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A MINISTRY PLAYBOOK FOR CORRESPONDING ADJUSTMENTS

Pricing strategies in carbon markets

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Introduction

Nationally Determined Contributions (NDCs) are central to global climate action, and carbon markets can be a critical source of finance for achieving the goals of the Paris Agreement. Corresponding Adjustments (CA) credits can play a pivotal role in jurisdictions' engagement with carbon markets, but governments must navigate complex decisions about issuing carbon credits and authorizing CAs. This paper provides key considerations for national governments, outlining how to strategically manage carbon finance, meet NDC targets, and assess the trade-offs between selling credits in the Voluntary Carbon Market (VCM) or authorizing CA credits.

The Role of NDCs and Carbon Finance

NDCs serve as the foundation of the Paris Agreement's objective to limit global warming to well below 2°C, with the ambition to stay below 1.5°C. Countries are required to update their NDCs every five years to reflect increasing ambition and progress. However, many developing nations face financial, technological, and capacity challenges in implementing their commitments. Addressing these challenges is especially important as the next round of NDC updates to 2030 will be critical for closing the significant emissions gap.

Carbon markets offer a vital pathway for overcoming these barriers. Both state and non-state actors use carbon markets, particularly the VCM, to purchase carbon credits and offset emissions. Around 75% of Paris Agreement signatories expect to utilize market mechanisms to help meet their NDC goals, covering both unconditional targets and those contingent on additional financing. For forest-rich nations, the issuance of high-integrity Jurisdictional REDD+ (JREDD+) credits is especially crucial for maximizing both financial returns and environmental outcomes.

Navigating the Complexities of Corresponding Adjustments

A critical decision for jurisdictions is whether to authorize CA credits. Unlike VCM credits, CA credits cannot be counted towards a host country's NDC since they are transferred to the buyer's climate account. This forces the host country to find additional measures to offset the loss of carbon mitigation, which can increase the cost and complexity of achieving its NDC targets.

Moreover, the trading of CA credits occurs within a broader context of the overall integrity of the Paris Agreement. The achievement of NDCs is essential for maintaining the viability of the Agreement as the main engine for collective global climate action. Countries should balance the potential financial benefits of selling CA credits against the financial risks of overselling and undermining their own climate goals. For example, the overselling of CA credits before meeting NDC targets could have the perverse effect of lowering carbon prices and reducing demand for CA credits perceived to be weakening the foundation of the Paris Agreement. In contrast, countries can benefit from keeping on track towards NDC achievement, particularly in the land sector as there has been a significant growth in price premiums for forest carbon credits perceived as having high integrity. Both seller and buyer countries must carefully consider these risks. Seller countries must develop strategies to avoid jeopardizing their NDCs, while buyers should ensure that the jurisdictions they engage with can still meet their climate commitments after CA credits are authorized.

A Ministry Playbook for Corresponding Adjustments

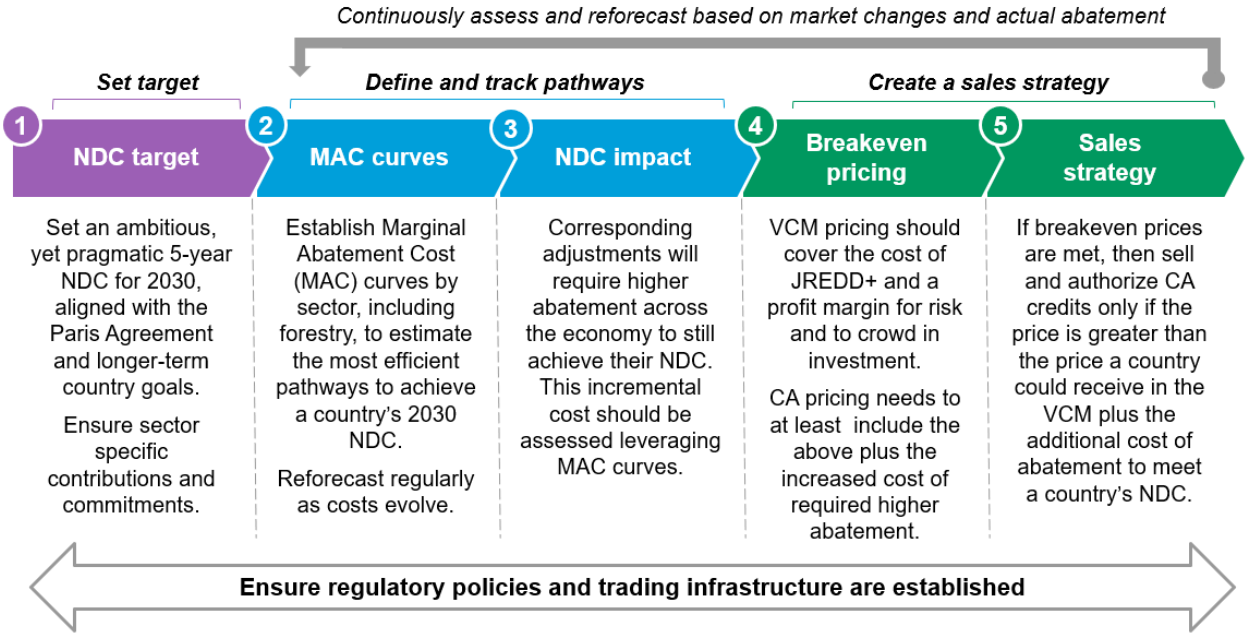
The playbook provides a structured approach to help countries develop effective strategies for managing carbon finance, ensuring they can maximize financial returns from carbon markets while safeguarding their ability to meet NDC commitments and mitigate risks associated with corresponding adjustments. This approach provides a methodology for governments that are undertaking JREDD+ programs to answer the following questions:

1. What is the breakeven price when selling in the VCM (without corresponding adjustments)?
2. What is the breakeven price for selling credits with corresponding adjustments?
3. At what price does it make financial sense to authorize and sell CA credits versus non-CA credits to VCM buyers?

Additionally, for national governments who rely on subnational jurisdictions, Indigenous territories, or nested projects from private owners for the provision of JREDD+, the playbook provides guidance on what price governments should charge to authorize CA credits.

To answer these questions, we present a simple framework grounded in microeconomics, aligned with the requirements of the Paris Agreement, and validated by financial experts with experience in carbon market transactions. Figure 1 below depicts the five steps in the playbook.

Figure 1: Overview of a Ministry Playbook for Corresponding Adjustments



Set 2030 NDCs

Governments should first set ambitious yet realistic NDCs aligned with the Paris Agreement (e.g., applying the principle of principle of "common but differentiated responsibilities") through domestic institutional arrangements that coordinate contributions across sectors. It is also important to implement formal consultative processes that are inclusive and participatory, especially with regards to Indigenous

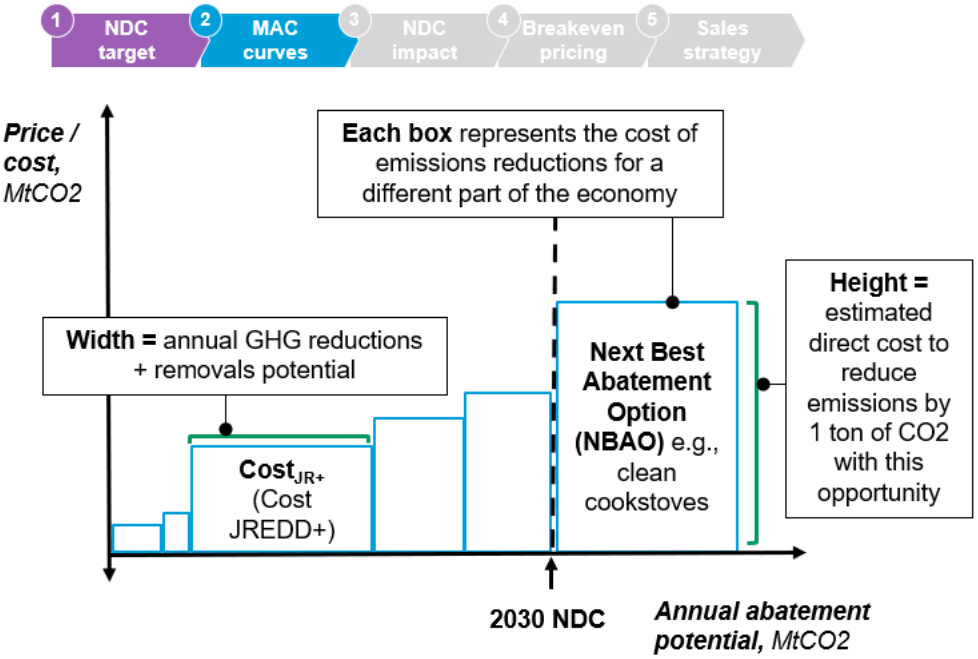
Peoples (IPs) and local communities (LCs), women and youth. It is crucial for countries to continue to clearly differentiate between unconditional commitments, which the country must achieve without external assistance, and conditional commitments that rely on international support, including carbon finance. This distinction helps ensure sector-specific contributions, particularly in forestry, where the potential for emissions reduction is substantial and where forest nations could consider increasing ambition in line with the global goal to halt deforestation by 2030.

Establish Marginal Abatement Cost curves

When considering ways to cut emissions, policymakers have often used a tool called a marginal abatement cost (MAC) curve to compare the cost and emissions impact of different technologies. Our approach overlays traditional MAC curves, like the one popularized by McKinsey & Company in 2007, with NDC commitments. Please note the limitations with traditional MAC curves. Despite this, the simplicity of MAC curves are useful to (1) estimate the total cost to an economy of achieving its NDCs by 2030, and (2) assess these costs across different sectors, including forestry, to determine the most viable pathways for decarbonization, create the necessary conditions to drive investments, and ensure that NDCs are pragmatic.

For environmental and forestry officials, what is most critical is determining the contribution of the sector towards a country's NDCs and all direct costs associated with producing these emissions reductions or removals. These costs should include payments for ecosystem services to landowners and local communities, increased staffing levels for forestry personnel and enforcement, monitoring and reporting systems. Figure 2 presents an illustrative version of a country's MAC curve with its 2030 NDC depicted.

Figure 2: Illustrative MAC Curve, Cost of JREDD+, and 2030 NDC

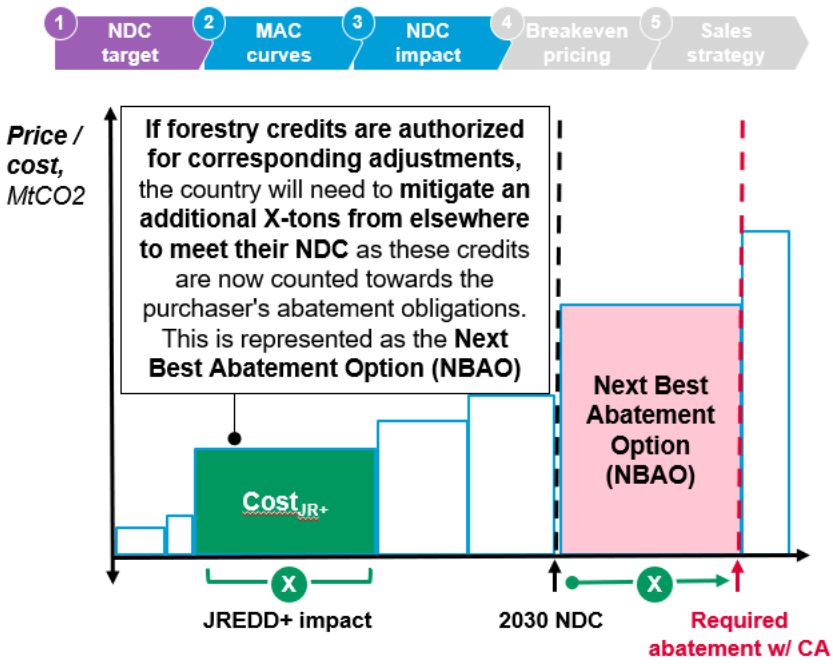


Assess the NDC Impact of Authorizing Corresponding Adjustments

Credits authorized for corresponding adjustments will no longer count towards the supply country's NDC but will instead be credited towards the purchaser's climate obligations. To still achieve their NDC, the supply country will now need to invest in the next most economically viable technology or abatement pathway, also known as their next best abatement option (NBAO). In the diagram above we highlight this as an investment in clean cookstoves, but in practice it could be any large sectoral investment that the country did not anticipate making in pursuit of its 2030 NDCs.

As preventing deforestation is one of the most cost-efficient abatement pathways, in most circumstances authorizing corresponding adjustments for forestry credits will result in more costly investment elsewhere. On the MAC curve this is depicted as the next cheapest emissions reduction not yet undertaken, or just to the right of the NDC commitment. Figure 3 highlights this dynamic in a simplified example.

Figure 3: Additional Costs Associated with Authorizing Corresponding Adjustments



Understand Breakeven Pricing in the VCM and for CA Credits

Governments should calculate breakeven prices, the point where costs are recovered, for selling JREDD+ credits in both VCM and CA markets. If credits are sold below this price, it means the government will incur an economic loss, which puts the long-run sustainability of these programs at risk.

When selling in the VCM (where corresponding adjustments are not currently required), governments should seek to recover all direct costs of implementing the program as well as a small profit margin. This margin is critical to secure upfront financing necessary to undertake jurisdictional scale conservation, and / or crowd in private sector participation. This is seen in the following equation:

Breakeven P(VCM) = $Cost_{JR} + \pi$

If authorizing credits for corresponding adjustments, the country now needs to undertake its NBAO on top of its JREDD+ program. These new costs need to be accounted for in the sales price and is represented in the following equation.

Breakeven P(CA) = $Cost_{JR} + \pi + NBAO$

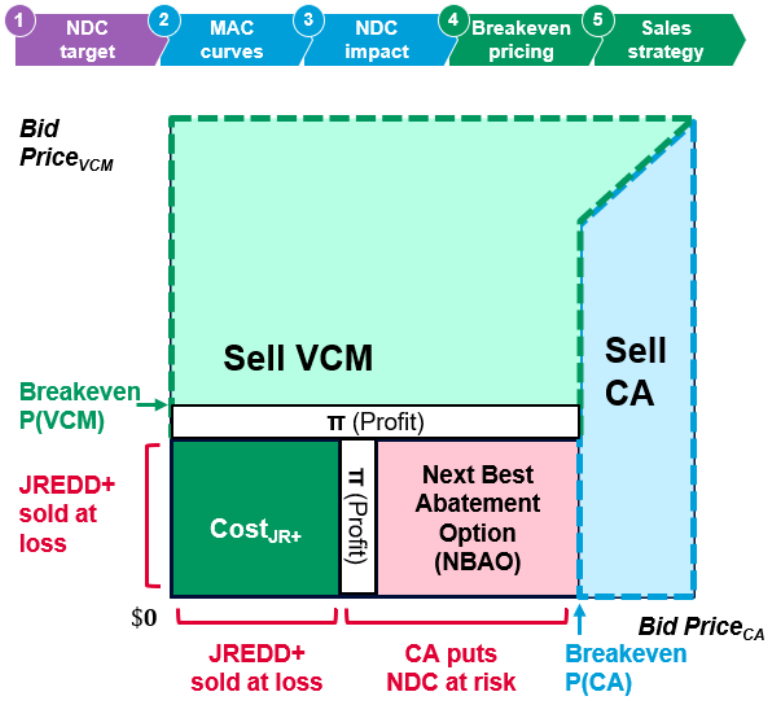
If the national government is not incurring the cost of the jurisdictional forestry program, due to these programs being undertaken by subnational entities or nested projects, then their breakeven price for authorizing CA credits for these specific programs is just their next best abatement option to compensate for the investment in additional abatement activities required to still achieve their NDC.

Develop a Sales Strategy

Governments should develop a strategy that balances economic returns while still enabling them to achieve their NDCs. Tactically, this means determining how many credits to authorize and sell as corresponding adjustments versus what credits to sell in the VCM. While this decision is neither binary – since a portion of credits can be sold in each market, nor static – because credits are generated annually and strategies can and should evolve over time, Figure 4 provides a simplified framework for making sales decisions between these two markets. This framework can be applied in a straightforward manner for a single transaction.

To develop a more sophisticated and longer-term approach, governments should understand evolving pricing trends to ascertain if bid prices (prices being offered) are competitive, the different sources of demand and their unique requirements, historical, prevailing prices and future looking price forecasts, and the underlying drivers of supply and demand in credit markets.

Figure 4: Simplified Sales Criteria across the VCM and CA Markets



In short, a national government should authorize and sell correspondingly adjusted credits only if they can secure a higher profit from the CA sale than in the VCM, while remaining on track to attain their NDCs. Practically, this means that the price of CA credits ("bid price") must be greater than the price they can secure in the VCM plus the additional costs they will incur from having to abate more emissions to still achieve their NDC. This is seen in the following equation:

Sell in CA markets if, Bid Price (CA) ≥ Bid Price (VCM) + NBAO

If governments are engaging in forward offtake agreements (e.g., selling credits in future years), it is imperative to have accurate and regular forecasts for NDC attainment, the cost of their next best abatement option, and pricing trends in CA markets and the VCM. Failure to do so significantly increases the risk that NDCs may not be able to be achieved and / or economic returns are not maximized.

Please note that the pricing above pertains to a situation where authorizing corresponding adjustments results in the country falling short of their NDC and therefore needing to undertake their NBAO. If a country is one of the few that has far exceeded its NDC, then the pricing calculus changes as the NBAO no longer needs to be accounted for – though buyer willingness to pay is still critical to understand to maximize economic returns.

Conclusion

This playbook aims to help empower countries to navigate the complexities of carbon markets with confidence, by providing the tools needed to balance economic opportunities with climate responsibilities. This methodology enables countries, in the context of their own national circumstances, to establish price points for determining whether to sell credits in the VCM or as CA credits while keeping on track to meet their NDCs. By strategically managing carbon finance, setting informed pricing and optimizing the sale of carbon credits, countries can unlock significant financial resources and minimize risks to pricing and demand associated with overselling credits. With this approach, nations not only strengthen their positions in global carbon markets but also take meaningful strides toward achieving their climate goals, fostering sustainable development and leading the way in the global effort to combat climate change.