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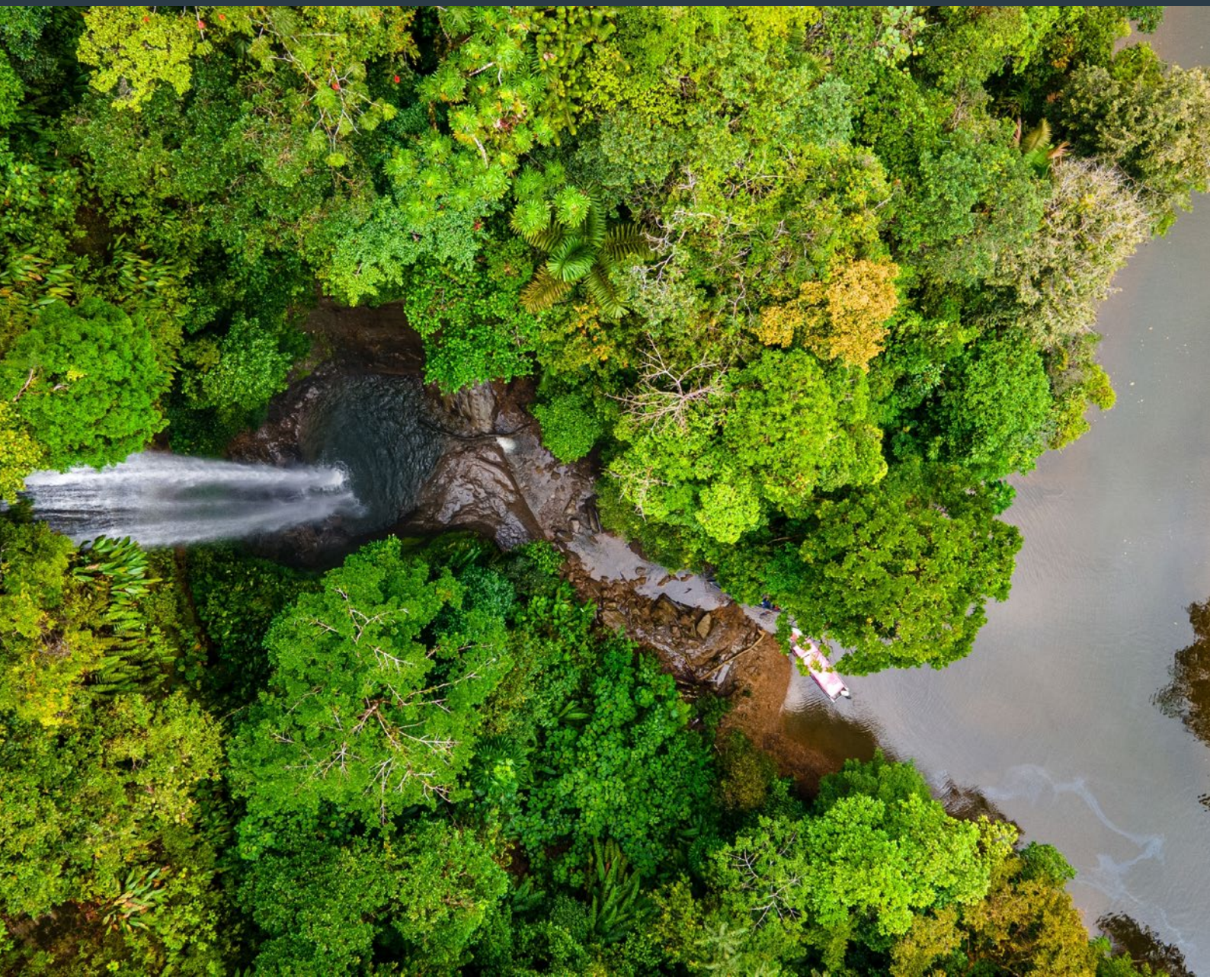
POLICY BRIEF | April 2026



POLICY BRIEF

ASSESSING COLOMBIA'S ARTICLE 6 CREDITING SPACE

A Comparative Interpretation of Mitigation Gap and Modelled Potential

Executive Summary

Colombia is emerging as a key potential host country for Article 6 cooperation under the Paris Agreement.[1] This policy brief compares two independent analytical exercises that estimate the scale of Colombia's mitigation challenge and its potential for participation in Article 6 mechanisms.

The Climate Action Centre of Excellence (CACE) applies a top-down implementation-gap approach,[2] measuring the difference between Colombia's most recently reported greenhouse gas emissions (280.1 $MtCO_2e$ in 2021)[3] and the 2030 NDC target of 169.4 $MtCO_2e$/year.[4] This yields an economy-wide mitigation gap of approximately **110.7 $MtCO_2e$/year**, representing the total effort required to meet the NDC.

The Global Green Growth Institute (GGGI), through its SPAR6C modelling framework,[5] applies a bottom-up approach that estimates the aggregate mitigation potential of a curated portfolio of 15 measures across five sectors, arriving at **101.1 $MtCO_2e$/year** in potential emission reductions under Article 6.

Although the headline numbers are similar, they answer different questions. The CACE figure captures the scale of the mitigation challenge; the GGGI figure represents modelled mitigation potential under specific scenario assumptions.

> *If the GGGI estimate were interpreted as Article 6 crediting space additional to full NDC achievement, it would imply Colombia reaching approximately 68 $MtCO_2e$/year by 2030 — an 80% reduction from BAU. This is implausible within the timeframe and highlights why modelled mitigation potential should not be equated with transferable crediting space.*

For Colombia, the central policy task is to clarify how international cooperation — including Article 6 — fits into its strategy for achieving the NDC and raising ambition over time. This includes articulating how cooperative approaches can support domestic implementation, accelerate sectoral transitions, and generate additional mitigation beyond the NDC.

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1 Republic of Colombia, Updated Nationally Determined Contribution (2020), p. 33, NDC 2020

2 The implementation-gap methodology is presented in CACE, "The Illusion of Crediting Space" (2026), The approach computes the difference between a country's most recently reported GHG emissions and its stated 2030 NDC target. The Illusion of Crediting Space

3 Republic of Colombia, First Biennial Transparency Report (BTR1), Annex 1: National Inventory Report of Greenhouse Gases of Colombia (2024), Table 2.2, BTR 1 Colombia

4 Republic of Colombia, Updated Nationally Determined Contribution (2020), p. 34, NDC 2020

5 GGGI Policy brief 2026 | Assessing Different Scenarios for Colombia's participation in Article 6 mechanisms

1. Introduction

Colombia is emerging as one of the most prominent potential host countries for Article 6 cooperation under the Paris Agreement in Latin America.[6] Its updated Nationally Determined Contribution (NDC) commits to reducing greenhouse gas emissions to 169.4 $MtCO_2e$/year by 2030, equivalent to a 51% reduction below the 2030 business-as-usual (BAU) scenario of approximately 346 $MtCO_2e$.[7] The country has signaled interest in participating in international carbon markets as a host and a potential supplier of Internationally Transferred Mitigation Outcomes (ITMOs).[8]

To date, the most detailed analytical exercise focused specifically on Colombia's Article 6 opportunities is the SPAR6C modelling study developed by the Global Green Growth Institute (GGGI). This bottom-up assessment estimates the mitigation potential of a curated portfolio of 15 measures across five sectors and illustrates how cooperative approaches could catalyse additional mitigation and economic co-benefits.

In parallel, the Climate Action Centre of Excellence (CACE) has developed a conceptual framework for assessing Article 6 crediting space, presented in the paper The Illusion of Crediting Space,[9] which highlights the importance of distinguishing between mitigation potential, implementation gaps, and the subset of mitigation that could credibly be transferred as ITMOs. While the original paper did not assess Colombia, this brief applies the same framework to the Colombian context.

The purpose of this brief is therefore to interpret the GGGI modelling results through the lens of the CACE crediting-space framework, and draws out the implications for policymakers, market participants, and the broader Article 6 discourse. The analysis is intended as a constructive contribution to understanding how different analytical methods inform the interpretation of Article 6 supply potential — and why the distinction between mitigation potential and crediting space is essential for market credibility.

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6 Article 6 readiness in updated and second NDCs

7 The BAU scenario of approximately 346 $MtCO_2e$ by 2030 is referenced in Colombia's NDC documentation. Republic of Colombia, Updated Nationally Determined Contribution (2020), NDC 2020

8 Republic of Colombia, Updated Nationally Determined Contribution (2020), p. 34, NDC 2020

9 Climate Action Centre of Excellence (CACE), "The Illusion of Crediting Space: Why Modelled Mitigation Potential Does Not Equal Article 6 Supply," The Illusion of Crediting Space

2. Comparing the Two Approaches

2.1 The CACE Top-Down Approach: Measuring Implementation Gaps

The CACE approach computes an economy-wide implementation gap by comparing Colombia's most recently reported emissions (280,101 $ktCO_2e$ in the 2021 national inventory)[10] against the 2030 NDC target (169,440 $ktCO_2e$/year). The resulting gap of approximately 110,661 $ktCO_2e$ represents the total annual mitigation effort required to reach the NDC objective.

This top-down perspective does not identify specific measures or sectors, but it provides a clear benchmark for interpreting any bottom-up modelling results. It helps answer the question: How much mitigation does Colombia need to achieve domestically before any additional mitigation could be considered for transfer under Article 6?

2.2 The GGGI/SPAR6C Bottom-Up Approach

The GGGI modelling uses the Green Economy Model (GEM) to simulate seven scenarios for Colombia's Article 6 participation.[11] It models a portfolio of 15 mitigation measures across AFOLU, energy, industry, transport, and waste sectors, producing a total net emissions reduction of 101.1 $MtCO_2e$/year once all measures are operational. The three largest contributors are deforestation reduction (40.9 $MtCO_2e$/year), ecological restoration (19.2 $MtCO_2e$/year), and electric mobility (12.8 $MtCO_2e$/year).[12] The exercise also models co-benefits in GDP, employment, and energy cost savings.

This approach provides sectoral granularity, identifies where mitigation opportunities lie, and illustrates how Article 6 cooperation could help unlock additional mitigation and co-benefits such as GDP growth, employment, and energy savings. It is particularly useful for understanding what Article 6 could enable under favorable conditions.

[10] Republic of Colombia, First Biennial Transparency Report (BTR1), Annex 1: National Inventory Report of Greenhouse Gases of Colombia (2024), Table 2.2, BTR 1 Colombia

[11] GGGI Policy brief 2026 Table 1 | Assessing Different Scenarios for Colombia's participation in Article 6 mechanisms

[12] GGGI Policy brief 2026 Figure 3 | Assessing Different Scenarios for Colombia's participation in Article 6 mechanisms

2.3 Why They Are Not Interchangeable

These approaches answer fundamentally different questions. The CACE approach asks: how much must Colombia reduce its emissions to meet its NDC? The GGGI exercise asks: what mitigation could a curated Article 6 portfolio achieve under specific assumptions? Table 1 summarizes the key distinctions.

Dimension	CACE (Top-Down)	GGGI/SPAR6C (Bottom-Up)
Metric produced	Implementation gap: reported emissions minus 2030 NDC target	Aggregate annual mitigation potential of modelled Article 6 portfolio
Value	110.7 $MtCO_2e$/year	101.1 $MtCO_2e$/year
Scope	Economy-wide, all sectors	15 measures across 5 sectors (curated)
Baseline	Observed 2021 emissions (280.1 $MtCO_2e$)	Modelled NDC ambition pathway
What it tells us	Scale of total mitigation effort required	Scenario-based potential under specific Article 6 assumptions
What it cannot tell us	How the gap breaks down by sector or what could be transferred via Article 6	Whether this crediting space exists or is exportable

Table 1: *Side-by-side comparison of the two analytical approaches.*

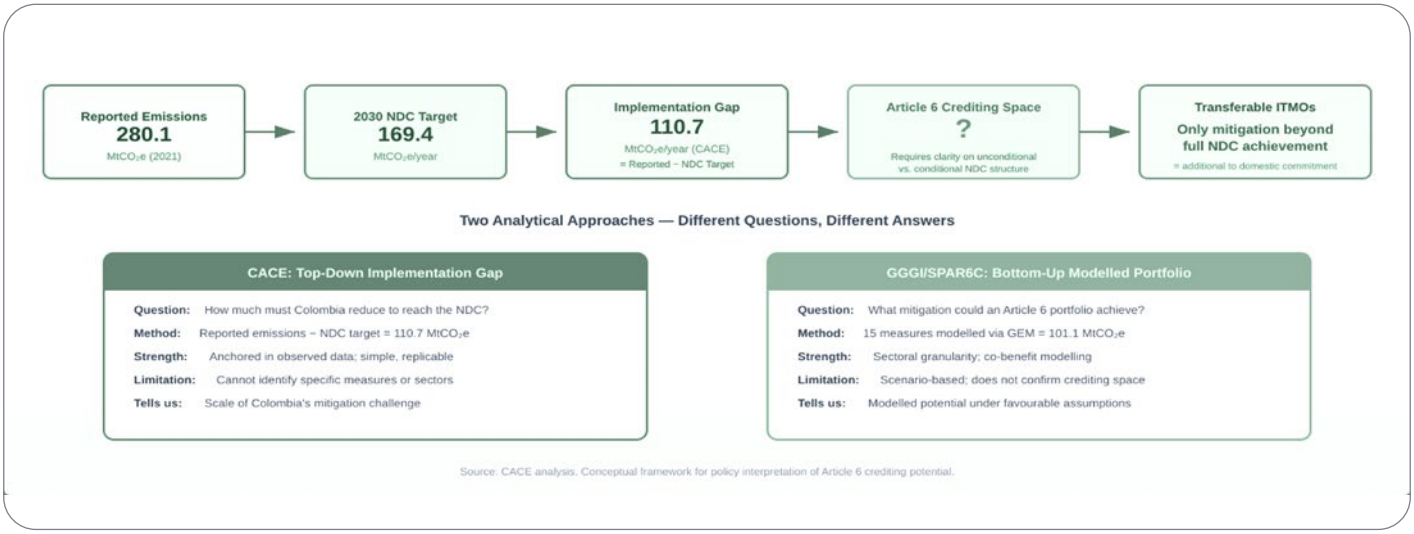

Figure 1: *From Reported Emissions to Crediting Space — A Conceptual Framework.*

3. Why Mitigation Potential Is Not Crediting Space

Three concepts that are frequently conflated in Article 6 discussions must be carefully distinguished:

Mitigation potential refers to the technical or economic capacity to reduce emissions through specific measures. The GGGI estimate of 101.1 $MtCO_2e$/year falls into this category — it represents what a curated portfolio of measures could achieve under modelled assumptions.

Implementation gap refers to the distance between observed emissions and a country's stated target. The figure of 110.7 $MtCO_2e$/year captures this — the economy-wide mitigation effort required to meet the 2030 NDC.

Article 6 crediting space refers specifically to mitigation outcomes that a country can transfer internationally as ITMOs without jeopardizing its own NDC achievement. It requires clarity on the unconditional domestic commitment and any additional mitigation that can be generated and transferred.

> *Neither the GGGI modelled portfolio total nor the CACE implementation gap constitutes, on its own, an estimate of crediting space. The former shows mitigation potential under strong assumptions; the latter shows the scale of the challenge. Crediting space depends on the relationship between unconditional NDC commitments and any surplus mitigation — a relationship Colombia has not yet defined.*

Colombia's NDC commits the country to reducing emissions to 169.4 $MtCO_2e$/year by 2030. While the NDC acknowledges that the country cannot meet its target without international support, it does not quantify a financing gap or specify what share is achievable domestically.[13] This has direct implications for interpreting mitigation numbers: without a clear articulation of how international cooperation contributes to NDC achievement, it is difficult to determine what portion of mitigation could be considered additional and therefore eligible for transfer under Article 6.

A strict reading of the NDC implies that any mitigation transferred internationally must be additional to the effort required to meet the target, since transferred ITMOs must be deducted from Colombia's own NDC progress accounting. For this reason, and for the purpose of this brief, the full NDC target is treated as the benchmark against which any potential Article 6 crediting space should be assessed.

[13] Republic of Colombia, Updated Nationally Determined Contribution (2020), NDC 2020

4. Colombia's 2030 Emissions Pathway: A Plausibility Check

Interpreting mitigation potential in the context of Article 6 requires a simple but important plausibility check. Table 2 presents the key parameters.

Parameter	Value
Colombia 2030 BAU emissions	$MtCO_2e$ 346~
NDC emissions target 2030	$MtCO_2e$/year 169.4
NDC target as reduction below BAU	51%~
GGGI modelled portfolio	$MtCO_2e$/year 101.1
Implied emissions if GGGI treated as additional	**$MtCO_2e$/year 68~**
Implied reduction vs. BAU	**80%~**

Table 2: *Implied 2030 emissions under literal interpretation of the GGGI estimate as crediting space.*

Colombia's NDC commits the country to reducing emissions to 169.4 $MtCO_2e$/year by 2030, equivalent to a 51% reduction below BAU. Any mitigation transferred internationally must be additional to the effort required to meet this target, since transferred ITMOs must be deducted from Colombia's own NDC accounting.

The GGGI modelling exercise estimates 101.1 $MtCO_2e$/year of mitigation potential from a portfolio of measures. If this figure were interpreted as crediting space additional to full NDC achievement (169.4 $MtCO_2e$/year), implied emissions in 2030 would fall to approximately 68 $MtCO_2e$/year. This would represent an 80% reduction from BAU and approximately 75% below the most recently reported emissions — a trajectory that would constitute extraordinarily deep decarbonisation within fewer than eight years.

No major economy has achieved comparable reductions at this scale and speed. This does not diminish the value of the GGGI modelling; rather, it underscores that the estimate should be interpreted as an upper-bound modelling scenario under favourable conditions, not as a projection of transferable Article 6 supply. This relationship is depicted in Figure 2.

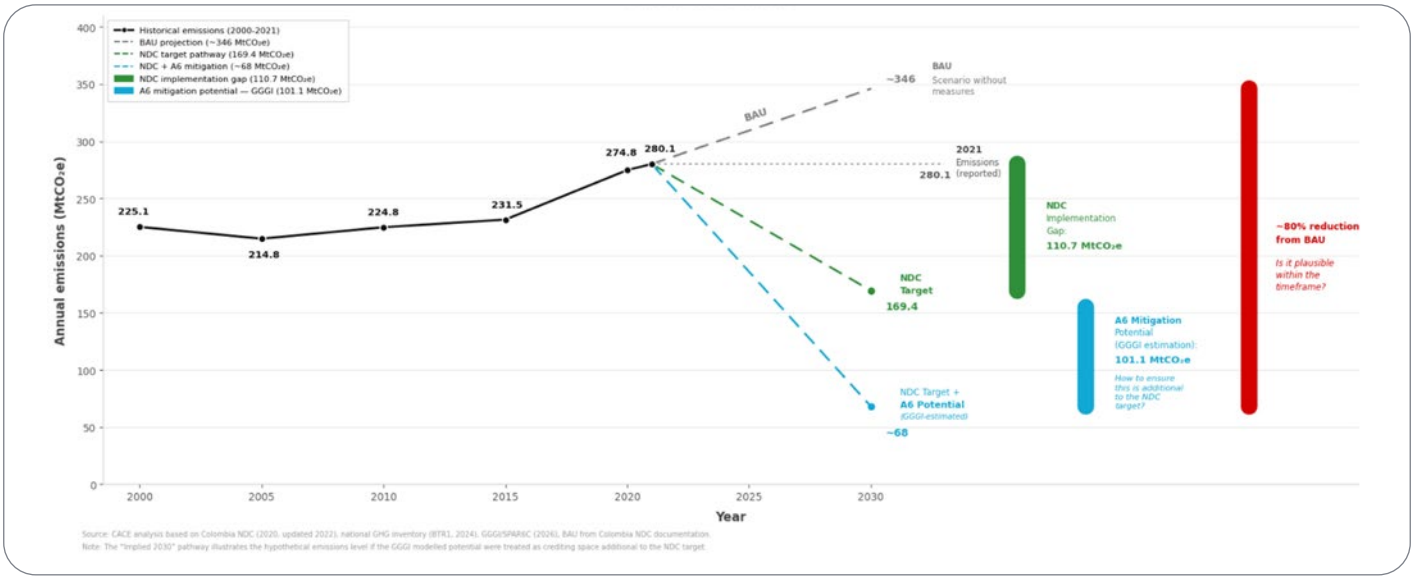

Figure 2: *Colombia's 2030 Emissions Pathways — Key Benchmarks.*[14] *The "Implied 2030" pathway illustrates the hypothetical emissions level if the GGGI modelled potential were treated as crediting space additional to the NDC target.*

[14] GGGI Policy brief 2026 Figure 3 | Assessing Different Scenarios for Colombia's participation in Article 6 mechanisms.

5. Interpreting the GGGI Approach Constructively

Strengths

The GGGI/SPAR6C exercise offers several valuable contributions. Its sectoral granularity provides insight into where Colombia's Article 6 opportunities may lie. The modelling of co-benefits (GDP, employment, energy cost savings) strengthens the economic case for climate action.

A particularly useful contribution is the modelling of catalytic effects, where revenues from ITMO transactions are reinvested into further mitigation. This illustrates a core principle of Article 6: cooperative approaches can help unlock additional mitigation beyond what domestic resources alone might achieve.[15] For example, the MoVE 2 electric mobility case study, which estimates Article 6 could enable an additional 200,000 vehicle substitutions beyond the NDC-committed 600,000, is a clear example of how cooperation can support ambition-raising and technological transition in practice.[16]

Limitations and Caveats

At the same time, it is important to interpret the GGGI results in the context of their purpose. The modelling is explicitly scenario-based: it simulates what could be achieved under favourable assumptions about investment flows, governance effectiveness, and implementation timelines. These assumptions are appropriate for exploring potential pathways, but they do not constitute a projection of near-term transferable Article 6 supply.

Several assumptions warrant careful interpretation. The modelled multiplier effect (4–7.3 tonnes of CO_2e reduced per ITMO sold, depending on scenario) assumes that reinvestment is consistently directed to cost-effective measures, that governance mechanisms channel revenues without leakage, and that mitigation actions deliver projected outcomes on schedule.[17] These are strong assumptions.

ITMO price assumptions (USD 25–50/tCO_2e) are on the higher end of current market benchmarks: CORSIA-eligible credits are currently trading at approximately USD 14/tCO_2e [18], and the Swiss compliance market pays below USD 30/tCO_2e [19] . Transaction costs and fee structures carry additional uncertainty given the nascent state of Article 6 markets. The catalytic logic demonstrated in the MoVE 2 case is compelling but may not generalize uniformly across all 15 measures in the portfolio.

GGGI cites ITMO price assumptions range from USD 25 to USD 50 per tCO_2e across scenarios. For comparison, CORSIA-eligible carbon credits are trading at approximately USD 14/tCO_2e as of early 2026, and Switzerland's bilateral Article 6 agreements have transacted at prices below USD 30/tCO_2e. This suggests the GGGI price assumptions sit at the higher end of observed market benchmarks. [20] The catalytic logic demonstrated in the MoVE 2 case is compelling but may not generalise uniformly across all 15 measures in the portfolio.

The GGGI exercise is explicitly a "what-if" scenario analysis. The Green Economy Model simulates possible pathways. The results are useful for strategic planning and demonstrating potential co-benefits, but they do not constitute evidence that Article 6 crediting space of 101.1 $MtCO_2e$/year exists. The exercise highlights where Article 6 cooperation could support NDC implementation, where additional mitigation could be generated, and how international partnerships could contribute to long-term decarbonization.

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15 GGGI | Developing Carbon Markets Based on Article 6 of the Paris Agreement: Challenges and Opportunities

16 GGGI Policy brief 2026 | Example of how the Electric Mobility MoVE 2 was modelled

17 GGGI, SPAR6C Technical Report (2026), op. cit. The modelled multiplier effect ranges from 4 to 7.3 tonnes of CO2e reduced per ITMO sold, depending on the scenario.

18 Carbon Pulse: CORSIA ticks higher and airline retires large tranche of credits

19 World Bank Group, State and Trends of Carbon Pricing

20 GGGI, SPAR6C Technical Report (2026), op. cit. ITMO price assumptions range from USD 25 to USD 50 per tCO2e across scenarios.

6. Policy and Market Implications

For Host-Country Positioning

For Colombia, the central task is to define how international cooperation — including Article 6 — contributes to achieving the NDC and unlocking additional mitigation beyond it. A clear articulation of the role of Article 6 would help Colombia:

- Identify which measures Article 6 could help scale or accelerate
- Prioritise sectors where cooperation can generate additional mitigation
- Communicate a credible supply narrative to potential partners
- Ensure that ITMO transfers support, rather than undermine, NDC achievement

This clarity is essential for building confidence among counterparties and for positioning Colombia as a reliable and ambition-aligned Article 6 participant.

For Market Participants and Traders

Not all modelled mitigation potential translates into transferable supply. Market participants should exercise caution in interpreting scenario-based estimates as indicative of near-term ITMO volumes. Conservative interpretation of supply potential — grounded in NDC benchmarking and verified additionality — is essential for protecting the integrity of Article 6 transactions and managing counterparty risk.

For International Institutions and Analysts

The distinction between mitigation potential, implementation gap, and crediting space has direct consequences for how Article 6 supply is communicated to markets, how ambition is assessed, and how trust is built among trading partners. Analytical frameworks should make these distinctions explicit to avoid conflation that could undermine market credibility.

For NDC Benchmarking

This brief treats Colombia's full NDC commitment as the benchmark. Article 6 mitigation outcomes should be understood as additional to NDC achievement, not as a substitute for meeting it. This conservative framing is consistent with the Paris Agreement's objective that carbon markets contribute to overall ambition rather than enabling the deferral of domestic obligations.

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