CLIMATE CHANGE
23/2015

Evaluation and development of recommendations on the CDM EB's Sustainable Development tool including the sustainability requirements of other flexible mechanisms

For our Environment

Umwelt Bundesamt

CLIMATE CHANGE 23/2015

Environmental Research of the
Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

Project No. (FKZ) 3714 41 503 0
Report No. (UBA-FB) 002219/E

Evaluation and development of recommendations on the CDM EB's Sustainable Development tool including the sustainability requirements of other flexible mechanisms

by

Christof Arens, Christiane Beuermann, Florian Mersmann, Frederic Rudolph
Wuppertal Institute of Climate, Environment and Energy, Wuppertal, Germany

Karen Holm Olsen, Jørgen Fenhann, Miriam Hinostroza, Fatemeh Bakhtiari
UNEP DTU Partnership, Copenhagen, Denmark

On behalf of the Federal Environment Agency (Germany)

Imprint

Publisher:
Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Tel: +49 340-2103-0
Fax: +49 340-2103-2285
info@umweltbundesamt.de
Internet: www.umweltbundesamt.de

/umweltbundesamt.de
/umweltbundesamt

Study performed by:
Wuppertal Institue for Climate, Environment and Energy
Doeppersberg 19
42103 Wuppertal, Germany

Study completed in:
May 2015

Edited by:
Section E 1.6 Emissions Reduction Projects – Designated National Authority (CDM) / Designated Focal Point (JI)
Verena Seemann

Publication as pdf:
http://www.umweltbundesamt.de/publikationen/evaluation-development-of-recommendations-on-the

ISSN 1862-4359

Dessau-Roßlau, November 2015

The Project underlying this report was supported with funding from the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear safety under project number FKZ 3714 41 503 0. The responsibility for the content of this publication lies with the author(s).

Kurzbeschreibung

Das Forschungsvorhaben „Evaluation and development of recommendations on the CDM EB's Sustainable Development Tool including the sustainability requirements of other flexible mechanisms" hat zum Ziel, mögliche Unzulänglichkeiten des CDM SD Tools zu identifizieren, und strukturierte Vorschläge zu seiner Verbesserung zu machen. Erkenntnisse aus diesem Projekt sollen Leuchtturmcharakter für die Entwicklung von Nachhaltigkeits-Bewertungsinstrumenten in anderen Kohlenstoff-Mechanismen inner- und außerhalb der UNFCCC besitzen.

Dieser Bericht spiegelt die konsolidierten Erkenntnisse aus den drei Arbeitspaketen des Vorhabens wider. Das erste Kapitel erläutert den Hintergrund und leitet in den Bericht ein. Das darauf folgende Kapitel bewertet und vergleicht Vorgaben zur Nachhaltigkeitsbewertung verschiedener Flexibler Mechanismen und multilateraler Standards.

Das dritte Kapitel beinhaltet einen Literatur-Überblick sowie Erkenntnisse aus Interviews zur Nutzbarkeit des SD Tools mit Regierungsvertretern aus Gastgeberländern, Projektentwicklern sowie einer Käuferperspektive. Im vierten Kapitel werden die gewonnenen Erkenntnisse über die Vor- und Nachteile des SD Tools im Vergleich zu anderen Mechanismen, vor allem aber in Anbetracht der Bedürfnisse seiner Nutzer diskutiert. Diese Analyse dient dazu, Empfehlungen für die Weiterentwicklung des Tools zu geben. Die Vorschläge sind aufgeteilt in solche, die relativ leicht zu implementieren sind, und solche, die das Tool zu einem echten Instrument zur Bewertung von Nachhaltigkeitseffekten transformieren würden.

In einem letzten Schritt wird ein Ausblick auf Möglichkeiten gegeben, wie die Erfahrungen und Verbesserungsmöglichkeiten des Tools genutzt werden können auf dem Weg zu einem global harmonisierten und dennoch flexiblen Instrument zur Bewertung von zur nachhaltigen Entwicklung beitragenden Treibhausgas-Minderungsmaßnahmen.

Abstract

The research project „Evaluation and development of recommendations on the CDM EB's Sustainable Development tool including the sustainability requirements of other flexible mechanisms" seeks to identify the CDM SD tool's possible shortcomings, and to make structured recommendations on how to improve the EB's SD tool. Findings from this project are meant to have a lighthouse effect on the development of provisions on Sustainable Development within other carbon mechanisms of the UNFCCC and beyond.

This report represents the consolidated findings of three work packages within this research project. The first chapter provides some background on the subject at hand, and leads into the report. The following chapter covers the assessment and comparison of the SD provisions of selected flexible mechanisms and multilateral standards.

The third chapter consists of a literature review and interviews with selected host country governments, project developers and a buyer perspective on the usability of the EB's SD tool. In the fourth chapter, we discuss pros and cons of the EB's SD tool in comparison to other mechanisms and needs voiced by practitioners. This analysis serves to arrive at structured recommendations for further developing the SD tool, divided into more easily implementable amendments, and those that would transform the SD tool into a sound assessment tool for SD effects.

As a final step, we provide an outlook on possibilities to feed in experiences and recommendations to further develop the tool on the way to a globally harmonized, flexible assessment of mitigation actions for Sustainable Development.

Table of Contents

List of Tables

List of Abbreviations

ADB	Asian Development Bank
BUR	Biennial Update Report
CCB	Climate, Community and Biodiversity
CCBA	Climate, Community & Biodiversity Alliance
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CO_2	Carbon Dioxide
COP	UN Climate Change Conference / Conference of the Parties
DEHSt	German Emissions Trading Authority
DNA	Designated National Authorities
DNV GL	DOE, merged from Det Norske Veritas und Germanischer Lloyd
DOE	Designated Operational Entity
DTU	Technical University of Denmark
EB	Executive Board
EIA	Environmental Impact Assessment
ETS	Emission Trading Scheme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCPF	Forest Carbon Partnership Facility
FPIC	Free Prior Informed Consent
FVA	Framework for Various Approaches
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GS	Gold Standard
HFC-23	Hydrofluorocarbon 23
HR	Human Rights
HRIA	Human Rights-based Impact Assessment
IFC	International Finance Corporation
INDC	Intended Nationally Determined Contribution
ISO	International Organization for Standardization
LCDS	Low Carbon Development Strategy
LDC	Least Developed Country

LoA	Letter of Approval
LS	Local Stakeholders
LSC	Local Stakeholder Consultations
M&P	Modalities and Procedures
MCA	Multi Criteria Analysis
MDB	Multilateral Development Bank
MRV	Measurable, reportable and verifiable
N_2O	Nitrous oxide
NAMA	Nationally Appropriate Mitigation Action
NGO	Non-Governmental Organization
NMM	New Market Mechanism
OECD	Organisation for Economic Development
PDD	Project Design Document
PoA	Programmes of Activities
PP	Project Participant
PS	Performance Standards
QA/QC	Quality Assurance / Quality Control
RBM	Results-based Management
REDD+	Reducing Emissions from Deforestation and Forest Degradation and the role of conversation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SCM	Social Carbon Methodology
SCR	Social Carbon Report
SD	Sustainable Development
SDC	Sustainable Development Co-benefit
SDG	Sustainable Development Goal
SEPC	Social and Environmental Principles and Criteria
SPS	Safeguard Policy Statement
SSN	SouthSouthNorth
TAC	Technical Advisory Committee
TGO	Thailand Greenhouse Gas Management Organisation
UBA	Federal Environment Agency
UN REDD	The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
UNCSD	United Nations Conference on Sustainable Development
UNDP	United Nations Development Programme

UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
VCS	Verified Carbon Standard
WP	Work Package
WWF	World Wide Fund For Nature

Zusammenfassung

Einführung

Das Forschungsvorhaben „Evaluation and development of recommendations on the CDM EB's Sustainable Development Tool including the sustainability requirements of other flexible mechanisms" hat zum Ziel, mögliche Defizite des CDM SD Tools zu identifizieren und strukturierte Vorschläge zu seiner Verbesserung zu machen. Erkenntnisse aus diesem Projekt sollen für die Entwicklung von Nachhaltigkeits-Bewertungsinstrumenten in anderen Kohlenstoff-Mechanismen inner- und außerhalb der UNFCCC nutzbar sein.

Dieser Bericht gibt die konsolidierten Erkenntnisse aus den drei Arbeitspaketen des Vorhabens wieder und folgt dabei deren Struktur: Das erste Kapitel erläutert den Hintergrund und leitet in den Bericht ein. Das darauf folgende zweite Kapitel ('What is offered?') bewertet und vergleicht Vorgaben zur Nachhaltigkeitsbewertung verschiedener Flexibler Mechanismen und multilateraler Standards.

Das dritte Kapitel ('What is needed?') beinhaltet einen Literatur-Überblick sowie Erkenntnisse aus Interviews zur Nutzbarkeit des SD Tools mit Regierungsvertretern aus Gastgeberländern, Projektentwicklern sowie einer Käuferperspektive. Im vierten Kapitel werden die gewonnenen Erkenntnisse über die Vor- und Nachteile des SD Tools im Vergleich zu anderen Mechanismen, vor allem aber in Anbetracht der Bedürfnisse seiner Nutzer diskutiert. Diese Analyse dient dazu, Empfehlungen für die Weiterentwicklung des Tools zu entwickeln. Die Vorschläge sind aufgeteilt in solche, die relativ leicht zu implementieren sind, und solche, die das Tool zu einem echten Instrument zur Bewertung von Nachhaltigkeitseffekten transformieren würden.

In einem letzten Schritt wird ein Ausblick auf Möglichkeiten gegeben, wie die Erfahrungen und Verbesserungsmöglichkeiten des Tools genutzt werden können auf dem Weg zu einem global harmonisierten und dennoch flexiblen Instrument zur Bewertung von zur nachhaltigen Entwicklung beitragenden Treibhausgas-Minderungsmaßnahmen.

Wie ist das Angebot?

Ziel des Kapitels 'What is offered?' ist es zu bewerten, wie angemessen und umfassend das derzeitige SD Tool ist im Vergleich zu internationalen Standards der Nachhaltigkeitsbewertung. Die "Angebote" ('offers') von vier Zertifizierungs-Standards, zwei Mechanismen aus dem weiteren UNFCCC-Kontext und zwei Safeguard-Politiken multilateraler Entwicklungsbanken werden mit dem derzeitigen Stand des CDM SD Tools verglichen, um Stärken und Schwächen des Instruments zu identifizieren.

Die meisten analysierten Mechanismen verwenden integrierte Methoden für die Bewertung von nachhaltiger Entwicklung. Sie schreiben ex-ante Bewertungen sowohl positiver als auch negativer Wirkungen der jeweiligen Interventionen vor. Safeguard- und Risiko-Bewertungen werden verwendet, z.T. beides. All diese Systeme sind verpflichtend für die Projektentwickler. Ein weiterer wichtiger Aspekt dieser Systeme ist, dass sie im Verlauf der Aktivitäten die anfangs identifizierten positiven oder negativen Effekte auf nachhaltige Entwicklung durch Monitoring-Systeme nachverfolgen. Und nicht zuletzt werden von allen Mechanismen Verfahren zur Interaktion mit Stakeholdern angewandt, damit von Projekten Betroffene ihre Bedenken äußern und im Zweifelsfall Gegenmaßnahmen ergriffen werden können. Hierbei ist ein institutionaliserter Beschwerdemechanismus ebenfalls hilfreich.

Im Vergleich dazu nutzt das SD Tool nicht alle Möglichkeiten, die ein integrierter Ansatz bieten würde. Das Tool bewertet strukturiert positive Wirkungen auf nachhaltige Entwicklung, jedoch werden Angaben weder kontrolliert noch verifiziert. Negative Wirkungen, oder mögliche Risiken, werden nicht bewertet. Trotz der Vorgaben des Gesamt-CDM zu lokalen und globalen Stakeholder-Prozessen gibt es keine spezifische Vorgaben im Kontext nachhaltiger Entwicklung - auch das Tool greift dies

nicht auf. Nicht zuletzt ist das Tool rein freiwillig und kann nur von Projektentwicklern und PoA-Koordinatoren genutzt werden. Diese Defizite machen das Tool im Wesentlichen zu einem - dank fehlendem Monitoring wenig verlässlichen - Marketing-Instrument.

Dies ist umso bedauerlicher, als die Einführung von Teilen, oder auch aller oben genannten Komponenten die Kritik am CDM als Ganzem wesentlich mindern könnte. So werden z.B. einige CDM-Projekte wegen negativer Wirkungen auf die lokale Bevölkerung kritisiert. Eine eingehende Risikoanalyse im Verbund mit entsprechenden Stakeholder-Dialogen könnte helfen dies zu mindern, die Projektergebnisse zu verbessern, und zu einer größeren Akzeptanz von CDM-Projekten im Allgemeinen beizutragen.

Das Tool würde zudem stark von einer Einführung von Monitoring und Verifizierung profitieren. Nicht nur würde dies dem Instrument selbst, sondern auch dem CDM als Ganzem zugute kommen. Tatsächlich haben einige DNAS, so etwa Nepal und die Philippinen, bereits Maßnahmen eingeführt, um in den PDDs gemachte Angaben zu Nachhaltigkeits-Beiträgen von Projekten zu kontrollieren und bewerten zu können.

Die Beauftragung externer Prüfer zur Verifizierung von Nachhaltigkeitseffekten kann ergänzend befürwortet werden - dies würde die Glaubhaftigkeit der Überprüfung und Evaluierung stark erhöhen.

Die Einführung von einigen oder allen diesen Elementen muss nicht zu einer Überlastung der Projektentwickler mit inakzeptabel hohen Kosten führen. Studien haben nachgewiesen, dass Projektentwickler die für den Gold Standard notwendigen Bewertungsschritte als machbar einstufen, und dass sie mit überschaubarem Aufwand zu bewältigen sind.

Was wird nachgefragt?

Das Kapitel 'What is needed' nimmt den Status Quo des SD Tools zur Grundlage für eine Übersicht der vorhandenen Literatur und für Interviews mit Regierungsvertretern ausgewählter Gastgeberländer, Projektentwickler und einem Käufer von Emissionszertifikaten. Ziel ist es zu erfassen, wie Anwender die Nutzbarkeit des Tools einschätzen, ihre Anregungen zur weiteren Verbesserung des Tools einzuholen, und zu eruieren, wie das Tool zu Diskussionen zur Bewertung von nachhaltiger Entwicklung über den CDM hinaus beitragen kann. Das Kapitel versucht also, die Bedürfnisse ('needs') der Nutzer des Tools im Vergleich zu seinen derzeitigen Leistungen zu kondensieren.

Das SD Tool ist nicht direkt für DNAs nützlich, da es zur Anwendung durch Projektdurchführer angelegt ist. Die DNA Chinas ist die einzige der interviewten DNAs, in deren Regulierungsbereich Projektentwickler das Tool bereits verwendet haben - allerdings ohne Austausch zwischen PPs und DNA. Uganda und Kambodscha, zwei mittlere bzw. kleine Länder sehen verschiedene Optionen, die Nutzung des Tools auszuweiten, um auf nationaler Ebene die Kapazitäten für die Bewertung nachhaltiger Entwicklung zu stärken. So könnte z.B der mit dem Tool erstellte Bericht als Basis für lokale Stakeholder-Konsultationen verwendet werden, oder das Tool könnte zur Verpflichtung für PPs werden, um einen *Letter of Approval* zu erhalten. China und Brasilien, zwei große Länder, sehen keine direkte Rolle für das Tool für die nationale Erhebung von Nachhaltigkeitseffekten oder Zustimmung zu Projektvorhaben.

Der Checklisten-Ansatz des Tools ist vergleichbar zu gängiger Praxis vieler Länder (z.B. Uganda, Kambodscha oder Brasilien). Checklisten-Ansätze kategorisieren Co-Benefits in drei oder vier Dimensionen nachhaltiger Entwicklung: ökonomisch/technologisch, sozial, und ökologisch. Mit seiner Taxonomie nachhaltiger Entwicklung in drei Dimensionen, zwölf Kriterien und 70 Indikatoren als Menü zur Strukturierung von Berichten über die erwarteten Nachhaltigkeitseffekte von Projekten vermeidet das Tool eine internationale Definition von nachhaltiger Entwicklung, vereinfacht jedoch einen strukturierten Vergleich, der das Vorrecht von Staaten zur ENtscheidung nationaler Prioritäten respektiert.

DNAs betreiben im Allgemeinen kein systematisches Monitoring und Verifizierung von Angaben zu nachhaltiger Entwicklung; allerdings haben Uganda und Brasilien Erfahrungen mit Beschwerden lokaler Gemeinschaften über die Implementation von Projekten. In einem Fall hat Brasilien die Genehmigung eines Projektes zurück gezogen. Allerdings bestehen hierzu keine etablierten Verfahren. Aus den Interviews und der Literatur zu DNA-Erfahrungen lässt sich ein klares Interesse zur Nachvollziehung von Nachhaltigkeitsangaben ableiten, wobei einige DNAs den Projektentwicklern keinen zusätzlichen Aufwand aufbürden wollen (z.B. China), oder besorgt sind über den zusätzlichen Aufwand (z.B. Kambodscha). In der *concept note* 'Voluntary monitoring of sustainable development co-benefits', die auf der 82. Sitzung des CDM Executive Board diskutiert wurde, werden neue Möglichkeiten zur Nutzung des Tools als Basis für standardisiertes Monitoring, Validierung und Verifizierung von Nachhaltigkeitsangaben zur Unterstützung vorhandener Praktiken von DNAs erörtert.

In seiner ursprünglich vorgeschlagenen Form enthielt das SD Tool Safeguards zur Vermeidung negativer Nachhaltigkeitseffekte, die jedoch aus seiner heutigen Fassung gestrichen wurden. Das Tool besitzt daher auch keine Vorgaben zur Einhaltung von Menschenrechten. Uganda wünscht sich zusätzliche UNFCCC Vorgaben hierzu und Kambodscha hat technische Unterstützung durch das UNFCCC-Sekretariat angefordert, um landesspezifische Anforderungen zum Monitoring von Nachhaltigkeitseffekten und Stakeholder-Konsultationen zu entwickeln. China und Brasilien verweisen auf nationale Institutionen, die hiermit befasst sind, und sehen daher kein Interesse an zusätzlicher Unterstützung von internationaler Seite.

Alle befragten Nutzer des Tools sehen das Tool als ein sehr hilfreiches und einfaches Instrument zur standardisierten, qualitativen Erfassung von Beiträgen zur nachhaltigen Entwicklung. Allerdings werden auch einige Schwächen hervorgehoben, besonders die fehlende Erfassung negativer Effekte, und das Fehlen einer Möglichkeit, die Erfassung positiver Beiträge für das Erzielen höherer Erlöse für generierte Emissionszertifikate zu nutzen. Weiter wurden das Fehlen von Safeguards, Vorgaben für Stakeholderkonsultationen, Monitoring, Validierung und Verifizierung ebenso wie der rein qualitative Charakter des SD Tools bemängelt.

Der Vergleich der Bedürfnisse von Anwendern mit gängiger Praxis von DNAs bei der Erfassung von Nachhaltigkeiteffekten ergibt, dass die nationalen Standards nicht ausreichen, um die Erwartungen des Premium-Marktes zu befriedigen. Bekannte Probleme bei der Setzung hoher Nachhaltigkeitsstandards in Ländern, bekannt als 'Abwärtsspirale' bei der Setzung im niedrigerer Standards, um Investoren anzulocken, bestehen weiter. Nachhaltigkeit ist im allgemeinen Kohlenstoffmarkt nicht bepreist, die freiwilligen Zertifizierungsinstrumente sind die Ausnahme. Weiterhin unterscheiden sich die Kapazitäten und Prioritäten der Gastgeberländer stark. Die Rolle der DNAs bei der Überwachung des Beitrags zu nachhaltiger Entwicklung durch den CDM ist auf internationaler Ebene nur äußerst schwach definiert - eine Reihe von Vorschlägen zur Stärkung der Rolle von DNAs wird derzeit im Zuge der Überprüfung der CDM *modalities and procedures* diskutiert. Aufgrund der derzeitigen Schwächen innerhalb des CDM haben ein Projektentwickler und eine Zertifikate kaufende Regierung jeweils eigene Prozesse und Standards entwickelt: einen Entwurf für den sog. 'Global Carbon Development Benefits Standard' zur Quantifizierung von Entwicklungs-Vorteilen, und Safeguards gegen negative Auswirkungen auf Basis des ursprünglichen Entwurfs des SD Tools. Obgleich das Tool im Kohlenstoffmarkt begrüßt wird, sind sich die Projektentwickler uneins, ob die Nutzung des Tools verpflichtend sein sollte. Während einige argumentieren, dass dies die Glaubwürdigkeit des CDM als Ganzem erhöhen würde, befinden andere, dass nicht alle Projekte die Nutztung des Tools erfordern, und eine verpflichtende Nutzung die Entwicklungskosten erhöhen würde.

Synthese der Angebote und Nachfragen

In dem Kapitel 'Synthesizing needs and offers' werden die Ergebnisse der vorherigen Kapitel synthetisiert. Vor- und Nachteile des SD Tools werden diskutiert und und mit den anderen Instrumenten und den Bedürfnissen der Nutzer verglichen. Auf Basis dieser Perspektiven entstand eine vergleichende Matrix (S. 77).

Von der Matrix werden Empfehlungen für die Weiterentwicklung des Tools abgeleitet. Dazu werden zwei aufeinander aufbauende Ebenen eingeführt:

Ebene Eins stellt Verbesserungen dar, die wir als realtiv einfach umzusetzende Ergänzungen ansehen.

Empfehlungen der Ebene Zwei gehen einen Schritt weiter: Sie beschreiben grundsätzlichere Änderungen, die das freiwillige Tool zu einem ernstzunehmendes Bewertungs- und Berichts-Instrument aufwerten würden.

Ebene Eins: Verbesserung des Tools

Einführung von no-harm safeguards

Dies bedeutet die Erkennung möglicher negativer Auswirkungen von CDM-Projekten durch die Implementierung von 'no harm' Safeguards als verpflichtende Maßstäbe. Solche Safeguards könnten bspw. von den MDGs abgeleitet werden und Menschenrechte, Arbeitsstandrds, Anti-Korruptions-Maßnahmen und ähnliches beinhalten.

Entwicklung von Monitoring- und Berichts-Richtlinien

Seit EB82 ist Monitoring und Berichten über Nachhaltigkeitseffekte optional möglich. Hierfür können globale Richtlinien zur freiwilligen Nutzung mit dem SD Tool zur Verfügung gestellt und fortentwickelt werden. SD Monitoringberichte sollten unabhängig vom Treibhausgas-Monitoring erstellt werden, um dem freiwilligen und flexiblen Charakter des Tools Rechnung zu tragen.

Einführung von unabhängiger Validierung und Verifizierung von Nachhaltigkeits-Angaben

Unabhängige Validierung und Verifizierung von positiven Nachhaltigkeitseffekten erhöht maßgeblich die Glaubwürdigkeit der SDC-Berichte. Aus dem gleichen Grund wie oben sollte diese Maßnahme unabhängig von der regulären Validierung und Verifizierung von Treibhausgas-Minderungen erfolgen.

Verstärkung der Interaktions-Verpflichtungen mit Stakeholdern

SDC-Berichte könnte als Grundlage für Stakeholder-Konsultationen verwendet werden. Die zusätzliche Einführung eines Beschwerde-Instrumentes für CDM-Projekte, um mögliche negative Effekte von Projekten/Programmen zu verfolgen, sollte dabei mit integriert werden.

Ebene Zwei: Aufwertung des Tools

Einführung von UNFCCC-Zertifizierung von Nachhaltigkeits-Beiträgen

Es besteht Interesse an nationaler Zertifizierung für positive Beiträge zur nachhaltigen Entwicklung, wie der thailändische Crown Standard beweist. Ein UNFCCC-weiter Rahmen für die Zertifizierung von Nachhaltigkeit könnte Ländern zur Verfügung gestellt werden, die keine Kapazität zur Entwicklung eigener Standards besitzen.

Schöpfung eines globalen Standards zur Quantifizierung von Nachhaltigkeits-Beiträgen

Die Einführung eines Wertes für Beiträge zur nachhaltigen Entwicklung würde bedeuten, dass der Wille, für besondere Leistungen zu zahlen identifiziert werden, und dadurch zusätz-

liche Finanzmittel eingeworben werden können. Hierzu wird ein dreistufiger Prozess vorgeschlagen:

- Entwicklung eines globalen Genehmigungs-Standards für Quantifizierungsmethoden,
- Erlaubnis für Projektentwickler und undere Organisationen, Methoden für die Quantifizierung von Nachhaltigkeits-Beiträgen zu entwickeln, und
- Vergabe des Genehmigungsprozesses an eine Institution wie das 'UNFCCC Methodolgies Panel'.

Ausblick

Erfahrungen bei der Bewertung von Beiträgen zur nachhaltigen Entwicklung zeigen, dass das Tool das Potential hat, das Berichtswesen zu Nachhaltigkeitsbemühungen in den Minderungsmechanismen (NAMAs, NMM/FVA, REDD+, LCDS, INDCs) zu vereinheitlichen. Es wäre hilfreich und eine echte Vereinfachung, auf vergleichbare Nachhaltigkeitsberichte in allen Ländern sowohl in- als auch außerhalb des CDM, in Projekten, Programmen und strategischen Ansätzen für Klima und Entwicklung zurückgreifen zu können.

Die hier ausgesprochenen Empfehlungen stellen einen schrittweisen Ansatz zu immer ambitionierteren und grundlegenderen Änderungendes SD Tools dar, die es attraktiver und universeller anwendbar machen können, und letztlich die Möglichkeit eines harmoniserten Berichtswesens zu Nachhaltigkeitseffekten sowohl auf nationaler als auch internationaler Ebene bieten.

Eine grundlegende Voraussetzung zur Harmonisierung der verschiedenen Mechanismen ist die Möglichkeit einer international vereinbarten Definition von Nachhaltigkeitskriterien sowie Indikatoren, die eine einheitliche Bewertung von Nachhaltigkeitseffekten auf transparente, inklusive und objektive Art überhaupt erst ermöglicht, aber dennoch das Vorrecht der Staaten respektiert, ihre eigenen nationalen Nachhaltigkeits-Prioritäten zu definieren. Dies wird von dem SD Tool bereits geboten.

Vorteile nachhaltiger Entwicklung in Klimaschutzinstrumenten sind von herausragender Bedeutung für die Entwicklung von Entwicklungspfaden jenseits einer alleinigen Fokussierung auf Klimaschutz. Minderungsmaßnahmen können zusätzliche gesundheitliche, soziale, ökologische, makroökonomische und Gerechtigkeitsaspekte zeitigen. Mit Blicka auf das für 2015 geplante Klimaabkommen haben viele Entwicklungsländer mit der Einführung oder Vertiefung von Klimapolitiken begonnen. Vorteile nachhaltiger Entwicklung in CDM und anderen Mechanismen können die Bedürfnisse von Entwicklungsländern sowohl zu nachhaltiger Entwicklung als auch Klimaschutz miteinander verbinden. Daher kommen Ansätze zur Vertiefung der Nachhaltigkeitsbewertung gerade jetzt zur rechten Zeit.

Summary

Introduction

The German Emissions Trading Authority (DEHSt) has tasked the Wuppertal Institute and UNEP DTU Partnership (formerly UNEP Risoe Center) with conducting the research project „Evaluation and development of recommendations on the CDM EB's sustainable development tool including the sustainability requirements of other flexible mechanisms". Findings from this project are meant to have a lighthouse effect on the development of provisions on Sustainable Development (SD) within other carbon mechanisms of the UNFCCC and beyond.

The report is structured as follows:

After a short introduction to the topic, chapter 2 ('What is offered?') of this report covers the assessment and comparison of the SD provisions of selected mechanisms and multilateral standards.

The third chapter ('What is needed?') consists of a literature review and interviews with selected host country governments, project developers and a buyer perspective on the usability of the EB's SD tool.

In the fourth chapter ('Synthesizing needs and offers'), we recall and synthesise findings of the previous two chapters. We discuss pros and cons of the EB's SD tool in comparison to other mechanisms (analysed in chapter 2) and "needs" voiced by practitioners (determined in chapter 3). This analysis serves to arrive at structured recommendations for further developing the SD tool, divided into more easily implementable amendments, and those that would transform the SD tool into a sound assessment system for SD effects.

As a final step, we provide an outlook on possibilities to feed in experiences and recommendations to further develop the tool on the way to a globally harmonised, flexible assessment of mitigation actions for Sustainable Development.

What is offered?

The aim of this chapter is to qualitatively assess the suitability and comprehensiveness of the current SD tool against international level standards for sustainability assessment. We compare what is 'offered' by four certification standards, two mechanisms within the larger UNFCCC context, and two safeguard policies of Multilateral Development Banks, with the current state of the CDM SD tool, to identify strengths and weaknesses of the tool against 'state of the art'.

Most mechanisms analysed apply an integrated approach to sustainable development assessment. They require the ex-ante assessment of both positive and negative impacts of the respective interventions. Alternatively, they make use of safeguard and / or risk assessment systems. All these systems are mandatory for the respective project developers or client. Another important component of these systems is that they subsequently follow-up upon the claims made in the initial SD assessment in that they have monitoring systems in place. Some systems additionally require an obligatory verification of the benefits claimed. Last not least, a vital part of an integrated approach to SD assessment is a meaningful stakeholder interaction procedure, which enables people affected by interventions to voice their concerns combined with the possiblity to embark on corrective actions. This is at best paired with a grievance mechanism.

By way of contrast, the CDM SD tool does not make use of the full potential an integrated approach offers. The tool does assess positive impacts in a structured manner. However, the claimed benefits are neither monitored nor verified. Negative impacts or possible risks are not assessed. Despite the global and local stakeholder procedures in the CDM in general, these do not cover SD aspects specifically, as they are not included in the CDM SD tool. Last not least, the tool is voluntary and can only be

used by project proponents and coordinating managing entities. These shortcomings make the tool primarily a marketing instrument, albeit in the absence of monitoring procedures with questionable reliability.

This is all the more regrettable because integrating all or some of the components mentioned above could address criticism voiced against the CDM. For example, some CDM projects are being criticized for causing negative impacts for the local population. A thorough risk assessment, combined with a meaningful stakeholder interaction, would clearly help managing these claims, improve the project results, and contribute to greater acceptance of CDM projects.

The pure declaratory nature of the SD tool could be overcome if SD effects claimed would be monitored and verified. Again, this measure would strengthen both the SD assessment itself and the credibility of the mechanism as a whole. In fact, some DNAs such as the Philippines and Nepal have already introduced measures to follow-up on the SD claims made in the PDDs and assessed by the respective DNAs.

The use of external auditors that verify the monitored effects can be highly recommended. This measure adds credibility to review and evaluation efforts. Making SD assessment mandatory would underline the importance of the different elements, again adding credibility.

Adding some or all of these requirements does not necessarily result in burdening project proponents with intolerable extra cost. Studies have shown for the additional steps of the Gold Standard assessment that project proponents perceive them as manageable, and that they can be met with a reasonable amount of additional work.

What is needed?

This chapter takes the SD tool's status quo as a basis for a literature review and interviews with selected host country governments, project developers and a CER buyer. It seeks to assess how practitioners perceive the usability of the EB's SD tool, their views on what would be needed for further improving the tool, and how the tool can feed into discussions on SD assessment beyond the CDM. In short, the chapter seeks to condense the 'needs' of the tool's users in comparison to what it currently offers.

The SD tool is not directly useful to DNAs, as it is meant for PPs to use. China is the only DNA of the four approval bodies interviewed where project developers have used the tool, but with no dialogue between PPs and the DNA. Uganda and Cambodia, two medium and small seized countries, see several options to expand use of the tool to strengthen their capacity for SD assessment at national level, e.g. by using the sustainable development report (SDC) from the tool as a basis for local stakeholder consultations and by making the tool mandatory for PPs to use as a condition for issuance of the LoA. China and Brazil, on the other hand, are two big countries with high institutional capacity and do not see any direct role to play for the tool in relation to national SD assessment and approval.

In relation to host country DNA practices for SD appraisal and approval of CDM projects, the tool is similar to the checklist approach of most countries (e.g. Uganda, Cambodia and Brazil), which categorise co-benefits into three (sometimes four) dimensions of Sustainable Development: economic/technological, social and environmental. By providing a taxonomy of sustainable development benefits with three dimensions, 12 criteria and 70 indicators as a menu for structuring reporting on expected SD impacts of projects, the tool does not give an international definition of what SD means, but facilitates a structured comparison that respects Parties' prerogative to decide on national priorities.

Monitoring and verification of SD claims is not practised systematically by DNAs, though Brazil and Uganda have experience with community complaints related to projects under implementation. In

one case Brazil has withdrawn the LoA, though there are no established procedures for how to do it and what the implications should be. From the interviews and in the literature on DNA experiences with SD assessment, there is a clear, emerging interest to follow-up that SD claims are met, though some DNAs do not wish to add extra work and requirements to PPs (e.g. China) and are concerned about the extra efforts required (e.g. Cambodia). With the concept note on 'Voluntary monitoring of sustainable development co-benefits' discussed at the 82nd Executive Board meeting 16-20 February 2015, new opportunities are considered to use the tool as a basis for monitoring, validation and verification of SD claims in a standardized way that supports DNA practices.

Regarding safeguards against negative impacts of CDM projects, the draft SD tool had provisions for safeguards; however, the current tool is silent on this and does not address e.g. issues of compliance with human rights. Uganda would like to have more guidance in this respect and Cambodia has requested technical assistance from the UNFCCC Secretariat to assist with country specific guidance for monitoring of SD impacts and guidelines for local stakeholder consultations. China and Brazil refer to national institutions that already deal with such issues and do not see an interest in additional support from the international level.

From the perspective of users of the SD tool, all interviewees find it very useful and simple as a standardized, qualitative approach to SD assessment. However, a number of weaknesses are identified for the tool to meet user needs, particularly avoiding negative impacts and attracting a premium price for carbon credits with high sustainable development benefits. The tool does not include safeguards to mitigate risks of negative impacts, it does not include provisions for stakeholder consultations to enhance local SD benefits, it does not provide modalities for monitoring, validation and verification and it only makes a qualitative, not a quantitative assessment of benefits.

Comparing user needs with host country DNA practices for SD assessment, national standards fall short of meeting expectations in the premium market. Long-known problems of disincentives for countries to set high SD standards, known as a 'race-to-the-bottom' for low SD requirements to better attract investments, are still at play and sustainable development is not priced in the compliance market, only through voluntary certification schemes. Furthermore, the capacities and priorities of host countries differ widely and the role of DNAs in governing the CDM's contribution to SD is not described in any detail internationally, though a range of proposals to strengthen the role of DNAs is under consideration as part of an ongoing review of CDM modalities and procedures. Against these shortcomings, a project developer and government buyer have developed their own procedures and standards, respectively a draft 'Global Carbon Development Benefits Standard' for quantification of development benefits and due diligence safeguards against negative impacts based on the draft CDM SD tool. Though the SD tool is welcomed in the carbon market, PPs are divided whether the tool should be mandatory to use. Some argue it would add credibility to the mechanism as a whole and others argue not all projects need it and it would add extra costs for project development.

Synthesizing needs and offers

In this chapter, we recall and synthesize findings of the previous chapters. We discuss pros and cons of the EB's SD tool in comparison to other mechanisms and 'needs' voiced by practitioners. Coming from these two perspectives, we arrive at a comparative matrix (see page 77).

From this analysis we derive recommendations for further developing the SD tool.

This is done on two consecutive levels:

Level one lays out improvements that we regard as amendments to the SD tool, and therefore relatively easy to install.

Level two recommendations go one step further: They describe more fundamental changes that would help to enhance the voluntary tool into a credible assessment and reporting system.

Level one: Improving the tool

Introduce no-harm safeguards

This implies assessing possible negative impacts of CDM projects by establishing 'no harm' safeguards as mandatory benchmarks. Such safeguards could be based, p.ex., on the MDGs and comprise Human rights, good labour practice, anti corruption issues, and the like.

Develop monitoring and reporting guidelines

Since EB82, monitoring and reporting of SD impacts is optional. Global guidelines can be made available and tailored for voluntary use with the SD tool. We propose to keep this monitoring separate from GHG reduction monitoring, so as to keep the SD tool voluntary and flexible to use.

Introduce 3rd Party validation and verification of SD claims

Independent validation and verification of SD co-benefits will greatly enhance the credibility of the SDC reports. Again, keeping 3rd party validation and verification separate from validation and verification of GHG reductions will keep the tool voluntary and flexible.

Link enhanced stakeholder requirements to the CDM SD tool

SDC reports could be used as the basis for stakeholder consultations. The additional introduction of a grievance mechanism for CDM projects to address potential negative impacts of projects / programmes should complement this measure.

Level two: Enhancing the tool

Introduce UNFCCC certification of SD co-benefits

There is an interest in national certification for SD co-benefits, as can be seen in the Crown Standard in Thailand. A UNFCCC SD certification framework could be made available to countries that do not have the capacity to develop their own standards.

Create a global standard for quantification of SD co-benefits

Establishing a value for the SD co-benefits means that the willingness to pay for extra benefits can be identified and additional sources of finance for mitigation can be leveraged. We propose a three-step approach:

- Develop a global approval standard for quantification methodologies,
- Give project developers as well as other institutions the opportunity to develop methods for SD co-benefits quantification compatible with their needs, and
- Assign an institution such as the 'UNFCCC Methodologies Panel' for the approval procedure of the methods.

Outlook

SD assessment experiences by both host country DNAs and CDM project participants indicate that an enhanced CDM SD tool could serve as a blueprint for harmonizing reporting on SD efforts across mitigation mechanisms such as NAMAs, NMM/FVA, REDD+, LCDS and INDCs. It would be useful and a simplification to have a uniform SD reporting format across countries for all CDM projects and beyond to actions and policies for mitigation and development incentivised by other mitigation mechanisms.

Level 1 and level 2 recommendations introduce a step-by-step approach to increasingly ambitious and more fundamental changes to the SD tool, which could make it attractive and more widely applicable for SD assessment of mitigation actions beyond CDM to other climate mechanisms at national and internationally levels such as domestic emissions trading schemes (ETS), New Market Mechanisms (NMM), a Framework for Various Approaches (FVA), Nationally Appropriate Mitigation Actions (NAMAs) and Green Climate Fund (GCF) financing for mitigation actions.

A key starting point for harmonization across mechanisms is the SD tool's international definition of SD criteria and indicators that enables a uniform SD assessment report in a transparent, inclusive and objective manner across projects and countries, while maintaining the prerogative of Parties to define their national SD priorities.

Sustainable Development benefits of climate instruments are highly relevant for development pathways beyond the area of climate change. Mitigation measures can have additonal health, social, environmental, macroeconomic as well as equity aspects. With the prospect of the new 2015 climate change agreement on the horizon, many developing countries have begun installing and refining their climate policies. SD benefits in CDM and new market mechanisms actually have the potential to match developing countries' needs with regard to both sustainable development and climate mitigation measures. Therefore, the prospect of enhanced SD assessments could not be more timely.

1 Introduction

Combating climate change has gained momentum again. In the run-up to the UN climate change conference in Lima, several major greenhouse gas (GHG) emitters voiced their plans for climate change mitigation action. The first mover was the EU, which at its European Council meeting in October unveiled its new climate and energy package. It sets targets for GHG reduction for at least minus 40 percent domestic (i.e. within the EU) versus 1990, at least 27 percent for renewables in 2030, and at least a 27 percent efficiency increase versus the same trend line as in the previous package.

Shortly after, in mid-November, the United States and China in a joint statement announced their respective climate change targets. The US declared a new target to cut net greenhouse gas emissions 26-28 percent below 2005 levels by 2025. At the same time, China as the first developing country announced targets to peak CO2 emissions around 2030, with the intention to peak early, and to increase the non-fossil fuel share of energy production to around 20 percent by 2030.

These events are going to help build momentum for the international climate negotiations ahead. They might also unblock the road for a legally binding climate change agreement in Paris at the end of 2015.

However, a successful achievement of keeping global warming below 2°C must be accompanied by development that ensures sustainable economies, healthy environments and sustainable societies. Sustainable Development for a world that can be enjoyed by all is the other side of the coin to climate change.

Mitigation instruments under the climate regime of the United Nation Framework Convention on Climate Change (UNFCCC) commonly refer to Sustainable Development. For instance, Nationally Appropriate Mitigation Actions (NAMAs) shall be implemented "in the context of Sustainable Development" (UNFCCC 2009), and mitigation actions in the forest sector should "take into account non-carbon benefits" (UNFCCC 2013).

The Clean Development Mechanism (CDM) was equally created with these two sides of the coin in mind: on the one hand, to achieve cost-effective mitigation of greenhouse gases; on the other, to assist developing countries in achieving Sustainable Development, based on their national development priorities.

In literature on the CDM's contribution to Sustainable Development the strengths and weaknesses of host countries' assessment approaches have been identified and analyzed over the years (Figueres 2005; Olsen 2007; Corbera and Jover 2012). Critique is rad that the current set-up is weak due to the lack of clear and transparent SD criteria by many host countries (Sterk et al. 2009), cases of registered projects with no SD benefits or negative impacts (TERI 2012) and the lack of requirements or procedures to monitor, report and verify that intended SD benefits are actually achieved (Olsen and Fenhann 2008).

Responding to the critique that the CDM is not significantly contributing to Sustainable Development, the CDM Executive Board (EB) launched a call for input in June-July 2011 to invite comments on how to include co-benefits and negative impacts in the documentation of CDM project activities, and the role of the different actors and stakeholders in this process. The issue was raised to the highest political level when the Conference of the Parties serving as the meetings of the Parties to the Kyoto Protocol (CMP) at its seventh session in Durban requested the Board to "continue its work and develop appropriate voluntary measures to highlight the co-benefits brought about by the CDM project activities and programs of activities, while maintaining the prerogative of the Parties to define their Sustainable Development criteria" (UNFCCC 2011). The CMP decision launched the process in 2012 of the UNFCCC Secretariat cooperating with the UNEP Risø Centre for development of the voluntary Sustainable Development (SD) Tool with the Executive Board deciding on its final outcome.

In the Durban CMP decision, there is no reference to negative impacts. This later came to play a crucial role, when members of the Executive Board at its 69th meeting argued there was no mandate for the SD tool to assess negative impacts of CDM projects. The Secretariat was requested to simplify the tool by leaving out two of the three elements in an integrated approach to SD assessment, namely safeguards to avoid negative impacts and enhanced procedures for stakeholder involvement.

In order to identify the tool's possible shortcomings, and to make structured recommendations on how to improve the EB's SD tool, the German Emissions Trading Authority (DEHSt) has tasked the Wuppertal Institute and UNEP DTU Partnership (formerly UNEP Risoe Center) with conducting the research project „Evaluation and development of recommendations on the CDM EB's Sustainable Development tool including the sustainability requirements of other flexible mechanisms". Findings from this project are meant to have a lighthouse effect on the development of provisions on Sustainable Development within other carbon mechanisms of the UNFCCC and beyond.

This report explains the research and presents the outcomes of the analysis. The following chapter covers the assessment and comparison of the SD provisions of selected mechanisms and multilateral standards. The third chapter consists of a literature review and interviews with selected host country governments, project developers and a buyer perspective on the usability of the EB's SD tool.

In the fourth chapter, we recall and synthesize findings of the previous two chapters. We discuss pros and cons of the EB's SD tool in comparison to other mechanisms (analyzed in chapter 2) and needs voiced by practitioners (determined in chapter 3). This analysis serves to arrive at structured recommendations for further developing the SD tool, divided into more easily implementable amendments, and those that would transform the SD tool into a sound assessment tool for SD effects.

As a final step, we provide an outlook on possibilities to feed in experiences and recommendations to further develop the tool on the way to a globally harmonized, flexible assessment of mitigation actions for Sustainable Development.

2 What is offered?

The aim of this chapter is to qualitatively assess the suitability and comprehensiveness of the current SD tool against international level standards for assessment of Sustainable Development (SD) impacts. We compare what is 'offered' in terms of SD assessment by four certification standards, two mechanisms within the larger UNFCCC context, and two safeguard policies of Multilateral Development Banks, with the current state of the CDM SD tool, to identify strengths and weaknesses of the tool against 'state of the art'.

2.1 Methodology

2.1.1 Literature review and assessment framework: Selection of standards and policy frameworks for review

In preparation of our analysis, we compiled, analyzed and reviewed international level practices and standards for SD assessment. This included the CDM and its own Sustainable Development Tool (the SD tool), as well as voluntary carbon offset standards such as the (CDM) Gold Standard, the Climate, Community and Biodiversity Standards (CCB), the Social Carbon Methodology, and others.

We also looked at a number of policy frameworks of emerging mechanisms for mitigation actions, such as the Low Carbon Development Strategies (LCDS), Reducing emissions from deforestation and degradation plus conservation (REDD+), the New Market Mechanisms under the UNFCCC (NMM), units of GHG reductions to be traded under a Framework for Various Approaches (FVA), and the Green Climate Fund (GCF).

The first insight gained from the literature review was that many of the emerging schemes are at very early stages of development. For example, the concrete design of the NMM and FVA, respectively, are far from taking shape; in fact, negotiations under the UNFCCC are deeply deadlocked so that progress in this arena is not to be expected soon. Therefore, the Federal Environment Agency (UBA) and the project team decided to exclude schemes such as NMM, FVA, and Least Developed Countries (LDCs) from the assessment (for the GCF, see below).

A second conclusion from the literature review was that the analysis should cover different types of SD assessment, as the methodological framework for identifying SD impacts has further differentiated over the years (see also Ürge-Vorsatz et al. 2014). For the project team, it was essential to include mechanisms that

1. feature not only an assessment, but also a certification scheme
2. go beyond the traditional project-based approach known from the CDM
3. assess both SD co-benefits and co-costs (negative impacts)
4. include meaningful stakeholder consultations

Based on these criteria, the project team developed a shortlist of mechanisms to be assessed. This list was discussed with UBA and subsequently modified according to the input received. The final selection includes a range of mechanisms and programs that cover one or more of these core aspects. The Gold Standard, for example, both includes an assessment of possible negative impacts and displays an example of a certification approach. The other selection schemes are (see in brackets the representation of the above-mentioned aspects):

- CDM Gold Standard (1, 3, 4)
- Thailand's Crown Standard (1, 3)
- Social Carbon (1)
- CCB (1, 3)
- UN-REDD Programme Social and Environmental Principles and Criteria (4)
- UNDP NAMA SD tool (2)
- Asian Development Bank Safeguard Policy (3, 4)
- International Finance Corporation Sustainability Framework (3, 4)

Some of the mechanisms had further qualifications that influenced their choice. For example, Thailand's Crown Standard was chosen because it is based on the CDM, but it features elaborate SD assessment criteria. Therefore, it was felt that this approach could be an interesting match for the comparison with the CDM SD tool. The International Finance Corporation (IFC) standards, to take another example, are also used, albeit on an interim basis, by the Green Climate Fund, which brings in an element of the newly evolving, innovative climate finance schemes.

It should be noted, though, that the SD assessment criteria presented here and assessed in the following, were looked at from a purely theoretical point of view. This means we assessed the way SD assessment is set-up and did not touch in any way on the question whether or not these schemes do work in practice as this is way beyond the scope of this assignment. For literature on practical, on-the-ground experience, see, inter alia, TERI 2012 and Dooley et al. 2011.

2.1.2 Assessing the EB's SD tool against the state of the art in other mechanisms

The review of a variety of mechanisms and related literature shows that applying a comprehensive approach to Sustainable Development of international financing activities involves basically two steps of considerations beyond the regular monitoring of direct effects:

- An identification of indirect effects and their assessment via monitoring, verification and evaluation
- A consideration of stakeholder concerns within and beyond the direct spatial and topical boundaries of the activity

2.1.2.1 Identification of related indirect effects and their assessment via monitoring, verification and evaluation

Financing activities aiming at emissions mitigation and adaptation to climate change not only result in the reduction of greenhouse gas emissions, the enhancement of mitigation, and adaptive capacity and adaptation strategies, but may have additional impacts on other environmental, social or economic aspects of Sustainable Development. These impacts can be positive or negative or include both positive and negative elements for different aspects of Sustainable Development.

The most common approach to identify effects of a funded activity is know as "results-based management" (RBM), and applied by the Organisation for Economic Development (OECD), the Global Environment Facility (GEF) or other institutions. RBM establishes so called results chains that put funding goals and results of a funding activity / intervention at different levels. The results are put into a hierarchical and sequential order (UNDP 2010: 13) organized by the possibility to align effects more or less directly to the activity. There is a threefold differentiation of effects into (a) outputs (direct effect), (b) outcome and (c) impact (longer term indirect effect). Identifying outputs, outcomes and impacts of project inputs and activities, a results chain is the foundation of a learning process which helps to understand whether and how specific activities are expected to contribute to the desired change of the funded activity on the different levels. The results chain provides a framework for monitoring and measuring the expected changes. Key changes described in the results chain are translated into targets and associated indicators for tracking results (OECD 2010). Usually, the re-

lated monitoring requirements and exercises focus on the outputs and partially on the outcome level due to the more difficult alignment of indirect effects (problem of alignment and double counting).

There is an emerging discussion on how to go further and align indirect effects, to prevent trade-offs of such activities (e.g. The World Bank 2010) and hence to apply approaches beyond common RBM. Significant positive effects should be identified in order to demonstrate the full potential and appropriateness of the activity for the host country. Significant adverse effects should be avoided even when they are beyond the monitoring and reporting scope of direct effects of such activities. They are assumed as being unintended and as putting successful project implementation at risk.

A "risk level" describes the probability that the project activity results in unintended negative effects beyond the intended direct climate result. An unintended negative effect can be one that may be anticipated before project approval when considering and assessing the broader project context or may occur unexpectedly during project implementation or beyond. Both should be considered at the earliest point possible. Going further, the discouragement of adverse effects should be one of a number of basic trade-off rules for a sustainability assessment (Gibson 2006: 272). This approach is considered as "do no harm" approach. A do no harm approach is characterized by the application of a risk management system to prevent from negative impacts by establishing safeguards as mandatory benchmarks. Such a "safeguard system" can have substantive components, which describe specific goals and principles, as well as procedural components that outline the processes that are in place to identify, avoid and mitigate potential activity specific negative impacts (Gibson 2006).

2.1.2.2 Consideration of stakeholder concerns within and beyond the direct spatial and topical boundaries of the activity

For the long term sustainability and acceptance of activities as well as for the early identification of potential risks and undesired effects, the involvement of affected communities and individuals (stakeholder involvement) and the perception of their concerns is crucial for several fundamental reasons (UN 2008):

- First, stakeholders have a right to be involved if they may be affected by an activity.
- Second, the involvement and consultation of stakeholders is necessary for the realistic understanding of potential obstacles and risks within the project boundary. Moreover, it is important for the definition of problems, the identification of causes, to get an overview about already existing measures, to maximize synergies, avoid duplications and ensure coordination.
- Third, stakeholders can make valuable contributions for designing and implementing an effective and beneficial project.
- Fourth, stakeholder consultation is crucial for the consideration of effects beyond the boundary of an activity. This relates to the embeddedness of the activity in the regional/national context.

The consultation should demonstrate appropriate strategies and actions to address expressed demands and concerns and to achieve envisaged impacts. It may help save time, reduce costs and support the improvement of a project's performance and impacts. Moreover, stakeholder involvement generates transparency, trust and accountability and is the basis for building strong, constructive and responsive relationships, which are essential for successful project implementation and for achieving targeted results. In doing so, stakeholder involvement increases the steering capacity of an activity. In particular where local communities are being addressed by a financing activity, stakeholder involvement is important for ensuring relevance to local priority needs and for strengthening participation and ownership of the target groups. The role of participatory monitoring has also been recognized in the Governing Instrument of the Green Climate Fund (UNFCCC, 2011).

Generally, the consultation can take place at different stages of an activity: Before approval, during the preparation of the activity (to avoid risks), and during the implementation phase (to manage upcoming risks).

Furthermore, it is suggested to institutionalize continuous mechanisms beyond formal stakeholder consultation processes for dealing with "grievances" or complaints raised by stakeholders with formal rights to appeal to such a grievance mechanism. These independent mechanisms are an element of a risk management strategy in controversial cases.

While there are no generally established ways to undertake a stakeholder involvement process, several approaches and methodologies on how to carry out a sustainable process have emerged from, and been developed by diverse organizations working in different fields.

Basic elements of a stakeholder involvement process relate to the timing, institutional setting of the consultation, focus, and documentation of the process are:

- Timing: Ongoing engagement of stakeholders (timetables, dates, covering all project phases, consideration of complaints, provision of information...)
- Institutional setting: Install core contact (person), facilitation, regular processes, grievance mechanism...
- Focus: consider power relations, capacities, establish timely processes for identification of relevant stakeholders, define desired outcome and adequate processes...
- Documentation: Disclosure of information and other information policies

2.1.2.3 Compilation

Based on the considerations on a comprehensive approach and the selection of standards, we developed a basic assessment framework (excel matrix) that forms the basis for the analysis of both the EB's voluntary SD tool and SD criteria; and processes of the selected mechanisms. It consists of three categories, namely

- Overarching set-up of the standard (architecture)
- Assessment of the SD impacts
- The provisions for Stakeholder Consultations

In the following, we provide an overview on these three main sections of our basic assessment framework. The completed excel sheet can be provided upon request.

Overarching set-up of the standard (architecture)

In the set-up category, general framing features are considered that are specific for the respective standard. It contains questions on the assessment object, general assessment methods, bindingness of requirements, timing of assessments and reviews, compliance and target groups of tools. The criterion on assessment methods contains a description on the general assessment approach of the respective standard, i.e. whether risks are considered, safeguards applied or SD principles defined as well on the quality of indicators. This general outline of the respective approaches prepares for the subsequent more specific focus on sustainability impacts. Table 1 shows the set-up section of the assessment framework.

Table 1: Assessment category 'Overarching set up of the standard'

Assessment criterion	Type of answer
Object of assessment	narrative: Spatial boundaries of the SD assessment; Linkages to national strategies
Method of assessment	narrative: Are indicators used? Is the approach integrated or not in terms of nature-society linkages? Is the assessment qualitative/quantitative? Are effects monetized?
Is sustainability assessment mandatory?	y/n
Is the assessment ex-ante and/or ex-post?	narrative: Description of assessment method
Is sustainability assessed during approval process?	y/n
Is an ex post monitoring and verification mandatory?	y/n
Compliance	narrative: Is compliance with national / int'l law assessed? Is an Environmental Impact Assessment mandatory?
Appliance	narrative: Who uses the tool and to whom is it important?

Assessment of sustainability impacts

The assessment of sustainability impacts (Table 2) covers the three SD dimensions which are commonly used, i.e. environmental impacts, social impacts, and economic impacts (cp. Sutter 2003, Nussbaumer 2008). These three categories are split up into 12 indicators for positive impacts. In fact, this taxonomy follows the CDM SD tool. We chose this approach because it enables us to easily compare the SD tool with the other mechanisms. Taking the SD tool taxonomy prepares for an easy identification of the variations in the approaches. Moreover, the category 'assessment of SD impacts' also covers possible negative impacts. The category has to be seen in context of the general approach described in the set-up category.

Table 2: Assessment category 'assessment of sustainability impacts'

Assessment criterion	Type of answer
Which of the following positive impacts are covered?	Tick the box: Environment – Air Environment – Land Environment – Water Environment – Natural resources Social – Jobs Social – Health & Safety Social – Education Social – welfare Economic – Growth Economic – Energy Economic – Technology Transfer Economic – Balance of payments Other
Are negative impacts (co-costs) covered in approval / monitoring processes?	y/n
If yes, which of the following aspects are covered?	Tick the box: Violation of human rights Labor rights violations Child labor Forced Resettlements Destruction of cultural heritage Discrimination Unsafe & unhealthy work environment Corruption Damage to environment or natural habitat Other

Stakeholder Consultations

The category stakeholder consultations (Table 3) contains a description if and how the consultations are set up., who is consulted, which processes are established, how are concerns are dealt with, how are complaints solved and which options exist to intervene in approved projects.

Table 3: Assessment category 'Stakeholder Consultations'

Assessment criterion	Type of answer
How is the stakeholder consultation process set up??	Tick the box + explanation, if applicable Global stakeholders are consulted Local stakeholders are involved LS are identified in a structured process Project doc's available in local language(s) Is a meeting held with local stakeholders? Is the meeting place within reach for LS? A non-technical summary was presented A meeting report is produced Stakeholder feedback meeting/communication SD monitoring plan developed Other
Is a grievance mechanism established?	y/n + narrative
Is it possible to intervene in approved projects (corrective action procedures)?	y/n + narrative

2.1.2.4 Synthesis

Taking the information of these three categories of the basic assessment framework (i.e. the excel matrix), we conducted a comparative analysis of the different approaches to SD assessment. We have synthesized the wealth of information into four overarching categories:

- **Scope:**
  Framings of the standard and the general comprehensiveness
- **Assessment types:**
  Design-bases of the standard and how the general approach is implemented. The analysis follows two sets of criteria:
    1. Exclusion criteria (e.g. child labor, forced resettlements): mandatory design elements and procedures, analyzed by yes/no. If yes, criteria are described
    2. Procedural criteria: Identification of indirect effects (e.g. Checklists/scoring systems)
        - Which effects: how many/how comprehensive (e.g. air quality etc.)
        - How is it operationalized: which indicators, how to collect and measure data (e.g. NOx at site/at distance)
- **Review and Evaluation:**
  Who is responsible, how is it done, who checks the review? (e.g. monitoring, evaluation, redirection of activity, verification of Exclusion criteria/Multi Criteria Analysis by independent entity or standard itself)
- **Stakeholder Consultation framework**:
  Involvement of local stakeholder and resolution of concerns.

These categories partially combine information from the categories of the basic assessment framework, allowing for an overarching comparative approach. Disaggregated information on the different standards and approaches may be gleaned from the assessment framework provided in parallel to this report.

2.2 Analyzing SD Provisions of Selected Flexible Mechanisms and Multilateral Institutions

In the following chapter, we analyze the different roads taken in regard to assessing benefits for and impacts on Sustainable Development.

Chapter 2.2.1 gives an overview of the mechanisms and institutions we have assessed for this report. We provide the reader with short profiles of each mechanism or institution, highlighting basic functioning, and pointing to notable specialties of the respective approaches, if appropriate.

Chapter 2.2.2 synthesizes our findings into a comparative analysis. In a first step, we explicitly exclude the CDM's SD tool from the analysis, and compare the remaining eight mechanisms' and institutions' approaches along our four main assessment categories. In a second step, we then compare our findings with the approach taken by the CDM Executive Board in order to arrive at lessons learned and possible options for improvement. For each assessment category, we provide a short overview table summarizing our findings.

2.2.1 Short profiles of the mechanisms assessed

2.2.1.1 CDM SD tool

The "Voluntary tool for describing Sustainable Development co-benefits of CDM project activities or programs of activities (PoA)" (CDM SD tool) was approved by the CDM Executive Board at its 70th meeting in late 2012. As stated in the name, the tool is used by project developers of CDM projects or PoAs who would like to report on positive impacts their project or PoA brings about.

The use of the tool is voluntary and it can be used at any time in the lifetime of the respective CDM activity. This can (but does not need) also include an update in case co-benefits change. The tool does not comprise any requirements to monitor or verify identified benefits for Sustainable Development.

The CDM SD tool is online-based. Project participants and coordinating/managing entities may request access to the tool from the CDM tools webpage or may download a word version as an alternative from the same page.

The tool uses the three basic dimensions of Sustainable Development, i.e. environmental aspects, as well as social and economic ones. Based on these, the tool uses a taxonomy consisting of generic SD criteria and indicators. The taxonomy was developed bottom-up from a review on aspects on sustainability, as reported in PDDs of over 2.500 registered CDM projects (Olsen and Fenhann 2008).

In order to balance standardization and flexibility, the taxonomy functions as a menu of generic dimensions, criteria and indicators that project participants may choose from. Criteria and indicators that are not relevant to a project can be skipped and aspects of SD that are not included in the taxonomy can be added using an 'other' indicator. This allows for a transparent, inclusive and objective approach to SD assessment.

From the data input into the tool, a declaration report is generated and made public on the CDM website. The tool uses similar formats for all three basic dimensions of Sustainable Development, highlighting environmental, social and economic benefits for Sustainable Development of the respective project.

Earlier versions of the tool had comprised safeguards to avoid negative impacts and enhanced procedures for stakeholder involvement as well. However, these were cut out in the course of the decision making process within the Executive Board.

2.2.1.2 CDM Gold Standard

The CDM Gold Standard (GS) is a premium label for activities under the UNFCCC's CDM and, since 2006, a certification standard for voluntary carbon credits. It was initiated by the NGOs WWF, South-SouthNorth (SSN) and Helio International in 2003. Experts and stakeholders were involved in its development. The CDM Gold Standard "aims at promoting investments in renewable energy, end-use energy efficiency and waste handling and disposal techniques as well as land use and forestry projects that mitigate climate change, promote (local) Sustainable Development and are directed towards a transition to non-fossil energy systems" (GS 2013). However, only the requirements for energy, afforestation and reforestation activities have been released so far. The requirements for the newer objectives land use and forestry are not yet available: The draft requirements for agriculture are currently being tested but the conditions for the implementation of forestry projects are still being developed (GS 2014). The CDM Gold Standard is overseen by the Gold Standard Foundation, which consists of and is supported by a secretariat, a foundation board, an independent technical advisory committee (TAC), and more than 80 international partner NGOs.

The GS provides project proponents with a clear structure that comprises overarching principles, criteria, indicators and parameters. It contains provisions for safeguard assessment, Sustainable Development impacts assessment and monitoring of projects: The safeguard system contains a list of seven overarching principles – the Gold Standard Principles – that are mandatory for all GS carbon market projects and programs. Each principle contains one or several criteria, which the project is required to meet in order to obtain GS certification. In order to comply with these principles, project proponents must apply the GS Toolkit document considering Sustainable Development impacts at different stages. The project developer has to apply the UNDP safeguarding principles to its project and fill out a "Gold Standard Passport" containing indicators for "Do no harm", for the "Sustainable Development Matrix", for the "Sustainable Monitoring Plan", and for "Stakeholder Comments". The gravity of

potential risks has to be assessed. The safeguard approach is complemented by a detailed impact assessment in terms of Sustainable Development ("Sustainable Development matrix"). Quantification however is not necessarily required but a plausible qualitative explanation of the potential impacts. Finally, the project developer has to submit a sustainability monitoring plan. All non-neutral indicators of the Sustainable Development matrix must be monitored in order to verify whether or not the project has indeed contributed to Sustainable Development as assessed ex ante.

The GS is characterized by a comprehensive and integrated approach to cover Sustainable Development issues (on details, see Kreibich et al 2014). The original self-assessment made by the project proponents using the GS tools and guidelines may be refined as result of the two-step approach for the involvement of stakeholders and hence lead to a significant improvement of the project design. With the installation of a grievance mechanism, the GS has made a significant step forward in addressing potential adverse impacts projects may have on the environment and the society.

2.2.1.3 Crown Standard

The Crown Standard is the Thai government's approach to conduct an ex ante assessment of the likely contribution of a CDM project to local and national Sustainable Development and to conduct an initial environmental assessment (TGO 2014 a+b). Project proponents have to complement UNFCCC requirements with relevant information when submitting a project proposal to the Thailand Greenhouse Gas Management Organisation (TGO), which serves as a Designated National Authority (DNA). On this basis, the TGO will decide on the project approval.

The project proponent's report has to describe the project and the existing environment, and it has to include an initial assessment of the environmental impact and the Sustainable Development potential. The project proponent has to score 24 indicators in the fields of environment and natural resources, social impact, technology deployment/transfer, and economy (TGO 2014b). He/she shall indicate the details of the assessment and the rationale for scoring. In case of negative Sustainable Development scores, the project proponent shall delineate the mitigation measures to prevent environmental impact of the project. TGO provides guidelines how to perform this assessment and points to the related laws and regulations.

The Crown Standard is a pure ex ante tool. It does not stipulate a dedicated grievance mechanism neither it mentions the possibility to intervene in approved projects.

2.2.1.4 Social Carbon Methodology

The Social Carbon Methodology was developed by the Ecologica Institute to deliver high-quality projects to the voluntary carbon market by monitoring a project's co-benefits. Six sustainability aspects of a project are individually measured using the "Social Carbon hexagon": Social, Human, Financial, Natural, Biodiversity, and Carbon. The hexagon serves as a visualization of a project's benefits, with a scale of zero to six, where the center represents zero access to a resource (Ecologica Institute 2013).

The project proponent, supported by an approved organization, has to submit a Social Carbon Report (SCR) with relevant information. First, local stakeholders have to be selected for the collection of information. Information gathering includes "participative methods" such as interviews and group meetings, discussing the indicators' contents. The indicators are laid down in sector- and project-specific guidelines, which were developed as a bottom-up process by approved organizations for specific projects. Depending on the project or the community involved, indicators have to be customized. Thus, the guidelines may continually be amended or new guidelines be added. By the end of 2014, Social Carbon provides guidelines for the following sectors and project types: Ceramic Sector, Forest Projects, Landfill, Hydropower Plants, Micro and Small Scale Hydropower Grouped Projects, Efficient

Lighting, Fuel Switch in Brazil, Methane avoidance through composting in small and medium sized swine farms in Brazil, Red Ceramic Factories in Brazil, and Amazon REDD Projects.

Based on the information gathered, a "Zero Point" assessment is carried out to provide for an initial point of comparison for future developments. Objectives will be developed in an action plan. Six possible scenarios have to be adopted for each indicator, with the first scenario being the most precarious and the sixth scenario representing the most sustainable situation.

Social Carbon does not establish absolute requirements for scoring all indicators, but instead requires to continuously improve the projecť s sustainability performance. The previously defined indicators at "Zero Point" have to increase over the monitoring period. For every year, an SCR has to be developed.

2.2.1.5 CCB Standards

In 2003, the Climate, Community & Biodiversity Alliance (CCBA) was founded as a partnership of five international NGOs: Conservation International, CARE, Rainforest Alliance, The Nature Conservancy and Wildlife Conservation Society. With the goal of promoting the development of forest protection, restoration and agroforestry projects, it has created the voluntary CCB Standards to identify high quality multiple-benefit land-based carbon projects. The CCB standards as well es the rules of their use last revised in December 2013. As of November 2014, for 86 projects in more than 30 countries validation has been approved, with 22 projects having achieved verification (CCBA Website 2014).

The CCB Standards apply a do no harm approach (safeguard system). Seventeen criteria are defined in a user-friendly, clearly structured project checklist, split into four sections: General, Climate, Community, and Biodiversity. These criteria cover those issues that are crucial for avoiding negative environmental and social impacts of land-based carbon activities. For approval projects must satisfy all required criteria. Each of the criteria is complemented by numerous detailed indicators. Apart from safeguards, the CCB Standards also expect projects to have a net positive impact on climate and biodiversity and to generate net positive impacts on the social and economic well-being of communities. In order to monitor positive as well as negative impacts of the project, project proponents are to describe the original conditions in the project area and to describe, evaluate, estimate, calculate or just demonstrate a range of aspects important for the assessment of a project's impacts. While the CCB Standards only contain little guidance on how this should be done, a manual has been developed to assist project proponents in designing and implementing projects that meet the CCB Standards' requirements. However, the use of this manual is voluntary.

A particular strength of the CCB standards is the central role local communities and other stakeholders play throughout the entire project lifetime (Kreibich et al 2014). The CCB Standards require project proponents to provide access to project documentation, to consult with communities and other stakeholders and to describe how effective participation in decision-making is enabled. Furthermore, the installation of a grievance redress procedure with different stages for grievance resolution is required. The application of FPIC (Free Prior Informed Consent) is required if right holders are affected by the project, a provision of particular relevance for projects that involve indigenous peoples.

2.2.1.6 UN REDD

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN REDD Programme) was founded in 2008 in order to support and promote piloting activities under the evolving REDD+ scheme under the UNFCCC. The program covers both direct support to the design and implementation of national REDD programs and complementary activities such as developing common approaches, analyzes, methodologies, tools, data, and best practices. The Program currently collaborates with more than 50 partner countries in Africa, Asia-Pacific, and Latin America. The initiative is jointly managed by the Food and Agriculture

Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP).

With respect to Sustainable Development the UN REDD Programme has given itself an elaborated catalogue of „Social and Environmental Principles and Criteria (SEPC)" (UN REDD 2012). It comprises 7 principles with 24 criteria, which are consistent with the with the official UNFCCC safeguards for REDD+ (UNFCCC 2010), but develop these further and take them to a practical level. In an integrated manner, the SEPC covers aspects ranging from ensuring compliance with national commitments and Multilateral Agreements, promoting sustainable livelihoods and poverty reduction, protecting natural forest while maintaining and enhancing multiple functions of forests up to avoiding adverse impacts on non-forest ecosystem services, thereby covering both positive and negative impacts of REDD+ activities.

The most striking feature about the UN REDD Programme are the, Guidelines on Stakeholder Engagement in REDD+ Readiness' which the program has developed together with the Forest Carbon Partnership Facility (FCPF) (UN REDD and FCPF 2012). In forestry projects, stakeholder involvement plays an important role as forestry activities by nature involve Indigenous Peoples and other Forest-Dependent Communities. The UN REDD Guidelines comprise a set of eight guiding principles followed by elaborate guidance for eight consultation steps for the stakeholder involvement process, including a grievance mechanism and the possibility to intervene in ongoing projects or programs.

2.2.1.7 UNDP NAMA SD tool

The UNDP has designed a tool for Nationally Appropriate Mitigation Action (NAMA) developers and policy makers. The tool allows users to evaluate the Sustainable Development performance indicators and Sustainable Development results achieved over the lifetime of the NAMA. It is linked to the Sustainable Development Goals (SDGs) agreed at the United Nations Conference on Sustainable Development (UNCSD) 2012 and shall allow policy makers to track the effects of the NAMA on environmental conservation, economic growth, poverty reduction and public welfare (UNDP 2014).

Users shall split the NAMA into corresponding activities ("interventions"). Each intervention is assessed separately and the scores summed up to assess the NAMA's overall contribution to Sustainable Development. The tool links up SDGs with a set of indicators to evaluate the intervention's performance against these goals. There are no linkages to national strategies or spatial boundaries. NAMA developers and policy makers may choose, which of the SD goals and corresponding indicators they want to evaluate and monitor.

The NAMA developer or policy maker has to identify the impacts of the NAMA himself/herself. In a dedicated column "effect on indicator", he/she has to classify the impact against the corresponding indicator as positive, negative or neutral. The tool does not provide any measurement method for the proposed indicators, but the NAMA developer/policy maker has to develop this method himself/herself or he/she has to use an appropriate existing (external) method. As such, the tool does not give any guidance for indirect effects' impact assessment.

2.2.1.8 ADB Safeguard Policy

The Asian Development Bank (ADB), established in 1966, is a regional development bank facilitating economic development in Asian countries. It has 67 members in total, of which 48 are regional. In order to achieve its goal to end poverty in the Asia and the Pacific, the ADB established three complimentary agenda in its "Strategy 2020" - inclusive economic growth, environmentally sustainable growth, and regional integration.

The ADB lists environmental sustainability as a "core strategy" on its website (ADB 2009). In order to ensure sustainability of its services, the ADB adopted its Safeguard Policy Statement (SPS) in 2009 after a four-year policy review process. The SPS builds upon ADB's previous Involuntary Resettle-

ment Policy (1995), Policy on Indigenous Peoples (1998), and Environment Policy (2002). It applies to all ADB-supported projects. The SPS integrates these previously separate three policies into one, and introduces among others the option of employing domestic country safeguard systems for ADB-financed projects if they meet ADB requirements. It also includes provisions for transboundary effects.

The ADB's SPS is a dedicated safeguard policy aimed at ensuring that funded projects and programs of the ADB "do no harm". In addition to avoiding negative impacts by funded projects, the SPS therefore also contains a dedicated negative list of non-fundable project types. This focus on safeguarding negative impacts sets it apart from most others covered in this study except for the IFC's Sustainability Framework (see below), which also cover positive sustainability effects.

The SPS requires that the ADB screens proposed projects for potential adverse environmental impacts, and categorized them into categories A (significant adverse environmental impacts) to C (minimal/no adverse environmental impacts) for projects directly funded through ADB, or FI for projects implemented through financial intermediaries. Impacts can be physical, biological, and socio-economic, including occupational and community health and safety, vulnerable groups, gender issues, and impacts on livelihoods and physical cultural resources.

Category A projects require a full-scale Environmental Impact Assessment to be published 120 days in advance of project approval. Category B projects only need an initial environmental examination, while Category C projects do not need such an assessment. Projects by financial intermediaries (Category FI) require an Environmental and Social Management System.

The SPS further spells out requirements on the avoidance or, impossible, mitigation of resettlements, and special safeguards for indigenous peoples. Notably, the SPS itself does not contain detailed provisions on labor conditions. Requirements in this field are covered by a separate, non-integrated ADB policy.

2.2.1.9 IFC Sustainability Framework

The IFC (International Finance Corporation), founded in 1956, is a member of the World Bank Group. The IFC is the World Bank's "private sector arm", financing private sector activities directly or through financial intermediaries in over 100 developing countries. According to the IFC's website, the organization accounts for about one third of developing country private sector financing by development finance institutions over-all. The IFC's overarching goals are to end extreme poverty by 2030, and to boost shared prosperity in every developing country. Strategic priorities include, among others, to address climate change and to ensure environmental and social sustainability.

This is addressed through the IFC's Sustainability Framework released in 2006, and updated 2012 after an 18-month stakeholder consultation process (IFC 2012). The policy contains eight performance standards that IFC clients have to adhere to. Performance Standard 1 (Assessment and Management of Environmental Risks and Impacts), includes a requirement for all IFC clients to establish environmental and social management systems, including a sustainability policy. Such management systems have to include integrated assessments of environmental and social impacts, risks and opportunities of envisaged projects, and have to engage affected communities. Performance Standards 2 - 7 establish requirements and objectives needing special attention, including labor and working conditions (PS2); resource efficiency and pollution prevention (PS3); community health, safety, and security (PS4); land acquisition and involuntary resettlement (PS5); biodiversity conservation and management of living natural resources (PS6); indigenous people (PS7); and cultural heritage (PS8).

The IFC's safeguard provisions widely resemble those of the ADB's SPS (see above). The standards cover quite some detail on the general governance aspects of sustainability management, but do not have the same level of detail in their specific requirements that have to be met by every single funded

asset. Instead, the IFC requires its clients to develop their own frameworks along the required lines, and reviews them both in the proposal phase and during the projects' duration.

Other than most other standards and requirements analyzed within this study, the IFC's sustainability framework does not make any prescriptions on positive contribution to sustainability of a project proposal. The standards included in the policy serve as safeguards against negative impacts of proposed projects. To the same effect, the IFC also published an exclusion list of projects that by default cannot receive funding by the IFC.

2.2.2 Comparison and Analysis

2.2.2.1 Scope

The four certification standards (the Social Carbon Methodology, the CCB Standards, the CDM Gold Standard, and the Thai domestic Crown Standard) generally follow a comparatively narrow approach to assessing sustainability, focusing strongly on the boundaries of individual projects. Notably, the CCB standards follow an integrated approach that also considers effects of the project beyond its boundaries. In addition, all certification standards but the Crown Standard limit themselves to specific project types.

Because of their focus on specific projects, the certification standards generally do not make reference to national Sustainable Development strategies or policies a host country may have. A notable exception is of course the Crown Standard, as it is in itself part of Thailand's national policy. Nevertheless, even the Crown Standard does not have any direct reference to Thailand's over-all strategy for Sustainable Development, but the standard points to relevant laws and regulations.

The UN REDD Programme represents a special case within this comparison. It offers strategic sectoral planning and implementation guidance for national governments. It makes strong reference to national strategies as well as requirements from multilateral agreements. As regards Sustainable Development, the approach limits itself to the forestry sector, but covers all possible intervention types within, including not only physical projects, but also policies. Within its sectoral boundaries, the approach can therefore be considered to be wider in scope than the market-based approaches.

Even wider in scope, but also less definite, is the UNDP's NAMA SD tool. Nationally Appropriate Mitigation Actions do not follow a common definition that delineates what is a NAMA and what is not. Therefore NAMAs can be everything from single project activities to a bundle of (policy) interventions. The NAMA SD tool therefore currently leaves out any mention of spatial or sectoral boundaries, making their delineation subject to NAMA developers' or policy makers' own valuations. The application of the tool is currently being field-tested in partner countries, with NAMA developers and national governments defining boundaries individually to their circumstance.

The safeguard policies by ADB and IFC both have to cover a wide variety of sectors and project types because they aim at the whole funding portfolio of the two development banks. In order to safeguard against potentially harmful impacts, they include assessments beyond the direct scope of the assessed projects, and even consider possible transboundary issues. Assessments have to be conducted by the clients of the two banks, but are counter-checked and also publicized.

It is important to note that the spatial boundaries the standards set relate to their direct effects (outputs and outcomes, see section 2.1.2.1). The actual impact of a project/activity (longer term indirect effect) may be beyond spatial boundaries. All standards implicitly or explicitly take differences between outputs, outcomes and impacts into account. E.g., technology transfer may be defined as technology applied at a project site (output). The Gold and Crown Standards measure the outcome, that is, they aim at assessing whether foreign technology is locally applicable. A longer-term impact may be that technologies applied nationally increasingly apply this foreign technology.

Table 4: Overview of scope of analyzed approaches

	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB Safeguard Policy	IFC Sustainability Policy
Boundary of Assessment	narrow: project limits	narrow: project limits	project limits, + effects beyond boundaries	narrow: project limits	narrow: project limits	wide: national scope	n/a, subject to policy makers' decisions	wide, includes transboundary effects	wide, includes transboundary effects
Project types / sectors	all CDM types	currently limited to certain project types, but can be expanded	forestry, agriculture, land use (biodiversity)	renewable energy, energy efficiency, waste, land use, forestry	all CDM types	all projects and policies within the forestry sector	n/a, subject to policy makers' decisions	funded projects in all sectors	funded projects in all sectors
Links to national SD policies and strategies	none	none	none	none	domestic CDM SD Standard, references relevant legislature	to be integrated in national SD policies and strategies	none, subject to domestic circumstances	national plans to be taken into account in project design and implementation	national plans to be taken into account in project design and implementation
Applicants	project implementers	project implementers	project implementers	project implementers	project implementers	policy makers in national governments	policy makers and implementers	project implementers	project implementers

Comparison with the CDM SD tool

The certification standards mostly assess sustainability within project boundaries, and do not consider in more detail effects that occur outside them. Lessons may be learned from the CCB standards, but also the development bank policies on how to include farther-reaching effects that projects may have on Sustainable Development.

The certification standards are bound to a limited number of project types. The UN REDD Programme only covers the forestry sector. Limiting assessments to certain sectors or project types can facilitate the development of stringent methodologies and indicators. Project proponents using existing methodologies and assessment guidance may become familiar with the standard's application and in a later stage add new methodologies for new sectors or project types. Thus, the application of well-known methodologies may ease opening the standard for wider application at a later stage

2.2.2.2 Assessment types

Since Sustainable Development is a multi-dimensional process covering environmental as well as social and economic aspects that can be affected both positively and negatively, there is a plethora of possibilities how to assess the impacts an intervention may have. This is reflected by the high variety of approaches analyzed within this study. Basically, the standards may apply a number of exclusion criteria (eligibility) as well as a certain scoring system for SD benefits (or costs.)

Exclusion criteria may either be positive or negative lists for certain sectors or project types. The principle of positive lists is applied by the Gold Standard for energy efficiency and renewable energy projects. An example for negative lists are safeguard principles, which are used by ADB, IFC, UN REDD and the Gold Standard.

Checklists and scoring systems commonly apply qualitative assessments that involve plausible narratives on assessed categories of Sustainable Development, and are frequently complemented by quantitative measurements.

Exclusion criteria/eligibility

Before project approval, most approaches require an impact assessment that also determines the actual eligibility of a project for certification (in certification standards), or funding (in Multilateral Development Banks, MDBs). An exception is the UN REDD Programme, which, as a general standard for domestic REDD programmes, does not require impact assessments in itself, but suggests the implementation of such assessments within domestic programs. The Gold Standard as well as both MDB safeguard policies require project proponents to present "no project" alternatives, and give their rationale for selecting the project particulars.

A number of standards (CCB Standard, Gold Standard, Social Carbon Methodology) employ positive lists that determine the project types eligible for certification. The MDBs, on the other hand, have put in place negative lists that explicitly exclude certain activities from any eligibility for funding.

Checklists and scoring systems

A common method employed by the certification standards, but also the NAMA SD tool, are checklists, providing the user with a set of parameters, criteria or indicators that need to be answered narratively, and/or scored, in order to assess the impacts a project may have on different aspects of Sustainable Development.

We have used the assessment criteria for positive contributions to Sustainable Development provided by the CDM SD tool as reference for the other approaches analyzed. Most of them do cover these aspects, however, they are always not spelled out in the same way. All approaches that do assess posi-

tive contributions address environmental and social aspects of Sustainable Development. Surprisingly, the UN REDD Programme does not include economic benefits. The Social Carbon Methodology, the CCB Standards and the Gold Standard partly include economic benefits, but do not follow the same categorization.

Scoring systems are employed by Social Carbon Methodology, the Crown Standard, the Gold Standard and the NAMA SD tool. They offer the added value that indicators may also be scored negatively, which offers a more complete picture of the effects an intervention may have on Sustainable Development, as opposed to a mere look at positive effects.

Negative impacts, or co-costs of a project, are covered by all approaches analyzed. The strongest and most detailed requirements for the assessment of negative impacts can be found in the safeguard requirements of the multilateral development banks (MDBs), as they are especially geared towards this type of assessment.

The assessment types covered in this study all are mandatory, even though with different stringency. The certification schemes require sustainability assessments for all projects aiming to be certified. The multilateral development banks require initial risk assessments that assign risk categories to the assessed project. Depending on the strength of the risk, different levels of stringency for further assessment are required. The Crown Standard includes a detailed description of the project and the existing environment. Based on that, the project proponent shall conduct an initial environmental evaluation. If the CDM project could not meet all legal requirements (i.e. the Environmental Impact Assessment, EIA), proper mitigation measures shall be proposed.

Table 5: Overview of assessment types

	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB Safeguard Policy	IFC Sustainability Policy
Mandatory initial impact assessment	no	yes	yes	yes	yes	no, but suggestion to include in domestic programmes	no	yes, plus "no project" assessment	yes, plus "no project" assessment
Exclusion lists	no	positive list	positive list	positive list	no	no	no	negative list	negative list
Scoring systems	no	zero to positive (hexagon)	no	positive and negative	positive and negative	no	positive and negative	categorization of risk types	categorization of risk types
Inclusion of safeguard principles	no	no	yes	yes	no	REDD+ safeguards	no	yes	yes
Assessment of positive contributions	yes	yes	yes (different categorization of economic benefits)	yes (different categorization of economic benefits)	yes (different categorization of economic benefits)	yes (excludes economic contributions to SD)	yes	no	no
Assessment of negative impacts	no	yes	yes	yes	no, but reference to applicable Thai legislature	yes	yes	focus of approach	focus of approach

Comparison with the SD tool

Assessing the effects a project may have on Sustainable Development can take on many forms, and at least in part depends on the general focus of the respective mechanisms. Sustainability effects include a number of qualitative criteria such as equity. The standards operationalize their assessment by either demanding qualitative descriptions or by introducing a narrative that translates certain project conditions into a scoring system. For example, Social Carbon Methodology's indicators receive scores ranging from the worst scenario (level 1) to the ideal situation (sustainable use of resource – level 6).

Again, it may be difficult to measure (indirect) impacts. Firstly, they may occur only in the longer term, whereas issuance of Certified Emission Reductions (CERs) may stop after seven or ten years of project implementation. Secondly, it may be difficult to assign indirect impacts to (single) project activities.

The certification standards are meant to add value to the certificates their projects generate, and as such are geared towards demonstrating positive effects on Sustainable Development. On the other hand, it is very important to also ensure that projects do not generate negative impacts. Our analysis shows that all approaches include negative impact assessments to some extent. A scoring system, as employed by the Gold Standard and the NAMA SD tool, allows for an evaluation of both positive and negative effects without overburdening the analysis. [1]

On the other side of the spectrum, the safeguard policies of the multilateral development banks are not geared towards added value, but risk minimization. They represent mandatory steps that every project needs to fulfill in order to be eligible for funding. They are meant to ensure that projects have the least possible negative impact on Sustainable Development. Lessons may be learned from the practice to categorize projects according to their expected risk to Sustainable Development, and to assign levels of stringency for further assessments accordingly. However, care needs to be taken to also ensure that project practice does not exceed envisaged risks.

The inclusion of positive (inclusion) or negative (exclusion) lists can add value to a sustainability assessment. Positive lists give quick insight on which type of project is eligible under an approach, while negative lists preclude any project type that is deemed non-sustainable, or non-eligible for any other reason. If an approach aims at a large number of different project types in many different sectors and countries, negative lists may be easier to handle, as positive lists can become unwieldy if too many project types get included.

When comparing the standards we analyzed with the SD tool, the first eye-catching difference is that the tool covers co-benefits only and is silent on safeguards or an assessment of co-costs / negative impacts. This becomes all the more relevant when considering the reports that claim there are CDM projects with negative impacts on the local environment and / or on local population (see, inter alia, Gujarat Forum on CDM 2013, Schade and Sterk 2014, TERI 2012). A thorough risk assessment would bring the discussion onto a structured level.

Applying positive and / or negative lists was discussed in the early days of the CDM, when the EU proposed that „Parties should use technologies in a way that minimizes any adverse environmental and social effects" and suggested that the CDM should use „a positive list of safe, environmentally sound eligible projects". This list comprised renewable energy, energy efficiency, and demand side management projects (UNFCCC 2000). However, this approach did not prevail. It was the EU again

[1] However, these approaches rely first of all on a self-assessment of the project developer. External validation/ verification involves higher transaction cost.

who introduced negative lists through the back door when the block excluded credits stemming from projects destroying HFC-23 and N2O from adipic acid production in its Emissions Trading Scheme from 2013 on.

2.2.2.3 Review and Evaluation

For a continuous oversight on effects on sustainability, it is important that ex-ante assessments on possible effects are followed up through monitoring systems over the project duration.

Only the Crown Standard does not meet this criterion - it only includes a mandatory ex-ante assessment. The Gold Standard, by contrast, requires project implementers to submit a sustainability monitoring plan that includes all indicators with positive or negative scores (see above), and to submit monitoring reports that need to be verified by an independent auditor. The CCB Standard and Social Carbon Methodology employ similar methods. The SCM approach demands projects to continuously improve the initial situation. That is, the sustainability scores have to increase over the monitoring period.

The MDBs require their clients to continuously monitor risks, and set up dedicated social and environmental management systems for projects that fall under the high risk category. Monitoring is reviewed by MDB representatives.

The UNDP NAMA tool features mandatory monitoring, which needs to be carried out every three years. The tool requires NAMA implementers to establish monitoring procedures for each intervention the NAMA covers. The nature of the monitoring system can be defined by the implementing agency. A Quality Assurance / Quality Control (QA/QC) system ensuring data quality is obligatory. The UN REDD guidelines also foresee monitoring and reporting frameworks.

An additional control measure is the verification of the SD effects included in the monitoring plan by an independent auditor. This step ensures compliance and therefore adds to the reliability and credibility of the SD assessment. The Gold Standard has provisions in this regard, and the CCB and SCM as well. These external processes are complemented by a review of the validation and verification reports by the standards' organizations.

The IFC requirements on auditing are less stringent, yet the organization encourages internal inspections and audits in order to verify compliance and progress toward the desired outcomes of interventions. Furthermore, the organization has established three oversight functions that may evaluate appraisal and supervision documents (Compliance Advisor/Ombudsman, The Internal Audit Vice Presidency, Independent Evaluation Group for Private Sector). The ADB follows a similar procedure. For projects involving Indigenous Peoples, the institution has established mandatory requirements including experienced external experts or qualified NGOs that verify monitoring information and suggest on corrective actions, which the borrower/client has to follow-up with.

Table 6: Overview of monitoring requirements

	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB Safeguard Policy	IFC Sustainability Policy
Mandatory monitoring of intervention impacts	no	yes	yes	yes	no	yes	yes	dependent on risk level of project	dependent on risk level of project
Independent review	no	yes	yes	yes	no	n/a	n/a	review by bank auditors, external review for involvement of indigenous peoples	review by bank auditors, external reviews for certain projects
Possibility for corrective action	no	yes	n/a	yes	no	yes	n/a	yes	yes

Comparison with the SD tool

In order to adequately assess a project's effects on Sustainable Development, both ex-ante assessments establishing their eligibility and ex-post monitoring and evaluation requirements should be considered. In order to arrive at a stringent implementation of a standard or methodology, ex ante assessments and ex post monitoring should apply the same SD criteria.

Most of the analyzed approaches do cover both ex-ante and ex-post assessments. This sets them apart from the SD tool's approach, as it only requires a single evaluation. This gives the SD assessment of the tool a purely declaratory nature.

If the SD tool is further developed towards a review and evaluation approach which is similar to current other SD standards, then there are basically two options: First, the tool could demand project developers to demonstrate that the effects claimed ex ante are verified ex post. Secondly, it could demand project developers to score the initial situation (or baseline) against the actual SD outcomes. The latter option would allow for a relative comparison of the "with project" and the "without project" situations.

In order to give credibility to review and evaluation efforts, the use of external auditors can be highly recommended. The Gold Standard, the SCM and CCB standards cover this step which is needed to ensure that a project did fulfill its requirements, and, in case of certification, can receive the intended certificate. The MDBs do not prescribe external auditing as a mandatory step but they have internal review procedures in place, and in some cases require external check-up as well. Again, this step is missing in the CDM SD tool.

2.2.2.4 Stakeholder consultation

One of the most important aspects to ensure that projects contribute to and do not harm Sustainable Development is the formalized consultation of stakeholders ideally over the entire lifecycle of a project in order to identify and avoid negative effects (pre-approval) and identify and manage upcoming negative effects during project implementation.

By far the most approaches covered here have included mandatory stakeholder consultation processes into their project design, albeit with varying strictness. Surprisingly, the NAMA SD tool is an exception to this. It can only be assumed that this may be due to an underlying thought that NAMAs are primarily state-driven, and stakeholder processes would be covered under a sovereign's domestic policies.

Among those having requirements, approaches of designing a stakeholder consultation process vary. Global stakeholders are consulted to different degrees under the different approaches. Of the certification standards, only the Gold Standard has established procedures that open the local consultation to globally active stakeholders/NGOs if they are engaged in the GS. The MDBs require that high-risk projects draft environmental impact assessments to be published 120 days prior to project approval. Local stakeholder consultations are included in all but the NAMA SD tool. In order to identify stakeholders, all approaches include structured processes, stakeholder meetings and project reference material in local languages (note that this is unclear for the Crown Standard, as its guidelines are available in Thai only).

While the IFC requirements depend on the specific project type, most other standards have generally applicable procedures how to involve stakeholders. Differences, however, exist in the stringency of stakeholder integration: the Gold Standard requires two meetings with stakeholders during the approval process, and includes a requirement for continuous stakeholder consultations over the whole project duration. The MDBs have implemented similar requirements, and also posit that consultations are to be intensified if there is a potential for significant adverse effects of a projects. The CCB

Standards contain several detailed requirements on the engagement of local communities and other stakeholders through full and effective participation. Inter alia, projects are to explain how stakeholders have been identified, how they have been involved in project planning and design, and how the continuation of communication and consultation between the project proponent and the stakeholders throughout the life of the project is ensured.

Indigenous peoples receive special attention by a number of approaches. The UN REDD Programme, the MDBs and the CCB Standards make special reference to the need for free, prior and informed consent (FPIC) of indigenous peoples. FPIC describes a process that goes beyond the mere consultation of affected stakeholders. It gives stakeholders the possibility to withhold their consent to project implementation after an extensive exchange process has taken place. If applied resolutely, can be a show-stopper for projects not consented to by the local people. The MDBs as well as the UN REDD Programme provide for dedicated policies for the inclusion of indigenous peoples into the project assessment process.

Grievance mechanisms are another important element of stakeholder consultation to ensure that Sustainable Development complaints are heard and solved over the duration of the project. In practice, most of the standards analyzed have procedures in place for or at least encourage to deal with grievances or complaints raised by stakeholders during project implementation. Such mechanisms are to implemented by the project proponents themselves. The ADB allows for grievances to also be addressed to its accountability mechanism if a problem cannot be resolved. The CCB standards as well as the Gold Standard encourage to employ independent mediation processes in order to resolve grievances brought forward by stakeholders. Grievance mechanisms are not explicitly required in the Social Carbon Methodology. For the Crown Standard it is unclear (Thai language).

Table 7: Overview of stakeholder requirements

	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB Safeguard Policy	IFC Sustainability Policy
Mandatory stakeholder consultations	no	yes	yes	yes	yes	yes	n/a	yes	yes
Global stakeholders	no	no	no	yes	no	no	n/a	120-day prior publication of EIAs for high-risk projects	120-day prior publication of EIAs for high-risk projects
Local stakeholders	no	yes	yes	yes	yes	yes	n/a	yes	yes
Structured processes for identification	no	yes	yes	yes	n/a	yes	n/a	yes	yes
Meetings with stakeholders	no	yes	yes	2 meetings during approval +continuous involvement	n/a	yes	n/a	continuous involvement, intensified consultations if high risk	continuous involvement, intensified consultations if high risk
Local language PDs	no	yes	yes	yes	n/a	yes	n/a	yes	yes

	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB Safeguard Policy	IFC Sustainability Policy
Consideration of indigenous peoples	No	yes	yes	yes	n/a	yes, +inclusion of FPIC principle	n/a	yes, +inclusion of FPIC principle	yes, +inclusion of FPIC principle
Grievance mechanisms	no	no, but included in monitoring procedure	yes	integrated in project design, independent mediator possible	n/a	mechanisms for grievance, conflict resolution and redress required	n/a	local grievance mechanism required	establishment of a grievance mechanism supported

Comparison with the SD tool

The experiences of the analyzed standards show that SD assessments should be accompanied by and carefully consider how local communities and other stakeholders could be actively involved in project development and implementation. While the important role of stakeholders has been recognized by all instruments analyzed but the NAMA SD tool, there are differences regarding the degree of participation.

By contrast, the CDM SD tool does not contain any mentioning of stakeholder consultation neither as a voluntary option to consider nor by providing pure blank space to report if such procedures should exist in a project anyway. This complete suppressing of the issue is the more interesting as there are provisions for stakeholder involvement in the CDM itself and the pre-final draft of the SD tool covered stakeholder involvement and even a grievance mechanism. Clearly, the voluntary character of the SD tool should be reconsidered.

In the absence of any requirements, the SD tool can clearly build on the experiences made by the analyzed standards to ensure the successful participation of stakeholders throughout the project lifetime. Such provisions should, in particular, provide a key role for local communities and other stakeholders in the process of the measurement, reporting and verification of potential adverse environmental and social impacts.

The involvement of stakeholders during project implementation should not replace, but rather complement mechanisms that allow stakeholders to explicitly file grievances related to projects. By installing appropriate reporting requirements, it can be ensured that concerns raised at the project level are communicated to the highest governance level while adequate monitoring provisions make sure that remedies will be implemented and supervised, where appropriate.

2.3 Summary

In this chapter, we have analyzed Sustainable Development requirements of selected Carbon Finance instruments and multilateral standards and compared them to the provisions of the CDM's SD tool. This section summarizes the results of the analysis.

Regarding scope, we see variations that can be mainly attributed to the over-all focus of the different approaches analyzed. The four certification standards are designed for, and therefore widely follow, the logic dictated by Carbon Market projects, with relatively narrow assessment boundaries and a strong project focus. This makes them most easily comparable to the CDM SD tool, showing possible improvements of the approach to SD assessment already practiced in the Carbon Market context.

The approaches taken by the IFC and ADB (and with slight variations most other MDBs as well) may serve as examples for detailed safeguard policies in a very wide portfolio of activities. In contrast, the UNDP's NAMA SD tool shows the difficulty in defining scope if activity types and specifics are highly unclear.

Looking at the way SD is assessed, our analysis shows that there is a wealth of different approaches on how to assess the impacts an intervention may have. Many make use of exclusion criteria to define eligibility as well as scoring system for SD benefits and / or costs (negative impacts). The Gold Standard, for example, applies the principle of positive lists in that exclusively make energy efficiency and renewable energy projects eligible for the standard. The MDBs, on the other hand, have put in place negative lists that explicitly exclude certain activities from any eligibility for funding.

Most certification standards assessed, but also the NAMA SD tool, use checklists that provide the user with a set of parameters, criteria or indicators that need to be answered narratively, and/or scored, in order to assess the impacts an intervention may have on different aspects of Sustainable Develop-

ment. An example is the Social Carbon Methodology's indicators, which receive scores ranging from the worst scenario (level 1) to the ideal situation (sustainable use of resource – level 6).

The standards assessed in this assignment all check upon positive and negative impacts (co-costs). The strongest and most detailed requirements for the assessment of negative impacts are reflected in the safeguard requirements of the multilateral development banks, as they are especially geared towards this type of assessment.

All SD requirements we studied are part of a mandatory system for SD assessment of the respective mechanisms. The stringency of the assessment, however, varies. The certification schemes (CDM Gold Standard, Crown Standard, Social Carbon, CCB) require sustainability assessments for all projects aiming to be certified. The MDB standards, by contrast, comprise initial risk assessments. These assign risk categories to the assessed intervention, with the aim of ensuring that projects have the least possible negative impact on Sustainable Development.

Regarding review and evaluation, we found that the majority of the systems studied have implemented systems that monitor the possible impacts identified in the ex-ante assessments. Gold Standard users, for example, are asked to submit a sustainability monitoring plan covering all indicators with positive or negative scores, and to submit monitoring reports that need to be verified by an independent auditor. The CCB Standard and Social Carbon Methodology apply similar schemes.

The MDBs require their clients to continuously monitor risks and to develop specific social and environmental management systems for high-risk category interventions. Monitoring is reviewed by MDB representatives. Monitoring also required by the UNDP NAMA tool, which needs to be carried out every three years. The tool requires NAMA implementers to establish monitoring procedures for each intervention the NAMA covers. The UN REDD guidelines also foresee monitoring and reporting frameworks as well.

A follow-up step to monitoring is having the SD effects included in the monitoring plan verified by an independent auditor. This ensures compliance and therefore adds to the reliability and credibility of the SD assessment. The Gold Standard has provisions in this regard, as do the CCB and SCM. These external processes are complemented by a review of the validation and verification reports by the standards' organizations.

Finally, most approaches covered here have included dedicated mandatory stakeholder consultation processes into their project design, albeit with varying strictness. While provisions for the involvement of global stakeholders vary, all approaches except the NAMA SD tool require local stakeholder consultations. They include structured processes to identify stakeholders, hold stakeholder meetings and project reference material in local languages (provisions unclear for the Crown Standard). Guidance varies with respect to the stringency of the stakeholder involvement: the CCB Standards, for example, feature detailed requirements on the engagement of local communities and other stakeholders through full and effective participation. Inter alia, projects are to explain how stakeholders have been identified, how they have been involved in project planning and design, and how the continuation of communication and consultation between the project proponent and the stakeholders throughout the life of the project is ensured.

Grievance mechanisms are a means of ensuring that controversial issues can be voiced and solved over the lifetime of the project. The majority of the standards analyzed have procedures in place for or at least to encourage to dealing with grievances or complaints raised by stakeholders. The ADB, for example, allows for grievances to also be addressed to its accountability mechanism if a problem cannot be resolved. The CCB standards as well as the Gold Standard encourage using independent mediation processes in order to resolve issues brought forward by stakeholders.

Comparison to the SD tool

The analysis above shows that most mechanisms analyzed apply an integrated approach to Sustainable Development assessment. They require the ex-ante assessment of both positive and negative impacts the respective interventions. Alternatively, they make use of safeguard and / or risk assessment systems. All these systems are mandatory for the respective project developers or client. Another important component of these systems is that they subsequently follow-up upon the claims made in the initial SD assessment in that they have monitoring systems in place. Some systems additionally require an obligatory verification of the benefits claimed. Last not least, a vital part of an integrated approach to SD assessment is a meaningful stakeholder interaction procedure, which enables people affected by interventions to voice their concerns combined with the possibility to embark on corrective actions. This is at best paired with a grievance mechanism.

By way of contrast, the CDM SD tool does not make use of the full potential an integrated approach offers. The tool does assess positive impacts in a structured manner. However, the claimed benefits are neither monitored nor verified. Negative impacts or possible risks are not assessed. Despite the global and local stakeholder procedures in the CDM in general, these do not cover SD aspects specifically, as they are not included in the CDM SD tool. Last not least, the tool is voluntary and can only be used by project proponents and coordinating managing entities. These shortcomings make the tool a primarily a marketing instrument, albeit in the absence of monitoring procedures with a questionable reliability.

This is all the more regrettable because integrating all or some of the components mentioned above could address criticism voiced against the CDM. For example, some CDM projects are being criticized for causing negative impacts for the local population (see above). A thorough risk assessment, combined with a meaningful stakeholder interaction, would clearly help managing these claims, improve the project results, and contribute to greater acceptance of CDM projects.

The pure declaratory nature of the SD tool could be overcome if SD effects claimed would be monitored and verified. Again, this measure would strengthen both the SD assessment itself and the credibility of the mechanism as a whole. In fact, some DNAs such as the Philippines and Nepal have already introduced measures to follow-up on the SD claims made in the PDDs and assessed by the respective DNAs.

The use of external auditors that verify the monitored effects can be highly recommended. This measure adds credibility to review and evaluation efforts. Making SD assessment mandatory would underline the importance of the different elements, again adding credibility.

Adding some or all of these requirements does not necessarily result in burdening project proponents with intolerable extra cost. Sterk at el. (2009), for example, have shown for the additional steps of the Gold Standard assessment that project proponents perceive them as manageable, and that they can be met with a reasonable amount of additional work.

3 What is needed?

The previous chapter provided an overview of how different organizations approach the assessment of Sustainable Development impacts, and compared them to the current status quo of the CDM SD tool.

This chapter takes the SD tool's status quo as a basis for a literature review and interviews with selected host country governments, project developers and a CER buyer. It seeks to assess how practitioners perceive the usability of the EB's SD tool, their views on what would be needed for further improving the tool, and how the tool can feed into discussions on SD assessment beyond the CDM. In short, the chapter seeks to condense the 'needs' of the tool's users in comparison to what it currently offers.

3.1 Methodology

The aim of this work package is to assess the appropriateness of the EB's voluntary SD tool against host country needs for sustainability assessments of CDM projects and other user perspectives. Data for this analysis will be derived from a literature review on DNA practices for SD approval of CDM projects and from a survey of concrete experiences with users of the tool.

The work package comprises the following steps:

1. Literature review of DNA practices for SD approval of CDM projects
2. Survey of selected host country and project proponent's experiences and needs for using the EB's SD tool and for sustainability assessment of other mitigation actions
3. Assessment and analysis of survey results and literature with regard to host country needs and difficulties with an aim to assess how the SD tool may assist DNAs, project proponents and buyers in broadening consideration for SD in the approval process.

3.1.1 Literature review and survey of experiences with use of the EB's SD tool

In the first step, we compile and review existing literature on experiences with SD assessment approaches in host countries focusing on the role of DNAs to meet the objective of contributing to Sustainable Development. A synopsis of the literature will identify the issues and research questions explored, the methods and data applied and assess the key findings and conclusions of the studies as background to understand the rationale and usability of the EB's SD tool. We include this step in order to gain a more comprehensive picture of host country needs beyond the survey. Outcomes comprise a short synopsis of the relevant literature that will directly feed into the overall assessment. By providing a foundation of existing practices, this literature review will expand the base of information on host country needs, and thus further enhance insights gleaned from the survey developed in the second step of this work package.

In the second step, we conduct a series of interviews with selected host country DNAs and project proponents in order to get on-the-ground information on their respective needs regarding the assessment of Sustainable Development impacts within CDM practice. The work consists of three consecutive steps, which we elaborate upon below:

a) Selection of countries and interviewees
b) Development of an interview concept
c) Conducting the interviews

Selection of countries and interviewees

We select 6-10 interviewees for the survey including a mix of host countries and other users of the tool. Countries cover a broad range of different aspects for the survey to gain the maximum representative potential. Criteria for country selection include:

- **Experience with CDM**
  Countries with strong experience regarding CDM activities may be able to provide stronger insights on Sustainable Development impacts. Countries with a comparatively small record of CDM activities may be able to look at the issue with "fresh eyes" beyond established CDM project practice.
- **Experience with domestic SD / co-benefit assessments**
  Some countries have taken great effort to establish elaborated national systems for assessing the CDM projects' contribution to Sustainable Development (cp. Brazil, Thailand). These countries provide valuable practical experience on SD assessments in a domestic context.
- **Experience with the voluntary SD tool**
  To this date, the EB's voluntary tool has only been applied by a limited number of project proponents. A correspondingly low number of countries (China, India, Argentina, Guatemala, Thailand and 26 African countries hosting CPAs of a multi-country PoA) can report on experiences made in the application of the tool, and provide information on opportunities and pitfalls. Only the countries where the tool has been or is currently applied, can provide practical knowledge on the use of this tool.
- **Size of country and geographical representation**
  Relative to their size, geographical location and political priorities countries may see varying challenges in applying the tool, e.g. due to additional cost, political considerations or bureaucratic efforts.

A screening of countries along the criteria proposed above and in consultation with the contractor has led to the selection of countries and project proponents as shown in Table 8. 12 invitations for interviews were sent in early December 2014 and 8 interviews were conducted in the period December 2014 and January 2015.

Table 8: Countries selected for the survey

	CDM Experience	Basic / great effort in assessing SD	SD tool use	Size	Invitation for interview accepted
Brazil	high	great effort	no	large	yes
Thailand	medium	great effort	yes, 1 report	medium	no
Cambodia	low	request for support on monitoring SD benefits at EB79	no	small	yes
India	high	basic	yes	large	no
South Africa	medium	great effort	yes, 1 report (supranational PoA)	medium large	no
Uganda	medium	basic	no	medium	yes
China	High	basic	6 reports	large	yes

The interview concept

In order to obtain the highest amount of information and to achieve a high degree of comparability, we developed a semi-structured interview guide that:

- Contains a very short introduction of the interview topic that will lead into the interview itself and;
- Structured questions aimed at capturing the wealth of in-country views as described in the box below

Interview topics for semi-structured interviews

The following list represents the main topics covered in the survey. The full questionnaire is included in Annex 1.

Domestic experience with SD assessment of CDM projects:
- Elaboration of nationally appropriate SD criteria
- Approval process for granting Letters of Approval (LoAs)
- DNA capacity needs to follow up on initial SD assessments, and to verify that CDM projects contribute to national SD criteria
- Views on procedures for elaborating additional effort for project proponents
- Procedures for stakeholder involvement
- Safeguards against negative impacts
- Needs for MRV of SD co-benefits

SD tool specifics
- General individual views or experience on / with tool
- Evaluation of the additional effort and the usability of the tool
- Possibilities for expanding the tool
- Views on making the tool mandatory
- Interaction with CDM project developers submitting the SDC report

Beyond the tool – National sustainability assessment and other mitigation actions
- Options and views on quantification and valuation of SD co-benefits
- Possibilities to enhance domestic dialogues on Sustainable Development through strengthening SD within CDM
- Usefulness of the tool in terms of harmonization of SD efforts within other mechanisms
- Interest in certification of carbon units with national Sustainable Development impacts
- Compliance with a human rights based approach in all climate change actions

Interviews

The interviews were conducted in two ways depending on the availability of the informant: 1) live during week one of the COP 20 in Lima or 2) over the telephone in December/January. Interviews followed the interview guide developed in the previous step and were recorded for back-up and verification. Notes were taken during the interview complemented by the sound record to capture details. Transcriptions have not been made and original data is treated with confidentiality. Interviewees were invited to speak in their capacity as representatives of an institution, from the perspective of the

position they hold and their role in relation to SD assessment of CDM projects. By not mentioning names and positions of people interviewed the information is treated as semi-anonymous.

Interviewees were as follows:

- Ministry of Water and Environment, DNA Uganda
- Ministry of Science, Technology and Innovation, DNA Brazil
- Ministry of Environment, DNA Cambodia
- National Development and Reform Commission (NDRC), DNA China
- Market Development Department, Swedish Energy Agency, Sweden
- Swiss Carbon Assets Ltd. / Pure Water Ltd. (companies of the South Pole Group) Developer of multi-country PoA in Africa on International water purification program
- Green Development AS, Developer of multi-country PoA in Africa for the Reduction of emission from non-renewable fuel from cooking at household level
- Enaex, Developer of the Catalytic N2O destruction project, Chile

3.1.2 Analysis of the literature and interviews to assess usability of the EB's SD tool for host country DNAs and other users

The analysis of knowledge from the literature review and interviews on the usability of the EB's SD tool for host countries and other users of sustainability assessment of CDM projects covers two broad analytical dimensions:

1. **Concrete experience with SD appraisal of CDM projects, and specifically with the EB's SD tool.**
   We evaluate the needs and difficulties of host countries, and the views they have expressed on possible further elaborations of the tool. The analysis differentiates between experiences by DNAs with domestic SD assessment procedures, and concrete first experiences with the voluntary SD tool. This differentiation serves to draw a more complete picture on opportunities and pitfalls for SD assessments in national circumstances.
2. **Lessons learned for SD appraisal in general, how SD tool experience can be relevant beyond CDM**
   We compare and analyze the interviewees' answers in order to arrive at some more generalized lessons that can be drawn from interviewees' experiences for the DNAs' assessment of SD impacts in general. We complement our findings with existing literature's conclusions to bolster the analysis. At this more abstract dimension, lessons learned will go beyond specific CDM national experiences and explore the relevance of SD appraisal for other mitigation mechanisms.

3.2 Synopsis of literature review of DNA practices for SD assessment of CDM projects

Since early reviews of the CDM's contribution to Sustainable Development (Olsen 2007; Paulsson 2009), the literature has proliferated with 377 articles on the topic of 'CDM and Sustainable Development' found in the Web of Science by January 2015. Focusing on the subset of articles addressing governance of the CDM's contribution to SD and particularly the role of host country DNAs, the review covers 18 studies from both the academic and grey literature including technical and policy papers (see Annex 2 for an overview literature reviewed). The review consists of three parts addressing the following issues: 1) State of knowledge on the CDM's contribution to SD, 2) Governance of the CDM's contribution to Sustainable Development – the role of host country DNAs, market players and global rules and 3) Evaluation of the EB's SD tool.

3.2.1 State of knowledge on the CDM's contribution to SD

The early literature reviews of the CDM's contribution to SD concluded that without a price on the SD co-benefits of CERs in the carbon market, the CDM does not significantly contribute to Sustainable Development (Olsen 2007; Paulsson 2009). Since then, new topics explored in the literature include a broad range of issues, such as how to direct CDM projects towards national SD priorities for energy technology in five developing countries (Karakosta, Doukas et al. 2009), the SD contribution of composting projects (Rogger, Beaurain et al. 2011), win-win outcomes for stove replacement programs (Simon, Bumpus et al. 2012) and if the CDM can deliver SD for rural communities (Subbarao and Lloyd 2010).

Key questions and issues identified in the early literature remain as challenges, in particular: 1) The lack of a common definition of what Sustainable Development means, which makes it hard to measure and compare SD impacts across countries in an objective manner; 2) The trade-off between the two objectives of the CDM known as a 'race-to the-bottom' (Sutter and Parreño 2007), where competition among host countries for CDM investment creates an incentive to lower the SD standards to attract investment; and 3) The role of host countries institutional capacity to govern that CDM contributes with SD benefits to the country.

In the absence of a common definition of Sustainable Development, the most common approach to answer the question 'how does the CDM contribute to SD' is a project-by-project approach based on various definitions of SD. In 2011 and 2012, the UNFCCC published a report on the 'Benefits of the Clean Development Mechanism' (UNFCCC 2012a). The SD benefits were assessed project-by-project using a definition with SD indicators to analyze the claims in PDDs of 3,864 projects registered by June 2012. Acknowledging that claims in the PDD at project design stage may not materialize during project implementation, a survey of 392 projects was conducted to compare PDD statements with actual SD impacts of projects implemented. The reliability of the SD assessment verified by the survey suggests that almost all CDM projects claim multiple Sustainable Development benefits, which vary considerably by project type.

This positive conclusion is supported in a study by He, Huang et al. (2014) that adopt a different measure of Sustainable Development, namely the sustainability adjusted Human Development Index as the standard measure for life expectancy, literacy, education and standards of living applied across 58 host countries. Contrary to the earlier, more negative research findings, this study finds significant evidence that CDM project development can contribute to SD efforts in a given host country should all CERs be realized. These results lend support to CDM as an effective mechanism contributing to global sustainability.

In spite of the growing knowledge on the topic, the High-Level Panel of the CDM Policy Dialogue in 2012 concluded that 'it is not possible to reach a definitive conclusion on the Sustainable Development impacts of the CDM to date, given the insufficiency of objective data' (Dialogue 2012). The Panel was set up in 2011 by the Executive Secretary of UNFCCC, Christiane Figueres, and the Chair of the CDM Executive Board to independently make recommendations on how to position CDM in response to future challenges and opportunities and ensure the effectiveness of CDM in contributing to future global climate mitigation. The conclusion on the CDM's contribution to SD is based on a wide-ranging research program and extensive stakeholder consultations. Insights are that stakeholders hold divergent views, on whether or not the CDM has assisted host countries to achieve SD.

Many stakeholders believe that CDM has been successful, which is supported by research findings as described above (UNFCCC 2012a; He, Huang et al. 2014). Other stakeholders hold the position that the CDM has not contributed significantly to SD for a number of reasons: the CDM has had negative impacts in some cases (TERI 2012) and is associated with human rights violations (Schade and Obergassel 2014). Some stakeholders take the view that host countries lack the capacity to make effective

SD assessments. The responsibility to govern the CDM's contribution to SD is delegated to the national level but without a common international definition of SD (Olsen and Fenhann 2008) and with a lack of strong SD approaches at host country level this has led to a lowering of standards and the impacts for SD being compromised. A rich literature explores these issues and is reviewed in more detail below.

3.2.2 Governance of the CDM's contribution to SD

The literature on governance of the CDMs contribution to SD falls into two categories focusing on 1) the role of host country DNA practices for approval of CDM projects and 2) the role of market players and global rules.

3.2.2.1 Host country DNA practices for approval of CDM projects

Three categories of issues are explored in the literature regarding the role of DNA practices for governance of the CDM's contribution to SD at national level: 1) The host country policy and institutional framework (Ganapati and Liu 2009; Rindefjall, Lund et al. 2011; Buhr, Thorn et al. 2012; Koakutsu, Tamura et al. 2012); 2) Approaches to define national SD criteria and processes for issuing Letters of Approval (LoA) (Olsen and Fenhann 2008; Bumpus and Cole 2010; TERI 2012; Tewari 2012) and; 3) Technicalities related to DNA capacity and how they operate in practice (UNFCCC 2014a).

The role of policy and institutional frameworks for DNAs

Host countries' institutional and policy frameworks is argued to be an overlooked issue, not sufficiently understood compared to governance from above at the global level (Ganapati and Liu 2009; Buhr, Thorn et al. 2012). Theoretically, institutional perspectives are applied to understand the role of rules and regulations at national level, how norms and values in social contexts determine DNA practices and how international guidelines are open to interpretation by host countries. Empirically, the role of host country policy and institutional frameworks are explored in a number of case studies from China (Buhr, Thorn et al. 2012), India (Ganapati and Liu 2009), Chile (Rindefjall, Lund et al. 2011), Latin American (Figueres 2004), Asian (Koakutsu, Tamura et al. 2012) and African countries (Disch 2010; Karakosta, Marinakis et al. 2012). For instance, China's DNA is found to be relatively more powerful than the Indian DNA (Ganapati and Liu 2009).

China's DNA is hosted by the National Development and Reform Commission (NDRC) set up in 2003 based on two energy and economic commissions and has played a key role in implementing energy saving measures. Climate change has never been a stand-alone-issue in China's policy agenda, but is closely linked with other problems such as energy consumption, economic growth and environmental protection(Koakutsu, Tamura et al. 2012). This policy approach is reflected in China's regulatory requirements to CDM projects, which do not specify any specific SD criteria. Rather, the approach consists of policy guidelines, three priority areas for CDM projects to contribute to a low carbon transition (energy efficiency, renewable energy and methane recovery and use), differentiated tax rates based on project types (2% for priority projects, 30% for N2O projects and 65% for HFC and PFC projects), price guidance with a floor price for CERs and a 49/51 eligibility rule favouring Chinese ownership of projects (Buhr, Thorn et al. 2012).

In India, the DNA is hosted by Ministry of Environment and Forests, which does not hold a powerful position in the Government of India compared to the NDRC in China. India has a National Action Plan for Climate Change since 2009, which sets out eight missions for climate change and Sustainable Development targeted at two issues: long term energy security through renewable energy/energy efficiency and reducing GHG emissions. The DNA follows a common approach to CDM governance based on a project-by-project assessment according to a checklist of SD criteria known as economic, social, environmental and technological well-being. The SD criteria are described as broad and en-

compassing, and the Indian approach is seen to focus more on promoting CDM investments than on safeguarding its contribution to Sustainable Development (Rindefjall, Lund et al. 2011).

In Chile, the concern for Sustainable Development is a recent phenomenon and the only procedural rules for CDM approval is the Environmental Impact Assessment (EIA); no explicit SD criteria exist (Rindefjall, Lund et al. 2011). The DNA is hosted by a national environmental commission, known as CONAMA. Operational activities are delegated to an inter-ministerial committee. As Chile has been successful to attract CDM projects, the lack of SD criteria reflects that the 'race to the bottom' is not necessarily a structurally determined outcome, but a deliberate choice to prioritize economic development above sustainability. For other Latin American countries, an early study argued that most countries do not have a strong approach to achieve SD outcomes (Figueres 2004). DNAs are typically not integrated into the mainstream framework for development planning and the checklist approach to a project-by-project approval of projects is not instrumental to support a national or sectoral transition to low carbon development.

A general finding across the case studies is that national policy and institutional frameworks for DNAs matter greatly for their capacity to steer the CDM's contribution to national development goals. However, what is seen as nationally appropriate differs widely, both in terms of how the CDM should function and the national priorities it should support.

Approaches to define national SD criteria and processes for issuing Letters of Approval

Knowledge about actual approaches to define national SD criteria and DNA procedures for approval of projects exists in a number of studies (Olsen and Fenhann 2008; Bumpus and Cole 2010; Koakutsu, Tamura et al. 2012; TERI 2012; Tewari 2012); however, a comprehensive, consistent overview of all host country DNAs with easy access to relevant information does not exist.

Based on Asian case studies, Koakutsu, Tamura et. al. (2012) identify three types of approaches to promote SD through the CDM: 1) Assessment based on checklists and SD criteria; 2) A fund for Sustainable Development based on taxes and levies differentiated by project types and 3) Certification of projects according to an international or national standard for SD assessment such as the Gold Standard or the Crown Standard by the Thai Government. Comparing the three approaches with regard to their advantages and disadvantages to ensure that SD outcomes are achieved, Koakutsu et. al. argue that the certification approach is best, though it is so far only found in Thailand. Certification promotes a higher standard for SD, internalizes the SD benefits in the price of CERs and incentivizes project developers to consider the co-benefits of their emission reduction projects.

In a study entitled 'Mapping of criteria set by DNAs to assess Sustainable Development benefits of CDM projects' by Tewari (2012), the checklist approach is found to be the most common followed by a scoring approach based on SD indicators, which is often used in certification schemes. Data for the study covers a sample of 50 countries including a survey with 10 DNAs responding, websites from 29 countries and information available in the literature. Out of the 50 countries, SD criteria for 20 countries could not be accessed, as some DNAs do not have a website, others do not web-host their SD criteria or information was not accessible due to language issues or other technical problems. Based on the data available, the study maps the SD criteria used for 30 countries and summarizes findings in a list of the most commonly used SD criteria by DNAs in three categories: economic/technological, environmental and social. The mapping shows that the concepts, categorization and prioritization of SD criteria vary highly among countries, but most DNAs use the criteria as a reference for a project-by-project approval of projects, with the exception of China and countries with no SD criteria available.

The approval processes to issue a Letter of Approval (LoA) are compared for 7 countries by Olsen & Fenhann (2008) and for 30 countries by Tewari (2012). Findings are that a number of other require-

ments than SD criteria are made by DNAs to issue a LoA. Usually the project is not expected to fulfill all the SD criteria but only describe the ones that will be achieved. Commonly, the PDD is the basis for the assessment against SD criteria and almost all countries have representation from key ministries in an inter-ministerial committee to support the DNA in its decision-making. Most countries promise speedy decision processes between 2-4 weeks for the voluntary option of issuing a Letter of No Objection (LoNO) based on the Project Idea Note (PIN) and 1-2 months to issue the mandatory LoA based on the PDD and various supporting documentation. The use of other eligibility criteria for approval of CDM projects varies significantly between countries; it ranges from compliance with domestic laws to requirements for an Environmental Impact Assessment (EIA) depending on the project type.

DNAs, however, are increasingly becoming more pro-active and want to follow-up on SD claims during project implementation. In the early days of the CDM no country required that the expected SD benefits were monitored on an equal basis with GHG reductions to verify that they are real and measurable (Olsen and Fenhann 2008). Yet this is currently changing with innovative approaches being developed (Tewari 2012): the Peruvian DNA has introduced site visits and documentation for community acceptance, Rwanda requires updated SD checklists and documentation for impacts at verification stage, India has introduced more detailed SD provisions and a 2% levy on large-scale projects, Thailand, Philippines and Georgia have introduced a scoring of SD indicators and Kenya and Malaysia DNAs have identified priority sectors for approval.

Contrasting substantive issues such as definitions of SD based on country specific criteria and indicators with procedural rules such as national requirements and practices for stakeholder involvement, monitoring and verification of SD claims, Bumpus and Cole (2010) argue that strengthening of SD impacts of CDM at the national and local level is about understanding and regulating power relations. Procedural rules are found to be more important than e.g. SD criteria for screening of PDDs. To open for practical improvements of SD delivered at local level, transparent and clear information is needed in the project implementation processes focusing on opening the 'black box' of how DNAs operate to ensure that CDM contributes to Sustainable Development.

Technicalities related to DNA capacity and how they operate in practice

As part of a technical paper on possible changes to the CDM modalities and procedures (M&Ps), the UNFCCC Secretariat has compiled a list of issues for further elaboration of the role of designated national authorities (UNFCCC 2014b). A number of Parties and stakeholders have suggested enhancing the role of DNAs in the CDM. Areas of focus are generally in relation to governance, transparency and technical aspects. The list of issues include: to clarify the role of DNAs, increase transparency of DNA operations, allow DNAs to validate CDM activities, handling of complaints or stakeholder comments and further elaborate the requirements for the content and form of LoAs. No decisions were made on revised M&Ps at CMP 10 in Lima. The SBI negotiations on possible changes to M&Ps for the CDM will continue at the June 2015 session in Bonn with an aim to conclude by CMP 11 in Paris.

3.2.2.2 The role of the market and global rules

Realising the weaknesses of host countries' capacities to govern the CDM's contribution to SD, i.e. that most DNAs have very general SD criteria, that claims made by projects are typically not thoroughly assessed and that stakeholder consultations are often poorly documented, market players and global rules offer complementary solutions to strengthen the CDM projects' and programs' SD benefits.

The market demand for labeled credits is directly related to evidence suggesting 'that host countries are failing to ensure SD benefits of CDM projects' (Parnphumeesup and Kerr 2011). The rationale for sustainability labels is for the market to provide the solution to high-quality SD benefits of CDM

projects, assuming there will be a segment of buyers, which is big and strong enough to increase the market share. The willingness to pay a premium price for labeled SD benefits is found to be in the order of Euro 1/CER for documented SD benefits (Parnphumeesup and Kerr 2011). Parnphumeesup and Kerr identify and classify two clusters of buyers and find that the carbon market can be divided in two: the premium market and the normal market. The premium market is characterized by buyers, who believe there is a need for the Gold Standard (GS) label to guarantee that SD benefits are delivered and for the CDM to better contribute to SD. Typically, non-profit organizations and government buyers are members of this segment. However, other studies find that labeled CDM activities only slightly outperform comparable ordinary projects (Nussbaumer 2009) and there is not a detectable potential SD surplus generated by the Gold Standard (Drupp 2010). Furthermore, sustainability labels have never developed beyond a small niche of the compliance market and continue to attract only a small share of the overall carbon finance available (Wood 2011).

Another solution to counter weaknesses in host countries' governance of the CDM's contribution to SD is to strengthen rules at the global level. Torvanger, Shrivastava et al. (2013) believe a reformed CDM will be part of a new climate agreement by 2020 and argue, there is a need to put a price on the SD benefits to strengthen the delivery of outcomes. Facing challenges to simultaneously deliver the two objectives of the CDM – offset production (OP) and Sustainable Development (SD) – e.g. due to extra costs for MRV of SD benefits not benefitting the production of CERs, two tracks are proposed to strengthen both objectives, separately. The primary requirement for an SD track is a common, international definition of SD and its criteria. The EB's SD tool at UNFCCC level is found to be a first step in this direction. SD impacts would have to be MRV'ed but due to the fact that quantifying and measuring SD is difficult and costly, a more simple approach is proposed. The SD benefits could be 'graded' rather than given an exact number and the CDM Executive Board could develop methodologies for arriving at these 'grades'. The expected 'grades' for SD impacts would have to be validated and verified by Designated Operational Entities (DOEs) and the grades could then be linked to a price premium. To ensure demand for the SD track, it is suggested that the CMP introduce a binding quota for the share of CERs to be certified, e.g. 50% of CERs purchased must be certified through the SD track.

Concerned about the negative social and human rights impacts of some CDM projects, Schade and Obergassel (2014) argue that the UNFCCC could and should require all CDM projects to undergo mandatory safeguards based on a human rights impact assessment (HRIA). Projects with negative impacts should be ineligible for registration. In 2010 at COP 16 in Mexico, governments acknowledged 'that Parties should, in all climate change related actions, fully respect human rights'. However, human rights are not mentioned anywhere in the CDM's rules and procedures. Based on two case studies of Bajo Agua´n in Honduras and the case of Olkaria in Kenya, the study finds that the CDM projects feed into pre-existing conflicts related to land ownership. From both cases it follows that host country governments are responsible for human rights infringements and at the same time responsible for ensuring a projects' contribution to Sustainable Development and adequate stakeholder consultations. The paper therefore argues that it is important to develop mandatory human rights safeguards at the UNFCCC level.

3.2.3 Evaluation of the EB's SD tool

An evaluation of the use of the tool was requested by the CMP in 2013 to assess whether the SD tool, through its use, meets its purpose and achieves its expected impacts. The evaluation was carried out in July 2014 with a survey being sent to 4,626 stakeholders (4,363 PPs, 167 DNAs and 96 investors) with 137 responses (2.9% of which 100 were from PPs, 24 from DNAs and 13 from investors) (UNFCCC 2014a). The evaluation recognizes that PPs are the primary users of the tool, while DNAs and investors are potential users of the SD co-benefits (SDC) reports generated by the tool.

The survey was designed to evaluate stakeholders' awareness of the availability of the tool, to test their perception of whether the tool meets its objectives, and to assess their intentions regarding cur-

rent or future use. Key insights are that among PPs (100) 41% are aware of the tool, 64% agree the tool highlights the SD co-benefits in a structured, consistent and comparable manner, 9% have accessed or used the tool, 39% plan to use it, 100% agree that the structure and criteria of the tool meet their needs, 73% expect to use the SDC report to promote their project to investors at pre-registration stage and 93% expect to use it for showcasing the co-benefits to increase the value of the CERs on the market. Among DNAs (24) 71% are aware of the tool, 83% agree the tool highlights the SD co-benefits in a structured, consistent and comparable manner and 92% plan to refer to the tool when approving CDM projects at national level. Among investors (13) 77% agree that the SD co-benefits are factored into investment decision-making and 69% agree that the SDC reports help with investment decisions.

Interestingly, an analysis of the content of the SDC reports found that 9 out of 13 PPs were willing to have claims in their SDC reports verified by a third party, the PPs considered the SD tool applicable to both projects and programs of activities covering a variety of project types, and the structure of the tool was considered to enable aggregating information across projects.

In conclusion, the SD tool is found to meet its objective as a voluntary measure to highlight the co-benefits of CDM activities, while maintaining the prerogative of Parties to define their national Sustainable Development criteria.

3.3 Interview perspectives, analysis and comparison of the needs and difficulties to use the EB's SD tool

Complementing the broad UNFCCC evaluation send to 4,363 stakeholders this study goes into details through eight qualitative interviews to explore country and project developer experiences with SD assessment of CDM projects, concrete experience with use of the EB's SD tool and how this experience can be relevant beyond CDM for other mitigation mechanisms and national Sustainable Development goals.

3.3.1 Overview of interviews

The eight interviews represent a diversity of perspectives and fall in two groups; 1) host country DNAs from Asia, Latin America and Africa and 2) project developers' and a government buyer perspective from Sweden. Among the four host country DNA perspectives, Brazil and China represent large sized countries with a high level of CDM experience and domestic capacity to approve a CDM project's contribution to national Sustainable Development priorities. The Uganda and Cambodia DNAs represent respectively a medium sized and a small sized country with medium and little experience in approval of CDM projects. Cambodia has requested technical assistance from the UNFCCC Secretariat to monitor the SD benefits of CDM projects and China is the only of the four countries, where the EB SD tool has been used by project developers.

Among the three project developers Enaex from Chile has applied the EB SD tool to a CDM project in the chemical industry titled 'Catalytic N_20 destruction', a project which has been running for three years. The South Pole has applied the SD tool to a multi-country PoA in Africa for water purification and Green Development from Norway has experience from a multi-country PoA for energy efficient cooking stoves also in Africa. The perspective from Sweden is included to share experience with use of the EB SD tool by a government buyer that politically prioritizes CERs from projects that are documented to have a high contribution to Sustainable Development benefits and no negative impacts. An overview of the interviews is presented for comparison of perspectives in Table 9 below.

Table 9: Overview of interviews regarding usability of the EB SD tool

	Uganda (DNA)	China (DNA)	Cambodia (DNA)	Brazil (DNA)	Sweden (buyer)	Sweden (buyer)	Green Development, Norway (PP)	Enaex, Chile (PP)	South Pole, Switzerland (PP)
	Experience with SD assessment of CDM projects								
What SD criteria are used?	Checklist	No SD criteria	Checklist	Checklist	Prioritisation of EE, RE & biogas/ methane projects.	Prioritization of EE, RE & biogas/ methane projects. No SD criteria	DNV-GL Global Carbon Development Benefits Standard (draft)	SD criteria defined by the company	Host country SD criteria
How is the LoA decision/SD assessment made?	Ranking of SD criteria/Inter-ministerial committee	Compliance with eligibility criteria/Inter-ministerial committee	Scoring/Inter-ministerial committee	Assessment/Inter-ministerial committee	Comprehensive Due diligence including site visit, supported by modified version of draft EB CDM SD tool incl. safeguards and LSC procedures	Due diligence based on draft EB CDM SD tool incl. safeguards and LSC procedures	Methodologies are developed for quantifying development benefits	Use of EB SD tool and LoA obtained from DNA	PoA-DD the basis of LoA

	Uganda (DNA)	China (DNA)	Cambodia (DNA)	Brazil (DNA)	Sweden (buyer)	Sweden (buyer)	Green Development, Norway (PP)	Enaex, Chile (PP)	South Pole, Switzerland (PP)
Is there interest and capacity to monitor and verify SD claims?	Yes, but little capacity	No interest	N/D	Yes, sector ministries follow up, not DNA	Yes, modified version of SD tool is sent to PPs and SDC report as part of follow-up, including before follow-up site visits.	Yes, SD tool is sent to PPs and SDC report for site visits & follow-up	Yes, SD benefits to be certified and sold in their own value or internalized in the CER price	Yes, the company will follow up on SD impacts	The company is client driven, so only if clients demand follow-up and will pay it
Is there a need for safeguards against negative impacts?	Guidance needed	Yes, other agencies take care of this	N/D	No, safeguards and LSC are part of EIA	Yes,important focus to avoid negative impacts	Yes, focus is to avoid negative impacts	No, too costly. LSC do not add value	No, we use ISO certification 1909 for quality assurance	N/D
Are there additional requirements for approval?	EIA is required except for clean technologies	EIA, oral presentation, tax, 49/51 rule, licenses, ERPA	EIA is required for some projects	EIA, validation report, LSC procedures. Example of LoA withdrawn	Comprehensive Due Diligence including observations from site visit.	Draft SD tool is used to structure the due diligence /SD assessment	DNAs should not be involved due to low capacity & risks of corruption	DNA Chile does not have SD criteria and do not follow up after LoA	LSC were important to DNA

	Uganda (DNA)	China (DNA)	Cambodia (DNA)	Brazil (DNA)	Sweden (buyer)	Sweden (buyer)	Green Development, Norway (PP)	Enaex, Chile (PP)	South Pole, Switzerland (PP)
	Experience with use of the SD tool								
Has the SD tool been used?	No	No, there is no dialogue between PPs using the tool and DNA China	No	No	Yes, a modified draft EB SD tool is used incl. safeguards and LSC guidance	Yes, the draft EB SD tool is used incl. safeguards and LSC guidance	Yes, SDC report submitted to UNFCCC	Yes, SDC report submitted to UNFCCC	Yes, SDC report submitted to UNFCCC
What is the general view of the tool?	Very useful	Not useful to China	Useful to PPs	Not useful to Brazil, only to PPs	Very useful, but strong weakness in approved version	Very useful, but strong weaknesses	Very useful, but too simple. Quantification is needed	Very useful and clear	Useful, it goes into a lot of detail without quantification
Is the tool a simplification or additional effort?	Simplification	N/D	N/D	Simplification	Simplification	Simplification	Simplification	Simplification	Simplification
Options to expand use of the tool	SDC report useful for local stakeholder consultations	Could be useful in China's national carbon trading system	Strengthen LSC procedures	No role for the tool in relation to national SD criteria	Address risks of negative impacts, LSC & safeguards.	Address risks of negative impacts, LSC & safeguards for HRs. SDC report to be published with validation and	Extend use of the tool for standardization across countries	SD tool useful for other projects in the company, not only CDM	Quantification based on UNFCCC guidance, requirements for validation and verification of SD claims

	Uganda (DNA)	China (DNA)	Cambodia (DNA)	Brazil (DNA)	Sweden (buyer)	Sweden (buyer)	Green Development, Norway (PP)	Enaex, Chile (PP)	South Pole, Switzerland (PP)
						verification reports			
Should the tool be mandatory for PPs to use?	Yes, this is being considered for issuance of LoA	No, voluntary only	N/D	No, voluntary only	It could provide transparency to the market	Yes, it gives transparency to the market	No, not all projects need it	Yes, it makes sense to MRV SD benefits	No, we only responded to a client request
	Relevance of the SD tool beyond CDM								
Is there a need for quantification and monetization of SD co-benefits?	Yes	No, PPs should not do more work	Maybe, but it requires more effort	Yes, this is tough. Countries must do it, a study is ongoing	Qualitative assessment is sufficient, so far	No, qualitative assessment is sufficient, so far	Yes!	Yes, it would be useful to get a holistic perspective on the project	Yes
Can the tool enhance domestic dialogues on SD?	Yes, SD criteria reflect macro-economic priorities	No	N/D	N/D	Yes, the tool can give support to domestic dialogues and thereby enhance the credibility of CDM Projects	Yes, the tool can enhance the credibility of CDM projects	Yes, the tool can strengthen domestic SD assessment	Yes, it would be useful for DNA if they gave us a uniform report format	Yes, it could greatly enhance the value of mitigation-actions

	Uganda (DNA)	China (DNA)	Cambodia (DNA)	Brazil (DNA)	Sweden (buyer)	Sweden (buyer)	Green Development, Norway (PP)	Enaex, Chile (PP)	South Pole, Switzerland (PP)
Can the tool assist to harmonize SD efforts across mitigation mechanisms?	Yes, expanded to a NMM/FVA and NAMAs for harmonized reporting	Yes	Yes, SD assessment across mechanisms should be similar	N/D	Yes, the tool could potentially harmonize SD assessment across countries for transparency	Yes, the tool could harmonize SD assessment across countries for transparency	Yes, we need a common standard across mitigation mechanisms	Yes, any tool to harmonize across mechanisms would be useful	Yes, the SD tool framework is broad enough to compare across mechanisms
Is there an interest in certification of SD co-benefits?	Yes, Gov. of Uganda should do certificates based on an international standard	No	Yes, a national standard would be best	N/D	Yes, given credibility and sufficient quality of service.	Yes, if good enough. The Gold Standard is a commercial tool to enhance price	Yes, a global standard incl. quantification of development benefits	Yes, third party validation and verification can show SD efforts to the world in a valid way	Yes, interest is there from the market (buyers) and from government (NAMAs)
Can human rights be strengthened through the SD tool?	Yes	N/D	Yes	No, HRs issues are taken care of nationally	Yes.	Yes, but not through DNAs	Yes, but this is political. Projects should not document compliance with HRs	The company uses the 'UN Global Compact' to document respect for HRs	Yes, safeguards for HRs would be useful but not demanded by clients

3.3.2 Comparison of host country and user experiences with SD appraisal

The interview questionnaire structures the comparative analysis of host countries and other users' needs and difficulties to use the EB's SD tool as shown in Table 2. This section presents a synthesis of our findings in context of insights from the literature review to identify more general challenges and opportunities for use of the EB SD tool of relevance beyond the concrete survey results.

3.3.2.1 Host country DNA experiences

Except China the other three countries use a checklist of SD criteria as the basis for approval of CDM projects on a project-by-project basis. The SD criteria all relate to three or four dimensions of Sustainable Development; environment, social and economic, sometimes technology as a separate dimension or part of the economic dimension. However, the exact concepts and priorities for SD vary among countries reflecting different national priorities and processes of assessment. Cambodia includes 'demining' as an SD goal due to problems with old landmines. They score impacts as positive, negative or neutral and ask project developers to take action, if there are too many negative impacts. Uganda uses ranking of SD criteria according to national SD priorities and Brazil makes an assessment according to sector goals for SD. One eligibility criterion is similar across all countries, namely the Environmental Impact Assessment (EIA) being a requirement for almost all CDM projects with a few exceptions such as for clean technologies. Other requirements vary widely, e.g. whether an oral presentation is needed as in China, documentation needs for compliance with national laws and licenses, the importance and procedures of local stakeholder consultations as part of the EIA or specific to CDM, whether the validation report is required before the LoA as in Brazil and if procedures exist for withdrawal of the LoA in case of community or stakeholder complaints during implementation as in Brazil and under consideration in Uganda.

The decision to issue a LoA is made by an inter-ministerial committee in all countries that involves representatives from key ministries. DNAs are hosted by Ministries of Environment in Uganda and Cambodia, by the Ministry of Science, Technology and Innovation in Brazil and by the National Development and Reform Commission (NDRC) in China. From the literature review it is known that the institutional set-up plays a key role for the integration of the CDM and other mitigation actions into development planning. While SD criteria in principle reflect national SD goals and priorities, the project-by-project approach used by most DNAs, except China, is not considered strong in terms of mainstreaming low carbon development and sustainability concerns into sectoral and national planning. The Chinese approach is considered more efficient than a project-by-project screening, as priority areas for CDM projects in energy efficiency, renewable energy and methane recovery saves transaction costs for SD screening and ensures CDM's contribution to national priorities. However, this approach does not ensure a strong contribution to SD at local and community levels, where procedural issues such as stakeholder involvement, monitoring and evaluation and safeguards against negative impacts, are known to be of high importance (Bumpus and Cole 2010).

While there is interest to monitor and verify SD claims in Uganda and both an interest and capacity in Brazil through sector ministries, there is no interest in adding extra procedures in China. Regarding safeguards against negative impacts, Uganda would like more guidance and Cambodia is the only country and DNA so far, who has responded to a call from the UNFCCC Secretariat in May 2014 to request technical assistance for development of guidelines for local stakeholder consultations and assistance with monitoring of SD benefits. The country perspectives reveal a division between Brazil and China on the one hand, being large developing countries and Uganda and Cambodia, being medium and small sized countries on the other hand. Big countries with capacity refer to domestic institutions and procedures already being in place and see no need for additional guidance or rules from international level, while the small and medium sized countries are more interested and open to guidance offered to build capacity and strengthen national procedures. In the literature, innovative approaches are identified in a number of countries such as Peru, Rwanda, Thailand, Philippines,

Georgia, Kenya and Malaysia introducing new procedures to score SD impacts, follow-up on monitoring of SD impacts and identifying priority areas for approval (Tewari 2012). However, there is little evidence from the response to the Secretariats' offer for technical assistance to indicate that these issues are considered a priority to host countries more generally.

3.3.2.2 Project developer and buyer experiences

Experience from project developers and a buyer perspective on host countries' abilities to set national standards and steer the CDM towards high benefits for SD is very negative in one case of the experts interviewed. In the three other cases host country performance generally falls short of what is expected in the market regarding transparency, consistency in SD assessment across projects, easy access to information and follow-up to demonstrate that claims are realized. As a consequence, standards and requirements for sustainability assessment are developed by market players in two cases: 1) from a government buyer in Sweden and 2) a project developer in Norway, both aiming to set higher standards beyond what is required by the host country DNAs and to avoid negative impacts.

The two proposals, however, are very different in approach focusing respectively on; 1) qualitative and procedural aspects of SD assessment in the case of Sweden to avoid negative impacts and on 2) quantitative SD assessment in the case of a Norwegian project developer concerned with demonstrating development benefits. The latter proposal is not interested in additional transaction costs and responsibilities to involve local stakeholders or document compliance with safeguards. The Swedish government buyer applies its own due diligence assessment and has introduced a modified version of the draft EB SD tool including safeguards for human rights, good labour practices, environmental protection, anti-corruption and land rights to avoid negative impacts and prioritising participation of local stakeholders and communities. As a government buyer with a high capacity, they are able to conduct their own site visits using the modified draft EB SD tool questionnaire as a basis for due diligence assessment and they have a program to follow-up during implementation that projects perform in line with what is expected.

The Norwegian project developer has developed a draft 'Global Carbon Development Benefits Standard' for quantification of development benefits in cooperation with DNV-GL, one of the largest DOEs in the market. This reflects a general trend and interest in the market to go beyond qualitative assessments of SD impacts and have solid methods for quantified SD assessment. Validation and verification by a Third Party is prerequisite for SD benefits to be priced in the carbon market, either separately as a value in itself or internalized into the price of CERs attracting a premium price. The experiences of the two other project participants is that SD assessment in one case is based on SD criteria defined by the company due to a lack of explicit SD criteria by the host country in Chile and in the other case based on host country SD criteria, applying the EB SD tool for transparency, as the client demanded it.

Regarding interest and capacity to monitor and verify that SD claims are met, the interviewed project developers all agree that this is desired (in one case, only if the client demands it and will pay for it). Responses are more mixed regarding the need for Local Stakeholder Consultations (LSC) and safeguards. One project developer is negative arguing this is too costly and the way LSC is carried out today with the project developer being responsible, the process does not add much value, as it can be manipulated to give the result desired. Doing it thoroughly implies extra costs for little value added. Contrary to this perspective, the Swedish government buyer sees these procedural aspects as more important than quantitative information on SD benefits. They see no need for the extra efforts of quantifying the benefits, as long as thorough, robust knowledge exists on what the benefits are qualitatively. In Chile, the project developer uses an ISO certification standard for quality assurance including safeguards against negative impacts and does not see the need for additional requirements in this area.

3.3.3 Concrete experience with use of the EB's SD tool

3.3.3.1 Host country DNA experiences

None of the four DNAs interviewed have used the tool and China and Brazil do not find it useful to their DNAs, only to PPs. This is no surprise, as the primary users of the tool are PPs, with DNAs and investors being potential indirect users, e.g. through use of the information in the SDC reports. China is the only DNA of the four interviewed where project developers have used the SD tool, but there has been no dialogue between PPs and the DNA. In Brazil, the DNA sees no role for the tool to strengthen national SD assessment. In spite of the tool not being used by DNAs directly, awareness of the tool is fairly good with 71% of DNAs knowing the tool (UNFCCC 2014a). In China, the tool is considered to be of interest outside of the CDM in context of the emerging national carbon trading system for a strengthened approach to SD assessment.

Contrary to DNAs in China and Brazil (large countries), Uganda and Cambodia (medium and small sized countries) do find that the tool is potentially very useful both to support DNA SD assessment and particularly to PPs. Options to expand use of the tool in Uganda and Cambodia are to use the SDC report as a basis for local stakeholder consultations and to strengthen LSC procedures. Uganda is considering the tool to be mandatory for PPs as a requirement for issuance of the LoA. In China and Brazil, there is no interest to make the tool mandatory, only voluntary. According to the UNFCCC survey, host country DNAs are generally positive towards the SD tool with 84% (of 24 DNAs) agreeing that the tool highlights SD co-benefits in a structured, consistent and comparable way and 92% planning to refer to the tool when approving CDM projects at national level.

3.3.3.2 Project developer and buyer experiences

All the project developers we interviewed have used the tool and find it very useful as a simple, standardized approach for qualitative declaration of the SD co-benefits of CDM projects. The government buyer from Sweden also finds the tool very useful, though with clear weaknesses as it does not address the risks of negative impacts through safeguards, neither does it include requirements on local stakeholder consultations and there are no provisions for monitoring, validation and verification of the SDC reports. Two of the PPs suggest that the tool should be expanded to also quantify the SD benefits according to standardized methods, applicable across countries following UNFCCC guidance including requirements for MRV of SD claims made. One of the PPs sees opportunities to expand use of the tool for quality assurance to other company projects outside the CDM.

PPs are divided on the question whether the tool should be mandatory to use. The buyer argues that the tool gives transparency to the market and developing a tool which could be accepted as mandatory to use would add credibility to the CDM as a mechanism. One of the PPs thinks it makes sense to make it mandatory including MRV of the co-benefits. Two of the PPs argue that it should not be made mandatory, as not all projects need it and it is only worth the extra costs if the client will pay for it.

3.3.4 How SD tool experience can be relevant beyond CDM

3.3.4.1 Host country DNA perspectives

Quantification and monetization of SD co-benefits is considered a tough job that would require a big extra effort by DNAs and PPs. Brazil finds there is a need for this at country level and is exploring how it could be done in an ongoing study by the ministry. Uganda also finds a need for it, as numbers and monetary values could make it more clear particularly to Ministry of Finance, how and how much mitigation actions contribute to national development. Cambodia finds there may be a need for it but is concerned about the extra efforts required. China does not see a need, as it would require PPs to do more work.

Countries are divided on the issue whether the tool can enhance domestic dialogues on SD and assist to harmonize SD efforts across mechanisms. In Uganda, the SD criteria reflect macro-economic priorities and the tool is welcomed to assist harmonizing reporting formats for new mechanisms such as Nationally Appropriate Mitigation Actions (NAMAs), New Market Mechanisms (NMMs), non-market approaches, Reduced Emissions from Deforestation and Degradation (REDD+) and Intended Nationally Determined Contributions (INDCs) that all aim to contribute to low carbon development. China and Cambodia also see opportunities for the tool to harmonize SD assessment but China does not see a role for the tool to enhance domestic dialogues on development priorities. Brazil and Cambodia have not yet considered this issue.

Certification of SD-co-benefits is considered of interest to Uganda and Cambodia on the condition that certificates are issued domestically according to a national standard informed by international guidance. China has no interest in certification and Brazil has not considered this. In literature on national approaches to SD assessment, the certification approach is argued to be a stronger approach than checklists to promote a high contribution to SD through internalizing the value of SD benefits in the price of CERs (Koakutsu, Tamura et al. 2012) or through a separate price mechanism for SD benefits (Torvanger, Shrivastava et al. 2013). An international standard for SD criteria such as the EB SD tool could be a first step towards a new mechanism to value SD benefits. SD certificates could be issued by a market player such as the Gold Standard, at international level by the UNFCCC Secretariat or by domestic authorities such as DNAs in line with national SD priorities.

Regarding compliance with human rights in climate change actions, Uganda and Cambodia agree that a human rights based approach can be strengthened through the SD tool. China has not considered the issue and Brazil does not see a need for this, as human rights issues are taken care of nationally by other institutions.

3.3.4.2 Project developer and buyer perspectives

Except for the Swedish buyer perspective, there is a clear agreement among PPs that quantification and monetization of SD co-benefits responds to emerging demands in the carbon market.

All the PPs and the buyer agree that there are important opportunities to strengthen domestic SD dialogues and harmonize efforts across mechanisms through use of the SD tool. It would be very useful and a significant simplification to PPs to have a uniform SD reporting format across projects and countries. Use of the tool can enhance the value of mitigation actions, strengthen transparency on SD impacts and increase credibility of the mechanism as a whole. Expanding use of the tool to new mitigation mechanisms is welcomed and the framework is believed to be broad enough to compare across different types of actions.

Certification based on the tool is of interest to all CDM project participants, on the condition the standard is good enough to also address e.g. negative impacts and not only focus on pricing of benefits. A global standard is preferred by one PP to include quantification of development benefits. Third party validation and verification is regarded as a prerequisite to demonstrate the credibility of claims made, that should be available for the world to see it. Interest in certification is found both in the market among clients and from governments that want to know SD benefits of mitigation actions to co-finance NAMAs.

Integrating a human rights approach to CDM projects is generally welcomed but with some reservations. From a company perspective already using the UN Global compact, new and additional requirements may add little extra value. One PP sees this as a very political issue and argues that projects should not be obliged to document compliance with human rights. Safeguards can be useful but are typically not demanded by clients.

3.4 Summary

In this chapter, we analyzed the literature and experiences with host countries, project proponents and a buyer's perspective on the usability of the EB's SD tool. This section summarizes the findings and lessons learned for DNAs and other stakeholders in using the tool for SD impact assessment of CDM projects and beyond, exploring synergies with sustainability assessment for broader national development and climate policy priorities.

In summary, the evaluation of the CDM SD tool, carried out by the UNFCCC Secretariat in July 2014 based on a survey to 4,363 stakeholders, is very positive and finds that the tool as a voluntary measure meets its objective to highlight the co-benefits of CDM projects, while maintaining Parties' prerogative to decide national priorities for Sustainable Development. Complementing these findings, semi-structured interviews with four host country DNAs and four user perspectives were carried out in this study and contribute with a rich material to understand the diversity of thinking, needs, challenges and opportunities for use of the EB's SD tool. In context of the literature review on governance of the CDM to contribute to Sustainable Development, the analysis leads to the following conclusions.

3.4.1 Experience with host country SD assessment and use of the EB SD tool

The SD tool is not directly useful to DNAs, as it is meant for PPs to use. China is the only DNA of the four approval bodies interviewed where project developers have used the tool, but with no dialogue between PPs and the DNA. Uganda and Cambodia, two medium and small seized countries, see several options to expand use of the tool to strengthen their capacity for SD assessment at national level, e.g. by using the Sustainable Development report (SDC) from the tool as a basis for local stakeholder consultations and by making the tool mandatory for PPs to use as a condition for issuance of the LoA. China and Brazil, on the other hand, are two big countries with high institutional capacity and do not see any direct role to play for the tool in relation to national SD assessment and approval.

More generally, the UNFCCC evaluation of July 2014 found that most DNAs are aware of the tool (71%), positive towards the tool highlighting SD co-benefits in a structured and comparable way (84%) and plan to refer to the tool, when conducting SD assessment for approval of CDM projects at national level (92%). However, the evaluation and interviews were conducted, respectively 4 months and 9 months after the SD tool was launched in April 2014, so it is still early days for countries and users to learn, what the tool is and can be used for.

In relation to host country DNA practices for SD appraisal and approval of CDM projects, the tool is similar to the checklist approach of most countries (e.g. Uganda, Cambodia and Brazil), which categorize co-benefits into three (sometimes four) dimensions of Sustainable Development: economic/technological, social and environmental. By providing a taxonomy of Sustainable Development benefits with three dimensions, 12 criteria and 70 indicators as a menu for structuring reporting on expected SD impacts of projects, the tool does not give an international definition of what SD means, but facilitates a structured comparison that respects Parties' prerogative to decide on national priorities.

Monitoring and verification of SD claims is not practiced systematically by DNAs, though Brazil and Uganda have experience with community complaints related to projects under implementation. In one case Brazil has withdrawn the LoA, though there are no established procedures for how to do it and what the implications should be. From the interviews and in the literature on DNA experiences with SD assessment (Tewari 2012), there is a clear, emerging interest to follow-up that SD claims are met, though some DNAs do not wish to add extra work and requirements to PPs (e.g. China) and are concerned about the extra efforts required (e.g. Cambodia). With the concept note on 'Voluntary monitoring of Sustainable Development co-benefits' discussed at the 82nd Executive Board meeting 16-20 February 2015 (UNFCCC 2015), new opportunities are considered to use the tool as a basis for

monitoring, validation and verification of SD claims in a standardized way that supports DNA practices.

Regarding safeguards against negative impacts of CDM projects, the draft SD tool had provisions for safeguards; however, the current tool is silent on this and does not address e.g. issues of compliance with human rights. Uganda would like to have more guidance in this respect and Cambodia has requested technical assistance from the UNFCCC Secretariat to assist with country specific guidance for monitoring of SD impacts and guidelines for local stakeholder consultations. China and Brazil refer to national institutions that already deal with such issues and do not see an interest in additional support from the international level. In the context of a human rights based approach to operationalize the COP decision 1/CP.16 that human rights must be respected in all climate related actions, there is both a mandate and a need to address safeguards for human rights at the UNFCCC level. As cases of human rights violations indicate that host country governments are responsible for human rights infringements, there is a need to introduce mandatory human rights safeguards in the governance of CDM at global level (Schade and Obergassel 2014).

From the perspective of users of the SD tool, all interviewees find it very useful and simple as a standardized, qualitative approach to SD assessment. However, a number of weaknesses are identified for the tool to meet user needs, particularly avoiding negative impacts and attracting a premium price for carbon credits with high Sustainable Development benefits. The tool does not include safeguards to mitigate risks of negative impacts, it does not include provisions for stakeholder consultations to enhance local SD benefits, it does not provide modalities for monitoring, validation and verification and it only makes a qualitative, not a quantitative assessment of benefits.

Comparing user needs with host country DNA practices for SD assessment, national standards fall short of meeting expectations in the premium market. Long-known problems of disincentives for countries to set high SD standards, known as a 'race-to-the-bottom' (Sutter and Parreño 2007) for low SD requirements to better attract investments, are still at play and Sustainable Development is not priced in the compliance market, only through voluntary certification schemes. Furthermore, the capacities and priorities of host countries differ widely and the role of DNAs in governing the CDM's contribution to SD is not described in any detail internationally, though a range of proposals to strengthen the role of DNAs is under consideration as part of an ongoing review of CDM modalities and procedures (UNFCCC 2014b). Against these shortcomings, a project developer and government buyer have developed their own procedures and standards, respectively a draft 'Global Carbon Development Benefits Standard' for quantification of development benefits and due diligence safeguards against negative impacts based on the draft CDM SD tool. Though the SD tool is welcomed in the carbon market, PPs are divided whether the tool should be mandatory to use. Some argue it would add credibility to the mechanism as a whole and others argue not all projects need it and it would add extra costs for project development.

4 Synthesizing needs and offers

The second chapter of this report covered the assessment and comparison of the SD provisions of selected flexible mechanisms and multilateral standards. The third chapter consisted of a literature review and interviews with selected host country governments, project developers and a buyer perspective on the usability of the EB's SD tool.

In this chapter, we recall and synthesize findings of the previous chapters. We discuss pros and cons of the EB's SD tool in comparison to other mechanisms (analyzed in chapter 2) and 'needs' voiced by practitioners (determined in chapter 3).

This analysis serves to arrive at structured recommendations for further developing the SD tool, divided into more easily implementable amendments, and those that would transform the SD tool into a sound assessment tool for SD effects.

As a final step, we provide an outlook on possibilities to feed in experiences and recommendations to further develop the tool on the way to a globally harmonized, flexible assessment of mitigation actions for Sustainable Development.

4.1 Methodology

This report synthesizes the outcomes of the preceding chapters, with an aim to discuss and propose politically feasible options for further development of the EB's SD tool. We draw up recommendations on how to enhance the tool and on how to strengthen SD assessment of CDM projects in general, with a view to impact ongoing and future SD considerations even beyond CDM, on a global level.

4.1.1 Synthesis of chapters 2 and 3

The first two work packages approached the assessment of Sustainable Development impacts from two perspectives:

- Work package 1 analyzed the current status of SD assessment approaches, within, but also outside of the CDM context.
  Outcomes of this work package therefore represent what is currently '**offered**' in terms of SD assessment practice.
- Work package 2 surveyed experiences on a national level with assessing Sustainable Development. By interviewing representatives of host country DNAs as well as practitioners and reviewing existing literature, we developed knowledge on what is '**needed**' by practitioners, as well as on practical issues in applying the tool.

Comparing these two angles yields insights on shortfalls between the 'offers' and the 'needs' in domestic practice. We therefore develop a matrix that juxtaposes findings from work chapter 2 and 3.

The 'needs' are presented in the left column reflecting enhanced criteria for SD assessment voiced by the interviewees, cp. example matrix below. This table also serves to identify the positive and negative aspects of the EB's SD tool.

Table 10: Structure of the comparative matrix

Criterion	CDM SD tool	Mechanism 1	Mechanism 2	Mechanism 3
Criterion A	✗	✔	✔	✔
Criterion B	✗	✗	✔	✔
Criterion C	✗	✔	✔	✔
Criterion D	✔	✗	✗	✔
Criterion E	✗	✗	✗	✗

4.1.2 Recommendations and feasibility of improvements

In a second step, we evaluate the feasibility to overcome the shortfalls identified. We discuss possible ways to improve and enhance the tool, and to improve the consideration of SD in CDM in general.

The recommendations in this report discuss possible ways to improve / enhance the EB's SD tool and to improve the consideration of SD in CDM in general. The discussion draws upon the results of the preceding work packages, the literature surveyed, the CDM EB's recommendations to CMP10, the discussion on the CDM modalities and procedures, and other relevant documents.

Our recommendation are divided into two consecutive levels:

- Level one lays out **improvements**.
  Improvements to the SD tool we regard as relatively easy to install.
  Recommendations we make here are likely to be within the frame of the current CMP / EB mandate, e.g. inclusion of human rights into the CDM, or enhanced stakeholder consultation requirements, which are already under consideration within the Board.
  Other issues would go beyond the current discussion and would therefore need to be fuelled into the negotiations on modalities and procedures (M&P) under UNFCCC. While this would go beyond changes that can be made at the level of the Board, we still consider these as not fundamentally transformative for the SB tool. They are however, a prerequisite for farther-reaching changes of the SD tool.
- Level two lays out **enhancements**.
  These enhance the SD tool on a deeper level, adding a different quality to it.
  Level 2 recommendations thus go one step further than those made at Level 1. They describe more fundamental changes that would help to transform the voluntary paper tool into a global SD assessment standard which would add monetary value to credits with rectified SD co-benefits.

Each recommendation will be complemented by a short paragraph analyzing the feasibility of the improvement. This assessment is based on expert judgement, but points to specific references where applicable.

In general, we regard level one improvements as unlikely to meet with massive political head winds, especially since there seems to be a growing propensity towards more stringent SD assessment within the CDM at the moment.
Deeper change also comes with greater difficulties in political feasibility. Level two recommendations we therefore generally regard as harder to implement, but with a stronger impact if achieved.

We conclude our recommendations with an overview table, which allows us to view the entirety of our recommendations at both levels at a glance.

The report finishes with an outlook beyond the CDM and the relevance of the issues discussed for the wider climate mechanisms at national and internationally levels such as domestic emissions trading schemes (ETS), New Market Mechanisms (NMM), a Framework for Various Approaches (FVA), Na-

tionally Appropriate Mitigation Actions (NAMAs) and Green Climate Fund (GCF) financing for mitigation actions.

4.2 Synthesis of the pros and cons of the EB CDM SD tool

In this chapter, we synthesize main findings of the previous two chapters. While chapter 2analyzed what is 'offered' in terms of the assessment of Sd impacts by a number of mechanisms, chapter 3 determined the 'needs' of practitioners when applying the CDM SD tool.

We compare these two angles within a matrix (section 1.1.1). The matrix is set up as follows:

- The assessment criteria (first column) reflect the key 'needs' as voiced by the host country DNAs and practitioners interviewed in the course of WP2. We juxtapose these with what is currently available in the CDM SD tool, in comparison with other approaches within and outside the CDM, as analyzed in WP1.
- The matrix simplifies the available information in order to provide quick and easy access to the provided information.
  A 'tick' signifies that a given mechanism features that criterion.
  Bracketed 'ticks' signify that a feature is possible, but not explicitly included.
  A 'cross' signifies that a given mechanism does not exhibit this feature.
  For some mechanisms, certain indicators are not applicable (n/a).
  In some cases, the information needed could not be simplified. In that case, we have included a minimal amount of text.

The subsequent section (4.2.2) provides some more in-depth information in textual form. We analyze the information provided through the matrix in order to identify shortcomings of the CDM SD tool. We draw from both previous chapter, highlighting 'needs' voiced by interviewees, and indicating the state of the art for each indicator, as 'offered' by other mechanisms.

4.2.1 Matrix comparing the 'needs' for CDM sustainability assessment against 'offers' by different flexible mechanisms

Table 11: Comparative matrix of needs and offers

Criteria/Needs	CDM SD tool	Social Carbon Methodology	CCB Standards	CDM Gold Standard	Crown Standard	UN REDD Programme	UNDP NAMA SD tool	ADB	IFC
Indicators for SD co-benefits	✔	✔	✔	✔	✔	Criteria but no indicators	✔	Safeguards	Safeguards
Quantification	✗	✗	Partly quantitative	✗	✗	✗	✔	✗	✗
Assessment of negative SD impacts	✗	✔	✔	✔	✗	✔	✔	✔	✔
Monitoring and reporting	(✔)	✔	✔	✔	✗	✔	✔	✔	✔
Independent 3rd party validation and verification	(✔)	✔	✔	✔	✗	n/a	n/a	✗	✗
Certification	✗	✔	✔	✔	✔	n/a	n/a	n/a	n/a
Guidelines Stakeholder consultation	✗	✔	✔	✔	✔	✔	✗	✔	✔

4.2.2 Analysis of the matrix to identify shortcomings of the CDM SD tool

In this chapter, we analyze the CDM SD tool in comparison to other mechanisms' approaches to sustainability assessment along the 'needs' criteria identified in work package 2. This analysis builds upon and expands the information that can be gleaned from the matrix.

Indicators for SD co-benefits

As a core component for determining co-benefits of project activities, this criterion is fulfilled by all analyzed mechanisms that share the goal of co-benefit determination. A number of host country governments themselves provide some form of checklist in order to determine possible co-benefits of CDM projects (Olsen, Fenhann et al. Forthcoming 2015).

The approaches championed by the Multilateral Development Banks (MDBs) differ in this regard, as they have a different focus. Their safeguard policies are meant to ensure that supported projects 'do no harm', i.e. do not have a negative effect on Sustainable Development. The UN REDD Programme, more a framework rather than an explicit tool, provides criteria, but omits specific indicators. It presumably does so in order to give governments more freedom to independently decide on appropriate indicator sets.

The CDM SD tool is structured similarly to the checklist approach already applied by host countries. By providing a taxonomy of Sustainable Development benefits with three dimensions, 12 criteria and 70 indicators as a menu for structuring reporting on expected positive SD impacts of projects, the tool facilitates a harmonization of information in a structured, consistent and comparable manner that respects Parties' prerogative to decide on national priorities. The SD tool is found to meet its objectives and to assist investors to factor in the SD co-benefits in decision-making (UNFCCC 2014).

Quantification

A method of quantifying SD impacts was named highly desirable in particular by project participants. Quantification would greatly aid to know the scope and significance of SD impacts and is necessary to monetize the value of co-benefits.

A quantification would also allow to better determine the cost/benefit ratio not only of the GHGs mitigated by a project, but also of its positive (and negative) impacts on Sustainable Development. A method of quantification could therefore lead to clearer determine and communicate price premiums for projects with strong positive impacts on sustainability. However, quantifying SD impacts is highly difficult, as SD impacts of a project will often be diffuse and not readily quantifiable.

Of the analyzed mechanisms, only UNDP's NAMA SD tool attempts to fully quantify SD impacts. Within the CDM SD tool, SD benefits can be described for the SDC report; quantification is not foreseen in any way. The CCB Standards offer a mixture of quantitative and qualitative assessments, which may be more suitable to adequately depict different forms of SD impacts. All other mechanisms fully rely on qualitative data, mostly in prose form.

Assessment of negative SD impacts

Project activities may not only have beneficial effects on Sustainable Development of a host country. The requirement to assess negative impacts of project is therefore highly helpful. In most of the mechanisms negative impacts are assessed with negative scores, and positive impacts are assessed with positive scores. A requirement to also assess foreseeable negative impacts helps to alleviate them from the beginning, and ensure that they do no harm to the environment, social and/or economic

development. A number of interviewees have indicated that stronger guidance in this regard would be appreciated.

All mechanisms analyzed make such an assessment mandatory, with the exception of Thailand's Crown Standard. The Crown Standard itself does not contain provisions to assess negative SD impacts. Instead, it refers to existing national legislation. Indirectly, its provisions can therefore also be considered mandatory.

The strongest and most detailed requirements for the assessment of negative impacts can be found in the safeguard requirements of the MDBs, as they are especially geared towards this type of assessment. The Gold Standard, as well as the CCB Standards, also provide for detailed negative impact assessments, and include safeguard principles in order to ensure that projects do no harm.

By contrast, the CDM SD tool does not contain such provisions. Furthermore, the tool only enables assessment of positive impacts, as the concept of, co-benefits' excludes a mandate to assess negative impacts. In draft form, the tool did contain safeguard provisions, but its current form does not. This can be considered a major shortcoming, which severely limits the tool's usefulness as a means of project assessment.

Monitoring and Reporting

If a project claims Sustainable Development co-benefits, significant credibility is added if adequate monitoring and reporting requirements are put in place to back up these claims. Similarly, if negative impacts are identified, monitoring is needed to ensure that these impacts are alleviated.

Nearly all of the mechanisms analyzed require monitoring systems to be put in place. The independent certification standards (Gold Standard, CCB Standard, and Social Carbon Methodology) all have strong obligatory provisions, including dedicated monitoring plans and regular monitoring reports that are independently verified.

The SD tool instead does not call for any monitoring requirements. The SDC report as a single document may be submitted at any time, without any requirements for follow-up monitoring of SD claims made. DNAs do not systematically monitor SD claims, and some voiced concern in the interviews that this would put an additional burden on them or the PPs.

However, a process has recently started within the CDM Executive Board at its 82nd meeting in February 2015, which may strengthen the CDM in this regard. The Board discussed a concept note on 'Voluntary monitoring of Sustainable Development co-benefits' (UNFCCC 2015), which may lead to using the CDM SD tool as a basis for monitoring, validation and verification of SD claims in a standardized way that supports DNA practices.

Independent third party validation and verification

In order to give credibility to review and evaluation efforts, the use of external auditors can be highly recommended.

The Gold Standard, the SCM and CCB standards cover this step, which is needed to ensure that a project did fulfill its requirements, and, in case of certification, can receive the intended certificate. The MDBs do not prescribe external auditing as a mandatory step but they have internal review procedures in place, and in some cases require external check-up as well.

Again, the CDM SD tool in its current form does not contain any requirements in this regard. However, the same process that may strengthen SD monitoring and reporting within the CDM (UNFCCC 2015) may also include suggestions for the use of independent auditors.

Certification

Certificates can add significant value to carbon credits generated by a project with high SD co-benefits. Certified credits regularly fetch higher prices on the carbon market, in return for the assurance that the project o origin fulfills high standards.

The four certification standards considered in WP1 (three independent, and the Thai Crown Standard), have this consideration at their core. The CDM SD tool's SDC report could in principle be used as a type of certificate as well. At the moment, this is not foreseen. It needs to be noted that in order to add value to claims made in the SDC report, a verification of claimed SD co-benefits would be needed, if possible by an independent institution.

Guidelines for Stakeholder consultation

At least one country (Cambodia) has requested technical assistance from the UNFCCC Secretariat to assist with country specific guidance for guidelines for local stakeholder consultations. A process to consult with stakeholders is a core element to ensure that a given project activity is beneficial to Sustainable Development and does not impact negatively.

By far the most approaches covered in WP1 have included mandatory stakeholder consultation processes into their project design, albeit with varying strictness. In order to identify stakeholders, all approaches include structured processes, stakeholder meetings and project reference material in local languages (for the Crown Standard, this is unknown). Of the certification standards, only the Gold Standard has established procedures that open the local consultation to globally active stakeholders/NGOs. The MDBs as well as the UN REDD Programme provide for dedicated policies for the inclusion of indigenous peoples into the project assessment process.

Another important aspect of stakeholder involvement is the establishment of a grievance mechanism to address and solve complaints about the project activity by the local stakeholders. With the exception of the NAMA SD tool, which is completely silent on stakeholder consultation processes, all mechanisms include some form of grievance mechanism.

By contrast, the CDM SD tool does not contain any mentioning of stakeholder consultations. This absence of the issue is puzzling, as there are provisions for stakeholder involvement in the CDM itself.

4.3 Recommendations and feasibility analysis to further develop the CDM SD tool

Building upon results of the synthesis, this chapter serves to develop recommendations for further improving the EB's CDM SD tool. We discuss possible ways to improve and enhance the tool, and to improve the consideration of SD in CDM in general.

This is done on two consecutive levels:

- Level one lays out improvements that we regard as amendments to the SD tool, and therefore relatively easy to install.
- Level two recommendations go one step further: They describe more fundamental changes that would help to transform the voluntary tool into a credible assessment and reporting system.

Each recommendation will be complemented by a short paragraph analyzing the feasibility of the improvement. This assessment is based on expert judgement, but points to specific references where applicable.

4.3.1 Level 1 Recommendations: Improving the tool

Introducing no-harm safeguards

At the moment, there is no provision to include information on potential negative impacts of CDM activities in the SD tool.

An introduction of reporting on no-harm safeguards in the voluntary SD tool is considered a first step in order to arrive at a holistic Sustainable Development assessment of CDM projects / programs.

A common procedure to do a no-harm assessment that could also be applied to the SD tool is the declaration of risk levels of an activity according to a catalogue of general safeguard principles (cp., for example, Ibenholt 2011, IEG 2010, MDG 2008). These could be further specified by a number of questions that the project proponents answer to their best informed knowledge. Such general safeguard principles may include:

- Human rights,
- Good labor practice,
- Environmental protection,
- Anti-corruption,
- Land rights,
- Other activity-related impacts

As the introduction of such no-harm safeguards was already proposed to be included in the first draft of the SD tool (UNFCCC 2012b), taking up the original proposal again could be a starting point. The principles and negative impact options laid out in that document are based upon the UN Global Compact and the Millennium Development Goals (MDG). This proposal could be revised in order to accommodate for concerns raised by EB members, who argued against the inclusion of safeguards at the 68th session of the EB and decided upon the design of the tool, as it stands today.

The set-up of all mechanisms except one covered in WP1 of this research indicates that a mandatory inclusion of safeguards is feasible (Arens et al. 2014). Moreover, the COP decision 1/CP.16, which states that human rights must be respected in all climate related actions, provides a mandate and an entry point for considering a rights-based approach to the CDM (cp, for example, Human Rights and Climate Change Working Group 2012, Filzmoser, Voigt et al. 2015).

In addition, introducing safeguards also comes with additional benefits, p.ex. project proponents can use safeguards for their project planning, in order to demonstrate responsibility and increase local acceptability for the project. Buyers may use the safeguard assessments as part of their due diligence reporting (Olsen, Fenhann et al. Forthcoming 2015). Guidance on the introduction of no-harm safeguards also has the potential to increase the capacities of DNAs towards structured and systematic SD assessment approaches.

Developing monitoring and reporting guidelines

In its current form, the SD tool solely foresees the notification of assumed SD co-benefits, in a single report (the so-called SDC report). There is no requirement for following up on the identified co-benefits over the project lifetime. This means that changes in SD effects over time do not have to be reflected in the current form of the SDC report.

At its 82nd session, the Board decided to make monitoring and reporting of SD impacts an option. Yet there are no guidelines for monitoring and reporting which would allow for a standardized, comparable and credible follow-up of the SD benefits claimed in the SDC reports. Such guidance by the

Board would assist project developers and CMEs to monitor and report on SD impacts during implementation.

As a first step, existing guidelines developed by other mechanisms could be taken as blueprints for a voluntary application in the SD tool. As an example, the Gold Standard, as well as the other certification mechanisms, provide detailed guidance on monitoring and reporting of SD co-benefits, tailored towards the use within the CDM context (cp. Olsen et al 2015, see also Bumpus & Cole 2010, Sterk et al. 2009).

The Board could therefore adjust them with relative ease to fit the SD tool's specifics, and publish them as guidance for PPs and CMEs in their voluntary reporting of SD co-benefits in a more continuous fashion.

To keep the SD tool voluntary and flexible to use, monitoring and reporting of SD co-benefits should be clearly separated from GHG reduction monitoring requirements, and be included in regularly updated SDC reports.

Setting up modalities and procedures to assist third party validation and verification of SD claims

The SD tool's lack of monitoring and reporting requirements also means that no procedures have been defined for the validation and verification of SD claims made in SDC reports. Without any validation or verification by third parties, the reports only have limited credibility to SD claims made therein. Third party validation and verification also is a prerequisite for SD benefits to be priced in the carbon market, mainly in the premium segment (Olsen, Fenhann et al. Forthcoming 2015, The Gold Standard 2014).

In its 82nd session, the Board has begun to strengthen optional monitoring and reporting of SD co-benefits. This process could be widened to authorize DOEs validate and verify SD claims made in the SDC reports. DOEs already cover validation and verification of GHG reductions, which puts them in an ideal position to also cover SD co-benefits.

We propose to clearly separate modalities and procedures concerning SD claims from those for GHG reductions. While the latter are a base requirement for the functioning of CDM, the former should account for the SD tool's voluntary nature, and to provide maximum flexibility in their use. However, if PPs choose to report on SD co-benefits, a validation and verification of their claims by DOEs, following modalities and procedures established by the EB, would greatly enhance the credibility of SDC reports. This would add considerable value to credits generated by those projects reporting on SD co-benefits.

Linking enhanced stakeholder requirements to the CDM SD tool

The SD tool in its current form does not contain requirements for stakeholder involvement. However, stakeholder involvement at global and local levels is seen as an important means to enhance acceptance of the project, and to ensure transparency (as stated in Principle 10 of the 1992 Rio Declaration on Environment and Development). Furthermore, as can be seen in our assessment of the SD provisions of other mechanisms (Arens et al. 2014), it complements other risk-minimizing strategies like no-harm safeguards and assessments in order to mitigate potential negative impacts of projects, to increase local acceptability and respect for human rights generally.

Linking enhanced stakeholder consultation requirements to the CDM SD tool would be a necessary step in order to implement a meaningful SD assessment. This should comprise holding an initial local stakeholder meeting before the PDD is submitted to UNFCCC. At this meeting, stakeholders should be addressed in their local language and a non-technical project description should be presented. The extended SDC reports featuring the "do no harm" section as well as an outline of how to monitor SD

benefits and to follow-up on the safeguards (cp. above) could be used as the basis for stakeholder consultations (cp. Olsen, Fenhann et al. Forthcoming 2015). This should be complemented by a second stakeholder meeting where the PPs follow-up on the stakeholder's comments is assessed (see also Carbon Market Watch 2014, Sterk et al. 2009).

Furthermore, the introduction of a grievance mechanism for CDM projects to address potential negative impacts of projects/programs would be advisable in order to be prepared for a transparent resolution of conflicts (Filzmoser et al 2015, Schade and Obergassel 2014).

The further development of the CDM's stakeholder consultation processes has been difficult over the years. It might therefore be advisable to shift this discussion to the review of the modalities and procedures of the CDM. As shortcomings are not only caused by vague rules but also by a lack of transparent and clear national practices, direct support to countries with best practice guidance is needed including strengthening the role of civil society organizations and local communities to be involved in data collection for monitoring of co-benefits and social safeguards (Dong, Olsen et al. 2015). Proposals for enhanced rules for stakeholder consultations in this context already exist, see, for example, the EU submission (EU 2013).

4.3.2 Level 2 Recommendations: Enhancing the CDM SD tool

Introducing UNFCCC certification of SD co-benefits based on the CDM SD tool with enhanced requirements

Independent certification of Sustainable Development benefits serves to ensure that SD impacts are being addressed within the certified projects, and to generate added value through fulfilling high SD standards. The Gold Standard for CDM projects is an example of how certification can assist to raise additional finance for CERs, when SD impacts are documented and verified. (Koakutsu, K., K. Tamura, et al. 2012, The Gold Standard 2014, Sterk et al. 2009).

Host countries are increasingly showing interest in certification of CERs, with initiatives like the domestic Crown Standard in Thailand (TGO 2014 a+b, cp. also Arens et al 2014). Other countries, such as Cambodia, Indonesia and the Philippines, have indicated their interest in certifying carbon credits (Tewari 2012). According to one of the leading DOEs, DNV GL, there is also an interest to develop a common standard at the global level for quantification of SD development benefits and enable bottom-up development of methodologies (DNV 2013).

A global standard for the certification of SD co-benefits that would raise the value of certified CERs could be implemented on the UNFCCC level, based on the EB's SD tool. The SDC report in its current form can already be considered a means to raise the value of a project through documenting SD co-benefits.

The SD tool could in our view thus be transformed into a template for in-country certification that could be adapted by host-country DNAs to fit their domestic circumstances. The fact that the SD tool already provides a comprehensive taxonomy of SD indicators greatly enhances the adaptability of the tool. If DNAs should lack capacities to adapt it, they may simply use the SD tool's taxonomy without alterations; the tool's comprehensiveness would ensure that all effects on sustainability a project may have are covered.

However, without considerably strengthening the tool and ensuring independent third-party verification of SD claims, the added value for a project is limited. Therefore, to ensure the integrity of certification, all improvements to the tool as proposed in chapter 4.1 should be met:

1. Introduction of no-harm safeguards
2. Development of monitoring and reporting guidelines
3. The use of independent auditors that verify the monitored effects
4. Strengthened stakeholder participation rules and guidelines

By designing the SD tool as a template for certification rather than a certification mechanism in itself, a number of known political difficulties to international standard-setting (cp. Wehnert et al. 2012) could be circumvented. The SD tool would serve as a global blueprint that would manifest itself only on a national level, which would aid domestic acceptability and the respect for local circumstance.

Creating a global standard for the quantification of SD co-benefits

For most policymakers particularly in developing countries, alleviating poverty, securing energy supply, and reducing environmental pollution or in general Sustainable Development co-benefits take priority over mitigating greenhouse gases (GHGs). SD co-benefits have the potential to attract public-private investors to finance mitigation projects. Therefore, the need for methods and data to quantify SD co-benefits is an emerging trend that will also enable monetization and valuation of the co-benefits (Santucci et al. 2014). Our review on SD assessment tools shows that none of them, except partially in CCB Standards and the NAMA SD tool, provides direct guidance on how to quantify SD benefits (see matrix in chapter 1.1.1).

Quantification and possibly monetization of SD co-benefits of a project would indicate interactions between climate change mitigation projects and effects on the local environment, economy, and society, which is valuable for stakeholders in developing countries, especially for local governments. Establishing a value for the SD co-benefits means that the willingness to pay for these achievements can be identified and additional sources of finance for mitigation can be leveraged.

However, some concerns of host country governments that were identified through the interviews will have to be addressed within the SD tool: this comprises, for example, the extra costs for data collection and quantification, and the question whether a framework for quantification shall be nationally determined or common standards shall be globally defined; the extent to which quantification of SD impacts is feasible and desirable and the human- and institutional capacity required from domestic MRV systems.

Therefore, we recommend:
1. To develop a global approval standard for SD co-benefit quantification methods,
2. To give project developers as well as other institutions the opportunity to develop methods for SD co-benefits quantification compatible with their needs and
3. To task an institution such as the UNFCCC Meth Panel with the approval procedure of these methods.

Some private and civil society entities such as DNV as well as VCS/GS and other organizations are currently developing standards for the quantification of SD co-benefits (cp. preceding section) and are interested in developing a global standard. Therefore, in order to harmonize technical specifications and requirements across countries, a voluntary global standard for quantification of co-benefits could be developed / recognized to enhance the UNFCCC CDM SD tool.

4.3.3 Summary

In short, our recommendations to improve the SD tool can be summarized as follows:

Table 12: Summary of recommendations

Improving the tool	**Introduce no-harm safeguards** This implies assessing possible negative impacts of CDM projects by establishing "no harm" safeguards as mandatory benchmarks. Such safeguards could be based, p.ex., on the MDGs and comprise Human rights, good labor practice, anti corruption issues, and the like.
	Develop monitoring and reporting guidelines Since EB82, monitoring and reporting of SD impacts is optional. Global guidelines can be made available for voluntary use with the SD tool. We propose to keep this monitoring separate from GHG reduction monitoring, so as to keep the SD tool voluntary and flexible to use.
	Introduce 3rd Party validation and verification of SD claims Independent validation and verification of SD co-benefits will greatly enhance the credibility of the SDC reports. Again, keeping 3rd party validation and verification separate from validation and verification of GHG reductions will keep the tool voluntary and flexible.
	Link enhanced stakeholder requirements to the CDM SD tool SDC reports could be used as the basis for stakeholder consultations. The additional introduction of a grievance mechanism for CDM projects to address potential negative impacts of projects / programs should complement this measure.
Enhancing the tool	**Introduce UNFCCC certification of SD co-benefits** There is an interest in national certification for SD co-benefits, as can be seen in the Crown Standard in Thailand. A UNFCCC SD certification framework could be made available to countries that do not have the capacity to develop their own standards.
	Create a global standard for quantification of SD co-benefits Establishing a value for the SD co-benefits means that the willingness to pay for extra benefits can be identified and additional sources of finance for mitigation can be leveraged. We propose a three-step approach: • Develop a global approval standard for quantification methodologies, • Give project developers as well as other institutions the opportunity to develop methods for SD co-benefits quantification compatible with their needs, and • Assign an institution such as the 'UNFCCC Meth Panel' for the approval procedure of the methods.

5 Outlook: Towards an internationally harmonized SD assessment

In this report, we have analyzed Sustainable Development requirements of selected Carbon Finance instruments and multilateral standards and compared them to the provisions of the CDM's SD tool (chapter 2). This provides us with indications on what is 'offered as the 'state of the art'.

Furthermore, we have analyzed the literature and experiences with host countries, project proponents and a buyer's perspective on the usability of the EB's SD tool (chapter 3). This has given us valuable insights as to what is 'needed' in practice for an enhanced assessment of Sustainable Development impacts.

Finally, we have drawn these two perspectives together in chapter 3, arriving at recommendations for an improvement of the CDM SD tool.

This section derives conclusions for the further development of SD assessment considerations in emerging instruments for greenhouse gas mitigation in the global climate protection context.

5.1 Sustainable Development impact assessment in emerging instruments

Assessing SD requirements in emerging instruments like the New Market Mechanism (NMM), the Framework for Various Approaches (FVA), and the like has proven difficult. First of all, most of the schemes are still in the early stages of conceptualization and therefore do not feature any reference to aspects that are beyond GHG management. Moreover, many of these new schemes are going to operate above the project-level, i.e. targeting entire economic sectors. As a consequence, it is hard to conceive how to introduce a system with SD criteria linked to individual actions. The only feasible option in this regard seems to be sectoral crediting with installation level crediting. For all other variants, the introduction of internationally agreed SD criteria for NMM would come close to an international agreement on Sustainable Development for all the sectors covered by the NMM (Wehnert et al. 2012).

With regard to the FVA, this picture changes as this scheme is to work as an umbrella for a multitude of mechanisms, some of which will be project-based. An example would be the Japanese Joint Crediting Mechanism (JCM), which is modelled on the CDM principles. Introducing SD criteria at mechanisms-level looks feasible here at first sight. However, in order have a system which is comparable over the whole framework, the SD criteria would need to be fixed at the highest level, i.e. at FVA governance level. Yet this would probably lead to a very general SD assessment approach because the mechanisms covered by the FVA will be very different in scope, nature and approach.

For the development of an SD assessment framework for NAMAs it is useful to clarify the commonly used concepts to describe the relation between NAMAs and Sustainable Development. Coming from sustainability assessment of CDM projects, there is a risk of adopting a climate first approach reflected in the concept of 'co-benefits', where the price of GHG reductions is the driver of CDM mitigation actions and SD is characterized by weak national and international practices for MRV of the SD co-benefits (Olsen 2007; Sterk, Rudolph et al. 2009). For NAMAs the priorities are reversed. Developing countries emphasize the right to development as a key driver of Sustainable Development and NAMAs are seen as a means to move away from business-as-usual high-carbon pathways towards low-carbon pathways. SD objectives are widely recognized as a key driver of NAMAs in developing countries (Cerqueira, Davis et al. 2012; LEDS_GP 2012; Tilburg, Röser et al. 2012; GIZ 2013) reflecting a development first approach. In line with this approach more appropriate concepts are Sustainable Development impacts of NAMAs and sustainability assessment. Co-benefits have a connotation of being secondary to the actions, which is not the case for NAMAs, where development goals have priority.

The question of how Sustainable Development 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. Research and best practice experience on how Sustainable Development considerations have been integrated into mitigation actions through the CDM EB SD tool and other SD standards can inform development of NAMA SD assessment methods. However, the rigor found in these standards may or may not be suited to NAMAs, since globally defined and onerous standards may not be in the interest of implementing countries. In addition, NAMAs are much broader than the project-based CDM, potentially involving policy and sectoral actions that require different Sustainable Development assessment tools.

5.2 Relevance for other mitigation mechanisms

SD assessment experiences by both host country DNAs and CDM project participants indicate that the tool has a potential to harmonize reporting on SD efforts across mitigation mechanisms such as NAMAs, NMM/FVA, REDD+, LCDS and INDCs. It would be useful and a simplification to have a uniform SD reporting format across countries for all CDM projects and beyond to actions and policies for mitigation and development incentivized by other mitigation mechanisms. This is a largely unexplored issue not yet addressed in the literature. Project developers see a role for the tool to enhance domestic dialogues on SD but host countries are divided and China and Brazil do not see a role for the tool in relation to strengthened national dialogues on SD priorities.

Overall, SD tool experience can be relevant to CDM and other mitigation actions in three ways: 1) Strengthened standards for SD assessment at the international level, 2) Enhanced national standards for SD assessment based on the SD tool, e.g. by making it mandatory at national level for PPs to use the tool for issuance of LoAs and by including the SDC report as a basis for local stakeholder consultations, and 3) Market players could seek certification of SD impacts of mitigation actions based on the tool being further developed in line with general requirements for results-based finance applicable beyond CDM.

Further development of the SD tool could make the tool attractive beyond CDM, to harmonize SD assessment and reporting requirements in other mitigation mechanisms. Given the mandate that governance of the CDM's contribution to SD is the prerogative of Parties, challenges to make the tool useful more widely is to a large extent of a political nature, related to the competition of interests between host countries, international governance and the role of market players, who wish to set higher standards than what is currently practiced by DNAs.

5.3 Lessons for future developments in SD assessment

Level 1 and level 2 recommendations introduce a step-by-step approach to increasingly ambitious and more fundamental changes to the SD tool, which could make it attractive and more widely applicable for SD assessment of mitigation actions beyond CDM to other climate mechanisms at national and internationally levels such as domestic emissions trading schemes (ETS), New Market Mechanisms (NMM), a Framework for Various Approaches (FVA), Nationally Appropriate Mitigation Actions (NAMAs) and Green Climate Fund (GCF) financing for mitigation actions.

A key starting point for harmonization across mechanisms is the SD tool's international definition of SD criteria and indicators that enable a uniform SD assessment report in a transparent, inclusive and objective manner across projects and countries, while maintaining the prerogative of Parties to define their national SD priorities.

Framework for sustainability assessment of mitigation actions based on an improved CDM SD tool

Improvements to the voluntary CDM SD tool can be relevant to other mechanisms by promoting the use of CDM standards in the development of a flexible framework building on the level 1 and level 2 recommendations that countries and market players can adapt to specific country or market needs. An enhanced CDM SD tool can set robust standards with a view to enable linking and harmonization

with emerging national and international market and non-market mitigation mechanisms similar to the way, the CDM already sets standards for accounting and MRV of GHG reductions (CDM Policy Dialogue 2012).

An example of a flexible SD framework is the development of an approach to measure the SD impacts of NAMAs, which builds on the CDM SD taxonomy by adding an institutional dimension to the current social, environmental and economic dimensions (see Table 13 below).

Table 13: Flexible SD Framework for NAMAs

Steps	Element	Description
Ex-Ante Assessment	1. SD criteria & indicators	Identify and describe SD impacts – using the CDM SD taxonomy with one new dimension
	2. Transformational change	Indicators of the processes of change for a paradigm shift to low carbon and sustainable development
	3. Quantification & Monetization	Units of measurement to track SD impacts towards SD goals are identified and methods to estimate their monetary value are applied
Procedural steps	4. Alignment with SD goals	SD impact analysis and contribution to SD goals at global, national, and other relevant levels
	5. Stakeholder Participation	Guidelines for stakeholder involvement throughout NAMA design and implementation
	6. No-Harm Safeguards	Compliance with no-harm safeguards to avoid or mitigate negative impacts
Ex-post Assessment	7. Monitoring & Reporting	Develop a monitoring plan; How are indicators monitored, by whom, how often? Describe quality assurance procedures. Report the monitoring data to relevant stakeholders at regular intervals.
	8. Verification	Independent review of methods and data shall be provided when needed to ensure SD impacts are credible and transparent
	9. Certification	Public, private or civil society players may want to define standards for certification of units of GHG reductions with SD impacts

Source: Draft final report on Measuring Sustainable Development in NAMAs (Olsen, Bizikova et al. forthcoming)

The framework is a menu of elements for SD assessment of NAMAs that can inform the development of specific SD tools. Each of the elements is a step towards a comprehensive SD impact assessment. Realizing the differences in country and stakeholders' perspectives, it is not possible to impose a 'one size fits all' standard that includes global, technical specifications for all the elements. Rather, a voluntary UNFCCC SD certification scheme for CDM projects can be made available to countries, that may choose to develop their own standards guided by UNFCCC criteria and principles, or if countries do not have capacity to develop their own standards, they can choose to make use of the UNFCCC CDM SD certification scheme in their approval process.

Usability of an enhanced UNFCCC SD tool by host countries and market players

Governance of mitigation actions by developing countries is moving towards the national level with countries deciding their own rules, procedures and methods for issuance of units of GHG reductions, including SD co-benefit assessment following the same path. A trend in domestic MRV systems is that increasingly countries want to measure the SD co-benefits in parallel to GHG reductions, partly due to international financing agencies requiring that co-benefits and impacts for transformational change are part of performance measurement frameworks (Cerqueira, Davis et al. 2012; GCF 2014).

The relevance of an enhanced UNFCCC SD tool is to develop standards for a common framework for sustainability assessment of mitigation actions applicable across countries and levels of activities ranging from projects and programs to sector-wide approaches for GHG and SD goals based on policies and actions. However, while project developers and buyers have an interest in standardization for uniform criteria and requirements across countries, host countries are divided and are often opposed to international standards that challenge the principle of national sovereignty as identified in the interviews.

A national certification approach to mitigation actions can promote a higher standard for SD assessment, internalize the SD benefits into the price of CERs (Koakutsu, Tamura et al. 2012) or other units of GHG reductions and give an incentive to developers of projects, policies or actions to consider the SD impacts of their mitigation actions. A few host countries have already developed national schemes such as the Crown Standard in Thailand and the introduction of scoring of SD indicators in Cambodia, Philippines and Georgia (Tewari 2012), however, national schemes are not widely used. A wider use also beyond CDM would require an enhanced role of DNAs or other national authorities more central to development planning to ensure alignment between mitigation actions and national, sectoral or sub-sector SD goals.

Harmonized SD assessment for a Paradigm Shift

This year in 2015 three high-level processes are running in parallel to define global and national goals for the environment, development and climate: the Sustainable Development Goals (SDGs), originating in the Rio+20 process and merging with the Millennium Development Goals (MDGs) from the UN Post-2015 Development Agenda, and the New Climate Agreement under the UNFCCC process. The three processes are related but institutionally separate. They aim to inspire actions and targets for implementation at national level supported by international institutions.

Common to the three processes is their intention to achieve a paradigm shift towards sustainable and low-carbon development. However, implementation of global goals for such a paradigm shift requires action at the national level.

This is where a globally defined, but flexible approach to SD assessment can truly make a difference: global harmonization of SD assessment, comparable across mitigation mechanisms and mainstreamed into development planning frameworks at national level can serve to integrate sustainability assessment standards into performance measurements systems such as domestic MRV systems. Adhering to agreed standards on the other hand ensures that countries are in compliance with international finance institutions such as the Green Climate Fund.

Sustainable Development benefits of climate instruments are highly relevant for development pathways beyond the area of climate change. Mitigation measures can have additional health, social, environmental, macroeconomic as well as equity aspects. With the prospect of the new 2015 climate change agreement on the horizon, many developing countries have begun installing and refining their climate policies. SD benefits in CDM and new market mechanisms actually have the potential to

match developing countries' needs with regard to both Sustainable Development and climate mitigation measures. Therefore, the prospect of enhanced SD assessments could not be more timely.

References

ADB (2009): Safeguard Policy Statement, available online at http://www.adb.org/site/safeguards/policy-statement [accessed 05 November 2014]

Arens, Christof, Florian Mersmann, Christiane Beuermann, Frederic Rudolph, Karen Holm Olsen, Joergen Fenhann (2014): Mapping the indicators : an analysis of Sustainable Development requirements of selected market mechanisms and multilateral institutions. Berlin: Federal Environment Agency (DEHSt Discussion Paper).

Buhr, K., P. Thorn, et al. (2012). "The Clean Development Mechanism in China: Institutional Perspectives on Governance." Environmental Policy and Governance 22(2): 77-89.

Bumpus, A. G. and J. C. Cole (2010). "How can the current CDM deliver Sustainable Development?" Wiley Interdisciplinary Reviews-Climate Change 1(4): 541-547.

Carbon Market Watch. "Improving the Stakeholder Consultation Processes." (2014), Presentation by Eva Filzmoser at Africa Regional Workshop, 30 June – 1 July, Windhoek, Namibia. Plenary 4: Enhancement of participation of local stakeholders, key to success of CDM projects.

CCBA (The Climate, Community & Biodiversity Alliance) (2013a): Climate, Community and Biodiversity Standards, Third Edition. December 2013.

CCBA (The Climate, Community & Biodiversity Alliance) (2013a): Rules for the Use of the Climate, Community and Biodiversity Standards. The Climate, Community and Biodiversity Alliance. December 2013.

CCBA Website (2014): http://www.climate-standards.org/ [accessed 12 November 2014]

CDM POLICY DIALOGUE (2012): 'Assessing the impact of the Clean Development Mechanism on Sustainable Development and Technology Transfer'. New Delhi: Energy and Resources Institute.

Cerqueira, J., S. Davis, et al. (2012): MRV of NAMAs: Guidance for selecting Sustainable Development indicators, Center for Clean Air Policy (CCAP)

Corbera, E and N Jover (2012). "The undelivered promises of the Clean Development Mechanism: Insights from three projects in Mexico". Carbon Management 3(1): 39–54.

Dialogue, C. P. (2012). Climate Change, Carbon Markets and the CDM: A Call to Action. Report of the High-Level Panel on the CDM Policy Dialogue. Luxembourg, UNFCCC.

Disch, D. (2010). "A comparative analysis of the 'development dividend' of Clean Development Mechanism projects in six host countries." Climate and Development 2(1): 50-64.

DNV (2013). Global Carbon Development Benefits Standard. Standard for Quantifying Development Benefits. Version 2.1, DNV Climate Change Services AS: 23.

Dong, Yan; Olsen, Karen Holm; Filzmoser, Eva ; Trunkl, Urska (2014): Local stakeholder participation in CDM and new climate mitigation mechanisms – case study of a small scale hydropower project in China (CISDL / GEM Working Paper Series).

Dooley, Kate and Tom Griffiths, Francesco Martone and Saskia Ozinga (2011): Smoke and Mirrors. A critical assessment of the Forest Carbon Partnership Facility. FERN and Forest Peoples Programme, Brussels / Moreton in Marsh.

Drupp, M. A. (2010). "Does the Gold Standard label hold its promise in delivering higher Sustainable Development benefits? A multi-criteria comparison of CDM projects." Energy Policy 39(3): 1213-1227.

Ecologica Institute (2013): SOCIALCARBON Standard v 5.0. Available online at http://www.socialcarbon.org/wp-content/uploads/2012/11/SOCIALCARBON_STANDARD_v-5-.00.pdf [accessed 03 November 2014]

European Union (2013): SUBMISSION BY IRELAND AND THE EUROPEAN COMMISSION ON BEHALF OF THE EUROPEAN UNION AND ITS MEMBER STATES on Guidance relating to the clean development mechanism. Dublin 2013.

Figueres, C. (2004). Institutional Capacity to Integrate Economic Development and Climate Change Considerations. An Assessment of DNAs in Latin America and the Carribean, Inter-American Development Bank, Sustainable Development Department, Environment Division: 54.

Figueres, C. (2005). "Sectoral CDM: Opening the CDM to the yet Unrealized Goal of Sustainable Development." International Journal of Sustainable Development Law and Policy 2(1): 1- 19.

Filzmoser, E., J. Voigt, et al. (2015). The need for a Rights-based approach to the Clean Development Mechanism. Public Participation and Climate Governance Working Paper series. K. Lofts and S. Duyck Centre for International Sustainable Development Law, Yale Univeristy, University of Lapland: 20 p.

Ganapati, S. and L. G. Liu (2009). "Sustainable Development in the Clean Development Mechanism: the role of Designated National Authority in China and India." Journal of Environmental Planning and Management 52(1): 43-60.

Gibson, Robert B. (2006): Beyond the pillars: Sustainability assessment as a framework for effective integration of social, economic and ecological considerations in significant decision-making. In: Journal of Environmental Assessment Policy and Management, Vol. 8, No. 3 (September 2006) pp. 259–280.

GIZ (2013): Nationally Appropriate Mitigation Actions (NAMAs). Steps for moving a NAMA from idea to implementation.

GS (Gold Standard) (2012a): The Gold Standard Toolkit, Version 2.2.

GS (Gold Standard) (2012b): The Gold Standard Requirements, Version 2.2.

GS (Gold Standard) (2012c): Annex H - Guidance Questions for the "Do No Harm" Assessment. Available online at http://www.cdmgoldstandard.org/wp-content/uploads/2012/05/v2.2_ANNEX-H.pdf [accessed 03 November 2014]

GS (Gold Standard) (2012d): Annex I - Guidance on SD Indicators. Available online at http://www.cdmgoldstandard.org/wp-content/uploads/2012/05/v2.2_ANNEX-I.pdf [accessed 04 November 2014]

GS (Gold Standard) (2012f): Annex W – The Gold Standard Continuous Input and Grievance Mechanism. Available online at http://www.cdmgoldstandard.org/wp-content/uploads/2012/05/v2.2_ANNEX-W.pdf [accessed 04 November 2014]

GS (Gold Standard) (2013): The Gold Standard Principles. May 2013.

Gujarat Forum on CDM (2013): Glimpses from Ground: Analysis of selected CDM projects in India. Availalbe online at http://carbonmarketwatch.org/wp-content/uploads/2013/12/Glimpse-from-Ground-Analysis-of-selected-CDM-projects_clean-final.pdf [accessed 10 November 2014]

He, J. J., Y. F. Huang, et al. (2014). "Has the Clean Development Mechanism assisted Sustainable Development?" Natural Resources Forum 38(4): 248-260.

Human Rights & Climate Change Working Group (2012): Submission on views regards the revision of the CDM modalities and procedures. Available online at http://carbonmarketwatch.org/wp-content/uploads/2013/03/Human-Rights-Climate-Change-WG-Submission-on-CDM-Modalities-Procedur....pdf

Ibenholt, K., E. Børset, et al. (2011). International standards and principle for environmental and social management of renewable energy projects in developing countries, Vista Analysis: 176;

IEG (2010). Safeguards and Sustainability. An Independent Evaluation of World Bank Group Experience, Independent Evaluation Group (IEG) World Bank: 192;

IFC (2012): IFC's Environmental and Social Sustainability Policy. Available online at http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/environmental+and+social+sustainability+policy [accessed 05 November 2014]

Karakosta, C., H. Doukas, et al. (2009). "Directing clean development mechanism towards developing countries' Sustainable Development priorities." Energy for Sustainable Development 13(2): 77-84.

Karakosta, C., V. Marinakis, et al. (2012). "Does the CDM offer Sustainable Development benefits or not?" International Journal of Sustainable Development and World Ecology 20(1): 1-8.

Koakutsu, K., K. Tamura, et al. (2012). Green Economy and Domestic Carbon Governance in Asia. Greening Governance in Asia-Pacific, Sato Printing Co. Ltd.: 55-84.

Kreibich, N; Wang-Helmreich, H. and C. Beuermann (2014): Social and environmental effects of climate financing: Avoiding negative impacts. Paper for the International Workshop "Green and social: managing synergies and trade-offs", 12.03.-13.03.2014 . Bonn: DIE - German Development Institute, (unpublished)

LEDS_GP (2012). Concept Note: Development Impact Assessment. Communicating Development Benefits of Low Emission Development Actions to Policy Makers. Work Programme for the LEDS Global Partnership (April 2012 - April 2013), LEDS Global Partnership 71-77.

MDG (2008). "Millenium Development Goal (MDG) Indicators." Retrieved 13 June, 2012, from http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm;

Nussbaumer, P. (2008): On the contribution of labeled Certified Emission Reductions to Sustainable Development: A multi-criteria evaluation of CDM projects. Energy Policy 37, 91–101.

Nussbaumer, P. (2009). "On the contribution of labeled Certified Emission Reductions to Sustainable Development: A multi-criteria evaluation of CDM projects." Energy Policy 37(1): 91-101.

OECD (2010): How to Evaluate Aid for Trade: Approaches, Methodologies and Processes, COM/DCD/ TAD(2010)2.

Olsen K H. (2007). "The clean development mechanism's contribution to Sustainable Development: A review of the literature", Climatic Change 84 (1): 59–73.

Olsen, K. H. and J. Fenhann (2008). "Sustainable Development benefits of clean development mechanism projects: A new methodology for sustainability assessment based on text analysis of the project design documents submitted for validation." Energy Policy 36(8): 2819-2830.

Olsen, K. H. (2014). Sustainable Development Impacts of Nationally Appropriate Mitigation Actions: An integrated approach to assessment of co-benefits based on experience with the Clean Development Mechanism Presented at 'Forum on Development and Mitigation', Breakwater Lodge, Graduate School of Business, Cape Town, 27-29 January 2014

Olsen, Karen Holm, Joergen Fenhann, Miriam Hinostroza, Christof Arens, Florian Mersmann, Frederic Rudolph, Christiane Beuermann (2015, forthcoming): Assessing Usefulness – Do Stakeholders Regard the CDM's SD tool as Practical? Berlin: Federal Environment Agency (DEHSt Discussion Paper).

Olsen, K. H., L. Bizikova, et al. (Forthcoming). Measuring sustainable develoment in NAMAs.

Parnphumeesup, P. and S. A. Kerr (2011). "Classifying carbon credit buyers according to their attitudes towards and involvement in CDM sustainability labels." Energy Policy 39(10): 6271-6279.

Paulsson, E. (2009). "A review of the CDM literature: from fine-tuning to critical scrutiny?" International Environmental Agreements-Politics Law and Economics 9(1): 63-80.

Rindefjall, T., E. Lund, et al. (2011). "Wine, fruit, and emission reductions: the CDM as development strategy in Chile." International Environmental Agreements-Politics Law and Economics 11(1): 7-22.

Rogger, C., F. Beaurain, et al. (2011). "Composting projects under the Clean Development Mechanism: Sustainable contribution to mitigate climate change." Waste Management 31(1): 138-146.

Rosien, Jessica (2010): Understanding the Asian Development Bank's Safeguard Policy (Oxfam Australia), available online at

https://www.oxfam.org.au/wp-content/uploads/2011/08/oaus-adbsafeguards-0610.pdf [accessed 27 November 2014]

Santucci, L. et al. (2014). Valuing the Sustainable Development co-benefits of climate change mitigation actions: The case of the waste sector and recommendations for the design of nationally appropriate mitigation actions (NAMAs). Discussion paper by South Pole.

Schade, J. and W. Obergassel (2014). "Human rights and the Clean Development Mechanism." Cambridge Review of International Affairs 27(4): 717-735.

Simon, G. L., A. G. Bumpus, et al. (2012). "Win-win scenarios at the climate-development interface: Challenges and opportunities for stove replacement programs through carbon finance." Global Environmental Change-Human and Policy Dimensions 22(1): 275-287.

Sterk, W., F. Rudolph, et al. (2009). Further Development of the Project-Based Mechanisms in a Post-2012 Regime, Wuppertal: Wuppertal Institute

Subbarao, S. and B. Lloyd (2010). "Can the Clean Development Mechanism (CDM) deliver?" Energy Policy 39(3): 1600-1611.

Sutter, C. and J. C. Parreño (2007). "Does the current Clean Development Mechanism (CDM) deliver its Sustainable Development claim? An analysis of oficially registered CDM projects." Climatic Change 84(1): 75-90.

Sutter, Christoph (2003): Sustainability Check-Up for CDM Projects. Wissenschaftlicher Verlag, Berlin. Available at http://www.up.ethz.ch/research/energy_climate/ closed/cdm_assessment/Sutter_2003_Sustainability_Check-Up_for_CDM_ Projects__e-book_.pdf [accessed 09 November 2014]

TERI (2012). Assessing the Impact of the Clean Development Mechanism on Sustainable Development and Technology Transfer. New Delhi, The Energy and Resources Institute: 1-148.

Tewari, R. (2012). Mapping of criteria set by DNAs to assess Sustainable Development benefits of CDM projects. CDM Policy Dialogue. P. Ghosh. New Delhi, India, The Energy and Resources Institute (TERI): 36.

TGO (2014a): Crown Standard for Thai CDM Projects. Thailand Greenhouse Gas Management Organization. http://www.tgo.or.th/english/?option=com_content&view=category&id=42&Itemid=13

TGO (2014b): SD criteria and guidance document, available at

http://www.tgo.or.th/english/index.php?option=com_content&view=article&id=18:approval-criteria-for-cdm-projects-in-thailand&catid=27:approval-process&Itemid=45

The Gold Standard (2014): "The real value of robust climate action". A Net Balance Report for the Gold Standard Foundation

The World Bank (2010): Safeguards and Sustainability Policies in a Changing World. An Independent Evaluation of World Bank Group Experience. Washington, D.C.: The World Bank.

Tilburg, Xander. van., Frauke. Röser, et al. (2012): Status Report on Nationally Appropriate Mitigation Actions. Mid-year update May 2012, ECN, Ecofys: 1-30.

Torvanger, A., M. K. Shrivastava, et al. (2013). "A two-track CDM: improved incentives for Sustainable Development and offset production." Climate Policy 13(4): 471-489.

UN REDD (2012): UN-REDD Programme Social and Environmental Principles and Criteria. UN-Programme Eighth Policy Board Meeting, 25-26 March 2012 Asunción, Paraguay. Available online at http://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=6985&Itemid=53

UN REDD and FCPF (2012): Guidelines on Stakeholder Engagement in REDD+ Readiness With a Focus on the Participation of Indigenous Peoples and Other Forest-Dependent Communities. April 20, 2012 (revision of March 25th version). Available online
https://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/July2012/Guidelines%20on%20Stakeholder%20Engagement%20April%2020%2C%202012%20%28revision%20of%20March%2025th%20version%29%20%281%29.pdf.

UNDP (2010): United Nations Development Group Results-Based Management Handbook. Strengthening RBM harmonization for improved development results. Clean Draft Version, March 24 2010. Available at: ‹ http://www.un.cv/files/UNDG%20RBM%20Handbook.pdf ›

UNDP (2014): NAMA SD tool, available at http://www.undp.org/content/undp/en/home/librarypage/environment-energy/mdg-carbon/NAMA-sustainable-development-evaluation-tool/

UNFCCC (2000): Principles, modalities, rules and guidelines for the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol. Additional submissions from Parties. Document FCCC/SB/2000/MISC.4/Add.2/Rev.1. Bonn: UNFCCC.

UNFCCC (2009): Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009. Addendum. Part Two: Action taken by the Conference of the Parties at its fifteenth session. Document FCCC/CP/2009/11/Add.1. Bonn: UNFCCC.

UNFCCC (2010): Decision 1/CP.16 : The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Paragraphs 69, 71d, 72, 76 and Appendix I. Bonn: UNFCCC. Online at http://unfccc.int/meetings/cancun_nov_2010/items/6005.php

UNFCCC (2011): Decision 8/CMP.7: Further guidance relating to the clean development mechanism. Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from

28 November to 11 December 2011. Addendum. Part Two: Action taken by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its seventh session. FCCC/KP/CMP/2011/10/Add.2. Bonn: UNFCCC.

UNFCCC (2012a). Benefits of the Clean Development Mechanism 2012. Bonn, United Nations Framework Convention on Climate Change Secretariat: 102.

UNFCCC (2012b): EB 68, Proposed Agenda, Annex 22: Draft Voluntary Tool For Highlighting Sustainable Development Co-Benefits Of CDM Project Activities And Programmes Of Activities.

UNFCCC (2013): Methodological guidance for activities relating to 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. Draft conclusions proposed by the Chair. Document FCCC/SBSTA/2013/L.12. Bonn: UNFCCC.

UNFCCC (2014a). Information note. Evaluation of the use of the voluntary online Sustainable Development co-benefits tool. Version 01.0. Bonn, UNFCCC Secretariat: 27.

UNFCCC (2014b). Possible changes to the modalities and procedures for the Clean Development Mechanism. Technical Paper. Bonn, United Nations Framework Convention on Climate Change: 42.

UNFCCC (2015). Concept note. Voluntary monitoring of Sustainable Development co-benefits. Version 01.0. Bonn, Clean Development Mechanism: 10.

Ürge-Vorsatz, Diana, Sergio Tirado Herrero, Navroz K. Dubash, and Franck Lecocq (2014): Measuring the Co-Benefits of Climate Change Mitigation. Annual Review of Environment and Resources 39:549–82.

Wehnert, T., C. Arens, et al. (2012). Promoting Sustainable Development in New Market Mechanisms - Options and Limitations. Wuppertal, Wuppertal Institute for Climate, Environment and Energy: 1-30.

Wood, R. G. (2011). Carbon finance and pro-poor co-benefits: The Gold Standard and Climate, Community and Biodiversity Standards. London, International Institute for Environment and Development (IIED): 24.

6 Annex 1: Interview guide

PART 1: Introductions (5 min)

1. **Background and practicalities**

- Thank you for agreeing to this interview (objectives and background for the study are introduced in the letter of invitation)
- We would like to record the interview as support to note-taking. Interviews will not be transcribed but are captured in a summary report based on the notes and, if you allow us, the recorded interview. Will this be acceptable to you?
- For further use of the interviews, can we reference you as the source or do you prefer to be anonymous? – Yes / No

2. **Interviewee profile:**

Name:
Country:
Institutional affiliation:
Position:
Role relating to CDM:
Date and location of interview:

PART 2: Domestic experience with SD assessment of CDM projects (10 min)

- What are the DNA SD criteria for approval of CDM projects?
    - Are they publicly available? /How did you as a project developer come to know of them?
    - How do they relate to other national SD goals?
- On what basis are LoAs granted and what is the approval process?
- Is there DNA/project developer interest and capacity to follow up on SD assessments/LoAs to monitor and verify that CDM projects contribute to national SD criteria?
- Do you have national requirements or practices additional to the CDM procedures for stakeholder involvement? – for instance if an EIA is required for a CDM project
- Does the DNA/project developer make use of any safeguards against negative impacts? Do you see a need for this?
- In your view, is there a need for additional procedures to strengthen host country SD assessment of CDM projects?

PART 3: SD tool specifics (10 min)

- What is the general DNA experience - or view - on use of the CDM EB SD Tool?
- What is your individual view on the usability of the CDM EB SD Tool? – e.g. at what stage in project development is it used and can add the most value
- Is it regarded as an additional effort to use the CDM SD tool? Or as a simplification to have a reporting format that supports existing DNA SD criteria?
- Do you see any possibilities for expanding use of the tool? – e.g. to follow up the SD declaration with requirements for monitoring and verification that SD impacts are realised

- What are your views on making the tool mandatory for CDM project developers to use?
- What is the DNA interaction with CDM project developers submitting the SDC report?

PART 4: Beyond the tool – national SD assessment and other mitigation actions (5 min)

- Do you see a need for quantification and valuation of SD co-benefits?
- Do you see any possibilities to enhance domestic dialogues on sustainable development through strengthening SD assessment of CDM projects and programmes?
- Could the CDM SD tool be useful in terms of harmonisation of SD efforts with other mechanisms? - such as REDD+, NAMAs, NMMs and LCDS?
- Do you see an interest in certification of carbon units for their contribution to national sustainable development impacts?
- According to Cancun decision 1/CP.16 human rights must be respected in all climate change actions. Do see any opportunities for strengthening a HR-based approach to CDM through national sustainability assessment and the CDM EB SD Tool?

Thank you!

7 Annex 2: Overview of literature reviewed

Reference	Issues explored	Method and data	Key findings
State of knowledge about the CDMs contribution to SD			
Olsen, K. H. (2007). "The clean development mechanism's contribution to sustainable development: a review of the literature." Climatic Change 84(1): 59-73.	The paper reviews the state of knowledge on how the CDM contributes to sustainable development	The literature review is based on 19 studies that fall in four groups; forward-looking, SD impact assessment, carbon forestry and mixed topics	The main finding of the review is that left to the market forces the CDM does not significantly contribute to SD
Paulsson, E. (2009). "A review of the CDM literature: from fine-tuning to critical scrutiny?" International Environmental Agreements-Politics Law and Economics 9(1): 63-80.	This article reviews the literature on CDM thematically after the mechanism's two goals: to reduce GHG emissions and contribute to sustainable development in host countries	The review covers about 160 articles and reports on the CDM, providing a summary of the main themes discussed	A common assessment is that the current structure of the CDM leads to a focus on cheap emissions reductions at the expense of sustainable development benefits for the host countries
UNFCCC (2012). Benefits of the Clean Development Mechanism 2012. Bonn, United Nations Framework Convention on Climate Change Secretariat: 102.	Two types of assessment of the contribution of the CDM to sustainable development are possible on a project-by-project basis: • How a CDM project contributes to sustainable development; and • How much a CDM project contributes to sustainable development? This study assesses, how CDM projects contribute to SD.	The sustainable development claims in the PDDs of 3,864 projects registered and undergoing registration as at June 2012 were tabulated using SD indicators. A survey of 392 projects was conducted to compare PDD statements with actual SD impacts of projects being implemented.	The relative reliability of PDD claims, as verified by a follow-up survey, suggests that the CDM is making a contribution to sustainable development in host countries in addition to the mitigation of greenhouse gas (GHG) emissions. Almost all CDM projects claim multiple sustainable development benefits, but the mix of benefits claimed varies considerably by project type.

Reference	Issues explored	Method and data	Key findings
State of knowledge about the CDMs contribution to SD			
He, J. J., Y. F. Huang, et al. "Has the Clean Development Mechanism assisted sustainable development?" Natural Resources Forum 38(4): 248-260.	This paper aims to provide evidence across 58 host countries on the effectiveness of CDM in encouraging sustainable development in host countries.	This paper adopts the Sustainability-adjusted Human Development Index (SHDI) used in Pineda (2012) as a measure of sustainable development and make use of a sample of 58 host countries' CDM activities between 2005 and 2010	This research produces significant evidence that CDM project development can contribute to sustainable development efforts in a given host country should all CERs be realized. The results lend support to the effectiveness of CDM in boosting global sustainability
Dialogue, C. P. (2012). Climate Change, Carbon Markets and the CDM: A Call to Action. Report of the High-Level Panel on the CDM Policy Dialogue. Luxembourg, UNFCCC.	The Panel recommends 51 actions across 12 areas to address the crisis in international carbon markets and to make the CDM fit for the future	The recommendations are based on a wide-ranging research programme addressing 22 topics across three main areas: the impact of the CDM to date; the governance and operations of the CDM; and the future context in which the CDM could operate. It also organized a stakeholder consultation programme with dozens of formal and informal meetings around the world.	The Panel finds that it is not possible to reach a definitive conclusion on the sustainable development impacts of the CDM to date, given the insufficiency of objective data. The CDM appears to have had more positive impacts than negative impacts in most cases. There are also strong assertions of negative impacts, although the lack of requirements and guidance for monitoring and reporting makes it impossible to assess the actual sustainable development effects with a degree of certainty.

Governance of the CDMs' contribution to sustainable development – the role of host country DNAs, market players and global rules			
Host country DNA practices for approval of CDM projects			
Olsen, K. H. and J. Fenhann (2008). "Sustainable development benefits of clean development mechanism projects: A new methodology for sustainability assessment based on text analysis of the project design documents submitted for validation." Energy Policy 36(8): 2819-2830.	The main argument of the paper is the need for an international standard for sustainability assessment—additional to national definitions—to counter weaknesses in the existing system of sustainability approval by designated national authorities in host countries	An assessment DNA practices for approval of CDM projects draws on data available on the Internet, describing the operation of 7 selected DNAs in addition to existing studies	The most commonly used approach to the establishment of SD is the checklist approach. However, the definition of criteria differs from one country to the other. No countries require that the expected SD benefits— as described in the PDD—are monitored on an equal basis with GHG reductions to verify that they are 'real and measurable'
Tewari, R. (2012). Mapping of Criteria set by DNAs to Assess Sustainable Development Benefits of CDM projects CDM Policy Dialogue. India, The Energy and Resource Institute (TERI): 36.	The report provides a summary of the sustainable development criteria used by DNAs and the common approaches employed to provide the Letter of Approval (LoA) to project proponents	The assessment is based on three main data sources: a compilation of questionnaire responses from DNAs, sustainability criteria as defined/provided in DNA websites and relevant literature sources	The current system, in which countries set their own sustainable development definitions and criteria, should remain - in order to ensure country specific indicators that are aligned with local socio-economic conditions and respect national sovereignty
Koakutsu, K., K. Tamura, et al. (2012). Green Economy and Domestic Carbon Governance in Asia. Greening Governance in Asia-Pacific, Sato Printing Co. Ltd.: 55-84.	This chapter considers how domestic carbon governance in Asia can be aligned with sustainable development by exploring the relationship between green economy, low carbon development and SD	Case studies in Asian countries that examine domestic mitigation policies in China, India, Japan and ROK	There are three types of approaches to promote SD through the CDM: assessment, fund and certification. The certification approach surpass the others, as it has an original function that added-value of benefits for SD can be internalised in the price of CERs

Governance of the CDMs' contribution to sustainable development – the role of host country DNAs, market players and global rules			
Host country DNA practices for approval of CDM projects			
Bumpus, A. G. and J. C. Cole (2010). "How can the current CDM deliver sustainable development?" Wiley Interdisciplinary Reviews-Climate Change 1(4): 541-547.	The key focus to strengthen SD impacts of the CDM is the role of CDM governance, focusing on the role of DNAs, stakeholder involvement and rules for monitoring and verification of SD claims.	Analysis of the role of procedural rules for strengthening SD assessment at national level in the case of Brazil	The key argument is that strengthening SD impacts of CDM is about understanding and regulating power relations, focusing on procedural issues rather than substantive issues such as measuring SD based on indicators for PDD analysis
Buhr, K., P. Thorn, et al. (2012). "The Clean Development Mechanism in China: Institutional Perspectives on Governance." Environmental Policy and Governance 22(2): 77-89.	We propose that the CDM literature could benefit from employing institutional theory to demonstrate, how rules and regulations are coloured by the norms and values in social contexts, often in a national context, which adds to our reasons for including the national dimension of CDM	The research question is: How has the Chinese government attempted to govern the CDM market, and with what consequences? The central government remains at the centre of climate policy efforts in the country and this paper focuses its analytical attention to the nation-state.	CDM governance is influenced by nation-specific social and cultural factors. From this argument it follows that governance patterns will not be the same in every country. What is seen as nationally appropriate will differ, in terms of both how the CDM market should function and the national priorities it should support
Rindefjall, T., E. Lund, et al. (2011). "Wine, fruit, and emission reductions: the CDM as development strategy in Chile." International Environmental Agreements-Politics Law and Economics 11(1): 7-22.	This paper studies, how the host country prerogative to define sustainability within the CDM plays out in practice	Case study of Chile. The focus on 'governance from above' is complemented in this paper with a focus on 'governance from below' and deal with domestic mechanisms and processes	The 'race to the bottom' in terms of sustainable development requirements has become a deliberate choice that mirrors the emphasis on economic development in Chile's overall development strategy

Governance of the CDMs' contribution to sustainable development – the role of host country DNAs, market players and global rules			
Host country DNA practices for approval of CDM projects			
Ganapati, S. and L. G. Liu (2009). "Sustainable development in the Clean Development Mechanism: the role of Designated National Authority in China and India." Journal of Environmental Planning and Management 52(1): 43-60.	The main question for the paper is: what is the Designated National Authority's role in ensuring sustainable development through the Clean Development Mechanism?	Case studies of India and China. Three aspects of the DNA's role are examined: the institutional structure, the policy context and the CDM project market	The cases show that the DNA can wield considerable influence on raising CDM projects to achieve broader sustainable development goals. Although the ability of a DNA to achieve sustainable development depends on the country context
UNFCCC (2014). Possible changes to the modalities and procedures for the Clean Development Mechanism. Technical Paper. Bonn, United Nations Framework Convention on Climate Change: 42.	Further elaboration of the role of DNAs regarding the following issues: Clarify the roles of DNAs, increase transparency, allow DNAs to validate CDM activities, handling of complaints or stakeholder comments, further elaborate the requirements for the content and form of LoAs	The analysis focus on possible changes to the CDM modalities and procedures, including their implications based on data including submissions from Parties, recommendations of the Board, workshop reports and oral interventions during SBI 39.	No decisions were made on revised M&Ps at CMP-10. The SBI negotiations on possible changes to M&Ps for the CDM will continue at the June 2015 session in Bonn with an aim to conclude by CMP-11 in Paris
The role of market players and global rules			
Torvanger, A., M. K. Shrivastava, et al. (2013). "A two-track CDM: improved incentives for sustainable development and offset production." Climate Policy 13(4): 471-489.	This article examines how incentives to enhance sustainable development and offset production performance in the CDM can be improved assuming that a reformed CDM will be part of a new climate agreement from 2020	A review of the literature is presented and proposals to reform the CDM and strengthen offset production and SD with a view to their political feasibility are discussed	The primary requirement for implementing an SD track is a common, internationally devised, definition of SD and its criteria

The role of market players and global rules			
Parnphumeesup, P. and S. A. Kerr (2011). "Classifying carbon credit buyers according to their attitudes towards and involvement in CDM sustainability labels." Energy Policy 39(10): 6271-6279.	How buyers have different preferences for SD benefits and labelling including willingness to pay a premium price. The Gold Standard label (GS) is used as the representative of CDM sustainability labels	The study uses cluster analysis to classify the carbon market according to buyers' attitudes towards involvement in the GS. The data is based on 117 responses from an online survey of primary CER buyers	Evidence suggests that host countries are failing to ensure SD benefits of CDM projects. It follows that there is a need for CDM sustainability labels to guarantee SD benefits beyond minimal requirements of host countries
Drupp, M. A. (2010). "Does the Gold Standard label hold its promise in delivering higher Sustainable Development benefits? A multi-criteria comparison of CDM projects." Energy Policy 39(3): 1213-1227.	In order to determine whether Gold Standard projects can be associated with higher local SD benefits.	The paper evaluates the potential benefits of 48 CDM projects using a multi-criteria method and building on existing work	Labelled CDM activities are found to slightly outperform comparable projects. This study finds that above all the reliance on renewable energy projects is responsible for the higher potential local SD benefits of the GS in comparison to unlabelled CDM projects
Schade, J. and W. Obergassel (2014). "Human rights and the Clean Development Mechanism." Cambridge Review of International Affairs 27(4): 717-735.	This article analyses the Kyoto Protocol's Clean Development Mechanism (CDM) from a human rights perspective.	The article discusses two CDM projects, the case of Bajo Agua´n in Honduras and the case of Olkaria in Kenya.	UNFCCC could and should require all projects to undergo mandatory safeguards based on a human rights impact assessment (HRIA). Projects with negative impacts should be ineligible for registration

Evaluation of the EB's SD tool

UNFCCC (2014). Information note. Evaluation of the use of the voluntary online sustainable development co-benefits tool. Version 01.0. Bonn, UNFCCC Secretariat: 27.	The evaluation aims to assess whether the SD tool, through its use, meets its purpose and achieves its expected impacts. Issues evaluated are; awareness among users, clarity of the tool, usefulness, needs and expectations of users	Data include a stakeholder survey to 4,626 stakeholders with 137 responses (2.9%) on access and use of the tool among project proponents, DNAs and investors. Analysis of 13 SDC reports with regard to usefulness of the content	The evaluation concludes that the SD tool meets the objective of the CMP as a voluntary measure to highlight the co-benefits brought about by CDM PAs and PoAs, whilst also maintaining the prerogative of Parties to define their sustainable development criteria