



RCC Latin America

CASE STUDY: Strengthening Climate Mitigation Planning for Peru's LULUCF Sector Using the MITICA Tool

Executive Summary

The Land Use, Land-Use Change and Forestry (LULUCF) sector in Peru plays a critical role in the country's climate mitigation potential, offering significant opportunities for emissions reductions through improved land management, forest conservation and ecosystem restoration. As part of the continuous improvement process of its updated Nationally Determined Contribution (NDC 3.0), the Government of Peru, through the Ministry of the Environment (MINAM), has benefited from technical cooperation with the UN Climate Change secretariat and its Regional Collaboration Centre for Latin America (RCC LatAm), particularly in the LULUCF sector.

In this context, the **Mitigation Inventory Tool for Integrated Climate Action (MITICA)** was applied to model LULUCF emissions scenarios to 2035 using approaches commonly applied in climate policy and greenhouse gas (GHG) planning. Given that Peru submitted its updated NDC 3.0 to the UNFCCC NDC Registry on 6 November 2025 and is currently moving into the implementation phase, this support is both timely and relevant.

The analysis estimates a mitigation potential of 46.96 MtCO₂eq by 2035, approximately 8% higher than the mitigation potential currently reflected in Peru's NDC, highlighting additional opportunities to inform climate ambition, policy development and investment planning in the LULUCF sector.

Beyond the technical analysis, government officials were trained in the use of the modelling tool, a South-South peer exchange with Colombia was facilitated, and a methodological guide was developed to support the application of MITICA. These efforts contribute to strengthening climate planning, supporting evidence-based decision-making, and improving reporting under the Enhanced Transparency Framework (ETF), thereby contributing to the continuous improvement of Peru's NDC implementation.

Context and background

Peru is a developing country in Latin America with significant forest resources, particularly in the Amazon basin. The Land Use, Land-Use Change and Forestry (LULUCF) sector plays a critical role in the country's climate profile, accounting for 43.51% of national greenhouse gas (GHG) emissions in 2021. At the same time, the sector offers substantial opportunities



for climate mitigation through forest conservation, ecosystem restoration, and sustainable land management.

As part of the continuous improvement process of its updated Nationally Determined Contribution (NDC 3.0), the Government of Peru, through the Ministry of the Environment (MINAM), has benefited from technical cooperation with the UN Climate Change secretariat and its Regional Collaboration Centre for Latin America (RCC LatAm), particularly in the LULUCF sector. This collaboration has supported efforts to strengthen national technical capacities, enhance institutional coordination, and improve the analytical basis for climate planning and NDC implementation.

The institutional landscape supporting this process relies on coordination among key national actors, including the Ministry of the Environment (MINAM), the Ministry of Agrarian Development and Irrigation (MIDAGRI), the National Forest and Wildlife Service (SERFOR), and the General Directorate of Climate Change and Desertification (DGCCD). These institutions play important roles in land management, forest governance, and the development of the national greenhouse gas inventory.

However, developing robust mitigation scenarios for the LULUCF sector remains challenging due to technical capacity constraints, data gaps, and the need for stronger coordination across institutions. Strengthening analytical tools and technical expertise is therefore essential to support evidence-based climate planning and the effective implementation of Peru's NDC.

In this context, the Mitigation Inventory Tool for Integrated Climate Action (MITICA) was applied to develop emissions projections and mitigation scenarios based on national GHG inventory data and sectoral indicators. By enabling the analysis of mitigation scenarios under different policy assumptions, MITICA supports informed decision-making, improved transparency, and the monitoring of progress towards NDC targets.

Support design

The initiative focused on strengthening Peru's capacity to develop mitigation scenarios for the LULUCF sector and support the implementation of NDC 3.0. The approach combined technical modeling, capacity-building, and peer learning to improve national expertise in greenhouse gas scenario analysis and climate planning.

We first provided a technical knowledge product on using the Mitigation-Inventory Tool for Integrated Climate Action (MITICA) to generate emission projections and mitigation scenarios for the LULUCF sector to 2035. Using national greenhouse gas inventory data and relevant socioeconomic indicators, we constructed and interpreted mitigation



scenarios based on the standard WOM (Without Measures), WEM (With Existing Measures), and WAM (With Additional Measures) frameworks. The report is accompanied by a methodological guide to support the continued application of the MITICA tool in future climate planning processes.

Additionally, we organized technical workshops and peer-to-peer knowledge exchanges to support technical learning and institutional collaboration in the LULUCF sector.

Results and outcomes

The report estimates a mitigation potential of 46.96 MtCO₂eq by 2035, approximately 8% higher than the mitigation potential currently reflected in Peru's NDC. This difference reflects updated national greenhouse gas inventory data and improved modelling assumptions for the LULUCF sector.

Beyond the technical findings, the initiative strengthened national capacity to develop and apply mitigation scenario modelling. A technical workshop held on 28 November 2025 supported government officials from key institutions in applying the MITICA tool, interpreting mitigation scenarios, and integrating modelling results into climate planning processes. These activities also contributed to strengthening coordination among institutions responsible for climate mitigation and land management, including MINAM, SERFOR and DGCCD.

In addition, a South–South peer exchange with the Government of Colombia (22–24 October 2025) facilitated the sharing of methodological approaches and practical experience in mitigation scenario development. This exchange supported the strengthening of technical and institutional capacities within the Peruvian public sector for the formulation and updating of GHG mitigation scenarios in the LULUCF sector.

Overall, these outcomes provide technical inputs for climate policy development and monitoring, supporting the implementation of Peru's NDC 3.0 and strengthening transparency and consistency in mitigation scenario development under the Enhanced Transparency Framework (ETF). They also provide a foundation for the continuous improvement of mitigation planning in the LULUCF sector and future updates of Peru's NDC.

Lessons learned and follow-up

This initiative highlighted that when using scenario mitigation modeling, strong inter-institutional coordination is essential to ensure coherent data and assumptions, thus leading to more coherent results. Close collaboration among key institutions is critical for validating data and aligning policy assumptions with national climate planning priorities.



The process also revealed information gaps that limit the effective Monitoring, Reporting, and Verification (MRV) of mitigation measures in the LULUCF sector. In particular, limitations in sectoral data availability and consistency pose challenges for accurately tracking the implementation and impact of mitigation actions. Addressing these gaps will require continued efforts to strengthen national data systems and improve coordination among institutions responsible for land-use information.

Looking ahead, it is essential to maintain ongoing technical support and capacity-building and expand the use of MITICA for developing mitigation scenario. The methodological guide and training provide a foundation for future applications of the tool and its potential extension to other sectors to support economy-wide mitigation scenario analysis. The experience also contributes to regional knowledge sharing and could inform similar mitigation scenario efforts in other Latin American countries.