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**ITTO MARKET DISCUSSION
YOKOHAMA 2022**

CARBON PROJECTS IN LATIN AMERICA

Is Managing Tropical Forests for Timber and Carbon a Fate or a Fake?

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1. INTRODUCTION



Market of carbon credits has expanded and evolved in recent years around the world. Carbon market development is a necessary path in today's world and an opportunity.

Carbon projects have covered a variety of scheme types including REDD+, forestry, biogas, biomass, energy production or conservation, landfill gas capture, manufacturing industries, renewable energy, transportation, waste handling/disposal, and others.

Latin American has experienced a growing interest in carbon credits across different economic sectors as well as transactions among countries/companies aiming at emission reduction and/or reaching zero emissions target. For the forest sector in LATAM, the REDD+ and forestry-related projects are the main schemes.

It is worth analyzing how it has evolved, what are the legal framework, main trends and perspectives, contributions of SFM, and major initiatives and limitations.

2. LEGAL ENVIRONMENT



Jurisdictions across the world have confirmed their commitment to reduce or achieving net zero emissions by announcing high-level commitments and/or embedding targets in laws and regulations

- CARBON MARKET MECHANISMS:

CPI – CARBON PRICING INSTRUMENT

Mandatory (or “compliance”) instruments that governments use to put a price on carbon and make regulated entities pay for their emissions:

- EMISSION TRADING SYSTEMS (EST) - work on the principle of “cap-and-trade”, whereby the government imposes an overall quantity limit on GHG emissions
- CARBON TAXES (‘prices’) - Governments set the carbon price, being the carbon tax rate.

VOLUNTARY OFFSETTING (MARKET)

Non mandatory basis, not driven by governments regulations, but rather by private individuals and companies who voluntarily engage in carbon markets in order to compensate for their GHG emissions and meet their own carbon-neutrality goals.

2. LEGAL ENVIRONMENT

WORLDWIDE FRAMEWORK

Kyoto Protocol (1997) - one of the world's main agreements related to the reduction of gas emissions to the atmosphere.

Paris Agreement - COP21 (2015) - keep the Earth's average temperature below 2 °C, above pre-industrial levels. In addition to efforts to limit temperature increase to 1.5 °C above pre-industrial levels.

- Art. 6 outlines provisions for countries to voluntarily cooperate on Nationally Determined Contribution (NDC) achievement through both market-based and non-market-based approaches

The operationalization of Art. 6 is currently still being negotiated among Parties, and defining implementing rules has proven highly contentious.



2. LEGAL ENVIRONMENT



COUNTRY LEVEL

BRAZIL

LAW No. 12,187, OF DECEMBER 29, 2009 - Establishes the National Policy on Climate Change - PNMC and makes other provisions.

LP 528/2021 - Regulates the Brazilian Emissions Reduction Market (MBRE), determined by the PNMC.

DECREE No. 11,075, OF MAY 19, 2022 - Establishes the procedures for the elaboration of the Sectorial Plans for the Mitigation of Climate Change and creates the National System for the Reduction of Greenhouse Gas Emissions.

COLOMBIA

In 2017, Colombia implemented a national carbon tax on fossil fuels with a value of USD 5 per ton of CO2 (World Bank, 2021b).

The revenues from Colombia's carbon tax are allocated to the "Sustainable Colombia Fund" (Law 1819 of 2016).

In 2018, Colombia approved Law 1931, and articles 29 and 30 provide for the creation of a "National Greenhouse Gas Emission Trading Quota Program" (PNCTE).

In 2021, Colombia introduced its voluntary program on carbon neutrality.

PERU

Peru and Switzerland signed the first BILATERAL "Paris Agreement Implementation Agreement" (Ministry of the Environment, 2020) for achieving their NDC or other mitigation targets (Swiss Confederation & Republic of Peru, 2020).

Although Peru currently has no internal carbon pricing policies, the government has developed a social cost of carbon of USD 7.17 per tCO2e as part of its assessments for public investment projects (Ministry of Economy and Finance, 2021).

2. LEGAL ENVIRONMENT



- **DEMAND SIDE**

Carbon Price Signal (Domestic and International Scale):

- Compliance: Domestic Carbon Pricing, Carbon Taxes, Sectoral Schemes (CORSIA), UNFCCC
- Voluntary: Business Responsibility and Personal

- **SUPPLY SIDE**

- Under Emission Trading System- ETS “PERMITS TO EMIT” : generated and distributed by the government (auction/free allocation)
- Under (carbon) CREDITING PROGRAMS : generated at the **PROJECT LEVEL**, in the context of particular emission reduction or removal activities taking place outside the scope of **compliance instruments** and following program-specific protocols. The type of carbon credit generated depends on the program or standard through which the units are certified and issued.

The certification body, therefore, plays a central role in the supply of carbon credits, including:

International regimes: CDM/Kyoto Protocol (UNFCCC), VCS (VERRA), Gold Standard (GS), etc.

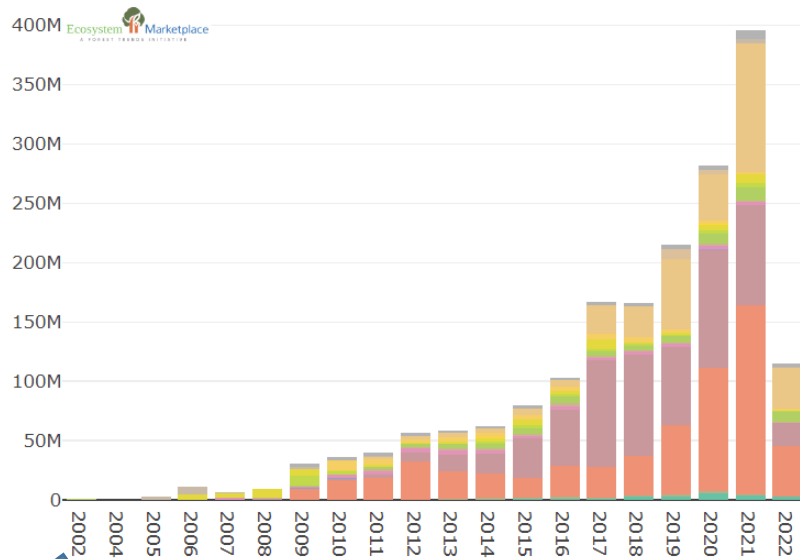
Domestic regimes: RenovaBio (Brazil), Mexican ETS, Colombia Carbon Tax, and others

3. GLOBAL EVOLUTION CARBON PROJECTS



CARBON CREDIT ISSUANCE (All Registries/Project Types)

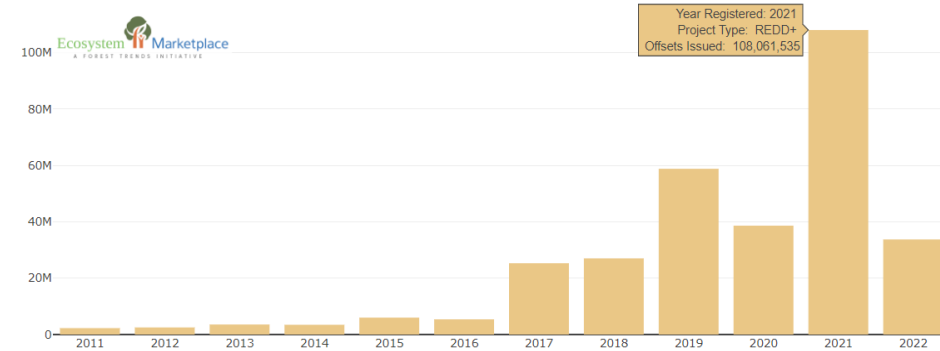
WORLD – 2002-2022



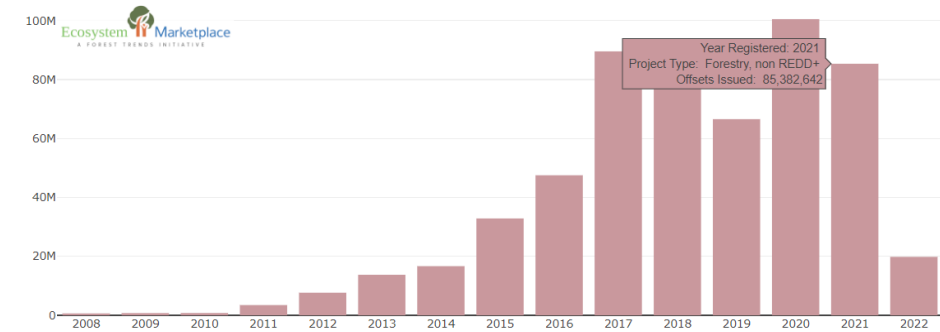
VERRA 2021 (294,6 M tCO2-e)
~ 75% (of all)

- Biogas
- Biomass, or Liquid Biofuel
- Energy Production or Conservation
- Forestry, non REDD+
- Fuel Switching
- Grasslands, Avoided Conversion
- Improved Cook Stoves
- Landfill Gas Capture
- Livestock Waste Management
- Manufacturing industries
- Mine Methane Capture
- Other
- Other Ecosystem Restoration
- Ozone Depleting Substances
- REDD+
- Renewable Energy
- Transportation
- Waste Handling and Disposal

WORLD – REDD+



WORLD – FORESTRY



World Carbon Credits reported (2021):
Total (2021): ~395,4 M tCO2-e

- REDD+: 108,3 M tCO2-e
- Forestry: 85,4M tCO2-e

~50% Forestry + REDD+

Issuances and Retirements credits issuances and retirements reported by the American Carbon Registry (ACR), ART TREES, the Climate Action Reserve (CAR), California Air Resources Board (CARB), CDM (for credits issued after 2016), City Forest Credits, Climate Forward, Coalition for Rainforest Nations, EcoRegistry, Global Carbon Council, Gold Standard, Plan Vivo, ProClima, and Verified Carbon Standard (VCS).

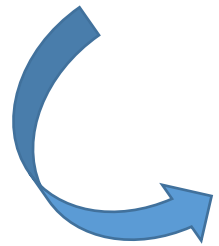
Source: Ecosystem Marketplace / Forest Trends, adapted by STCP (2022).

4. CARBON PROJECTS IN LATAM



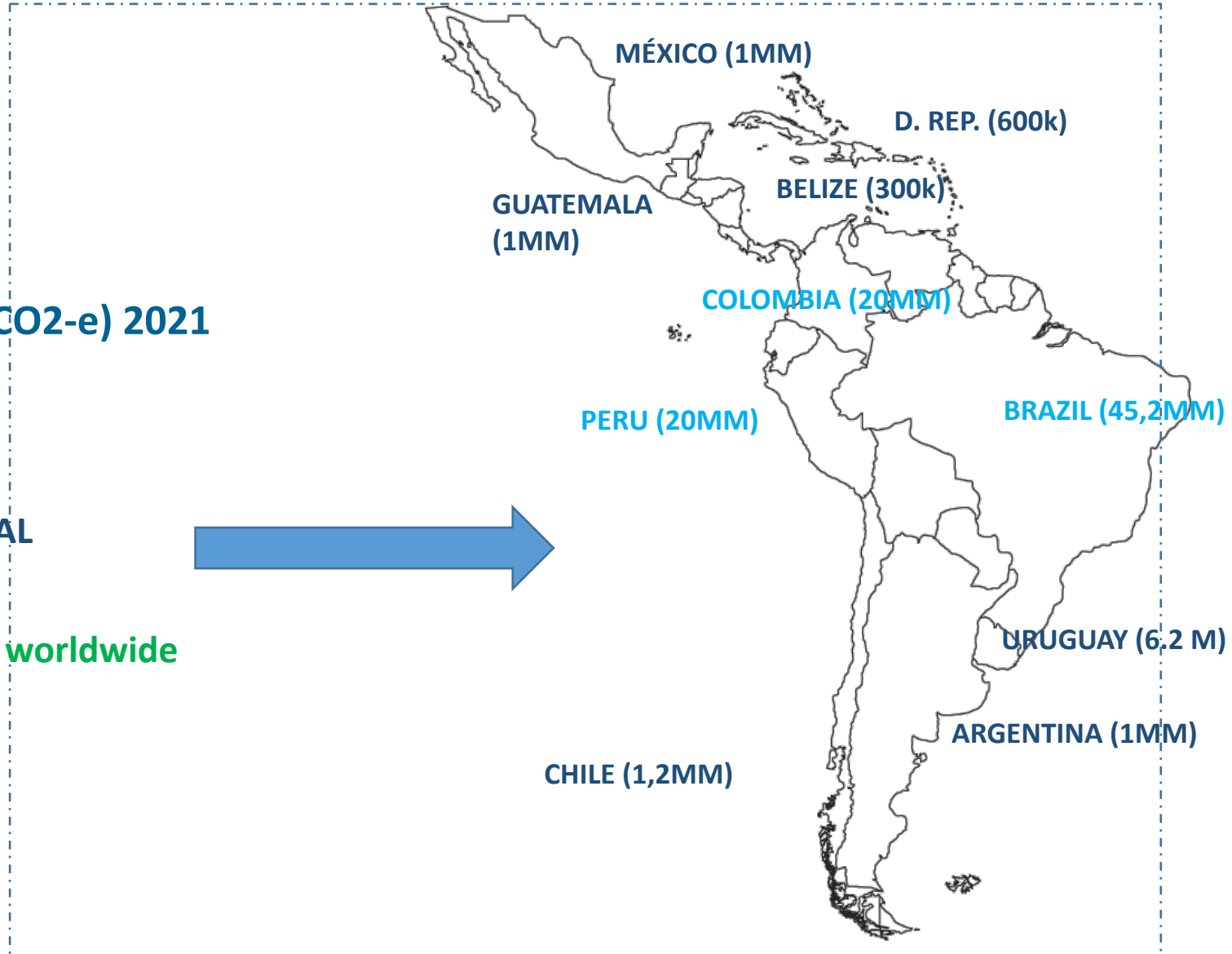
CARBON CREDIT ISSUANCE (All Registries/Types)

WORLD TOTAL (395,4 M tCO₂-e) 2021



LATIN AMERICA TOTAL
(~98 M t CO₂-e)

¼ carbon credit worldwide



Issuances and Retirements credits issuances and retirements reported by the American Carbon Registry (ACR), ART-TREES, the Climate Action Reserve (CAR), California Air Resources Board (CARB), CDM (for credits issued after 2016), City Forest Credits, Climate Forward, Coalition for Rainforest Nations, EcoRegistry, Global Carbon Council, Gold Standard, Plan Vivo, ProClima, and Verified Carbon Standard (VCS).

Source: Ecosystem Marketplace / Forest Trends, adapted by STCP (2022).

4. CARBON PROJECTS IN LATAM

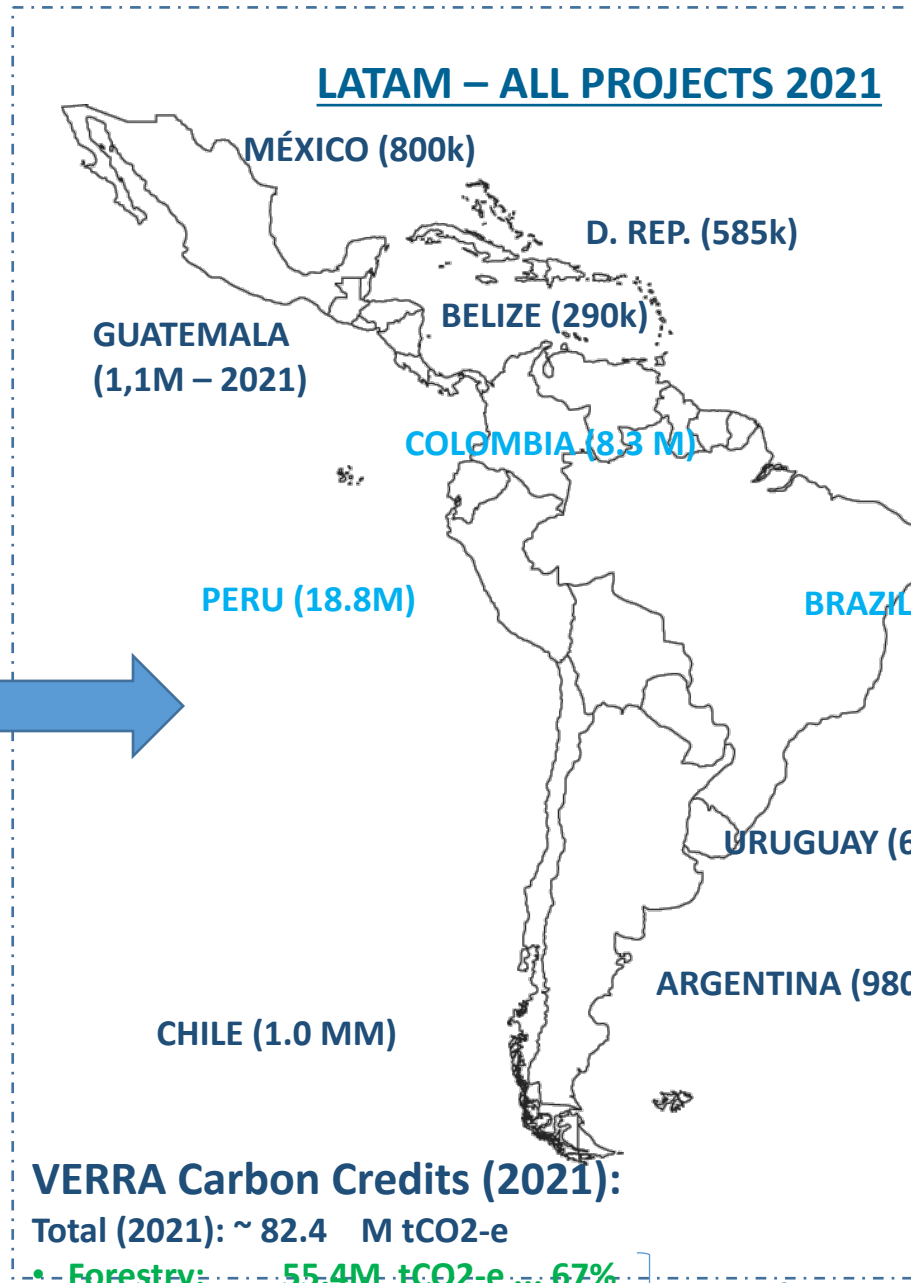
VERRA REGISTRY SYSTEM IN LATAM



tCO2-e

País	LATAM – All Project		Forest Projects (2021)	
	2.020	2.021	REDD+	Forestry
ARGENTINA	-	969.096	-	-
BELIZE	50.000	290.568	290.568	-
BOLIVIA	50.000	-	-	-
BRAZIL		43.968.034	33.223.215	25.000
CHILE	202.671	1.016.200		611.291
COLOMBIA	909.325	8.301.543	7.985.657	3.341
DOMINICAN REPUBLIC	20.000	585.041	-	-
ECUADOR	-	42.990	-	-
EL SALVADOR	-	-	-	-
GUATEMALA	757.235	1.097.604	513.002	-
HONDURAS	-	74.491	-	-
MEXICO	437.465	768.267	-	644.011
NICARAGUA	-	229.270	-	229.270
PARAGUAY	-	-	-	-
PERU	8.203.828	18.814.398	13.393.465	1.420.933
URUGUAY	2.787.642	6.201.093	-	6.001.093
Total	13.418.166	82.358.595	55.405.907	8.934.939

Source: Ecosystem Marketplace / Forest Trends, adapted by STCP (2022).



VERRA Carbon Credits (2021):

Total (2021): ~ 82.4 M tCO2-e

- Forestry: 55,4M tCO2-e ... 67%
- REDD+: 8,9 M tCO2-e ... 11%

~78%

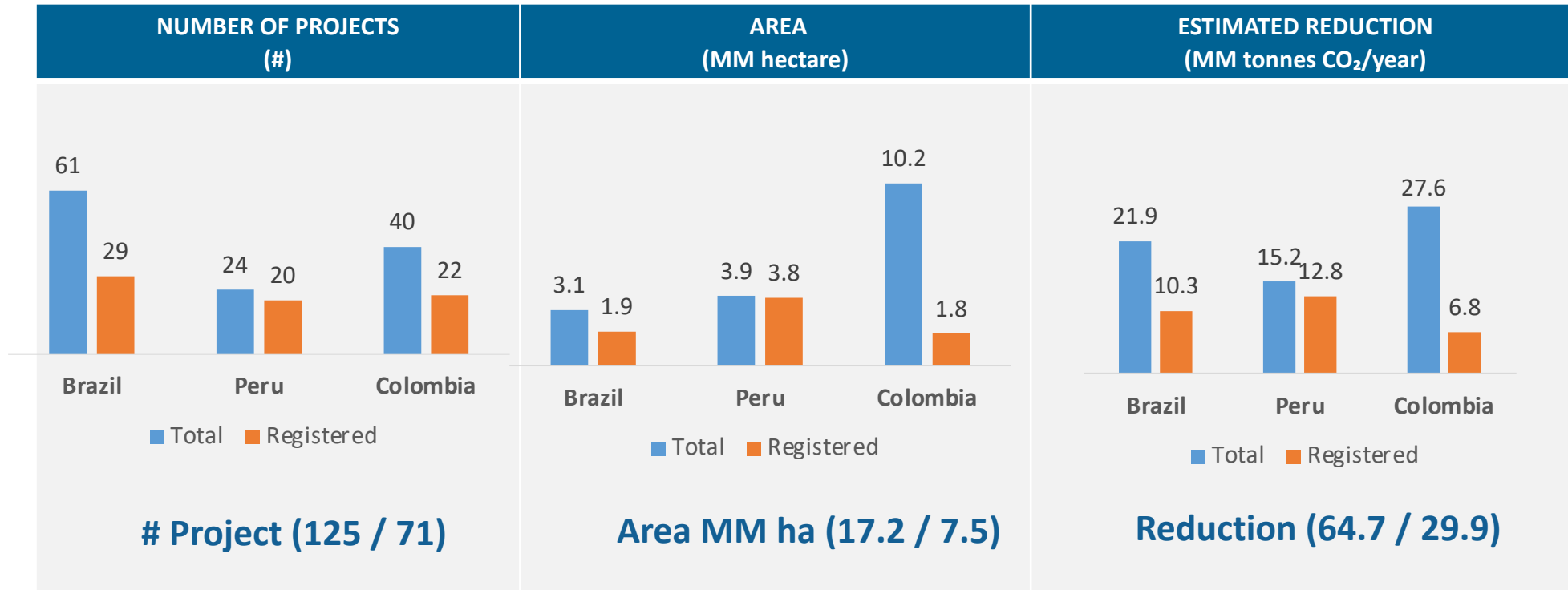
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4. CARBON PROJECTS IN LATAM



VERRA AFOLU Projects : BRAZIL, PERU, COLOMBIA



Fonte: Verra Standards and Programs (2022). Adaptado por STCP (data-base 30/07/2022).

4. CARBON PROJECTS IN LATAM



LATIN AMERICA IS:

- Expanding its participation in both Compliance and Voluntary Market
 - Colombia, Mexico, Chile and Argentina are front-runners in Compliance with CPI adoption (regulated)
 - Brazil is mostly Voluntary
- The world's second largest provider of Voluntary Credits
 - In 2020 and 2021 slightly less than 20 % of the total global credit supply came from the region;
 - Peru, Brazil and Colombia are by far the largest contributors of credits in the region, representing more than 80 % (71 MtCO₂e) of all LATAM Carbon Credits;
 - VERRA is the most used certification program for Voluntary credits in LATAM, largely due to protocol availability and importance of REDD+ projects in the region.

5. SFM AND CARBON IN LATAM



LATIM AMERICA FORESTS AND MANAGEMENT PLANS (LT FMP)

	FOREST AREA	DEFORESTATION	PLANTED FOREST	PRIMARY FORESTS	
	1000 ha	1000 ha/y	1000 ha	1000 ha	LT FMP
LATIN AMERICA	874.479	3.126	21.487	299.540	137.771
% OF WORLD	22%	31%	7%	27%	7%
SOUTH AMERICA	844.186	2.953	20.245	298.698	133.879
CENTRAL AMERICA	22.404	168	391	658	1.133
CARIBBEAN	7.889	5	851	184	2.759
WORLD	4.058.931	10.150	293.895	1.109.997	2.049.817

- The region has extensive forest lands (22% of global forests) and high deforestation rate;
- Existing Long Term Forest Management Plans cover an area of 137 million ha (7% of the global);
- Forests of the region could be managed to produce timber and for Carbon credits.

5. SFM AND CARBON IN LATAM



LATIN AMERICA – POTENTIAL OF CARBON CREDITS IN L-T FMP UNDER REDD+

LATIN AMERICA REGIONS	FOREST MANAGEMENT PLAN	AVOIDED DEFORESTATION AREA UNDER REDD+ (*)		GHG EMISSION REDUCTION UNDER REDD+ (*)		ESTIMATED ANNUAL CARBON CREDIT VALUE
	1000 ha	1000 ha/year	1000 ha/30-yearFMP	1000 tCO2-e/year	1000 tCO2-e/30-yearFMP	1000 US\$/year
LATIN AMERICA	148.121 (*)	794	23.821	308.660	9.259.800	1.919.865
SOUTH AMERICA	133.879	718	21.531	278.983	8.369.486	1.735.273
CENTRAL AMERICA	1.133	6	182	2.361	70.830	14.685
CARIBBEAN	2.759	15	444	5.749	172.480	35.761
MEXICO (*)	10.350 (*)	55	1.664	21.567	647.004	134.146

(*) Estimated

Assumptions:

- 2,08 tCO2-e/hectare year (Amazon Project)
5,36 hectare (avoided deforestation)/ 1000 hectare under LTFMP (30 years) (Amazon Project)
- Carbon Price – Voluntary Market (Nature Based-Offset) (Oct/22) = US\$ 6,22/tCO2-e

Source: Global Forest Resources Assessment 2020 (FRA, FAO). Adapted by STCP

5. SFM AND CARBON IN LATAM



REALITY

- **Latin America has around 25% of the total global Carbon Credit issued and almost 80% are REDD+ and Forestry types projects, but only few forest areas managed to produce timber in the region consider the generation of Carbon Credits;**
- **Registered Carbon Projects in Brazil, involving forests areas managed for timber production, generate annual credits of around 2 t/ha of CO₂e;**
- **A SFM project covering an area of 80 thousand ha of tropical forests managed for timber production, assessed in 2019, pointed out that the annual contribution of Carbon to the total revenue was over 10%. This indicates that Carbon Credits from areas managed for timber production is an alternative to generate additional and significant revenues;**
- **The estimated potential annual Carbon Credits generation in Latin America, considering the existing managed forest areas for timber production, is around US\$2 billion per year. As Carbon prices are increasing due to demand, and revenues are expected to be even higher;**
- **Other alternatives involving forests in the region are under consideration, such as projects of forest restoration designed to generate Carbon Credits as the main revenue, being timber production complementary.**

5. CONCLUSIONS AND RECOMMENDATIONS



Conclusions

- Carbon market development is a necessary path to reduce or achieve net zero emission target and also an opportunity to those managing forests. There is an extensive worldwide legal framework involving carbon credits and countries are developing their own laws and regulations;
- Issuance of Carbon Credit started in early 2000, and has grown faster in the last 10 years. Credits issue achieved around 400 million t CO₂e in 2021, out of this total around 50% are REDD+ and Forestry type;
- Latin America represents 25% of the total global credits issued and 80% are of REDD+ and Forestry type, basically traded in the Voluntary market. Despite this only few forest areas managed to produce timber in the region have registered projects to issue Carbon Credits;
- Carbon Credits from areas managed for timber production is an important alternative and additional source of revenues. Market demand for Carbon Credits is growing, but forest owners and the timber industry managing forest still have limitations to develop and register projects to issue Credits.

Recommendations

- Assess limitations/ constraints faced by forest owners and the timber industry managing forests to develop and register projects to issue and trade Carbon Credits;
- Based on the assessment define a program to improve the knowledge and provide technical assistance aiming to develop sustainable management plans integrating timber production and the generation of Carbon Credits.

THANK YOU



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