

2<sup>nd</sup> Tracking Working Group of the  
Paris Agreement Article 6 Implementation Partnership (A6IP)

Summary of Meeting

November 21, 2023

Organized by:

Ministry of the Environment, Japan (MOEJ) and  
Paris Agreement Article 6 Implementation Partnership Center,  
Institute for Global Environmental Strategies (IGES)

## Disclaimer

The organizers have taken diligent measures to maintain objectivity and present a thorough conference summary. However, it is important to acknowledge the possibility of occasional errors. We kindly recommend referring to the meeting webpage for additional materials pertaining to each speaker's presentation.

## Summary of the Meeting

The 2<sup>nd</sup> Tracking Working Group of the Paris Agreement Article 6 (A6) Implementation Partnership (A6IP) continues the dialogue on A6 Tracking that began with the A6IP's 1st Tracking Working Group (WG) Meeting in May 2023.

- Michael Vartanyan, UNFCCC Secretariat

Session 1 covered A6 Tracking from the perspective of partner countries, with presentations by:

- Kohei Kiname, Ministry of the Environment, Japan
- Rueban Manokara, National Climate Change Secretariat, Singapore

Session 2 covered A6 Tracking from the perspective of partner institutions, with presentations by:

- Hari Gadde, World Bank
- Alexandra Soezer, UNDP
- Yuvaraj Dinesh Babu, Climate Action Data Trust

Session 3 was a presentation on a toolkit the A6IP is preparing to aid with A6 tracking, led by:

- Toshinori Hamaguchi, A6IP Center

The meeting was concluded by Kazuhisa Koakutsu, Director at A6IP, who invited all participants to contact the A6IP to express their interest in its capacity building tools for Article 6 implementation.

## Key Takeaways

1. Tracking and the use of registries is critical to A6 as it proactively preempts double counting and accounting issues, and also as it is essential to empowering the private sector to engage in climate finance through secondary and tertiary markets.
2. Countries have four broad registry infrastructure options to choose from: Procure a bespoke national registry from scratch, use the UNFCCC A6 registry, utilize open-source solutions, or use third-party providers. Beyond software costs, countries should also consider implementation cost and time, functionalities needed, expected costs-benefits from A6 trading, and if they prefer a sovereign solution over using a private-sector / international provider.
3. While some countries may benefit from prior carbon trading experiences (e.g. Japan's Joint Crediting Mechanism) when it comes to operationalizing registries and A6 tracking, most are beginning from scratch, and need support on technical aspects as well as foundational awareness and know-how of the benefits that registries confer. Joining international communities of practice is essential to learning from peer country experiences as they 'learn by doing' in this evolving space.

— Highlights from the minutes follow below —

## Introduction

### A6IP

- Mr. Kazuhisa Koakutsu, Director at the Article 6 Implementation Partnership Center, opened the session with an update that the A6IP now includes (at the time of this meeting) 71 countries and over 100 public and private institutions; and that the A6IP is now welcoming expressions of interest from countries in the A6IP's capacity building tools – toolkits for Authorization, Reporting, and Tracking; and the Support Package (SP). They aim to provide comprehensive, complementary support for (but may not be limited to) the operationalisation of Article 6. Before turning to the agenda for the day, Mr. Koakutsu also invited all WG participants to join the A6IP at two of its side events during the coming COP28 in Dubai on 9 Dec 2023, where the SP will be launched; and 11 Dec 2023, where distinguished speakers will lead discussions on on-the-ground experiences and progress related to capacity building support for Article 6.

## Setting the Scene

### UNFCCC

- Mr. Vartanyan provided context on A6 tracking infrastructure, outlining fundamental concepts related to registries as accounting systems for internationally transferable mitigation outcomes (ITMOs). These **registries play a critical role in preventing double counting and addressing accounting issues proactively**, rather than having to correct them after the fact. Further detail can be found in UNFCCC's guidance and technical papers on their website.
- On the Secretariat's registry solution – UNFCCC is actively working on a solution that builds upon the successes of the past CDM information system. Key features are a straightforward design – enough to meet the needs of most users – and remote control API access, allowing national registries to mirror accounts in UNFCCC-operated registries. The final interoperability approach is set to be designed in the upcoming year, addressing both technical and business questions that will shape the ultimate architecture.
- UNFCCC is now in the procurement process, and invites parties to help fund its International registry so it can be implemented harmoniously with its Mechanism registry (which is funded), so that both registries can be launched together (which facilitates interoperability) in Sep 2024, for a final rollout in Q1 2025.
- On how registries support AEFs and A6 reporting – **UNFCCC's primary mission on this front is to create a common language and hence comparability across electronic format reports**. Mr. Vartanyan shared that registry centralisation is correlated to automated AEF generation, and raised open issues like the need to harmonize nomenclatures and variables (e.g. the EU not being listed as a separate option for Country fields).

## Session 1: Information sharing on A6 Tracking from partner countries

### Singapore

- Mr. Manokara explained that Singapore shares the UNFCCC's view that **standardised building blocks for countries, VCM mechanisms, and infrastructure are key to interoperability, and to maximizing global participation in A6**. Adapting existing Voluntary Carbon Market (VCM) mechanisms and infrastructure to meet A6 requirements, including tracking, can speed the

onboarding process for non-state actors who already know VCM mechanisms and instruments well; while countries may also see reduced time and costs to reap A6 benefits. He described 2 'standardized building blocks' for A6.

- A6 requirement-aligned registry arrangements – Singapore is working to identify common requirements between national and standard registries (on top of requirements specific to each kind of registry), to ensure that when both are used in A6 carbon trading, they can be configured in a harmonized way to remove double-counting risk. In the same vein, Mr. Manokara also shared a schematic for how changes to credits and ITMOs can be communicated and mirrored across registries.
- A6 authorization – Singapore is also looking into issues that may arise from ITMO trading (for e.g. in the voluntary market): such as when only part of the units issued according to a particular project are authorized, or when project developers do not own all units, or when authorization takes place while ownership of a unit is repeatedly changing hands; registries need to be configured to account for these scenarios so countries can successfully leverage multiple markets.

### Japan

- Japan has 2 registry systems – the 2008 national registry of the Kyoto Protocol, and the 2015 JCM registry system for Japan's Joint Crediting Mechanism. The latter registry is set up in line based on common specifications that are also followed by JCM partner countries' JCM registries. **General users and account holders enjoy flexible, transparent access, while JCM credits are recorded and tracked based on CMA guidance** (similar to the principles explained earlier by Mr. Vartanyan) – using unique identifiers to mark info such as year of JCM credit issuance, with further identifiers added for AEF.
- Japan is now aligning the JCM registry with A6.2 guidance. Its current challenges are if / how alignment and verification of the existing data to the AEF can be reliably automated; and how it can build an ITMO checking system to avoid double-counting (perhaps by connecting with other registries, or a 'meta-registry'), so ITMOs can be properly authorized for use towards NDCs / Other International Mitigation Purposes (OIMP).
- Mr. Kiname closed by introducing the website of the JCM registry and JCM, where credit information can be viewed, and where credits can be transferred in. Future improvements to the website will improve the user experience and update the data accessible to the public.

### Discussion

- Q: Which party is ultimately responsible for tracking ITMOs: the host country, the receiving country, or the UNFCCC?
  - A: Responsibility sits with parties in the cooperative approach to ensure they have ITMO tracking arrangements that preserve accounting integrity. **As A6.2 is decentralized, parties may organize tracking independently, so long as they report that per the AEF – so they have flexibility on the 'how'**. Alternatively, the Secretariat provides the International registry as a service that parties can rely upon to track their ITMOs, including those from their own cooperative approaches.
- Q: What support is provided by Singapore and Japan for counterparts to establish and operate national registries (for Singapore) / JCM-aligned registries (for Japan)?
  - A: Singapore takes a needs based approach to capacity building support for countries looking to build their own national registry systems; for instance, countries that have previously engaged with the CDM have stronger knowledge of registries that is transferable to building their own national registries for A6. Countries also need not build their own registries, as the minimum requirement for A6 participation is to

assign a registry: several countries would prefer to assign a registry rather than build their own.

- A: Japan has issued JCM credits from 11 countries to date, and has provided each with technical demonstrations and a manual of how to use the JCM registry, followed by support from the JCM Secretariat as needed.

## Session 2: Information sharing on A6 Tracking from supporting agencies

### World Bank

- Mr. Gadde explained that the World Bank (WB) builds end-to-end digital infrastructure (global public goods), then helps countries implement and scale. Creating national markets that accurately track emissions and finance flows, integrate smoothly with national inventories, and suit countries' needs / chosen approaches to registries remains a key challenge. In response, **the WB has made open source infrastructure (registries, data management systems, tokenization engine, Climate Action Data Trust) for carbon markets available to any interested countries.**
- Many pathways are emerging for countries to meet their A6 reporting requirements, based on viable resources, capacity to manage and maintain systems sustainably, and whether they need registries to meet both domestic carbon pricing and market requirements. **Countries have 4 carbon registry infrastructure options: Procure a bespoke national registry from scratch, use the UNFCCC A6 registry, utilize open-source solutions, or use third-party providers.**
- Early observations – overall, more awareness is needed on why a national registry is required, and what the UNFCCC registry comprises. Countries already in a cooperative approach have a headstart on infrastructure plans. Some countries may even have installed systems before policy frameworks to govern them which is not ideal. The use of domestic carbon pricing also impacts registry choices.

### UNDP

- **UNDP has developed 2 digital solutions: the first being the Platform for Voluntary Bilateral Cooperation** (also shared in the previous A6IP WG on Reporting), where all key actors can access project information and manage the ITMO workflow from initiation to request for issuance, **and the second being the National Transparency System as an open-source registry (also a digital public good), which is free with continuous upgrades at no cost, “ready to install”, and is interoperable with other tools.** It also automates the issuance of carbon credits in line with global standards, and allows credits to be traded within and across borders – with immutable, traceable records.
- UNDP helps countries install registries on their own terms through a 4-step national installation process: scoping, installation, testing, then ongoing technical and knowledge support. This process aims to understand and build on the country's regulatory framework. Besides technical oversight and deep engagement across all stakeholders to ensure national installation is a success, financial controls and regular training are needed to maintain and keep abreast of the system as it continues to improve over time: UNDP's online community of practice can help by sharing knowledge and connecting peers for mutual learning.

### Climate Action Data Trust

- Mr. Babu restated the context behind the need for an entity like Climate Action Data Trust (CADT): **the bottom-up cooperative approaches of A6.2 to achieving NDCs faces challenges**

**due to decentralisation – differences between governance rules and tech systems lead to opacity in project activity cycles.** CADT aims to address that challenge by connecting disparate data while making it possible for various stakeholders to use it flexibly. It is positioned as a market solution (between the supply side and demand side) and works closely with ICVCM and VCMi respectively. Mr. Babu stressed that **it is critical to not just have a registry, but to understand how it would surface data to suit different end-uses across the whole lifecycle of a credit.**

- CADT was operationalized in Dec 2022 after successful simulations, with excellent feedback from different countries and standards. It links registries and harmonizes data in a common data taxonomy that automatically surfaces data to different registries, creating confidence in carbon markets. **The “service layer” of offerings enabled by CADT (e.g. AEF reporting, due diligence, ratings, regulatory compliance) allows all stakeholders to benefit from resource-efficient, real-time provision of harmonized data across registries.** Current challenges faced are primarily about fragmentation and a lack of transparency: across standards and voluntary / compliance market registries, clarity on prices, data, and project lifecycles, and linkages between credits to NDCs; all of which impede giving clear signals to private sector investment.
- CADT will launch a data dashboard at COP based on 80 data parameters, publishing data from 3 registries. In the immediate future, CADT will continue to bring more independent and national registries and standards on board, and plans to visualize the accounting of corresponding adjustments so stakeholders have full visibility into transactions down to secondary and tertiary markets. As a digital public good and not for profit registered in Singapore, it currently does not charge for the service layer.

#### Discussion

- Q: What lessons has WB learned from its support and establishment of 2 different open source national registries?
  - A (WB): Practical challenges for countries are large. Resource needs and the capacity of countries to not just establish but maintain registry systems are a big challenge for countries, who need to weigh these considerations carefully when deciding on a registry configuration. **WB is seeing more countries look into outsourcing those services to a national or even global level; and open source systems – especially those easier to understand – are gaining traction for their simplicity. On the other hand, a few countries are more advanced and want a more comprehensive setup: integrating national registries to national MRV systems and inventory (e.g. Singapore).**
- Q: What is the first step to install a national registry, and how can / should it be linked to the GHG system? Can it be established in the GHG system?
  - A (WB): If the “GHG system” being referred to means those that capture the emissions and reductions of in-country projects, that is not the functionality of the registry – but it would be possible to create a system that performs both the functions of a GHG inventory and a registry.
  - A (UNDP): In line with what Mr. Gadde shared above, some countries already do have a digital reporting system e.g. Vanuatu, and in these cases it would be simple to add the functionality of a registry in a few months, especially with open source software.
- Q: What advice would you give to countries looking to establish and operate a registry?
  - A (UNDP): **Strategic considerations are key. The costs for setup and maintenance should be weighed against the revenue that can be generated from A6 projects within this NDC cycle.** Fee recovery is increasingly in question as the window of opportunities for project development before 2025 is shrinking rapidly. However, if a country aspires to participate in a larger carbon market, **a registry will be critical for public and private sector engagement.** Private sector players in particular will be keen

on seeing a registry that supports secondary market sales, and has high fungibility (where individual credits are interchangeable; e.g. a credit that qualifies for CORSIA, the Singapore compliance market. and other compliance markets in future). Hence, even countries with their own registries, might need to rely on services of established independent standards in the future (as Singapore does).

- Q: Does CADT plan to support countries in establishing national regimes, and if so, how?
  - A (CADT): Support is provided by WB and UNDP in the form of technical assistance to over 30 countries to connect with CADT, so they can enjoy the benefits mentioned earlier, but CADT does help countries connect their registries (once they are deployed) to connect to its services.

### Session 3: Discussion about the development of a tool for A6 tracking

#### A6IP

- Mr. Hamaguchi outlined the contents of the A6IP's draft training material toolkit: it provides foundational background on A6 tracking and cooperative approaches, challenges in tracking and the broader carbon markets landscape, and options for registry configuration with examples.
- Adding to what previous speakers had shared, Mr. Hamaguchi gave an overview of the global divide between national, international, and independent crediting mechanisms, and affirmed the challenges of fragmentation and opacity in the markets raised by CADT, before laying out **a pros/cons decision matrix of the different registry configurations, showing how each could map to different existing or anticipated national circumstances.** e.g. a domestic registry may be more suitable for a country with multiple cooperative approaches; while a country that does not intend to participate in many cooperative approaches may choose to outsource their registry to reduce costs and time to operationalise – in line with the practical cost/benefit considerations shared by UNDP.
- He called on A6IP member countries to reach out to A6IP to share information on their progress with operationalizing their registries to kickstart the process of applying the toolkit to their registry operationalization efforts, and shared that A6IP will compile and analyze the info in early 2024 as a next step.

#### Discussion

- Mr. Koakutsu opened the last discussion by expressing the A6IP's commitment to helping countries establish their own registries, to operationalize A6 – and that its overall goal is to equip countries with diverse, well-understood options to choose from. He acknowledged that registry interoperability remains an open issue, but that the foundations have been agreed on from COP27 and that the next step is to operationalize registry systems for tracking.
- Q (A6IP): What feedback on / expectations would the presenters have on the A6IP tracking toolkit?
  - A (Japan): **A decision tree guiding countries to different options based on their needs would be helpful. Hands-on capacity building activities will also be key** as learning by doing processes are more effective.
  - A (UNFCCC): On the A6IP toolkit – Mr. Vartanyan agreed with Mr. Kiname that a manual / decision tree laying out how countries can build out their registry systems from end-to-end would be helpful.
  - A (WB): **Lessons learned from both countries who are pursuing more advanced, complex registries, and those who are using open-source registries, should be incorporated** into this toolkit as a working document that collects the latest

experiences. Decision matrix, resource needs assessment and lessons learned from them are 3 major things that the manual should aim to achieve. WB is also working to collect these insights in an approach paper soon.

- A (CADT): The manual should remain a work in progress that is improved with more experiences coming in from the market. **It should also include training for the local vendor ecosystem so they can support registry services in and beyond their own countries.**
- Q (A6IP): When will the UNFCCC International registry be operationalized and ready to offer services to countries, and when will the Secretariat be ready to offer support e.g. knowledge products?
  - A (UNFCCC): The first limited-functionality version of the registry is planned to be available in Sep 2024 followed by a fully-functional version by Jan 2025, but the timeline depends on the funds available. A manual is being worked on to support this process. In the meantime, there are technical papers available that countries can consult on this topic. Initiatives like the A6IP's are welcome and helpful, and it is key for all capacity builders to align and deliver coordinated knowledge globally. He encouraged all participants to join the A6IP's community of practice, which can help to achieve this and to create buy-in.
- Q (A6IP): Could UNDP and WB share more case studies of countries who have chosen different registry options? How can we accommodate diverse need while creating more uniformity across registries globally?
  - A (CADT): The situation is highly dynamic. For e.g. India's current position is that they will not connect with independent registries but instead use a 'meta-registry' uniting all its sub-registries used for domestic crediting – but they may have to do so to enable corresponding adjustments.
- Q (A6IP): Could the presenters provide an estimate of the resources needed to operationalize a registry?
  - A (UNFCCC): **Implementation, rather than software costs are often a larger factor, meaning that open-source software may not necessarily be the most important factor for saving costs.**
  - A (WB): **Another challenge is setting up institutional governance and policies.** Countries need awareness and capacity building support to understand, deploy, and run their own registries – and access others.
  - A (UNDP): **Namibia set up its system in 2 weeks, costing between USD\$20,000 - \$50,000** to work with local + international IT experts. However, as Mr. Vartanyan shared, the main challenge is to maintain and operate that system – this has not been fully resolved in any of the UNDP's partner countries to date as most are starting from scratch.
  - A (CADT): Private registries are increasingly offering **cost-effective "registry as a service" business models that also offer specific functions on demand.** However, nations may not choose these options out of sovereignty concerns.
- Q (A6IP): How can information from different registries be collected to a national registry? Are there any particular solutions e.g. a standardized protocol, blockchain tech that may be needed to connect registries?
  - A (WB): **Agreeing to a common data model is key to avoid fragmentation** of different configurations and requirements etc., and to reduce information overload for countries. Mr. Gadde also shared that WB looks forward to sharing more insights as they continue to learn and guide countries in their programs.
  - A (CADT): Private registries are transitioning to interoperability through digitalization and have formed a digital working group focused on advancing digital Measurement,



Reporting, and Verification (MRV). Singapore will be the first country to connect with standards like Verra and Gold Standard, and key lessons will be learned there.

### Closing remarks

- Mr. Koakutsu thanked all participants for their questions and responses, and welcomed further input in future as the A6IP works on launching the tracking toolkit as soon as possible, so countries can operationalize their registries with confidence.