



Eastern Africa Alliance
On Carbon Markets And
Climate Finance

Revitalizing Eastern Africa's Institutional Capacity To Engage In Global Carbon Markets

**The Synthesis Report: Article 6
Institutional And Legal Framework
Assessment In Eastern Africa**



Executive Summary

The study presents a summary of findings on how member countries of the Eastern African Alliance on Carbon Markets and Climate Finance (EAA) are beginning to enhance their institutional capacity for engaging in Article 6. These emerging institutional structures and associated responsibilities build directly on existing institutional frameworks and capacities established for the CDM and voluntary carbon markets. While EAA member countries have a strong interest in participating in Article 6 related activities, countries firmly understand and expect, though, that these national institutions and capacities originating from the CDM will need to be updated and expanded in order to meet all agreed UNFCCC requirements for participating in Article 6 cooperation.

Findings of this study have been generated from country case studies that describe the national context in all seven EAA member countries (Burundi, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda). The results have been synthesized in this report, which also draws on global and regional developments in the finalization of UNFCCC Article 6 rules, as well as beginning Article 6 cooperation.

Given that all Eastern African countries participated in the CDM and voluntary carbon standards, it is important to build on regional carbon market experiences, capacity and the portfolio of ongoing activities. Despite all EAA member countries having a strong interest to participate in Article 6 mechanisms, none of them have yet developed clear modalities, guidelines and operational procedures for authorizing the transfer of Internationally Transferred Mitigation Outcomes (ITMOs). While there is an understanding that these will need to be developed and applied, the continued uncertainty resulting from the lack of agreement on UNFCCC Art.6 rules has so far prevented institutional frameworks for Article 6 to evolve further. These may also apply to VCM activities in light of their relationship to Nationally Determined Contribution (NDC), if resulting mitigation outcomes would be exported abroad.

Regarding institutional capacity, EAA member countries have not yet officially designated a responsible national institutions which can approve Art.6 pilots and authorize ITMO transfers. Given the continued absence of United Nations Framework Convention on Climate Change's (UNFCCC) guidance and modalities, rules and procedures for Article 6, countries struggle to clearly define the role and legal basis of such an institution. In addition, EAA member countries expressed concern about limited staff capacity to design and implement required procedures such as corresponding adjustments and ensuring reporting responsibilities. However, national Art.6 institutions may also be expected to play a larger role in governing the Art.6 activity cycle, for instance by overseeing and approving the development of methodologies, baseline and additionality tests, as well as monitoring reports. All countries have highlighted, however, that environmental integrity and contributions to sustainable environment are important.

Some countries, however, have already initiated bilateral cooperation on Art.6.2 with development partners that will likely result in accelerating the development of such institutional provisions, even though the timelines remain unclear. Preparation for the Art. 6.4. mechanism have not yet commenced given the mechanism has not yet been fully elaborated, but is anticipated to resemble the CDM more closely compared to Art.6.2 cooperation.

Regarding carbon market infrastructure, no EAA member country is currently operating a national registry yet that records and tracks implementation status and mitigation outcomes of domestic mitigation activities. However, this will be a critical step in tracking progress in Article 6 activities, as well as for reporting back to UNFCCC. Under Article 6.4, countries could explore availability and possible utilization of international registries under the UNFCCC. In Article 6.2, bilateral registry tools may be necessary for participation. On an interim basis, a relatively simple database may suffice to ensure accurate tracking of the limited number of Article 6 related mitigation measures under different mechanisms, including voluntary carbon standards, and how they contribute to achieving NDC goals.

Overall, the study clearly shows the strong commitment of the EAA members to engage meaningfully in Article 6. Close regional cooperation through EAA is very important both for being aware of most developments in Article 6 negotiations, as well as for mutual support in mobilizing Article 6 pilot activities.

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Abbreviations

A6.4ERs	Article 6.4 Emission Reductions
ABM	Adaptation Benefit Mechanism
BTR	Biennial Transparency Report
BUR	Biennial Update Report
CA	Corresponding Adjustments
CARP	Centralized Accounting and Recording Platform
CCD	Climate Change Department
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CRGE	Climate Resilient Green Economy
DNA	Designated National Authorities
DOE	Designated Operational Entities
EAA	Eastern Africa Alliance on Carbon Markets and Climate Finance
ECX	Ethiopia Commodity Exchange
EFCCC	Environment, Forests, and Climate Change Commission
FONERWA	Rwanda's National Environment and Climate Change Fund
GCM	Global Carbon Market
GHG	Greenhouse Gas
HCENR	Higher Council for Environment and Natural Resources
IGEB	Institut Géographique du Burundi
ITMO	Internationally Transferred Mitigation Outcomes

JCM	Joint Crediting Mechanism
LDC	Least Developed Countries
LoA	Letter of Approval
MOPA	Mitigation Outcome Purchase Agreement
Mos	Mitigation Outcomes
MRV	Measurement, Reporting and Verification
MWE	Ministry of Water and Environment
NAMA	Nationally Appropriate Mitigation Actions
NDC	Nationally Determined Contribution
NEMA	National Environment Management Authority
OMGE	Overall Mitigation in Global Emissions
PA	Paris Agreement
PoA	Programme of Activities
REDD+	Reducing Emissions from Deforestation and Forest Degradation
REMA	Rwanda Environmental Management Agency
SCF	Standardized Crediting Framework
SD	Sustainable Development
SDI	Sustainable Development Initiative
SWOT	Strengths, Weaknesses, Opportunities, and Threats
UNEP	United Nations Environment Programme Technical University of Denmark
UNFCCC	United Nations Framework Convention on Climate Change
VCM	Voluntary Carbon Market
VPO-DoE	Vice President's Office Division of Environment



1. Introduction and background

Eastern Africa is getting ready for engaging in a new generation of global carbon markets. The region has generated comprehensive experience with UNFCCC-backed carbon markets. The Kyoto Protocol first established the Clean Development Mechanism (CDM). The emerging carbon markets governed by Article 6 of the Paris Agreement (PA), however, are policy instruments designed to help the international community increase mitigation ambition significantly. The PA fundamentally transforms the global climate policy context in which emerging carbon markets operate: All Parties agree to develop Nationally Determined Contributions (NDCs) to reduce their greenhouse gas (GHG) emissions in order to achieve the long term objective of keeping average global temperature increases at least to well below 2°C or even 1.5°. Article 6 of the PA enables voluntary cooperation that involves the use of Internationally Transferred Mitigation Outcomes (ITMOs) towards NDCs (Article 6.2), establishes a new UNFCCC-governed mechanism for certifying real, measurable and additional mitigation outcomes approved by the host Parties (Article 6.4), and also comprises non-market approaches (Art.6.8).

Even though most countries express a strong interest in participating in international carbon market cooperation in their NDC updates (UNFCCC 2021), Article 6 rules have remained one of the few elements of the 'Paris Rulebook' that have not yet been agreed at the 25th Conference of the Parties (COP25) in Madrid. After the COVID-19 pandemic delayed negotiations, Parties are expected to conclude Article 6 negotiations at COP26 scheduled for November 2021. There are a number of unresolved crunch issues (in particular accounting, reporting and review, CDM transition, share of proceeds, overall mitigation in global emissions, baselines and methodologies, compare Hoch et al 2021). Another crucial aspect is to agree on an organized transition from the CDM to Article 6 approaches, which remains contentious and unresolved in international climate negotiations. As the second commitment period to the KP recently expired at the end of 2020, the CDM currently operates on temporary provisions regarding the registration of new activities and issuance of post-2020 CERs. These measures will be applied until the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP) provides needed guidance at its next meeting in Glasgow in November 2021 (UNFCCC 2021).

Given that all Eastern African countries participated in the CDM, it is important to build on domestic and regional carbon market experiences and capacity. Moreover, Eastern Africa hosts a comparatively small, but significant and growing portfolio of ongoing activities which may be strongly affected by these decisions. Parties have not yet agreed on whether new CDM activities

can be started after 2020, CERs can be issued for post-2020 emission reduction vintages and how existing CDM institutional infrastructure, methodologies and activities can be transitioned into Article 6. Yet, African parties have largely supported CDM transition based on quality criteria to be able to build on hard-won institutional capacity to access the global carbon market and mitigation activities while meeting Article 6 requirements. CDM transition is relevant for the East African CDM portfolio, given most registered projects and programmes have strong sustainable development (SD) benefits and have often been only recently registered and generated only a fraction of their potential to issue Certified Emission Reductions (CER).

With important decisions on CDM transition and Article 6 rules still pending, some Parties have already begun to pioneer early piloting activities for Article 6 implementation. As the first NDC implementation period begins in 2021, a number of host and buyer countries have initiated discussions on bilateral Article 6 cooperation and have begun to scope potential pilot activities. This also involves several members of the EAA. In order to support the region in navigating these challenging global developments in order to maximise benefits Eastern Africa, this report has the following key **objectives**:

- Identify and assess the existing institutional structures for their suitability for use in the implementation of Article 6 activities;
- Identify and assess the existing policy and legal framework for their suitability for use in the implementation of Article 6 activities;
- Identify capacity gaps and recommend measures applicable in filling the gaps to enable effective engagement of Alliance member countries in Article 6 activities;
- Facilitate country to country learning on the establishment of Article 6 support structures. In order to assess the readiness of the current state of play and further capacity development requirements, this synthesis report consolidates findings from seven country studies assessing the institutional and legal framework capacity of all EAA member countries (Burundi, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda) to develop and implement Article 6 activities.

2. Methodology

The synthesis report summarizes key findings of individual EAA member country reports which assess countries' institutional and legal framework capacity to implement Article 6 of the PA. Individual country reports for all EAA member countries form the basis of this synthesis study. The study applies desk research, document analysis as well as qualitative interviews with each EAA member countries' focal point as well further carbon market stakeholders. The interviews were conducted in the second half of 2020 by telephone or videoconference. The interviewees received questions in advance and interviews lasted for circa one hour. The study also draws on information and data from various sources including NDCs of each EAA member country, relevant climate policy documents, carbon market data e.g. from the United Nations Environment Programme Technical University of Denmark (UNEP DTU) CDM and CDM Programme of Activities (PoA) pipelines, as well as information on Article 6 pilots and voluntary carbon markets.

Chapter one and two present introductory context and the methodology of the study, followed by three substantive chapters on the consolidated findings on the institutional and legal framework for Article 6 among EAA member states. Chapter 3 presents the main findings on various aspects of the institutional and legal assessment of Article 6 readiness, ranging from the effectiveness of existing institutions to expected differences between the CDM and Article 6 as well as legislative and policy gaps. Chapter 4 summarizes a capacity assessment for Article 6 implementation, focusing on preparations for procedures relevant for NDC accounting, preserving environmental integrity and promoting sustainable development. Chapter 5 assesses carbon market infrastructure required for NDC accounting and provides recommendations on advancing the legal and institutional framework to support Article 6 activities

3. Institutional And Legal Assessment

3.1 Effectiveness of key institutions responsible for CDM activities

This section begins by summarizing the existing institutional framework developed in EAA member countries in the context of the CDM and voluntary carbon markets prior to engaging in Article 6. The table below presents a high-level summary of the climate change governance institutional structures that house the CDM DNAs across the seven countries including ministries, departmental structures, key personnel roles and operations.

COUNTRY	UNFCCC FOCAL POINT	CDM DNA	CLIMATE FINANCE (GCF NDA)	OTHER RELEVANT ENTITIES
Burundi	Ministry of Water, Environment, Land Management and Urban Planning - Geographical Institute of Burundi (Institut Géographique du Burundi, IGEBU) - Directorate general under the Ministry		Ministry of Environment, Agriculture, and Livestock	CDM Technical Committee Coordination committee for carbon market activities
Ethiopia	The Environment, Forest, and Climate Change Commission (EFCCC), Directorate for Resource Mobilization, Project Monitoring and Evaluation			EFCCC Carbon Market Committee CRGE Facility Development Bank of Ethiopia
Kenya	Ministry of Environment and Forestry Climate Change Directorate	National Environment Management Authority (NEMA)	The National Treasury	CDM inter-ministerial Committee Article 6 taskforce
Rwanda	Ministry of Environment (former Ministry for Natural Resources) Rwanda Environment Management Authority (REMA)			DNA - Permanent Secretariat - Steering Committee - Technical Committees
Sudan	The Ministry of Environment, Forestry and Physical Development The Higher Council for Environment and Natural Resources (HCENR)			National Carbon Monitoring Centre
Tanzania	Vice President's Office Division of Environment (VPO-DoE)			National Carbon Monitoring Centre
Uganda	Ministry of Water and Environment (MWE) Climate Change Department (CCD)		Ministry of Finance, Planning and Economic Development	The National Planning Authority

All Eastern African countries have established functional climate change governance structures and institutional capacities during the Kyoto Protocol era carbon market mechanisms, centering around CDM DNAs. All these national authorities possess experience with procedures for issuing Letters of Approval for CDM project activities and PoAs, in addition to interacting with at least one of the increasing number of voluntary carbon market (VCM) standards;

Some DNAs have also successfully conducted further-reaching oversight functions, in particular developing standardized baselines which require quality assurance and interactions with the UNFCCC Secretariat for establishing baseline parameters and sometimes additionality of specific activity types. This is an important experience for the expanded role of the DNA in the Article 6 activity cycle, in particular for Art. 6.2 activities which cannot draw on UNFCCC infrastructure and governance.

The institutional set-up vary across the region, though some trends have been identified as:

- At least five of the nation states have dedicated Ministries of Environment to serve as CDM DNAs, with Tanzania alternatively embedding its Division of Environment in the Vice President's Office;
- In six countries the CDM DNA is embedded in the same institution as the UNFCCC Focal Point. Kenya has placed the DNA within a separate authority (NEMA);
- There are numerous technical committees supporting the work of the DNAs with Rwanda uniquely having a permanent secretariat for the DNA. Additionally, at least two committees on carbon markets and one initial Article 6 taskforce have been established only recently. This offers a clear indication that countries are beginning to revisit their institutional set-up established for CDM in order to prepare their readiness for Article 6 cooperation.

Despite these foundations, no country has already formalized the designation of an Article 6 institution. This is due to the lack of clarity on PA carbon market participation requirements and demand due to the delays in finalizing Article 6 rules and CDM transition as discussed above, leading to understandable hesitation across the region to establish operational and effective Article 6 readiness and operational institutional procedures.

The well-known lack of demand for CDM CERs during the second commitment period to the KP contributes crucially to hesitation among host countries to invest in fully elaborated Article 6 institutional procedures. As a result of extended uncertainty and volatility in international carbon markets i) existing governance institutions are not frequently put to use or even actively operational, and ii) there is a lack of dedicated human and budget resources (e.g., no staff member permanently assigned fully to CDM and/or carbon markets and/or Article 6). In summary, there is clearly a critical mass of experience and capacity with UNFCCC-backed carbon markets in the region that can be harnessed for rebuilding Article 6 institutional capacity. However, the lack of agreement on multilateral Article 6 rules and unclear expectations for ITMO demand, especially in light of the historical experience with volatile and insufficient CER demand, have so far restrained countries to fully engage in elaborating institutional procedures for Article 6.

3.2 Differences in expected institutional responsibilities between the CDM and the Article 6 framework

As the region awaits the outcome of the UNFCCC negotiations on Article 6, the specific institutional frameworks and procedures for Article 6 (Art. 6.2 cooperative approaches and Article 6.4 mechanism) are still to be designed, approved and implemented, although discussions have been initiated in various countries, especially those that have begun to engage in bilateral discussions about potential future Article 6 cooperation.

Building on and strengthening existing structures – CDM lead institutions, in particular DNAs, are leading the initial national preparations for Article 6. It is deemed important that the emerging institutional structures and associated responsibilities build directly on the existing institutional frameworks and established capacities. The region is also looking to draw on relevant experience that continues to be gained through the full spectrum of currently operating carbon market approaches e.g., CDM, voluntary carbon standards, as well as emerging Article 6 pilots such as the Joint Crediting Mechanism (JCM) (Kenya and Ethiopia), the World Bank Carbon Initiative for Development's Standardized Crediting Framework (SCF) pilot (Rwanda) etc.

Expanded scope and increased engagement – Host countries firmly understand and expect, though, that the CDM institutions and capacities require updated and potentially expanded capacity to support Article 6 implementation. The extent of these potential changes and country's expectations on the same vary. For example, Rwanda expects that the responsibilities of national institutions will increase in the context of the Article 6 infrastructure as compared to the rather limited role of the DNA under the CDM: The country expects a clear difference between the cooperative approaches under Article 6.2 (in part based on real world experience by participating in the WB Standardized Crediting Framework) and the multilateral mechanism under Article 6.4. The expanded scope of institutional responsibilities for Article 6 compared to the CDM can be distinguished between more comprehensive oversight of the Art.6 activity cycle (approving methodologies, baselines, potentially issuing verified mitigation outcomes, approving ITMO transfers etc.) as well as government internal accounting and reporting responsibilities. The latter will require a deeper integration with departments in the bureaucracy (e.g. responsible for NDCs, MRV, GHG inventories) that need to be established often from scratch.

Insufficient dedicated resources and non-operational governance structures – As explained above, there are currently no personnel specifically assigned to deal exclusively with Article 6 in any EAA member country, therefore, the understanding of emerging requirements and the capacity to address them remains inconsistent. There are genuine question marks about how these resource constraints can lead to effective engagement with the expanded Article 6 responsibilities while simultaneous efforts are ongoing such as coordinating regulatory aspects on the current CDM and VCM pipelines, following and contributing to the

UNFCCC Article 6 negotiations, navigating the potential CDM transition, readiness for Article 6 piloting as well as positioning of Article 6 in NDC updates. This factor is compounded by the fact that Article 6 participation is substantially more complex than engaging in CDM due to the necessary links to NDC accounting and reporting, resulting in increased institutional capacity requirements including internal coordination with other relevant units in the bureaucracy that are responsible for GHG inventories, MRV systems etc.

SWOT analysis of existing institutional setup for international carbon markets

The following table summarizes the existing institutional set-up for engaging in international carbon markets, highlighting institutional gaps in current systems as a basis for evaluating its suitability for utilization in Article 6 activities.

STRENGTHS

- All CDM DNAs have experience in issuing Letters of Approval (LoA) for CDM project activities and PoAs, and have interacted with VCM standards;
- Largest CDM and VCM portfolio of all the African regions, which can be scaled up especially as often programmatic activities that align with NDC priorities;
- Potential to reactivate established technical and political committees to ease transition into overseeing Article 6 implementation;
- Explicit consideration of carbon markets in most NDCs
- Interest and initial efforts started in relation to Article 6 readiness generate early experience in the region with Article 6 piloting and related initiatives (e.g. JCM, SCF pilot). This experience can be shared across EAA member countries in order to improve the quality of institutional capacity in all countries, and accelerate readiness preparations in those countries without active Article 6 piloting efforts.
- A strong body of practical project developer experience in carbon markets through CDM and voluntary standards
- Local firms starting to move towards purchasing of offsets in the context of voluntary compensation of GHG emissions.
- East Africa Alliance now firmly established with national focal points, steering structure and initial meetings
- Heavy investment on CORSIA training by various institutions

WEAKNESSES

- Limited carbon market experience in some countries, with few activities in a narrow band of sub-sectors;
- The regional public sector carbon market expertise lies within a small number of officials and is consequently spread very thinly. In addition, they are often not exclusively dedicated to the topic;
- Lack of adequate financial, logistical and technical resources (domestic budget and international support) to establish and sustain potential Article 6 institutions and regulatory procedures;
- DNAs are not yet prepared for additional functions under the Article 6 framework, in particular 'rule-setting', governance of the activity cycle (e.g. approving methodologies), infrastructure (e.g. registry) and reporting in the context of BTRs.
- National conversations on ITMO transfers are at a very nascent phase;
- It is difficult to know the true standing of the various climate change units within the context of domestic politics and with important line ministries. Especially given that knowledge of carbon markets is constrained in the broader public sector in terms of how the carbon market works in practice e.g. how transactions are completed;
- Currently a lack of a domestic carbon credits demand.

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Existing CDM and VCM portfolio can be scaled up; • The region offers substantial further mitigation potential in growing economic sectors and legitimate SD needs; • Initial interest/activities regarding Article 6 pilots and related activities from both host and buyer countries; • Various countries are working to clearly demarcate the conditional and unconditional elements of their updated NDCs, in some cases stating a clear role for carbon market mechanisms; • The Least Developed Countries (LDC) status of many EAA countries eases the burden to absorb a high domestic mitigation contribution without international support at least for the initial NDC implementation periods • The EAA offers a regional platform for knowledge management, experience sharing that has the potential to play a key role in enhancing Article 6 institutional capacity and readiness; • Well-established relationships and local presence of key development partners, e.g. UNFCCC Regional Collaboration Centre Kampala (RCC Kampala) and the GIZ Global Carbon Markets Programme Uganda- East Africa (GCM); • Potential future domestic carbon credit demand (Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) and VCM). 	<ul style="list-style-type: none"> • Uncertainty on how the future market mechanisms will be operationalized and associated demand could undermine their legitimacy; • Further delay of international Article 6 rules will delay the establishment of national institutional and legal frameworks. It could take an extended period of time to design and operationalize the required processes for ITMO authorizations and integration with NDC accounting and reporting. This could threaten investor and project developer confidence in the short term; • The current crediting periods of many activities in the regional CDM pipeline are coming to an end with unclear prospects for transition potential and requirements; • Lack of nationally specific data for development of Article 6 methodologies; • Insufficient resources being made available to ensure comprehensive implementation and tracking of the NDC and related Article 6 activities; • Carbon Markets not seen as an effective and reliable instrument for government priorities such as infrastructural development; • Overall political stability and investment climate; • In the short to medium term the continued restrictions and uncertainty resulting from COVID-19

3.3. Comparison of institutional and legal frameworks for CDM and Article 6 implementation

While all EAA member countries have shown strong commitment to participate in Article 6 activities, none of them have established their own national Article 6 institutional and legal frameworks. The responsibilities of each member countries' DNAs, however, are expected to extend under the new carbon market mechanisms. The following table compares EAA member countries' institutional and legal frameworks for CDM and expected Article 6 frameworks in a manner that facilitates country to country learning by providing a basis for peer exchange on the various national arrangements.

EAA MEMBERS	CDM INSTITUTIONAL AND LEGAL FRAMEWORKS	ARTICLE 6 INSTITUTIONAL AND LEGAL FRAMEWORKS
Burundi	<ul style="list-style-type: none"> • IGEBU hosts the DNA CDM Technical Committee: sectoral ministries and project developers are represented. The committee coordinates CDM activities, reviews and validates projects 	<ul style="list-style-type: none"> • Article 6 implementation framework has not yet been established • IGEBU is expected to continue to be the focal point given experience in the CDM process
Ethiopia	<ul style="list-style-type: none"> • EFCCC is the CDM DNA and technical CRGE lead. • The Carbon Market Committee operates with the DNA host institution to strengthen Ethiopia's participation in the carbon market • DNA embedded with resource mobilization 	<ul style="list-style-type: none"> • Article 6 implementation framework has not yet been established. • EFCCC is expected keep leading Article 6 implementation Initial experience with JCM and early stage Art.6 cooperation
Kenya	<ul style="list-style-type: none"> • NEMA is the DNA • Art.6 Inter-ministerial committee is mandated for issuance of LoA Ministry of Foreign Affairs: ratifying Kyoto Protocol 	<ul style="list-style-type: none"> • No official decision if NEMA-led technical CDM governance structure extends into Article 6 • CCD led the establishment of a national Article 6 taskforce • Ministry of Foreign Affairs: ratifying bilateral agreements for voluntary Article 6 cooperation Initial experience with JCM and early stage Art.6 cooperation
Rwanda	<ul style="list-style-type: none"> • REMA is the DNA • The DNA consists of: Steering Committee, Technical Committees and the DNA Permanent Secretariat. <ul style="list-style-type: none"> o The Steering Committee consists of government, private sector and NGO. It provides general directions and serves as a clearinghouse for information o Members of Technical Committees are nominated by the Permanent Secretariat according to their expertise in the respective sector. The Committees are the central decision-making bodies for the approval or disapproval of projects. • The Permanent Secretariat is based in REMA and consists of the director general of REMA and three staff members: a carbon market technical advisor, a carbon market project coordinator and an administrative assistant 	<ul style="list-style-type: none"> • The DNA/REMA is expected to continue to be the focal point for Article 6 • Responsibilities of national institutions will increase in the context of the Article 6 infrastructure, compared to the rather limited role of the DNA under the CDM Initial set of procedures developed under Standardized Crediting Framework Art.6.2 pilot activity

Sudan	<ul style="list-style-type: none"> • HCENR supervises and chairs the DNA members comprises representatives of different sectors/ institutions 	<ul style="list-style-type: none"> • Article 6 implementation framework has not yet been established. • HCENR will keep playing key role under Article 6 Forest National Cooperation assigned to work with HCENR towards Article 6 implementation
Tanzania	<ul style="list-style-type: none"> • The Vice President's Office Division of Environment (VPO-DoE) is responsible for the development of climate change related policy options, and coordination of the broad-based environmental programmes and projects • DoE is the DNA National Carbon Monitoring Centre is responsible for maintaining a carbon registry 	<ul style="list-style-type: none"> • Article 6 implementation framework has not yet been established. The VPO-DoE is expected to play key role under Article 6
Uganda	<ul style="list-style-type: none"> • CCD at the Ministry of Water and Environment (MWE) hosts the DNA CCD coordinates mitigation and adaptation activities 	<ul style="list-style-type: none"> • Article 6 implementation framework has not yet been established • CCD will remain key supervising Article 6 implementation and also responsible for authorization CCD participates in Article 6 negotiations

3.4. Legislative and policy gaps for ITMO authorization and transfer

The updated NDCs – once technically concluded, politically approved by governments and submitted to UNFCCC – will provide the overarching policy framework for Article 6 engagement at the highest level. It is understood that many countries in the region are actively considering a stronger demarcation between unconditional and conditional elements and the potential relevance of carbon markets and Article 6. In recently updated NDCs, which are still ongoing in some EAA members, countries have applied different conceptual interpretations of conditionality which points to a need for further clarification on potential implications for Article 6. For instance, Rwanda has demarcated improved cook stoves as an unconditional activity in its NDC, whereas Kenya has only applied conditionality to NDC costs rather than specific mitigation actions. The issue of conditionality of NDC targets is likely to become a

crucial reference point for the eligibility of activities to engage in Article 6 cooperation, or at least for the willingness of buyers to acquire ITMOs (with an observed preference for mitigation outcomes from conditional NDC components), although the current lack of agreed common approaches on how to establish NDCs requires to exercise caution in predicting outcomes prior to finalizing UNFCCC rules.

At this time, no Eastern African country has developed clear modalities, guidelines and operational procedures for authorizing the transfer of ITMOs, though there is an understanding and acceptance that these will be required in the future in all countries. Despite recent experience and a clear interest to engage in future carbon markets through Article 6 there are no existing legislative and policy documents that directly address ITMO authorisation and transfer.

Some countries have initiated dialogues or preparatory technical work with bilateral development partners or multilateral development banks (MDBs) that will likely result in such institutional provisions, emanating from Article 6.2. pilot activities, but the timelines remain unclear. This means that Art.6 host country procedures are being developed based on actual demand and interest from potential Article 6 buyers. This makes sense given the need to prioritize available resources with other development priorities, but results in remaining legislative and policy gaps. During early action, Art.6.2 cooperation therefore requires comprehensive engagement and investments in developing procedures that have relevance beyond individual pilot activities. For EAA countries, real world Article 6 piloting with counterparts with shared values (e.g. on environmental integrity and sustainable development) therefore offers an opportunity to identify and close legislative and policy gaps.

Preparation for Art. 6.4 have not yet been commenced since the rules, modalities, and procedures for the mechanism have also not been agreed yet, although its implementation is anticipated to resemble the CDM more closely compared to Art.6.2 cooperation in the sense that an UNFCCC-governed activity cycle and carbon market infrastructure will be available. Having said that, even the Art.6.4 mechanism may require more comprehensive Art.6. activity cycle oversight functions as well as government internal NDC accounting and reporting responsibilities.

Across the region, there is no systematic view or consolidated national or regional position on CDM transition to Article 6, but a general interest and support for enabling CDM activities that meet PA Art.6 requirements to transition to the new Article 6 framework. There is uncertainty on whether host countries can and should continue to issue LoAs for new CDM activities and CPA inclusions. ¹Similarly, CDM activities with valid crediting periods and ERPAs are likely to require authorization of transfer for potential post-2020 CERs (if these can be used within the

¹ The temporary measure to allow new registration of CDM activities and CPA inclusion on a provisional basis has been allowed by the CDM EB in early 2021, after the time of research for this study.

CDM framework), although this issue remains unclear and contested at global level.

No country has developed a clear policy or legislation on the continued operation of VCM activities and their relationship to NDC implementation. Similarly, there is no clear position on whether mitigation outcomes resulting from VCM activities can be exported abroad and whether that would require corresponding adjustments. There is a clear policy gap on the relationship between voluntary carbon markets and NDC accounting and reporting resulting from uncertainty around these issues at the global level. Given that participation in VCM standards in some EAA member countries exceeds the CDM, in particular in the forestry sector, there is a strong necessity to develop national or regional positions on these issues in order to provide clarity to VCM stakeholders.

3.5 Recommendations to close institutional, legislative and policy gaps

Decide on the formal designation of national authority responsible for Article 6 engagement and develop a sustainable mode of operations including staffing and resource requirements to deal with enhanced capacity requirements. Beyond technical assistance, this may include levying an administrative share of proceeds on issuing or approving transfers of mitigation outcomes in order to generate revenues that can sustain institutional capacity required to comply with UNFCCC requirements for Article 6 participation, accounting and reporting.

Existing national CDM LoA procedures could serve as key building blocks for developing national Article 6 approval and authorization procedures. It makes sense to develop a checklist of criteria for assessing potential Article 6 activities that take into account carbon market specific considerations such as additionality, but also key features of the host country NDC (including the scope, ambition and conditionality of targets) and related accounting and reporting requirements. Moreover, further linkages to SDGs and other goals (e.g. gender considerations and/or the application of safeguards) could be considered. Such assessment criteria could already be prepared based on emerging Article 6 rules and piloting experience even though they may need to be revisited once UNFCCC rules have been agreed. While such approval and authorization procedures need to be tailored to domestic institutional frameworks, they are likely to share many common elements mentioned above that are relevant in all countries, providing a high potential for achieving synergies through regional cooperation through EAA. Existing operational frameworks of early Article 6.2 cooperation and related pilot activities, such as the SCF pilot and JCM, could be leveraged as stepping stones for generally applicable Article 6 procedures that apply to any type of Article 6 approach.

National or regional guidelines on transferring any mitigation outcomes internationally may be required to enable national Article 6 institutions to keep an overview of all carbon market activities in their country. This could potentially be voluntary, but is a necessary consequence of the increasingly fragmented landscape of a large number of different compliance and voluntary carbon standards operating simultaneously. Requiring authorization of all international carbon market transactions would ensure that host countries will be able to fully track any carbon credit exports, which is important as it has an impact on NDC goal achievement. This issue is particularly relevant for mitigation outcomes generated through voluntary carbon standards which historically did not always require LoAs and often have not always yet positioned themselves on the need to perform corresponding adjustments. While there is a lack of clarity on this issue at the global level both within the UNFCCC negotiations and among market practitioners, relevant legislation or regulation may consider to strongly acknowledge the future role of mitigation outcomes as important national assets (comparable e.g., to natural resources and commodities) which cannot be exported without at least notifying host country governments. Such legislation or guidelines would need to be developed from scratch in all countries and could be elaborated through regional peer exchange facilitated through EAA. Finalizing such guidance may also require revisions once Article 6 rules become available. However, initial guidance could be immediately developed in order to initiate regional dialogue around the issue and facilitate NDC accounting.

CDM transition is important for the active Eastern African carbon market portfolio and 2021 is likely to be decisive in the sense that the upcoming Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) has been tasked to provide guidance to the CDM EB on the continuity of CDM operations. EAAs CDM experience, portfolio and priority should feed into these negotiations, including through informing the AGN position. In turn, EAA can serve as a knowledge hub so that member countries to be aware of ongoing negotiations and eventually agreed rules so that countries who do not have resources to follow this process closely have access to relevant information they can provide to domestic stakeholders including policy makers and carbon market participants.

4. Capacity assessment

Article 6 oversight and implementation requires a broader and sometimes more complex set of institutional frameworks compared to the KP carbon markets. Tracking progress towards NDCs, with carbon markets being one means of implementation requires new and expanded institutional capacity. Furthermore, host country institutions will play a stronger oversight in activity cycle, in particular 6.2 cooperative approaches, but also the 6.4 mechanism.

4.1. Authorization of transfer of ITMOs

Parties under the PA are required to authorize activities that can generate ITMOs both under Article 6.2 cooperation approaches or the Article 6.4 mechanism (A6.4ERs), to ensure mitigation outcomes can be effectively recorded in national registry systems and ITMO transfers can be tracked. Host Parties are required to approve and report the amount of exported mitigation outcomes, including through Biennial Transparency Reports (BTR). In case of Article 6.2, bilateral agreements between buyer and seller country are often used to set up procedures and sometimes ex-ante approval of all transfers from certain activities. Each participating Party will have to provide quantitative information on transferred ITMOs (including volume of ITMOs that are held, used or cancelled).

The first step towards establishing such procedures is the designation of a national authority in charge of providing these approvals after assessed the proposed Article 6 activities. Findings show that all EAA member countries have not yet officially delegated a responsible institution which authorizes ITMOs transfers. However, there is an expectation in most countries that the current DNAs are likely to eventually play this role in the institutional procedures for ITMO authorization considering their experience with CDM Letters of Approval. Moreover, most current DNAs are embedded within institutions that are responsible for UNFCCC matters more generally, including NDCs (compare section 0). Still, given the current absence of UNFCCC guidance and rules, modalities and procedures for authorizing Article 6 activities and ITMO transfers, countries have been hesitant to define the roles and legal basis of such an Article 6 institution, in some cases explicitly stating that this will only be done once UNFCCC Art.6 rules have been finalized.

While some DNAs have already been involved in ongoing Article 6 piloting efforts or bilateral negotiations, this does not (yet) apply to all countries, leading to a lack of practical experience in some countries due to limited exposure. ITMOs authorization procedures in all countries remain at conceptual level. For instance, Rwanda has planned to establish a legal framework that supports ITMO transactions, but will only finalize the framework once Article 6 rules have been agreed upon on a multilateral level. Kenya has established a national Article 6 taskforce in 2019/2020 in order to prepare for Article 6 engagement and implementation. The taskforce could revisit Kenya's CDM national decision-making structure and its relevance under the PA as Article 6 rules get clearly defined.

In addition to the lack of international agreement on Article 6 rules, EAA member countries expressed concern that limited staff capacity, for instance for implementing CAs and reporting responsibilities, create challenges to develop procedures for future ITMO authorization. Interview findings show that some carbon market experts have not been able to follow recent developments on ITMO transfer procedures and rules in detail. Most countries therefore

underline the importance of further staff capacity support, Article 6 infrastructure support including hardware and software support, and strengthening regional knowledge platforms such as the EAA to continuously exchange on evolving Article 6 requirement and experiences.

Moreover, ITMO transfers are often regulated in bilateral agreements on Article 6 cooperation which are international legal treaties, leading to the involvement of Ministries of Foreign Affairs and/or State House in formalizing such agreements. These ministries have historically not been involved in carbon markets, requiring DNAs to educate their government peers accordingly. From EAA member countries, Uganda and Kenya have already submitted letters of intent to enter Article 6 cooperation with Switzerland through the KliK Foundation. Also, Kenya and Ethiopia have made bilateral agreements with the Japanese government through the JCM. While JCM has been created prior to the PA, emission credits generated by JCM projects may be used to achieve Japan's NDC target, thereby also requiring formal authorization by host countries. Through the support from the Japanese government, host countries have begun to establish MRV frameworks to effectively track project status and emission reduction units, but ITMO authorization procedures have not yet been developed. However, the lack of ITMO transfer authorization procedures pose an additional limitation on EAA member countries' capacity to engage in Art.6 pilot activities.

4.2. Ensuring environmental integrity in establishing baselines, additionality and overall mitigation in global emissions

Environmental integrity has remained a fundamental principle for carbon markets in both the Kyoto Protocol and PA in order to prevent Parties and market participants from undermining GHG mitigation ambition e.g., through non-additional projects or transfers of 'hot air', i.e. inflated volumes of mitigation outcomes to be traded internationally from countries with unambitious mitigation targets (compare Schneider et al 2017, p.12). This means that transfers of mitigation outcomes should not lead to an increase of global GHG emissions, but to enable Parties to achieve higher ambition (ADB 2018). Among the EAA member countries, Ethiopia's NDC emphasizes the importance of effective accounting rules to ensure environmental integrity of participating in carbon markets. Kenya's NDC also shows its commitment to adhere to the international principles and Article 6 UNFCCC rules. The NDC states that the country "...does not rule out the use of international market-based mechanisms in line with agreed accounting rules" (Government of Kenya 2018, p.3).

While all EAA member countries are committed to actively participate in international carbon market mechanisms, countries have stressed the importance of substantial technical assistance in order to be able to perform required oversight of Article 6 activity cycle functions (e.g. assessing eligibility of projects, methodologies, baselines, monitoring and verification reports, SDG contributions, potentially dealing with grievances etc.). Currently,

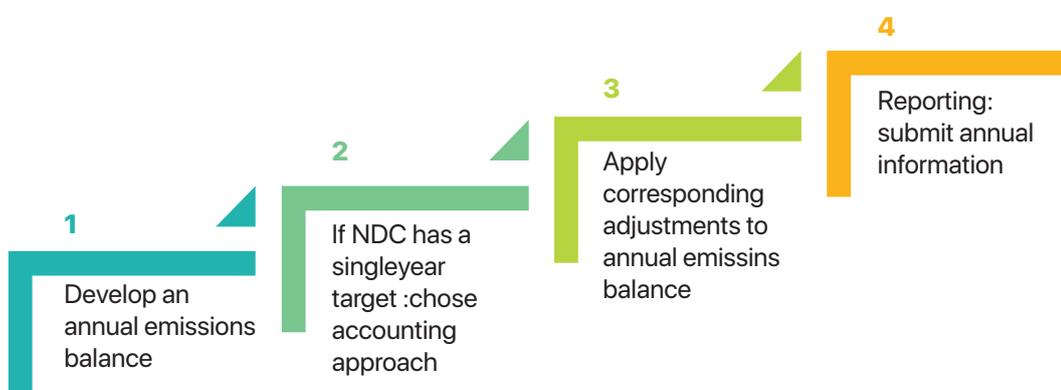
none of EAA member countries have developed procedures for establishing baselines and additionality, in part due to absence of agreed UNFCCC rules. Yet, there are relevant CDM experiences on which member countries can build Article 6 capacity. For example, four of the seven EAA member countries (Ethiopia, Rwanda, Sudan, Uganda) developed approved CDM standardized baselines. Ethiopia's (institutional cook stoves) and Rwanda's SBs (charcoal) standardized baselines remain valid until 2022 and 2021 respectively (UNFCCC n.d.). Yet, these CDM SBs may not yet have generated lasting institutional capacities in assessing baseline and additionality as related review functions were largely conducted by the CDM EB and the CDM Methodology Panel. Therefore, the current technical expertise with regard to baseline and monitoring methodologies are not deemed sufficient to put in place the systems and methodologies that would be required for Article 6.

In addition, some countries have gained initial experience through Article 6 piloting: Ethiopia and Kenya have engaged in bilateral agreements with the Japanese government through the JCM. Three JCM methodologies have been approved in Ethiopia so far (biomass combined heat and power, solar photovoltaic and electrification of rural communities; JCM Ethiopia-Japan, n.d.). However, no project has been registered to date. Similarly, in Kenya three methodologies have been approved for solar PV, micro and small hydropower. Kenya has registered one solar PV JCM project in January 2020. Concerns over capacities to ensure environmental integrity are mainly related to capacity requirements for Article 6.2 cooperation. Under the Article 6.4 mechanism it is expected that countries can build on CDM experience and UNFCCC Secretariat support structure for governance and activity cycle operations. Regarding the contribution to the overall mitigation in global emissions (OMGE), there is no precedent in all EAA member countries. EAA member countries may not be expected to contribute significantly to OMGE shares depending on activity types and taking into consideration the status of most member countries as LDCs (except Kenya). However, most countries offer unconditional domestic mitigation contributions in their NDCs. The potential to use carbon credits for domestic voluntary compensation or as a result unit of results-based climate finance could be considered a potential contribution to OMGE. However, it is important to acknowledge that there is no agreed approach to operationalize OMGE at this stage.

Beyond mitigation outcomes destined for international transfer, countries including Ethiopia and Kenya are currently exploring domestic carbon market opportunities, e.g. in the context of voluntary carbon market activities for peri-urban reforestation, renewable biomass, and the production of compost. Although details on the standards are not yet publicly communicated, these may require similar oversight functions and institutional capacity (e.g. regarding the activity cycle) compared to Art.6.2 activities, and could enhance domestic climate ambition through resource mobilization.

4.3. Sustainable development regarding national priorities, strategies, regulations

Avoiding double counting of mitigation outcomes is one of the key principles to secure the environmental integrity of market-based approaches under Article 6. Double counting would occur when one mitigation outcome is counted towards two mitigation pledges (e.g. counting an ITMO towards the NDC objectives of the selling and buying Party). In order to avoid double counting, Parties agreed to undertake so-called corresponding adjustments through which they adjust their annual emission balance (for NDC targets expressed in CO₂e) or an annual level of a different metric (for NDC targets expressed in other metrics than CO₂e). The reporting requirements for the annual emissions balance and how it relates



to the national biennial transparency report (BTR) are not yet agreed and require further UNFCCC negotiations. Importantly, these negotiations do not focus exclusively on Article 6 but also extend to transparency under PA Art. 13. It should be noted that the negotiation text on Article 6.2 (guidance, including on CA) includes flexibility provisions for LDCs and SIDS for reporting on elements linked to the NDC, but not for reporting on CAs. Nevertheless, the relationship with the ETF (which includes extensive flexibility provisions for LDCs and SIDS) is not clear in this regard (Michaelowa 2020). While reporting should not pose a barrier to the accessibility of the mechanisms, robust reporting of Parties participating in Article 6 approaches is necessary for Parties to evaluate the implications of cooperative approaches in implementing and achieving their NDCs.

While it is clear that countries transferring mitigation outcomes internationally under Article 6.2 or 6.4 will have to perform CAs, several questions relating to CAs have not been resolved yet in the negotiations:

- How can CAs be performed given different time frames of NDCs (single year targets)?
- How can CAs be operationalized for NDCs expressed in metrics other than CO₂e?
- Will CAs apply to mitigation outcomes generated 'outside' of the NDC?
- How exactly will CAs applied when using ITMOs for other purposes (e.g., the voluntary market or CORSIA)?

Currently, no Eastern African country has established procedures for performing CA but all are committed to do so once practical Art.6 activities commence. Some country representatives highlight that international rules need to be established before designing national processes and strategies. Nevertheless, capacity building is needed to build knowledge and understanding of how to perform CAs within the relevant institutions. This is underlined by the fact that CA will also be relevant in the context of Article 6.4 which most Eastern African countries prioritise. It is beneficial that most countries convene the responsibility both for Article 6 but also other UNFCCC responsibilities (e.g. NDC reporting) within the same government institution. For instance, in Uganda, the CCD will likely be responsible for undertaking CA and as well as NDC accounting and reporting.

4.4. Sustainable development in national priorities and strategies

The contribution of carbon market activities to national sustainable development goals is a key priority for all Eastern African countries. The Eastern African CDM pipeline is characterized by activities with high SD benefits, such as improved cookstoves, access to sustainable energy and water or reforestation. In Article 6 negotiations, ensuring SD contributions is seen as the responsibility of national governments. There is a need to differentiate between activities under Article 6.2 and activities under the Article 6.4 mechanism, which is sometimes referred to as 'Sustainable Development Mechanism' (Braden and Olsen 2020):

Under the latest texts on Article 6.2, provisions on SD refer exclusively to reporting by Parties in the context of BTRs. Parties would need to submit a statement that the cooperative approach is consistent with the host country's SD objectives. If this approach is kept, there will likely be no detailed multilateral guidance on how to assess and promote SD through Art.6.2. Still, defining clear SD objectives and developing a robust process (including stakeholder consultations and grievance mechanisms) might be an important requirement for buyer and host countries to minimize risks to the integrity of the activities and create transparency on co-benefits.

The draft rules and procedures for Article 6.4 provide more rules and guidance on SD. Host Parties must ("shall") provide information on SD and indicate publicly how their participation in the mechanism contributes to SD. In the approval process, host Parties have to confirm and explain how an activity promotes SD. Principles or minimum international guidance on SD assessment and MRV are not included in the draft text. Nevertheless, the text includes safeguard provisions on environmental and social impacts as well as the provision that activities need to undergo local stakeholder consultations and the establishment of a grievance mechanism.

For Eastern African countries this means that clear processes need to be established for (i) the assessment and approval of the SD of activities in line with national priorities (including MRV and assessment of SD) and (ii) the reporting of SD objectives and process for their assessment under Article 6.2). Currently, no EAA member country has defined such processes in the context of the Article 6 approaches. However, in some countries e.g. Ethiopia, the responsibility for reporting on progress towards SDGs does not rest with EFCCC (which is the UNFCCC focal point), but with the National Planning and Development Commission, which adds complexity to required institutional frameworks.

In three of the countries included in the study, no clear process to assess the SD contribution of ongoing CDM activities could be clearly identified. In the remaining four countries, SD objectives as well as institutional responsibilities and processes under the CDM are clearly defined. Through these procedures established for the CDM, the countries have developed capacities and experience on which similar SD assessments of Article 6 activities can build upon. In Rwanda, a potential Article 6 SD assessment process builds on existing criteria developed for CDM activities. Interviewees estimated that the capacity of institutions and local evaluation firms can be quickly 'updated' to meet Article 6.4 requirements. In Kenya, a clear approval process including SD aspects has been defined for the CDM and JCM which serves as a model for Article 6 activities.

Unless the Article 6.4 Supervisory Body will be mandated to develop (voluntary) guidance, there will be no international guidance on SD assessment or MRV. Determining such approaches in the context of Article 6, including the definition of suitable indicators, would then continue to lie with the host countries. A variety of tools for assessing SD impacts have been tested in the context of market-based instruments: The Sustainable Development Initiative (SDI) by UNEP DTU and the Gold Standard supports the development of related tools, guidelines and criteria (SDI). In Eastern Africa, Ethiopia, Kenya and Uganda have explored approaches for measuring adaptation benefits under the Adaptation Benefit Mechanism (ABM) which may feed into SD monitoring frameworks.

4.5. Requirements for the transfer of ITMOs

Parties engaged in cooperative approaches that involve the use of ITMOs towards achieving their NDCs, are required to ensure CAs when reporting on their NDC progress. This means that the buying Party adds the amount of exported ITMOs on its NDC target, while the selling Party subtracts the mitigation outcomes exported as ITMOs from its national emissions balance as described above.

The decision adopted by the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA) on Article 6, paragraph 77(d) of the annex to decision 18/CMA presents required information from Parties participating in cooperative approaches that involve the use of ITMOs towards NDC under Article 4 and authorizes the use of ITMOs for other purposes than achieving NDC targets:

- The annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis reported biennially;
- An emissions balance reflecting the level of anthropogenic emissions by sources and removals by sinks covered by its NDC adjusted on the basis of CAs undertaken by effecting an addition for ITMOs first-transferred/transferred and a subtraction for ITMOs used/acquired, consistent with decisions adopted by the CMA on Article 6;
- Any other information consistent with decisions adopted by the CMA on reporting under Article 6;
- Information on how each cooperative approach promotes SD; and ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure inter alia the avoidance of double counting, consistent with decisions adopted by the CMA on Article 6 (UNFCCC 2018, p.30).

- All EAA member countries are aware of the future requirements to submit quantitative information on ITMOs authorized, transferred, acquired, held, cancelled and used. While all of the countries do not have institutional capacity to perform these functions in place yet, there is a strong commitment to develop them once there is clarity regarding UNFCCC rules for implementing Article 6. Ongoing Article 6 piloting cooperation, for instance in Kenya, Rwanda and Ethiopia, could likely result in developing institutional frameworks for authorizing Article 6 activities and ITMO transfers. For instance, Rwanda already operates a database to keep an overview of CDM activities in the country. Still, the information that REMA is currently receiving and monitoring would not allow the tracking of ITMOs. However, the database could be developed further into a national and/or sectoral database with proper accounting or potentially (temporary) registry functions. REMA is aware of the risk of potentially overselling credits and the importance of defining requirements for tracking ITMO transfers so that they can be reflected in NDC accounting.

5. Carbon market infrastructure/Registries

In addition to governance functions as discussed in the preceding chapters, the CDM also provided comprehensive carbon market infrastructure, in particular a full-fledged registry operated by the UNFCCC Secretariat. This registry is essentially a standardized electronic database that ensures the accurate accounting of the issuance, holding and transfer of CERs. Such functions are likely to become available again at least for the Art. 6.4. mechanism, but may take time to establish on an operational level once Art.6 rules have been agreed. Moreover, Art.6.2 cooperative approaches are likely to operate with a potentially wide range of carbon market registries e.g. established through voluntary carbon standards, buyer countries or newly established registries for specific types of Art.6.2 cooperative approaches (e.g. JCM, SCF)

5.1. Assess the existing types and uses of registries and databases

EAA countries do not yet operate national carbon market registries that record and track the implementation status and the outcomes of the mitigation activities implemented domestically. The common approach so far has been to use international registries such as those provided, voluntary carbon standards (in particular Verra, Gold Standard, Plan Vivo), or the JCM registry. Kenya and Rwanda explore the development or upgrade of national databases to enable tracking of mitigation outcomes from carbon market activities implemented domestically. Ethiopia has established a national registry for its CRGE strategy; however, this does not systematically capture carbon market relevant information relating to transferable mitigation outcomes. Uganda utilizes other types of national databases, such as the Nationally Appropriate Mitigation Actions (NAMA) database. All countries recognize that Article 6 are planning to enhance their capacity for registry design and operation as they this is an important tool that allows them to track progress towards NDC implementation and also a step forward towards utilization of carbon markets in a more transparent manner.

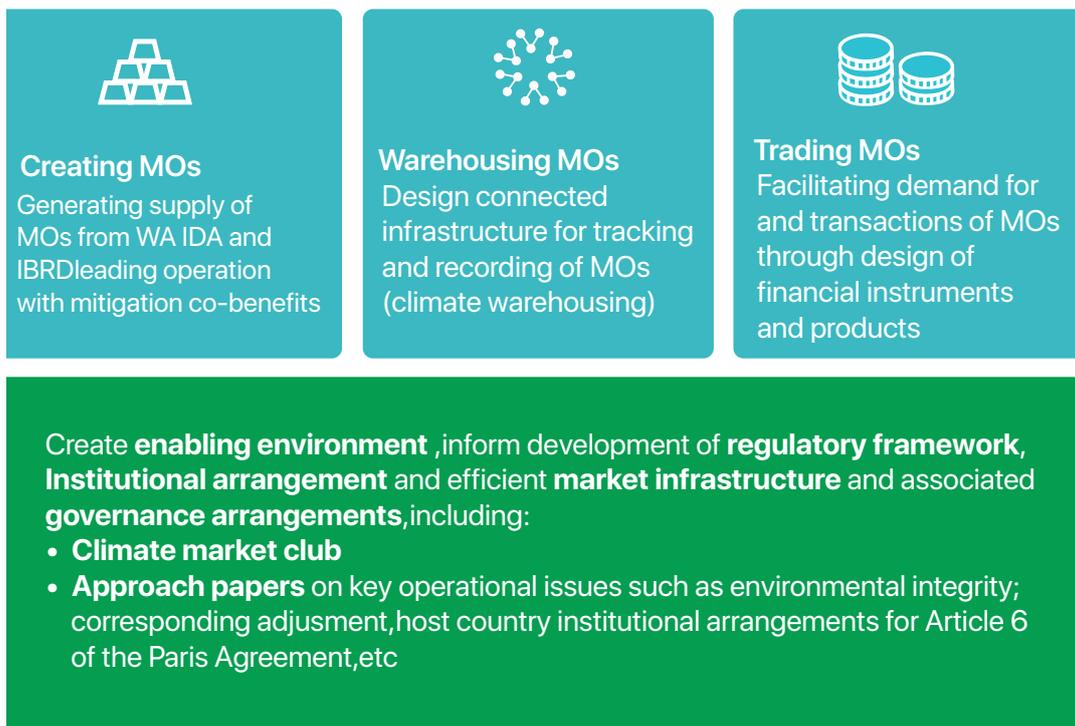
As of today, these databases allow tracking implementation of specific activities, but do not provide a full picture of the NDC implementation status. Ongoing attempts in different countries are aiming at linking different databases, including those operated internationally by the UNFCCC or by voluntary carbon standards to increase coverage of the information provided. While countries are generating expertise through the utilization of national databases, in most cases lack of capacity for the implementation and management of a fully-fledged registry has been highlighted as a major barrier together with the lack of clear international rule on Article 6. This results in no country operating a domestic registry that could track Article 6-related activities, and subsequent ITMOs transfer. However, given the beginning implementation of Article 6 pilot activities prior to finalizing Art.6 rules, interim solutions for registry functions

TEXTBOX 1 :World Banks Warehouse Facilities

The Climate Warehouse aims at supporting its member countries to enhance their participation in the carbon markets through a better understanding of Article 6 potential, mitigation outcomes demand and supply, and by developing the required infrastructure that would allow the transfers of MOs between parties. Regarding the latter component, the goal is to develop a digital infrastructure that can connect different registries (e.g., private standards, institutional registries providing) information on the status of the mitigation activities and generated MOs. Transparency and safety of this infrastructure is ensured using blockchain technology, which allows tracing available information. The goal is to have a platform that simplifies monitoring of the implementation status of mitigation activities covered by the connected registries, and of the MOs transfers in a transparent manner.

Overall, the World Bank's approach comprises four main components: creation of MOs; warehousing MOs; trading MOs and creation of the enabling environment. These components are presented in more detail in the following figure.

Figure 2: World Bank's Warehouse approach



Source: World Bank, n.d

In November 2019, World Bank completed an initial simulation to test the meta-registry involving four players: Ministry of Energy of Chile; Ministry of the Environment of Japan; the Gold Standard Foundation; and Verra. Each participant connected its registry to demonstrate how the Climate Warehouse allows the linkage of different registries to enhance transparency and to facilitate tracking by countries on the status of implementation of mitigation measures, which in turn can contribute to fulfilling reporting obligations. Additional information on the Climate Warehouse is available [here](#).

could be explored. For instance, there are national carbon market profiles developed for each EAA member state which is underpinned by an extensive database which captures all of the CDM and Voluntary Carbon Markets data as presented above. This could potentially be elaborated further into a relatively basic, excel-based database that could track the generation and potentially transfer of mitigation outcomes from various standards. While this may be a rather basic option, it may suffice until there is more clarity on what kind of carbon market infrastructure UNFCCC will provide eventually. Moreover, such an interim database registry could be developed rapidly and at low cost as no licencing fees would apply and countries could operate such interim registry databases independently.

However, there are also other potential options available at the international level, for instance the World Bank's Climate Warehouse Facility (see Textbox 1).

5.2. Risks to registry management and mitigation measures

Given that no EAA country currently operates a domestic registry, only general recommendations on avoiding potential risks of operating such infrastructure can be provided. Generally, all countries should carefully evaluate the cost and benefits of operating a domestic registry against the utilization of an international one. While the latter option may have lower costs and less burdensome requirements in terms of technical know-how, it would expose the risk for countries to rely solely on an externally managed tool.

Against this risk, the potential issues associated with the design and operation of a domestic registry must be considered as well. Firstly, it is fundamental to avoid malfunctions and prevent potential fraudulent conduct by the operators of the registry. The registry would have to include features that minimize the opportunity for units' theft or other misuses. These elements refer to both the hardware and the software of the registry. Proper operation of the registry would need to guarantee avoidance of all forms of double counting, once clear operation rules for Article 6 are in place. This objective can be achieved only if a solid verification system for Article 6 activities is in place to avoid potential fraudulent attempts. Registries alone cannot guarantee complete avoidance of misreporting of the status (or on some specific features) of the mitigation measures implemented nor can validate the truthfulness of many of the data received from individual mitigation activities. This input data must undergo a solid validation process that verifies the accuracy and truthfulness of the information and data provided and that will be feed into the registry and used for accounting purposes.

5.3. Recommended level of complexity required for EAA member countries

Any decision for specific registry systems needs to take into account the financial and human resources needed for operating domestic registries in the long run. EAA countries will likely be able to also rely on internationally operated registries, in particular the one that will potentially be managed by the UNFCCC Secretariat. This could be the case for instance of Article 6.4 activities, which will have an international oversight and a CDM-style central registry is likely to be set up. EAA member countries may thus consider assessing the costs and benefits of developing a full-fledged national registry versus working with more basic interim solutions in anticipation of being able to again rely on a UNFCCC-operated future registry in the future. Developing a full-fledged national registry incurs financial costs and comparatively high capacity requirements as it should include robust features to avoid malfunctions and prevent potential fraudulent conduct by the operators of the registry. Potential costs and benefits should be assessed carefully against the future Article 6 potential and the probability to be able to sell ITMOs.

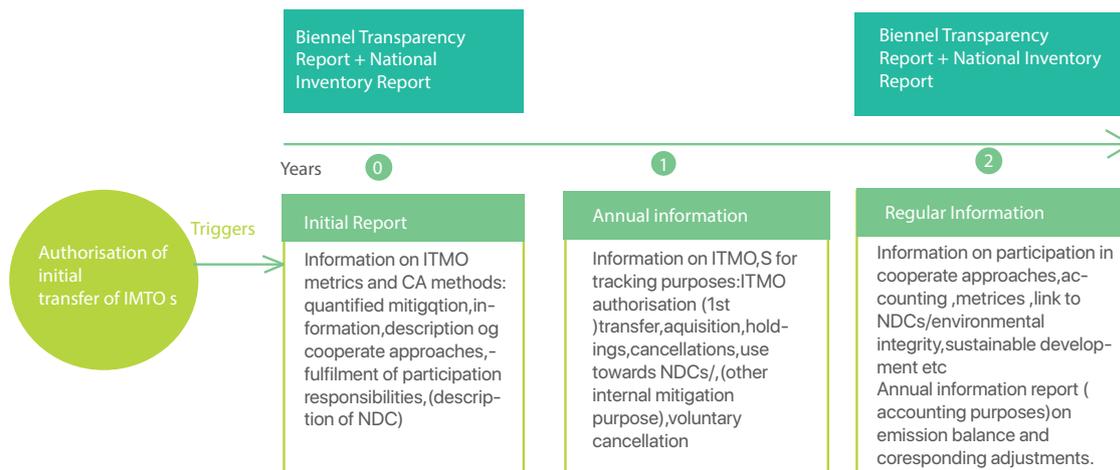
Still, under any circumstance, a national instrument for tracking carbon credit generation and transfer is required for each country in order to allow for NDC accounting and potentially apply corresponding adjustments. However, this could have the character of an initially relatively simple database that captures required data and information, without providing registry functions in the sense of issuing and transferring the actual units. Until Article 6 rules are being finalised and the availability of a multilateral registry becomes clearer, there could be interim solutions such as an excel-based database that allows a country to perform the book-keeping functions of a carbon market registry manually. This would be sufficient to collect information from potentially several international registries (i.e. registries operated by bilateral Art. 6.2 cooperation partners, VCM registries) to allow supervision of the ITMOs and facilitate tracking progress towards NDC goals and reporting to UNFCCC.

For bilateral activities under Article 6.2, or JCM or activities implemented under voluntary standards, host countries may prefer to develop one of the following options:

- Rely on the registry operated by the counterpart in bilateral agreements with a buyer country (e.g., as in the case of the JCM) and utilize a rather simple database that captures the relevant information and records the implementation status of the mitigation activities and associated transfers or uses of MOs. This option has the benefit of reducing unnecessary costs and at the same time providing the country with a tool that can contribute to the reporting obligation and the NDC accounting process. This option could be developed on an interim basis until Art.6 rules, participation requirements and required carbon market infrastructure and institutional capacity will be agreed. Such a tentative solution seems to also be the most sensible and economical approach for countries with comparatively small Art.6 portfolios in the initial years.

- It is likely that information could be fed into other systems, for instance the Climate Warehouse, to enhance availability and transparency of the information. On the other hand, the risk is to be relying on an infrastructure that is operated outside of the country.

Figure 3: Article 6 reporting process



Source: Authors' elaboration based on Michaelowa et al. 2020

- Combine the use of domestic databases and domestic registries that would perform similar functions to those of the registry operated by the counterpart. This option increases the complexity and would require an effective linkage of the different databases and registries being operated in one country. This risk is more significant when considering that under Article 6.2, several different bilateral registries may be needed, depending on the number of partnerships one host country can build, potentially with one registry for each counterpart. This duplication may be reduced in case the reporting requirement under different Article 6.2 activities are overall aligned. Although more complex and resource-intensive, this option would allow the countries to directly participate in the management of the registries.

The UNFCCC will provide a centralized registry also for those countries that do not have a national registry for the cooperative approaches under Article 6.2, which is part of the reporting obligation for these activities (see section 0). However, this may not cover completely the mitigation activities implemented in one country and does not track NDC implementation.

It is important to note that currently the detailed rules under Article 6 and the requirements in terms of reporting on the mitigation activities implemented are not yet defined and agreed. Thus, the actual level of complexity of domestic registries cannot be fully assessed. Still it is clear that no EAA member country is currently operating a fully-fledged registry nor has in place an Article 6 registry. Availability of support from development partners is an important element to be considered. Regardless of the option selected by the country, it is strongly suggested to establish a system that allows the host country to maintain an overview of the activities being retired domestically and those whose mitigation outcomes are exported, independently of which carbon standard was used. It is necessary that countries are able to supervise and track ITMO transactions and inform the accounting progress towards NDC goals and required reporting obligations such as the BTR.

In order to generate revenues that can be used towards the registry set up and operation, host countries may consider to levy an administrative share of proceeds from carbon market transactions. This approach has been pioneered by the UNFCCC Secretariat in the CDM and allowed the Secretariat not to be dependent on donor support for operating the CDM.

5.4. Potential for linking with national greenhouse gas inventory systems and NDC registries

EAA countries are aligned on the importance of national NDC MRV frameworks for tracking implementation progresses and for tools that enhance the transparency of carbon market activities. However, due to lack of clear rules on NDC accounting and reporting in BTRs and resulting to capacity and financial constraints, no national MRV frameworks specifically for an NDC or Article 6 are already fully in place. Capacity gaps have been identified with regards to the MRV expertise available in some countries, for instance where no national MRV framework is in place, or where there is an overarching MRV framework, but sectoral systems are not yet in place. Significant efforts have been conducted by EAA countries with support of international partners for enhancing MRV capacity both at national and sectoral level. A solid MRV system is necessary for ensuring that accurate data is fed into the registries and databases, however, an NDC registry in addition to a separate Art.6 registry may not be required. It is important to stress again that solid MRV systems these would reduce the risks from potential errors or intentional misrepresentation.

One element to consider is the importance of the CAs that are triggered by the transfers of ITMOs. The CA are to be applied to the emission sources and sinks covered by the NDC of one Party. This balance is reported in the BTR by each Party. In addition to that, Parties involved in Cooperative Approach (i.e., Art. 6.2 cooperation) must provide annually quantitative information on ITMO accounting.

As part of the Centralized Accounting and Recording Platform (CARP), an Article 6 database will collect all information and store information on cooperative approaches, including on the CA, on annual emission balances and information on ITMOs transfers, acquired, held, cancelled and or used by participating Parties (Michaelowa et al. 2020). National registries could be linked to this Article 6 database to feed the updated information at the required time intervals. UNFCCC will provide a centralized registry where information on the cooperative approaches and ITMOs transfers can be collected in case Parties do not operate a national registry.

Digitalization is providing an important contribution in facilitating the collection of relevant information and data from implemented mitigation actions. In many cases, for instance in the context of efficient cookstoves, e-mobility, "smart" solutions are already now reducing the complexity and costs for gathering and reporting relevant information for estimating emission. These high transactional costs are a significant barrier to certain mitigation activities type, where there are many small sources of emissions that are geographically scattered. Information infrastructure may potentially also apply "blockchain" technology that would enhance consistency in the report, enhanced transparency and facilitate detection of reporting errors and intentional changes of the reported data. The disaggregated information at activity level will constitute the basis for meeting the reporting obligations, and ultimately for keeping track of the NDC implementation status. As discussed in Section 3.3.2, solid verification procedures shall be put in place to avoid misreporting of the mitigation impacts of the implemented activities and to avoid potential fraudulent behaviours by the market actors.

5.5. Compatibility of the proposed accounting system with registries for REDD+ and voluntary carbon market standards

As discussed above, currently no EAA country operates a national registry for Article 6 nor for tracking NDC implementation. Thus, a detailed assessment of how these would have to be linked to Reducing Emissions from Deforestation and Forest Degradation (REDD+) and voluntary registries cannot be assessed at this stage. However, it is clear that REDD+ primarily operate through VCM standards e.g. in Ethiopia, the REDD+ database is linked to voluntary carbon standard infrastructure. Therefore, it can be considered a specific activity type within the voluntary market with its own characteristic features. As explained above, countries need to be able to track any potentially exported mitigation outcomes e.g. through an interim registry database. Establishing a simple interim database registry that also facilitates tracking MOs from REDD+ activities applies exactly in the same way as through other voluntary carbon standards.

However, some countries have chosen to exclude LULUCF activities from their NDC targets.

Therefore, REDD+ activities would be considered outside the scope of the NDC in this case. Moreover, countries can apply for results-based payments for REDD+ under the GCF only if they report the REDD+ result as part of the Biennial Update Report (BUR) (Michaelowa et al. 2020). This is an incentive for Parties to submit relevant information in a timely and accurate manner to the UNFCCC.

The consistency of NDC accounting with registries for REDD+ is also challenging, since "avoided" emissions from avoiding deforestation do not appear in GHG inventories. Related, there is an unresolved potential overlap between emissions from the use of non-renewable biomass for energy use (e.g. cooking) and reduced emissions from avoided deforestation. This takes place in the context of broader challenges of further reconciling land sector and energy sector emissions sources and mitigation potentials as well as related parameters. This is crucial since previous international frameworks have been focused on reporting, but not differed regarding accounting for land use, land use change and forestry (LULUCF) related emissions reductions (compare Brack 2017). UNFCCC (2021) stresses that under the UNFCCC all emissions and removals from LULUCF are to be considered under a Party's total emissions while the Kyoto Protocol restricts the accounting of the LULUCF sector to emissions and removals from specific activities that are defined under its Article 3.3 and 3.4. The former, which is mandatory for Annex I Parties includes direct, human-induced deforestation, the latter, which is voluntary, includes forest land, cropland and grazing land management.

Many countries have previously excluded the LULUCF sector from mitigation targets, especially Annex I during the Kyoto Protocol era, but also a remaining number of countries in their updated NDCs. The Enhanced Transparency Framework (ETF) under the Paris Agreement as per decision 18/CMA.1 requires countries to apply the IPCC 2006 inventory guidelines. While explanatory notes to the guidelines (Task Force on National Greenhouse Gas Inventories, 2021) state that 'CO₂ emissions from biomass combustion used for energy are only recorded as a memo item in the Energy sector; these emissions are not included in the energy sector total to avoid double counting', they also clearly argue that 'the approach of not including these emissions in the Energy Sector total should not be interpreted as a conclusion about the sustainability, or carbon neutrality of bioenergy'. We also note that LDCs can apply the ETF rules 'at their discretion'. Given the ambition for all NDCs to eventually become economy-wide, further research and potentially improvements in international accounting frameworks for LULUCF may will be required in order to improve clarity, transparency and consistency around the approaches to determine GHG emissions and mitigation potentials from using biomass for energy purposes and to ensure a clearer demarcation with REDD+ activities.

5.6. Potential of establishment of a regional transactional system among the countries involved in the study

When assessing the potential for establishing a regional transactional system among the EAA member countries, it is important to clarify the scope of what is meant by "transactional system". The most common understanding would be to consider establishing a regional carbon exchange on which mitigation outcomes would be traded. This is comparable to other commodity exchanges and exists in EAA member countries e.g. for agricultural commodities. However, this type of regional exchange would only be sensible if there is a liquid secondary market on which carbon credits would be either auctioned or traded frequently. Related, there may be potential to establish a regional transaction system for carbon credits within existing commodity exchanges. The Ethiopia Commodity Exchange (ECX) is a well-established national platform for trading commodities (i.e. coffee) since 2008. While this may be a suitable entry point for the potential creation of a regional carbon exchange, there should be further study analysis of the costs and benefits for such an approach, as such exchanges primarily support secondary market trading or carbon allowance auctions. The creation of a functioning exchange only makes sense only if the regional carbon market reaches a certain scale. Thus, it is expected that a such regional hub will not be implemented in the short term. Moreover, the limited supply of carbon credits from the region has historically been absorbed by primary market buyers through emission reduction purchase agreements, often without being traded on exchanges.

Since that is not immediately the case in most EAA member countries, it is also important to consider additional potential aspects of a regional transaction system. These may include in particular

- Carbon market windows within key national resource mobilization institutions (e.g., Rwanda's National Environment and Climate Change Fund (FONERWA) in Rwanda, Climate Resilient Green Economy (CRGE) Facility in Ethiopia) that can aggregate regional demand and supply and thus help interested domestic and international carbon buyers to identify and procure carbon credits from the host country or region. This has the main intention to help carbon asset owners identify buyers, but could also have a positive impact on NDC ambition if it helps to mobilize domestic demand for carbon credits for which no corresponding adjustments need to be ready.
- Given the initially strong focus on bilateral Art.6 cooperation, and a stronger role of governments, common principles (and potentially templates) for approving activities and developing Mitigation Outcome Purchase Agreements (MOPA) could benefit from regional

guidelines on aspects such as requirements for issuance, authorization and recognition of mitigation outcomes

- Common Accreditation Standards for Designated Operational Entities (DOEs) that may enable a bigger regional market and stronger regional presence for DOEs in Article 6 cooperation. This can not only reduce transaction costs, but may also reduce the need for a large number of different sets of accreditation requirements for each bilateral cooperation approach for host countries and prospective third-party entities.
- Regional guidance or common requirements to have host countries authorize ITMO exports also from VCM standards in order to allow host countries to track and report on the exports of mitigation outcomes
- Regional voluntary carbon market approaches (tools such as methodologies but also other activity cycle steps) to lower transaction costs by allowing a broader reach while potentially generating domestic demand
- Harmonized regional approaches for Art.6.2 cooperation could also reduce the complexity of developing national Art.6 procedures and institutional capacity as discussed above for smaller host countries without substantial institutional capacity.
- A common regional approach to levying an administrative share of proceeds may help countries to design and operationalize this potentially significant source of revenues which could be earmarked to establish and sustain required institutional capacity and related instruments (e.g., activity cycle oversight, registry databases, reporting to UNFCCC).
- Common accounting approaches for ITMOs that may be denominated in other metrics: Ethiopia has begun large-scale clean power exports to most of its neighbouring countries (EAA members). It has not yet been explored and agreed to which country's NDC the mitigation outcomes resulting from international clean power transfers (e.g. within the East African Power Pool) will be counted. While a CDM methodology has been developed for an interconnector between Ethiopia and Kenya, such a dedicated accounting approach could promote regional cooperation and integrate energy and carbon trading.

5.7. Recommendation on legal and institutional framework required to support registry systems for Article 6 activities

Regarding the institutional framework for carbon market registries, EAA member countries could explore the availability and utilization potential of international carbon market registries

operated by the UNFCCC. On an interim basis, a relatively simple database should suffice to ensure accurate tracking of the limited number of Article 6 related mitigation measures under different mechanisms, including voluntary carbon standards, and how they contribute to achieving NDC goals. Such a database could enable countries to perform basic interim registry functions as a basis for transparency reporting requirements until Article 6 rules have been agreed and the availability of a UNFCCC registry becomes clearer. Bilateral registry tools may be necessary for participating in Article 6.2.

Such an interim registry should be established by DNAs but should be aligned with NDC accounting and reporting responsibilities (e.g. BTR). It will be crucial that such a database captures all carbon market activities across mechanisms and standards, i.e., CDM, VCM, and Article 6 piloting efforts. As NDC accounting and reporting is often but not always overseen by the institutions that currently host CDM DNAs, the preconditions are in place to move forward with the blueprint for such an interim registry database, which could be developed further based on the first practical Article 6 pilots. Public statements by frontrunner Article 6 buyer countries like Switzerland indicate that in the early days of Article 6 piloting, such a comparatively simple interim solution would find acceptance among buyer countries.

EAA member countries can benefit strongly from participating in a regional effort to set up such frameworks through a regional dialogue with other peer EAA countries in the context of the East Africa Alliance. This promises efficiency in technical assistance, and a broader reflection on past experience and future requirements, through a dialogue with regional peers that have been able to generate more comprehensive experience with carbon market activities.

Various aspects of a future legal and institutional framework for Article 6 still need to be developed. This may include :

- a comparatively basic interim registry database that captures all “bookkeeping” functions of a carbon market registry as a basis for accounting and reporting.
- developing guidelines or even legislation to prevent mitigation outcomes generated under voluntary carbon standards from being exported without duly notifying host country governments

The EAA is extremely well placed to facilitate a peer exchange and regional dialogue to continually exchange views, experiences and open question among member states. Since all countries face very similar challenges and open questions, leading frontrunner countries can offer a lot of support for their peers, while also benefiting from the technical assistance and expertise which EAA can mobilize

6. Conclusions and recommendations

All EAA member countries have established national climate change governance structures during the Kyoto Protocol era and developed institutional capacity for overseeing carbon market activities. Similarly, member countries have shown their strong continued commitment to participate in PA Article 6 activities. However, countries have not yet formally begun to develop national governance structures for Article 6 approval and implementation. This will require developing institutional capacity and infrastructure such as setting up registries, implement CAs, and regular reporting. No EAA member country has yet developed relevant procedures to accurately track progress towards mitigation targets, not least due to the absence of agreed UNFCCC rules. Political uncertainty also holds back CDM transition, in which not only activities and units, but also institutional procedures (LoA, assessing contributions to SD) could serve as building blocks for developing required Art.6 procedures and practices.

EAA member countries' DNAs are expected to play a key role in the institutional procedures for ITMO authorization considering their experience with CDM LoAs; however, member countries have not yet officially designated a responsible institution which can authorize ITMO transfers. Given the absence of UNFCCC guidance and rules, modalities, and procedures for Article 6, countries struggle to clearly define roles and a legal basis of such institution. As a result, ITMOs authorization procedures in all countries remain at conceptual level.

In addition to the lack of international agreement on Article 6 rules, limited staff capacity and required infrastructures for implementing CAs as well as ensuring reporting responsibilities, have created additional challenges to develop procedures for future ITMO authorization. Most countries therefore underline the importance of further staff capacity support, Article 6 infrastructure including hardware and software support, and strengthening regional knowledge platforms through such as the EAA to continuously exchange views on Article 6 information and experiences.

EAA member counties have not yet developed their own national registries that record and track the implementation status of domestic mitigation activities. Member countries need to carefully consider the level of complexity of support tools needed (in particular: interim registry/database). The most common approach has previously been to make use of international registries such as the CDM registry, those created by voluntary carbon standards, or the JCM registry. Prior to UNFCCC Art.6 rules/infrastructure, basic excel-based databases may suffice as 'interim registries' and can be built on existing databases. All EAA member countries are planning to enhance their capacity for registry design and operation as they recognize Article 6 registry is an important tool that allows them to track

progress towards NDC implementation transparently. As part of strengthening their national capacity, EAA member countries could consider levying a fee on issuing or exporting verified mitigation outcomes from activities under Article 6 or a domestic carbon market ("administrative SoP") to establish and sustain institutional capacity, in particular for Art.6.2 cooperation and UNFCCC accounting and reporting requirements.

It is important to note that as the detailed Article 6 rules and the reporting requirements for the mitigation activities implemented are not yet defined, the actual level of complexity of domestic registries cannot be fully assessed. No developing country is currently operating a fully-fledged registry nor has in place an Article 6 registry.

EAA member countries could explore the availability and utilization potential of international registries under the UNFCCC (i.e., under Article 6.4). Bilateral registry tools may be necessary for participating in Article 6.2 if concrete activities are being planned. On an interim basis, a relatively simple database should suffice to ensure accurate tracking of the limited number of Article 6 related mitigation measures under different mechanisms, including voluntary carbon standards and how they contribute to achieving NDC goals. Such an interim registry would be established by DNAs and can be aligned with NDC accounting and reporting responsibilities. It will be crucial that such a database captures all carbon market activities across mechanisms and standards, i.e., CDM, VCM, and Article 6 piloting efforts and is simple and user-friendly.

In addition to participating in the international carbon market, the first EAA countries have begun to design domestic carbon market activities in order to enhance ambition and mobilize resources. These carbon credits would not leave the host country and can therefore be accounted towards the domestic NDC achievement. This may allow an increase in the unconditional contribution ex-post, if significant volumes are being achieved. Among the EAA member countries, for example, Ethiopia is currently considering developing a domestic carbon market.

As East Africa is getting ready for a new generation for carbon markets under Article 6, the region can build on strong foundations established during the Kyoto era. All countries have developed relevant institutions, experience, and portfolios. This institutional capacity clearly needs to be revitalized, updated and expanded to meet all Art. 6 requirements. However, EAA member countries can strongly benefit from participating in setting up Art.6 institutional frameworks through a regional dialogue with other EAA countries. Exchanging questions and experiences with regional peers including some that have already generated relevant experience with Article 6 facilitates readiness preparations significantly, as it provides a common space for a broader reflection on past experience and future requirements. This can be beneficial both for engaging in shaping multilateral rules by providing inputs to the global process based on regional experiences, as well as to practical initiatives that help countries achieve conditional NDC targets and enhance their overall ambition.

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