestgehend mit der Transition von eher politischen und institutionellen Barrieren hin zu eher technischen und finanziellen Barrieren. Die Barrieren sind in fünf Gruppen unterteilt, die jeweils eng miteinander verbundene Probleme beinhalten. Um diese zu lösen, wird vorgeschlagen, eine logische Abfolge von einer Gruppe zur darauffolgenden (von links nach rechts) zu berücksichtigen, angefangen mit:

1. der eher philosophischen Spannung zwischen den beiden Zielen Klimaschutz und nachhaltiger Entwicklung (B0, rote Gruppe);
2. darauffolgend die Gruppe 2) in orange, welche die Frage aufwirft warum und zu welchem Zweck Nachhaltigkeitseffekte in erster Linie bewertet werden (B1-B2, B5);
3. dann die Gruppe 3) in gelb mit der Frage nach der Definition von SD und den Akteursgruppen, die berechtigt sind diese Definition zu bestimmen (B3-B4; B6);
4. darauf die Gruppe 4) in grün mit Fragen zum SD-Nutzen und zur Messung der jeweiligen Transaktionskosten (B7-8);
5. und zum Schluss die Gruppe 5) in blau die Herausforderungen aufgrund des Mangels an Erfahrung, Fähigkeiten und Kapazitäten im Zusammenhang mit der Bewertung von Nachhaltigkeitseffekten (B9) beinhaltet.

Diese logische Abfolge impliziert, dass es wenig Sinn macht operationelle oder funktionelle Herausforderungen zu lösen ohne die übergeordneten und tendenziell schwierigeren konzeptionellen Problemen anzugehen, welche vor allem von politischer und/oder institutioneller Natur sind.

Trotz der übergeordneten Natur der Barriere B0 "Möglicher Kompromiss zwischen beiden Zielen von Klimaschutz / Klimaanpassung und nachhaltiger Entwicklung" stellt diese keinesfalls eine Vorbedingung zur Bewältigung der weiteren neun Barrieren dar. Gleichwohl scheint es hilfreich die allgemeine Sensibilisierung zum Thema Synergien von Klimaschutz / Klimaanpassung, SD-Nutzen und Förderung des Dialogs zwischen den Akteuren im Rahmen des UNFCCC und dem Feld der Entwicklungszusammenarbeit voranzutreiben.

Barriere B3 zur "Frage der Souveränität in Bezug auf die Definition und Bewertung der nachhaltigen Entwicklung" gilt als die politisch schwierigste und strittigste Barriere, gefolgt von weiteren fundamentalen Barrieren (B1, B2 und B5) rund um den grundlegenden Zweck und die Funktion von SD-Benefits unter UNFCCC Marktmechanismen. Gemeinsam mit der Barriere B4 („Mangel an einer gemeinsamen Definition von SD") stellen diese die fünf wichtigsten Hindernisse dar. Sie benötigen daher einen umfassenden Dialog auf der UNFCCC-Ebene, um unterschiedliche Ansichten zu überbrücken und eine politische Lösung zu erreichen.

Lösungen zur Förderung der Integration von SD-Benefits

Die Analyse der möglichen Lösungen legt nahe, dass die SDGs ein Kerninstrument sein könnten und eine Gesamtlösung für mehr Einbeziehung von SD-Benefits bieten würde, was auf mehrere Barrieren gleichzeitig Auswirkungen haben könnte. Ein bindendes „top down" SD-Bewertungsschema auf Basis von Indikatoren aus dem SDG Prozess und entsprechenden SD-„Safeguards" wäre der naheliegendste Lösungsansatz, wird aber am ehesten politischen Wiederstand auslösen. Ein flexibleres Vorgehen von nicht bindenden Leitkriterien unter Verwendung einer modularen Definition von SD (basierend auf SDGs) würde es den Ländern ermöglichen, die Indikatoren zu priorisieren, die ihnen am wichtigsten sind. Dies würde eher eine politisch machbare Lösung darstellen. Neben einem standardisierten Rahmen für MRV von Nachhaltigkeitseffekten, mit verschiedenen MRV Stringenzniveaus (beispielsweise Überprüfung durch Dritte versus Selbsteinschätzung) je nach Projekttyp und / oder Größe, könnte die Kosteneffizienz steigern. Zudem sollten übergeordnete Lösungen wie die Stärkung des internationalen Dialogs und die Sensibilisierung für SD-Benefits ebenfalls gefördert werden.

Die Barrieren sind stark mit den verschiedenen Motiven der relevanten Akteursgruppen verbunden. Ein erster Schritt um Barrieren zu lockern, ist die Motivation dieser Akteure in Bezug auf die Integration von SD-Benefits besser zu verstehen und entsprechende Kompromisse zu für praktikable Lösungsansätze zu identifizieren. Ferner sind die jeweiligen Interessengruppen zu identifizieren und zu mobilisieren, welche gewillt sind diese Lösungen zu implementieren. In Anbetracht der eher grundlegenden und politischen Gruppen von Barrieren, wird es wichtig sein, den politischen Willen bezüglich der Vereinbarung bestimmter grundlegende Prinzipien von SD Beurteilungen zu testen.

Die Analyse zeigt zudem, dass einige Barrieren und entsprechende Lösungen Auswirkungen über die UNFCCC Marktmechanismen hinaus haben würden. Hier könnten gegebenenfalls Interessensgemeinschaften außerhalb der UNFCCC Parteien aktiviert und potenziell Ko-finanzierungen stimuliert werden. Dies wird jedoch als schwierig eingeschätzt, da SD-Benefits im Moment kein Fokusthema darstellen, wie die Interaktion mit relevanten Interessengruppen unterstreicht.

Empfehlungen für politische Entscheidungsträger

Während Minderungswirkungen bei Markmechanismen und kooperativen Ansätzen häufig im Mittelpunkt stehen, ist nachhaltige Entwicklung für Entwicklungsländer von besonderer Priorität. Sowohl das Pariser Abkommen, als auch die Agenda 2030, unter deren Dach die Nachhaltigen Entwicklungsziele (SDGs) formuliert wurden, appelieren an eine tiefgreifende Harmonisierung dieser komplementären Ziele. Um Marktmechanismen und kooperative Ansätze mit einem hohen Grad an Legitimität zu entwerfen und – einschließlich in Gastländern – zum Einsatz zu bringen, müssten sie sicherstellen, dass

durch Marktmechanismen oder kooperative Ansätze geförderte Aktivitäten nicht der nachhaltigen Entwicklung teilnehmender Länder schaden. Zusätzlich sollten Anreize geschaffen werden, nachhaltige Entwicklung durch klare Regeln und einen zuverlässigen und fairen Preis der Zertifikate zu unterstützen. Letzterer ist primär durch die Ambition und den Willen der Industrieländer bedingt, internationale Emissionsminderung innerhalb des eigenen Minderungszieles zu integrieren.

Der Definitionsprozess der operativen Regeln für das Übereinkommen von Paris stellt eine Gelegenheit dar, um sich für eine stärkere Rolle von nachhaltiger Entwicklung in Marktmechanismen einzusetzen. Wir empfehlen frühzeitige Maßnahmen in den UNFCCC Verhandlungen zu ergreifen, damit internationale Richtlinien hinsichtlich kooperativer Ansätze gemäß Artikel 6, Paragraph 2, sowie hinsichtlich Regeln, Anwendungsmodalitäten und Verfahren für den in Artikel 6, Paragraph 4 geschaffenen Mechanismus erarbeitet und verabschiedet werden. Diese regulatorischen Dokumente sind für die Operationalisierung der Mechanismen entscheidend und sind von der SBSTA zu entwickeln und von der CMA bei ihrer ersten Sitzung zu verabschieden. Jegliche Anstrengung in dieser Hinsicht sollte darauf abzielen, eine glaubwürdige Balance zwischen den verschiedenen Interessen unterschiedlicher Stakeholder zu finden. Diese erstrecken sich von der Erreichung von Minderungswirkungen zu den geringstmöglichen Kosten bis hin zu der Maximierung von positiven Nachhaltigkeitseffekten zu einem gegebenen Kohlenstoffpreis. Außerdem könnten mögliche Verknüpfungen zu „einem Rahmenwerk für marktunabhängige Ansätze für nachhaltige Entwicklung“ gemäß Artikel 6.9 angedacht werden.

Um diese Ziele zu erreichen, empfehlen wir einen schrittweisen Ansatz:

- **Erstens** empfehlen wir, dass Länder und Beobachter ihre Standpunkte zu den in der vorliegenden Studie präsentierten Fragen klären und sich hinsichtlich der Politikgestaltung zu internationalen Regeln für sowohl ex-ante als auch ex-post Einschätzungen von nachhaltigen Entwicklungswirkungen durch Marktmechanismen positionieren.
- **Zweitens** sollte eine Strategie entwickelt werden, um diese Position in ähnlich gestimmten Parteien zu vertreten und auf ein international akzeptiertes, möglicherweise auf den SDGs aufbauendes Verständnis zur Rolle der nachhaltigen Entwicklung in den Marktmechanismen zu schaffen.
- **Drittens** empfehlen wir ein proaktives Zugehen auf Länder und Institutionen, die im Rahmen der UNFCCC Verhandlungen aktiv sind und ein Interesse daran haben, nachhaltige Entwicklung und die Integrität von Marktmechanismen durch die Gründung einer „high-quality“ Koalition zu Marktmechanismen oder kooperativen Ansätzen, zu stärken. Diese könnte auf bestehenden Plattformen, wie zum Beispiel der G7 Carbon Market Platform oder anderen Strukturen aufbauen.
- **Viertens** empfehlen wir, den entwickelten Ansatz zur nachhaltigen Entwicklung in unterschiedlichen Pilotaktivitäten zu testen, um den prozeduralen und regulatorischen Rahmen zu verfeinern und Werkzeuge und Methoden für das Messen von Co-Benefits zu entwickeln.
- **Fünftens** empfehlen wir, dass der entwickelte Ansatz und das Regelwerk für die nachhaltige Entwicklung mit anderen internationalen Anstrengungen wie der Operationalisierung der SDGs und relevanten multilateralen Umweltabkommen wie der Convention on Biological Diversity (CBD) in möglichst gute Übereinstimmung gebracht werden, um Synergien zwischen diesen Prozessen zu ermöglichen.

1 Background

In the context of the development of future market mechanisms under the United Nations Framework Convention on Climate Change (UNFCCC), the negotiations under the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) and the Subsidiary Body for Scientific and Technical Advice (SBSTA) in recent years focused on a centrally governed mechanism approach (called the New Market Mechanism, NMM), as well as a set of rules for accounting of greenhouse gas (GHG) reductions from a more diverse range of approaches within the so-called Framework for Various Approaches (FVA). Since 2012 negotiations for further defining the details of the NMM or FVA have however only slowly progressed, as the focus of international climate policy has been on the general post-2020 climate architecture. Markets – seemingly – played a minor role at least within the negotiations.[7] Nevertheless, as IETA's tracker of the submitted Intended Nationally Determined Contributions (INDC)[8] points out, in late 2015 56 Parties aimed to utilize market mechanisms for achieving their contributions and another 20 might consider its use in the future (IETA 2015a; UNFCCC 2015a).

In early October 2015 Parties agreed on integrating a draft reference for a sustainable development mechanism (SDM) into the ADP draft negotiation text for the Paris COP 21. Eventually, the Paris COP 21 has adopted new provisions for the future role of market mechanisms under the UNFCCC. The Paris Agreement details both a centrally governed mechanism to contribute to mitigation and support sustainable development according to Art. 6.4 UNFCCC (hereafter referred to as "Mitigation Mechanism" or MM) and a framework for voluntary and less formalised cooperative approaches according to Art. 6.2 UNFCCC (hereafter referred to as "Cooperative Approaches" or CA), under which Parties would be free to utilise so-called Internationally Transferable Mitigation Outcomes (ITMOs). The Paris Agreement is thus a cornerstone for markets in the post-2020 climate policy regime. However, the agreement does not describe possible developments along these two paths; the coming years will therefore have to demonstrate how they can best be carried out in practice.

Overall, the experience of market mechanisms as climate policy instruments shows that besides a pure carbon reduction benefit, those instruments can have a significant impact on the environment, the livelihood of local communities and economic opportunities. Such effects are often referred to as co-benefits, contributions to sustainable development (SD), non-carbon benefits or similar. The CDM under the Kyoto Protocol as well as relevant mechanisms in the voluntary carbon market (e.g. Gold Standard, GS) have developed approaches to incentivize such co-benefits and to some extent account for them.[9] Also, more recent instruments for advancing climate mitigation or adaptation impacts in the context of development (Nationally Appropriate Mitigation Actions, NAMAs) or international climate finance (Green Climate Fund, GCF) are considering contributions to sustainable development of mitigation or adaptation activities. On a more general level, the UN is actively promoting sustainable development on a global scale, most prominently through the recent adoption of the Sustainable Development Goals (SDGs).

[7] Still, there has been on-going progress in reforming the CDM regulatory framework, which has introduced programmatic approaches, simplification of methodologies and procedures in particular for small- and micro-scale activity types that generate higher SD-benefits.

[8] The IETA INDC tracker can be accessed on the following website; the numbers mentioned are as of 28th October 2015 https://docs.google.com/spreadsheets/d/1YgIQiiucWW9vuDUAMeRstzzLxTXi6zFWtFVClqtRTe4/edit?usp=sharing

[9] For instance a voluntary SD tool has been developed by the UNFCCC Secretariat (see Arens et al 2014 & 2015).

While SD-benefits are not the core aspect of the current debate on MM, different positions on SD-benefits exist that partially hinder and occasionally promote their further inclusion in the context of the United Nations Framework Convention on Climate Change (UNFCCC). On a general level, barriers exists between the status quo and future desired outcomes. To facilitate the broader inclusion of SD-benefits in the aforementioned existing market mechanisms, relevant barriers need to be identified and properly addressed. Barriers are not only rooted in the different positions of the negotiating parties (under the UNFCCC), they are repeatedly formed on the basis of systematic issues, which can be more complicated to isolate and solve. Understanding the intricacies of various barriers that hinder SD-benefits and how these barriers are connected is crucial for recognising and recommending holistic solutions that can be sustained and broadly supported in the long run.

In light of this, it is understood that the further debate on the development of post-2020 market mechanisms under the UNFCCC should reflect the various experiences gained with SD-benefits in climate policy instruments, build on the lessons learned and respect their implications for design aspects among future climate policy instruments. Until very recently the negotiations on the NMM and the FVA have only paid little attention to this aspect, and it remains open how the elaboration process of the article 6 MM can enhance the role of sustainable development benefits.

Research Objectives

This research project for the German Environment Agency assesses possibilities for enhancing the role of SD-benefits in context of activities supported by future market mechanisms under the UNFCCC. The findings of the research project can contribute to the public debate, and may also assist interested parties and observers in their evaluation of the ongoing process, in particular regarding the SDM and the CA. The project is divided into 4 parts, of which the parts 1 and 2 focus on research, while parts 3 and 4 are providing recommendations and guidance for policy makers.

In the first part of the assessment (PART I) the focus is on understanding the positions of relevant stakeholders regarding the integration of SD-benefits, both from Parties to the UNFCCC as well as stakeholders, market participants and civil society representatives. **PART I** is structured as follows: In chapter 3, the debate on co-benefits under future market mechanisms is reflected by summarizing past negotiations on the NMM and FVA, and evaluation of the market provisions under the Paris Agreement. In order to understand the debate and role of SD-benefits in currently operating market mechanisms and other climate policy instruments, approaches or funds, chapter 4 elaborates short "SD-benefit profiles" for the CDM, voluntary carbon market standards, NAMAs, REDD+, the GCF as well as the Partnership for Market Readiness. Also, the UN Sustainable Development Goals are discussed in this context. These profiles provide a cursory overview of the debate on SD-benefits for each mechanism or initiative, touching upon the relevance of SD-benefits under the mechanism and the respective institutional aspects. The analysis identifies key stakeholders as well as drivers and barriers for the establishment of SD-benefits under the mechanism; it furthermore goes beyond summarizing the positions in the debate on SD-benefits and already provides a foundation for the subsequent assessment of barriers and opportunities in the subsequent work packages of this research project.

Methodologically, the assessment is based on a desk review of relevant submissions towards the UNFCCC, and further literature. Findings are complemented with feedback from expert interviews that were conducted with relevant stakeholders in the context of the assessment, prior to, during and after COP 21. The expert interviews were conducted in personal meetings or via telephone by using semi-structured questionnaires (Annex II). To increase the chance of gaining insights from the interviews, the interviewees are kept anonymous. The anonymized list of conducted interviews is available in Annex I.

We note that definitions of contributions to SD and co-benefits vary somewhat across the different instruments; for the context of market instruments and the GCF the terminology of co-benefits often is applied (as complements to GHG reductions or adaptation impacts), whereas the term sustainable development benefit (representing mainly positive environmental, social and economic impacts) is rather used in the context of NAMAs, while non-carbon benefits (NCB) are applied for REDD+. For the sake of simplicity we will use the term "SD-benefit" in the present report, which in general refers to impacts beyond the pure climate benefit of activities.

The second part of the mandate **(PART II)** focusses on identifying existing and future barriers regarding the integration of SD-benefits in future market mechanisms and providing suggestions on how to overcome these barriers. PART II answers the following research questions: 1) What are relevant barriers regarding the integration of SD-benefits into market mechanisms under the UNFCCC?; and 2) Which approaches and measures are necessary to overcome these barriers?

Chapter 5 introduces the topic and defines the research objectives. In Chapter 6, the authors present the methodological approach that allows a thorough assessment of barriers related to the inclusion of SD-benefits in existing and future market mechanisms under the Agreement's Article 6 and possible solution approaches by introducing structured barrier and solution profiles. Chapter 7 identifies the main motives and drivers of relevant stakeholder groups as a base for recognising barriers to SD-benefits in existing and future mitigation market mechanisms and for assessing them according to their relevance. In addition, the chapter introduces possible approaches and measures for overcoming the barriers identified.

PART III represents a guidance document for familiarizing negotiators from developing countries with the opportunities and challenges the debate on Article 6 entails in the context of SD. It summarizes benefits of agreeing on international criteria for SD under Article 6, and presents steps for advancing a common approach to SD under Article 6.

PART I: PROSPECTS FOR SUSTAINABLE DEVELOPMENT BENEFITS IN THE DEBATE ON MARKET MECHANISMS AND INITIATIVES UNDER THE UNFCCC

1 Debate on sustainable development benefits under future market mechanisms

Following the mandate from the Bali COP in 2007, Parties proposed to establish market based approaches under a future climate policy framework. Since then, two basic types of approaches where considered: a centrally governed mechanism under UNFCCC modalities and procedures and a decentrally organized framework allowing for bilateral initiatives (UNFCCC 2011a). Under the Ad Hoc Working Group on the Durban Platform (ADP), this was the so-called New Market Mechanism (NMM) for a uniform set of "top-down" rules at the UN level on the one hand, and the Framework for Various Approaches (FVA) for different "bottom-up" approaches that are defined by the individual Parties on the other hand. The Paris COP 21 has adopted new provisions for the future role of market mechanisms under the UNFCCC, which to a large extent seems to mirror these previous discussions on the NMM and FVA.

In addition, during the operationalization process of these provisions the implementation process of the UN Sustainable Development Goals, which are also explicitly acknowledged in the Paris Agreement[10], could play a cross-fertilizing role (see chapter 3.7). Given the important role of negotiations on the NMM and the FVA in informing the Paris Agreement's provisions on the SDM and the CA, we summarize the debate and relevance of SD-benefits in the NMM and FVA in the following sections. In addition, we summarize the SD-provisions for the SDM and CA and identify barriers and drivers for enhancing SD in future mechanisms under the Paris Agreement.

1.1 New Market Mechanism (NMM)

Overview of debate and relevance of SD-benefits

Since 2012, the modalities and procedures for the NMM are being discussed under the Subsidiary Body for Scientific and Technical Advice (SBSTA). The NMM is understood to be a centrally governed UNFCCC mechanism for which currently only a set of fundamental institutional design principles have been agreed. Accordingly, the NMM should deliver real, permanent, additional, and verified mitigation outcomes, avoid double counting of effort and achieve a net decrease and/or avoidance of greenhouse gas emissions in order to ensure environmental integrity. Following the COP 21 decision to establish the SDM, the authors regard it as very likely that the debate on the NMM is going to transition into the future SDM debate (that might as well cover the CDM and JI debate).

Over the past three years several rounds of negotiations and submissions from Parties have led to a certain degree of mutual understanding on the future role of a centrally governed market mechanism under the UNFCCC. Most Parties seem to agree on a NMM design that addresses mitigation activities

[10] Decision -/CP.21: „The Conference of the Parties, (...) welcoming the adoption of United Nations General Assembly resolution A/RES/70/1, "Transforming our world: the 2030 Agenda for Sustainable Development", in particular its goal 13".

beyond the project level, and strengthens the level of mitigation ambition. Based on Parties submissions and academic discussions, the NMM may inter alia comprise crediting of Nationally Appropriate Mitigation Actions (NAMAs), sectoral approaches, policy-based approaches, net avoidance approaches, potentially REDD+, but also project-based and programmatic approaches (building upon experiences gained with the CDM and JI mechanisms). The European Union (EU) has been advocating for a sectoral crediting and sectoral trading mechanism. Other parties have also put forward other concepts and approaches. For instance, Brazil has proposed a sectoral mechanism based on CER voluntary cancellation, an approach that could be implemented without large transaction costs. More recently Brazil argued for a role of an "enhanced Clean Development Mechanism (CDM+)". Colombia proposed taking a discounting approach with a sectoral and sub-sectoral scope.

Until COP 21, the negotiations on a future market mechanism have been faltering. Since COP 18 in Doha 2012, no progress could be made with respect to the design of the NMM and FVA under the SBSTA. In fact, also in December 2015 in Paris SBSTA 43 could not reach agreement on the NMM as well as the FVA, and deferred the discussions to SBSTA 44 (IISD 2015). Overall, at at this not well-advanced stage of negotiations regarding a future market mechanism, SD-benefits have so far not played a relevant role in the context of the NMM.

Relevant positions of major stakeholders

Regarding the positions of major stakeholders, the UNFCCC negotiations on the NMM are informed through official submissions by Parties as well as observers of the process. Generally, these submissions are used to communicate positions to the negotiation process and thus can serve as good information source for gaining an overview on the positions regarding SD-benefits. In the period from early 2013 until October 2015 eighteen submissions regarding the NMM were uploaded to the UNFCCC from Parties and observers (UNFCCC 2015b), of which only 1 submission names SD-benefits directly:

- The **EU Submission of September 2014** refers to "building on lessons from other mechanisms such as CDM and JI in the light of enabling co-benefits" (EU 2014a).

With regards to specific positions, the 2013 submissions before SBSTA 38 focused on the question of how the NMM could promote sustainable development (UNFCCC 2013a):

- The **EU** states "Implementing Parties shall be responsible for having appropriate processes in place to ensure that implementation of the NMM contributes to safe and sustainable development within the country and does not have any negative impacts on environmental or social well-being. (…) Similar to existing practices for the CDM, implementing Parties should detail in their initial reports how the implementation of the NMM contributes to sustainable development and report annually on how this contribution is performed" (EU 2013a).
- The **Environmental Integrity Group** states that "the NMM should contribute to sustainable development of host Parties, and especially local communities. Sustainable development impacts should be monitored, reported and verified. The development of projects with high co-benefits should be promoted. Public consultation and stakeholder interaction need to take into account interests of local communities, so that confidence in the activities under the NMM and their positive impacts are promoted" (EIG 2013a).

A further statement – rather generic in nature and not directly related to the discussion of SD-benefits – is coming from:

- **Bolivia** that states that "carbon markets are ineffective and undermine the domestic efforts of climate change mitigation. Developed countries have a responsibility to reduce their greenhouse gases emissions domestically, changing their unsustainable production and consumption patterns. Carbon markets are actually postponing these structural changes rather than solving them. Flexibility mechanisms do not establish social, political and technological aspects with respect to when and how to reduce greenhouse gases emissions" (Bolivia 2013).

At the SBSTA 38 meeting in Bonn in 2013 it was broadly acknowledged that "the new market-based mechanism activities should contribute to the sustainable development of the host country. The participants also discussed other possible SD-benefits which new market-based mechanism activities could produce, such as capacity building, technology diffusion and transfer and adaptation, including loss and damage (UNFCCC 2013b). That autumn the UNFCCC provided a technical paper that summarizes the views of Parties on the promotion of sustainable development through the NMM (UNFCCC 2013c). Parties agree that activities under the NMM should contribute to the sustainable development of the host country and **that it is a prerogative of the host country to decide whether this is the case**[11]. Further suggestions (no convergence though) comprise the NMM promoting technology transfer and the transition to low- emission development, the NMM host countries providing information on national indicators and criteria for sustainable development as well as national arrangements for managing sustainable development, or regarding monitoring, reporting and verification of sustainable development through the host country or third party auditors. A workshop in fall 2013 discussed in detail the possible design of an NMM, but did not embark on the SD-benefits discussion any further (UNFCCC 2013d). A technical paper building upon the 2014 submissions (UNFCCC 2014a) recognized that existing market based mechanisms under the Kyoto Protocol have not been reflected in a fashion that allows for fully utilizing the non-carbon SD-benefits of mitigation activities. In the latest texts from the SBSTA negotiations prior to COP 21 SD-benefits are not even named (UNFCCC 2014b). In its draft decisions for the COP 20, the SBSTA reflected the negotiations of the past months, however, not making any reference to SD-benefits (UNFCCC 2014c).[12]

Submissions on the NMM from observers or the civil society in the years 2013 – 2015 did not elaborate on the aspects of SD-benefits.
Besides the submissions, the discussion with negotiators in the context of this project revealed that SD-benefits are not at the core of the debate at the moment, as it is still to be spelled out how a market based mechanism is designed under the post-2020 agreement (see interviews No. 8 and 9). Other interviewees in addition stated a clear risk that overly emphasizing SD-benefits in a market instrument would limit the mitigation potential due to the heavy cost burden associated with consequent monitoring of SD-benefit indicators (Interviews No. 1, 2, 13, 14).

[11] Reiterated in numerous interviews, e.g. No. 8, 9, 11.
[12] Notably the relevance of NMA´s for SD-benefits is highlighted by the UNFCCC summary (UNFCCC 2014d) p 18

1.2 Framework for Various Approaches (FVA)

Overview of debate and relevance of SD-benefits

By contrast to the centralized design for the NMM, the FVA has been debated as a de-centralized mechanism under the SBSTA, as a platform to recognize the various market-based mitigation mechanisms that numerous countries are envisaging to develop outside of the UNFCCC architecture. These activities include basically any market based mitigation policy or measures on the national level and beyond, including emissions trading schemes, bilateral offsetting schemes (e.g. Japan) or domestic offsetting schemes (e.g. China, Australia, California, Canadian provinces). The debate on the FVA started in 2011, when COP 17 requested SBSTA to conduct a work programme addressing various approaches to enhance the cost effectiveness of mitigation. The SBSTA work programme to elaborate the FVA was mandated by COP 18, and since then considers the possible technical design elements of such a framework (UNFCCC 2014e).

In contrast to the centrally governed NMM approach, most Parties understand the FVA as a framework to govern the exchange of tradable mitigation outcomes created by market mechanisms aplied on a country level or by groups of countries (such as emissions trading schemes) (ibd.). It can be seen as a set of rules, components, standards and protocols that together make up an accounting framework to ensure that all internationally transferred mitigation outcomes used for international compliance, maintain environmental integrity and are issued under the supervision of the UNFCCC. It is understood that the Cooperative Approaches defined in the Paris Agreement follow the same ratio as the FVA.

However, until COP 21 the scope of the FVA was even less concrete than the NMM, with consensus that it should stress environmental integrity, and as a minimum could serve as an information sharing platform between Parties.

Relevant positions of major stakeholders

In the debate on the design of the FVA the aspect of SD-benefits has played a minor role so far. In 2014 SBSTA 40 invited Parties and observes to submit their views on the FVA, including the question of how the FVA could provide SD-benefits, including, but not limited to, a contribution to sustainable development, poverty eradication and adaptation. In a technical paper that reflects inputs from Parties and observers over the year, the UNFCCC secretariat summarizes the aspect of SD-benefits in a generic manner as follows: "*Certain approaches may provide complementary benefits (co-benefits in addition to mitigation). These include, but are not limited to, sustainable development, poverty eradication and adaptation.*" It states that particularly domestic approaches will have a strong link to SD-benefits, while multilateral approaches will be more difficult to link to SD-benefits. Regarding the quantification of SD-benefits the perception is that lessons learned from on-going initiatives under existing mechanisms such as the CDM or protocols in the voluntary carbon market (ibd.) are yet insufficient for establishing a consistent and comprehensive assessment framework for SD-benefits in market instruments.

The responses to the SBSTA 40 request comprise few rather generic statements on SD-benefits, such as:

- The **Environmental Integrity Group** states that "the approaches should also provide co-benefits like contributions to sustainable development. The regulatory framework of how to ensure such contribution should be within the responsibility of the participating host countries based on national circumstances. In addition, activities under the FVA could generate a possible share of proceeds to cover administrative expenses (depending on the administrative

work load on the international level), to support capacity building for market mechanisms and to assist developing countries for adaptation (EIG 2014).

- **Canada** illustrates that the revenues from auctions and reserve sales under domestic emissions trading are used for financing national mitigation and adaptation measures, which it calls "co-benefits" (Canada 2014). This shows the broad range of definitions regarding SD-benefits.
- **Bolivia** opposes market based approaches in general: "Because of the comprehensive implementation of the principles and provisions of the Convention, which is non-market oriented, only non-market-based approaches should considered in the FVA, such as the "holistic and resilient low-carbon sustainable development". The exclusion of market-based approaches of the FVA is undertaken because of the factors explained in the Bolivian submissions about the New Market Mechanism" (Bolivia 2014).
- The **CMIA** recognizes the positive co-benefits of mitigation activities, e.g. on water and air quality. They claim the FVA shall not cover any activity that contradicts Article 2a(v) of the Kyoto Protocol for fostering market based initiatives (CMIA et al. 2014).
- **IETA** (2014) suggest a co-benefits 'checklist' to demonstrate that approaches under the FVA advance sustainable development, based on experiences from other mechanisms such as the CDM. Also, IETA suggests a share of proceeds for tradable mitigation outcomes from Parties that would be applied for financing co-benefits, e.g. in the context of sustainable development.

In 2013 submissions from Parties and observers touched on the aspects of SD-benefits to a very limited extent:

- The **EU** (2013b) stressed that environmental integrity of approaches includes the requirement of approaches leading to sustainable development in the participating countries.
- The **EIG** (2013b) states that "the FVA aims at contributing to the sustainable development of participating countries, especially host Parties and their local communities. This could include for example standards requiring that sustainable development impacts should be monitored, reported and verified, that the development of activities with high co-benefits should be promoted, and that public consultation and stakeholder interaction need to take into account interests of local communities".
- **South Africa** (2013) highlights that "activities covered under the FVA must meet sustainable development criteria as defined by Parties hosting/participating in such activities".

1.3 Future Mechanisms under the Paris Agreement (SDM & CA)

Overview of the debate and relevance of SD-benefits

In Article 6 of the Paris Agreement the avenues of debating a centrally governed market mechanism and a bottom-up framework are reflected and continued by establishing the SDM and CA. Regarding their enhancement of sustainable development the Paris Agreement (UNFCCC 2015f) states for:

- **Cooperative Approaches** (Article 6.2), that "Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, **promote sustainable development** and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement."

- **Sustainable Development Mechanism** (Article 6.4), that contributes "to the mitigation of greenhouse gas emissions and **supports sustainable development** (…). It (…) shall aim to promote the mitigation of greenhouse gas emissions **while fostering sustainable development** (…)".

Regarding the relevance of SD-benefits in the debate on market approaches, the mere existence and name of the SDM, building on the current CDM (see section 2.1), provides at least an indication that the sustainable development aspect of mitigation activities could play a relevant role in the future. The timeline for elaborating on the provisions for CA and SDM however remains vague; what is clear so far is that the SBSTA shall develop rules and procedures for adoption by the first meeting of the Parties to the Paris Agreement.

Relevant positions of major stakeholders

Overall, the authors of this report expect no major changes of Party positions regarding the role of SD-benefits or sustainable development for a central mechanism or a bottomup framework. During the ADP meeting in October 2015, a group of interested Parties (EU, Brazil, Panama, Peru, Colombia, Japan, New Zealand, Canada, USA, Switzerland, Norway, Kenya, Togo, Cote'd'Ivore, Singapore, Bolivia, Senegal, RSA, Australia, Republic of Korea) submitted a proposal (Mitigation Group 2015) for structuring and clarifying the discussions on an SDM under the ADP; a weak reference to sustainable development is made, i.e. that sustainable development criteria of a host country shall be reflected in drafting the article on the SDM. This is also backed by expert judgements (Interviews No. 7, 8, 9, 11). A joint submission by Brazil and the EU (Brazil 2015) to COP 21 suggested the establishment of the CA and the SDM; the submission text is to a large extent equalling the later Article 6 in the Paris Agreement.

The literature so far does not reflect on the SD-benefits of market provisions under the Paris Agreement to a larger extent. Many comments on the Paris Agreement underscore the need to further spell out the individual elements of the Article 6, in order to better judge on the impacts (such as New Climate Institute 2015). Carbon market representatives generally welcome the adoption of the Article 6, and some also see a good foundation for robust environmental integrity of markets (for instance IETA 2015b). Environmental NGOs are more cautious in this regard; Carbon Market Watch (2015e) however understands the provisions for SD as strong indication for the future market mechanisms to aim beyond GHG reductions.

Barriers and Drivers for enhancing SD-benefits

As for barriers that prevent achievement of SD-benefits under future UNFCCC market mechanisms, there are several elements that can be identified as potential barriers:

- **Lack of a strong mandate for inclusion of SD-benefits** under future market mechanisms, and the
- **Lack of clarity regarding scope and modalities of market mechanisms at UNFCCC level**: The fact that the debate on the modalities and procedures for the NMM & FVA has been stalling has also prevented a detailed debate on SD-benefits. The debate on the SDM and CA is yet to start. The new momentum for a market mechanisms under the UNFCCC after the COP 21 may also benefit the SD-benefits debate.
- **Question of sovereignty regarding the definition and assessment of sustainable development**: Sovereignty rights of countries may lead to a fragmented approach where each country defines its national requirements to consider SD-benefits (such as under the CDM); this includes both advanced and poor approaches.

- **Lack of incentives for determining the effects of SD-benefits**, including the lacking interest of buyers in fostering SD-benefits under a compliance market. On the other hand buyers could also become a mayor driver for SD-benefits if transparency is enhanced.[13]
- Added **complexity** of SD-benefit assessments and respective **transaction costs**. This involves the trade-off between achievement of substantial emissions reductions through an accessible mechanism and stringent assessments and measuring of SD-benefits.

Regarding drivers that can potentially foster the relevance of SD-benefits in the debate for a future centralized market mechanism as well as bottom-up initiatives under the UNFCCC, the discussion and process on the CDM SD Tool under a reformed CDM is well suited to inform other relevant UNFCCC market mechanism debates. The CDM SD Tool hereby represents the most sophisticated debate on SD-benefits of market based mechanisms under the UNFCCC (see also 3.1 below), although it is a voluntary tool and can be regarded as a "paper tiger".

Apart from that, the debate on the UN Sustainable Development Goals (see 3.7) can also create momentum for enhancing the role of SD-benefits – mainly because they represent some sort of consensus at UN level regarding the scope and priorities for sustainable development. Regarding a more harmonized and strong international approach for SD-benefits inclusion, sustainable development criteria could be defined by funding agencies that support market based activities.[14] Such eligibility criteria could be complemets to sustainable development provisions put forward by host countries (see discussion on NAMAs under 3.3). Moreover, putting forward specific SD-benefit positive or negative lists for activities under future mechanisms would allow to address SD-benefits in early project stages.[15]

[13] See also interviews No. 1, 2, 13, 14.

[14] See interviews No. 3 and 7.

[15] Interview No. 11.

2 Debate and role of SD-benefits under existing mechanisms and initiatives

The subsequent chapter analyses various positions and the debate on strengthening SD-benefits under selected existing mechanisms and initiatives, namely the CDM, voluntary carbon market standards, NAMAs, REDD+, the GCF, the PMR and the UN SDGs. Hereby an overview on the debate on SD-benefits, respective institutional aspects, the general relevance of SD-benefits under the mechanism, key stakeholders as well as drivers and barriers for SD-benefits is provided.

2.1 Clean Development Mechanism

Relevance of SD-benefits under the CDM

The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits. The CDM was designed to meet a dual objective: helping Annex I countries fulfil a supplementary part of their legally binding mitigation commitments in a cost-effective manner, and to assist developing countries in achieving sustainable development. However, in practice, due to an unbalanced incentive structure, not as much attention has been paid to achieving SD-benefits than to achieving mitigation. Until today, there is a lack of mandatory guidance and ex-post assessment of SD impacts, mainly owing to the insistence of many developing countries on determining what constitutes sustainable developing within their own national circumstances.

Still, the poverty of large segments of the population in developing countries requires reconciling the twin challenge of achieving sustainable development while mitigating climate change. As LDCs are least responsible for and most vulnerable to the impacts of climate change, broadening access to CDM for "underrepresented countries" has been one of the key drivers of CDM reform, which have led to important innovations such as Programme of Activities (PoA), standardization, suppressed demand, and micro-scale projects. The emergence of such simplified approaches has helped LDCs access the CDM to an increasing extent. In addition in particular PoAs are also contributing to the CDM's sustainable development objective as dispersed activities such as demand-side energy efficiency measures (e.g. cook stoves, energy efficient lightning), small-scale renewable energies technologies require an aggregation of large numbers of appliances in order to overcome transaction costs that would otherwise be prohibitive.

SD-benefits have from the beginning played a prominent role for marketing of credits within the voluntary offset market (also see 2.2). Notably certification organizations such as the Gold Standard have since 2003 provided additional methodological requirements for CDM projects that were deemed to provide strong SD-benefits. For this purpose the GS has developed its own set of methodologies to assess SD-benefits. Further standards such as CCBA, VCS, Social Carbon and others have developed similar results frameworks (see WI/UNEP 2015).

Given that on the compliance market buyer's objective is primarily to achieve their mitigation requirements, this broader market has only rarely sparked more systematic efforts to assess SD-benefits than what the formal requirements through the DNA assessment provides. This has resulted in some controversial activities being supported through the CDM "like mega-hydropower dams and coal-fired power plants that have delivered little in the way of sustainable development outcomes - and in some cases have further harmed the environment and human health" (Redman 2013).

Overview of debate on SD-benefits

Although some Party submissions (UNFCCC 2013e; 2013f) frequently highlight that the main motivation for CDM projects is mitigation (Norway), they welcome at the same time efforts to enhance the SD component of the CDM (EU and Switzerland). A large number of CDM activities have reported to deliver a broad range of SD contributions (CDM Policy Dialogue 2012), and ongoing reforms such as PoA have enabled activities with high SD-benefits (e.g. electrification of rural communities with renewable energy) to access the CDM (UNEP DTU 2015). However, as discussed in detail by e.g. Arens et al. (2015), the CDM has also been criticized by Parties (UNFCCC 2013e; 2013f), observers (Filzmoser 2014) and researchers (Olsen 2007) for the absence of sustainable development contributions of some project types (Schneider 2007). In some extreme cases, even negative impacts of CDM activities on SD, including human rights violations, have been reported (Schade and Obergassel 2014).

In response to such criticisms, the CDM Executive Board (EB) in 2011 invited input on how SD-benefits from CDM projects could be enhanced, without deviating from the principle that host countries themselves define what contributes to their sustainable development. This resulted in developing a voluntary SD tool under the guidance of the EB, which provides a framework for how to communicate SD-benefits expected from a CDM activity.[16] The tool provides standardized evaluation criteria for a number of effects including environmental, economic and social aspects. As such it is not expected to necessarily strengthen SD-benefits, or prevent projects that are in conflict with international norms and objectives such as the Millennium Development Goals or human rights (Schade and Obergassel 2014). Ultimately the tool does impose mandatory guidance, but offers a tool for voluntary application.

Meanwhile, in context of the reform of CDM Modalities and Procedures (UNFCCC 2013g), scheduled as part of the 2013-2015 review of the Kyoto Protocol and its institutions, Parties and Observers have repeatedly expressed the wish for a more systematic assessment of SD and that such assessments influence the decisions for approval of new proposed activities, or that it even becomes possible for DNAs to withdraw their letter of approval (LoA) (UNFCCC 2013e; 2013f). The EU suggested that reporting SD-benefits of CDM projects should be mandatory, that DNAs should make public the SD criteria used in the LoA process, and that the EB shall develop a tool for the assessment of both negative and positive SD impacts. Switzerland proposed that both host and investor countries should be able to withdraw or suspend their letters of approval when projects violate national regulations or international treaties, in particular human rights. At the same time Switzerland emphasizes the need to have robust safeguards to ensure that there is certainty for investment by the private sector. Parties also called for strengthening the participatory procedures, by guidelines prepared by the EB for that purpose and by strengthening DNAs capacities to deal with a broadened mandate (UNFCCC 2013e; 2013f). A number of civil society organisations followed the EB's call for ideas about possible changes of CDM modalities and procedures, commenting also on SD-benefits. Carbon Market Watch and the Climate Action Network suggest defining minimum global standards on sustainability and "no-harm" requirements that every CDM project has to meet, that DNAs make their SD indicators publicly available and also to include mandatory MRV requirements during the entire project cycle. Furthermore, they propose to exclude CDM projects associated with high social and environmental costs (e.g. extraction and use of coal) and giving DNAs the authority to withdraw a LoA while at the same time setting up communication channels and grievance mechanisms in order to consider social and environmental concerns of local stakeholders during the project cycle (CAN 2014; CMW 2013).

[16] Please refer to WI/UNEP 2015 for an indepth assessment

Even after the Paris Agreement, which comprises of a mandate to develop a centrally governed market mechanism (the SDM), it is currently difficult to predict how and by when its modalities and procedures will be elaborated over the coming years. This poses a significant uncertainty also with regard to potential provisions which could strengthen SD-benefits. However, the mere existence and name of the SDM, building on the current CDM (see section 2.1), provides a strong signal that the sustainable development aspect of mitigation activities could play a relevant role in the future.

Institutional aspects

The CDM has been defined in Article 12 of the Kyoto Protocol (KP), and its regulatory framework has been built based on a set of modalities and procedures adopted in subsequent COP decisions. The key steps regarding contributions to SD concern the host country DNA, which needs to provide the LoA that affirms that the CDM activity contributes to the country's SD, based on criteria defined by each country. This letter is a formal condition for project or PoA registration through the CDM Executive Board. Research indicates that most host countries have general lists of non-binding guidelines instead of clear criteria (Olsen 2007; Obergassel et al. 2009).

Project participants need to describe the SD contribution only ex-ante in the Project Design Document (PDD) or Programme of Activity Design Document (PoA-DD). Third-party validators and verifiers do not need to verify ex-post that SD contributions actually occurred, in contrast to mitigation impacts. There is no formal way of enabling market valuation of SD impacts through the CDM, as all credits are technically equal. The CDM SD tool does not affect the institutional setting of the CDM project cycle, but adds an opportunity for project participants to highlight – in a systematic manner – the SD-benefits of their activities.

The development of a CDM project requires inviting the public to make comments on the CDM website based on publicly available documentation prior to validation, so that DOEs can include such public inputs. In addition, the DNA is supposed to facilitate a local stakeholder consultation. Although there are no mandatory rules, the EB was given a mandate to work with the DNA Forum to compile technical assistance resources, similar to the voluntary SD tool for project developers (UNFCCC 2015c). In the future, reformed M&P might include more stringent rules for stakeholder engagement.

In order to provide more ambitious guidance on SD performance of the CDM, the CDM EB is dependent on CMP decisions that would instruct it to develop such rules. For revising modalities for the CDM or for developing those of the SDM further COP decisions may be required.

Local and global stakeholder consultations take place ex-ante and there is no institutionalized route to express concerns if negative SD impacts occur during or after project implementation i.e. an appeals process. This issue has been raised repeatedly in UNFCCC negotiations and in 2009 the EB was tasked to establish procedures for considering appeals by stakeholders (UNFCCC 2009). At the 86th meeting of the EB a concept note on improving the stakeholder consultation process (UNFCCC 2015g) was discussed. The concept note indicated several gaps and weaknesses in CDM rules with regard to stakeholder consultation including:

- on monitoring the status of completion of commitments made in the PDD addressing comments received during consultations,
- lacking guidance for DOEs on how to address comments received,
- a language barrier for local stakeholders to participate due to the fact that PDDs are not translated into the languages of host countries and comments are only accepted in English,
- a lack of procedure to address stakeholder concerns raised post registration,
- insufficient guidance on dealing with DOE statements in the validation report

- lack of provisions on how to address comments relating to human rights and negative environmental impacts due to the implementation of a project activity or PoA.

The 87th meeting of the EB in November 2015 further deepened discussion of solution approaches suggested in the concept note (UNFCCC 2015g) and proceeded to elaborate an improved local stakeholder consultation process (Annex 12) and tasked the EB Secretariat to draft amendments to the relevant regulatory documents in order to operationalize these improvements. Further EB 87 addressed the concern pertaining to human rights by requesting the Secretariat to forward any comments on human rights issues received by the EB to the "relevant bodies within the United Nations system and within the host government" (UNFCCC 2015h). The provisions elaborated by the EB (UNFCCC 2015i) address several of the above concerns but nevertheless remains rather vague on several key issues.

Key stakeholders

The DNA is arguably the most important regulatory body with regard to SD-benefits for CDM activities as it is the authority that defines the criteria and evaluation approach of sustainable development aspects of CDM projects. Project participants are the key actors presenting SD-benefits that are expected to arise from their actions. Their primary objective in doing so is to convince the DNA that the proposed activities are aligned with national sustainable development objectives as pre-defined by the DNA. The DOEs are certification entities that control whether the CDM requirements are met by projects including on the claimed SD-benefits. Guidance on this aspect is, however, extremely limited. Main tasks are the validation of and request for registration of proposed CDM projects and verification and certification of emission resulting thereof.
Verifiers have a role in checking the correctness of the documents presented by the project developer. The ultimate beneficiaries of SD-benefits – local populations– are only involved in the process through stakeholder consultations before activity implementation. Although there is no institutional provision with the UNFCCC, CER buyers have great leverage on promoting high SD-benefits, as any transaction is voluntary, and buyers can thus choose what type of CERs they would like to purchase. The impact of this power was never more clearly on display than when the EU ruled that certain project types would be excluded from import into the EU ETS after 2012.

Drivers for SD-benefits

Given the market crash and the consequently low CER prices there is currently an automatic crowding out of less financially competitive projects taking place – some of which are deemed to strongly contribute to sustainable development. At the same time there has been a trend in recent years that buyers – most prominently within the EU ETS – start to filter out certain activity types, which are regarded to have limited SD-benefits (such as industrial gas projects). The Nordic countries' CER procurement programs[17] also target specific projects in order to buy from the most vulnerable projects and those that provide its host country with the greatest SD-benefits. This has supported a very small subset of projects to survive the low prices, while others either had to shut down or turn to other donors, who often explicitly contributed to the funding of projects due to their SD-benefits.

Barriers for SD-benefits

[17] Nordic countries' CER procurement programs include the Norwegian Carbon Procurement Facility, the NEFCO Carbon Fund both managed by the Nordic Environment Finance Corporation (NEFCO), direct procurement by the Ministry of Climate and Environment of Norway and the direct purchase of emissions reductions by the Swedish Energy Agency (SEA).

The voluntary nature of disclosing SD-benefits and the correspondingly selective approach to present only certain aspects allows project developers to hide adverse effects from their actions. If a more detailed consistent quantitative ex-ante assessment and/or ex-post monitoring of SD-benefits became mandatory, on the other hand, this could generate substantial transaction costs, which could render many project types unattractive for the CDM. Even more, capacities – in particular in LDCs, which could benefit the most from sustainable development, would likely be limiting such detailed assessments across the various environmental, social and economic impacts.

Quantitative monitoring under the CDM is clearly focused on GHG effects rather than including a broad range of indicators. The assessment of sustainable development of each proposed project or programmatic activity is ultimately up to the Designated National Authority, which is to judge whether the activity contributes to the sustainable development within the national circumstances of the host country. Therefore the weight and type of judgment applied to projects is highly dependent on the criteria and indicator sets as well as the overall assessment approach applied by the DNA. The key obstacle remains the insistence of host countries that it is their sovereign right to determine what contributes to their domestic SD, while at the same time buyer countries are not pushing for mandatory provisions for SD-benefits of CDM activities.

Unless buyers consequently target activities with high SD-benefit contributions or apply filters to eliminate those activities with low contributions or that could even damage sustainable development, market forces and the host country approval process do not necessarily result in targeted action fostering SD-benefits. According to a carbon fund manager and a representative of a major buyer for compliance under the Swiss climate law, one cannot expect buyers in the compliance market to systematically select projects with the highest SD-benefits unless public scrutiny is forcing such decisions and the market offers CERs with highly cost-effective mitigation and strong SD-benefit outcomes. Both have indicated that one could not expect that buyers in the compliance market bear a substantial burden for analysing SD-benefits offered by various projects unless such an analysis offers a reduction in investment risks (Interviews 1 & 2).

2.2 Voluntary Carbon Market

Relevance of SD-benefits within the voluntary market mechanisms

SD-benefits generally play a much stronger role in the voluntary market, given that buyers are often looking for projects to strengthen corporate responsibility. In general, carbon standards used in the voluntary market vary in their requirements for SD-benefit assessments. Some do not include SD-benefits and others have very elaborate frameworks. Voluntary standards that extensively cover SD-benefits[18] are the Gold Standard (GS), the Climate, Community & Biodiversity Standard (CCBS), the Social Carbon Standard (SCS) and the Fairtrade Climate Standard (FCS)[19], which was launched at COP21 in Paris. Together, the three established standards GS, CCBS and SCS make up almost 40% of the volume

[18] Please note also the most recent development at the Verified Carbon Standard (VCS): the VCS is in the process of opening its platform to units other than CO2 (in addition to a stronger integration of other standards into the VCS that have a clear focus on SD-benefits, such as the CCBS). This is reflected in a current concept note by the VCS from October 2015 titled "Landscape Sustainable Production Standard - A new tool for scaling up green development and production across the world's agricultural landscapes". The objective of this initiative is to develop and implement a global standard that focuses on the key sustainable production metrics to enable the streamlined assessment of sustainability outcomes at the landscape scale (i.e. a large area defined by common productive characteristics or administrative management; e.g. production region, supply-shed, eco-region, biome, state, municipality).

[19] http://www.fairtrade.net/standards/our-standards/climate-standard.html

transacted in the voluntary carbon market (Forest Trend Ecosystem Marketplace [FTEM] 2015). This stresses the importance of SD-benefits for buyers in the voluntary carbon market. While compliance-driven offset demand is typically shaped by cost and risk issues, voluntary offset demand from buyers has a substantially wider range of decision points. In absence of any mandatory regulation, the voluntary market has pioneered in developing MRV methods for SD-benefits incentivised by maket demand.

Overview of debate on SD-benefits

Despite of its relatively small size[20], the voluntary market always had a pivotal and pioneering role in intertwining GHG reductions and SD-benefits. Credit buyers, voluntary standard organisations and project developers shape most of the debate about SD-benefits in the voluntary carbon market.

Clearly, the voluntary market is driven by the desire of offset buyers to support not only GHG emission reductions but also sustainable development. Based on their motivation to improve reputation/brand image, employee engagement and market differentiation (International Carbon Reduction and Offsetting Alliance [ICROA] & Imperial College London 2014), unique characteristics of a project, such as type, location and standard used are vital for the decision to buy offsets (FTEM 2015). As the report by FTMP states, for voluntary buyers the story behind the offset project is central and "they purchase and often engage in the voluntary carbon market because of the SD-benefits that charismatic projects offer – including local employment, biodiversity protection, and health improvements" (FTEM 2015, 17). A key finding from the report is that offset buyers paid more for specific project types such as cookstoves, water filtration, and avoided unplanned deforestation, which represent project types with a clear and distinct SD-benefits profile. Also, "on average, buyers paid $2.7/tonne more for VCS offsets 'tagged' with the CCB Standards SD-benefits certification versus VCS alone" (FTEM 2015, 3). An exemplary demonstration for the price premium for SD-benefits in the voluntary market is also the comparison of the average market price per tCO_2e in the voluntary market in 2014 of $\$3.8/tCO_2e$ to the respective average price paid for Gold Standard certificates of $\$4.4/tCO_2e$ (FTEM 2015).

Furthermore, there is a growing awareness among stakeholders of the (monetary) value of SD-benefits beyond GHG reductions, combined with more sophisticated approaches to quantify SD-benefits in different sustainable development domains such as health, gender or biodiversity. A recent study by ICROA and Imperial College London (2014) concluded that every tonne of (voluntary) CO_2 offsets not only funds GHG reductions, but it can deliver up to $664 in additional economic, social and environmental benefits. Moreover, the study by Santucci et al. (2015) concluded that for every ton of CO_2e reduced composting projects in the countries Bangladesh, Vietnam and Sri Lanka can generate SD-benefits worth about $100 to $200.

Moreover, voluntary carbon market actors are gradually expanding the lessons learned from carbon markets to other development domains. This trend is enhanced by the growing relevance of results-based financing schemes in the development aid world (Warnecke et al. 2015; Pearson et al. 2010) and the momentum created by the Sustainable Development Goals (World Bank Group 2015; "World Bank announces $5bn drive to improve quality of global education" 2015). A prominent example is the leading voluntary standard organization The Gold Standard Foundation, which positions itself today as a "platform for results-based finance targeting a broad set of outcomes that contribute to both climate and development post-2015 agendas" (addressing the nexus of Climate, Energy, Food, and Water secu-

[20] For example, in 2012 the CDM issued 339 $MtCO_2eMtCO_2e$ (Kossoy et al. 2013) while the voluntary carbon market transacted about 103 $MtCO_2eMtCO_2e$ (FTEM 2015).

rity) (The Gold Standards Foundation 2015). The recent announcement of the Gold Standard 3.0 concept highlights the efforts made toward a standardized and integrated assessment framework for sustainable development (ibid.).

The voluntary market serves as a fertile testing ground to integrate the principle of "payments for performance" across other sustainability domains beyond climate change mitigation. Voluntary market actors are more prone to pilot and finance a range of different projects with a focus on SD-benefits beyond GHG emission reductions (FTEM 2015). There is a clear movement triggered by voluntary carbon markets to monetise SD-benefits beyond GHG emission reductions. This trend is reflected in recent pioneering approaches that make use of mechanisms and respective infrastructure developed under voluntary carbon markets for a stringent quantification and monetisation of specific SD-benefits. Examples include the Gold Standard Water Benefit Standard[21], the World Bank and CQuest Capital initiative on averted Disability Adjusted Life Years[22] or the WOCAN and South Pole Group initiative on the W+ Standard that provides metrics to measure women empowerment in social and economic terms[23]. Governmental institutions increasingly use the range of methodologies and frameworks from the voluntary market to support the development of national carbon pricing systems to show tangible outcomes[24] (FTEM 2015). Therefore, the voluntary market can lay the basis to integration of SD-benefit approaches into national carbon schemes.

All these developments initiated and pushed by voluntary market actors as well as the recent approval of the Sustainable Development Goals by the UN General Assembly 2015[25] are likely to promote further evolution in voluntary carbon markets towards more stringent quantification and monetisation of (some) SD-benefits in addition to GHG reductions.

Institutional aspects

Most voluntary standards require projects to go through a set of procedures to assess the feasibility and risks and later to outline project activities and establish a baseline level of emissions (called a Project Design Document). A third-party auditor then "validates" these assumptions. After project implementation and monitoring, a "verification" process evaluates the delivery of greenhouse gas mitigation respectively carbon credits (FTEM, 2015). The overall governance and oversight of standards in the voluntary market, including regulatory, financial and organisational aspects, is usually conducted by independent not-for-profit organisations that are funded through fees associated with the registration of projects and issuance of carbon credits. Registry functions for the actual transaction of carbon credits are outsourced to service providers (e.g. APX, Markit) under most voluntary carbon standards. Compliance with SD requirements is implicitly acknowledged in these registries by "tagging" of issued carbon credits to standards like the GS, CCBS or SCS. Apart from early stage initiatives, such as Water Benefit Certificates under the GS or W+ Units that quantify women empowerment benefits (under the W+ Standard), there is limited experience with the actual verification, issuance and monetisation of SD-benefits in voluntary carbon markets beyond carbon credits.

Among the many existing voluntary standards, the three established standards GS, CCBS and SCS present requirements for a thorough sustainable development assessment (Arens et al. 2015). Firstly, they

[21] For more information, please visit http://www.waterbenefitpartners.org or http://www.goldstandard.org/articles/water-benefit-standard

[22] For more information, please visit http://www.cquestcapital.com/platforms/cookstoves/ or Newcombe & Steele 2013.

[23] For more information, please visit http://www.wplus.org/

[24] For example, California's "cap-and-trade" carbon market and South Africa's upcoming "tax-and-trade" carbon pricing

[25] General Assembly Resolution 70/L.1, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/L.1 (18 September, 2015), available from undocs.org/A/RES/70/L.1.

require ex-ante sustainable development assessments of emission reduction projects and have implemented systems to monitor the identified sustainability indicators for all projects aiming to be certified (e.g. Gold Standard, CCB Standard and Social Carbon Methodology require similar procedures). Secondly, the assessed and monitored sustainable development indicators are reviewed and verified by an independent party, which "ensures compliance and therefore adds to the reliability and credibility of the SD assessment" (Arens et al. 2015, 50). Thirdly, GS, SCS and CCBS demand mandatory stakeholder consultations, which include meetings with local stakeholders to raise concerns, involve them in the project design and encourage some form of grievance mechanisms (for more details see Arens et al. 2015). In general, the GS has a stronger focus on safeguards ("do not harm" approach), whereas Social Carbon is geared towards a continuous improvement ("do good" approach) and the CCBS includes both ("do no harm" and "do good") approaches. Due to their focus on particular projects, none of the standards is explicitly linked to national development strategies that a host country might have. Furthermore, given the nature of voluntary markets (taking place outside the UNFCCC convention), there is also no formal approval process by national governments (unlike in the CDM).

Key stakeholders

In the voluntary carbon market, offset buyers play a crucial role in shaping the demand for SD-benefits when they display preferences for specific SD-benefits and a respective willingness to pay a price premium for credits that include them (FTEM 2015). Standard organizations and project developers are also vital in terms of recognizing trends in the market and developing standards that cater market needs such as SD-benefits in addition to GHG reductions. National governments are not a very influential stakeholder in the voluntary market as they rather observe and use the voluntary market as a template provider to develop national schemes.

Drivers for SD-benefits

The crucial driver for a thorough assessment and integration of SD-benefits into carbon offset standards is the demand from buyers determined by their motivation of Corporate Social Responsibility and climate leadership (ICROA & Imperial College London 2014). This genuine demand goes hand-in-hand with the respective willingness to pay, which is reflected in the premium prices paid for carbon credits in the voluntary market that apply standards with a strong focus on SD-benefits.

The recently adopted SDGs will play an important role in shaping voluntary carbon markets in the years to come. Some voluntary carbon standards for example the Gold Standard are further developing and aligning their framework for the assessment of SD-benefits to the SDGs (Interview No.12). The SDGs are also likely to spur further demand for voluntary carbon offsets and other environmental and social commodities (based on specific SD-benefits) due to a growing interest and potential pledges by the private sector to contribute to the SDG agenda (World Business Council for Sustainable Development 2015). Moreover, a stronger focus on SD–benefits has the potential to improve the overall image of market instruments and overcome "the rather negative public perception and media coverage of market instruments" (Interview No. 12) under the Kyoto Protocol, which is perceived as an overarching barrier to market mechanisms in general.

Barriers for SD-benefits

A major barrier to promoting SD-benefits is the different levels of transaction costs that can occur when assessing SD-benefits. Striking an acceptable balance between costs and depth of assessment is a key challenge. "Finding a solution without either being more costly or complex is challenging" (Interview No. 13). Also, there is no unified standard to define clear impact and value of SD-benefits: "SD-benefits are not consistently measured, therefore people communicate in different ways about the same thing creating a distrust among the buyers. Hence, projects with similar or same SD-benefits but measured differently can endanger price premiums" (Interview No. 12; also No. 13 and No. 14). The fragmentation of standards and players as well as the consequential difficulty to compare SD-benefits can therefore reduce the level and quality of SD-benefits being implemented.

2.3 Nationally appropriate mitigation actions (NAMAs)

Relevance of SD-benefits under NAMAs

Since the introduction of NAMAs[26] in 2007 at the COP meeting in Bali (UNFCCC 2008), the relevance and popularity of the NAMA concept has increased significantly among stakeholders. As of today, 112 NAMAs have been submitted to the official UNFCCC NAMA Registry (2015) by host countries located in Africa, Asia and a large part of Latin America. these official submissions, the voluntary NAMA database maintained by Ecofys lists 162 NAMAs – some of which are also included in the official registry (2015). However, despite the significant potential of NAMAs in delivering climate mitigation and sustainability benefits, only 14 of them are currently receiving international support (UNFCCC 2015d) while 13 are in the implementation phase (Ecofys 2015; van Tilburg et al. 2015)[27].

The implementation of NAMAs has mainly been hampered by the current debate on the purpose of a NAMA and its underlying processes. There are neither stringent rules nor official guidance materials with regards to the definition, development or implementation of NAMAs. As a consequence, host countries have developed a wide array of different types of NAMAs, e.g. policies/regulations, sectorial goals and even country-level pledges, or projects and programmes. The same problem applies to NAMAs and SD-benefits (Carbon Market Watch 2015a; 2015b). "The question of how SD impacts are to be integrated into NAMA processes remains open, as do questions regarding which impacts should be assessed and how they should be measured" (UNEP DTU Partnership 2015, 2). Hence, several tools have emerged supported by different institutions[28]. Recently, the UNEP DTU has developed a NAMA SD Framework with the goal to improve measurement of SD-benefits under NAMAs and enhance understanding of NAMA's contribution to national development goals (UNEP DTU Partnership 2015). So far, detailed mandatory and reporting of SD-benefits.

Overview of debate on SD-benefits

[26] Definition of NAMA: "Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing andcapacity building, in a measurable, reportable and verifiable manner" (Bali Action Plan, 2007: 1 (b) (ii)).

[27] There are two NAMA databases. The official one is the NAMA Registry hosted by the UNFCCC secretariat. This registry lists NAMAs from developing countries that seek support for implementation or public recognition. The second one is the voluntary NAMA Database hosted by Ecofys, which is platform to share information and lessons learned and does not represent official submissions. The databases are not additional and often list the same NAMAs. Both give an indication on the number of NAMAs implemented or under development.

[28] An overview of NAMA SD-benefit assessment tools can be found in the publication by UNEP DTU Partnership (2015) "Framework for Measuring Sustainable Development in NAMAs".

The current debate around NAMAs including publications on the topic as well as NAMA submissions shows that SD-benefits play a very important (if not the most important) role, particularly in the eyes of Non-Annex I countries. NAMAs intend to achieve both, sustainable development benefits and GHG reductions. However, the expectations of Annex I countries and non-Annex I countries on the role of NAMAs are not aligned (van Tilburg et al. 2014). Non-Annex I countries are mainly interested in the sustainable development component while Annex-I countries dominating respective climate finance institutions or donors institutions are in support of the climate mitigation aspect of NAMAs (Interview No. 3).

Within the NAMA community, stakeholders have different perceptions on the purpose of a NAMA and what it should achieve. In practice, NAMAs are often driven by domestic (public and private) interests reflecting a national sustainable development agenda, while Annex I countries and climate finance institutions would like to have more stringent requirements for mitigation actions (Interview No. 3; van Tilburg et al. 2014; Olsen 2013). Adding to this debate, the recent concept of transformational NAMAs emphasizes that NAMAs should introduce radical transformational change towards low-emission paths (Mersmann et al. 2014). Hence, the perception of what a NAMA should achieve - sustainable development, lower emissions or transformational change - is divided.

Moreover, different scopes and objectives of climate finance and development aid institutions led to a lack of financial support of NAMAs. The different interests are rooted in the agencies' respective agendas on climate and development finance (Interview No. 3; van Tilburg et al. 2014). While climate institutions provide funding for mitigation activities, development agencies consider NAMAs as separate from traditional development assistance because they emerged with the aim of driving change in climate-related mitigation sectors (Bristow 2015). Positioned in this intersection, the financial support of SD-benefits under NAMAs has been neglected. As SD-benefits are treated as add on to GHG emissions, they haven't been incorporated properly in climate finance (Interview No. 3) nor integrated into development aid (as mitigation is not their focus). It seems that Non-Annex I countries do not want the discussion on SD-benefits to intersect too much with current levels of development assistance because they want to avoid that development assisstance is redeclared as climate finance (Interview No. 3). Contrary to these positions, the study by Bristow concludes that "the scope, objectives and financial support structures for traditional development assistance approaches and NAMAs overlap widely" (2015).

In addition, there is also no universal approach on SD-benefits and how they should be measured, reported and verified under the NAMA regime (UNEP DTU Partnership, 2015; Carbon Market Watch 2015a; Olsen 2013). Thus, tangible outcomes for potential domestic and international investors are not properly demonstrated. Experts increasingly highlight that measured sustainable development benefits are key criteria for NAMA investment decisions. Therefore, measured "SD-benefits serve to strengthen the political case for NAMAs, drive Intended Nationally Determined Contributions (INDCs) and the desire to obtain international support to design and finance" both mitigation actions and development benefits (Santucci et al. 2015, 5; Rescalvo 2014). In practice, however, it may also be that the substantial effort required by the host country government to develop a NAMA could be seen as proof for the alignment with the host country´s sustainable development priorities.

Furthermore, the NAMA community does not yet fully understand the role of domestic key stakeholders such as businesses, finance and investment agencies, strategic line ministries or civil society and their level of integration in the NAMA design and implementation process (van Tilburg et al. 2014; Santucci et al. 2015). Different actors, such as the UNDP, the NAMA Partnership or the NAMA Facility

contribute to the debate and develop respective guidance materials or tools to support NAMA developers and to harmonize the integration of SD-benefits into the NAMA design (UNDP 2015; NAMA Facility 2015). However, schemes focusing on building transparency, awareness and understanding by the private sector and civil society have fallen short. Businesses, finance and investment institutions require profitable investments. At present, NAMAs fail to provide an acceptable risk/return ratio that would incentivize the private sector to contribute. "NAMA SD-benefits are not aligned with private sector profit strategies" (Interview No. 3). The involvement of the private sector is crucial for effective NAMAs, since it could be able to finance a large part of their implementation (van Tilburg et al. 2014; Interview No.3). Moreover, civil society as the one of the beneficiary of sustainable development SD-benefits is not integrated into the NAMA design and implementation process (Carbon Market Watch 2015b; 2015c). NAMA support providers such as UNDP have already started to develop schemes for wider stakeholder consultation and inclusion of civil society (UNDP 2014; van Tilburg et al. 2014; Carbon Market Watch, 2015c). Due to lacking precedent, it is not defined if and how civil society and the private sector can be integrated in the NAMA process in the future.

Institutional aspects

Due to the on-going general discussion and respective lack of clarity on the purpose of a NAMA and the structure of its underlying processes, unified instruments to properly include and measure SD-benefits, have not been established. "Experience with SD impact assessments of NAMAs is still at an early stage, and no generally accepted method exists, though countries and stakeholders have started to develop their own approaches" (UNEP DTU Partnership, 2015, 7), for instance the Development Impact Assessment (DIA) Visualization Tool (UNEP DTU Partnership, 2015). However, so far, the NAMA SD tool is the most prominent effort to help NAMA developers assess and measure SD-benefits today. The UNDP developed the tool in 2014 to help developers and policy makers "evaluate Sustainable Development performance indicators" (UNDP 2015). Unlike other sustainability assessment tools, the NAMA SD tool is directly linked to the SDGs (see 3.7) and allows the user to specifically "track the effects of the NAMA on environmental conservation, economic growth, poverty reduction and public welfare" (Arens et al. 2015; UNDP 2015). NAMA developers can choose the indicators that are most relevant to their domestic policy objectives as well as the type of mitigation actions they want to undertake. Also, users have to score the impact as positive, negative or neutral. The fact that indicators may be scored negatively provides a broader view of the NAMA performance on sustainable development (Arens et al. 2015). The NAMA SD tool integrates the main criteria of a thorough sustainability assessment, although some parts are not yet implemented. Apart from the detailed mandatory monitoring and reporting of SD-benefits linked to the SDGs, the UNDP plans to incorporate an independent review process (Interview No. 3). However, the overall NAMA design and implementation process does not yet contain structured stakeholder consultations or grievance mechanisms (Arens et al. 2015). The tool has been showcased in a number of NAMA design projects, including a NAMA for Rural Electrification with Renewable Energy in Gambia (UNDP 2015), but the application of the NAMA SD tool is currently not mandatory as other tools are used as well.

Given the purposeful low-intervention of the NAMA instrument – being nationally determined – there is no firm institutional structure for NAMA development and financing. The only official point of reference is the UNFCCC NAMA registry. The registry is an online database, which – through the categories of information that can be submitted – offers a very limited understanding of what a NAMA can comprise of. NAMA funders, development cooperation agencies and multilateral organizations such as UNEP, UNDP and the UNFCCC secretariat have deceloped guidance documents on "best-practice" approaches toward various key aspects of NAMAs including on co-benefits. These guidance documents, however, represent suggestions only, which, in particular for co-benefits, do not provide more than a

general orientation on possible approaches such as e.g. revising SD criteria defined by the host countries DNA for evaluating SD-benefits that accrue to the host country.

Key stakeholders

Key stakeholders are NAMA developers, which are in most cases governmental institutions in developing countries that often receive support from specialized consultants. Key stakeholders are also often key beneficiaries of NAMA SD-benefits, which display a willingness to pay. For instance, the private sector is a key stakeholder as it is a major source of finance and investments in NAMAs (van Tilburg et al. 2014; 2015; Interview No. 3) or line ministries that benefit from NAMAs as demonstrated in the case study by Santucci et al. (2015). With recent developments in the NAMA tool and MRV field, certifying agencies could also become an important part of the NAMA process. However, in the long run, the implementation of NAMAs requires the involvement of a larger group of stakeholders, such as (international) donors, funding agencies and civil society working together to make the NAMA a success.

Drivers for SD-benefits

SD-benefits under NAMAs are usually driven by the domestic sustainable development agenda and respective goals of national (or sometimes sub-national) governments. In fact, climate change mitigation may not be the overarching goal (Interview No. 3). The policy objective of ministries that are involved into NAMA design and operation is often largely unrelated to climate mitigation (Interview No. 3). Also, priorities of NAMA support providers such as the NAMA Facility and the UNDP can be a driver if they are equally supportive of sustainable development SD-benefits and GHG reductions.

Barriers for SD-benefits

In regards to NAMAs, different interest of the development aid community and the climate community make it difficult to combine funding. A merge of interests has not happened yet (Interview No. 3). A lack of standardized approaches make it difficult to measure and compare SD-benefits under NAMAs and convince relevant stakeholder to invest (Carbon Market Watch 2015b; Santucci et al. 2015). It is difficult to say if more stringent SD-benefit assessment will necessarily lead to more (financial) support (Interview No. 3). Furthermore, there is a lack of understanding of the roles of various stakeholder groups (specifically private sector and civil society but also key governmental actors), and on what types of players should be involved and when and how to engage them (van Tilburg et al. 2014; 2015; Carbon Market Watch 2015b). Another barrier is the high investment risks sometimes related to the design of a NAMA but also the general investment climate in the respective host country (van Tilburg et al. 2014).

2.4 Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+)

The present section focuses on UNFCCC regulations regarding the consideration of non-carbon benefits (NCB) in REDD+. As the focus of this study is on the UNFCCC negotiations, approaches from other REDD+ initiatives are not being addressed. Yet, for instance the approach taken in the UN REDD Programme is described in Arens et al. (2015, 34.) If a REDD+ activity were to be financed for instance by the GCF, GCF regulations would apply. For the GCF it needs to be noted that the separate performance measurement framework for REDD+ results-based payments (GCF 2014a, Annex XI) does not refer to NCB or SD potential in the proposed indicators. For the description of SD-benefits in the context of the GCF, see section 3.5.

Relevance of SD-benefits/non-carbon benefits for REDD+ activities

The importance of NCBs in the context of REDD+ has been acknowledged by the COP when highlighting their role especially for the "long-term sustainability of the implementation of activities" (UNFCCC 2013h decision 9/CP.19 para 22). Already in 2010 and 2011 the importance of additional benefits than greenhouse gas reductions has been recognized, on the one hand in the safeguards for REDD+ and on the other hand when highlighting that REDD+ measures "can promote poverty alleviation and biodiversity benefits, ecosystem resilience and the linkages between adaptation and mitigation" (UNFCCC 2011a II, C, preambula). There is a close relation between safeguards for REDD+ projects and NCB. The REDD+ safeguards include also reference to stakeholder participation, ecosystem services of forests, biodiversity as well as other social and environmental benefits (UNFCCC 2010 Annex I)[29]. In the view of some countries (COMIFAC 2014), Malaysia (2014) NCB are to some extent already integrated through the reference in the safeguards. Similarly, in the view of the USA (2014, 1) the guidance and safeguards "help ensure that these (…) "Non-Carbon Benefits (NCBs), "are present in any REDD+ work."[30] In the view of the EU (2014b, 1), there is a clear difference between the safeguards and the NCB, since safeguards are an essential requirement for any result based payment, while NCB are an "additional positive result". Similarly, some civil society actors perceive NCB as going beyond safeguards (Silverman and Amerasinghe 2014) since safeguards shall "prevent harm" while NCB shall "do good" (WWF 2014, 3)[31] for instance by providing additional synergies with other environmental and social aims (Interview No.5).

The decision adopted at COP21 highlights the importance of national circumstances to NCB of REDD+ measures and invites developing countries to communicate if they seek support for addressing NCB. If they decide to communicate such funding needs they may include information on "nature, scale and importance of the non-carbon benefits" in their communication (UNFCCC 2015e, paras 2, 4). Methodological issues on NCB shall not constitute a requirement for seeking support (UNFCCC 2015e, para 5). The reference to unique country circumstances confirms the observation made in the CDM that host countries regard it as their national sovereign right to define themselves what contributes to their SD and hence to define NCB relevant in their national context. Also in the Paris Agreement Parties reaffirmed in art. 5 the importance of NCB – while narrowing the application to "were appropriate" (UNFCCC 2015).

Overview of debate on SD-benefits

Various stakeholders have provided their views on what should be considered as NCB. COMIFAC countries (2014, 18) provide examples for potential NCB grouped into the following categories: "improved forest governance", "preserved ecosystem services", "climate change adaptation", "improved social and economical conditions" and "supported social and cultural values". NCB identified by the EU (2014, 26) are for instance biodiversity restoration, education, forest governance improvement or the "sustained provision of forest resources". In the view of the Asia Indigenous Peoples Pact (AIPP) (2014, 2) NCB should include amongst others "sustainable livelihood of indigenous peoples", "source of medicinal

[29] UNFCCC (2010), Annex I, para 2: "When undertaking the activities referred to in paragraph 70 of this decision, the following safeguards should be promoted and supported: (…) (d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities (…) (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decisions are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits (…)"

[30] Also according to Conservation International et al. (2014, p.1), the Cancún decision "established the expectation that all REDD+ activities should enhance social and environmental benefits (…)".

[31] Yet such approach is challenged by Chhatre et al. (2012, p.655) who see new scholarship also putting emphasis on "the power of safeguards in amplifying the comparative strengths of local communities (….)".

plants and animals" and ecosystem services and should be secured by policies and measures, such as "legal recognition and protection of the collective rights of indigenous peoples over their forests (…)". The importance of rights to land has also been recognized by the International Work Group for Indigenous Affairs et al. (2014).

On methodological aspects on the assessment of NCB, the COP tasked in 2012 the SBSTA to discuss such aspects (UNFCCC 2012, para 40). One the one hand, several countries held the position that NCB or methodologies to measure NCB should be nationally defined (i.e. USA (2014), Philippines (2014), Norway (2014), China (2014), ASEAN (2014)) – with one underlying reason being the diverse local and national circumstances and the expected attached difficulties to agree upon one common methodology. On the other side, Tunisia (2014) held the position that a common "methodological framework" for measuring NCB should be agreed upon at UNFCCC level and international principles and indicators could be developed and accompanied by further national indicators[32]. Also COMIFAC (2014, 20) are of the view that the "guidelines for submissions on forest reference emission levels (FREL) and forest reference levels (FRL) (...) as well as the scope of the technical assessment of submissions on proposed FREL/FRL (...) should integrate the non-carbon benefits". In the view of WWF (2014, 5) quantitative and qualitative indicators[33] could be used to assess NCB and their importance might differ according to country contexts. Regarding the identification of NCB, Tebtebba (2014) suggested that this should take place in a multi-stakeholder participatory process. Discussions on the methodological issues of NCB resulted in the above mentioned decision at COP21 (UNFCCC 2015e) which highlights the importance of national circumstances to NCB of REDD+ measures and clearly states that methodological issues shall not constitute a requirement for seeking support (UNFCCC 2015e para 5).

Institutional aspects

National sovereignty is also very important in the context of REDD+. This is also reflected in the COP21 decision on NCB (UNFCCC 2015e), which leaves it up to host countries to define how NCBs shall be addressed. National entities or focal points can play an important role in coordinating REDD+ activities within a country – yet there is no obligation, only an invitation for countries to establish such focal points (UNFCCC 2013d, decision 10/CP.19).

Regarding reporting on NCB, several countries (i.e. EU (2014)) suggested that NCB could on a voluntary basis be reported upon in the Safeguard Information Systems or in the newly created Information Hub on the UNFCCC website. The latter should in the view of COMIFAC (2014) at least include summary information on NCB. Reporting could benefit from other reporting requirements for instance under the Convention on Biological Diversity or the International Labour Organization (COMIFAC 2014, similarly proposed by Norway (2014)). As indicated, according to the decision at COP21 (UNFCCC 2015e), reporting on funding needs for NCB remains voluntarily and similarly it is not required but only an option to include information on "nature, scale and importance" of NCB.

As REDD+ is tentatively designed as a results-based finance mechanism which may rely on both market and non-market sources of finance, it will be interesting to observe whether the results orientation also applies to the NCB aspect. However, the mechanism is still at an earlier stage of its regulatory evolution, at least within the UNFCCC.

[32] Similarly, the REDD+ safeguards working group et al. (2014, 3) suggested that international criteria should be developed against which nationally defined NCB would be measured in order to be recognized.

[33] Suggesting for instance "species richness, household income, (reduced) number of land conflicts, and local perceptions on the cultural services performed by the forests conserved" (WWF 2014, 5).

Key stakeholders

National or subnational governments are critical in governing REDD+, including with regard to NCBs. National entities or focal points which can be established for coordinating REDD+ activities can also become important stakeholders for ensuring alignment of REDD+ activities with country strategies, laws and practices. As typically vast areas of land are affected by REDD+ activities, however, local communities and indigenous peoples are crucial stakeholders for REDD+ activities, since they can be positively or negatively affected. Therefore, cooperation with indigenous peoples for instance with regard to monitoring systems, but also for policy reforms has been highlighted by The Asia Indigenous Peoples Pact (2014, 3). As REDD+ does not yet exist as a formal UNFCCC mechanism, practical experience is limited. However, voluntary carbon standards can be seen generating experience with quasi-early action for a future UNFCCC mechanism. In addition, public-actor driven initiatives such as Forest Carbon Partnership Facility (FCPF), the UNFCCC REDD Programme, the REDD+ Partnership, as well as a large number of bilateral cooperation activities such as Norway's International Climate and Forest Initiative provide some inside on buyer and seller dynamics respectively the application of safeguards and NCBs.

Drivers for SD-benefits

As indicated above, local and indigenous communities are crucial stakeholders for REDD+ activities. Some of them strongly depend on other than carbon benefits of forests. Thus the relevance of NCB for them should constitute a strong driver for NCB in REDD+ activities. The alignment of REDD+ activities with other national strategies, i.e. in the field of development or biodiversity, norms or commitments can provide a clear driver for addressing NCB such as poverty alleviation or biodiversity conservation (Brown et al. 2008, 118). For project developers one driver for the integration of NCB could be the long term sustainability of a project (Interview No.5) which can be strengthened by the consideration of NCB,

Regarding incentivizing NCB (with incentives potentially constituting drivers for NCB), the COP decided in 2012, that this should be discussed in the work programme on results based finance (UNFCCC 2012, para 29). Some countries suggested that NCB should become part of results based payments (COMIFAC (2014)) – which would hence make the achievement of NCB a requirement for any payment while others did not want NCB to be required for any results based payment (e.g. Brazil (2014), Malaysia (2014)). While in the view of the EU (2014), no specific payments for NCB ought to be necessary[34], since the achievement of NCB should constitute a sufficient incentive itself, the USA (2014) suggested that REDD+ with NCB should be prioritized for funding. Several other options for including NCB in results based payments are provided by COMIFAC (2014, 22)[35]. Brazil (2014) suggested incentivizing NCB through arrangements for sharing benefits from results based payments. The decision at COP21 (UNFCCC 2015e) invites Parties to provide information on NCB to other Parties and financing entities. In how far such provision of information will lead to additional financing or preferred financing will only be seen in the implementation thereof. Yet the provision of such information can allow matching projects with additional focus on NCB with potential donors or funding entities which are willing to provide potential additional costs resulting from the consideration of NCB.

Barriers for SD-benefits

[34] A similar view is held by Norway (2014, p. 3) since safeguards need to be addressed for access to results based financing, such access would already constitute an incentive to consider NCB.

[35] The described options are i) premium payment for REDD+ activities with NCB, ii) priority funding/quota for REDD+ activities with NCB, iii) "non-bundled additional payments" with separate financial incentives for NCB or iv) "bundled additional payments" for emission reductions and NCB together (COMIFAC, 2014, p.22).

The lack of clear guidance on NCB could also constitute a barrier to further enhance NCB (Silverman, Amerasinghe 2014). This shows that there is currently no clear convergence of views on the relevance of NCBs, although this barrier may lose relevance once REDD+ has been formalized as a UNFCCC mechanism and practical experience will be generated. Not only the transaction costs related to MRV but also the MRV itself poses another hurdle to the consideration of NCB (Interview No.5). MRV related challenges include how NCB will be quantified and reported upon and how the causality between project activities and NCB can be determined (Interview No.5). The lack of clarity how additional costs related to the consideration of NCB will be funded, poses another barrier for project developers to include NCB in their projects (Interview No.5). In addition, Parties did not have a common understanding on whether or not UNFCCC had the mandate to discuss NCB such as biodiversity (Interview No.5).

While there is a common view that NCB are of great importance, many countries, including Malaysia (2014), Japan (2014), EU (2014) and China (2014), clearly stated that focus needs to remain on the carbon benefits of REDD+ activities. Similarly like in the CDM, the national sovereign right of host countries to determine NCBs plays a key role in multilateral rule-setting.

2.5 Green Climate Fund (GCF)

The GCF is a new fund in the climate finance landscape which has only recently approved its first set of projects/programmes. The following assessment is based upon official documents such as meeting reports, GCF policies and regulations but cannot yet reflect upon actual project experience.

Relevance of SD-benefits in the GCF

The GCF has already from the beginning put great attention to the achievement of SD-benefits (Interview No.6). The Governing Instrument states directly in para 2 and 3 that the paradigm shift shall be achieved in the context of sustainable development and that the fund shall promote "environmental, social, economic and development co-benefits and [...] [take] a gender-sensitive approach".
The importance is also underlined by the fact that the initial investment framework includes sub-indicators for economic (i.e. job creation, poverty alleviation), social (i.e. health, education) and environmental (i.e. soil, air) SD-benefits, stakeholder participation and gender equity (GCF 2015c, Annex III). However, it is not mandatory to address each sub-criterion. Thus it remains to be seen how often they will discussed in project proposals. The performance measurement framework does not include specific SD-benefit indicators to be reported upon at project level, rather, “Context-specific environmental, social and economic co-benefits can be identified on a project/programme case-by-case basis” (GCF 2014a, Annex XIII). However, certain quantitative mitigation and adaptation indicators include also SD-benefits, such as safe water supply, health measures, or energy access. Several indicators shall also be disaggregated by gender, leading thereby to some extent to more standardized information. Yet due to the lack of other SD-benefit indicators, further standardization and aggregation is challenging. This would however be needed, since the performance measurement framework (GCF 2014a, Annex XIII) refers only vaguely to indicators for social, environmental and economic SD-benefits indicators. The initial environmental and social safeguards also include reference to many SD-benefits and also include exclusion criteria respectively negative impact which needs to be avoided. Projects for instance need to "anticipate and avoid adverse impacts on the health and safety of the affected community" or “avoid use of forced labour or child labour” (GCF 2014b, Annex III).
From the first set of approved proposals, it can be seen that – while all proposals refer to sustainable development potential – the level of detail provided differs. In addition, only few proposals presented specific SD-benefit outcome indicators, yet for instance the adaptation indicator “Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options (including fish-

eries, agriculture, tourism, etc.)" which has been applied in two proposals reflects also SD-benefit aspects (see for instance GCF 2015d, p. 64). On the output level, some indicators addressed SD-benefits. While it is too early to draw conclusions, the different approaches and only few specific SD-benefit indicators could be seen as highlighting the challenges arising from the lack of clear guidance and the rather open approach towards monitoring SD-benefits under the GCF.

Overview of debate on SD-benefits

Throughout the institutional set up of the GCF, SD-benefits have been highlighted by various Board members, with Board members from developed and developing countries[36] wanting development and other SD-benefits to be maximized (Schalatek 2013a, VII). Views regarding the measurement of SD-benefits differed however, with Board members from Ecuador and South Africa indicating that transformational impact should not only be measured by GHG reductions but also by SD-benefits (Schalatek 2014, XXI) and one developing country Board member wanting specific indicators on poverty reduction, gender equality and non-climate environmental benefits (Schalatek 2013a, VIII). Other stakeholders (Northern civil society observer) highlighted the need for gender disaggregated indicators (Schalatek 2013b, XIII) while contrary to that in the view of another Board member, there should not be "mandatory gender or socioeconomic assessments" (GCF 2015a, 51). The need for consideration of gender aspects has been highlighted by Board members and civil society members alike, with one Board member indicating that gender consideration should be included in indicators, monitoring and evaluation (Schalatek 2013a, VII). Gender aspects have received a prominent role in the GCF and can be seen rather as a cross-cutting task than a SD-benefit (Interview No.6). While SD-benefits are often seen as an add-on and the decision regarding which SD-benefits to address lies with the host-country, the consideration of gender aspects is stronger and required for instance by the gender policy (Interview No.6).

Stakeholder involvement has extensively been discussed in the past – and will most likely also play a role in the context of the information disclosure policy which was meant to be discussed at the 11th Board meeting but had however not been addressed. Carbon Market Watch (2015d) for instance calls for the implementation of participatory monitoring in order to ensure an early detection of potential challenges.

Finally, Funder et al. (2015, 2) highlight that in order to ensure that the GCF truly reaches the poor, the challenge of unequal distribution of funds within a country needs to be addressed as well as that there is a need to address access rights through indicators and safeguards in order to increase adaptation potential through water and food security.

In sum, while the results framework of the GCF is still in an initial stage, it is clear that it will be more detailed, and potentially allow not only ex-ante, but also ex-post assessments for a broader range of SD-benefits, classified in mitigation and adaptation SD-benefits. In addition, the GCF will also use a set of safeguards to prevent harmful impacts of GCF-supported activities.

Institutional aspects

Before funding approval, a letter of no-objection needs to be issued by the National Designated Authority (NDA), thereby confirming that the programme is in line with country strategies and regulations as well as GCF social and environmental safeguards (GCF 2014a, Annex XII). The latter include standards

[36] Since official meeting reports and in some case reports from stakeholders are mostly not referring to individual countries it is not possible to link positions to individual countries.

on various SD-benefits as provided by the GCF results framework, stakeholder involvement and – for indigenous people – under "certain circumstances" free prior and informed consent (GCF 2014b, Annex III), which is a stronger form of active endorsement of an activity than a mere consultation. Project proposals need to outline how stakeholder participation took place during the project proposal phase and will take place during project implementation (GCF 2015b). Furthermore, the implementing entity (IE) needs to get accredited by the GCF which requires demonstrating that it meets institutional and fiduciary standards. The IE (which is after accreditation referred to as accredited entity (AE)) then needs to address in future project proposals the indicator on sustainable development potential from the initial investment framework. Yet it does not necessarily need to respond to all sub-indicators, of which one is explicitly referring to stakeholder participation (GCF 2015c, Annex III). The importance set by the GCF on stakeholder participation can be seen by the fact that one of the recently approved project proposals has only been approved under several conditions, one being that the AE receives a written statement of consent from representative organizations of indigenous communities that they want to participate in the project "in order to ensure that the project is only implemented in the territories of the indigenous organizations that have provided their clear consent to the project" (GCF 2015f). Furthermore, indigenous people need to be allowed to participate in the project design (GCF 2015f).

While there are different indicators related to SD-benefits used to describe the sustainable development potential of a programme, there is no clear guidance on how to implement SD-benefits. For monitoring and evaluation of projects, stakeholder involvement is encouraged (para 58 governing instrument) yet not mandatory. Thus stakeholder involvement plays a strong role for GCF activities.

An Independent Redress Mechanism (IRM) is available for directly, negatively affected stakeholders. If the IRM determines that the stakeholders were affected due to non-compliance with GCF rules, it will propose action to be taken to the GCF Board (GCF 2014c, Annex V).

Key stakeholders

National governments play a stronger role than in the CDM through the NDA as well as the accredited entities, which are often public sector organizations, although private organizations such as banks can also receive accreditation. For the consideration of SD-benefits, the AE are important stakeholders since they determine which sub-indicators of the indicator on sustainable development potential they will consider in the proposal, which influences also consideration of such SD-benefits throughout the project. It remains to be seen if the GCF might enter negotiations with AEs if Board members or the Secretariat perceive certain SD-benefits as not being sufficiently addressed. Similar, at this point of time, there is no experience on potential stakeholder involvement in identifying desired SD-benefits. This could however take place during stakeholder processes which shall take place in the project proposal phase. Sometimes the AE is also the executing entity (i.e. GCF 2015d) sometimes these are separate entities (i.e. GCF 2015e). In any case, it will be the task of the executing entities to consider SD-benefits throughout project activities.

Drivers for SD-benefits

The strong focus put on SD-benefits, for instance in the Governing Instrument and the initial investment framework could constitute an incentive for project developers to consider SD-benefits in their proposals in order to strengthen their chance for programme approval. The consideration of SD-benefits increases country ownership and the chances that in the long run a project will be self-supporting (Interview No.6).

Barriers for SD-benefits

Monitoring the consideration of SD-benefits at fund level might be challenging due to the lack of specific SD-benefit indicators on project level in the performance measurement framework. Furthermore, the lack of a clear guidance on how to implement SD-benefits could constitute a challenge. Furthermore, SD-benefits are often perceived as an add-on, leading to additional monitoring and reporting costs (Interview No.6). This could hence constitute another barrier to the consideration of SD-benefits (Interview No.6).

2.6 Partnership for Market Readiness (PMR)

The Partnership for Market Readiness (PMR) [37] is a global partnership with the goal to provide funding for capacity building, piloting, and a platform for technical discussions on market-based instruments for mitigation. A particular focus is on mitigation approaches that lead to a price on carbon—such as domestic ETS and carbon taxes (Partnership for Market Readiness [PMR] 2015a).

Relevant stakeholders see PMR as an effective platform to share knowledge and build capacities on a flexible and practical basis (PMR 2013a). The 13 Contributing Country Participants that provide financial support to the PMR Trust Fund (fund size is about $126.5 million) and the 17 Implementing Country Participants that receive PMR funding and technical assistance primarily work with PMR to move forward with national action plans that lower carbon emissions while also stimulating growth and competitiveness. Geographic coverage is broad, as are the approaches and type of activities that each country plans to pursue (PMR 2015a).

Relevant stakeholders do not hold a direct and public debate about SD-benefits or SD-goals within PMR since the concept has been introduced recently and is not an official part of the PMR technical tools and activities. SD-benefits are, however, mentioned in a few official documents. For example, in the Technical Note 10 on domestic schemes release by PMR, SD-benefits are mentioned as "add-on labels" which "put emphasis on non-mitigation related aspects"; further PMR states that "the domestic offset program bodies will need to have the required capacities to cover these aspects" (PMR 2015b, 54). The topic SD-benefits has emerged in particular among stakeholders participating in the technical working groups (e.g. offset working group) and has been set on the agenda as a technical issue (PMR 2013b). For instance, PMR suggested measuring the SD-benefits of offsets as one of 3 options for their next technical brief for the offset working group in 2015 (Creighton Spors, F. official communication to all PMR offset working group members [Email], April 15, 2015). However, no work has been done on SD-benefit assessment and tool development within PMR.

Key stakeholders and drivers

Similar to the NAMA constellation, the implementing countries and their national agendas lay the ground for the level of inclusion of SD-benefits. The PMR technical working groups and the World Bank would be in a position to deliver technical assistance and promote harmonized approaches for SD-benefit MRV, however this topic has not emerged as a priority yet (neither from the implementing countries nor from the donor side).

The climate change mitigation instruments supported by the PMR represent domestic market-based instruments that would fall under the a bottom-up alike process in the UNFCCC context, such as the FVA or, after Paris more likely, the CA. Hence, any guidance on SD-benefits as part of the FVA or CA would have an effect on the relevance and importance of this topic under the PMR.

[37] This paragraph on the PMR is kept shorter due to the limited relevance in the context of the discussion; the discussed elements are thus presented in a consolidated paragraph.

2.7 UN Sustainable Development Goals

In September 2015 the UN approved a set of Sustainable Development Goals (SDGs)[38] for better addressing future development needs in a sustainable manner on a global scale. While this process was not held under the UNFCCC, it illustrates the emphasis the UN puts on sustainable development aspects and thus can inform and complement the discussion under this research project.

The 17 SDGs (see Textbox 1 below) are further substantiated through 169 targets on sustainable development. With this scope the SDGs serve to a certain extent as successor to the UN Millennium Development Goals (MDGs), and in a wider sense also to the Agenda 21. Unlike the MDGs the SDGs apply to all countries. The SDGs were developed in a consultation process that covered two workstreams: Under the MDG Agenda the UN formed the working group "High-level Panel of Eminent Persons" that worked out a way to form goals for a sustainable development. At the same time, the Post-2015 Agenda formed the so-called Open Working Group (OWG). The OWG was charged to develop goals for sustainable development, which were demanded by the Rio+20 conference. As these two workstreams followed the same intention they were merged in September 2013. Eventually, the results of this process were adopted by the UN at the Sustainable Development Summit 2015 in New York (United Nations 2015). The SGDs shall now be implemented by Parties on the national level on, a voluntary basis. The implementation of the SDGs shall commence from 2016 onwards and be fulfilled within 15 years, i.e. by the year 2030. Like the Millennium Development Goals, the SDGs will serve as a compass for the UN for orienting their activities over the next 15 years; this includes a voluntary review process to be overseen by the "High Level Political Forum on Sustainable Development" (HLPF). The latter is important in the context of influencing the shape of a centralized market based mechanism under the UNFCCC with respect to sustainable development aspects.

A study by Oxfam and Development Finance International (DFI) concluded that in order to successfully implement the SDGs, 800 to 1.500 billion USD in additional government spending are needed (Martin & Walker 2015). In this light it is not surprising that the debate on the development of the SDGs centred around the aspect of financing. Inter alia, developing countries demanded that every goal shall be met by financial and political standards for their implementation, which were opposed by industrialized countries. Germany was demanding a mechanism that monitors the compliance of the goals (Kern 2015), while Great Britain wanted to have less goals for increasing the momentum for individual goals (Ford 2014).

In sum, the SDGs are very likely to serve as compass for further fostering sustainable development in numerous negotiations and activities under the UN, including the UNFCCC. Any discussion on the promotion of sustainable development under the Paris Agreement Article 6. can be expected to make reference to the SDG process, in particular on the domestic level when defining sustainable development eligibility criteria for market mechanisms.[39] In fact, the adoption of the SDGs is explicitly acknowledged

[38] This paragraph on the SDGs is kept shorter due to the limited market relevance in the context of the discussion; the discussed elements are thus presented in a consolidated paragraph.

[39] For instance, the interview No. 4 with the Asian DNA representative revealed that the SDGs are regarded as strong driver for integrating SD into domestic climate policy and in particular market mechanisms.

and welcomed in the decision adopting the Paris Agreement[40]. Hence, the development on implementing SGDs will most certainly inform the further debate on the role of SD-benefits under a UNFCCC market mechanism post-2020, and less likely vice versa.

Textbox 1: The UN Sustainable Development Goals

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Source: United Nations (2015)

3 Prospects for SD-benefits in the debate on market mechanisms under the UNFCCC

The above assessment shows that SD-benefits have so far not been an important element of the debate on a future market mechanism under the UNFCCC negotiations, but it also reveals that SD-benefits are recognized as an important element for market mechanisms across existing market based approaches, mechanisms and initiatives, as summarized below.

Clean Development Mechanism (CDM)

The CDM has had, and still has, its discussion on the role of SD-benefits in the context of the SD Tool. However, basic design principles of the CDM leave the definition of SD up to the host country government, making it at once a strength through great flexibility and adaptability to national circumstances as well as a weakness due to the limited possibility of imposing international rules for achieving high levels of SD-benefits. If the CDM is to further strengthen its objective to achieve sustainable development, a paradigm shift may need to take place, which enables greater international alignment of sustainable development criteria and international standards for their measurement and reporting. For

[40] Decision -/CP.21: „The Conference of the Parties, (...) welcoming the adoption of United Nations General Assembly resolution A/RES/70/1, "Transforming our world: the 2030 Agenda for Sustainable Development", in particular its goal 13".

this, action may be required on several fronts: Recent work toward quantification of sustainable development benefits should be further advanced and formalized and possibly be made a mandatory element of the project development process. Capacity building and financial support may be required to enable project participants to credibly evaluate their proposed activities as well as to enable DOEs to undertake consistent and comparable judgments on expected SD-benefits across various sectors and activities. This could offer both an opportunity and a threat: it could strengthen the international reputation of market mechanisms, but it could also limit the effectiveness of the CDM in mobilizing cost-effective mitigation action in particular in LDCs with limited capacity for monitoring.

Voluntary Carbon Market

The voluntary carbon market always had a pivotal and pioneering role in intertwining GHG reductions and SD-benefits. Credit buyers, voluntary standard organisations and project developers shape most of the debate about SD-benefits. Enhanced by the development aid community, results-based finance schemes for sustainable development indicators are gradually introduced. SD-benefits are a very important concept in the voluntary carbon market and various approaches exist to measure, monitor and report SD-benefits. The main driver is the individual offset buyers' preferences and willingness to pay a price premium for type of projects that include SD-benefits. Given the variety of stakeholders (e.g. project developers, buyers) and co-standards addressing SD-benefits in the voluntary market, it is difficult to synthetize a general position on SD-benefits. However, there is a clear trend in voluntary markets towards consolidation in market share of the leading standards (as opposed to fragmentation or the use of "do it yourself" standards), which reflects mainly the desire by buyers to purchase offsets from trusted and well known quality standards. The voluntary market serves also as a test lab for new approaches, which governments increasingly rely on as basis for national carbon pricing systems.

Nationally Appropriate Mitigation Actions (NAMAs)

The current debate on NAMAs shows that sustainable development contributions play a very important role, particularly in the eyes of Non-Annex I countries. However, a lack of common understanding of the purpose and underlying processes of NAMAs and different interests of development aid agencies and the climate community make it difficult to combine funding for implementation of NAMAs.

While the climate community emphasises the support and financing of GHG reductions and transformational change aspects, national authorities in NAMA host countries see a real chance to push their national development agenda. However, just as in case of the CDM, there is no standardized definition neither of what actions may be presented as NAMAs nor what constitutes contributions to sustainable development. While host countries can rely on their own set of SD-benefit criteria for evaluating NAMA's contributions to their own SD, it may in the future become even more important for the NAMA community to set up a standardized, yet flexible MRV systems to measure and compare climate and sustainable development benefits. Also, it will be crucial to identify key beneficiaries of sustainable development contributions under NAMAs that are willing to pay for them (e.g. the private sector) and convince these actors to contribute to the design and implementation of NAMA programs to make them more effective.

REDD+

There is a close relation between the identified safeguards for REDD+ activities and potential NCB, since the safeguards also refer to additional environmental and social benefits. Yet, the safeguards can be seen as a requirement to prevent harm while NCB shall ensure additional good (see also WWF 2014, 3). While there is a common view that NCB are of great importance, the focus of REDD+ activities should in the view of many countries clearly remain on achieving carbon benefits. The COP21 decision on NCB

clearly highlights the importance of national circumstances to NCB of REDD+ measures and invites developing countries to communicate if they seek support for addressing NCB. In doing so, they may include information on "nature, scale and importance of the non-carbon benefits" in their communication (UNFCCC 2015a, paras 2, 4). Methodological issues shall however not constitute a requirement for seeking support (UNFCCC 2015a, para 5).

Green Climate Fund (GCF)

Sustainable development contributions play a prominent role in the GCF, which is also being reflected by their early mentioning in the Governing Instrument. Further, SD potential needs to be addressed in project proposals and social, environmental and economic SD-benefits are included as potential sub-indicators to be addressed in project proposals. Yet the extent to which SD-benefits have been described in the first set of approved funding proposals differs strongly. For project implementation, stakeholders need to be involved and the initial environmental and social safeguards put great emphasis on different SD contributions and stakeholder involvement. Regarding the measurement of SD contributions, some countries (i.e. Ecuador and South Africa) wanted SD contributions to be included in the assessment of transformational change (Schalatek 2014, XXI) and another country suggested the use of specific indicators for SD contributions (Schalatek 2013a, VIII). Currently, no specific indicators for SD-benefits are provided on a programme-level, rather, such indicators shall be decided upon on a case-by-case basis. Many of the general indicators shall be disaggregated by gender.

Partnership for Market Readiness (PMR)

The PMR initiative does not explicitly include SD-benefits in its technical instruments and/or work programs. Yet, the concept has been introduced and partly discussed in PMR's technical working groups. In the future, the guidance on bottom-up approaches under the UNFCCC such as the FVA or CA could influence SD-benefit assessments in domestic policies and market instruments developed under the PMR.

The subsequent Table 1 illustrates the landscape of positions by summarizing pro- and contra views on SD-benefits and sustainable development contributions for the individual mechanisms.

Table 1: Overview – Positions on SD-Effects in various mechanisms

Mechanism	Positions pro SD-benefits / sustainable development contributions	Positions contra SD-benefits / sustainable development contributions	Lessons for the design of the future regime
CDM	Civil society organisations frequently demand greater attention on SD impacts of the CDM; host countries require SD impacts to be established as per their requirements; buyers and Annex I countries support the establishment of the SD tool.	Civil society and NGOs criticize, that domestic SD requirements / criteria can water down the SD approach and fragment the SD approach of the CDM. The host countries do not fully support a multilateral centralized approach.	There seems to be a trade-off between national determination of SD-benefits, mobilization of vast mitigation potentials and rigorous fostering of SD-benefits among project-based market instruments.
Voluntary Carbon Market	Buyers are supporting the reflection of SD-benefits in voluntarily paid price premiums; standard organisations push new approaches to measure SD-benefits and call for more collaboration between development and climate agencies.	Buyers and project developers are concerned that a more stringent SD-benefits assessments could introduce unreasonably high costs or complexity, which would lower the attractiveness of projects. The voluntary character of the market makes it possible that players	Voluntary carbon markets are built on demonstrations of SD-benefits of project-based emissions reductions.

		can define the level and quality of SD-benefits being implemented, regardless of any national/international provisions.	
NAMAs	Host country governments see NAMAs in the context of their development agenda, mostly supporting individually defined SD-benefits. Also certain donor agencies already require SD aspects to be reflected.	Net buyer countries have a focus on GHG mitigation, and see SD impacts rather as a side effect or good to have. This leads to a gap in interests to fund and implement NAMAs. Seemingly, host countries do not want the discussion on SD-benefits to intersect too much with development assistance.	The landscape of NAMAs is highly heterogeneous and the expectations and efforts regarding the assessment of SD-benefits or contributions is highly divergent between different countries and financiers.
REDD+	Many countries perceive NCB as very important for REDD+ activities. This is reflected in the Warsaw Framework for REDD+ which recognized the important role of NCB "for the long-term sustainability" of REDD+ activities. NGOs have highlighted for instance the need to involve local and indigenous communities and to ensure their land rights. Some countries wanted to NCB to be included in requirements for results based payments.	Some countries see need for REDD+ to keep its main focus on carbon benefits, while recognizing the importance of NCB. Some countries (i.e. Brazil, Malaysia) did not want NCB to become a requirement for result based payments.	The decision on NCB taken at COP21 recognizes national circumstances of SD-benefits and invites countries to provide information on NCB and potential related funding needs. The first experience of such communications on NCB will provide further information on how countries address and report upon NCB. The previous discussion on results-based payment and whether or not NCB should be required or not could also become relevant in other contexts of the climate regime.
GCF	SD plays an important role in the GCF and is also reflected in the governing instrument of the GCF. Stakeholders and member parties emphasize SD impacts.	n.a.	SD impacts play an important role. In late 2015, there are no specific indicators on a programme level for SD-benefits, but this can be decided upon on a case-by-case basis. Experiences from first projects in measuring SD impacts might hence provide new input to the discussion. The discussion on SD potential and the link to paradigm shift could also become relevant in other contexts of the climate regime.
PMR	n.a.	n.a.	So far SD-benefits / sustainable development are not a major topic; technical groups are exploring the topic
Future Mechanism under UNFCCC	General understanding that SD effects are an important side effect; so far not gaining major attention. The Article 6 of the Paris Agreement on SDM and CA highlights promotion of SD effects, without further specifications.	Generic opposition regarding markets (ALBA) and regarding multilateral UN market mechanism (China, India). Indications that host countries will claim souvereignty rights for defining SD effects on their territory point towards only very generic or de-centralized SD-benefits provisions.	The debate might become more active in the course of further defining the provisions for the SDM and CA. The NMM and FVA debate has shown that SD criteria will probably be defined at the host country level.

	Voluntary carbon market stakeholders generally in favour of stronger SD provisions.	Also compliance carbon market actors oppose too strong role of SD-benefits to limit complexity.	

Part II: Barriers to integration of SD-benefits and possible solutions

4 Methodological approach and definitions

Through a structured and iterative process drawing on a literature review, interviews and the authors' expert judgment, 10 barriers have been identified (see Table 4) that currently limit the consideration of SD-benefits in existing climate policy instruments. In order to analyse these barriers, the authors identified stakeholders and their motives and drivers regarding SD-benefits based on the findings of Part 1 of the research project. The motives and drivers inform the definition and assessment of barriers in the second step, which then enable the creation of possible solution approaches to overcome the barriers in a third step.

4.1 Motives and drivers of stakeholder groups

A barrier is something that stands between the status quo and a future desired outcome. Therefore, stakeholders and their associated motives and drivers for achieving a certain outcome regarding SD-benefits are an essential part of identifying barriers and developing possible solutions. The questions that need to be answered are: Which stakeholders have a strong interest for including SD-benefits and why? And which stakeholders are less interested in including SD-benefits in future market mechanisms under the UNFCCC and why? Drawing on the findings on the positions of stakeholders towards SD-benefits in Part 1 of the research project, the authors present an overview of motives and drivers and barriers for each stakeholder group. This overview will form the basis for the identification of barriers and possible solutions for overcoming these barriers in the subsequent chapters.

4.2 Identification, description and assessment of barriers

To identify the barriers, the authors build on the motives and drivers discussed in the desk review of relevant submissions towards the UNFCCC, on further literature and feedback, which was obtained through expert interviews with relevant stakeholders prior to and after the COP 21, and the authors' own expert assessment.

The assessment of barriers is structured according to a standardised profile for each barrier and potential solution approaches. The profiles contain relevant information on pre-defined criteria concerning the type of barrier, relevance for stakeholders and mechanisms, relevance in the UNFCCC context, and the political/institutional and technical/financial strength of a barrier (demonstrating the difficulty of overcoming a barrier), as shown in Table 2. The last three criteria are used to score the barriers (see Table 2 and outcomes in chapter 5.2). The profiles are then completed with a discussion of ongoing efforts for mitigating the specific barrier and with initial suggestions of potential solutions for overcoming them.

Table 2 Structure of barrier and solution profiles

Barrier title	***Title***
Description	*Short text (3-4 sentences relating to literature and interviews in wp1)*
Type	*Institutional, political, technical, financial*

Relevance for stakeholder groups	*Net seller countries (host countries), net buyer countries [both categories together representing UNFCCC parties], the private sector (e.g. investors, buyers, project developers), NGOs and civil society, others (e.g. development agencies)*
Relevance for mechanisms	*Primary focus: MM and CA* *Secondary focus: NAMAs, REDD+, GCF (addressed whenever relevant to the discussion of barriers and respective solutions)*
Overall relevance in the UNFCCC context	*Rating from 1 (UNFCCC specific), 2 (medium) to 3 (beyond UNFCCC)* A low score demonstrates that the barrier is UNFCCC specific; whereas a high score would show that the barrier is also of significance beyond the UNFCCC context. *+ Text explaining the rating*
Political/institutional strength of barrier	*Rating from 1 (low), 2 (medium) to 3 (high)* A low score demonstrates that the barrier is weak from a political and/or institutional perspective; whereas a high score would show that the barrier is strong in this regard. *+ Text explaining the rating*
Technical/financial strength of barrier	*Rating from 1 (low), 2 (medium) to 3 (high)* A low score demonstrates that the barrier is weak from a technical and/or financial perspective; whereas a high score would show that the barrier is strong in this regard. *+ Text explaining the rating*
Existing efforts for overcoming this barrier	*Short text describing existing efforts (documented past, present or planned efforts to address the barrier)*
Possible solution approaches	*Short text describing possible (new) solution approaches to overcome the barrier.*

Categorisation of barriers

To facilitate the understanding of each barrier, they are categorised according to institutional, political, technical and financial types. Due to the complexity and interconnectedness of these categories, the barriers can belong to several categories/types, therefore it is often not possible to assign them to just one category. In relation to SD-benefits, the categories are defined as follows:

1. Institutional[41]: Institutional barriers are human constraints that structure political, economic and social interactions, such as formal constraints, e.g. laws and regulations, decision-making rules and processes, or informal constraints, e.g. traditions, customs or codes of conduct, which hinder inclusion or consideration of SD-benefits.
2. Political[42]: Political barriers are defined as any influence, design and enforcement of claims and objectives in the private or public area such as political agendas of interest groups or public (political) debates that hinder the inclusion or consideration of SD-benefits. Such claims can be due to particular interests or unbalanced political agendas focused on economic growth at the expense of other economic, social and environmental objectives.
3. Technical: Technical barriers are defined as lack of subject-specific experience, knowledge, equipment, tools, guidance documents or capacity building activities related to SD-benefits that hinder their inclusion or consideration (often as a consequence of political, institutional and financial barriers).
4. Financial[43]: Financial barriers are understood as cost structures, or a lack of financial incentives or resources (e.g. funding) and risk perceptions related to investments (e.g. at project level, country level or finance based) that hinder the inclusion or consideration of SD-benefits (often a consequence of political, institutional and technical barriers).

These categories draw attention to the fact that some types of barriers are more fundamental and conceptual in nature (e.g. political and institutional), while others tend to be monetary and operational in nature (e.g. financial and technical). The categories can therefore already give an indication of the means and difficulties in overcoming a barrier. For example, a lack of technical guidance material can be overcome in a shorter timeframe with less stakeholders involved than an institutional barrier, which would involve a larger number of stakeholders, a change of formal rules and processes and subsequent behavioural change of actors.

Relevance for stakeholder group and mechanism

After identification and categorisation, the different barriers are assessed according to their relevance for a selection of stakeholder groups and mechanisms. The list of stakeholder groups is based on the identified motives and drivers (see chapter 4.1 and Table 2). The selection of mechanisms is based on mechanisms relevant for a possible multilateral solution under the UNFCCC (see Table 2).

Overall relevance in the UNFCCC context, political/institutional strength and technical/financial strength

The authors have developed three criteria for assessing and scoring the barriers; 1) the barrier's overall relevance in the UNFCCC context, 2) the barrier's political/institutional strength and 3) the barrier's technical/financial strength. These criteria were chosen because they are relevant and applicable to the integration of SD-benefits in future market mechanisms under the UNFCCC. However, it is important to note that the criteria simplify and generalise complex circumstances for the purpose of assessment.

1. *Overall relevance in the UNFCCC context (score 1-3):* This criterion refers to the relevance of the barrier in the context of negotiations between parties and specific UNFCCC mechanisms (e.g.

[41] This definition is based on Huntington (1965) and North (1990).

[42] This definition is based on Schubert & Klein (2011).

[43] This definition relates to the report by the International Finance Corporation [IFC] (2011), section on private sector risk and barriers to investment in the context of climate finance.

MM according to Art. 6.4, CDM, JI), as opposed to the relevance of the barrier also outside of and beyond the UNFCCC (e.g. development aid, voluntary carbon markets). This scoring refers to the ability to address or overcome a barrier explicitly within the UNFCCC institutional set-up and the typical scope of its agreements versus addressing and overcoming the barrier also through other institutions and forums outside the UNFCCC. A low score (1) demonstrates that the barrier is UNFCCC specific; whereas a high score (3) would show that the barrier is also of significance beyond the UNFCCC context.

2. *Political/institutional strength of barrier (score 1-3):* This criterion focuses on the level of difficulty in overcoming a specific barrier due to diverging political agendas by UNFCCC parties and/or institutional challenges at UNFCCC or host country level. In the context of the present report, strong political/institutional barriers are usually more ***overarching and conceptual in nature*** than strong technical/financial barriers. Each barrier is given a score between 1 (low), 2 (medium) or 3 (high). A low score (1) demonstrates that the barrier is weak from a political and/or institutional perspective; whereas a high score (3) would show that the barrier is quite strong.
3. *Technical/financial strength of barrier (score 1-3):* This criterion refers to challenges in overcoming a specific barrier from a technical and/or financial perspective. The technical component of this criterion is a measure of the subject-specific complexity of addressing a specific problem, whereas the financial component is a measure of the amount of resources needed to overcome a certain barrier (e.g. costs of capacity building efforts) or challenges related to cost structures, incentives or financial risks. In the context of the present report, strong technical/financial barriers are usually considered as more ***functional and operational in nature*** than strong political/institutional barriers. Each barrier is given a score between 1 (low), 2 (medium) or 3 (high). A low score (1) demonstrates that the barrier is weak from a technical and/or financial perspective; whereas a high score (3) would show that the barrier is quite strong.

The scoring will be translated into a graphical representation.

4.3 Existing efforts and possible solution approaches

The authors identified and described ongoing efforts for overcoming respective barriers in the form of documented previous or planned efforts (in specific regions) or best practices to learn from and build upon in the future. As a second step, preliminary approaches for strengthening or complementing such efforts for overcoming the barrier are presented (see Table 2). This will form the basis for a further discussion on possible solution approaches for the subsequent work steps under the research project.

5 Identification and analysis of barriers and potential solutions

This chapter identifies and assesses barriers and presents possible solutions concerning the inclusion of SD-benefits in existing and future market mechanisms. Findings from the literature review and stakeholder interviews conducted in Part 1 of the research project form the basis of this chapter.

5.1 Motives and drivers of different stakeholder groups

It is crucial to know the various motivations and drivers of stakeholders regarding SD-benefits when identifying barriers. The motives and drivers can be barriers in themselves, but can also be a driver for overcoming a barrier ("If there is a will, there is way"). Based on the outcomes of Part 1 of the research project, a schematic representation of the main identified motives and respective formation of barriers was established (see **Error! Reference source not found.**).

The figure represents a simplified and generalised overview of the motives and drivers of relevant stakeholder groups to facilitate a better understanding. Therefore, the figure does not reflect all positions in detail or varying motives and drivers of sub-groups of stakeholders (e.g. diversions within different private sector actors or civil society organisations).

Description of relevant stakeholder groups in the context of SD-benefits:

Net seller countries: Under the Paris Agreement, any country, regardless of its development status, could potentially buy and sell mitigation and related SD outcomes. Net seller countries are expected to sell more mitigation outcomes than they would buy over a specific commitment period. Hence, net seller countries represent a group of countries that are expected to implement or host the bulk of mitigation activities, which would deliver transferrable mitigation (and respective SD) outcomes. This group will most likely comprise of developing economies, but may also include countries that exceed their NDC goals.

Net buyer countries: This group represents countries that are expected to buy more mitigation outcomes than they would sell over a specific commitment period. Net buyer countries will most likely represent industrialised countries and/or other countries, which might face challenges meeting their NDC objectives domestically without the use of transferrable mitigation outcomes.

Private sector: This group includes private sector actors expected to be involved in the MM or CAs under the Paris Agreement and may include private sector buyers of transferrable mitigation (and potentially respective SD) outcomes. For example, private companies covered by emissions trading schemes or other compliance instruments, which would allow the use of international mitigation outcomes, as well as brokers and traders, investors and private banks responsible for financing underlying mitigation activities, as well as project developers and other private sector intermediaries involved in the origination and implementation of mitigation activities.

NGOs and civil society: This group consists of stakeholders who are directly affected by mitigation activities (and respective SD-benefits) or represent the interests of civil society at large. It includes NGOs that advocate for economic, social and environmental issues, as well as civil society and local communities as direct beneficiaries of the outcomes of mitigation activities.

Others: This group represents other actors relevant for the SD-benefit debate. In the context of the assessment below, development agencies were identified as the most relevant group. However, donor agencies or organisations that often buy carbon credits on behalf of buyer countries can also be part of this group.

Table 3: Overview motives and drivers of stakeholder groups and identified barriers

Stakeholder group	Motives and drivers	B0: Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development Barrier 0	B1: Lack of clarity regarding scope and modalities of market mechanisms Barrier 1	B2: Lack of strong mandate for inclusion of SD-benefits Barrier 2	B3: Question of sovereignty regarding the definition and assessment of sustainable development Barrier 3	B4: Lack of a common, universally accepted definition of SD Barrier 4	B5: Lack of monetary or regulatory incentives for MRV of SD-benefits Barrier 5	B6: Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits Barrier 6	B7: Lack of standardised technical frameworks for MRV of SD-benefits Barrier 7	B8: Added complexity of SD-benefit assessments and respective transaction costs Barrier 8	B9: Lack of experience and capacity for MRV of SD-benefits Barrier 9
Net seller countries *(Host countries)*	Support a development first approach, climate change issues are secondary		x		x	x		x	x	x	x
	Want sovereignty over global decisions: SD impacts are to be established as per their requirements	x	x	x			x	x	x	x	x
	Want access to finance, thus, the discussion on SD-benefits should not intersect too much with development assistance as it would reduce funding opportunities				x			x	x	x	x
Net buyer countries	Focus on GHG mitigation and see SD impacts rather as a side effect or good to have (compliance market)		x				x	x	x	x	x
	Only support inclusion of SD-benefits (e.g. stringent assessments/more complexity) if it is cost-efficient	x	x	x	x	x		x			
	Prefer transparency and integrity of project evaluation/SD-benefit assessment and responsible entities to avoid reputational risks	x	x	x	x						

Private sector (*Investors, buyers, project developers)*	Only support inclusion of SD-benefits (e.g. stringent assessments/ more complexity) if it does not add costs, uncertainty or limit scope of mitigation actions	x	x	x	x	x		x			
	Require certainty in carbon market rules, supply and demand balance	x			x	x	x		x	x	x
	Want integrity of process evaluation/SD-benefit assessment and responsible entities to avoid reputational risks, but do not want to disclose proprietary information	x	x	x	x						
NGOs and civil society	Prefer inclusion of SD-benefits because they are direct benefits for civil society/specific beneficiaries		x		x		x		x	x	x
	Envisage transparency and integrity to evaluate and communicate about all aspects of a project						x	x	x		
Others *e.g. development agencies*	Climate change issues and development activities are separate areas; SD-benefits are therefore an add-on to climate projects and not part of development finance		x		x			x	x	x	x

Source: Authors

Main observations from the assessment:

- The identified barriers particularly affect the net seller countries and net buyer countries (see**Error! Reference source not found.**). This is most likely due to the fact that one major challenge for the inclusion of SD-benefits results from the different and sometimes conflicting motives between net seller countries and net buyer countries. Assuming that most net sellers will mainly be developing countries, they may follow a "development first" approach and want to define sustainable development according to their priorities and requirements based on their sovereign rights. Net buyer countries, on the other hand, would focus on cost-effective mitigation and may see SD-benefits as secondary. This fundamental trade-off, also referred to as Barrier 0, has far-reaching consequences that result in several subsequent barriers on the political and institutional level within UNFCCC. These barriers are lack of a strong mandate for inclusion of SD-benefits (B2), questions of sovereignty regarding the definition and assessment of sustainable development (B3) and lack of a common, universally accepted definition of SD (B4). Also, the lack of monetary and regulatory incentives for SD-benefit inclusion (B5) poses an obstacle, particularly in the compliance market (as opposed to the voluntary market). This results in other operational barriers (B6-B9). Barrier 0, representing the possible general trade-off between the dual goals of climate change mitigation/adaptation and sustainable development, is an overarching barrier that is recognised as an underlying issue regarding the SD-benefits discussion.

- For the private sector, represented by buyers, investors and project developers, cost efficiency, regulatory certainty and transparency, as well as robust project evaluation systems, are important. This group supports the inclusion of SD-benefits only if there is a cost-efficient way to do so (including a financial or regulatory incentive) (B5, B8). Adding to this, private sector actors suffer from the fundamental differences between net seller and buyer countries at the UNFCCC level (B0- B4), leading to uncertainty in climate regulation and opaque and fragmented ways of evaluating SD-benefits within projects (B5-B9). Furthermore, at present a general lack of clarity regarding the scope and modalities of market mechanisms (B1) rooted in the recent COP21 decision causes uncertainty for private actors.

- NGOs and civil society want increased transparency for evaluating SD-benefits to be able to communicate openly about all project outcomes. They also demand increased inclusion of SD-benefits because civil society is often a beneficiary (at the project or country level) of such activities. These needs are hindered at the operational level by a general lack of incentives to promote SD-benefits (B5), a lack of definition of SD (B4) and clarity on roles and responsibilities of different stakeholders (e.g. local community) (B6) and a lack of standardised MRV frameworks for SD-benefits (B7) that would lead to better quantification and monetisation of SD-benefits. Politically, the trade-off debate (B0) and a lack of a strong mandate for inclusion of SD-benefits stands in their way. Also, at present a general lack of clarity regarding the scope and modalities of market mechanisms (B1) rooted in the early age of the Paris Agreement causes uncertainty for NGOs and their role in the future.

- Development agencies are a relevant stakeholder group within the SD-benefit debate: their primary mandate is development and they often pursue their own agenda and project/programme pipeline as opposed to seeing the SD-benefits of mitigation actions as part of their own agenda. This challenge is also mirrored by institutions with a clear climate change mitigation objective, such as mitigation sections of development banks, which have a natural tendency to focus on mitigation outcomes without putting too much emphasis on SD impacts as a goal with equal emphasis (B6). Sometimes the hands of development agencies are tied due to requirements to have a clear separation between traditional Official Development Aid (ODA) and climate finance budgets. Without clarity on the scope and modalities of market mechanisms after COP21, the potential role of development agencies is not yet defined (B1, B3). This forms a barrier for effective coordination and the proper inclusion and co-financing of SD-benefits in market mechanisms for climate change mitigation. Moreover, the lack of proper MRV frameworks and payment systems for SD-benefits as well as the shortage of experience and capacity (B7, B8, B9), which would enable better inclusion of SD-benefits, are also relevant barriers for this stakeholder group.

5.2 Barrier profiles and potential solutions

Building on Part 1 of the research project and the authors' assessment described in the methodology section, the following 10 barriers have been identified (see Table 4). Each of these barriers and respective potential solution approaches are described in more detail in sections 3.2.1 to 3.2.10, which feature a brief background text justifying the selection of each barrier followed by the structured profile outlining the main aspects of each barrier and respective solution approaches.

Table 4: Overview of barriers

Barrier 0	Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development
Barrier 1	Lack of clarity regarding scope and modalities of market mechanisms
Barrier 2	Lack of a strong mandate for inclusion of SD-benefits
Barrier 3	Question of sovereignty regarding the definition and assessment of sustainable development
Barrier 4	Lack of a common, universally accepted definition of SD
Barrier 5	Lack of monetary or regulatory incentives for MRV of SD-benefits
Barrier 6	Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits
Barrier 7	Lack of standardised technical frameworks for MRV of SD-benefits

Barrier 8	Added complexity of SD-benefit assessments and respective transaction costs
Barrier 9	Lack of experience and capacity for MRV of SD-benefits

5.2.1 Profile B0: Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development

The authors perceive this barrier to be a general and overarching issue regarding the SD-benefits debate. The dual goals of climate change mitigation/adaptation and sustainable development pursued in the Paris Agreement lead to a possible trade-off that poses challenges to achieving both goals without prioritising one over the other. For instance, fostering of climate action with strong mitigation impacts and rather weak SD impacts, like industrial gas projects under the CDM, versus fostering of climate action with strong SD impacts but a lower mitigation effectiveness in terms of EUR spent per reduced tonne of GHG, like clean cookstove projects under the CDM. In fact, the primary fora for negotiations on climate change and SD differ, with the former being primarily negotiated under the UNFCCC and the latter in the context of the SDGs, which were agreed upon in 2015. However, SD and climate change mitigation and adaptation are closely interlinked, since mitigation and adaptation are key prerequisites for facilitating sustainable development. This inter-linkage is recognised particularly in SDG 13, which focusses specifically on climate change and in various other SDGs, which integrate climate aspects (UN, 2015). Due to the close inter-linkages between SDGs and the mechanisms under UNFCCC, opposing views exist regarding the extent to which and the way SD-benefits shall be addressed in mitigation/adaptation projects for achieving the desired mitigation or adaptation outcome. The barrier is therefore referred to as Barrier 0, to signify its universal and fundamental character and the almost philosophical issue it poses of whether SD-benefits can and should be promoted in mitigation activities. This universal barrier is also the origin of many of the subsequent barriers identified in the present analysis.

The current global climate policy agreements mention both GHG mitigation efforts and SD aspects. The main objective of the UNFCCC (1992) is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." The Convention specifies that "such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner" (Art.2 UNFCCC, 1992). Mitigation efforts shall therefore maintain the possibility of sustainable economic development. The relationship between SD and climate change mitigation and adaptation is also recognised in Art. 2 of the Paris Agreement (UNFCCC, 2015a): "This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty (…)". In addition, the MM, which was established in Paris, shall "contribute to the mitigation of greenhouse gas emissions and support sustainable development" (Art. 6 para 4 UNFCCC 2015a) and shall "promote the mitigation of greenhouse gas emissions while fostering sustainable development" (Art. 6, para 4 a UNFCCC 2015a).

In parallel, a public CER buyer and a fund manager participating in management and trading of CERs and allowances argue strongly that adding requirements for generating and monitoring SD-benefits

would bear the risk of limiting the scope of emission reduction efforts to small projects with low GHG effectiveness (Interviews No. 1 and 2). Related to the CDM, some Party submissions (UNFCCC, 2013e, f) highlight that the main motivation for CDM projects is mitigation (Norway), while at the same time they welcome efforts to enhance the SD component of the CDM (EU and Switzerland). If SD-benefits are seen as an add-on to mitigation or adaptation activities one could argue that if trade-offs occur, they should be decided in favour of mitigation or adaptation outcomes. Yet another stakeholder was discontent that the current market does not allow climate finance to develop in a more holistic way (Interview No. 3), in particular within the NAMA debate, where development finance should come into play.

In the case of trade-offs, the appetite for considering SD-benefits might be further reduced by financial and technical aspects, linked to the additional costs for measuring SD-benefits. Regarding the latter, while there are clear approaches and metrics available for measuring mitigation (with t CO_2eq as a singular overarching unit), there is a lack of one singular approach and metric used for measuring SD-benefits (see barrier 7). This, together with the potential differing focus, interests and responsibilities of stakeholders, leads to different efforts and approaches being undertaken for considering SD-benefits among International Finance Institutions (IFIs), development agencies and ministries and other public entities at the national level.

Table 5: Profile B0: Possible trade-off between climate change and SD agenda

Barrier title	B0: Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development
Description	The dual goals of climate change mitigation/adaptation and SD are subject to potential trade-offs between mitigation/adaptation objectives and SD-benefit achievements. This is especially evident where it needs to be decided whether a project with very high emission reductions but rather few SD-benefits or a project with relatively high SD-benefits but less emission reductions or both included equally should be financed. Currently, in cases where the focus is on the price of reducing a tonne of CO_2, less importance is given to the consideration of SD-benefits. The question is if both aspects can and should be considered permanently or if SD-benefits occur at the cost of less GHG reductions.
Type	Political, institutional, technical and financial
Relevance for stakeholder groups	Net seller and net buyer countries, the private sector (e.g. investors, buyers, project developers), NGOs and civil society, others such as development agencies
Relevance for mechanisms	MM and CA Also relevant in the context of: REDD+, NAMA, GCF
Overall relevance in the	3

UNFCCC context	This barrier is not UNFCCC specific. Apart from influencing various mechanisms and funds under the UNFCCC, this barrier is also of importance for the entire development assistance community. Hence, a solution needs to be found in close cooperation and communication with stakeholders in the field of development cooperation beyond the UNFCCC setup.
Political/institutional strength of barrier	3 The potential trade-off between SD-benefits and mitigation/ adaptation objectives is a very important barrier, as SD-benefits are often perceived as an add-on and not as something to be integrated in all projects. The barrier reaches across all different barrier types and is therefore more fundamental in nature. Not only is there currently no political mandate (barrier 2), but there is also a lack of clear guidance material on the integration and monitoring of SD-benefits (see barriers 5 and 7). If SD-benefits are perceived only as add-ons there is less incentive to put greater emphasis on their inclusion. Trade-offs will never be completely eliminated, as it seems to be politically difficult to have broad agreement on these aspects.
Technical/financial strength of barrier	2 The barrier's strength is perceived as medium from a technical/financial perspective, as it is rather a political decision to consider both mitigation/adaptation activities and SD as equally important and to build up respective institutions and frameworks to follow this principle. However, significant financial and technical efforts would be necessary to negotiate, agree and implement a globally coordinated approach that aligns the climate change and development agendas.
Existing efforts for overcoming this barrier	• Efforts to consider SD impacts in climate change (market) mechanisms (e.g. CDM, REDD+) and other instruments (e.g. NAMAs or the GCF) are being undertaken. For instance, SD potential is one of the six criteria of the initial investment framework of the GCF (GCF, 2015c, Annex VI). Project proponents do not need to address all the indicative assessment factors, which include indicators on SD-benefits, but only the applicable and relevant ones (GCF, 2015c, Annex VI). Another documented effort is the NAMA SD Framework by UNEP DTU, which has the goal of improving the measurement of SD-benefits under NAMAs and enhancing understanding of the contribution of NAMAs to national development goals (UNEP DTU Partnership, 2015). The same applies to the NAMA SD tool developed by UNDP (UNDP, 2015). An additional prominent example is the UNFCCC SD Tool under the CDM. • Furthermore, efforts are being taken to mainstream climate aspects into decision making processes of development banks and IFIs, governments and public institutions. In the SDGs, climate change mitigation and adaptation are integrated into various goals and not only into SDG 13, thereby supporting the mainstreaming of climate change into the overall development agenda.

Possible solution approaches	• The mainstreaming of climate change aspects into development cooperation and vice versa requires dialogue among the various stakeholders and stronger harmonisation of efforts – both at international and awareness raising regarding the synergies between climate change mitigation and adaptation and SD impacts. Stronger communication and coordination with development-focussed organisations outside of the UNFCCC is required. • The indicators for measuring the achievement of SDGs are currently under development and could provide valuable input for measuring the SD-benefits of climate change mitigation or adaptation activities. Standardised frameworks for GHG and SD impact accounting (based on established GHG standards and potential future frameworks developed around the SDGs for example) are needed to create more transparency and a better understanding of linkages, synergies and potential trade-offs between climate change and SD measures. • Further solutions include clearer instructions for the consideration and measurement of SD-benefits under the UNFCCC, since this would also send a strong signal on the importance attached to SD-benefits (see barriers 5 and 7).

5.2.2 Profile B1: Lack of clarity regarding scope and modalities of market mechanisms

A long period of uncertainty with regard to the long-term perspective of market mechanisms in international climate policy has ended with the adoption of the Paris Agreement. The Agreement's strong provisions on market mechanisms (Art. 6 UNFCCC, 2015a) now provide the necessary basis - the mandate for developing a centrally-governed market mechanism MM and furthermore, the development of bilateral trading of emissions outcomes under the CA for the period post-2020. Negotiations on the so-called New Market Mechanism (NMM) and the Framework for Various Approaches (FVA) – though supported by a number of committed Parties – did not make meaningful progress due to significant opposition and the even more fundamental uncertainty over the structure of the new global agreement which was due to take shape in Paris 2015. Among others[44], these uncertainties hampered the process of addressing how SD-benefits will be considered in future market mechanisms. The most fundamental decisions have been taken, yet little is known about the scope and modalities of the NMM and thus there is a lack of clarity on how SD-benefits can be included. Today, the focus should be placed on the imminent questions of how these new instruments will take shape. One core question is how the supply and demand side will shape up with regard to Parties' nationally determined contributions (NDCs) – several Intended Nationally Determined Contributions (INDCs) already indicated rough positions on potential use of markets, but as long as it is unclear to what extent they will act as a net buyer or a net seller of units it cannot know how robust the market will become.

[44] This period of grave uncertainty was, among other reasons, mainly due to the failure of COP 15 in 2009 to agree on a legally binding successor or complement to the Kyoto Protocol, the collapsing demand for CERs and the successive dropping out of Canada and Australia.

Currently, only a few aspects of the design are really clear. Given the lack of a pre-defined list of buyer and seller countries, the structure of the mechanism looks to become somewhat of a hybrid between the CDM and the Joint Implementation (JI) structures. Meanwhile, the CDM's programmatic approach (building on Programmes of Activities – PoA) has been strengthened over the last years and is continually being improved, as illustrated by several amendments to PoA regulations approved by the CDM Executive Board in recent years. While the MM mentions the term "sustainable", its main purpose as stated in the relevant article of the Agreement (see above) remains the achievement of emission reductions, and there are currently no clear signals to operationalise the inclusion of SD-benefits. The Paris Agreement encourages further use of the CDM in the near term and could lead to financing of CDM activities through climate finance institutions, including the GCF. An in-session workshop at SB44 taking place in May 2016 will address such ideas and how they could be operationalised.

Table 6: Profile B1: Lack of clarity regarding scope and modalities of market mechanisms

Barrier title	B1: Lack of clarity regarding scope and modalities of market mechanisms
Description	Negotiations on modalities and procedures for the NMM stalled over several years before the Paris Agreement. This effectively rendered any discussion of SD-benefits in the context of market instruments irrelevant. Given the decisions in Paris, MM (and CA) now need to be designed and operationalised. Given that markets do not like uncertainty, the instruments need to prove themselves in order to mobilise substantial results both on mitigation and the generation of SD-benefits.
Type	Institutional, political and technical
Relevance for stakeholder groups	Net seller, net buyer countries, investors, buyers, project developers, NGOs and civil society
Relevance for mechanisms	MM, CA Also relevant in the context of: REDD+
Overall relevance in the UNFCCC context	1 The barrier is due to negotiations on the global agreement under the UNFCCC; if no provisions had foreseen the use of market instruments for post-2020, there would not have been a possibility of fostering achievement of SD-benefits under market mechanisms.

Political/institutional strength of barrier	2.5 Since clarity on modalities and procedures as well as a basic understanding of market reliability are prerequisites for meaningful outcomes of market mechanisms and the potential consideration of SD-benefits, this constitutes an overarching barrier, which includes political, institutional and technical aspects for intense negotiations between the UNFCCC parties.
Technical/financial strength of barrier	2.5 The technical complexities and financial efforts required to design the MM and CA will be significant. Given the complex set-up of the Paris Agreement and its bottom-up NDC process, the design and implementation of the MM and CAs is expected to face some unprecedented challenges, which exceed the level of complexity of market mechanisms under the Kyoto Protocol. A proper integration of SD-benefits into these new mechanisms further enhances the level of complexity and financial resources needed to design and implement these systems.
Existing efforts for overcoming this barrier	There has been a concerted effort to strengthen clarity on SD-benefits under the CDM in recent years through reform of the CDM and explicit efforts like the CDM SD tool. Efforts of a coalition of supporters of market instruments led by New Zealand were instrumental in ensuring the inclusion of market mechanisms in the Paris Agreement. The call to build the design of the MM upon experiences gained under the CDM (UNFCCC 2015a) provides a strong foundation for these efforts.
Possible solution approaches	A broadly supported MM framework with a set of internationally supported SD criteria based on the SDGs and respective indicators, which are to be developed in 2016, could be a solution. A direct linking between the SDG process and the UNFCCC could provide a meaningful approach for operationalising SD-benefits. Given the political barrier of countries not wanting to give up their sovereign right to choose their own SD criteria, it could be challenging to effectively include this as a binding element in MM. Another opportunity is the provision of guidance based on the SDGs. A risk remains that elaborating a stringent and/or mandatory rule-set on SD could distract attention away from the objective of the mechanism, which is to result in real, additional and verified climate change mitigation in a cost-effective manner – which is hence closely linked to barrier one on potential trade-offs between mitigation/adaptation objectives and SD-benefits.

5.2.3 Profile B2: Lack of a strong mandate for inclusion of SD-benefits

This barrier relates to the integration of sustainable development into common practice under the UNFCCC. In the first place, the objective of activities under the UNFCCC´s framework is to fight anthropogenic climate change, inter alia through enhancing a sustainable development path for countries. For instance, the UNFCCC states in Art. 2 that the ultimate objective of the Convention is "...stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. [… in such a way as] to enable economic development to proceed in a **sustainable manner**". However, the Convention does not provide guidance on how to treat potential trade-offs between SD and climate change mitigation, other than "Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party" (UNFCCC, 1992, Art. 3.5).

Considering existing UNFCCC instruments for fighting climate change makes it clear that mandating sustainable development does not necessarily create direct and strong incentives to implement sustainable development in practical operations. For instance, under the CDM the definition of sustainable development requirements of individual project activities is at the discretion of the host country, which makes the assessment of SD criteria opaque. The CDM SD Tool was released (see Part 1 of the project) only after years of technical (and political) discussions. So far it is a voluntary tool that enables the consideration of SD-benefits, however, it has not yet resulted in strong SD impacts (Part 1 report; see also Arens et al., 2015).

During the evolution of REDD+, the argument by some countries was that the UNFCCC would not be the right forum for discussing NCB (Non-carbon benefits), and that the UN CBD would be a better the forum (Interview No. 5). Beyond market based approaches, with the introduction of NAMAs, the UNFCCC tried to integrate host country development into an instrument's mandate – activities under NAMAs are integral elements of the relevant development programmes and plans, that have an "SD-benefit", of reducing GHG emissions. Voluntary approaches such as the NAMA SD-Tool try to further specify the SD-benefits of NAMAs (see Part 1 of the project discussion on NAMAs). One interesting driver for the inclusion of SD-benefits into climate mitigation activities could be funding agencies such as UNDP that promote thorough SD assessments of NAMAs, for instance by applying the NAMA SD-tool (see Interview No. 3 and 7).

With respect to future market mechanisms under the UNFCCC, the agreed centrally governed MM under the Paris Agreement could be anticipated to highlight the importance of sustainable development. However, its key purpose will be to support countries in cost-effective implementation and/or topping-up of their (I)NDCs. It is also most likely that Parties will not agree on very detailed central rules for imposing sustainable development but rather define themselves what is the most relevant requirement for their country (Interviews No. 8,9,11). This could be slightly different for CA, if the international guidance can specify the promotion of sustainable development (UNFCCC, 2015a).

Table 7: Profile B2: Lack of a strong mandate for inclusion of SD-benefits

Barrier title	B2: Lack of a mandate for inclusion of SD-benefits
Description	For future market mechanisms under the UNFCCC, there is no clear and strong mandate to enhance the role of SD-benefits as of yet. This is however mainly due to the

	fact that the MM and CA have so far not evolved. The lesson from existing mitigation instruments under the UNFCCC such as the CDM or NAMAs is that years of debate have led to frameworks that voluntarily encourage sustainable development to a certain extent (as per definition of the host country), but in practice are treated differently from case to case. Host country parties under a new UNFCCC market mechanism regime (MM and CA) may oppose overly stringent international rules for SD-benefits, claiming their sovereignty rights (Interviews No. 8,9,11). This barrier is also linked to the lack of a common, universally accepted definition of Sustainable Development (see barrier 4).
Type	Political, institutional, technical, financial
Relevance for stakeholder groups	Net sellers, net buyer countries, the private sector (e.g. investors) NGOs and civil society
Relevance for mechanisms	MM, CA Also relevant in the context of: REDD+, NAMA, GCF
Overall relevance in the UNFCCC context	1 Mandating SD-benefits for market mechanisms is regarded as important in the context of the UNFCCC. On the one hand, the signal from a multilateral mandate to enhance sustainable development impacts through market based approaches might foster SD-benefits. On the other hand, the implementation of market mechanisms is dependent on the stakeholders involved and their interest in deriving SD-benefits.
Political/institutional strength of barrier	3 It is understood that a clear mandate that requires stakeholders to implement specific and strong guidance for enhancing sustainable development is difficult to achieve. Specifications of required sustainable development impacts will most likely be defined by non-central actors such as host countries or in some cases certain development agencies. Thus, it is regarded as rather difficult to overcome the lack of a strong mandate for including SD-benefits.
Technical/financial strength of barrier	1 The barrier is perceived as mainly political/institutional, and hence technically and/or financially less relevant.

Existing efforts for overcoming this barrier	• Overcoming the lack of political mandate can work by establishing SD-benefit requirements for market based UNFCCC GHG mitigation activities with respective support facilities and/or development agencies (such as UNDP promoting the NAMA SD tool). • Also, efforts to mainstream climate aspects into the decision making processes of (multilateral) development banks and international financial institutions, governments and public institutions (e.g. green procurement). • In addition, numerous approaches exist to assess SD-benefits in climate change (market) mechanisms (e.g. CDM, REDD+) and other instruments (e.g. NAMAs or the GCF).
Possible solution approaches	• In general, a harmonisation of efforts, enhanced international dialogue, and "breaking of silos at international and domestic levels" (Interview No. 12) can help provide momentum for the stronger inclusion of SD-benefits into market approaches at the international level. • Introducing standardised frameworks for GHG and SD impact accounting (based on SDGs and established GHG standards for example) to create more transparency and a better understanding of linkages, synergies and potential trade-offs between climate change and SD measures. • Targeting relevant financial support vehicles (such as the GCF or development agencies) to incorporate implicit SD requirements into their eligibility criteria for supporting activities. • In order to overcome barriers represented by trade-offs between achievement of mitigation and SD-benefits, other support instruments dedicated to the achievement of the respective types of benefits (development) should be streamlined with mitigation objectives in order to maximise effectiveness of both mitigation and other support efforts (see also barrier 0). • Awareness raising to demonstrate that climate change and SD agendas have clear synergies and can be harmonised to a great extent (similar to the NAMA approach, i.e. promoting climate change mitigation action as an opportunity and not a burden).

5.2.4 Profile B3: Question of sovereignty regarding the definition and assessment of sustainable development

Articles 6.2 and 6.4 of the Paris Agreement highlight the promotion of sustainable development through market based approaches. However, putting forward universally applicable provisions for the sustainable development impacts of market mechanisms is regarded as challenging at the UNFCCC level.

The main reason is that countries will claim definition rights of what exactly sustainable development means in their specific context (Interviews 8,9,11). This stance is also integrated into the Convention, which states that "policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party" (UNFCCC, 1992, Art. 3.5). Regarding the UNFCCC instruments in place, there is a lack of mandatory guidance and ex-post assessment of SD impacts, mainly owing to the insistence of many developing countries on determining what constitutes sustainable development within their own national circumstances (particularly relevant for the CDM until today). For REDD+, due to differing national circumstances, several countries take the position that NCB or methodologies to measure NCB under REDD+ should be nationally defined (USA (2014), Philippines (2014), Norway (2014), China (2014), ASEAN (2014)).

Additionally, the draft decision for REDD+ from the Bonn climate talks in 2015 (UNFCCC, 2015b) highlights the importance of national circumstances to NCB of REDD+ measures and clearly states that methodological issues shall not constitute a requirement for seeking support (UNFCCC, 2015b para 5). In the context of NAMAs, buyer countries often prioritise a strong climate impact, while host countries prioritise other development goals (Interview No. 3). In this regard, NAMAs are a UNFCCC instrument that nicely fits the host country development agendas due to the limited top-down requirements, including SD-benefits. At the same time, guidance on SD assessments like the NAMA SD tool by UNDP are understood as being appreciated by most countries, also due to capacity issues (see also barrier 2; Interview No. 3).

Table 8: Profile B3: Question of sovereignty regarding the definition and assessment of SD

Barrier title	B3: Question of sovereignty regarding the definition and assessment of sustainable development
Description	The aspect of sovereign rights of countries determining an individual understanding of sustainable development would lead to a fragmented approach in integrating SD-benefits where each country may define its national requirements to consider SD-benefits (such as under the CDM). The key obstacle towards a global definition of sustainable development remains the insistence of host countries that it is their sovereign right to determine what contributes to their domestic sustainable development. While this is not wrong per se, it most likely leads to a situation where the interpretation of SD and implementation of respective rules by developing countries differs significantly from one country to another, which means that there is significant variation in terms of stringency (as observed under the CDM). The development needs of less developed countries as well as emerging economies often leads to prioritisation of economic growth over environmental and social benefits,

	often also leading to clear trade-offs and negative impacts (in the eyes of NGOs, buyers or Annex IV parties).
Type	Political, institutional, technical, financial
Relevance for stakeholder groups	Net seller, net buyer countries and development agencies
Relevance for mechanisms	MM, CA Also relevant in the context of: REDD+, GCF, NAMA
Overall relevance in the UNFCCC context	2 Sovereign rights and their politics are reflected among the UNFCCC parties but also go beyond the UNFCCC institutional setup. In an ideal scenario, for a future market based approach the certificate price would be contingent on the GHG mitigation component, but also on the SD-benefits of a domestic activity to a certain extent. In order to derive a situation where a market mechanism accounts not only for carbon but more holistically also for SD effects, a globally harmonised approach for defining SD-benefits would be essential. This would require parties to accept a certain set of global rules determining SD impacts and eligibility of domestic activities, which contradicts their sovereign rights.
Political/institutional strength of barrier	3 It is regarded as almost impossible to convince parties to forego their sovereign rights. Hence, the challenge is to define the largest possible common denominator amongst UNFCCC Parties in terms of SD definition and requirements.
Technical/financial strength of barrier	1 From a technical and financial point of view, this is a weak barrier.
Existing efforts for overcoming this barrier	• The CDM SD tool, UNDP NAMA SD tool, UNEP DTU SD tool, as well as third party standards (e.g. GS, CCBS, SCS) and methodologies (e.g. MATA-CDM) represent efforts to standardise the process of SD assessments and provide frameworks that can be used by host countries. However, there is no top-down enforcement of SD assessments. The abovementioned efforts are fragmented and not widely accepted/used. • MATA CDM, which was adopted by the Designated National Authority (DNA) of Uruguay in the past, probably represents the most sophisticated

	effort for combining a top-down framework of SD indicators with a bottom-up process to weigh them according to the host country priorities. • Other DNAs, like the Thai DNA for example, have made significant efforts to define a transparent and detailed framework for SD assessment (i.e. the Crown Standard, which is based on the Gold Standard to a large extent) as part of their DNA approval processes. • Standards from the voluntary market (e.g. GS, CCBS, SCS) do not require the formal approval or endorsement of host countries. Hence, they represent best practices of standardising the SD assessment process but they basically circumvent this barrier by introducing optional standards which avoid a formal link to host country institutions and respective approvals. • The same applies to the CDM SD Tool, which remains an optional, voluntary tool that can be used by project owners and developers without formal involvement of DNAs. • The same holds true in the context of SD-benefits in NAMAs: the definition of SD and assessment of respective SD-benefits is led by the host countries with some optional, voluntary tools (e.g. UNDP NAMA SD Tool). In the case of supported NAMAs, investor countries usually have some influence through their assessment criteria, which often include SD-benefits (e.g. NAMA Facility). • The SDGs represent the broadest global effort to-date for translating sustainable development to a set of goals that enjoy a broad level of acceptance (through a UN-led process), which might help to move SD assessments away from an entirely bottom-up driven process.
Possible solution approaches	• Adoption of a top-down, yet modular, definition of SD (based on SDGs and respective indicators), allowing countries to prioritise the indicators that are most important to them. • Leaving the final approval regarding SD assessments (based on the agreed top-down framework) to host countries. • Considering optional or mandatory third party verification of SD impacts (based on agreed top-down framework) to deal with capacity issues.

5.2.5 Profile B4: Lack of a common, universally accepted definition of SD

The term "Sustainable Development" was propagated in *Our common future*, a report published by the World Commission on Environment and Development in 1987 (Brundtland et al., 1987). The report introduced the classic definition of sustainable development[45], which further led to acceptance of the report in the Rio and Earth Summit and gave the term a political salience (Drexhage & Murphy, 2010).

Sustainable development is a fluid concept and various definitions have emerged over the past two decades. Many accepted views of sustainable development exist, and it has been taken up as a starting point or perhaps an end goal - however the implementation of sustainable development has been lagging. Responses to address climate change, both adaptation and mitigation, are clearly linked to sustainable development. The Fourth Assessment Report of the IPCC, (2007, chapter 12.1.1) pointed out the iterative relationship between climate change and sustainable development, and that the two can be mutually reinforcing. The recently adopted SDGs reaffirm this notion by interlinking sustainable development and climate change mitigation/adaptation (UN, 2016). In many respects, the UNFCCC has become an international proxy for discussions around sustainable development, and a potential means of channelling required funding and technology from developed to developing countries.

To-date, there is a lack of mandatory guidance and ex-post assessment of SD impacts, mainly owing to the insistence of many developing countries on determining what constitutes sustainable development within their own national circumstances (see Part 1 report and barriers 2, 3 & 4). For instance, within the CDM, the assessment of sustainable development of each proposed project or programmatic activity is ultimately up to the DNA. Therefore, the weight and type of judgment applied to projects is highly dependent on the criteria and indicator sets, as well as the overall assessment approach applied by the DNA. As a result, different approaches have developed (e.g. the Crown Standard in Thailand) and lack of clarity among DNA's has led to different implementation across host countries. Several analysts, such as Olsen (2007) and Sutter and Parreño (2007) have noticed that despite the fact that sustainable development was highlighted as a parallel goal of the CDM mechanism along with greenhouse gas mitigation, it is not given a quantitative value by the mechanism and is therefore frequently ignored. However, the question remains if a universal and commonly accepted SD definition can be achieved: "The idea of imposing a universal set of SD criteria on a country through a new mechanism is a barrier in itself; who wants to determine what is the correct requirement for a host country from the outside world, sustainable development needs to be driven from the inside" (Interview No. 8).

Table 9: Profile B4: Lack of common, universally accepted definition of SD

Barrier title	B4: Lack of a common, universally accepted definition of SD

[45] "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland et al., 1987, Part I, chapter 2).

Description	The terms "sustainable" and "development" are so broad and open to interpretation that any attempt to come up with a universally accepted definition seems like "mission impossible". Furthermore, a lack of a clear and universally accepted definition of SD under the UNFCCC leads to the creation and application of several different approaches fragmenting understanding further and consequentially leading to diverging judgements of what SD-benefits are. Additionally, the quality of assessment of SD-benefits, where implemented, sometimes allows for biased or one-sided definitions, potentially turning a blind eye to adverse impacts.
Type	Political, institutional and technical
Relevance for stakeholder groups	Net sellers, net buyer countries, the private sector (e.g. buyers, investors, project developers), NGOs and civil society
Relevance for mechanisms	MM, CA Also relevant in the context of: NAMA, GCF, REDD+
Overall relevance in the UNFCCC context	2 Arriving at a common definition is of upmost urgency at this time. The UNFCCC being an international framework could be a driver in this discussion however, fora and institutions outside the UNFCCC (e.g. development agencies, voluntary carbon market) should ideally be included as this would also affect and benefit them. This will lead to further transparency and clarity of the term "Sustainable Development".
Political/institutional strength of barrier	2.5 Politically, it is not impossible but very difficult to bring all stakeholders to a common understanding of SD. This assumption is based on the history of this particular topic in UNFCCC negotiations (e.g. assessment of SD in the context of CDM projects).
Technical/financial strength of barrier	1.5 From a technical and financial perspective, this process is considered of low to medium difficulty. Reaching a consensus on this topic and coming up with a definition of SD, which can be converted to actionable indicators for mitigation actions, has a reasonable level of technical complexity but it is solvable with some dedicated and rather limited resources if the political/institutional aspects have been overcome.
Existing efforts for overcoming this barrier	• Several tools exist to measure SD impacts and try to define SD, such as the CDM Sustainable Development Tool, UNDP NAMA SD Tool (which uses the SDG as a base) and the UNEP DTU NAMA SD Tool. Also, third party standards from the voluntary market have specified SD-benefit impacts (e.g. GS, CCBS, SCS).

	• However, the SDGs represent the broadest global effort to-date in translating sustainable development to a set of goals that enjoy a broad level of acceptance (through a UN-led process).
Possible solution approaches	• The SDGs clearly represent the best way of reaching a quick consensus regarding the definition of SD. Recognition of the SDGs could lead to the adoption of an overarching definition of SD (based on SDGs, respective indicators and safeguards), which could then be implemented based on a somewhat restrictive top-down approach; or based on a more flexible, modular approach that uses a common set of SDG indicators but allows host countries to prioritise the indicators that they deem most relevant to them; or a very flexible bottom-up approach that refers to such a common set of indicators as best practice guidance and encourages host countries to adopt it (potentially with the possibility to adapt SD indicators and safeguards to the local context). • Recognition or integration of selected third party standards (e.g. GS, CCBS, SCS) or tools (CDM SD Tool, UNDP NAMA SD Tool), which can be chosen by host countries (in the absence of a common approach accepted by all parties at UNFCCC level).

5.2.6 Profile B5: Lack of monetary or regulatory incentives for MRV of SD-benefits

Financial or regulatory incentives play an important role regarding integration of SD-benefits into market mechanisms. Some developing countries, in particular LDCs, state that lack of financial and technological resources, and unfair terms of trade, have plagued their implementation of sustainable development. Such countries repeatedly identify lacking access to technology or resources and inadequate capacity for putting in place the necessary governance structures and ensuring a good business environment to stimulate sustainable development (Economic Commission for Africa, 2002). Ideally, creating SD-benefits itself should suffice as an incentive in itself, but this is often not the case in practice. International buyers and donors can play an important role as they can introduce their own interpretation of SD-benefits as a requirement/incentive for accessing their support. There is the potential for misuse or inefficiencies if this power is merely used to serve the buyer´s own interest or if it is not properly aligned between several donors.

Various stakeholders should and could play a more forceful role (barrier 6) in defining (top-down or bottom-up) the level of inclusion of SD-benefits on project and national level. However, missing incentive structures prohibit them from doing so. As experts increasingly highlight that quantifiable, tangible SD-benefits, which can potentially be monetised[46] are key criteria for investment decisions (Santucci et al., 2015), monetary incentives to include SD-benefits are currently only valid in the voluntary market (e.g. price premiums). The CDM does not give any incentive yet, be it monetary or regulatory, as the CDM SD tool is only voluntary and price premiums are not evident in CER transactions. NAMAs face similar challenges as, in most cases, they do not provide an investment-ready opportunity at acceptable risk/return ratios, which would incentivise the private sector to contribute at scale, consequentially "NAMA SD-benefits are not aligned with private sector profit strategies" (Interview No. 3). This takes away a major source of finance for a large part of NAMA implementations (van Tilburg et al. 2014; Interview No.3). Unless buyers have sufficient incentives to target activities with high SD-benefit contributions, or to apply filters to eliminate those activities with low or negative contributions, integration of SD-benefits will be marginal.

Table 10: Profile B5: Lack of monetary or regulatory incentives for MRV of SD-benefits

Barrier title	B5: Lack of monetary or regulatory incentives for MRV of SD-benefits
Description	A lack of mandatory monetary and regulatory incentives leads to non enforcement of SD-benefits measurement in the compliance market unlike in the voluntary market where a mature, yet voluntary payment system for SD-benefits exists. There is a clear need to also develop efficient incentive structures for compliance market players. In particular, it is important to identify who profits from SD-benefits implemented and to align incentive structures accordingly.
Type	Institutional, financial, technical

[46] A recent study by ICROA and Imperial College London (2014) concluded that every tonne of (voluntary) CO_2 offsets not only funds GHG reductions, but can deliver up to $664 in additional economic, social and environmental benefits.

Relevance for stakeholder groups	Net seller, net buyer countries, the private sector (e.g. investors, buyers, project developers), NGOs and civil society, others such as development agencies, IFIs, government ministries, private sector companies and direct beneficiaries of implementation of SD
Relevance for mechanisms	MM, CA Also relevant in the context of: NAMA, REDD+, GCF
Overall relevance in the UNFCCC context	1.5 With the new proposal in COP 21, the CDM will most likely become the MM according to Art. 6.4, and carbon markets will not be limited to developed countries (Annex IV), but available to all countries at all different levels: global, regional, bilateral and national. In other words, all will be free to gamble on the future of the Earth's systems. However, developing technical features of the market mechanisms, such as MRV, and respective (e.g. regulatory and monetary) incentives of inclusion of SD-benefits will be a clear task for the UNFCCC. Good governance and best practices gained from current experience of assessment of SD activities and incentive structures will unfold and can also be found outside the UNFCCC set-up.
Political/institutional strength of barrier	2 Given the challenges to design and implement efficient market mechanisms under the MM and CA tracks and the historic focus on mitigation outcomes as the main priority, it will be a challenge to reach consensus at the UNFCCC level on incentives for MRV of SD-benefits. However, if some of the previous, more fundamental barriers (B0 to B4) can be overcome, this barrier seems less problematic from a political/institutional perspective.
Technical/financial strength of barrier	3 This barrier would pose some technical challenges concerning the design of financial incentives for SD outcomes in addition to mitigation outcomes. However, the most relevant aspect of this barrier is clearly its financial dimension, which would potentially require significant additional resources in terms of financial incentives for MRV of SD-benefits.
Existing efforts for overcoming this barrier	The premium price associated with carbon credits that apply standards in the voluntary markets with a focus on SD assessments as add-on to verified mitigation outcomes (e.g. Gold Standard, CCBS, Social Carbon, Fair Trade Climate Standard) is clearly evidence that there is a willingness to pay by some buyers, honouring efforts by project owners and developers to measure, report and verify SD-benefits. Results-based finance and results-based aid programmes (tackling health, energy access and ecosystem services for example) as well as voluntary carbon market

	standards that aim at quantifying and monetising verified SD impacts (e.g. W+ standard, GS water standard) represent efforts to reward measures with positive SD impacts.
Possible solution approaches	• Separate monetisation of quantifiable SD-benefits (in addition to carbon payments). • Monetisation of SD-benefits on top of carbon payments through mandatory or (voluntary) market-driven price premiums. • Public awareness campaigns about the advantages of SD-benefits in order to create more demand and increase willingness to pay; this will enable buyers to be more conscious of what they buy, and project owners and developers to be more aware of the potential value-added of verified positive impacts.

5.2.7 Profile B6: Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits

SD-benefits of GHG reduction activities relate to the activities of numerous stakeholders, for instance, the political decision makers at the multilateral level under the UNFCCC that are to set the provisions for what SD-benefits may actually mean, the domestic policy makers that define the sustainable development criteria and do the respective assessments for domestic activities, or domestic stakeholders involved in and targeted by activities (such as project participants, local communities, civil society, etc.). As the local conditions differ across countries (also see barrier 3), it will be most challenging to derive universal definitions of the individual roles of various stakeholder groups (specifically the private sector and civil society but also key governmental actors), and to decide what types of players should be involved, and when and how to engage them. Historically, guidance on SD related topics under the CDM (e.g. SD section of PDDs, stakeholder consultations, environmental impact assessments and the CDM SD tool) has been very limited with regards to specific roles and responsibilities of different stakeholders. The same applies in the context of NAMAs or the GCF. For the development of guidance on promoting sustainable development under the MM or CA, it will in the first place be required to further define the mechanisms and their scope.

Table 11: Profile B6: Lack of clarity regarding stakeholders' roles and responsibilities

Barrier title	B6: Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits
Description	Stakeholders will be key in determining the scope and design of achieving SD-benefits under a market mechanism's activity on the ground, and in particular in assessing the SD-benefit impacts. It is thus important to ensure ownership and integrate relevant stakeholders; however, their roles and responsibilities are not defined so far. The general lack of clarity on roles and responsibilities of stakeholders with respect to SD-benefits under future market mechanisms of the UNFCCC therefore contradicts the importance of integrating stakeholders. In general, this barrier is closely related to the lack of clarity regarding the design of future market mechanisms (and the role of SD-benefits in them) (barrier 1), and is thus linked to the evolution of rules and procedures of the MM and CA.
Type	Institutional
Relevance for stakeholder groups	Net sellers, net buyer countries, the private sector (e.g. buyers, investors, project developers), NGOs and civil society, others e.g. domestic stakeholders such as civil society and federal ministries
Relevance for mechanisms	MM, CA Also relevant in the context of: GCF, (REDD+), NAMA, GCF

Overall relevance in the UNFCCC context	1.5 The barrier is highly important as stakeholder ownership in multilateral mechanisms and the respective activities are regarded as a key element for successfully establishing globally acceptable provisions concerning SD under the UNFCCC framework.
Political/institutional strength of barrier	2 The definition of stakeholder roles and responsibilities is important. Once the elaboration of MM and CA provisions starts under the UNFCCC it is expected to discuss stakeholder roles, responsibilities and respective SD-benefits (to a certain degree).
Technical/financial strength of barrier	2 The definition of stakeholder roles and responsibilities is complex and demanding from a technical and financial perspective, as it requires institutional setups and dedicated processes for proper integration of SD assessments in market mechanisms.
Existing efforts for overcoming this barrier	• Under the CDM, the responsibility for SD assessments is delegated to DNAs. Each DNA defines its own CDM approval process leading up to mandatory Letters of Approval. However, there is basically no guidance or requirements regarding the role and responsibilities of different stakeholders in SD assessments. In comparison to GHG related requirements (like baseline methodologies and additionally assessments) there is also very limited or almost non-existent guidance on SD-related requirements under the CDM, like Environmental Impact Assessment (EIA) requirements or guidance for large-scale projects, rules for stakeholder consultations or the description of SD impacts in PDDs. • The CDM and NAMA SD tools represent voluntary and completely optional tools without any requirements or guidance on roles and responsibilities by stakeholders involved in the measurement, reporting or verification of SD-benefits.
Possible solution approaches	• Starting a dialogue between stakeholders on SD-benefits under future market mechanisms with a focus on the roles and responsibilities of stakeholders, either under the UNFCCC negotiations or beyond (starting for instance with DNAs). • Introducing clear roles and responsibilities for SD-benefit assessments (in line with typical roles known from the CDM for example), ranging from regulatory to operational issues (e.g. MRV framework).

5.2.8 Profile B7: Lack of standardised technical frameworks for MRV of SD-benefits

MRV is one of the most prominent issues in the climate change policy field. Anything that is measurable, by definition, is reportable. While measurement is generally associated with quantification, it can also be based on qualitative metrics, provided that they can be evaluated in an objective manner. However, effectiveness in reporting is generally characterised not only by the existence of reliable measurement data, but also by whether it is reported in a transparent and standardised manner. Many standards and methodologies have emerged since the sustainable development term was coined, particularly within the voluntary carbon market (e.g. Gold Standard Foundation; also see Arens et al., 2014) but due to lack of common and detailed procedures none of them can be applied single-handedly.

In absence of a single definition of SD-benefits, countries use their own approach to define them and their evaluation. This has led to the creation of several measurement methods, therefore leading to more fragmentation of approaches. Furthermore, it also holds the risk of making co-benefit demonstration less transparent (Interview No. 7) and exacerbates the problem of duplication of efforts. Additionally, fragmentation of methods sometimes leads to negative perceptions in the market and reduces trust from buyers as the methods of quantification can be questionable (Interview No. 14). The current pressing need is therefore to have a unified approach for using a tool, which can be understood by everyone (Interview No. 3). Ideally, evaluation approaches for SD-benefits should not be limited to what buyers prefer, but also be flexible reflecting project or country specific conditions and be cost efficient in application (Ministry of Environment Japan, 2009).

Table 12: Profile B7: Lack of standardised technical frameworks for MRV of SD-benefits

Barrier title	B7: Lack of standardised technical frameworks for MRV of SD-benefits
Description	Though several measurement tools exist, there is no standardised technical framework to measure and report SD-benefits. As a consequence of the lack of a universally accepted definition (barrier 4), fragmentation of approaches has lead to different ways of SD measurement including various parameters for different kinds of SD-benefits, which are not directly comparable (in contrast to CDM GHG where everything is converted to the unit t CO_2eq reduced). Not only would standardised frameworks lead to a better understanding of SD-benefits, they would also produce more tangible outcomes that would attract investors and donors.
Type	Technical
Relevance for stakeholder groups	Net seller, net buyer countries, the private sector (e.g. buyers, investors, project developers), NGOs and civil society, others such as consultancies, investors
Relevance for mechanisms	MM, CA Also relevant in the context of: NAMA, REDD+, GCF

Overall relevance in the UNFCCC context	2.5 For better inclusion of SD-benefits, it is important that the UNFCCC adopts a standardised framework to monitor and report them. Such a framework could be developed or transferred based on efforts outside the UNFCCC (e.g. SDG platform) but it may have to be adapted to specific UNFCCC requirements and unpredictable demands raised during the UNFCCC negotiation process on this topic.
Political/institutional strength of barrier	1 Once and if the political and institutional aspects of preceding barriers (B2 to B6) have been overcome, this is considered a purely technical barrier.
Technical/financial strength of barrier	2.5 MRV of SD-benefits is challenging. The majority of SD-benefits are very complex and project or country specific. Technical expertise is needed and can rely on existing frameworks. However, know-how will increase with a growing demand to assess SD-benefits.
Existing efforts for overcoming this barrier	• Several tools exist to measure SD impacts and to try to define SD, such as the CDM Sustainable Development Tool, UNDP NAMA SD Tool (which uses the SDG as a base) and UNEP DTU NAMA SD Tool. Also, third party standards from the voluntary market have specified SD-benefit impacts (e.g. GS, CCBS, SCS). • However, the SDGs represent the broadest global effort to-date in translating sustainable development to a set of goals that enjoy a broad level of acceptance (through a UN-led process).
Possible solution approaches	• Development of a new technical framework (based on SDGs) with specific SD indicators and respective rules for measurement, reporting and verification (if any) of SD-benefits. • MRV also has a facilitative role that should not be overlooked. Ideally, the process of measuring and reporting on climate change mitigation and support would catalyse coordination and planning both within and between countries' organisations. An MRV framework could also improve the availability of information about the range of actions that countries are taking to mitigate climate change, as well as their impacts and cost effectiveness, increasing awareness of options and best practices for effective mitigation in the context of sustainable development. • A registry or IT enhancement could also be a possible solution for integrating different approaches and streamlining efforts worldwide.

- Breaking the silo thinking of developmental agencies and climate institutions and raising awareness about synergies that SD-benefits have for specific groups of stakeholders can enhance joint efforts for MRV structures.

5.2.9 Profile B8: Added complexity of SD-benefit assessments and respective transaction costs

Heavy regulatory burden from local, regional and national jurisdictions and the requirements by financiers and international support instruments are key considerations when developing a project under a market mechanism. If that burden is larger than the expected return through revenue from units generated and sold under a mechanism, a project developer would not undergo the process of registration. In view of extremely low CER prices, this has prevented a large number of potential CDM projects to be developed, which is illustrated by the fact that even already registered projects have withdrawn. The experience gained under the CDM demonstrates a clear trade-off in this regard between achieving substantial emission reductions through an accessible and reliable mechanism and stringent assessment and measurement of SD-benefits.

Most interviewees emphasised the importance of limiting transaction costs as a result of increased efforts. Several had even expressed concern that overly emphasising SD-benefits in a market instrument's regulations would limit the mitigation potential due the transaction costs associated with consequent monitoring of co-benefit indicators (Interview No. 1 and 2). Moreover, experience with forestry projects under the CDM showed that high transaction costs were – besides the issue of permanence – the primary challenge in getting forestry projects off the ground (Interview No. 5). Nonetheless, the voluntary market provides numerous success stories, with relatively robust monitoring of SD-benefits resulting from carbon market activities made possible as buyers effectively pay a voluntary price premium for the generation and monitoring of SD-benefits. One could in the future explore ways through which to combine the compliance market with voluntary premium elements.

Levels of transaction costs can differ strongly when assessing SD-benefits depending on the specific monitoring and reporting necessary (e.g. increased biodiversity, jobs created, air pollution reduced). Transaction costs would also most likely differ between different project types. Costs from detailed monitoring of SD-benefits also grow as increasingly complex audits would take longer, more expertise would be required among the personnel executing audits, and specific external experts may be needed to answer questions that are specific to a particular aspect of the SD-benefits. Striking an acceptable balance between costs and depth of assessment is a difficult challenge.

Table 13: Profile B8: Added complexity and respective increased transaction costs

Barrier title	Added complexity of SD-benefit assessments and respective transaction costs
Type	Financial
Description	Transaction costs and the complexity of SD-benefit assessments along with a lack of financial compensation are important reasons for not including overly burdensome requirements on SD-benefit MRV in market mechanisms and the reason why these are not undertaken at large scale on a voluntary basis in compliance markets. It is primarily a financial barrier given that it is due to transaction costs, which can render projects financially unattractive.

Relevant for the stake-holder groups	Net seller, net buyer countries, the private sector (e.g. buyers, investors, project developers
Relevant for the mecha-nisms	MM, CA Also relevant in the context of: REDD+, NAMA, GCF
Overall rele-vance in the UNFCCC con-text	2 This is quite a UNFCCC specific barrier that can be addressed by its institutions, how-ever possible solutions could also have repercussions beyond the UNFCCC (e.g. in NA-MAs or voluntary carbon markets).
Political/insti-tutional strength of barrier	1.5 Once the political will is there and the institutional process is clear, this is considered mainly as a technical task to design the SD MRV processes in such a way that transac-tion costs are kept to a minimum. Nevertheless, possible solutions to this barrier are expected to be subject to some debate at political and institutional levels.
Technical/fi-nancial strength of barrier	2.5 Adequate financial incentives as well as technical expertise and capacity are essential prerequisites for proper inclusion of SD-benefits in functioning mechanisms. While some specific efforts can be undertaken to decrease transaction costs such as the sim-plification of MRV or dedicated financial compensation instruments, the fundamental tension between practicability and stringency of MRV remains – in particular if it is to be multi-dimensional as SD-benefits are. Hence, this barrier encompasses significant technical challenges. Most importantly, the barrier is expected to have clear financial repercussions within future market mechanisms.
Existing efforts to overcome this barrier	• The SD assessment tools and standards help to standardise the SD assess-ment process. However, the additional efforts and respective transaction costs required by project developers or NAMA proponents to quantify SD-benefits do not outweigh the current benefits (in terms of premium prices, increased demand or NAMA support for example). This explains why the uptake of these tools and standards remains very low under the UNFCCC. • In voluntary carbon markets, there is a more balanced picture between transaction costs and benefits of SD assessments (reflected in premium prices or higher demand for credits from a particular project). There are also efforts to reduce transaction costs through standardisation as well as the introduction of different levels of stringency and verification (e.g. micro-

	scale projects under the Gold Standard benefit from less stringent verification requirements). • To a certain extent, such efforts are also reflected in the CDM, which has a flexible approach to Environmental Impact Assessments as a mandatory requirement only when project participants or the host country consider the project impacts as potentially significant. • There are also several efforts to reduce overall transaction costs under the CDM (e.g. standardised baselines, positive lists for micro-scale projects, the use of default factors, etc.), which can be easily translated and adapted to the context of SD-benefits MRV.
Possible solution approaches	• Focus on highly standardised technical MRV approach to keep costs low (e.g. use of default factors or proxies and simple methodologies to reduce measurement and data collection efforts, positive lists, etc.). • Differentiated levels of MRV stringency (e.g. third party verification vs self-assessments) depending on project type and/or size. • Introduce regulatory or financial incentives for MRV of SD-benefits in order to compensate for higher transaction costs. • Similar to the experience in the CDM and voluntary markets, the reduction of transaction costs while ensuring the integrity of SD-benefit assessments can happen over time as the experience with the application of such assessments is growing. Refining the assessment requirements over time would require the delegation of regulatory power over such SD-benefit MRV frameworks to an entity, which is close to the market and which can act independently. Such an entity would require a clear overarching mandate from the COP and be under guidance of the UNFCCC Secretariat and their respective regulatory bodies – as is the case for the CDM Executive Board. • Introduction of positive/negative lists.

5.2.10 Profile B9: Lack of experience and capacity for MRV of SD-benefits

Once SD-benefits have been defined, as a core element of a market mechanism, such sustainable development impacts would need to be measured, reported and verified. Here, a universally applicable technical MRV framework would be required (barrier 7). In order to account for SD-benefits as per the provisions of such a technical MRV framework, the respective technical expertise will need to be built, domestically and internationally. So far, not much technical expertise exists to evaluate, measure and integrate SD-benefits into carbon projects (Interview No. 11).

This indicates a need for increasing capacity in this context, which also means that a more detailed and consistent quantitative ex-ante assessment and/or ex-post monitoring of SD-benefits will generate substantial transaction costs for any mechanism. The latter would in particular apply as a barrier for LDCs, which therefore would most likely not push for detailed assessments across the various environmental, social and economic impacts – unless they get support in building-up the relevant capacities. The CDM here serves as a particular example with lessons learned on the good and bad implications of capacity building programmes for carbon projects across the globe.

Table 14: Profile B9: Lack of experience and capacity for MRV of SD-benefits

Barrier title	B9: Lack of experience and capacity for MRV of SD-benefits
Description	A lack of capacity for the specific case of MRV of SD-benefits due to lack of experience and caused by lack of capacity building in measuring SD-benefits in the past. The need for capacity building increases transaction costs for the mechanisms; this is particularly relevant for LDCs where capacity is missing, and implementation is expensive.
Type	Institutional, technical, financial
Relevance for stakeholder groups	Net seller countries (especially LDCs), net buyer countries, the private sector (e.g. buyers, investors, project developers), NGOs and civil society, others (e.g. development agencies, and external consultancies, academic and educational institutions)
Relevance for mechanisms	MM, CA Also relevant in the context of: NAMA, REDD+, GCF
Overall relevance in the UNFCCC context	2.5 The barrier is regarded as important; once the technical provisions for the mechanisms are evolving and there is sufficient momentum across UNFCCC Parties to develop the mechanisms, the build-up of capacity can be regarded as a precondition for a functional mechanism and should thus be supported by the Parties. However, ex-

	perience and capacity in SD requires external institutions e.g. consultancies, universities, that have sufficient knowledge and experience and respective investment in such. Efforts outside the UNFCCC (e.g. to create capacity in the context of the SDGs) could contribute to overcoming this barrier and efforts within market mechanisms under the UNFCCC could also have positive impacts beyond the UNFCCC.
Political/institutional strength of barrier	1 This barrier can be regarded as a consequence of the novelty of the topic and the lack of a universally agreed and common definition of SD and of guidance material on measuring SD-benefits. Once these aspects are addressed, very limited political or institutional resistance is expected.
Technical/financial strength of barrier	3 Massive financial investment is needed to increase capacity to MRV SD-benefits, and to share and expand the respective knowledge. Once the underlying MRV frameworks are in place and stakeholder roles are clearly defined, significant efforts will be required to capacitate the relevant stakeholders. As seen under the CDM, capacity building in LDCs is expected to face big structural problems in this context.
Existing efforts for overcoming this barrier	• There are several capacity building efforts with a focus on CDM, NAMAs, REDD+, GCF readiness, GHG Inventories/BURs, LEDS, etc. • MRV plays a major role under climate finance activities, and significant know-how has been gained globally over the last two decades. • However, most of these programmes and initiatives have a focus on climate change mitigation (and adaptation to a lesser extent). Some of them also touch on topics like SD-benefits and broader SD aspects but increased efforts would be needed for closer integration of SD-benefits into market mechanisms.
Possible solution approaches	• Capacity building efforts with special emphasis on SD-benefit MRV should be pursued. • Here one can join existing MRV initiatives and relevant mechanisms that already consider SD impacts. • The UN SDG process will potentially offer opportunities for capacity building.

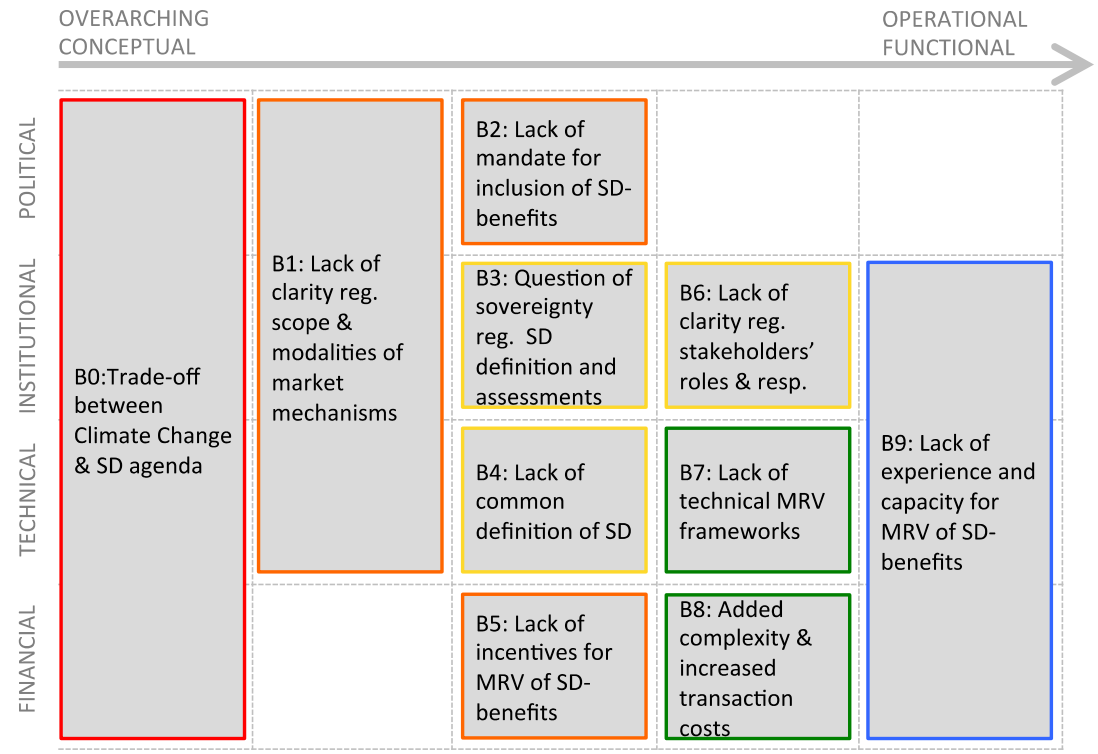
5.3 Summarizing the barrier assessment

In this chapter, the main outcomes of the analysis are presented, drawing from the assessment in the barrier and solution profiles.

As a first step, a mind map approach is applied in order to provide an overview of all ten barriers and display them in context to each other within a causal chain. Last but not least, this "barrier landscape" is also used to identify clusters of closely related or interlinked barriers and to highlight a logical sequencing of these clusters when it comes to addressing the underlying barriers. As a second step, a bubble chart features all barriers in the context of the three rating criteria used to assess them: 1) the overall relevance of each barrier in the UNFCCC context, as well as 2) the political/institutional and 3) technical/financial strength of each barrier. The bubble chart allows for an easy comparison of all barriers with regard to these three assessment criteria and provides further insights on how to tackle the barriers. In a final step, potential solutions for all barriers are summarised at the end of the present sub-chapter.

Mind map assessment: Assessment of barriers according to their type and cluster

Figure 3: Barrier landscape according to type and clusters



Source: Authors

Main observations from the mind map assessment:

- Figure 3 shows that the barriers on the left side are more overarching and conceptual in nature, whereas the ones on the right can be regarded as more operational and functional. The implication is clear; the more fundamental barriers on the left of the chart are the cause of the subsequent technical and operational barriers. For this reason, it is difficult, if not impossible, to address the barriers on the right side of the spectrum without solving the barriers on the left side first (except for the overarching barrier B0; see red cluster description below). The barriers, as depicted in Figure 3, can be grouped into five main clusters. The barriers within each cluster are closely connected and linked to the same root causes.

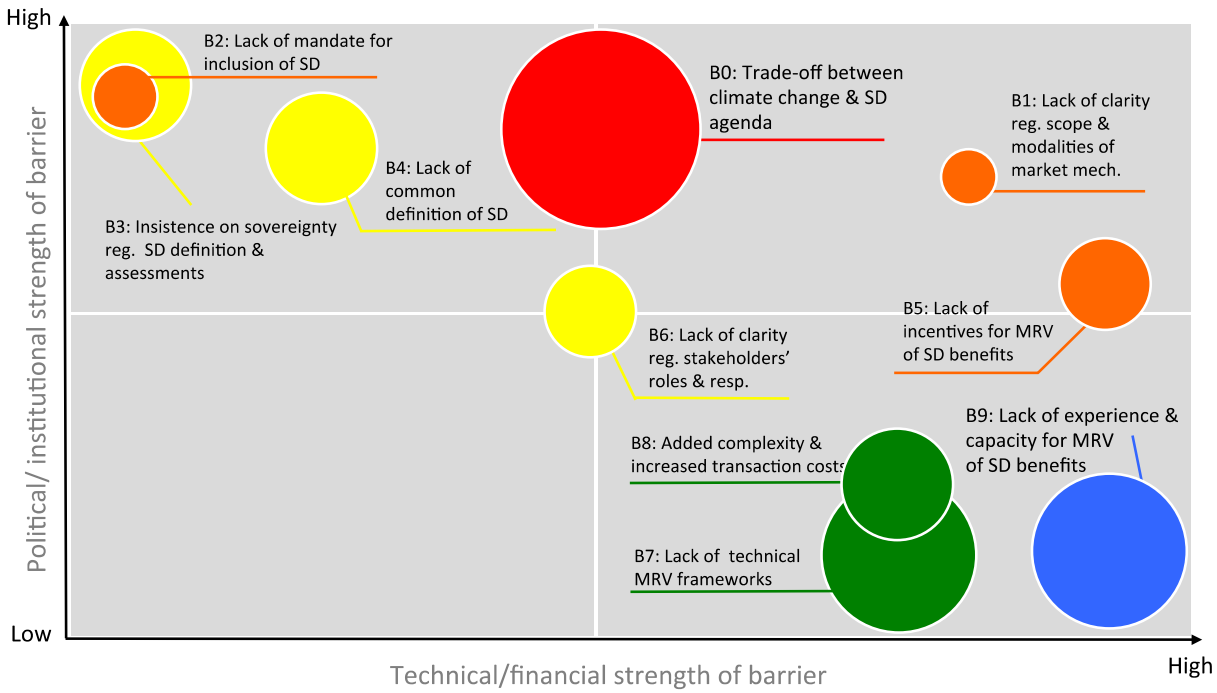
- **Red Cluster**: This cluster encompasses the overarching barrier related to the potential trade-off between the dual goals of climate change mitigation/adaptation and SD-benefits, in the sense that it is challenging to achieve both desired outcomes without prioritising one over the other. This overarching barrier is basically the cause of several of the subsequent barriers. It also represents one of the most difficult barriers to address due to the almost philosophical nature of the barrier and its wide ramifications beyond the UNFCCC, including but not limited to the entire development community and trade-offs/conflicts at the national level (e.g. between environment ministries and line ministries). Despite the importance of this barrier, the authors do not regard a solution to this barrier as a necessity in the context of the Paris Agreement due to its ramifications that extend far beyond the UNFCCC process. This makes a potential solution to this barrier simply too ambitious to be considered as a realistic goal under UNFCCC. Any efforts to address this barrier would significantly contribute to strengthening of SD-benefits under the UNFCCC, however it is also possible to get closer to this goal without solving Barrier B0 as a whole.
- **Orange Cluster**: This cluster includes barriers that demand answers to the question: "***why and for what purpose should SD-benefits be assessed in the first place?"*** as an essential first step. The orange cluster is formed by barriers of a particular political and institutional nature at the UNFCCC level and is related to market mechanism fundamentals such as the lack of clarity regarding scope and modalities of the future MM and CAs, the lack of a strong (and clear) mandate for inclusion of SD-benefits and thus, unclear regulatory and/or monetary incentive structures for MRV of SD-benefits. These barriers represent fundamental questions about the importance and role of SD-benefits in the context of market mechanisms, which require some basic answers before moving further to the right of the barrier landscape featured in Figure 3.
- **Yellow Cluster**: This cluster encompasses barriers that require answers to: "***what is the meaning of SD in the UNFCCC context and who has the right to define SD?***". The three barriers in the yellow cluster can be easily solved from a technical perspective but would face strong political and institutional challenges given the history of SD under the UNFCC C; such as the question of sovereignty regarding the definition and assessment of sustainable development as well as the lack of a common, universally accepted definition of SD and clarity regarding stakeholder roles and responsibilities. These barriers are mainly rooted in historic disagreements between UNFCCC parties on the question of how to define and assess SD. Addressing these three barriers without solving the more fundamental orange cluster would be a futile exercise because the answer to what SD means would only be effective once the purpose of SD-benefits under the Paris Agreement is clear. At the same time, the yellow cluster represents a crucial set of questions that would have to be answered before the final two (green and blue) clusters can be addressed.
- **Green Cluster:** This cluster comprises technical and financial barriers that demand answers to the question: **"how to assess SD-benefits and what are the respective consequences?"**. As pictured above, such barriers are the lack of standardised MRV frameworks for SD-benefits, as well as added complexity and resulting increased transaction costs from SD assessments. These barriers seem relatively straight-forward to address if the previous more political and institutional clusters can be overcome. However, this cluster cannot be solved in isolation from the preceding yellow cluster.

- **Blue Cluster:** The final cluster consists of one important barrier with institutional, technical and financial components concerning the lack of experience and capacity for MRV of SD-benefits in the context of market mechanisms. This cluster, being the one furthest to the right on the barrier landscape, is considered an "end of pipe" problem, which requires clarity on most of the questions raised by the previous clusters before it can be effectively addressed. Nevertheless, this final barrier should not be underestimated since it would require time and the mobilisation of significant resources to overcome the underlying problem on a global scale.

Bubble chart assessment: Assessment of barriers according to their relevance in the UNFCCC context as well as their political/institutional and technical/financial strength

The graphical representation below is not an exact representation but is a simplification of the ten barrier profiles based on the main rating criteria used in the barrier profiles. The purpose of the figure below is not to provide exact absolute ratings for each of the three criteria but rather to allow for an initial, fairly subjective comparison of how each barrier compares to the others along these three criteria. The illustration is therefore intended to be a starting point for further work.

Figure 4: Assessment of barriers according to relevance in the UNFCCC context, and strength of barriers



Polititcal/institutional strength of barrier (y axis)	Technical/financial strength of barrier (x axis)	Overall relevance in the UNFCCC context (circle size)	Barrier cluster (colour)
			red orange
1 (low) 2 (medium) 3 (high)	1 (low) 2 (medium) 3 (high)	1 (within UNFCCC=small circle) 2 (medium=intermediate) 3 (beyond UNFCCC=large circle)	yellow green blue

Source: Authors

General observations from the bubble chart assessment:

- It would be tempting to single out barriers in **the lower left quadrant** as "**low hanging fruits**" which could be easily addressed because they are considered rather weak from both a political/institutional and a technical/financial perspective. However, such low hanging fruits are completely absent. Most importantly, as concluded from the assessment of Figure 4, the **clear**

logical sequencing of barrier clusters (except for Barrier B0) cannot be challenged or replaced by another logic that would move from weaker to stronger barriers. The logical sequencing identified in Figure 3 implies that the orange coloured barriers need to be addressed before the yellow ones, followed by the green and blue barriers in order to effectively address SD-benefits under the Paris Agreement. Given the uncertainty and unpredictability of the political process under the UNFCCC, it is suggested to stick to this logical sequencing, focussing on the most difficult political/institutional challenges first before moving to "easier" more technical barriers.

- The barriers featured around the **top right quadrant** (Barriers B0, B1 and B5) represent the **most challenging barriers,** as they are the most difficult to overcome in terms of political/institutional as well as technical/financial barriers. Solutions to these barriers require significant political and institutional support, technical expertise and financial commitments or resources.
- The larger the circle of a barrier, the more relevant and beneficial is a solution beyond the UNFCCC context. This includes in particular B7, B9, B0, which will require extensive dialogue efforts to bridge diverging views among parties in the UNFCCC and beyond e.g. development agencies.

Specific observations from the bubble chart assessment:

- The **red coloured barrier** comprising the overarching barrier B0 is the largest circle in Figure 4, making reference to the universal nature of this barrier beyond the UNFCCC process, also encompassing the entire development space. If at all, a solution to that barrier can only be found in cooperation with non-UNFCCC institutions from the development area.
- The upper right quadrant represents the barriers considered the most challenging in both dimensions politically and technically. It includes the **orange coloured barriers** B1 and B5, signalling strong political/institutional as well as technical/financial aspects. Barrier B1 "Lack of clarity reg. scope/modalities of market mechanisms" is considered the most technically as well as politically challenging barrier in the context of the Paris Agreement and barrier B5 "Lack of incentives for MRV of SD" is regarded as very significant from a financial (and technical) perspective (less from a political viewpoint). While B1 is very UNFCCC specific, B5 is also relevant beyond the UNFCCC context. As mentioned above, it is recommended to tackle the orange coloured barriers from the top to the bottom, starting with B2, followed by B1 and B5.
- The upper left quadrant represents the barriers that are most challenging in political/institutional terms. The **yellow coloured barriers** B3, B4 and B6 and the **orange coloured barrier** B2 are placed here. Barrier B3 "Insistence on sovereignty in SD assessments" is the strongest political/institutional barrier. This would clearly be the most contentious and politically sensitive barrier to be addressed. At the same time, this barrier is considered as straightforward from a technical/financial perspective – another sign of a purely political/institutional barrier. Also, barrier B2 "Lack of mandate for inclusion of SD" is a purely political barrier and therefore relatively easy to address from a technical/financial perspective. Barrier B4 "Lack of common definition of SD" is also considered mainly a political/institutional barrier, albeit more complex than B3 from a technical perspective (medium strength). Barriers B4 and B3 and their respective potential solutions are considered of relevance beyond the UNFCCC, since it could also benefit other "ecosystems" such as voluntary carbon markets. Barrier B6 "Lack of clarity regarding stakeholder roles and responsibilities", on the other hand, is considered as more UNFCCC-specific (smaller circle), of lower political/institutional strength and of medium technical

strength. The same strategy of addressing barriers from the top to the bottom applies for the yellow coloured barriers.

- The lower right quadrant represents the barriers considered predominantly technically/financially ambitious with rather weak political/institutional aspects. It contains the **green coloured barriers** B7, B8 and the **blue coloured barrier** B9. Possible solutions to barriers B7 and B8 could also have repercussions beyond the UNFCCC (e.g. in NAMAs or voluntary carbon markets), which explains their circle size, in particular for B7. Barrier B7 "Lack of a technical MRV framework" for SD assessments is considered a purely technical barrier in comparison to the more political/institutional barriers (yellow coloured barriers) with regards to the definition of SD. Barrier B8 "Increased transaction costs" is slightly more political and stronger from a financial perspective than B7. The **blue coloured** barrier B9 "Lack of experience and capacity for MRV of SD-benefits", is considered as a strong technical and financial barrier, less challenging from a political perspective and somewhat relevant from an institutional perspective. The position of barrier B9 on the x-axis is based on the assumption that significant financial resources would be needed as upfront investments for building the necessary capacity for SD assessments at the host country level. Last but not least, the circle size indicates that this barrier and its respective solution has significant relevance beyond the UNFCCC potentially benefiting other ecosystems. The required capacity building efforts could therefore be co-financed by stakeholders outside UNFCCC market mechanisms, such as development and other UN agencies.

PART III: GUIDANCE DOCUMENT FOR DEVELOPING COUNTRY NEGOTIATORS

6 The benefits of ensuring strong sustainable development through the Paris market mechanisms

What is Sustainable Development in the Context of Market Mechanisms?

The first and most basic definition of sustainable development (SD) was introduced by Brundtland et al. (1987): sustainable development is "development which meets the needs of the present without compromising the ability of future generations to meet their own needs". However, defining sustainable development is challenging, as it is "a complex multilayer process covering environmental as well as social and economic aspects that can be affected both positively and negatively" (Arens et al., 2015). The actual SD-benefits are however very real and achieving such benefits is an urgent necessity and a key policy priority in developing countries and economies in transition.

Figure 5: The basic three-dimensional understanding of sustainable development

Source: Authors

Both the Paris Agreement and the 2030 Agenda for Sustainable Development under whose umbrella the Sustainable Development Goals (SDGs) have been formulated highlight this need and the willingness for cooperative action to address it. The SDGs encompass 17 goals (Figure 6) and 169 subtargets and represent the latest, most prominent and ambitious definition of sustainable development at the level of the United Nations[47].

[47] The SDGs have been adopted on 25 September 2015 by 193 countries of the UN General Assembly at the UN Sustainable Development Summit in New York. Although subject to some criticism, the SDGs are regarded as the most successful attempt to date to define sustainable development in an UN-lead, bottom-up and inclusive process.

Figure 6: Overview of Sustainable Development Goals

Source: United Nations

Under the United Nations Framework Convention on Climate Change (UNFCCC) SD has been an important part of the discourse. In context of market mechanisms (MM) for mitigation, addressing SD can on the one hand mean to put in place rules and guidance that ensure ex-ante that positive SD impacts occur while negative ones do not. On the other hand, addressing SD can also mean to ex-post measure and report the SD performance of MM activities as done in the market for voluntary offsets.

The Clean Development Mechanism (CDM) was set up under the Kyoto Protocol and allows mitigation projects and programmes in developing countries to generate emissions credits (Certified Emission Reductions, CERs) that can be used by industrialized countries to fulfil their emissions commitments. Many, but not all CDM projects and programmes have generated SD-benefits across all three common SD dimensions:

- Economic – projects contribute to economic development, provides technology transfer, improve the balance of payments etc.
- Environmental – projects reduce air, water or soil pollution, decrease pressure on the local environment, or contribute to biodiversity preservation etc.
- Social – projects contribute to poverty alleviation, improve health conditions, etc.

However, the CDM has been heavily criticized by NGOs and media for its perceived failure to contribute to SD. This was fuelled by some high profile cases where SD-benefits were doubtful or even negative impacts occurred, for example in the context of reduction of industrial gases, hydropower plants or projects where violence erupted between project developers and affected communities. Due to these developments, governments in industrialized countries increasingly restricted import of CDM credits, while negotiations on new MMs were slowed down due to the perception that MMs are sufficiently problematic not to consider them under any new climate agreement.

In parallel to the Kyoto Mechanisms, a voluntary market emerged which was not subject to any international rules. Therefore, widely differing approaches to SD have been applied under this market.

Definitions of SD as well as the procedures to evaluate activities' contributions or alignment with SD vary across different MMs and multilateral institutions. The term co-benefits is often used in context of the CDM and under the Green Climate Fund (GCF). In context of Nationally Appropriate Mitigation Actions (NAMAs) the term SD-benefit is used more often. It is used mainly to highlight positive environmental, social and economic impacts. Under the REDD+ instrument, the term non-carbon benefits (NCB) is commonly used with essentially the same meaning. For the sake of simplicity, we will use the term "SD-benefit" in the present guidance document, which in general refers to outcomes, results and impacts beyond climate change mitigation- (or in case of the GCF also adaptation-) benefits of activities. Generating SD-benefits under MMs requires ex ante and ex post assessments of positive economic, environmental and social impacts. It might also be interpreted as the avoidance or minimization of negative impacts (e.g. through safeguards) in the course of designing and implementing activities.

Positive and negative impacts often accrue to stakeholders not actively involved or participating in the design or implementation of a mitigation or adaptation measure (e.g. local communities living in the vicinity of a project), which is why stakeholder engagement has often been viewed to be an important issue in SD assessment to be addressed alongside putting in place safeguards.

Safeguards (preventing e.g. human rights or labour rights violations etc.) are important for the overall credibility of an MM in the long-run to avoid a negative public perception as the one that emerged for the CDM over time. Safeguards are also often used as a pre-condition for eligibility by international buyers of mitigation units (Carbon Market Watch, 2015; 2011).

While under the CDM, host countries themselves defined SD it is not yet clear how SD will be defined under the new MM defined by the Paris Agreement (PA): the mechanism under Art 6.4 (commonly called Sustainable Development Mechanism, SDM) and Cooperative Approaches (CAs) under Art. 6.2. The rule-setting for these MMs needs to specify how their contribution will be ensured or monitored. The credibility of the Paris MMs will, crucially depend on a credible and transparent approach to addressing SD.

Experience with Sustainable Development in Mitigation Policy Instruments

With the broad variety of existing mitigation instruments plenty of experience for actively promoting and integrating SD-benefits has been gained over the past decade. In particular, the voluntary market has offered- and generated demand for measuring SD- benefits, reacting to the increasing criticism of the CDM. Other policy instruments, such as NAMAs, the GCF or REDD+, apply country-specific or other – often inconsistent – approaches to the definition and evaluation of SD-benefits.

The basic design principles of the CDM leave the definition of SD up to the host country government – it is the Designated National Authorities' (DNA) job to check a project's' contribution to national SD priorities before providing a letter of approval. This lack of international oversight is often viewed as both an advantage thanks to its flexibility and adaptability to national circumstances, as well as a disadvantage due to the limited possibility of putting in place international rules for prevention of adverse outcomes or achieving high levels of SD-benefits and due to the very limited possibility of comparing SD-benefits due to lack of a consistent approach to the assessments.

Since the beginning of the CDM´s operation the mechanism has been accompanied by a debate on the role SD-benefits should be playing, made more relevant by the above-mentioned criticisms. This debate, which was reflected in the CDM reform process, has led to the development and release of

the "CDM SD Tool" – a voluntary instrument put forward by the UNFCCC secretariat, which allows to present SD-benefits of CDM activities. So far, this voluntary tool has not been used widely as it is competing with long established approaches such as those of the Gold Standard (GS). Gold Standard methodologies include validating certain SD impacts of CDM activities. Gold Standard certification has allowed project developers to sell CERs at a premium to the market price, particularly since the CER market has suffered from a lack of demand.

Figure 7: Two points of intervention to address SD in the CDM project cycle

Source: modified from UNFCCC 2016b

In the voluntary market, SD-benefits are partially more important than in the CDM market. Often, private sector voluntary credit buyers are looking for projects with high reputation benefits. The various standards in the voluntary carbon market vary in their requirements for SD-benefit assessments. Some do not include any requirements, whereas others have very elaborate frameworks. Voluntary standards that extensively require assessment of SD-benefits are the GS that has also been active under the CDM, the Climate, Community & Biodiversity Standard (CCBS), the Social Carbon Standard (SCS) and the Fairtrade Climate Standard (FCS), which was launched at COP21 in Paris. Together, the GS, CCBS and SCS make up almost 40% of the volume transacted in the voluntary carbon market (Forest Trend Ecosystem Marketplace [FTEM] 2015). Most voluntary market standards apply a validation approach that assesses the SD-benefits of the project. Apart from early stage initiatives, such as Water Benefit Certificates under the GS or W+ Units that quantify women empowerment benefits (under the W+ Standard), there is limited experience with the actual verification, issuance and monetisation of SD-benefits in voluntary carbon markets beyond carbon credits.

The Joint Crediting Mechanism (JCM) is a bilateral mechanism initiated by Japan, which operates outside of the UNFCCC. The mechanism has frequently been criticised for a lack of transparency regarding its procedures and overall effectiveness, and has only recently issued its first credits. Under the JCM, individual SD criteria are inscribed in the project methodologies; whether or not these criteria reflect national priorities on SD is unclear. Whether the JCM as such or elements of its approach will be accommodated as CA under the PA remains to be seen, but the mechanism already today serves as another example of where in theory, SD assessments could be placed.

In context of NAMAs, the promise of SD outcomes is a very important motivation for developing countries to get involved in mitigation action. However, funding for implementation of NAMAs has been grossly insufficient for several reasons. One reason is the lack of a common understanding of the benefits of national mitigation actions and the perceived misalignment of interests between the development aid agencies and climate finance donors, which makes it difficult to mobilize various sources of funding for implementation of NAMAs. While the climate community focuses on GHG reductions, national authorities in NAMA host countries focus on their national development agenda. Often, NAMA stakeholders just do not think that a detailed assessment of SD-benefits is relevant, as they do not trust that these benefits will actually accrue or be relevant to them. And – just as in case of the CDM – there is no standardized definition of SD contributions, which further complicates matching NAMA proposals to development funding streams.

For REDD+, there is a close link between safeguards for activities and potential "non-carbon-benefits" (NCB), since the safeguards also refer to additional environmental and social benefits. While the REDD+ safeguards shall prevent harm, NCB shall ensure additional benefits. But despite the view that NCB are of great importance, numerous countries prefer the focus of REDD+ activities to be on achieving carbon benefits. A recent COP21 decision on NCB invites developing countries to communicate if they seek support for addressing NCB under the REDD+ mechanism.

Under the GCF, SD contributions appear to play a prominent role – being prominently mentioned in the Governing Instrument. Project proposals need to address potential SD-benefits, with social, environmental and economic benefits being included as potential sub-indicators. Stakeholders need to be involved for project implementation, and the initial environmental and social safeguards put great emphasis on different SD contributions. However, no specific indicators for SD-benefits are provided on a programme level. Rather, indicators are to be decided on a case-by-case basis. So far, the extent to which SD-benefits have been described in the first set of approved funding proposals differs strongly, which indicates that the GCF in practice might not view a clear demonstration of SD contributions an essential selection criterion.

Governmental and multilateral procurement programmes for CERs also emphasize the relevance of SD-benefits, to a varying extent. For instance, the WB PAF has no SD criteria whatsoever, while the Norwegian NORCAP programme (2015, p. 2) stated that projects would have to be "environmentally and socially sound and compatible with environmental and sector specific priorities of the respective host countries […] To assess this, NEFCO will apply its own environmental guidelines".

A common thread among the mitigation actions discussed above is that the driver to fostering SD-benefits often comes from credit buyers or climate finance donors. The greatest efforts to evaluating SD-benefits can be found in parts of the voluntary market, which in particular is driven by the demand and scrutiny of credit buyers. Furthermore, local governments have a motivation to highlight sustainable development results, but rather in the context of their own development agenda, the

priorities of which might differ from international SD results assessments. NAMAs could in theory provide an opportunity to combine national SD priorities with international mitigation efforts, but their implementation has stalled due to a lack of funding streams for advancing NAMA concepts to operational policies and actions.

In light of this, the main opportunities or "hooks" for achieving SD-benefits from mitigation action is to find ways to align the interests of international buyers or donors for supporting SD with the prospective host country's SD priorities. Advancing the SDM toward a credible and reliable mitigation mechanism, which ensures positive SD outcomes could deliver on this expectation. In order to address the CDM's shortcoming in for ensuring SD, it would be beneficial for all sides if the CMA decided to setting up a standardized, but flexible monitoring, reporting and verification system that would allow to assess and compare SD-benefits.

The Paris Agreement: Fresh start of Climate Policy

When Laurent Fabius' gavel came down on the table and more than 5000 negotiators and observers rose to their feet sharing a roaring applause one thing became very clear: The Paris Agreement (PA) is a fresh start for international climate policy. The experiences gathered since the inception of the UNFCCC – at negotiating tables, in actual project implementation in CDM and NAMA host countries and in international climate finance institutions – provide firm and fertile ground for the action that is needed to meet the ambitious target of limiting climate change to a warming of less than 2°C or even 1.5°C above pre-industrial levels. MMs and most notably the CDM that had been in place since the first commitment period of the Kyoto Protocol started in 2008 were tested and improved in practice. An uncertain outlook toward the future climate regime, lagging mitigation ambition and falling political support for market instruments put demand for credits – and their prices under massive pressure by the end of 2012. This led many to doubt that carbon markets would play any relevant role in a Post-Paris era. This doubt persisted until during the Paris conference. While draft versions of the PA had always contained passages providing a basis to develop carbon market mechanisms, they were heavily contested and not many expected there to be a significant role for them much less that an entire article would be dedicated to market instruments. The fact that Article 6 is part of the PA and the strong show of support of a number of highly influential Parties backing the Ministerial Declaration of New Zealand[48] shows clearly that carbon market mechanisms continue to be an important part of the multilateral climate regime beyond 2020. The PA includes two streams for market mechanisms, both of which should achieve mitigation and promote sustainable development: The SDM will have strong international oversight and could in many aspects resemble the CDM, whereas the CAs are likely to have a more bilateral character allowing for a broad set of initiatives looking to transfer "mitigation outcomes".

Many Parties are now hoping to host activities that could allow generating and selling emissions reductions units under the SDM and thus generate revenue for activities, which also support the host country's sustainable development. These countries could benefit the most if four things happen: a) if the SDM emerges as a credible and reliable mechanism, 2) if existing CDM projects that provide

[48] The backers of the New Zealand Ministerial Declaration on carbon markets are: Australia, Mexico, Canada, Netherlands, Chile, Colombia, Panama, Germany, Papua New Guinea, Iceland, Republic of Korea, Indonesia, Senegal, Italy, Ukraine, Japan, United States of America

high SD beneftis (according to transparent criteria) are permitted to be transferred to the new mechanism, 3) if CAs under article 6.2 are subject to a set of stringent rules that ensure environmental integrity of mitigation results and prevent adverse SD-related outcomes, and 4) if the share of proceeds explicitly established for the SDM were imposed on all CAs to avoid an unfair disadvantage of the SDM.

MMs are now at a crossroads as a lot of work needs to be done to clarify and operationalize the SDM and the CAs and to make them effective tools for achieving the objective of the PA and the UNFCCC. At the same time the international community is at a crossroads with regard to the SDGs, which over the coming years also need to become operational. This is an opportunity for all countries seeking to participate in MMs to demonstrate the need for well-functioning instruments that can effectively cut greenhouse gas emissions and bring SD to their host countries.

Going forward operationalizing the mechanisms, there is a number of conceptual questions that emerge, including on SD: How is the occurrence of SD-benefits defined and who evaluates whether such benefits are in fact occurring in context of the development of activities. How do SD-benefits relate to the formal procedures of recognizing mitigation actions under article 6? As previously mentioned, the CDM has left both definition and checking entirely up to the host country, with the result that on the one hand these assessments were not consistent between countries, but also each country was in a position to align criteria with national priorities. Some DNAs applied quantitative criteria and evaluated proposals in form of a multi-criteria decision-making assessment, whereas others applied safeguards to prevent projects with severe adverse social, environmental or economic consequences would take place. For the SDM, the Conference of the Parties serving as the Meeting of the Parties (CMA) will need to elaborate rules, modalities and procedures for its operation (UNFCCC, 2016a; para 37 Paris Decision, PD). This includes several decisions that can shape the way by which SD is addressed within this mechanism:

- Authorization by Parties (para 37a PD), which in principle could be the same as under the CDM; if the CMA adopts rules for such authorization that go beyond the lenience of the CDM, the procedure for authorization could enforce safeguards, which effectively prevent countries ex-ante from accepting activities, which would result in negative SD outcomes.
- Scope of the mechanism (para 37c, PD), which should be defined in a way that ensures that only technologies and activities, which are widely recognized to not harm SD are included, whereas others, which may have caused harm in context of the CDM (e.g. large-scale hydropower) might be excluded from the mechanism.
- Utilizing experience and lessons learned from past mechanisms (para 37f PD). This could be understood as the necessity of a consequent application of safeguards and a common assessment approach to ensure positive contributions to SD.

For the reasons presented in the subsequent chapter, we argue that addressing SD in meaningful rules, modalities and procedures of the SDM would need to be beneficial to those countries looking to host activities: If the supervising body designated by the CMA is given authority to enforce SD safeguards, much of the public perception damage that occurred to the CDM and its activities and ultimately contributed to the market crash would be attenuated. This body (which could resemble the Executive Board of the CDM) could be given the authority to evaluate the adequacy of SD-related

decisions of the national authority tasked with authorization of activities or even decide on a common set of SD criteria applicable to all Parties and activities – potentially complemented by positive lists to reduce costs for activities known for their particularly strong SD-benefits. If the CMA only provided for a framework of procedures on how a national authority is to define and evaluate SD of proposed activities the mechanism will be at risk of repeating the mistakes of the CDM with regard to SD. Furthermore, the CMA should arguably – for a number of contested activity types and scales – decide on a set of rules regarding stakeholder consultation processes, which would help identify and rule out harmful activities. For those countries that seek to voluntarily highlight the SD contributions of their SDM activities, the supervising body should advance the further development and recognition of voluntary tools for assessing the performance of activities toward SD including a more specific set of performance indicators aligned with the SDGs to quantify benefits. This could follow the four design principles of Santucci et al. (2015, p. 26-30) and include a robust analysis of beneficiaries and their views.

Benefits of Agreeing on International Criteria for SD under Article 6 of the Paris Agreement

The experience gained so far under the CDM demonstrates that a trade-off between generating low-cost emissions credits and achieving high SD-benefits can exist. However, strong SD-benefit provisions, that allow to credibly rule out negative outcomes and highlighting positive outcomes by means of performance indicators based on a consistent definition, a standardized measurement method, a strong link to SDGs under the MM will more likely allow to build MMs that can ultimately enhance ambition and drive sustainable development.

- **A common understanding of SD helps establishing the SDM as credible and reliable**

The SDM is to "promote the mitigation of greenhouse gas emissions while fostering sustainable development" (Art. 6, 4 a PA). The specific rules, modalities and procedures that allow it to achieve its objectives are yet to be established and its scope is to be determined. Making SD practices under this MM compatible with the set of SDG indicators and sub-indicators currently appears as a key challenge in view of the disconnected processes (UNFCCC and SDG working group). If such streamlining was achieved, it would pose an opportunity for both the UNFCCC and the Agenda-2030 to strengthen the credibility and integrity of each process. In this context, it is important to note that many countries will expect definition of SD to remain their sovereign right – as it is the case for the CDM. This practice is rooted in UNFCCC Article 3.5, which states that "policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party" (UNFCCC, 1992). Different SD definitions and assessment approaches make SD assessments intransparent, non-comparable and result in duplications of efforts as well as negative perceptions in the market affecting trust from buyers. Establishing a unified approach on the definition of SD and agreeing on a common approach to assess these is thus in everyone's interest. Experts support this argument and say that "it would be in the best interests of all countries if both processes [UNFCCC and Post-2015 agenda] use the same indicators and metrics where possible" so "when implementing the SDGs, countries should use existing UNFCCC reporting formats and methodologies, where appropriate and possible" (WWF & CARE, 2015, 11). A strong concept of SD-benefits based on SDGs will therefore help the credibility and stability of the future MM.

- **Being proactive on strong SD provisions can promote the implementation of SDGs**

If procedures to properly measure, quantify and report SD-benefits are established, credible SD-benefits can be delivered as part of the mitigation projects being implemented under the SDM. These SD-benefits can positively contribute to the economic, ecological and social circumstances at national level in line with the host countries' Agenda 2030 priorities, which in turn could leverage co-investment by international development agencies looking for results-based action on the SDGs in developing countries. As such, such streamlining could ultimately allow to co-finance joint mitigation-development activities, which would result in both emissions credits as well as quantified development results.

At present, key constraints for channelling funds into activities that allow achieving SDGs in key sectors of developing country economies include entry barriers, inadequate risk-return ratios for SDG investments, a lack of investor expertise as well as a lack of information and effective packaging and promotion of projects (UNCTAD, 2015b). Delivering credible SD-benefits within the projects of the MM is one way of packaging and promoting SDGs.

- **Credible SD-benefits are a selling point for public or private activity developers**

Basing mitigation activities on a credible evaluation of SD-benefits for benefits that contribute to a country's Agenda 2030 can help convince donors, international investors and private sector investors to invest given that the demonstrated alignment with the host countries' priorities reduces those investment risks that are associated with an adverse regulatory environment.

Investment in under-funded activities is a major driver of SD-benefits growth. "Mobilizing investment and ensuring that it contributes to sustainable development objectives is therefore a priority for all countries and for developing countries in particular" (UNCTAD, 2015a, p.7). Credible SD-benefit provisions help properly demonstrate tangible and accessible SD outcomes for donors, international and domestic investors and thus build up a willingness to pay. Hence, the domestic costs of achieving SD outcomes can be reduced thanks to an improved access to financing and in some instances an explicit willingness to pay for SD results. There is a growing awareness among stakeholders and investors of the (monetary) value of SD-benefits beyond GHG reductions, combined with more sophisticated approaches to quantify SD-benefits in different sustainable development domains such as health, gender or biodiversity. A recent study by ICROA and Imperial College London (2014) concluded that every tonne of (voluntary) CO_2 offsets not only funds GHG reductions, but it can deliver up to $664 in additional economic, social and environmental benefits. Moreover, Santucci et al. (2015) concluded that for every tonne of CO_2e reduced in composting projects (in the countries Bangladesh, Vietnam and Sri Lanka) SD-benefits worth about $100 to $200 can be generated. Making such outcomes tangible can help move investment decisions toward SD outcomes. The existing willingness to pay for SD related outcomes (Santucci et al., 2015) can be utilized in two different forms: A price premium for mitigation outcomes that accounts for high quality SD-benefits is one approach, which could be achieved if the SDM applies reliable SD quantification approaches. This is exemplified by the difference between the average market price of $3.8/$tCO_2e$ to the average price paid for Gold Standard certificates of $4.4/$tCO_2e$ (FTEM 2015) or other premium standards in the voluntary market. "On average, buyers paid $2.7/tonne more for VCS offsets 'tagged' with the CCB Standards SD-benefits certification versus VCS alone" (FTEM 2015, 3). A second form for mobilizing the willingness to pay for SD-benefits is through additional payments for certified SD-benefits as anticipated by the

development of the Gold Standard 3.0 and according to some experts is an emerging trend in the voluntary carbon markets and development aid context.

Moreover, in a world in which donors increasingly set specific criteria for their support (including sometimes explicitly SD criteria), host countries have the opportunity to attract these investments towards their SD priority areas if these SD criteria are streamlined between MM and climate finance. This in particular would benefit countries which do not have the human or financial capacities to accommodate for the many different bureaucratic systems encountered in the different international donor institutions requiring different indicator sets.

Yet, host countries need to create a low risk environment where they ensure coherence with the host of policy areas geared towards overall development objectives. Key determinants for an attractive investment climate are political, economic and social stability; clear, coherent and transparent rules on the entry and operational conditions for investment (e.g. policies and laws); and effective business operations in target sectors (UNCTAD, 2015a). SD provisions under the MM can help establish such an environment as market mechanisms are results-based finance driven and thus promote policy and process harmonization between accountable actors to ensure high quality (SD) outcomes for both sides at lower costs. A good precedent is the Paris Declaration on Aid Effectiveness (2005) and the Accra Agenda for Action (2008) to improve the effectiveness of aid delivery between donors and developing countries by aligning goals, harmonizing procedures and clarify accountability of actors.

- **Strong SD provisions can increase policy effectiveness by aligning action and finance between ministries in charge of the environment and other government agencies**

Strong SD provisions under the SDM will help national governments to shape national SD strategies whose benefits relate to mandates of several different government agencies. As geographical jurisdictions and ministries often pursue differing agendas based on their responsibilities, they frequently compete for available funding and political attention. Mitigation projects with credible SD-benefits can deliver impacts that affect not only environment ministries but also fulfil objectives of agriculture or health ministries. If properly quantified, SD results indicators can provide a mechanism to transfer value from those that benefit to those that create the benefits. By doing so, mitigation projects can provide valued social assets or public goods which could have been funded by other agencies – often at higher costs and without having mitigation in mind (Santucci et al., 2015). SD provisions under the MM can thus increase policy effectiveness by aligning objectives of ministries, harmonizing procedures and financial streams as well as by developing capacity to acknowledge these outcomes. As stated by WWF and CARE (2015), "when it comes to implementing the outcomes of both processes [UNFCCC and SDGs], this will need an integrated, cross-ministerial effort. Siloed implementation would set countries up for failure to achieve either climate or development goals". A credible implementation of actions that advance SD-benefits overcoming institutional barriers between various objectives of sustainable development and mitigation will help bring different ministries closer to each as commonalities between their objectives come into focus (OECD, 2006). In this context, strong SD provisions under the MM, is a powerful framework for the promotion of activities with a high degree of SD-benefits via valuing these benefits and getting the incentives right for the various ministries. In exactly the same context, NAMAs can become meaningful tools for countries to promote SD-benefits, especially in developing countries, provided that stakeholders really believe in achieving the SD-benefits projected when the NAMAs are developed.

- **Promoting SD-benefits is an opportunity to take a leadership role**

Leadership among the developing countries and LDCs is needed to establish the best-practice for incorporating SD-benefits respectively SDGs in social, economic and environmental policies. The experience with the Millennium Development Goals has shown that countries need to proactively establish guiding principles and best-practice for dealing with policy trade-offs and to define and measure the achievement of the respective objectives (UNCTAD, 2015a; 2015b). On the national level, strategic initiatives to mobilize funds and channel investment towards key sectors for sustainable development prospects can pave the way for increased SD provisions in targeted areas. To go beyond a domestic approach, it is important that developing countries actively participate in shaping the global discussion on SD-benefits under different regimes and this can best be achieved through the process associated with the Agenda 2030. The suggestion by UNCTAD (2015b) to establish a global multi-stakeholder body on investing in SDGs could provide a platform for discussion on overall SD investment goals and targets, fostering promising initiatives to mobilize finance and spreading good practices, supporting actions on the ground, and ensuring a common approach to SD impact measurement. Developing countries, which take a leadership role through actively engaging in this discourse are more likely to be recognised by international donors as potential recipients for support including through pilot activities aiming to operationalize the SDM.

- **Steps for Advancing a Common Approach to SD under Article 6**

In Paris, Parties decided to provide for the possibility of cooperative approaches and established a market mechanism. Achieving a healthy supply-demand relation, reliable operation and long-term credibility depends on negotiating – and deciding on – a robust set of rules, modalities and procedures including on the role of sustainable development. Already, the commonly used name for the mechanism under article 6.4 – Sustainable Development Mechanism– indicates that actions taken thereunder should contribute to sustainable development.

The two key articles – Article. 6.4 and Article 6.2 – anticipate two very different mechanisms; from the point of view of countries seeking to gain access to credit revenues by hosting carbon market activities, it is important that the SDM becomes a credible, transparent and reliable instrument. At the same time, it is also important that CAs does not evolve into a loophole for mitigation activities of low quality or which might even be harm sustainable development of country participating. For negotiators representing countries that would like to host carbon market activities, this poses a challenge of finding common ground among a set of interests.

Most importantly, it is essential that modalities and procedures of the SDM pertaining to SD are defined in a way that prevents erosion of the mechanism's credibility: Prevent that any activity can be undertaken, which would damage or hamper sustainable development in any way. Rules and procedures shall be adopted at the first meeting of the CMA (Art. 6.7), which could take place as early as in late 2018 – their preparation thus needs to start now. For this purpose it is important that negotiations regarding guidance on CAs and modalities and procedures for the SDM advance swiftly. Already, the 44th meeting of the SBSTA in Bonn 16-26 May 2016 discussed "guidance on cooperative approaches" (6.2) and "rules, modalities and procedures for the mechanism established by article 6.4". The meeting however, did not manage to clarify substantial questions, but requested Parties to submit their views by the End of September 2016. We recommend proactively advancing negotiations on rules, modalities and procedures regarding SD criteria definition, SD checks and validation,

and stakeholder engagement by including substantial points on these aspects in the aforementioned submission as well as by bringing them up throughout the negotiations on Article 6.

Prospective host countries can benefit from a more standardized and transparent SD assessment process because any negotiations taking place on SD-benefits toward operationalizing the SDM can also advance discussions on SD-benefits of climate finance. Transparent SD operationalization on the basis of the SDGs can become an enabler for the Agenda 2030, implementation of NDCs and NAMAs with financing from international climate finance donors such as the GCF.

Pressure on the GCF Board to operationalize funding criteria can further fuel discussions on SD-benefits under Article 6. In this regard the future development of the Performance Measurement Frameworks of the GCF is important and at the June meeting more details on indicators are expected to emerge. However, the current proposal by the GCF Secretariat for a co-benefit indicator for mitigation activities is very general and no specific indicators but rather vague guidance on what exactly is to be understood under these co-benefits are provided (GCF, 2016). The current international focus on the SDGs and the Agenda 2030 and discussions on SD under the Convention on Biological Diversity – can be leveraged to advance negotiations on SD under article 6 of the Paris Agreement, which might even elevate attention on the market instruments as contributors to the achievement of SDGs.

In order to address the need for achieving adequate financial incentives through market mechanisms and to highlight the benefits of mitigation action, prospective host countries could request international capacity building support for the analysis on the value of particular co-benefits through international overseas development aid that is linked to the achievement of the Agenda 2030 so that in the future they have better basis to monetize benefits and thus facilitate access to financing of specific co-benefits as a premium on activities taking place under a carbon market (see chapter 4; ICROA & Imperial College London, 2014; Santucci et al., 2015).

Addressing past difficulties related to defining sustainable development, the SDGs clearly represent a much needed basis and sustainable development could be operationalized under the SDM: The CMA would need to decide that only activities which would not harm achievement of the SDG indicator set be eligible under the MM and thus effectively implement internationally recognized safeguards. Under such a format, procedures would need to be put in place somewhere in the project cycle of the mechanism, which would allow identifying such adverse outcomes. Furthermore, a secondary layer of assessments could be added – potentially on a voluntary basis – a more flexible, modular approach, which could use a common set of SDG indicators but allows host countries to prioritise the indicators that they deem most relevant for e.g. highlighting the SD-benefits of mitigation activities to donors. Also, one could consider optional third party verification of SD impacts to allow for further differentiation and certainty for pricing in certain SD-benefits – although para 37e PD) does not foresee this. Voluntary SD performance indicator methodologies could become more important, if besides mandatory safeguards, the central body tasked with overseeing the SDM made use of selected third party standards (e.g. GS, CCBS, SCS) or tools (CDM SD Tool, UNDP NAMA SD Tool) for checking compliance with any rules, modalities or procedures that might be of relevance for SD. In such a case, host countries could orient themselves toward these existing approaches for implementing SD assessments toward the MMs and other mitigation activities.

One of the first steps for clarifying views on SD under Article 6 could be to start a dialogue amongst domestic carbon market stakeholders on SD-benefits and the most suitable modalities and procedures under a future market mechanism. This would provide most valuable insights not the least

with regard to the questions related to roles and responsibilities of stakeholders for SD-benefit assessments.

7 Conclusion

Despite the most recent insertion of Article 6 market mechanisms under the Paris Agreement, it remains to be seen how – and when - relevant discussions and decisions for establishing and detailing a future market mechanism under the UNFCCC will take place. So far the submissions on the NMM from Parties, observers or the civil society in the years 2013 – 2015 did not touch on the aspects of SD-benefits in detail, and only in a more generic fashion pointed towards sustainable development. Also, the interaction with stakeholders underscored that SD-benefits are not at the core of the debate at the moment. The negotiation progress of the FVA is related to the NMM, as Parties have been discussing accounting opportunities for international mechanisms under the FVA debate. The authors of this study expect the debate on the Article 6 mechanisms to most certainly capitalize on this process.

While there are certain Parties in fundamental opposition towards market based approaches (essentially the ALBA countries), and some sceptics regarding the future role of multilateral market based approaches under the UN (such as China, India), one important aspect is that many Parties tend to agree for a future mechanism under the UNFCCC to build upon lessons from existing market based instruments, in particular the CDM, but also other relevant mechanisms and initiatives (UNFCCC 2015[49]). The limited input received regarding the sustainable development contributions of a new mechanism and acknowledgement of potential SD-benefits highlights the limited relevance of SD-benefits in this regard, yet, however it also shows that no general objections have been raised so far by Parties for including such aspects in a generic manner under the scope of a mechanism. It remains to be seen to which degree the SD-benefits can be made a sufficiently strong requirement of a new mechanism under the UNFCCC, or whether external incentives for inclusion of SD-benefits will be required.

This research project considers options for further enhancing the role of SD-benefits in future market mechanisms under the UNFCCC. Hereby a particular focus is on barriers for the inclusion of SD-benefits, on solutions for overcoming those barriers, and on strengthening SD-benefits in market mechanisms under the international climate policy regime.

The barriers presented in this report are strongly connected with the various motives of stakeholder groups, so tackling these barriers is linked to influencing or changing motivations of actors and convincing them to support the inclusion of SD-benefits. This might be difficult, as the interaction with relevant stakeholder groups underscores that SD-benefits are not at the core of the debate at the moment.

The assessment shows that some political and institutional barriers are more fundamental in nature than most of the technical and financial barriers. The resulting barrier landscape contains five clusters of closely related barriers and has a clear logical sequencing from one cluster to another, starting with 1) the almost philosophical trade-off between dual goals of climate change mitigation and sustainable development; over 2) the question on why and for what purpose SD-benefits should be assessed in the first place; over 3) the question on the definition of SD and the stakeholder group entitled to determine this definition; over 4) questions on how to measure SD-benefits and respective transaction costs; and

[49] Decision -/CP21, III.38.f)

5) challenges related to the lack of experience and capacity in assessing SD-benefits. Given this logical order, it is very difficult to effectively integrate SD-benefits into market mechanisms under the Paris Agreement without addressing these five clusters in the order they are presented.

The analysis also provides further insights on how the barriers identified compare with each other in terms of relevance under the UNFCCC or beyond, as well as political/institutional and technical/financial strength of the barrier. Among other insights, it becomes clear how some barriers and respective solutions could have repercussions beyond the UNFCCC market mechanisms and therefore could leverage potential co-funding or other aligned interests from stakeholders other than the UNFCCC parties.

The summary of potential solutions for each of the barriers shows that SDGs are fundamental and provide an overall solution for more inclusion of SD-benefits, which can affect several barriers at once. A binding top-down SD-assessment framework based on indicators derived from the SDG process and respective SD-safeguards would be the most straight-forward solution, but is likely to face strong political resistance. A more flexible approach of non-binding guidance criteria based on a modular definition of SD (based on SDGs) would allow countries to prioritise the indicators that are most important to them. In addition to a standardised SD MRV framework, differentiated levels of MRV stringency (e.g. third party verification vs self-assessments) depending on project type and/or size could facilitate cost-efficiency.

For addressing those challenges, it will be crucial to identify the most feasible solution approaches for the inclusion and strengthening of SD-benefits in future market mechanisms and the entities and stakeholders responsible and willing to implement them. While one important aspect is that many Parties may agree to a future mechanism under the UNFCCC, building upon lessons from existing market based instruments, it remains a challenge to strengthen SD-benefits as the manifestation of the scope and structure of the future market mechanisms (e.g. MM and CA) in the particular context of SD-benefits is very uncertain at this stage. It will be crucial to test the political will to compromise and agree on certain fundamental principles regarding SD assessments. Depending on the outcome or the direction of these early discussions, the solution approach to these overarching political barriers may have to be adapted. The more operational cluster of technical/financial barriers is, in theory, much easier to address but would require a solution to the former cluster of more political barriers first.

Overall, we recommend that Germany engages to clarify the German position on the inclusion of SD-benefits under Article 6, and promote these views internationally. This could take the form of a European Union submission under the UNFCCC to ensure that this issue is adequately considered in the beginning development of multilateral rules and guidance. Furthermore, we recommend for German decision makers to:

- Integrate this issue in a future declaration as an outcome of meetings of the G7 Platform on Carbon Markets as a complementary route to promote a strong role for SD consideration in international market mechanisms.
- Outline key questions regarding SD to be addressed within guidance, rules modalities and procedures in the September EU submission to the UNFCCC.
- Elaborate an approach regarding ex-ante consideration of sustainable development as a potential basis for defining the scope of activities and the ex-post assessment of activities' sustainable development related performance in preparation of the SBI 45, SBSTA 45 and APA

1. Proactively engage with countries with a view to forming a high-quality coalition on mitigation market mechanisms or cooperative approaches to influence SB and SBSTA negotiations on Article 6. Use the G7 Carbon Market Platform as a starting point.

- Test the proposed SD rules through a number of pilot activities of various scopes and sizes in order to refine the rule proposals brought into the international negotiations through the high quality coalition. This should build on already existing tools and methodologies. Apply those rules for all German government supported activities under Art. 6 of the PA.
- Introduce strong reference to the internationally agreed Sustainable Development Goals in the guidance for Cooperative Approaches as well as the rules, modalities and procedures for the mechanism established by Article 6.4.
- Align processes related to operationalization of sustainable development under Article 6. and other processes such as the SDG working group and the Convention on Biodiversity. This requires cross-coordination between various governmental working groups tasked with negotiations in each of these fora.

For developing country decision makers, we recommend building on the SDGs for establishing a common understanding of SD across the market mechanisms defined in Article 6 of the Paris Agreement. In addition we recommend that:

- Mandatory safeguards based on the SDGs could be put in place for both the SDM and CAs and options for integration of SD performance evaluations could be foreseen in the SDM project cycle.
- Ex-post evaluations of SD performance could allow for voluntary measures with higher levels of stringency (e.g. quantification of impacts and third party verification) also depending on project type and size.
- Price premiums for voluntary enhancements of SD-MRV stringency could be offered if collaboration with development aid agencies and climate finance donors allowed to align criteria between MM SD indicators and the funding criteria of such institutions.
- Finally, capacity building should be an essential part to advance capability to quantify SD-benefits not only for carbon market co-benefits but also any other efforts for achievement of the Agenda 2030- and climate change policy objectives.

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Annex I: List of interview partners

Table 15: List of Interviews

No.	Description of Interviewee	Interviewer	Date interview conducted
1	Consultant manager of climate funds and carbon trader	Matthias Honegger, Perspectives	28th October 2015
2	Representative of a major public credit buyer institution	Matthias Honegger, Perspectives	28th October 2015
3	Standard Organisation 1 (Multilateral Organisation)	Patrick Bürgi, South Pole Group	16th of October
4	DNA of Asian country	Patrick Bürgi, South Pole Group	21st October 2015
5	Consultant and project developer on climate change and land use	Linde Warland, Perspectives	13th November 2015
6	Representative of a development and environmental organization	Linde Warland, Perspectives	13th November 2015
7	Representative of Environmental NGO	Björn Dransfeld, the greenwerk	2nd December 2015
8	Market Negotiator of major European Member State	Björn Dransfeld, the greenwerk	10th December 2015
9	Market Negotiator of Asian country	Björn Dransfeld, the greenwerk	3rd December 2015
10	Standard Organisation 2 (Voluntary)	Patrick Bürgi, South Pole Group	13th November 2015
11	Carbon Market Expert	Björn Dransfeld, the greenwerk	10th December 2015
12	Standard Organisation 3 (Voluntary & Compliance)	Patrick Bürgi, South Pole Group	7th January 2016
13	Credit Buyer 1 (Corporate)	Patrick Bürgi, South Pole Group	4th November 2015

14	Credit Buyer 2 (Corporate)	Patrick Bürgi, South Pole Group	20th November 2015

Annex II: Questionnaire for expert interviews

Interview questions

1.	What is your experience with market-based (GHG emission reduction) mechanisms and your experience with co-benefits within these mechanisms?
2.	What are relevant lessons learned from co-benefits in the context of market mechanisms respectively the projects you support? (for buyers: drivers for increasing the willingness to pay) (for civil society: What can help improving co-benefits)
3.	What are the most relevant drivers for including co-benefits under market- based mechanisms in your regard? (for buyers: barriers for the willingness to pay for co-benefits) (for civil society: What local barriers prevent market mechanisms to further fostering co-benefits?)
4.	What are the main barriers for co-benefits under market-based mechanisms?
5.	How can co-benefits be strengthened/ barriers be overcome, also for future mechanisms?
6.	Specific issues for the individual interview partner (Placeholder for open issues during the interview)

7.	Is there any other issue you would like to mention in this context?

Annex III: Notes of expert interviews (separate document)

(separate document)

Annex IV: Bubble chart assessment - overview scores

Table 16: Bubble chart assessment – overview scores

Criteria	Polititcal / institutional strength of barrier (y axis)	Technical / financial strength of barrier (x axis)	Overall relevance in the UNFCCC context (circle size)	Barrier cluster (colour)
Barrier	1 (low) 2 (medium) 3 (high)	1 (low) 2 (medium) 3 (high)	1 (within UNFCCC=small circle) 2 (medium=intermediate) 3 (beyond UNFCCC=large circle)	red orange yellow green blue
B0: Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development	3,00	2,00	3,00	red
B1: Lack of clarity regarding scope and modalities of market mechanisms	2,50	2,50	1,00	orange
B2: Lack of strong mandate for inclusion of SD-benefits	3,00	1,00	1,00	orange
B3: Question of sovereignty regarding the definition and assessment of sustainable development	3,00	1,00	2,00	yellow
B4: Lack of a common, universally accepted definition of SD	2,50	1,50	2,00	yellow
B5: Lack of monetary or regulatory incentives for MRV of SD-benefits	2,00	3,00	1,50	orange
B6: Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits	2,00	2,00	1,50	yellow
B7: Lack of standardised technical frameworks for MRV of SD-benefits	1,00	2,50	2,50	green
B8: Added complexity of SD-benefit assessments and respective transaction costs	1,50	2,50	2,00	green

B9: Lack of experience and capacity for MRV of SD-benefits	1,00	3,00	2,50	blue

Annex V: Key stakeholder interests and related barriers to achieving SD-benefits in market mechanisms

Table 17: Overview motives and drivers of stakeholder groups and identified barriers

Stakeholder group	Motives and drivers	B0: Possible trade-off between dual goals of climate change mitigation/adaptation and sustainable development Barrier 0	B1: Lack of clarity regarding scope and modalities of market mechanisms Barrier 1	B2: Lack of strong mandate for inclusion of SD-benefits Barrier 2	B3: Question of sovereignty regarding the definition and assessment of sustainable development Barrier 3	B4: Lack of a common, universally accepted definition of SD Barrier 4	B5: Lack of monetary or regulatory incentives for MRV of SD-benefits Barrier 5	B6: Lack of clarity regarding possible roles and responsibilities of different stakeholders in the context of SD-benefits Barrier 6	B7: Lack of standardised technical frameworks for MRV of SD-benefits Barrier 7	B8: Added complexity of SD-benefit assessments and respective transaction costs Barrier 8	B9: Lack of experience and capacity for MRV of SD-benefits Barrier 9
Net seller countries *(Host countries)*	Support a development first approach, climate change issues are secondary		x		x	x		x	x	x	x
	Want sovereignty over global decisions: SD impacts are to be established as per their requirements	x	x	x			x	x	x	x	x
	Want access to finance, thus, the discussion on SD-benefits should not intersect too much with development assistance as it would reduce funding opportunities				x			x	x	x	x
Net buyer countries	Focus on GHG mitigation and see SD impacts rather as a side effect or good to have (compliance market)		x				x	x	x	x	x

	Only support inclusion of SD-benefits (e.g. stringent assessments/more complexity) if it is cost-efficient	x	x	x	x	x		x			
	Prefer transparency and integrity of project evaluation/SD-benefit assessment and responsible entities to avoid reputational risks	x	x	x	x						
Private sector (*Investors, buyers, project developers)*	Only support inclusion of SD-benefits (e.g. stringent assessments/ more complexity) if it does not add costs, uncertainty or limit scope of mitigation actions	x	x	x	x	x		x			
	Require certainty in carbon market rules, supply and demand balance	x			x	x	x		x	x	x
	Want integrity of process evaluation/SD-benefit assessment and responsible entities to avoid reputational risks, but do not want to disclose proprietary information	x	x	x	x						
NGOs and civil society	Prefer inclusion of SD-benefits because they are direct benefits for civil society/specific beneficiaries		x		x		x		x	x	x
	Envisage transparency and integrity to evaluate and communicate about all aspects of a project						x	x	x		
Others *e.g. development agencies*	Climate change issues and development activities are separate areas; SD-benefits are therefore an add-on to climate projects and not part of development finance		x		x			x	x	x	x