ACCOUNTING APPROACHES UNDER ARTICLE 6 OF THE PARIS AGREMENT

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The Paris Agreement sets out a framework for all countries to decide on their nationally determined contributions (NDCs) and subsequently demonstrate they have implemented them. Article 6 of the Paris Agreement recognizes that countries may collaborate in implementing their respective NDCs, including through the use of internationally transferred mitigation outcomes (ITMOs). How such transfers of mitigation outcomes between countries will be accounted for will be crucial in ensuring that environmental integrity is preserved. Further guidance on ITMO accounting will be provided in the Paris "rulebook" to be considered at COP 24 in Katowice, Poland, in December 2018.[1] This brief sets out several key inter-related aspects of the emerging accounting framework and examines a range of options and their implications for other aspects of the Paris Agreement.

Article 6.2 of the Paris Agreement calls for robust accounting to ensure that ITMOs are not double counted toward the NDCs of multiple countries. This is to be implemented via "corresponding adjustments" across all participating countries when comparing the results of their mitigation efforts against their intended actions set out in their NDCs. Such accounting is vital in ensuring that international cooperation under Article 6 does not inadvertently lead to aggregate emissions rising rather than falling, an outcome that would undermine the environmental integrity of countries' cooperative efforts.

This brief examines key technical issues regarding the Article 6.2 accounting framework, as well as potential implications for the agreement's transparency framework, which is to include reporting and review of information on countries' Article 6 activities. These issues will impact on how ITMOs may be counted toward the achievement of NDCs.[2] Specifically, this brief considers

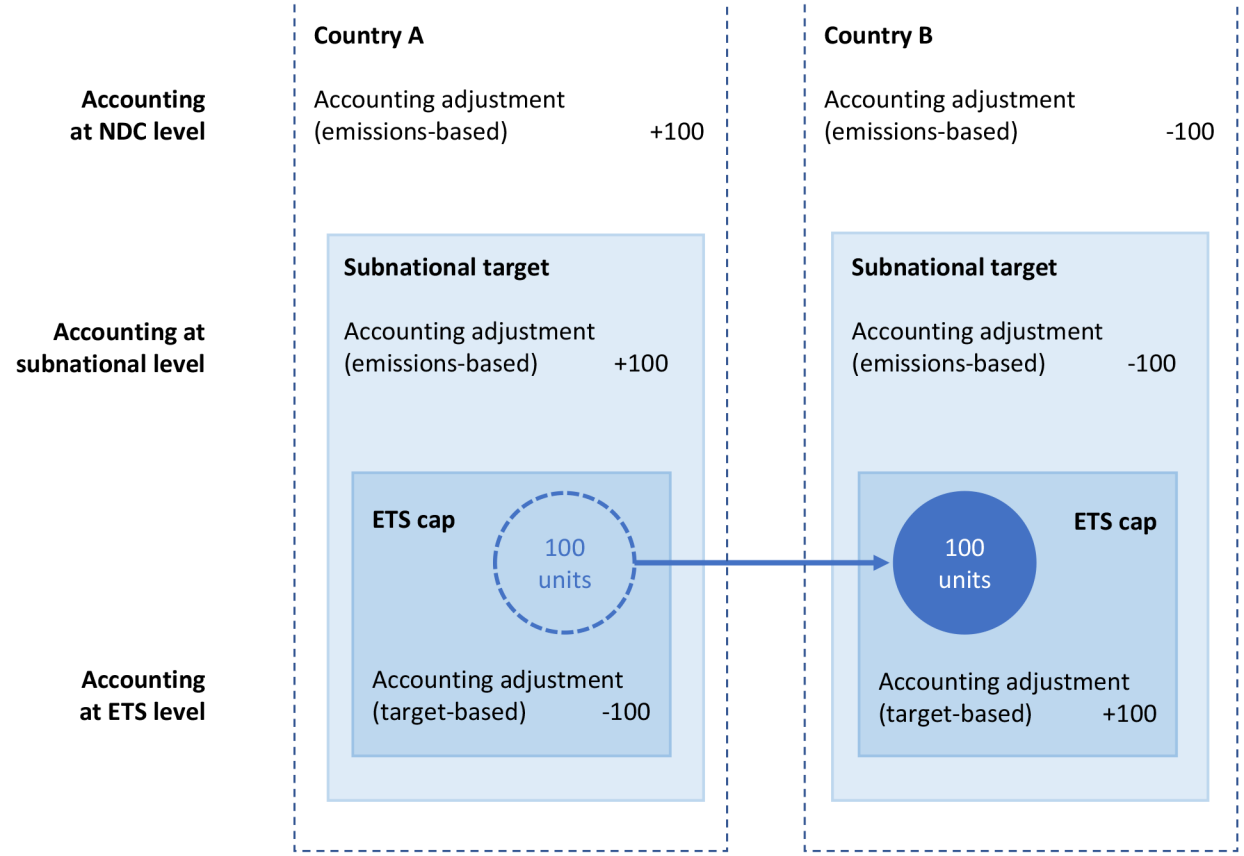
- Alternative approaches to determining accounting adjustments for transfers and acquisitions
- Accounting in the context of NDCs when emission targets are set only for a single year
- Countries' authorization for ITMOs to be used toward NDCs
- Means to "effect" the application of accounting adjustments, including implications for information to be reported under the transparency framework.

CONTEXT

Article 4 of the Paris Agreement requires countries to account for greenhouse gas emissions and removal corresponding to their NDCs and, in so doing, to "ensure the avoidance of double counting." This latter requirement is also contained in Article 6.2, which mandates "robust accounting" by countries engaging in the use of ITMOs. Countries' NDC accounting will be reflected in their reporting under the enhanced transparency framework established by Article 13, which requires them to regularly provide information on progress made in implementing and achieving their NDCs. This reporting is subject both to technical expert review and to a facilitative, multilateral consideration of progress.

While some transfers and acquisitions of mitigation outcomes may arise from direct bilateral cooperation or

FIGURE 1: Example of Accounting Applicable at Multiple Levels



transfers between governments, international transfers are likely to be largely driven by linked emissions trading systems (ETSs) and crediting systems.

Such systems implement and link registries to "track" the holding, or ownership, of units, along with their initial issuance and any subsequent transfer, surrender toward a target, banking into future ETS compliance periods, or cancelation to prohibit their use toward a target.[3] Where countries choose to recognize these international transfers toward NDCs, the tracking provided by registries can provide all the information needed for the "accounting" at the NDC level.

Figure 1 shows a hypothetical example in which ETSs have been established by two subnational jurisdictions in two countries. This illustrates how accounting needs to occur at all levels:

- At the ETS level to determine if entities comply with their emission caps and if covered sectors contribute the expected emission reductions;
- At the subnational level to assess if targets set by those jurisdictions are met; and
- At the country level to assess if NDCs are achieved.

In all these cases, accounting affects the comparison between the level of actual emissions measured and the level of emissions corresponding to the relevant target. Accounting applies adjustments for transfers either on the emissions side of that comparison ("emissions-based" accounting) or the target side ("target-based" accounting). As ETS provide for trading in allowances and credits that raise or lower the level of emissions that emitters are allowed, they conduct their accounting using the target-based approach, as shown in Figure 1. This does not limit the subnational or national jurisdictions to accounting in the same way, and Figure 1 illustrates how

TABLE 1: Pros and Cons of Basis Options for Accounting Adjustments

BASIS	TRANSFER BASIS	ACQUISITION BASIS	PROS	CONS
Transfer and acquisition basis	Transfer	Acquisition	Double counting is avoided. Adjustments for transfers fully reflect implications for use toward NDC.s	Adjustments for acquisitions exceed real use toward NDCs in the event of banking (or cancellation).
First transfer and use basis	First transfer	NDC use	Double counting is avoided. Adjustments for transfers and acquisitions fully reflect implications for use toward NDCs. Fewer adjustments needed.	Availability of tracking information needed to underpin credibility of reported levels of use.

they may use emissions-based accounting.

To reduce the risk of not achieving their targets, national and subnational jurisdictions can be expected to seek vertical coherence through all these accounting levels to ensure transfers by ETS entities are matched by lower measured emissions being reflected in their inventories. Figure 1 shows a consistent set of adjustments through the levels of accounting, based on a transfer of 100 Mt COe between entities in the two ETSs, with the opposite signs indicating where emissions-based or target-based accounting is being implemented. Such vertical coherence is only possible where there is clarity on how emissions and emission targets at subnational and ETS levels are "nested" within the emissions and targets measured at the higher national level, as well as technical consistency in the scope and methodology of the emission measurements.

BASIS FOR ACCOUNTING ADJUSTMENTS

Accounting in the context of Article 6.2 refers specifically to how transferred mitigation outcomes are counted at the national level towards the achievement of NDCs.[4] In practice, acquiring countries may choose whether they wish to use acquired mitigation outcomes towards their NDCs. In this sense, an acquisition may be considered to give a "right" for acquiring countries to use mitigation outcomes towards their NDCs by making an adjustment, while a transfer that gives up mitigation outcomes may be considered an "obligation" on the transferring country to make an adjustment.

There are alternatives for what should be the basis of these adjustments. The choice among them should be driven by the criteria of, first, how well they ensure transferred mitigation outcomes count only towards the NDCs of acquiring countries and, second, how accurately the adjustments reflect the real degree of use by those countries. These criteria relate to the robustness and integrity of the accounting framework, including its avoidance of double counting. A third criteria to be considered may be the practicality of the approach.

The accounting approach adopted for the Kyoto Protocol comprises a mixture of:

- Always knowing in which country units are held, through tracking individual issuance, transfer, banking and cancellation transactions as they create, move and potentially destroy the units.
- Directly measuring the "use" of units towards a target ("retirement"), by limiting these to those held in the country, tracking them as they occur, and reporting the volume of retired units to the UNFCCC under Kyoto's reporting and review processes.

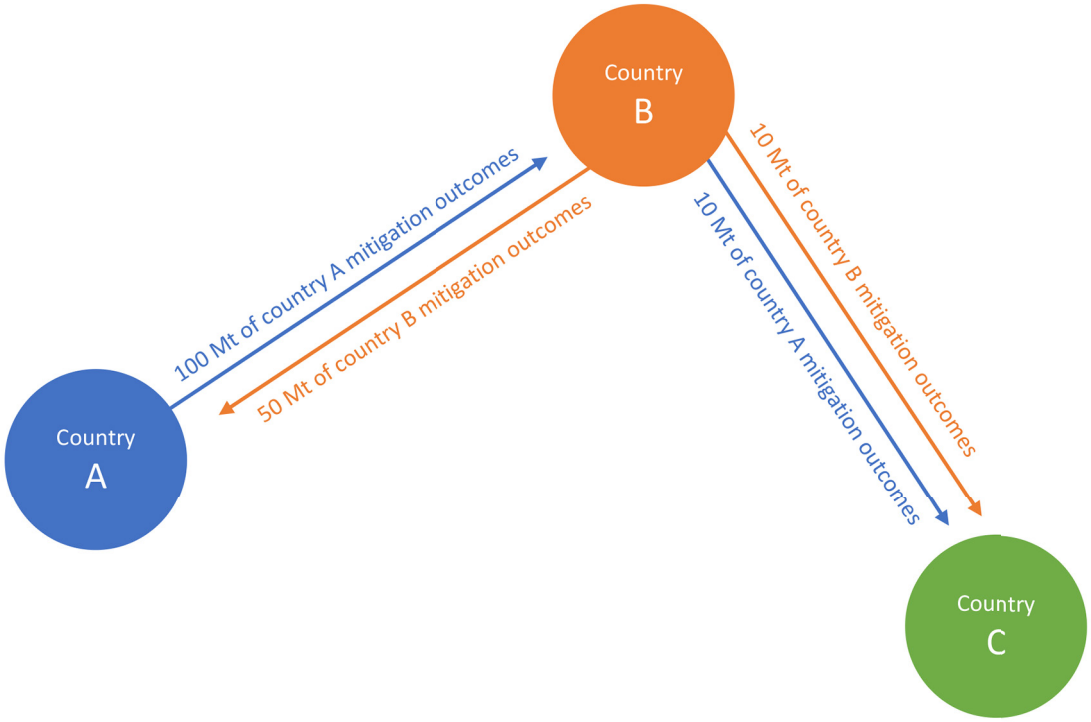
These controls are however unlikely to all exist in the decentralized context of the Paris Agreement. In particular, no basis or process has yet been set for what constitutes "use" towards an NDC.

This section discusses two options for the basis of adjustments.[5] Their pros and cons are summarized in **Table 1**, bearing in mind the criteria referred to above.

APPROACH 1: TRANSFER AND ACQUISITION BASIS

A country expecting its emissions to be above its target level can acquire mitigation outcomes from abroad. As these outcomes are now used by the acquiring country, under emissions-based accounting they may be subtracted from the emissions level shown in its national greenhouse gas emission inventory – therefore reducing the level of its emissions to be compared against its NDC. To avoid double counting, these outcomes must be added

FIGURE 2: Transferred Mitigation Outcomes over a Period



to the emissions shown by the transferring country's inventory.[6]

Under target-based accounting, the opposite adjustments are applied to the target level of emissions allowed under NDCs, such that the acquiring country adds the ITMOs to the target level of emissions it may emit under its NDC and the transferring country subtracts the ITMOs from the level that its NDC allows. Emissions-based and target-based accounting are mathematically equivalent.

This approach, in effect, approximates "use" toward an NDC by determining what mitigation outcomes remain held in each country. Adjustments for an acquiring country are made on the basis that mitigation outcomes are now available for use in that country. Adjustments for a transferring country are made on the basis that the mitigation outcomes may no longer be used there.

In practice, especially where ETSs are linked, there may be thousands of transfers between two countries in both directions. While tracking systems record individual transfers in real time, the accounting and what countries report to the UNFCCC may be simplified by applying adjustments on the basis of net flows between countries over a period, for example annually or biennially.

In **Figure 2**, Country A transferred 100 metric tons (Mt) of CO2 equivalent of its mitigation outcomes over a period to country B, which transferred 50 Mt of its mitigation outcomes to country A. Additionally, country B took 10 Mt of the mitigation outcomes it had acquired from country A, and transferred them further to country C, as well as transferring 10 Mt of its own mitigation outcomes to country C.

Adjustments under this approach are made for each pair of countries engaging in transfers, as shown in **Table 2** for emissions-based accounting. Countries A and B have a net flow toward country B over the period, while countries B and C have a further net flow toward country C. Four adjustments therefore reflect the transfers made during the period, with country B making two of them to

TABLE 2: Approach 1: Transfer and Acquisition Triggers Under Emissions-based Accounting

	COUNTRY A	COUNTRY B	COUNTRY C
Adjustments from the net flow between countries A and B	+50	-50	
Adjustments from the net flow between countries B and C		+20	-20
Overall accounting impact for each country	**+50**	**-30**	**-20**

reflect its incoming and outgoing transfers. The overall accounting impacts for countries are +50 Mt, -30 Mt and -20 Mt, respectively.

Alternatively, adjustments could be made directly on the basis of this overall impact for each country, as this "nets out" the net flows of all the country pairs, and reported to the UNFCCC as such. Each country would make and report a single adjustment for all its transfers and acquisitions over the period, instead of one for each country with which it had engaged in transfers. While this would be mathematically equivalent, it would rely on all net flows being accurately reflected and would not provide a break-down of information to back up the adjustment.

A downside of this transfers-and-acquisitions approach is that acquisitions indicate the quantity of acquired mitigation outcomes available for use in a country, rather than whether the country really uses these toward its NDC. If a country chooses to bank some of its acquired mitigation outcomes into a future NDC period, the acquisitions basis would continue to assume that all acquisitions are being used by the country toward its current NDC would make adjustments on that basis. Such an artificially high assumption of use would allow a higher level of emissions in the first NDC period, with the NDC still appearing to have been achieved, instead of recognizing that some of the right to emit had actually been shifted to a future NDC period.

To understand the real use of acquisitions toward the current period's NDC under a transfer-and-acquisition approach, further information and adjustments would be needed for any banking into a future period (and from previous periods into the current period). The same situation would arise for any cancellation of mitigation outcomes, where the cancellation is intended to prohibit the use of the mitigation outcomes toward an NDC or other emission target.[7] [8]

It is sometimes suggested that a means to address this issue may be to limit the entire accounting framework to transfers of mitigation outcomes that are ultimately used toward NDCs. While this would work on the acquisitions side, it would be problematic on the transfers side as:

- Transferred but unused mitigation outcomes would continue to be counted toward transferring countries, despite having been given up by those countries. This would also not recognize that the associated right to emit had been shifted to a future period (in the case of banking) or deliberately terminated (in the case of cancellation) in the acquiring countries.
- It would make transfer adjustments dependent on use information that will generally only be available after a considerable time lag. In some cases, such use information may only be known when the acquiring country (including as a result of any further transfers that had been made) completes its final accounting after the end of its NDC period. Where NDC periods do not match, this may be after the transferring country has completed its own final accounting. This would conflict with the criteria of practicality raised earlier.

The full set of accounting adjustments implied by this approach, together with how they would be applied, is shown in **Table 4**.

APPROACH 2: FIRST TRANSFER AND NDC-USE BASIS

This approach ties adjustments for acquiring countries directly to their use of acquired mitigation outcomes toward NDCs. Accounting adjustments for acquiring countries would be made only when it is clear the mitigation outcomes are being used by the acquiring country, making it unnecessary to know other information on any banking or cancellation that may

TABLE 3: Approach 2: First Transfer and Use Basis Under Emissions-based Accounting

	COUNTRY A	COUNTRY B	COUNTRY C
Adjustments from the net flow between countries A and B	+100	+60	
Adjustments from the net flow between countries B and C	-50	-90	-20
Overall accounting impact for each country	**+50**	**-30**	**-20**

occur. This approach requires a process for classifying mitigation outcomes as being used by countries in this way, such as through countries indicating this in their reporting under Article 13.7(b) (see the final section).

Similar to the transfer-and-acquisition approach, adjustments for transferring countries would be made on the basis that they give up the mitigation outcomes when they transfer them away. Adjustments for transfers would therefore not be dependent on the mitigation outcomes ultimately being used toward NDCs.[9]

However, for a country generating mitigation outcomes, it is sufficient under this approach to make the adjustment only for the first time they are transferred. Where an acquiring country chooses to further transfer a mitigation outcome to a third country, the relevant adjustment from the first transferring country remains "open," and will be "closed" by a corresponding adjustment undertaken by the third country if it chooses to use the mitigation outcome toward its NDC .

Also similar to the transfer-and-acquisition approach, accounting adjustments need not be immediately applied after a first transfer or use toward an NDC. However, rather than netting out across flows in opposite directions between countries, under this first-transfer-and-NDC-use approach, adjustments may be made for the total of first transfers and the total of NDC use that are relevant to a specific period.

Table 3 shows the adjustments made for countries under the first-transfer-and-NDC-use approach and emissions-based accounting, again using the information on transfers from Figure 2. Country B's first transfers are the 50 Mt it sent to country A and the 10 Mt of its own mitigation outcomes that it transferred to country C. For simplicity, Table 3 assumes that all acquisitions of mitigation outcomes remaining in a country are used for NDC purposes by that country. Country B's use is therefore the 100 Mt that it acquired from country A, less the 10 Mt of this that it further transferred to country C.

In this case, in which full use and no banking is assumed, the overall accounting impacts for each country are the same as under the transfer-and-acquisition approach: +50 Mt, -30 Mt and -20 Mt for countries A, B and C, respectively. If, on the other hand, banking is allowed and country B were to bank 5 Mt of the mitigation outcomes it had acquired from country A, its adjustment for NDC use would be only -85 Mt and its overall accounting impact would be only -25 Mt. This would reflect that it chooses to use less of its acquired mitigation outcomes toward it current NDC.

A consequence of this use approach is that adjustments for use by the acquiring country may be lower than adjustments for first transfers by the transferring country, at least until the point of their NDC use, and persistently if banking or cancellation are undertaken. The adjustments would still correspond to each other at all points in time, as they would reflect the reality that not all transferred outcomes had been used toward NDCs. "Correspond" need not necessarily mean "equal." Nevertheless, it may be necessary for countries to make available information on transactions from their tracking infrastructure, at least in summary form, to make more transparent how the adjustments were derived.

The full set of accounting adjustments implied by this approach, together with how they would be applied, is shown Table 4.

TABLE 4: Implications of the Basis for Accounting Adjustments

APPROACH 1: TRANSFER AND ACQUISITION BASIS		
ACCOUNTING TYPE	**EMISSION-BASED ACCOUNTING**	**TARGET-BASED ACCOUNTING**
Starting point	Inventory emissions	Initial budget of emissions allowed under the target
Additions	• Transfers of mitigation outcomes from within the scope of an NDC to another country	• Acquisitions of mitigation outcomes from another country from inside the scope of its NDC • Acquisitions of mitigation outcomes from another country from outside the scope (territory, sector or time period) of its NDC
Subtractions	• Acquisitions of mitigation outcomes from another country from inside the scope of its NDC • Acquisitions of mitigation outcomes from another country from outside the scope (territory, sector or time period) of its NDC	• Transfers of mitigation outcomes from within the scope of an NDC to another country
End-point	Adjusted emissions	Adjusted budget
Comparator	Emissions target	Inventory emissions
APPROACH 2: FIRST TRANSFER AND NDC USE BASIS		
ACCOUNTING TYPE	**EMISSION-BASED ACCOUNTING**	**TARGET-BASED ACCOUNTING**
Starting point	Inventory emissions	Initial budget of emissions allowed under the target
Additions	• First transfers of mitigation outcomes from within the scope of an NDC to another country	• Use of acquired mitigation outcomes from another country from inside the scope of its NDC • Use of acquired mitigation outcomes from another country from outside the scope (territory, sector or time period) of its NDC • Use of mitigation outcomes banked from previous periods
Subtractions	• Use of acquired mitigation outcomes from another country from inside the scope of its NDC • Use of acquired mitigation outcomes from another country from outside the scope (territory, sector or time period) of its NDC • Use of mitigation outcomes banked from previous periods	• First transfers of mitigation outcomes from within the scope of an NDC to another country
End-point	Adjusted emissions	Adjusted budget
Comparator	Emissions target	Inventory emissions

ACCOUNTING IN THE CONTEXT OF SINGLE-YEAR TARGETS

Countries assign different temporal scopes to the emission targets in their NDCs. While some NDC targets are specified for periods of multiple years (such as 2020-2030), the majority relate to emissions in only a single year (mostly 2030 and some for 2025). In these cases of single-year NDC targets, accounting would generally not be applied for the prior years. This raises the question of whether special provisions are needed in the accounting framework so that countries are treated in a consistent manner, irrespective of the timeframe of NDC they have chosen.

This question can take a number of forms. For example:

- Should a buying country be able to accumulate mitigation outcomes over several years and use these toward a single-year target?[10]
- Should a selling country generating surplus mitigation outcomes prior to a single-year target be able to transfer these without needing to account for them?
- Is it problematic that differences in NDC target years determine whether adjustments are required and hence whether adjustments need to "correspond" to each other?

TABLE 5: Application of Single-Year Accounting Approaches to the Options for the Basis of Accounting Adjustments

	TRANSFER AND ACQUISITION BASIS	FIRST TRANSFER AND USE BASIS
Vintage limitation	Adjustments to single-year emissions equal the net flows between each pair of countries in the year of the single-year NDC	Adjustments to single-year emissions equal the total first transfers and total use of acquired mitigation outcomes in the year of the single-year NDC
Annualizing transfers	Adjustments to single-year emissions equal the average annual net flows between each pair of countries over the relevant period (adjustments may not correspond if relevant periods differ by country)	Adjustments to single-year emissions equal the average annual first transfers and average annual use of acquired mitigation outcomes over the relevant period (adjustments may not correspond if relevant periods differ by country)
Multi-year trajectory	Adjustments to emissions for the full multi-year trajectory could apply once, equal to the cumulative net flows over the full period (adjustments may not correspond if trajectory periods differ by country)	Adjustments to emissions for the full multi-year trajectory could apply once, equal to the total first transfers and total use of acquired mitigation outcomes over the full period (adjustments may not correspond if trajectory periods differ by country)

Several measures could create greater consistency between the accounting of countries with single and multi-year NDCs. They take different approaches with regard to whether it is appropriate to mix mitigation outcomes from inside and outside the temporal scope of the NDC target. The main options are:

- **Vintage limitation—**This approach responds to the above issues by limiting the transfers and acquisitions accounted for a single-year NDC to those with the same vintage of that NDC. Allowances would need to have been transferred internationally in that year; credits would need to be generated in respect of reductions that have occurred in that year. There would be no mixing of mitigation outcomes from inside and outside the timeframe of the NDC target. This approach most directly reflects the use of transfers in relation to the single-year of the NDC, but restricts the flexibility to use other vintages often afforded under domestic policies such as multi-year compliance periods under an ETS. This approach may also be problematic for credits if the timing of the reduction cannot be identified, or if the time lag in issuing the credits is too long.
- **Annualizing transfers—**This approach responds to the above issues by recognizing and taking into account transfers and acquisitions made in other years through ETSs or crediting systems, for example through averaging them over a relevant period. The approach seeks to make the transfers accounted for the single year more "representative" of a typical year, thus smoothing over natural fluctuations in transfers driven by domestic policy choices or market and weather conditions. What period is considered relevant may be defined by the period, for example, over which an NDC is implemented, by an ETS compliance period, or by the lifetime of a prominent mitigation activity.

  Countries need to be aware of the impact of the averaging relative to the acquisitions they need (or transfers they do not need) for NDC purposes. For a net-acquiring country, the level of acquisitions it needs is determined by its emissions gap in the single year of its NDC and it will need to know if the averaging will reduce its level of acquired mitigation outcomes available for NDC purposes.[11] The risk of mismatch between available and needed acquisitions may be amplified by unforeseen economic or weather events that impact on emissions in the single year of the NDC.[12]

  Furthermore, the period relevant to one country may not be relevant to another. It would be important, for example, that averaging occur for the full length of an ETS compliance period; otherwise the single year of the NDC would not be representative of typically higher rates of transfer and use as the compliance period draws to a close or as the stringency of the ETS caps grows. If these periods are not consistent among countries, the averaging would account differently for countries on each side of a transfer and adjustments may not fully correspond to each other.
- **Multi-year trajectory—**This approach responds to the above issues by expanding the scope of

TABLE 6: Summary Considerations for Incorporating Treatment of Single-year NDCs in the Article 6.2 Accounting Guidance

	ARGUMENTS IN FAVOR OF APPROACH	ARGUMENTS AGAINST APPROACH
Vintage limitation	• Addresses consistency by excluding transfers from outside the single year • Simple and intuitive • Countries use uniform time periods	• Restricts temporal flexibility given under ETS and crediting
Annualizing transfers	• Addresses consistency by making adjustments more "representative" of transfers in a typical year • Reasonably simple to implement	• Extra care needed to anticipate the impact of averaging transfers and reduce risk of a mismatch between mitigation outcomes available for NDC purposes and those needed in the single year of the NDC • Differing "relevant periods" for the averaging would lead to adjustments not fully corresponding across countries (periods could be tied to relatively uniform NDC periods)
Multi-year trajectory	• Adjustments to emissions for the full multi-year trajectory Addresses consistency by making accounting equivalent to cumulative accounting for multi-year NDCs, without requiring NDC conversion • Full account taken of both emissions and transfers over all relevant years of trajectories)	• More complex to implement • Differing trajectory periods would lead to adjustments not fully corresponding across countries (periods could be tied to relatively uniform NDC periods)

the accounting to cover a multi-year trajectory of emissions consistent with the single-year NDC. In effect, this approach translates the single-year NDC into a multi-year NDC target, but only for accounting purposes; the NDC itself need not necessarily be converted. Whether the multi-year target is achieved would depend on the full emissions over the multi-year period relative to aggregate transfers and acquisitions over that same full period.

The emissions trajectory could reflect a country's own expectations of emissions over the period, and could represent or be informed by sector-level trajectories already mandated by domestic policy (such as by an ETS). Such a target could also be set only for specific economic sectors which are exposed to international transfers (for example, those covered by an ETS).

The period covered by a trajectory for one country may however not be appropriate for another. Such trajectory periods may, for example, depend on when domestic policy choices (such as linkages between ETSs) allow transfers to be made, the volume of transfers, or the availability of relevant data. Where these trajectory periods differ among countries, the adjustments applied to trajectories by different countries may no longer fully correspond to each other.

These accounting approaches for single-year NDCs would apply differently to the alternative options for the basis of accounting adjustments examined in the previous section. All variants are technically possible and **Table 5** indicates how they could apply under emissions-based accounting.

All the accounting approaches for single-year NDCs can in principle be integrated into the accounting guidance under Article 6.2. **Table 6** illustrates arguments for and against the approaches. The annualizing transfers and multi-year trajectory approaches are more representative in that they take more account of transfers in the years prior to the single year than the vintage limitations approach does, but may also lead to adjustments that do not correspond. Rectifying this may require that the periods used for annualizing transfers and multi-year trajectories cover the full period of the implementation of NDCs.

The multi-year trajectory approach provides for full accounting on a cumulative basis for a multi-year period, taking account of emissions over the full period as well as transfers over the full period. This avoids the risk of a mismatch between available and needed acquisitions that arises with the annualizing transfers approach. While it may be more complex than the other approaches, it could be applied only to sectors which already have multi-year trajectories and exposure to international transfers, such as those sectors covered

by internationally-linked ETSs. Treating these sectors in this manner would make the accounting true to the transfers and acquisitions occurring over the full period, without needing the political steps of formally converting NDCs to multi-year emissions budgets.

AUTHORIZATION OF AN ITMO FOR NDC USE

Article 6.3 specifies that the use of ITMOs toward NDCs is voluntary and must be authorized by "participating Parties."[13] This authorization recognizes the role of a national government in determining whether, and in which countries, emission reductions generated on its territory may be used toward NDCs. Without this, countries could be obliged to account for transfers and acquisitions that they were not aware of or would not normally approve. This is particularly relevant in the context of subnational trading.

Authorization was key to unlocking negotiations on Article 6 in Paris but it is not clear whether the guidance under Article 6.2 will need to address the nature of the authorization to be provided by countries, or the process or timing for its provision.

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The Article 6.3 authorization is mandatory if ITMOs are to be used toward NDCs. This may lead to it being recognized under a variety of processes: it could be addressed in the accounting guidance under Article 4.13; the technical expert review under Articles 13.11-12 may check that authorization has been given; and authorization may be set as a participation requirement for Article 6.

A number of options are available for this authorization in relation to both content and timing of the process. In terms of content, authorization could specify:

- **Blanket authorization—**This would be very open in that all countries could use the ITMOs without limitation toward their NDC achievement;
- **Limited authorization—**This could be limited in different ways, including any combination of:
  - **Volume—**A country could authorize a maximum volume of ITMOs for use by another country or countries;
  - **Country—**A country could specify which countries may use its ITMOs toward NDCs, with or without further conditions;
  - **Cooperative approaches—**A country could specify that use toward NDCs is authorized when ITMOs have been acquired via specific policies or programs, such as specific linkage agreements between ETS at either a national or subnational level;
  - **Timing of use—**A country could specify which NDC periods its authorization covers.

Options are also available with regard to the timing of the authorization:

- **Ex-ante authorization—**This would be provided prior to transfers occurring. It would favor acquiring countries by giving them greater certainty as to which ITMOs can be used for NDCs, but may afford transferring countries less control in managing their NDC achievement as they may not know the extent of transfers at the point authorization is given. Authorization would in this option signal in advance what ITMOs the transferring country is prepared to release.
- **Ex-post authorization—**This would be granted after cooperation is underway and could even be provided after transfers have occurred. It would nonetheless be required before another country could use ITMOs toward its NDC. Such authorization would favor transferring countries by allowing them more time in determining their needs for emission reductions under their own NDCs but would reduce certainty for acquiring countries. This may become an issue for acquiring countries as they come closer to the time they need to report on their progress in achieving their NDCs.

MEANS TO "EFFECT" THE APPLICATION OF ACCOUNTING ADJUSTMENTS

This refers to the process and timing for applying corresponding adjustments within the accounting framework, after their size and direction have been determined.[14] Under emissions-based accounting, these

adjustments are added or subtracted from emission estimates drawn from national inventories, in order that the end result can be compared against the emissions levels communicated in the country's NDC. This process of adding and subtracting is important in declaring acquired mitigation outcomes as being used by the country for its NDC. These may not be transferred further or counted toward another country's NDC.

Any process to effect these adjustments would therefore benefit from the following characteristics:

- **Transparency and verification—**The process could provide sufficient information for the determination of adjustments to be understood and replicated, and could provide for linkage to the technical expert review under Article 13.11-12.
- **Coordination and reconciliation—**The process could facilitate coordination across countries in determining and communicating adjustments, as well as in identifying and reconciling any inconsistencies across the corresponding adjustments in different countries.
- **Formality and recognition—**The process could provide for sufficient formality under the Paris Agreement to ensure recognition of adjustments made in relation to NDC achievement.
- **Coherence across the Paris Agreement—**The process could be consistent and coordinated with other parts of the Paris Agreement, in particular the provision of information to track progress made in implementing and achieving NDCs under Article 13.7(b).

The process and timing for effecting adjustments is related to the accounting for NDCs being elaborated under Article 4.13 and the enhanced transparency framework in Article 13, in particular Article 13.7(b). A number of broad options are available:

- **Transparency-based approach—**Countries would apply adjustments through reporting them under Article 13.7(b), which is to occur on at least a biennial basis and be subject to the technical expert review process. As each country would report only its own perspective on transfers and adjustments, identifying and reconciling any inconsistencies in corresponding adjustments may be challenging for the review process if reporting is not frequent and comprehensive.
- **Centralized accounting database (CAD) approach—**Adjustments would be effected through inclusion in a CAD administered by the UNFCCC secretariat. This centralized function could provide for more coordination and transparency in the application of adjustments, as well as potential for processes to verify adjustments, reconcile differences among countries potentially make changes where necessary. The data for the CAD may be drawn from:
  - **Reports provided by countries—**These may potentially be those provided under Article 13.7(b). While the CAD would maintain information in a centralized manner, this approach would still rely on countries' self-reporting.
  - **Automated electronic links—**These links could be to registries implemented by countries or an international transaction log (ITL) administered by the UNFCCC secretariat. Accounting would in these cases be managed through these systems, with relevant transfers automatically recorded in the CAD and translated into corresponding adjustments. Such automation would however require process steps to communicate and verify results with the countries concerned.

Either way, to be transparent and credible, accounting adjustments reported by countries under Article 13.7(b) will likely need to be supported by the tracking information maintained by countries. Summary information on transactions could be reported to the UNFCCC or made available in another way. This would be especially needed in the case of the first-transfer-and-NDC-use approach, in order to demonstrate the correspondence between transfers and use toward NDCs.

The process could be run, and the adjustments applied, at different points in time. Generally speaking, options include:

- **Real-time—**Adjustments could be applied immediately upon the ITMO being made. This could be possible where all transfers are managed via registries and these, or an ITL, are electronically linked directly to a CAD.
- **Periodically through an NDC period—**ITMOs could be accumulated and netted out, with aggregate adjustments being applied in a cycle

of regular reporting or process steps for entering information into a CAD. This could be tied to the frequency of Article 13.7(b) reporting; registry or ITL inputs to a CAD could be designed to net out transfers over any length of period before applying them. This periodic option would give a high degree of certainty over the adjustments countries make for the NDC period.

- **Once at the end of NDC period—**ITMOs could be accumulated for a full NDC period, with aggregate adjustments applied once as part of a country's "final accounting."

Overall, applying adjustments periodically may offer a balance of fewer adjustments (with netting out over longer periods of time) and frequent information. Automatic links from registries or the ITL to a CAD would give more flexibility with respect to timing than reporting under Article 13.7(b) alone.

However, the period of the NDC is relevant here. A country with a multi-year NDC period, or which manages its accounting for a single-year NDC through a multi-year trajectory, has sufficient basis for applying adjustments during its NDC period, such as under the first two options above. Conversely, for a country with a single-year NDC of 2025 or 2030, accounting adjustments are only relevant for the single year of the target, making only the third option above practical. These countries could of course still provide the following information prior to the single year of the NDC:

- Tracking information on any transfers and acquisitions occurring prior to the single year of the NDC. This would be particularly important for some options in addressing the accounting of single-year NDCs.
- Expectations of adjustments that will be needed for the single year of the NDC. Such expectations would change over time, thus providing a measure of the progress being made in implementing and achieving NDCs.

CONCLUSIONS

This brief considers – from a technical viewpoint – several key issues in the current negotiation of guidance under Article 6.2 that will impact on how ITMOs can be used towards NDCs. While it is important to keep solutions to these issues sufficiently simple, it is difficult to avoid complexity altogether. The cooperative programs themselves can however be expected to provide much of the data and infrastructure needed to realize effective accounting solutions.

Several observations are made apparent through the brief:

- **Basis for accounting adjustment—**It will be important that all countries use the same basis for determining accounting adjustments. While both options considered here ensure double counting is avoided, the transfer-and-acquisition approach does not consider that some acquisitions may not ultimately be used towards NDCs. While it is unclear to what extent banking or cancellation will occur, it cannot be ruled out that some countries will undertake them. While the first-transfer-and-NDC-use approach may be considered less intuitive, it provides for an accurate picture of ITMO use towards NDCs, without needing to expressly address banking and cancellation in the Article 6.2 guidance.
- **Accounting in the context of single-year targets—**Measures are needed if countries are to be treated consistently. The vintage-limitation and annualizing-transfers approaches have implications for how countries can manage their NDC achievement. The multi-year-trajectory approach may offer the most technically complete option but may only be practical for some countries if they operate ETSs, since these already implement this approach domestically. This approach could be, if necessary, only applied to the portion of a country's emissions covered by such programs and exposed to international transfers.
- **Authorization of ITMOs for NDC use—**Many options are available for countries to provide this authorization. They allow countries to maintain control over how mitigation outcomes generated on their territory are to be used. However, authorization does not affect how accounting is to be conducted.
- **Means to "effect" the application of accounting adjustments—**A process is needed for countries to declare ITMOs as being used against their NDCs. This needs to be transparent, formal and coherent

with other parts of the Paris Agreement. It may also usefully facilitate a degree of coordination among countries, as each country only has its own perspective on transfers and adjustments. In this regard, a transparency-based approach through reporting may be limited. A CAD-based approach may offer more potential here but would require a centralized infrastructure that goes beyond the technical expert review process.

These are important issues if international cooperation through Article 6 is to be facilitated and its environmental integrity preserved. Developing effective solutions to these issues will be key in providing countries with flexibility in how they implement their NDCs and, importantly, in providing a basis for using such cooperation to increase mitigation ambition.

ENDNOTES

1 24th session of the Conference of the Parties serving as the meeting of the Parties to the UNFCCC.

2 Decision 1/CP.21, paragraph 36.

3 Governments may engage in smaller or less complex cooperation and transfers without creating trading and crediting programs. As this may not justify the effort and expense of dedicated registries, countries may track such transfers manually or manage them through international crediting systems offering registry services.

4 Subject to the transferring country also authorizing ITMOs under Article 6.3 for use towards NDCs.

5 This has implications for how the application of adjustments may be effected and is considered in the last section.

6 These adjustments would not change the inventories themselves, as these must remain intact as the record of countries' actual emissions and removals, but could be recorded in a parallel table.

7 Such cancellation currently occurs in voluntary markets, where entities acquire mitigation outcomes abroad but do not wish them to allow higher emissions in their own countries. Cancellation may also be mandated where, for example, emission removals are subsequently reversed or mitigation outcomes are later found to be inaccurate.

8 It is not clear whether banking and cancellation should be addressed through guidance under Article 6.2, if the view is taken that this should be limited to accounting for international transfers. It may be considered that these relate more to guidance under Article 4.13, which concerns how countries account for their NDCs.

9 As Country B in Figure 2 does not subtract emissions for acquisitions from country A that it does not use, it would be would be unfairly penalized if required to add emissions as a result of further transferring them.

10 Under ETSs, this is generally allowed when mitigation outcomes occur during the compliance period, and hence are included in the accounting for the period, but is subject to debate when the mitigation outcomes occur prior to the compliance period.

11 For example, a country with a single-year NDC for 2030 may face an economy-wide emissions gap of 30 Mt CO2e in that year. It may acquire 10 Mt each year over a five-year period, except for the last year (2030) when it acquires 60 Mt (perhaps because this is the last year of an ETS compliance period). The averaging would in this case result in an adjustment of 20 Mt for the single year of the NDC, which is insufficient to achieve the NDC.

12 In this example, a country finding unexpectedly in 2030 that it needs a further 10 Mt will need to acquire a further 50 Mt in order for 10 Mt to be available for NDC purposes.

13 "Participating Parties" also implies that countries authorize the use of ITMOs toward their own NDCs.

14 The size and direction of corresponding adjustments would depend on the issues considered above for the basis of adjustments, the accounting treatment of single-year NDCs, and authorization under Article 6.3.

Other C2ES Resources:

Elaborating the Paris Agreement: National Greenhouse Gas Inventories, August 2018
https://www.c2es.org/document/elaborating-the-paris-agreement-national-greenhouse-gas-inventiories

Elaborating the Paris Agreement: Transparency of Finance, August 2018
https://www.c2es.org/document/elaborating-the-paris-agreement-transparency-of-finance/

General Issues in Elaborating the Paris Agreement, April 2018
https://www.c2es.org/document/general-issues-in-elaborating-the-paris-agreement

Accounting for Bottom-Up Trading Under the Paris Agreement, April 2018
https://www.c2es.org/document/accounting-for-bottom-up-trading-under-the-paris-agreement

Elaborating the Paris Agreement: Implementation and Compliance, November 2017
https://www.c2es.org/document/elaborating-the-paris-agreement-implementation-and-compliance

Elaborating the Paris Agreement: Information and Accounting, November 2017
https://www.c2es.org/document/elaborating-the-paris-agreement-information-and-accounting

ICAO's CORSIA and the Paris Agreement: Cross-Cutting Issues, November 2017
https://www.c2es.org/document/icaos-corsia-and-the-paris-agreement-cross-cutting-issues/

Elaborating the Paris Agreement: Potential Linkages Between Articles 13, 14, and 15, October 2017
https://www.c2es.org/document/elaborating-the-paris-agreement-potential-linkages-between-articles-13-14-and-15

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