

Tools to support policy makers implement CDR measures in Latin America and the Caribbean



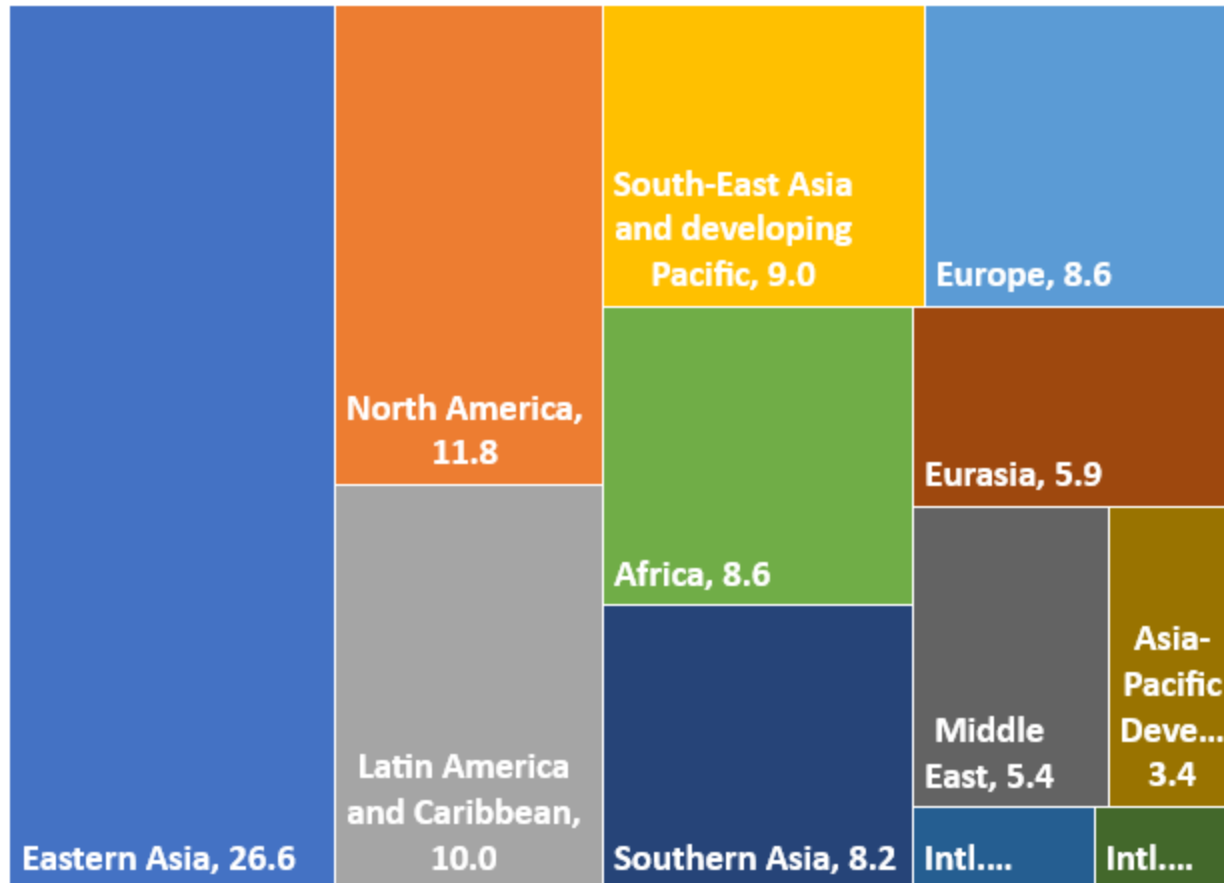
NACIONES UNIDAS

CEPAL

Division of Sustainable Development and Human
Settlements. CEPAL/ECLAC. Santiago Lorenzo,

LAC is 10% of global emissions, mainly from deforestation, and growing.

Global emissions reached 60 GtCO₂eq in 2019



58% of the emissions are related to deforestation, agriculture and livestock farming

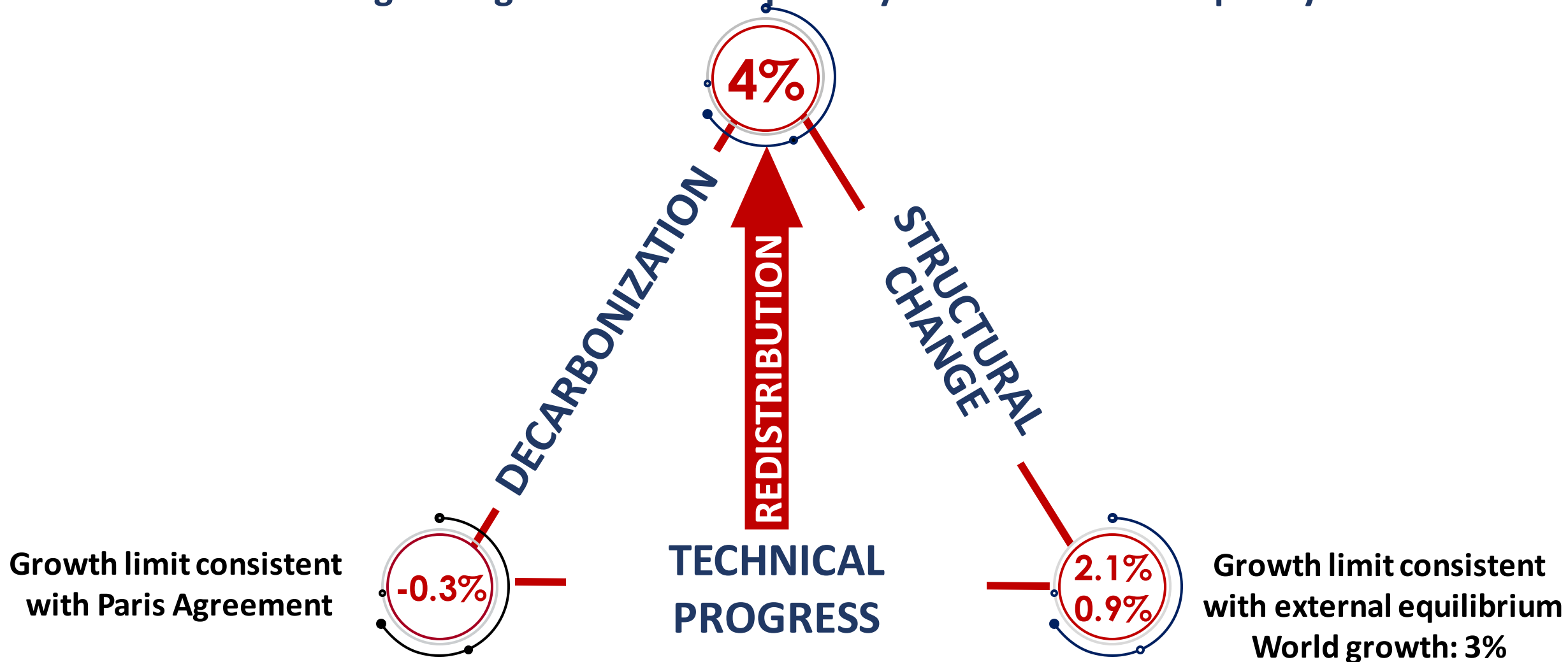


Source: Global Forest Watch

Source: CEPAL con base en datos del WDI y Minx, J. C. y otros (2021), «A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970–2018 with an extension to 2019», *Earth System Science Data*, vol. 13, No. 11, Copernicus GmbH, 10 de noviembre.

Closing the three gaps requires a sectoral rebalancing and coherent policies in the three pillars.

Minimum target for growth with no poverty and advance on equality in 2022



Several sectors, two strategies capable of driving the big push for sustainability

These sectors have a strategic role in closing the three gaps because they promote technical change, generate employment, reduce the external currency restriction (that finances development) and the environmental footprint AT THE SAME TIME.

Sector

1. Transformation of the energy matrix based on **renewable energies**. **Green Hydrogen and Lithium** are rising in importance and could go far in upstream and downstream development, as well as exports.
2. Sustainable **mobility, specially retrofitting the existing stock**, and urban services such as water and sanitation.
3. **The Care economy for an aging population**
4. The **health-care manufacturing** industry
5. The development of products and services based on biological resources and natural ecosystems, including for carbon removals and offsets.
6. Sustainable **tourism with short\local value chains**.

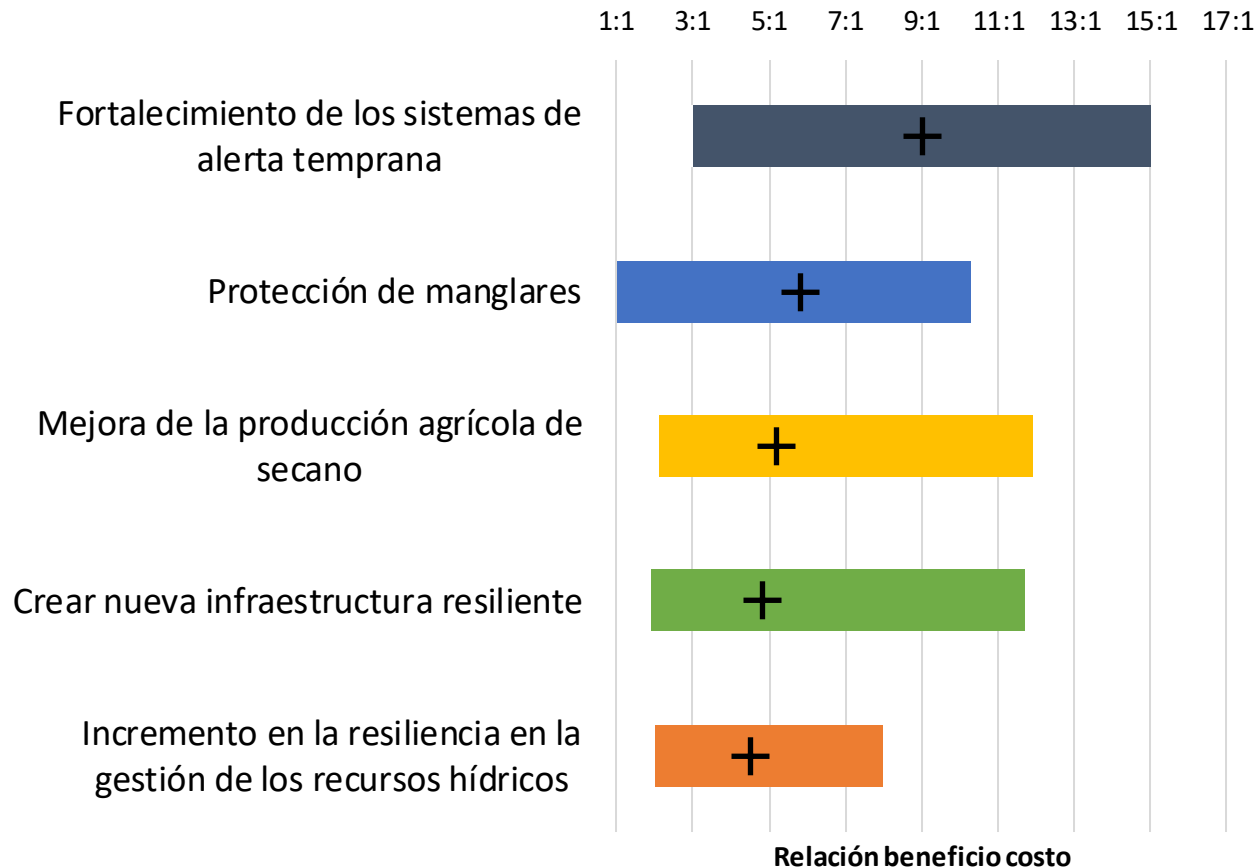
Strategies:

1. Deepen **digital** access and services.
2. More **circular economy (design and recycling)** of plastics, organics, metals and electronic waste.

6.-Multiplier of nature based solutions.

Beneficios y costos de inversiones en adaptación

(En relación beneficio-costo)



- Las soluciones basadas en la naturaleza presentan sinergias entre adaptación y mitigación.
- Carteras de inversión en sectores estratégicos: ordenamiento territorial, seguridad alimentaria e hídrica, reforestación, salud, uso del agua, plantaciones urbanas, infraestructura en zonas costeras y protección de la biodiversidad.

Study C2G / ECLAC / Torcuato di Tella

Argentina & Colombia

- Afforestation / forest ecosystem restoration
- Land restoration
- Soil improvement with biochar
- Bioenergy
- Mangroves restoration (Colombia)

- Rock weathering and ocean alkalization
- Direct Air Carbon Dioxide Capture and Storage (DACCS)

Requirements:

- Cost and cobenefit analysis
- Risk analysis
- Scientific and technical research
- Pilot projects

Study C2G / ECLAC / Torcuato di Tella

Argentina & Colombia

- **Limitations:**

- Better understanding of impacts (socio-economic).
- Lack of historical statistics.
- Comparisons among countries.
- Assessment of technologies' relative risk is not yet possible.
- Uncertainties from incomplete knowledge, complexity of ecosystems involved and interactions emerging from combinations of options.

		Argentina's Potential for CO2 emissions reduction	Avg Investment requirements	Cost	Net changes in employment created	Contribution to GDP
		Millions of tons of CO2/year	Million USD/yr	USD per reduced ton of CO2	# jobs created per million tons reduced of CO2	Δ Millions of USD added to GDP per million tons of captured CO2
Afforestation	Baseline	5.6 (avg) 7.7 (2050)	29 (avg)	5.1	73 direct 117 indirect	22
	Scenario 1, mild implementation	10.3 (avg) 11.3 (2050)	59 (avg)	5.6	80 direct 127 indirect	24
	Scenario 2, strong implementation	15.9 (avg) 14.4 (2050)	100 (avg)	6.1	85 direct 136 indirect	26
BECCS	Baseline	No CCS adoption in baseline scenario, only bioenergy				
	Sc1	0.1 (avg) 0.3 (2050)	35 (avg)	256.5	733 permanent 258 constr.	1,075
	Sc2	0.7 (avg) 2.0 (2050)	163 (avg)	239	1,037 permanent 360 constr.	1,000
Biochar	Baseline	No biochar deployment in baseline scenario				
	Sc1	0.1 (avg) 0.2 (2050)	3 (avg)	25.4	102 industrial	110
	Sc2	1.5 (avg) 2.5 (2050)	30 (avg)	19.3	77 industrial	84

		Potential emissions reductions)	GHG	Avg Investment requirements	Cost	Net changes in employment created	Contribution to GDP
		Million tons of t CO2/yr		Million USD/yr	USD per ton of CO2	# jobs created per million tons of CO2	Δ Million USD added to GDP per million tons of CO2
Afforestation	Baseline	4.7 (avg) 6.3 (2050)		48 (avg)	9.7	76 direct 122 indirect	62
	Scenario1	7.5 (avg) 8.1 (2050)		78 (avg)	10.1	74 direct 118 indirect	65
	Scenario2	13.4 (avg) 12.0 (2050)		144 (avg)	10.5	66 direct 106 indirect	67
Mangrove restoration	Baseline	Null or marginal mangrove restoration in Colombia					
	Scenario1	0.4 (avg) 0.8 (2050)		5 (avg)	11.1	65 direct	69
	Scenario2	1.4 (avg) 2.9 (2050)		15 (avg)	10.9	69 direct	68
BECCS	Baseline	No CCS adoption in baseline scenario, only bioenergy					
	Sc1	0.1 (avg) 0.4 (2050)		12 (avg)	72.9	271 permanent 104 construction	453
	Sc2	2.1 (avg) 4.7 (2050)		146 (avg)	69.2	259 permanent 101 construction	429
Biochar	Baseline	No biochar deployment in baseline scenario					
	Sc1	0.3 (avg) 0.4 (2050)		7 (avg)	25.0	100 industrial	161