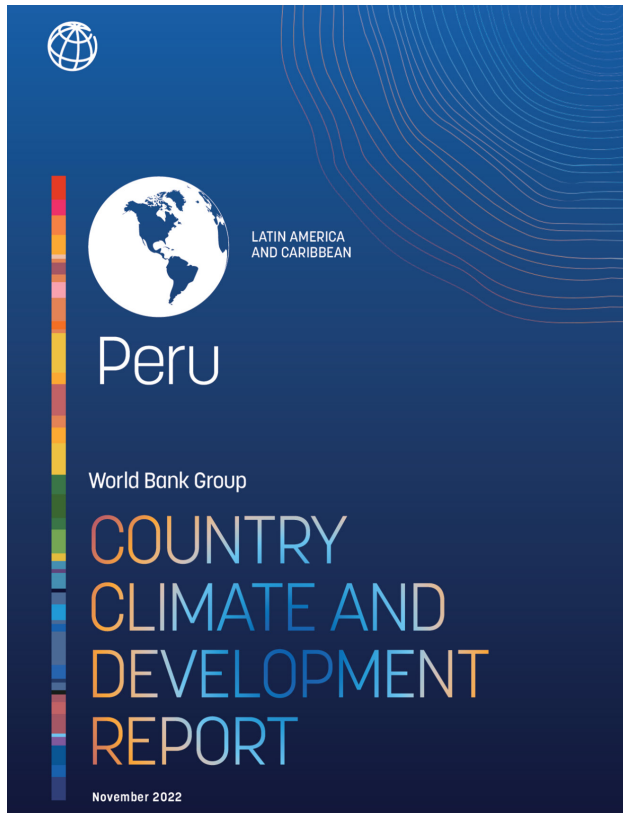


World Bank's Peru CDDR Promotes Adaptation, But Is It Adapted to Peru?



Introduction

The World Bank's Country Climate and Development Report (CCDR), released for Peru on November 3, 2022, outlines the risks climate change poses to Peru's population and economy, as well as the opportunities to increase resilience and support decarbonization.

The analysis is structured around three priorities. They are:

- **Improving the resilience of infrastructure and public services and providing adequate infrastructure across the country.** This will help to improve Peruvians' overall resilience to climate change, prevent erroneous spending to fix infrastructure, and promote growth in the agriculture and forestry sectors.
- **Enhancing the adaptation of people and firms.** One of the factors contributing to high vulnerability is the large percentage of informal work, with [73 percent](#) of working Peruvians

employed in the informal sector. Considering this, strengthening Peru's social protection system will help to increase people's adaptive capacity.

- **Improving government coordination and capacity.** Environmental responsibilities are currently spread out amongst various ministries and levels of government, making it difficult to enact and enforce environmental policies. Improving coordination and capacity will enable the government to make more substantial strides to enhance adaptation and promote decarbonization.

Summary of CDDR

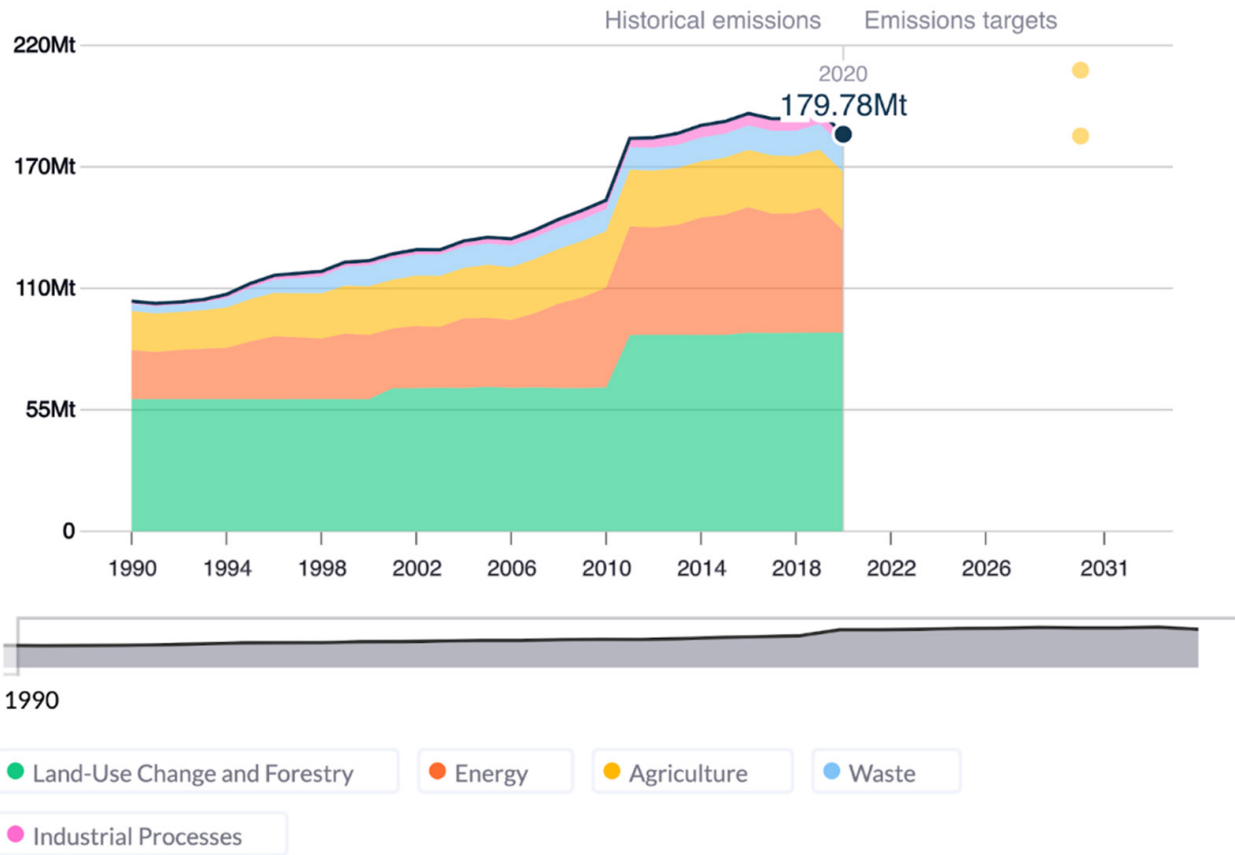
Climate change is exacerbating Peru's existing vulnerability to natural hazards and threatens to reverse years of development progress. Peru's geographic location makes it extremely vulnerable to any climatic or environmental changes.¹ Additionally, the economy is largely dependent on natural capital (agriculture and fisheries), and the large percentage of informal work helps to explain Peru's vulnerability. Evidence shows that informal work and illegal economic activities (mining, logging) have caused large-scale natural capital depletion and significant contributions to Peru's greenhouse gas (GHG) emissions.² Figure 1 illustrates Peru's GHG emissions from 1990 to 2019. Historically, the greatest contribution comes from the land use change and forestry sector (LULUCF), followed by energy, agriculture and livestock, waste, and industrial processes. An element of concern is Peru's rapidly growing emissions from the transportation sector, primarily due to an almost 50 percent increase in the vehicle fleet.³

1 Peru is located inside the Pacific Ring of Fire and is frequently affected by the El Niño. World Bank Group. 2022. Peru Country Climate and Development Report. CCDR Series. World Bank, Washington, DC. World Bank Group. <https://openknowledge.worldbank.org/handle/10986/38251>, p.7.

2 See Mongabay Series: [Global Forests, Carbon emissions from Peruvian gold mining 'alarming,' experts say](#), Ashoka Mukpo, 4 February 2020. See also Velarde SJ, Ugarte-Guerra J, Tito MR, Capella JL, Sandoval M, Hyman G, Castro A, Marin JA and Barona E. 2010. [Reducing Emissions from All Land Uses in Peru](#). Final National Report. ASB Partnership for the Tropical Forest Margins. Nairobi, Kenya. p.142.

3 World Bank Group, Peru Country Climate and Development Report, p.14.

FIGURE 1. GHG EMISSIONS



Source: [CAIT Climate Data Explorer](#), accessed June 1, 2023⁴

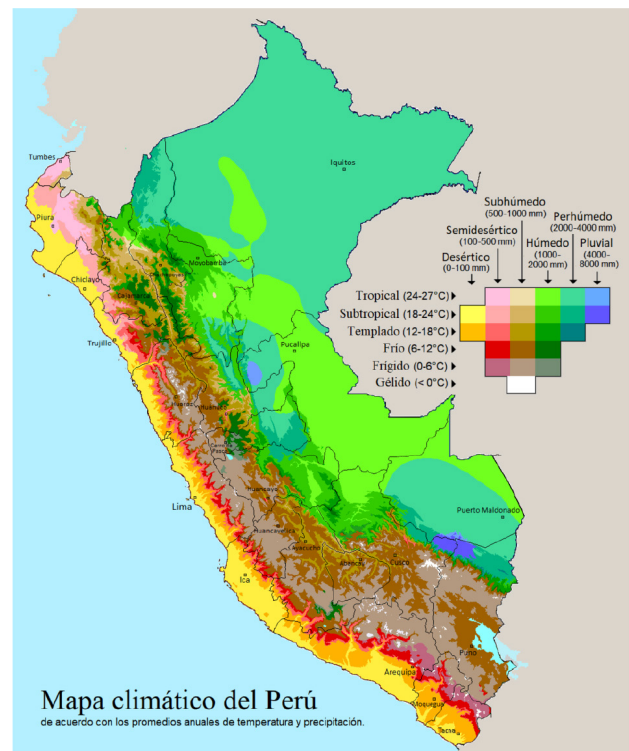
Peru has adopted various legal frameworks to address climate change and environmental degradation, including, but not limited to: [Forest and Wildlife Law, 2015](#); [National Strategy on Climate Change, 2015](#); [Framework Law on Climate Change, 2018](#); and [National Adaptation Plan, 2021](#).⁵ In addition, Peru is a signatory to the UNFCCC Paris Agreement, and in its most recent nationally determined contribution (NDC, 2022), it enhanced its commitment to mitigation with the goal of net-zero carbon dioxide emissions by 2050.⁶ However, there are barriers preventing the enactment and mainstreaming of these policies and commitments, including challenges around operationalizing policies, a lack of coordination between different levels of government, and institutional weakness.⁷ Nevertheless, there is still ample opportunity for Peru to improve its process of mobilizing climate finance, which will help the country be better equipped to support resilience and mitigation measures.

⁴ This chart provides a more updated overview of Peru's GHG emissions compared to the chart used in the CCDR which covers 1990 through 2018.

⁵ World Bank Group, Peru CCDR, pp.15-16.

⁶ World Bank Group, Peru CCDR, p.16.

⁷ World Bank Group, Peru CCDR, pp.16-17.



ADAPTATION:

Peru is highly vulnerable to climate change, and the CCDR uses a framework⁸ developed by Bank staff to examine the opportunities for Peru to become more resilient by focusing on the adaptation gaps.⁹ Peru's adaptation needs can be divided into two distinct but complementary categories: developing people's resilience and redesigning and restructuring critical public goods. The CCDR indicates there is a need to integrate adaptation into the power system, roads, water and sanitation, education, healthcare, and safety and security.¹⁰ The onus is on the government to create the institutional and regulatory framework that will allow for considerations of adaptation to be incorporated into these areas. Adapting these sectors will help to reduce costs in the wake of a disaster.

Adapting these systems is likely to positively impact the overall resilience of people and firms, but the CCDR does also provide concrete actions for reducing risks. Most of the recommendations are grounded in the need to mainstream considerations of climate change across all sectors and systems. For instance, in the agricultural sector, farmers will need to use seeds or adopt practices that can flourish under new weather conditions, while the construction sector will need to consider potential disaster risks when constructing and designing buildings.¹¹

A shared challenge between these two adaptation pathways is the need for government action. The government will need to establish the enabling environment (e.g. policy frameworks, macro fiscal policies, etc) for the necessary actions to be successfully implemented.¹²

MITIGATION:

Peru's NDC does not put the country on track to meet the Paris Agreement's overall climate goal; therefore, this CCDR presents a more ambitious decarbonization strategy to help Peru become Paris-aligned.¹³ The

strategy is predicated on sectoral transformations, particularly those in agriculture, forestry, and land use (AFOLU), transport, and energy.¹⁴ Those likely to produce the greatest economic benefit and emissions reduction are transport and AFOLU.

From 2001 to 2020, 2.6 million hectares of Peru was deforested, with the largest percentage of this primarily in the northwestern and central-western regions of the Amazon.¹⁵ The main driver of deforestation is illegal agriculture. The CCDR proposes seven actions to reverse current environmentally degrading practices and restore the forest into a carbon sink. If properly implemented, it will reduce emissions by 266 MtCO_{2e} by 2050 and provide \$3.5 billion in benefits.¹⁶ This can be achieved primarily by providing more technical support to smallholder farmers, changing irrigation practices, eliminating the use of chemical fertilizers, better management of pasturelands, and dietary changes.

Transport emissions in Peru are rising at an increasingly high rate, and while the Peruvian Government has policies in place to reduce emissions, they fall short of what is needed to fulfill its NDC. The CCDR proposes to fill this gap by providing decarbonization strategies aligned with Peru's goals but also falls short of what is needed, primarily focusing on opportunities for the short to medium term.¹⁷

Another opportunity for decarbonization is to increase the percentage of power coming from renewable energy. Most of Peru's power comes from hydropower and natural gas, but there is an opportunity to significantly increase the share of renewable energy, namely wind and solar.¹⁸ Decarbonizing the energy sector and increasing the share of renewable energy will result in a net gain of \$38 billion dollars in terms of all the associated savings and benefits, although it requires a shift in government priorities away from natural gas.¹⁹ The CCDR suggests preparing a long-term energy policy premised around the use of hydro, natural gas, and renewables.²⁰

8 Hallegatte, Stéphane, Jun Rentschler, and Julie Rozenberg. 2019. *Life-lines: The Resilient Infrastructure Opportunity*. Sustainable Infrastructure Series. Washington, DC: World Bank. doi:10.1596/978-1-4648-1430-3. License: Creative Commons Attribution CC BY 3.0 IGO

9 The CCDR identifies these six principles for effective climate change adaptation as: (i) foundations for rapid, robust and inclusive growth; (ii) facilitate the adaptation of people and firms; (iii) adapt land use plans and protect critical public assets and services; (iv) help firms and people manage residual risks and natural disasters; (v) manage fiscal and macro fiscal issues; and (vi) prioritization, implementation and progress monitoring. World Bank Group, Peru CCDR, p. 22.

10 World Bank Group, Peru CCDR, p.24.

11 World Bank Group, Peru CCDR, pp.23-24.

12 World Bank Group, Peru CCDR, p.28.

13 World Bank Group, Peru CCDR, p.30.

14 World Bank Group, Peru CCDR, p.31.

15 World Bank Group, Peru CCDR, p.33.

16 World Bank Group, Peru CCDR, pp.34-35.

17 The recommendations can be divided into two groups: freight transport and urban transport. Opportunities to decarbonize urban transport include: expanding non-motorized transit (NMT) and bus rapid transit (BRT) in major cities as well as developing better cycling infrastructure in cities. The freight transport options include reducing the reliance on land-based freight travel and instead using the sea, phasing out vehicles that are more than 15 years old, and promoting the use of freight. (CCDR, pp. 38-41)

18 World Bank Group, Peru CCDR, p. 41.

19 World Bank Group, Peru CCDR, p.43.

20 World Bank Group, Peru CCDR, p.42.

FINANCING:

To identify the financing needs associated with promoting resilience and decarbonization, the CCDR uses a general equilibrium macroeconomic model, building off of the World Bank's Macro-Fiscal Model (MFMod) framework, and estimates that the costs of inaction are higher.²¹ The most costly investments are in the transport, energy, and water sectors, but the long-term benefits outweigh the short-term costs; Peru's GDP could increase as much as 10 percent by 2050, whereas it will contract and experience losses under a BAU scenario.²² If Peru fails to adopt resilience and mitigation strategies, it could lose up to \$15 billion by 2050.²³

In addition, Peru has the opportunity to take advantage of the new, largely global climate and environment regulations and expand its environmental goods trade, particularly in agriculture and minerals, where Peru has a comparative advantage.²⁴ Further, Peru can use various financial instruments to generate revenue to assist with the transition costs, including implementing feebate schemes, a payment for environmental services program, or a carbon tax.²⁵ The CCDR suggests channeling a portion of the revenue generated through a carbon tax into programs that will help poor and vulnerable communities.²⁶ These measures require support from the private sector as well as the government.

Recommendations and Areas for Improvement:

1. More Engagement on Monitoring Mining.

Peru is a mineral-rich country with large deposits of copper, gold, silver, zinc, lead, iron, and tin.²⁷ The CCDR recommends decarbonizing the mining sector and working more closely with communities to foster trust, consultation, and receive a share of the revenue generated.²⁸ These steps will be valuable if implemented. The Bank needs to see to it that Free, Prior and Informed Consent is upheld, support supply chain transparency, and promote a circular economy to minimize environmental and social

impacts. In addition, the Bank should provide the task teams with training on preventing child sexual exploitation, abuse, and harassment, and child labor, as this is common in mining communities.

The CCDR advocates for adopting climate-smart mining techniques and practices, including using renewable energy and forest-smart mining. However, as important as it is to decarbonize the energy intensity of the mining sector, it is equally as important to mitigate the upstream and downstream impacts associated with mining. This should be reflected in the World Bank's Climate Smart Mining [Initiative](#). In addition, it would be helpful for the World Bank to work with ministries to establish monitoring mechanisms at provincial and local levels to prevent illegal mining.

2. More Paris Alignment (Less Fossil Gas). As the World Bank [Climate Change Action Plan](#) commits the Bank to 100 percent Paris alignment, and the CCDRs are a commitment under the CCAP, the CCDR climate and development pathways should be aligned with the Paris climate targets. The CCDR's support for continued use of fossil gas is likely to contribute to rising emissions and prolong the use of fossil fuels rather than support a full transition to renewable energy and thus is not Paris aligned.

3. More Policy, Less Preaching (About Meat).

The CCDR acknowledges the agriculture sector's significant contribution to GHG emissions and proposes an emissions reduction strategy based on behavioral changes in the form of "changing meat consumption patterns [and] substituting red meat with pork."²⁹ However, this type of behavioral change is unlikely to be adopted by the wider population absent changes to both producer and consumer incentives. If the World Bank wants to help reduce emissions associated with livestock, it should support policies which price in the externalities (GHGs and other livestock-generated pollution), using revenues generated for social protection. The Bank and IFC should support low-carbon, adaptive, regenerative agriculture and stop financing industrial livestock projects.

4. More Development Policy Loans (DPLs) to Build Institutional Capacity.

The World Bank can use DPLs to help Peru enhance its institutional capacity and update the relevant national policies that are critical for adaptation and mitigation, but the CCDR fails to suggest this. To be effective, these DPLs need to be prepared with effective engagement of all stakeholders, especially otherwise marginalized

²⁹ World Bank Group, Peru CCDR, p.37.

²¹ World Bank Group, Peru CCDR, p.47.

²² World Bank Group, Peru CCDR, p.57.

²³ The private and public sector will need to mobilize \$104 billion from 2023 to 2050 to support the necessary sectoral transitions, but this will provide \$259 billion in benefits. World Bank Group, Peru CCDR, p.47 & 55.

²⁴ World Bank Group, Peru CCDR, p.53.

²⁵ World Bank Group, Peru CCDR, pp.61-62.

²⁶ World Bank Group, Peru CCDR, pp.63-64.

²⁷ World Bank Group, Peru CCDR, p.6.

²⁸ World Bank Group, Peru CCDR, p.32.

groups, and to consider secondary (upstream and downstream) impacts.

5. More Support for SMEs. One of the major themes present throughout the CCDR is the need for Peru's adaptation plans to support people and firms, and the onus for providing this support is on the government. This notion is also present in the World Bank's thematic document on the first set of CCDRs: [Climate and Development: An Agenda for Action](#), but both documents fail to fully articulate how the private sector, particularly small and medium enterprises (SMEs) can take on a greater role in supporting low-carbon development. In light of this, the IFC should do more to help SMEs build capacity and the enabling environment to support low-carbon development and resilience.

6. More Long-Term Focus. The CCDR mostly focuses on the short- and medium-term, but what are the long-term policies necessary to sustain the emissions reductions? These need to be better delineated. For instance, the transportation sector recommendations are primarily focused on the

policies that will help Peru meet its 2030 emissions reduction target.³⁰ While there is a small discussion around 2050, it is more general.

Conclusion:

The CCDR outlines the climate and development pathways that Peru can adopt to be better equipped to address climate change. While there is evidence that resilience and decarbonization strategies will have a positive impact on the economy, one of the major challenges is political feasibility. Given this, it is important in following up on the CCDR that the Bank work with the government to prioritize supporting the most poor and vulnerable; supporting smallholder farmers in the agriculture sector; improving the social protection system; and adopting changes in the mining sector to make it less emissions-intensive and more responsive to the communities.³¹

³⁰ World Bank Group, Peru CCDR, pp.37-39.

³¹ World Bank Group, Peru CCDR, pp.68-69.

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