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Article 6 Transaction Structures
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For The World Bank Transformative Carbon Asset Facility

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# Contents

1. **Introduction**  
2. **Data collection**  
3. **Overview of transaction structures**  
3.1 KliK, sovereign buyer  
3.2 Swedish Energy Agency, sovereign buyer  
3.3 Joint Crediting Mechanism, sovereign buyer  
3.4 GGGI, capacity building & trade piloting  
3.5 Gold Standard, certification standard  
3.6 ART and ACR, CORSIA eligible certification programs  
3.7 atmosfair, project developer  
4. **Analysis**  
4.1 Comparison of transaction structures  
4.2 Lessons learned
1. Introduction

COP 26 in Glasgow marked the completion of the Paris Rulebook, which now includes the guidance, rules, modalities and procedures governing the international transaction of mitigation outcomes under Article 6.

The finalized Rulebook provides certainty on the rules applicable to carbon transactions in the context of the Paris Agreement. In particular, the Rulebook has made clear that corresponding adjustments should be applied for all internationally transferred mitigation outcomes.

While the Article 6 Rulebook was only concluded late 2021, numerous Article 6 pilots have already been developed to date. These pilot initiatives have been applying provisional guidance based on the latest Article 6 negotiation texts, and have progressed to different design stages (conceptual, preparatory, early implementation). Moreover, stakeholders in the voluntary carbon market have started to explore and engage with the Article 6 rules and guidance on corresponding adjustments.

This brief gives an overview of the transaction structures envisaged in a range of Article 6 pilots and other carbon transaction initiatives that are looking to apply corresponding adjustments.

The objective of this brief is to strengthen the understanding of TCAF contributors on different potential transaction structures for Article 6 collaboration, and contribute to the development and implementation of Article 6 transactions in the context of the TCAF program. Particular attention is paid to the link between corresponding adjustments and payments, and transaction liabilities.
Data collection

The information presented in this brief has been developed based on a combination of desk research and interviews with relevant stakeholders.

Step 1: identification of initiatives and interviewees
Table 1 lists the carbon transaction initiatives that have been selected to represent transactions in the context of different carbon market frameworks (Article 6 and the voluntary carbon markets), as well as to represent different stakeholders in these transactions (buyers, sellers, crediting standards, and capacity-building initiatives).

<table>
<thead>
<tr>
<th>Carbon transaction initiative</th>
<th>Role in carbon markets</th>
<th>Interviewee</th>
<th>Interview conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation for Climate Protection and Carbon Offset (&quot;KliK&quot;)</td>
<td>Compliance buyer</td>
<td>Mischa Classen, Director Carbon Procurement at KliK</td>
<td>9 December 2021</td>
</tr>
<tr>
<td>Swedish Energy Agency (&quot;SEA&quot;)</td>
<td>Sovereign buyer</td>
<td>Nils Westling, Program Manager International Climate Initiatives, Arvid Rönnberg, Program Manager International Climate Cooperation, Swedish Energy Agency</td>
<td>16 December 2021</td>
</tr>
<tr>
<td>Joint Crediting Mechanism (&quot;JCM&quot;)</td>
<td>Sovereign buyer</td>
<td>Kazu Koakutsu, Ministry of Foreign Affairs, Japan</td>
<td>29 March 2022, comments via email</td>
</tr>
<tr>
<td>Global Green Growth Institute (&quot;GGGI&quot;)</td>
<td>Capacity building</td>
<td>Fenella Aouane, Deputy Director, Head Carbon Pricing Global Practice GGGI</td>
<td>28 January 2022</td>
</tr>
<tr>
<td>Gold Standard</td>
<td>Certification standard</td>
<td>Hugh Salway, Head of Environmental Markets, Gold Standard</td>
<td>1 February 2022</td>
</tr>
<tr>
<td>Architecture for REDD+ Transactions, (&quot;ART&quot;) American Carbon Registry (&quot;ACR&quot;)</td>
<td>CORSIA eligible certification programs</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>atmosfair</td>
<td>Project developer</td>
<td>Florian Eickhold, Climate Finance and Environmental Markets Expert</td>
<td>18 February 2022</td>
</tr>
</tbody>
</table>

Step 2: conducting semi-structured interviews
A list of questions was prepared for the interviews to understand the context in which the transactions are taking place, the contractual process that is applied, and the main elements of the transaction agreement that are being considered or negotiated. Table 2 provides an overview of the topics covered
in the interviews, to the extent applicable to the different interviewees and initiatives.

<table>
<thead>
<tr>
<th>Interview topic</th>
<th>Suggestion for sub-topics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background to the transaction</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Design features                              | • Involved entities  
• Approach  
• Scale / sector(s) / technologies                                                                                                                        |
| Status of development                        | • Current stage of development (conceptual, preparatory, implementation)                                                                                     |
| **Contractual process**                      |                                                                                                                                                           |
| Actors                                       | • Parties involved in the transaction (public / private actors)                                                                                               |
| Types of contracts                           | • Relevant documents / contracts involved in the transaction                                                                                                  |
| Process                                      | • Which documents/contracts are used when  
• Which actors involved when                                                                                                                                    |
| **Elements of the transaction agreement**    |                                                                                                                                                           |
| Pricing                                      | • Transaction volumes and pricing  
• Financing of upfront costs                                                                                                                                      |
| Contracting party responsibilities           | • Meeting requirements under Article 6  
• Information and communication  
• Registry  
• Corresponding adjustments                                                                                                                                       |
| Payments and delivery                        | • Payment milestones  
  o Link to corresponding adjustments?  
  o Link to Nationally Determined Contribution (NDC) achievement?  
• Delivery milestones  
  o Time lag between transfer and corresponding adjustment?                                                                                     |
| Risk allocation                              | • Financial risks  
• Hedges against overselling  
• Liabilities                                                                                                                                                    |
| Enforceability                               | • Enforcement mechanism, penalties                                                                                                                          |
3. Overview of transaction structures

This section of the report provides a short introduction to, and a description of, the transaction structures envisaged or applied in the carbon transactions assessed for this note.

3.1 KliK, compliance buyer

Foundation for Climate Protection and Carbon Offset (KliK Foundation) is a Swiss foundation which identifies, develops, and funds innovative mitigation activities on behalf of private corporations that are required to offset their emissions under the Swiss CO₂ Act. KliK is looking to purchase Article 6 mitigation outcomes. Each mitigation activity must complement the host country’s climate protection measures and raise climate ambition. Find out more at KliK Foundation.

3.1.1 Current status

The KliK Foundation is currently procuring international emission reductions by engaging with mitigation project owners that are planning and preparing mitigation activities that will generate Internationally Transferred Mitigation Outcomes (ITMOs). In parallel, the Government of Switzerland is engaging with several potential project host countries to set up a framework for collaboration (bilateral implementation agreements) under which KliK Foundation’s commercial agreements for the transaction of mitigation outcomes will be signed. So far, Switzerland signed bilateral agreements for Article 6.2 cooperation with six countries – more agreements are expected in 2022/2023 – and joint declarations with three other countries.¹ Finally, the KliK Foundation signed, together with the Climate Cent Foundation, the first commercial agreement worldwide for the purchase of ITMOs with Microsol S.A.S.²

3.1.2 Transaction structure

**General transaction structure.** The KliK Foundation transactions rely on a two-layer contractual approach, which includes:

- A *Bilateral Agreement* (or ‘Implementation Agreement’) between the Swiss government and the respective project host country government, defining minimum quality criteria for mitigation outcomes to ensure environmental integrity, promote sustainable development and respect human rights. The Bilateral Agreement does not limit the sectors in which collaboration can take place,³ and does not oblige the project host country to transact a certain amount of mitigation outcomes, or to generate mitigation outcomes through the implementation of a specific technology. These transaction details will be determined at a later stage and on a voluntary basis when the mitigation activity is authorized by the two country governments. The Agreement does establish broader

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¹ The countries that signed a Bilateral Agreement with Switzerland are Peru, Ghana, Senegal, Georgia, Vanuatu and Dominica. Joint declarations were signed with Thailand, Iceland and Morocco. For further information and access to the agreements and declarations see [here](https://www.microsol-int.com/). For further information see the [press release](https://www.microsol-int.com/).

² For further information see the [press release](https://www.microsol-int.com/).

³ Excluded activities are ‘activities based on nuclear energy, and activities that lock in levels of emissions, technologies or carbon intensive practices incompatible with the achievement of long-term goal of the Paris Agreement, in particular any activities based on the continued use of fossil fuels.’ (p. 4, Implementing Agreement to the Paris Agreement between the Swiss Confederation and the Republic of Peru).
transactional terms such as the transfer modalities, project cycle and structure, as well as an outline of the process for authorizing activities, accounting for transactions, and applying corresponding adjustments. Finally, the host country has the prerogative to establish additional rules for mitigation activities according to the country's priorities, for instance in terms of inclusive ruling with minorities.

Importantly, the Bilateral Agreements do not foresee an international transfer of mitigation outcomes from the project host country to Switzerland. Instead, both countries will issue domestic units for tradable or transferred mitigation outcomes. The seller will cancel domestic units in the host country's domestic registry system, while simultaneously, Switzerland will re-issue the cancelled units as 'international attestations' in the Swiss registry. The project host country will apply corresponding adjustments for all issued domestic credits, independent from how they will eventually be used, under its reporting obligations under the Paris Agreement for its NDC target year 2030.9

- **A Commercial Agreement** between the private actors involved in the transaction, which does not involve the Swiss nor the project host country government – except when the mitigation project is owned or the mitigation outcomes are sold by the host country government. The contract establishes the agreement for trading mitigation outcomes from the specific mitigation activity, including payment structure and price. For collaboration to take off, both countries involved in the relevant Bilateral Agreement need to authorize the proposed activity. This authorization happens both under the Paris Agreement (Art. 6.3), and in the context of the national frameworks of the respective countries. It is foreseen that authorization is carried out unilaterally by Switzerland and the project host country, but in a coordinated manner.

**Payment structure and link to corresponding adjustments.** Here we zoom in on the pilot engagement of the Climate Cent Foundation and KliK Foundation in Peru to support the roll out of energy efficient cookstoves by Tuki Wasi.10 The engagement consists of two separate contracts with Microsol S.A.S, a French company with subsidiaries in Peru: a Commercial Agreement and a Mitigation Outcome Purchase Agreement (MOPA). Both contracts are operationalized in the context of the Implementation Agreement between the governments of Switzerland and Peru.11 For each of the two contracts, a different payment structure has been agreed:12,13

- The **Commercial Agreement** between the Climate Cent Foundation and Microsol S.A.S establishes the terms to support initial operation phase of Tuki Wasi to install and maintain the energy-efficient cookstoves, and to carry out a complementary sensitization campaign. The contract uses

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4 Interview with KliK, 9 December 2021
6 This is a commitment to apply corresponding adjustments to ITMOs generated from sectors and greenhouse gases covered in their NDCs. The applicable method for the corresponding adjustment should be specified in the notification of the transfer.
7 This term is reflected in the Bilateral Agreement between Switzerland and Peru.
8 Interview with KliK, 9 December 2021
9 Attestation is the term used in relation to the Swiss Registry establishing that an entry is created in the Swiss Registry with the acquired ITMOs.
10 https://www.microsol-int.com/
12 Interview with KliK, 9 December 2021
13 The two commercial agreements signed with Peru are confidential and only limited information on their content was shared during the Interview with KliK, 9 December 2021.
Overview of transaction structures

a mixed payment format in which a share of the payments is triggered by the achievement of pre-defined milestones, and another share is triggered by the delivery of international attestations. The milestone payments are linked to the achievement of specific goals in developing and scaling up the cookstove program, and amount to more than half of the contract volume. This enables the Climate Cent Foundation to pre-finance the scaling of the program, already before Peru has the domestic framework in place to carry out international transfers under the Paris Agreement, as the payments are not linked to an international transaction or corresponding adjustment.

The mitigation outcome-based payments in the Commercial Agreement are triggered by the delivery of international attestations by the Swiss Government to the Climate Cent Foundation. The issuance of international attestations to the Climate Cent Foundation happens upon a ‘recognition’ of the transfer of mitigation outcomes by both Peru and Switzerland, as per the Bilateral Agreement. This recognition creates an obligation for both countries to apply the respective corresponding adjustment, which is to be reported in the NDC target year of the countries. This means that the international attestations are delivered to the Climate Cent Foundation independently of, and prior to, the application of the respective corresponding adjustments.

- The Mitigation Outcome Purchase Agreement (MOPA) between the KliK Foundation and Microsol S.A.S. establishes the purchase agreement for Article 6 mitigation outcomes, linked to a corresponding adjustment, including commercial transactional terms such as the negotiated price. The payment structure mirrors the mitigation outcome-based payments under the Commercial Agreement between the Climate Cent Foundation and Microsol: KliK’s payments will be triggered upon the receipt of international attestations by KliK in the Swiss registry from the Swiss Government. Also here, the delivery of international attestations to KliK happens independently of the application corresponding adjustments, and is triggered by the ‘recognition’ of the transfer by both Switzerland and Peru.

The different parties involved in the transaction carry different risks. The Climate Cent Foundation is taking on a significant risk by pre-financing a mitigation program which aims to generate Article 6 mitigation outcomes before the necessary infrastructures have been established. The combination of results-based payments and payments for mitigation outcomes applied in the Commercial Agreement slightly mitigates this risk, as the results-based payments are disbursed in phases, upon the materialization of certain programmatic milestones. The Climate Cent Foundation furthermore carries the risk that it will not be able to purchase Article 6 mitigation outcomes at a later stage of the project if the ‘ITMO phase’ of the mitigation program does not materialize.

For the mitigation outcome-based payments in this transaction, both the Climate Cent Foundation and KliK Foundation are shielded against the risk of a non-materialization of corresponding adjustments by the terms of the Bilateral Agreement between Switzerland and Peru, as the delivery of the corresponding international attestations is not dependent on the application of corresponding adjustments. At the same time, both the Climate Cent

15 Pricing is based on the cost of project implementation and the minimum price that incentivizes the project developer to carry out the project.
Foundation and KliK Foundation face uncertainty about what happens to the mitigation outcome units (in this case the international attestations) if the corresponding adjustment does not materialize. The Article 6 Rulebook states that participating Parties shall apply a corresponding adjustment for all ITMOs, and it is unclear how the status and value of these credits will be affected if the corresponding adjustment does not happen.

On the other side of the transaction, Microsol S.A.S. faces the political risk of a potential interruption of payments or termination of the Bilateral Agreement, which may result from the Peruvian Government not applying corresponding adjustments (see below). Microsol S.A.S. does however retain a period to manage this risk until the termination of the Bilateral Agreement comes into effect. Moreover, in such situation, the project developer could be in a position to take legal action towards the Peruvian state. The program development risk for Microsol S.A.S. is further mitigated by the payment structure applied in the Commercial Agreement, which already covers the project developers’ costs until payments are being made through the MOPA.

Enforceability. In case the host country does not apply a corresponding adjustment, and thereby breaches the Bilateral Agreement, the Government of Switzerland will discuss with the host country government the potential termination of the agreement. If the Government of Switzerland decides to cancel the Bilateral Agreement, the transactions and payments under the Commercial Agreements agreed in the context of the Bilateral Agreement will be interrupted. It is conceivable that the cancellation of the Bilateral Agreement by the Government of Switzerland could have additional consequences for Peru, for example, in terms of Official Development Assistance and economic cooperation, although such consequences have not been formally defined in the Bilateral Agreement.

### 3.2 Swedish Energy Agency, sovereign buyer

The Swedish Energy Agency (SEA) is one of the pioneers of Article 6 collaboration, having conceptualized and piloted a number of activities since 2019. The SEA is looking to purchase Article 6 mitigation outcomes as part of Sweden’s effort to realize mitigation that goes beyond the targets of the EU NDC. To that end, it is engaging with various host countries to develop mitigation activities, and is working together with the Global Green Growth Institute (GGGI) to build Article 6 capacities and develop templates for collaboration through the Mobilizing Article 6 Trading Structures (MATS) Program. Find out more at the [SEA website](https://bit.ly/3DuNG39).

#### 3.2.1 Current status

The SEA is engaged in ongoing dialogues with several countries to explore the option of signing a bilateral agreement on Article 6 collaboration. At COP26, the SEA and Ghana signed a joint Memorandum of Understanding on Article 6 of the Paris Agreement, reaffirming their commitment to work together. The SEA has launched public procurement processes in the Dominican Republic (July 2021) and Ghana (September 2021) to support mitigation actions in these countries. In the context of the MATS Program, Sweden is engaged in early-stage discussions with Cambodia and Nepal. No bilateral agreement or transaction agreement has been concluded yet. At the

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17 Interview with KliK, 9 December 2021
18 [SEA (2021) COP26: Ghana and Sweden signs agreement for climate cooperation under the Paris Agreement](https://bit.ly/3IHymC7)
Overview of transaction structures

time of writing, the specifics of the Article 6 transaction structure were still under consideration by the SEA.

3.3 Joint Crediting Mechanism, sovereign buyer

The Government of Japan has operated the Joint Crediting Mechanism (JCM) since 2013. The mechanism provides a framework for collaboration with partner countries to implement mitigation projects and accelerate the introduction of decarbonizing technologies, and to generate emission reduction credits that are used to achieve Japan’s emission reduction target. The JCM, which has been operational since before the adoption of the Paris Agreement, has evolved in tandem with the Article 6 Rulebook and can be considered the pioneering example of a cooperative approach. Experiences from implementing the JCM have informed the Article 6 negotiations while vice versa Japan has developed the mechanism in such a way that it meets the Article 6.2 guidance.

The Japanese government also engages in capacity building activities to disseminate lessons learned through JCM collaboration, and implements a Mutual Learning Program for Enhanced Transparency to strengthen Article 6 reporting capacities of partner countries. More information is available on the JCM website.

3.3.1 Current status

Japan has so far signed seventeen bilateral documents covering a total of more than 200 projects. The JCM aims to generate approximately 100 MtCO₂ cumulative emission reductions by 2030, which was decided by the cabinet in October 2021.

In early 2022, the Ministry of Environment of Japan published an update on the continued operationalization of the JCM following the adoption of the Article 6 Rulebook, establishing how the new guidance will be incorporated in the domestic rules and procedures. This includes a national arrangement process for the authorization and application of corresponding adjustments for the transfer of JCM mitigation outcomes in the context of Article 6. Japan has also recently established a JCM Promotion and Utilization Council, representing five relevant Ministries, which is responsible for the authorization of JCM credits, determining a method to apply corresponding adjustments, and the periodical revision of the Guidelines for Implementation of the JCM.

3.3.2 Transaction structure

General transaction structure. Japan applies a standardized model for JCM collaboration across the different partner countries. Upon the signing of the bilateral documents, a Joint Committee is established with representation of officials from both Japan and the partner country. The Joint Committee is responsible for the operation and management of the JCM collaboration, including implementation and administrative matters such as the

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development of rules and guidelines, methodologies and requirements for accreditation of third-parties.\textsuperscript{23} Under the rules of implementation for the JCM, project participants of a JCM project consult among themselves, and determine the allocation of credits taking into consideration their contribution to GHG emission reductions or removals. In many cases, the allocation of emission reductions is based on the financial contribution that each party is making to the project investment.\textsuperscript{24} These arrangements are agreed upon through consultations, and are not reflected in a separate emission reduction or mitigation outcomes purchase agreement.\textsuperscript{25}

Upon request by the project participants, once emission reductions have been verified by a third party, the Joint Committee notifies the JCM registry management authority of the amount of JCM credits to be issued into the accounts of the different project participants.

**Payment structure and link to corresponding adjustments.** In most cases, payments are made at the investment stage, supplementing the initial investment cost and overcoming the common implementation barrier of upfront costs to kick-start the mitigation activity.\textsuperscript{26} This means that payments are not triggered by the issuance of emission reduction credits nor linked to the application of corresponding adjustments. The link between the value of the investment and the generated mitigation outcomes consists of a pre-consulted allocation of emission reduction credits among the collaboration partners (see above).

**Enforceability and risk allocation.** Japan will request partner countries to authorize JCM credits and apply corresponding adjustment for the JCM credits issued to the Japanese side after 2021.\textsuperscript{27} The most recent update of country-specific rules for JCM implementation in Mongolia requires the partner country to provide a written attestation to avoid double counting, and to make this document publicly available.\textsuperscript{28} All of the previous country-specific rules include a provision mandating to check the status of issuance and use to avoid double counting, without further specifications.\textsuperscript{29}

The set-up of the JCM transaction structure aims to reduce the risk of overselling of emission reductions by the partner country by establishing an early mutual agreement on the sharing of mitigation outcomes through the Joint Committee. This allows partner countries to retain a share of the mitigation outcomes for meeting their own NDC target.

The current JCM transaction structure does not feature a formal enforceability mechanism to remedy cases of non-compliance with the corresponding adjustment requirement. If partner countries fail to make corresponding

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\textsuperscript{23} See, for instance, the bilateral agreement between the Government of Japan and the Government of Bangladesh available at \url{https://bit.ly/3qgOr8h}

\textsuperscript{24} However, allocation also depends on the type of JCM programme. For instance, in the case of the JCM Model Project, at least half of the credits generated by the project need to be issued to the Government of Japan, independently of the percentage of implementation costs that the JCM is covering. Panichayapichet, P (2017) Implementation of the JCM in Thailand. Available at \url{https://bit.ly/3D2lpk9}

\textsuperscript{25} Nevertheless, the decisions adopted by the Joint Committee are publicly available and can be found at \url{https://bit.ly/3xwnIum}


\textsuperscript{27} Ministry of the Environment of Japan. Guidelines for the Implementation of the Joint Crediting Mechanism (JCM) in Japan. Provisional Translation. Available at \url{https://bit.ly/3N6IQ0B}

\textsuperscript{28} Joint Committee of the JCM-Japan and Mongolia (2022). Rules for Implementation for the JCM. Available at \url{https://bit.ly/3N7XvZr}

\textsuperscript{29} Joint Committee of the JCM-Japan and Viet Nam (2016). Rules for Implementation for the JCM. Available at \url{https://bit.ly/3rW8ZT}

Joint Committee of the JCM-Japan and Ethiopia (2020). Rules for Implementation for the JCM. Available at \url{https://bit.ly/3S358kP}
adjustments for the agreed share of mitigation outcomes transferred to Japan, it is likely that the issue would be addressed through the Joint Committee.

### 3.4 GGGI, capacity building & trade piloting

The Global Green Growth Institute (GGGI) is an inter-governmental organization whose core mission is to support sustainable and inclusive economic growth in developing countries and emerging economies. Through its Carbon Pricing Global Practice, GGGI is supporting Article 6 global piloting by providing technical assistance and acting as a neutral party between buyers and sellers. GGGI works closely with host countries to prepare them to trade ITMOs by providing capacity-building support while identifying suitable activities for Article 6 transactions and developing necessary documents, such as a MOPA template. Find out more at the [GGGI website](#).

#### 3.4.1 Current status

Through the Mobilizing Article 6 Trading Structure (MATS) Program, GGGI provides support to four countries to access carbon finance under Article 6 of the Paris Agreement through ITMO transactions with Sweden. The MATS program is developing mitigation activities into carbon transactions, and provides technical assistance to host countries to establish Article 6 compliant governance frameworks. A MOPA template has been designed as part of the initiative. The program Designing policy approaches under Article 6 (DAPA) focuses on developing policy approaches that could potentially generate ITMOs and is supported by Norway. GGGI has selected four countries for identifying and developing crediting policies and governance frameworks, multisectoral steering committees have been established and a MOPA template has been designed as part of the initiative. Additionally, GGGI expects to soon commence an IKI funded initiative Supporting Preparedness for Article 6 Cooperation (SPAR6C) to provide capacity building and develop Article 6 pilots where desired by Colombia, Pakistan, Thailand, and Zambia. One of the initial activities will be to create guidance documents to prepare countries for Article 6 transactions. Buyers for credits that may be generated under this program have not yet been identified. As part of these ongoing initiatives, GGGI hopes to complete a transaction within the next year.

#### 3.4.2 Transaction structure

**General transaction structure.** GGGI has developed transaction structures for Article 6.2 with contracts at different levels. The appropriate structures depend on the nature of the transactions and could include a *Framework Agreement* between the host country and buyer country governments, with a *Project-based Agreement*, i.e. the MOPA. Alternatively, the structure can consist only of a MOPA for government-to-government agreements that covers both sovereign-related responsibilities and transaction-related

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30 Interview with the GGGI, 28 January 2022
32 Initially the project focuses on Cambodia and Nepal, but in November 2021 an [agreement](#) was signed to include two more countries.
34 Indonesia, Morocco, Senegal and Vietnam.
35 See the project [presentation in COP26](#) for further details.
Overview of transaction structures

responsibilities (e.g. for policy approaches). Documents include contractual provisions concerning authorization and a letter of authorization template.37

The MOPA is a seller to buyer contract, where the seller might be a private party or a host country government. GGGI includes options in the MOPAs in terms of the legal approach, for instance, a potential remedial plan (see below) and the contemplation of damages. However, MOPAs that govern a government-to-government transaction will require different terms than if the transaction originates from a private program. The latter scenario often complicates responsibility-sharing terms.38

Payment structure and link to corresponding adjustments. From GGGI’s perspective, the feasibility of conditioning the payments for ITMOs to the application of corresponding adjustment depends on the parties involved in the transaction. If the seller of ITMOs is the host country government, and hence, is the same actor that has to apply the corresponding adjustment, conditioning payments may be feasible and facilitate the transaction. In the MOPA template that GGGI developed, they envisage a potential staggered payment structure, in which the first partial payment is triggered by delivery of ITMOs and the rest is paid only when corresponding adjustment has been applied.39,40 However, if the seller is a private party with no control over the application of corresponding adjustments, conditional payments might not be suitable, and other options such as providing some sort of financial incentives to the host country government for the application of corresponding adjustments might be more appropriate.41 Hence, in the MOPA template for private sellers, payments provisions are not linked to the application of corresponding adjustments.42,43

Enforceability. GGGI has considered that buyer countries might have two options for enforcement in the case that the host country does not apply corresponding adjustments:44

- Using diplomatic means through other collaborative relations between the two Parties. For instance, when the buyer country is providing support to the host country through other programs or has relations of other nature.

- Having a remedial plan in place. This plan can impose strict monitoring on the host country or demand the Party reneging on the agreement to carry out NDC reporting at an earlier stage. However, measures in the remedial plan should be understood and agreed between both parties as part of trading terms and conditions as they might create reporting obligations additional to the ones under the UNFCCC.

38 Interview with the GGGI, 28 January 2022
39 Or indicative corresponding adjustment in the case of single year target and averaging approach.
40 GGGI & SEA (2021) Summary report: Designing Governance Structures and Transactional Documentation for Mitigation Outcome Transactions under Article 6 of the Paris Agreement. Available at: https://bit.ly/3hGzERT
41 Interview with the GGGI, 28 January 2022
42 Commitments to apply corresponding adjustment will be part of the Framework Agreement and the host country’s authorization of a private seller’s mitigation outcomes.
43 GGGI & SEA (2021) Summary report: Designing Governance Structures and Transactional Documentation for Mitigation Outcome Transactions under Article 6 of the Paris Agreement. Available at: https://bit.ly/3hGzERT
44 Interview with the GGGI, 28 January 2022
Neither of the above options seem particularly attractive terms for a potential seller country nor practical for buyers and thus GGGI remains engaged in discussions with multiple parties and open to further learning on the topic. GGGI notes that the current scenario observed in the marketplace is that the buyer is only able to revert to diplomatic means.\textsuperscript{45}

3.5 **Gold Standard, certification standard**

The Gold Standard is an international voluntary carbon offset organization that manages standards for measuring and crediting mitigation outcomes and sustainable development impacts. It was approved in March 2020 as a CORSIA Eligible Emissions Unit Program. The Gold Standard is not a buyer or seller in a carbon credit transaction, but oversees the generation of carbon credits by project developers. Find out more at Gold Standard website.

3.5.1 **Engagement with the Article 6 rules**

The Gold Standard engaged in a number of consultation activities over the course of 2021 on how to update their work to align with the new Paris framework. They expect their standard to be used by project developers to transact credits authorized under Article 6 for several different use purposes: use towards a Party’s NDC, use towards CORSIA obligations, and use in the voluntary carbon market. They have established an independent Working Group on Alignment with the Paris Agreement, tasked to support and advise Gold Standard on how its rules and methodologies should be updated to align with the Article 6 requirements and new context under the Paris Agreement. As well as the generation of credits under Article 6, Gold Standard expects its standard to continue to be used to generate non-Article 6 credits.\textsuperscript{46,47}

3.5.2 **Transaction structure**

**Operationalization of corresponding adjustments.** The Gold Standard has introduced provisions to manage credits that have been authorized for use under Article 6 by the relevant host countries. These require project developers to provide a Letter of Authorization (LoA) from the host country government in which their project is located. A LoA should provide:

- A clear identification of the project;
- A commitment to comply with Article 6 requirements, including NDC reporting requirements;
- Explicit authorization specifying which credits are authorized and for what purpose. This could be limited to specific use-cases, in accordance with Article 6.2 guidance;
- Specification on what triggers a corresponding adjustment, in cases where credits are authorized for uses other than achievement of a NDC.

The Gold Standard expects to have the first examples of project developers receiving letters of authorization in 2022.

An important role of the Gold Standard in the operationalization of corresponding adjustments is creating transparency. Their registry will clearly reflect which credits have host country authorization, and provide information on how the credits may be used in line with that authorization. Their

\textsuperscript{45} Interview with the GGGI, 28 January 2022


\textsuperscript{47} Interview Gold Standard, 1 February 2022
requirements also include provisions that apply in the event that a host country does not apply a corresponding adjustment (see below). In addition, the registry will be designed so that buyers can only make use of the credit for an authorized use. For example, buyers will not be able to retire a credit for CORSIA if the credit was not authorized for such purpose.

**Risk allocation and enforcement.** The Gold Standard is applying several strategies to manage corresponding adjustment risks. The first is mitigating the risk: its requirements do not accept host countries specifying that they will apply a corresponding adjustment at the point of credits being used (which could be many years in the future, with increased risk as a consequence), despite this being possible under Article 6 guidance.

Its requirements set out the following procedure in case the Gold Standard does not receive evidence of the application of a corresponding adjustment by the host country in its Biennial Transparency Report, or if such authorization has been withdrawn:

- The Gold Standard shall consider the justification provided for the lack of evidence for a corresponding adjustment, and if such justification is insufficient, the Gold Standard shall formally notify the relevant project developer and credit holders of the situation.
- In such case, the project developer is required to provide, within six months a formal confirmation by the host country that the corresponding adjustment will be applied at the next available opportunity.
- In case this does not happen, the project developer shall cancel an equivalent number of credits that meet the compliance requirements. It is expected from project developer and credit buyers that they have specified the terms for such reconciliation in their emissions purchase agreements. Here, the Gold Standard anticipates a role for external insurance providers to provide insurance products to manage this sovereign risk, though such products are not yet available.

### 3.6 ART and ACR, CORSIA eligible certification programs

Architecture for REDD+ Transactions (ART) and the American Carbon Registry (ACR) are two of the in total eight CORSIA Eligible Emissions Unit Programs. The programs oversee the generation of carbon credits by project developers and do not act as buyers or sellers on the international carbon markets. Find out more on the websites of ART and the ACR.

#### 3.6.1 Engagement with the Article 6 rules

Other than the other CORSIA Eligible Emission Unit Programs, credits from after 31 December 2020 produced by ART and the ACR are eligible for cancellation towards the CORSIA pilot phase (2021-2023). The International Civil Aviation Organization (ICAO) requires that emission units used for CORSIA compliance are not counted more than once towards a mitigation obligation, and mitigated the risk for double counting between CORSIA and NDCs by generally restricting the eligibility of units to credits generated before 31 December 2020. However, as both ART and the ACR

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48 Interview Gold Standard, 1 February 2022
49 ICAO (November 2021) CORSIA Eligible Emissions Units. Available at https://bit.ly/3LYbYX1
have put in place a procedure to implement corresponding adjustments for credits generated from 2021 onward, this restriction does not apply to these two certification programs. ART and ACR credits with vintages from 2021 and later should provide evidence that no double counting has occurred when used towards CORSIA compliance.

3.6.2 Transaction structure

Operationalization of corresponding adjustments. ART and the ACR envisage similar transaction structures for correspondingly adjusted credits. They look to support the operationalization of corresponding adjustments by providing transparency that enables the tracking of credits on their registries. Publicly available information will include:

- A Letter of Assurance and Authorization (LoAA) from the host country. Only once the LoAA is received by the program, credits will be designated as eligible for use towards CORSIA. In the LoAA, the host country:
  - clarifies that it authorizes the use of the credit for CORSIA;
  - commits to reporting the use of the credit to the UNFCCC, in its BTR, and that it will make a corresponding adjustment;
  - explicitly declares that the credit will not be used to track progress towards its NDC.
- Notification of export of the emission reductions by the owner;
- Notice that the host country has applied a corresponding adjustment, once the programs receive the corresponding evidence. The programs will actively monitor the host country’s reporting to UNFCCC, and make efforts to obtain evidence on the application of the corresponding adjustments.

Risk allocation and enforcement. Both programs require program proponents to present a mechanism to mitigate the risk of double claiming in case a corresponding adjustment does not materialize, or a mechanism to compensate for double claims between CORSIA and NDCs. Compensation would be triggered within a year after the corresponding adjustment was due to be reported by the host country. Several forms of compensation are accepted by the programs, including:

- Evidence of the application of the adjustment. This should be evidenced in the host country’s reporting towards the UNFCCC, or in another ‘relevant format’ if the host country confirms that the adjustment will be reported to the UNFCCC in the next reporting period, before the unit could be cancelled towards CORSIA;
- A guarantee that double-claimed units will be replaced. Such replacement should represent the same volume as the double claimed units, and should also be ICAO-eligible units. These replacement units will be cancelled by the programs. Moreover, the guarantee does not

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50 ART (15 April 2021) CORSIA Eligible Emissions Unit Programme Change Notification Form ART. Available at https://bit.ly/3sb5LPN
51 The host country may limit the total amount of credits authorized for CORSIA eligibility to emission reductions or removals generated in a certain period, or to a maximum volume for each calendar year.
53 ART (15 April 2021) CORSIA Eligible Emissions Unit Programme Change Notification Form ART. Available at https://bit.ly/3sb5LPN
54 ART (15 April 2021) CORSIA Eligible Emissions Unit Programme Change Notification Form ART. Available at https://bit.ly/3sb5LPN
need to be provided by the project proponent itself, and may also come from the Multilateral Investment Guarantee Agency (‘MIGA’), or an alternative insurance mechanism approved by the programs.

- **A guarantee of financial compensation.** This financial compensation should cover the costs of the program for procuring the same volume of replacement units as the double claimed units.

The ACR furthermore also introduces a ‘CORSIA Double Claiming Buffer pool’\(^{55}\) as a fourth compensation option, in combination with a ‘CORISA Double Claiming Risk Mitigation Agreement’. The volume of the required buffer contribution will be a percentage of the project’s credits, based on a country ‘risk classification’ determined by the OECD.\(^{56}\) The ACR will cancel these units to replace units that are at a later stage double claimed by the project host country. If the corresponding adjustment is applied, project proponents will be refunded for these ‘replacement credits’.

### 3.7 atmosfair, project developer

atmosfair is a non-profit that develops carbon mitigation projects and sells mitigation outcomes certified under voluntary crediting standards to private buyers and businesses. In some countries the non-profit acts as the project developer, while in other countries it relies mostly on collaboration with local entrepreneurs. atmosfair has from an early stage started exploring opportunities for certifying projects under Article 6 as soon as the mechanism would become operational. atmosfair mainly works in least developed countries. Find out more at the [atmosfair website](https://www.atmosfair.org).

#### 3.7.1 Current status

atmosfair is engaging with over twenty host country governments to secure correspondingly adjusted carbon credits for the voluntary market, driven by a growing demand from its customers. Ahead of COP26 it signed agreements with Rwanda and Nepal through which both countries agreed to collaborate to avoid the double counting of emission reductions by making corresponding adjustments. atmosfair was the first voluntary carbon market project developer to sign such a deal. No transaction of correspondingly-adjusted credits has materialized so far.

#### 3.7.2 Transaction structure

**General structure of the host country agreement.** atmosfair looks for project host countries to sign a Letter of Assurance and Authorisation (LoAA). Through this document, host countries agree to making corresponding adjustments for credits which are produced by atmosfair projects. It has made the continuation of its projects conditional upon the host country signing a LoAA, as it considers that otherwise the emission reductions can no longer be sold as ‘offsets’ in the Paris Agreement era. The LoAA should follow a standardized structure, based on work developed in the context of CORSIA,\(^{57}\) and later also by Gold Standard, and include:

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\(^{56}\) ART makes use of the [OECD Country Risk Classification](https://data.oecd.org/gda/oecd-country-risk-classification.htm) to determine the applicable percentage, whereby a risk classification of 1 or 2 will require a 5% contribution, increasing to a 40% contribution for risk classification 7.

Overview of transaction structures

- An authorization of the use of the project’s emission reductions, issued as offsets, for making offset claims;
- A declaration that the host country will not use the project’s emissions to track progress towards, or for demonstrating achievement of, its NDC;
- A declaration that the host country will apply the relevant accounting adjustments to achieve this;
- A declaration that the country will report on the authorization and use of the project emissions in a transparent manner in its biennial transparency report under Article 13 of the Paris Agreement.

The template also provides for the possibility that the LoAA provides authorization for a maximum number of project emissions to be authorized for international use. Here, atmosfair is looking to obtain the largest share of credits generated by its projects, but retains some flexibility with regard to the exact amount of credits that will be internationally transferred, and correspondingly adjusted.

**Enforceability and risk allocation.** Atmosfair, as the project developer, is taking on a risk that credits which it sells as ‘offset credits’ with a corresponding adjustment attached to it today, can eventually not be used as offset credits if the corresponding adjustment does not materialize.

Their strategy to lower such risks is to integrate knowledge and capacity-development into the process of agreeing on a LoAA with project host countries. In Nepal and Rwanda, atmosfair engaged in an extensive process of research and country engagement to ensure that atmosfair activities go beyond the actions the host country needs to take to meet its NDC. This is to ensure that the host country has an interest in making corresponding adjustments in return for financing of low-carbon development, without jeopardizing its ability to meet its NDC. The research includes an analysis of the GHG inventory, NDC, and long-term strategy of the host country, to the extend such information is not readily available, and engagement with counterparts in the host country who are directly involved in developing, maintaining and implementing the country’s NDC. This ensures a clear link between Article 6 collaboration and NDC implementation.

A risk will however persist. To still be able to offer this product to its clients, atmosfair is looking into:

- options to design an insurance that ensures buyers that while the corresponding adjustment has not materialized, there are back-up credits available to replace the contracted credits, if necessary;
- applying the World Bank MIGA tool to its carbon project investments. Details need to be explored further.

The LoAA’s do not currently include a clause on enforceability towards project host countries.

In addition to transactions linked to corresponding adjustments, atmosfair is also supporting the development of mitigation projects under the contribution claims model, where purchasing entities do not make offsetting claims.
4. Analysis

4.1 Comparison of transaction structures

This section provides a comparison of the contractual elements applied in transaction structures developed and envisaged across the different carbon transaction initiatives. It describes the main commonalities, differences and gaps.

It is important to note that at the time of developing this note, no actual transactions linked to the application of corresponding adjustments in line with the Article 6 Rulebook have taken place yet. Whereas KliK is the first stakeholder to sign a commercial agreement for such a transaction, no payments for ITMOs linked to an accounting adjustment have been made.

4.1.1 Complementarity of different contracts

The carbon transaction initiatives assessed as part of this note generally envisage multiple contracting layers. These include a framework agreement (or bilateral agreement) between the buyer and the project host country that should ensure that the host country meets the Article 6 requirements, and applies corresponding adjustments for the credits transferred, and a commercial agreement which covers the commercial terms of the transaction, which include delivery and payment milestones. These two contracts may be integrated to some extent if the transaction involves only a sovereign buyer and seller.

Commercial agreements for ITMO transactions are typically embedded in a framework agreement. In other words, the transaction of ITMOs through a commercial agreement cannot materialize if no framework agreement, which arranges the application of corresponding adjustments, is in place. However, stakeholders interviewed for this note are not necessarily developing the framework and commercial agreements as sequential steps. As negotiating the framework agreements tends to be particularly time-consuming, buyers have been procuring mitigation activities in parallel, in anticipation of the conclusion of a framework agreement.

As an alternative to two-layer contracting, carbon market stakeholders could also consider the option where project host countries adopt a law that arranges the elements which are now generally covered by the framework agreements signed with different buyers. Such law can arrange which credits can be transferred for which purpose, when corresponding adjustments will be applied, and how this will be reported. None of the transaction initiatives assessed as part of this paper is considering such an approach.

Developing a national law in project host countries could have the advantage of creating more legal certainty for the parties involved in a transaction compared to a bilateral agreement. Moreover, a law provides predictability for project developers, and may save host countries the effort of having to agree on framework agreements with separate buyers. It also ensures that the host country’s approach to Article 6 collaboration is standardized across engagement with different collaboration partners. A disadvantage to developing a law compared to signing bilateral agreements could be that such an approach is likely to slow down ITMO transactions, as the development and adoption of a law will be more time-consuming than signing a bilateral agreement.
4.1.2 Mitigation of transaction risks by buyers

The time lag between the transfer of ITMOs and the application and reporting on corresponding adjustments creates a risk for ITMO buyers, namely that the host country does not apply a corresponding adjustment for ITMOs that have already been delivered. To deal with this risk, buyers are generally looking to apply a strategy that reduces the likelihood that host countries decide against applying a corresponding adjustment at a later stage. To this end, several risk mitigation options are being considered:

- Making capacity-building part of the engagement with the host country for developing the carbon transaction structure, to ensure all actors have a solid understanding of what they sign up for, and to avoid surprises at a later stage.
- Only purchasing ‘high hanging fruits’ which represent mitigation efforts that the host country will not need to use to meet its NDC ambition.
- Not purchasing the complete volume of emission reductions generated by the collaborative program, so a certain, fixed share of the mitigation outcomes can remain in the host country, and thereby can be used by the host country in a way that suits their climate plans and ambitions.

No enforcement mechanisms to ensure the application of a promised corresponding adjustment by the host country have been developed under any of the Article 6 pilots or carbon transaction initiatives assessed as part of this report. The main form of ‘enforcement’ considered is diplomatic pressure.

Here, a distinction should be made between government-to-government transactions, and transactions that involve private entities as buyers of the ITMOs. Whereas in a government-to-government transaction the buying government can apply such diplomatic pressure, a private buyer will generally not have similar means to deal with this transaction risk. To protect private buyers, the ‘buyer country’ in the respective bilateral agreement may choose to shield private buyers by taking over the risk that a corresponding adjustment will not be applied the moment the private buyer receives the ITMO. Such a strategy may be necessary to enable private sector participation in Article 6 transactions.

Finally, it is unclear at this stage how the status and value of ITMO credits will be affected if the promised corresponding adjustment does not materialize.

4.1.3 Mitigation of transaction risks by project developers

Project developers may end up carrying a significant risk if corresponding adjustments committed to by a project host country do not materialize, as buyers are paying for mitigation outcomes that are linked to a corresponding adjustment. It may turn out that the project developer has sold a product that it is not able to offer.

As a risk mitigation strategy similar to buyers, project developers look for mitigation projects that represent mitigation additional to the host country’s NDC efforts. This should reduce the risk of non-compliance with a corresponding adjustment commitment. In addition, project developers are looking at potential insurance tools to be able to offer ‘back up credits’ that can replace those volumes of ITMOs where a corresponding adjustment does not materialize. Such insurance helps project developers carry this risk, but should also help provide the necessary certainty to buyers about the eventual delivery of correspondingly adjusted mitigation outcomes.
4.1.4 Mitigation of transaction risks by crediting standards

Crediting standards are not party to carbon credit transactions, but envisage a role for themselves in reducing transaction risks for the credits they issue and offer. This can mostly be done through providing transparency and facilitating the availability of information necessary for all parties to a carbon transaction to understand its integrity.

Rather than just reporting on information, the crediting standards discussed in this note opt for a more active role and look to actively source information on the application of corresponding adjustments. A second tool to mitigate transaction risks is that crediting standards are requiring project developers to have in place a risk mitigation approach in case a corresponding adjustment does not materialize. These can have different forms, such as a contribution to a buffer pool, or providing a guarantee for replacement of credits.

4.2 Lessons learned

In setting up carbon transactions in the context of the Paris Agreement, stakeholders are navigating unchartered territory, which creates many uncertainties. These relate to untested concepts such as (reporting on) corresponding adjustments, but also to future demand for correspondingly adjusted credits, and the ability of host countries to develop the necessary strategies, governance structures and reporting frameworks to be able to authorize projects, credit transactions, and implement corresponding adjustments. Whereas the Article 6 Rulebook has been finalized, many stakeholders continue to find this guidance vague, which could potentially slow down ITMO transactions.58

The need for capacity-building among all stakeholders in the carbon market is evident – not only host countries need to build knowledge and capacities to be able to make strategic use of carbon markets in the context of the Paris Agreement, also project developers need to learn how to navigate the new context and interact with project host countries to be able to offer their offset credits. Crediting standards are figuring out how to best facilitate transparent trading to ensure the integrity of the market. Sovereign buyers will need capacities and procedures to procure the right credits and manage the risk of non-compliance with accounting agreements. Private buyers need to navigate a widening range of credit types and attributes that they can purchase as part of their mitigation strategies.

Capacity-building efforts of all these different stakeholders can benefit hugely from the development of templates for transaction structures. The analysis conducted for this note indicates that in these early stages, most actors are envisaging similar transaction structures and contractual arrangements, inspired by the work done by early Article 6 piloting and capacity-building initiatives. The implementation of these pioneering initiatives will hopefully feed back into the development of template structures for carbon transactions in the context of the Paris Agreement, and may lead to more diversification based on the varied needs of different actors. To do so, such initial lessons learned will need to be made publicly available and shared among all market stakeholders involved.

The main gap across the envisaged and developed transaction structures so far relates to managing the risks of the time lag between the transfer of and payment for the ITMO, and the application of the corresponding adjustment by the host country. It is also unclear to stakeholders what will happen with credits that are eventually not correspondingly adjusted. Some stakeholders understand that if corresponding adjustments are not applied, ITMOs already issued will not be affected or canceled, and the consequences will be dealt with separately between the host country and the UNFCCC. Further clarification on this issue is crucial to understand the actual risk of buyers engaged in ITMO transactions. Contractual remedies would be part of the envisaged agreements for transactions, but discussions about the different options are still ongoing. Whereas stakeholders are developing strategies to minimize the risk, and to establish an insurance for when credits are eventually not adjusted, there are no enforcement approaches envisaged.

One main challenge in the capacity-building efforts is alignment of efforts and timelines of different stakeholders to prepare for transactions. A well-functioning market needs all actors to be able to engage strategically. Dissimilarities in capacity-building efforts and timelines can be due to different levels of interest in credits linked to corresponding adjustments across different stakeholders, and the level of effort needed to prepare for the transactions. There could well be a situation where there is a growing demand for correspondingly-adjusted credits from voluntary market buyers that want to make credible offset claims, without suppliers being able to offer these products in the short term due to capacity-gaps in host countries to operationalize corresponding adjustments. An early push from project developers, or crediting standards, asking host countries to provide authorization may provide an additional incentive to host countries to speed up their internal processes.

58 As discussed during the webinar 'Article 6 Authorizations and Adjustments: what you need to know and what is still unknown', organized by the Gold Standard in February 2022. Available at: https://bit.ly/34pQcdQ

60 To find out more about potential risk mitigation measures and contractual remedies see Pollination Group (2021) Legal gap analysis for transactions in preparation for Article 6. Available at https://bit.ly/3sL70Fq