

El futuro de los mercados de carbono

Foro de Sostenibilidad ANDI – 02 Oct 2024

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Quiénes somos

MSCI es líder en la provisión de herramientas y servicios para la toma de decisiones de inversionistas a nivel global



50+

Años en el Mercado

4,500+

Empleados

30+

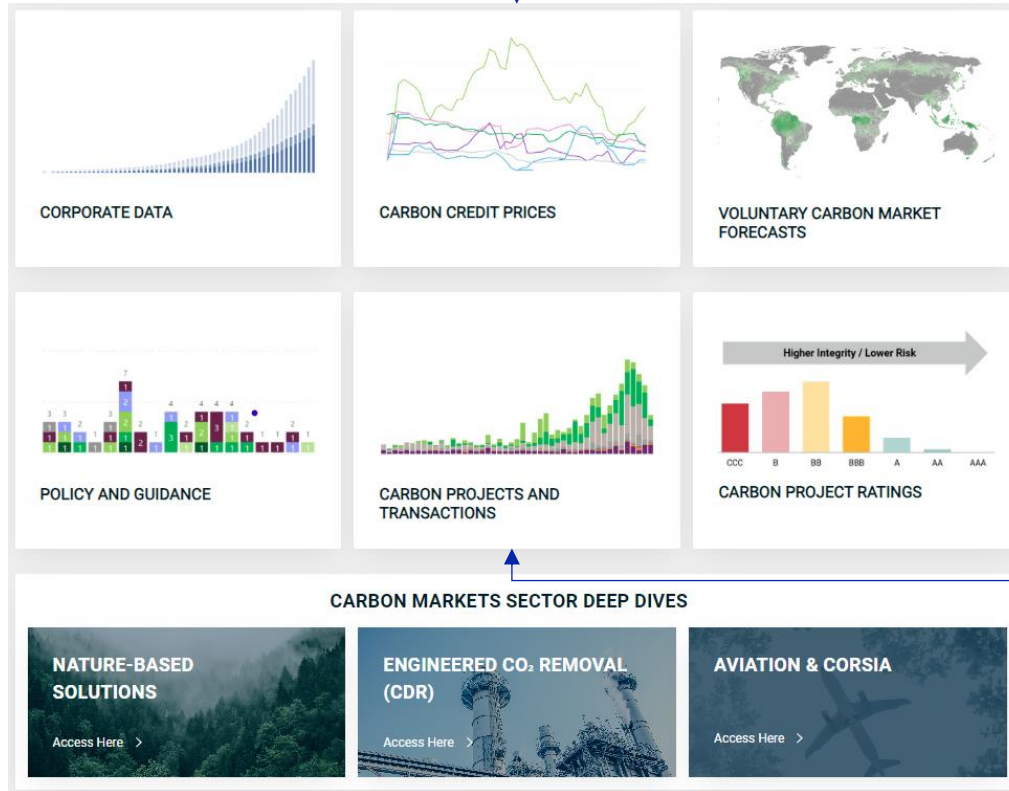
Oficinas a nivel global

6,500+

Clientes activos

MSCI Carbon Markets – datos de calidad para inversión e investigaciones

20 credit pricing indices



>15,000
empresas
rastreadas

180
organizaciones
marcando
políticas

40 perfiles de
país

Proyecciones de
la demanda,
oferta, precios
hasta 2050 para
> 15 tipos de
proyecto

'Ratings' de
calidad para >
4,000 proyectos

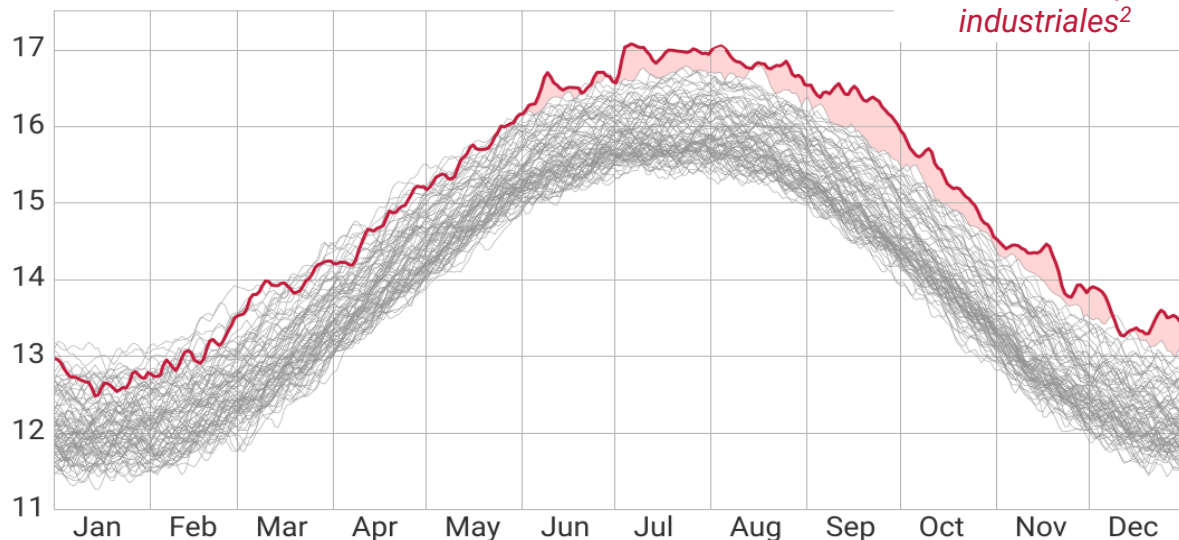
120 campos de
datos para
15,000 projects
de 15+ registries

Contenido

1. Introducción al mercado de carbono
2. Contexto actual del mercado
3. Retos que enfrenta el mercado
4. El futuro del mercado: el camino para escalar

Por qué estamos aquí?

Promedio global de temperaturas diarias (°C) (1940-2023)¹



Solo 13% de proyectos de carbono con emisiones record causadas por incendio en el 2023

(Fuente: MSCI Carbon Markets FireTracker)

24
meses

Meses restantes para limitar el calentamiento global a 1.5°C

El tiempo restante hasta que las empresas cotizadas en el mercado agoten el presupuesto de emisiones para limitar el aumento de la temperatura global este siglo a 1,5°C por encima de los niveles preindustriales.

198
meses

Meses restantes para limitar el calentamiento a 2.0°C

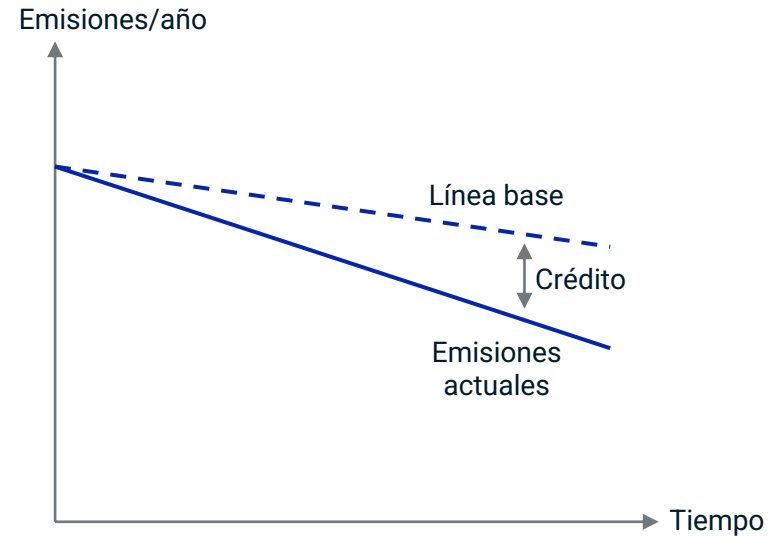
MSCI Net Zero Tracker ([link](#))

Qué es un crédito de carbono?

Crédito de carbono = una reducción o remoción de emisiones relativa a lo que hubiera sucedido sin intervención

Para que un crédito de carbono sea válido:

1. **Adicional:** el proyecto no hubiera sido posible sin los ingresos del mercado de carbono.
2. **Cuantificado:** mide con **Precisión** y/o de manera **Conservadora** la diferencia entre las emisiones actuales y las previamente esperadas.
3. **Permanente:** las emisiones reducidas o removidas a través del proyecto de carbono no deben ser inesperadamente reversadas.
4. **Verificado:** las emisiones que el proyecto planea reducir o remover deben ser validadas y posteriormente verificadas por un tercero independiente.



Cupos de carbono versus créditos de carbono

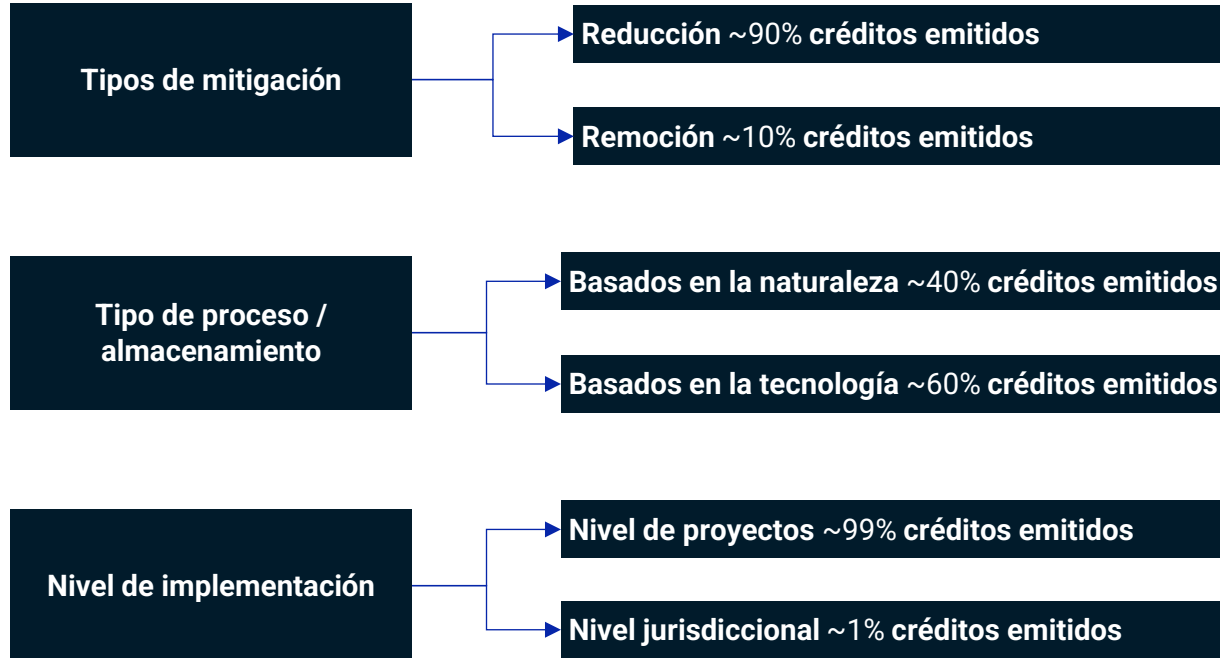
Cupo transable (Mercado regulado)

- Un **cupo** permite a una **entidad emitir 1 tonelada de CO₂ o GEI** equivalente
- Los **emisores** en una región específica (por ejemplo, Colombia) están **obligados a adquirir y presentar cupos por cada tonelada de GEI emitida** durante un **período** de medición **específico**.
- El **gobierno subasta** los **cupos** a lo largo del año, aunque algunos sectores pueden recibir asignaciones gratuitas.
- La cantidad **total de cupos cada año**, es decir, las emisiones, está **limitado**, lo que se conoce como un **tope**, el cual normalmente **disminuye** según un calendario preestablecido, por ejemplo, anualmente, **reduciendo** la **oferta disponible**.
- **Sin la mitigación de emisiones** por parte de los emisores, la **demanda creciente** generada por el crecimiento económico **choca** con una **oferta limitada** y los **precios suben**.
- Los **emisores** estarán **incentivados a reducir sus emisiones** en lugar de comprar cupos cada vez más caros.
- Los **precios** son **determinados** por la **oferta** y la **demanda** en **subastas** y mercados, pero la **intervención o los mecanismos del gobierno tienen un gran impacto en los precios**.

Crédito de carbono (Mercado voluntario)

- Un **crédito de carbono** permite a un **emisor "compensar" 1 tonelada de CO₂e** mediante una **reducción/remoción de emisiones** realizada por una **entidad completamente separada**.
- Los créditos se obtienen de **muchos tipos diversificados de "proyectos" dispersos por todo el mundo**.
- Cada **proyecto** debe **cumplir** con los **criterios** especificados en **metodologías aceptadas por el mercado** para cada tipo específico de actividad de mitigación.
- Las **metodologías** son **establecidas por registros** que **autorizan** a los proyectos a **emitir créditos y registrar** la emisión.
- Una vez emitidos, los créditos de carbono **se compran y "retiran" en el registro**, lo que permite al **comprador reclamar una compensación para sus emisiones**.
- Los créditos se **usan**, generalmente por **empresas** de forma **voluntaria**, para **cumplir** con **declaraciones climáticas** autoimpuestas, como la neutralidad de carbono y/o **compensar** un **mecanismos regulados**.
- El **precio** de un crédito de carbono se basa únicamente en la **oferta** y la **demanda** en el **aún mayormente bilateral mercado extrabursátil** (over the counter) de créditos.

Tipos de créditos de carbono



Tipos de créditos de carbono

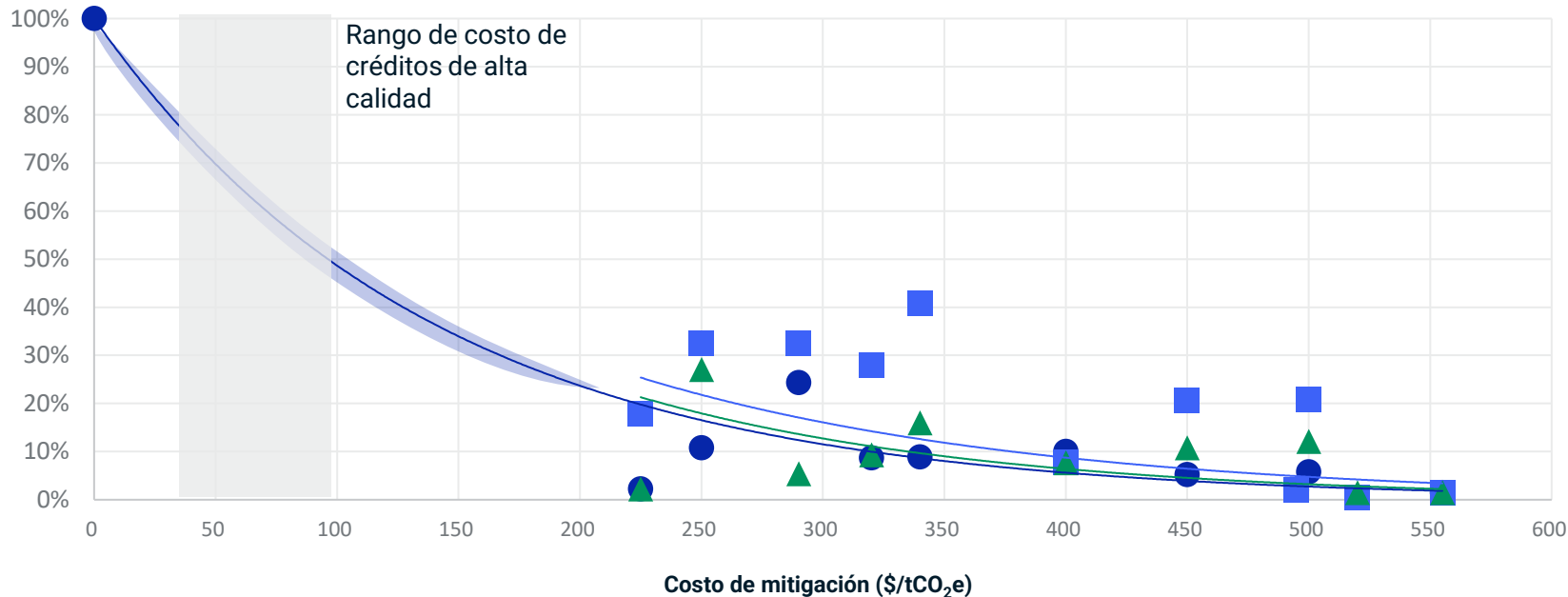
MSCI ha desarrollado su propia categorización de créditos

Project Type	Project Subtype	Reduction	Removal
Nature Restoration	Agricultural Land Management (ALM)	✓	✓
	Avoided Conversion of Grasslands and Shrublands (ACoGS)	✓	
	Afforestation/reforestation/revegetation (ARR)		✓
	Improved Forest Management (IFM)	✓	✓
	Peatlands		✓
	Blue & Coastal Carbon		✓
REDD+¹	Jurisdictional REDD+	✓	
	Planned Deforestation (APD)	✓	
	Unplanned Deforestation (AUDD)	✓	
	General Deforestation	✓	
Carbon Engineering	BioEnergy Carbon Capture & Storage (BECCS)		✓
	Carbon Capture and Storage (CCS)	✓	
	Biochar		✓
	Direct Air Capture (DAC)		✓
	Enhanced Rock Weathering (ERW)		✓
	Building Materials		✓
	Marine Carbon Capture		✓

Project Type	Project Subtype	Reduction	Removal
Non-CO₂ Gases	Landfill Gas (CH ₄)	✓	
	Fugitive Emissions (CH ₄)	✓	
	Chemical	✓	
	Ozone Depleting Substances (CFCs, HFCs, & PFCs)	✓	
	Waste Management (CH ₄)	✓	
Energy Efficiency	Energy Demand Reduction	✓	
	Efficient Distribution	✓	
	Efficient Transport Systems	✓	
	Clean Cooking	✓	
Fuel Switch	Biofuel	✓	
	Hydrogen and Hybrid	✓	
	Fuel Switch - Other	✓	
Renewable Energy	Geothermal	✓	
	Hydro	✓	
	Organic Waste	✓	
	Solar	✓	
	Renewable Energy - Mixed & Other	✓	
	Wind	✓	
	Storage	✓	

Por qué usar créditos de carbono?

Proporción de empresas con objetivos SBTi frente al costo de mitigación



● SBTi NZ – Compañías con metas Cero Neto SBTi

■ SBTi ER – Compañías con metas de Reducción de Emisiones SBTi

▲ SBTi Comprometido – Compañías comprometidas a fijar una meta SBTi en los próximos dos años

Los factores que impulsan la demanda

1. Compromisos corporativos voluntarios (>80% de la demanda de hoy):

- “Carbono Neutral” (compañía / producto)
- “Cero Neto” (aprobado por SBTi / auto-declarado)

2. Esquemas de cumplimiento:

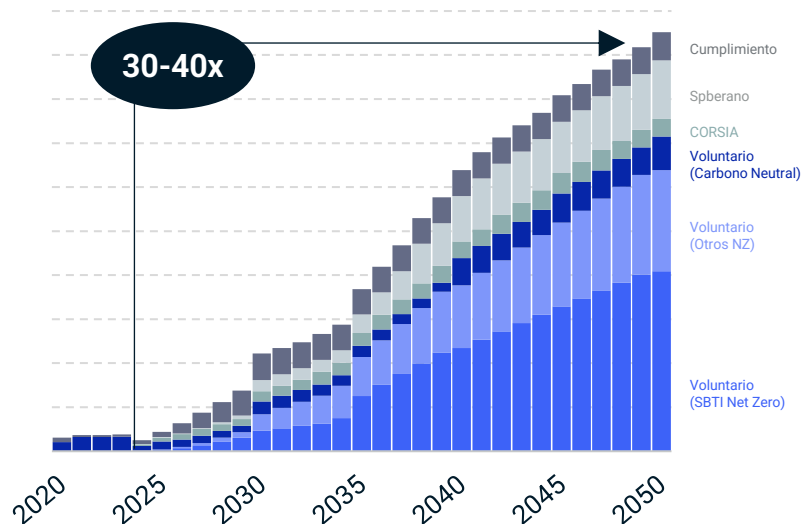
- Como % de los requerimientos de cumplimiento (ej. California, Colombia-PNCT)
- Compensar el impuesto al carbono (ej. Colombia, Singapur)
- CORSIA (aviación internacional)

3. Gobiernos (soberano):

- Cumplimiento NDC - Artículos 6.2 / 6.4 del Acuerdo de París

>10mil compañías alrededor del mundo han establecido objetivos climáticos. Si los cumplen, la demanda podría **augmentar 30-40x al 2050**.

Demanda potencial de créditos de carbono- escenario medio (Mt/año)



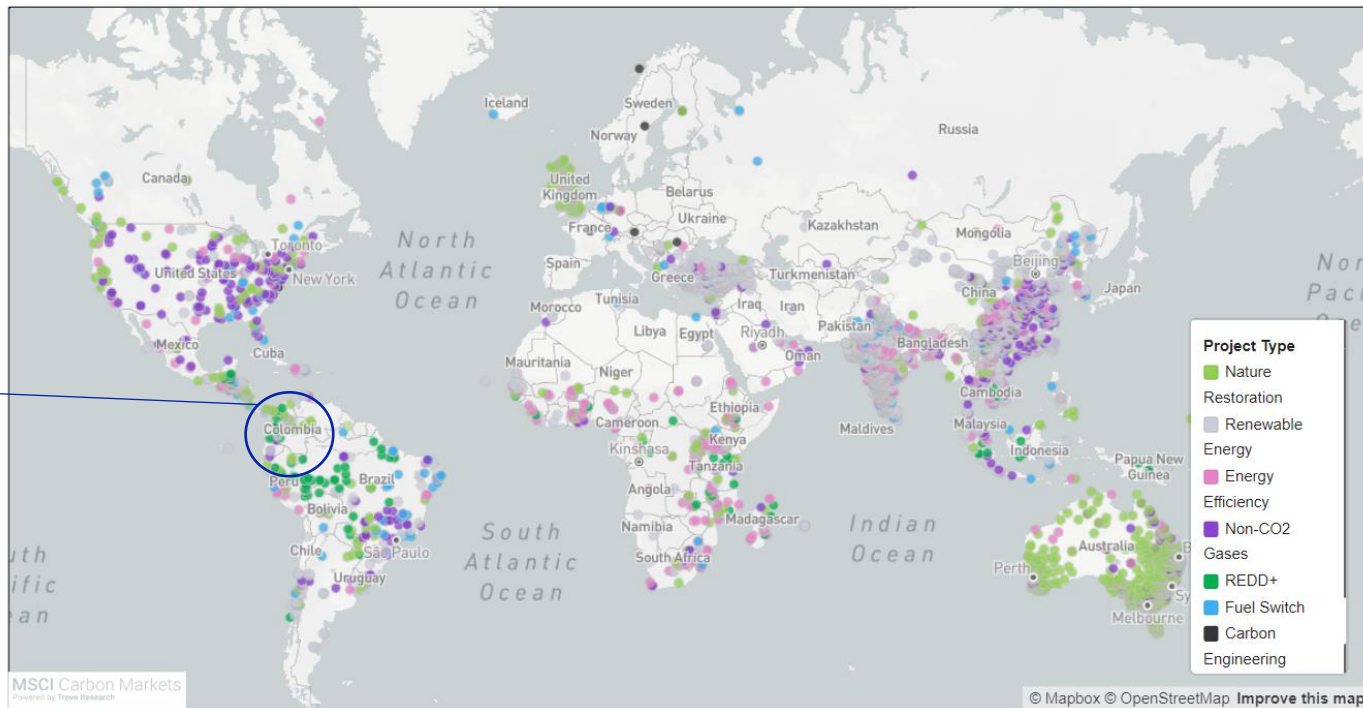
Fuente: MSCI Carbon Markets modelling

8,000 proyectos registrados a nivel mundial

Number of projects: 7,978

Total issued credits quantity (tCO₂e): 2.1bn

Map of projects, coloured by project type

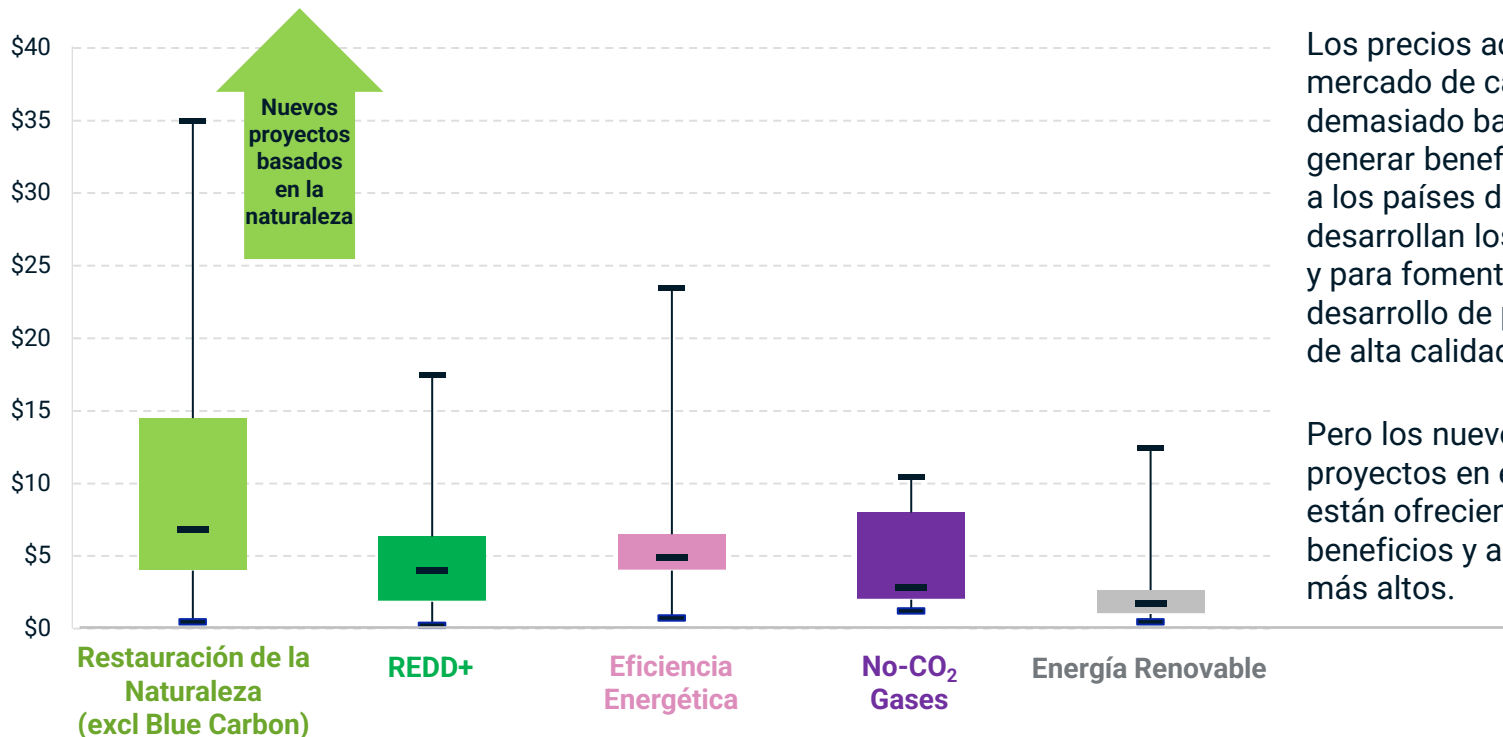


Colombia

- 171 proyectos
- 188M créditos emitidos
 - 83% reducción vs. 17% remoción
 - 81% soluciones basadas en la naturaleza vs. 19% soluciones basadas en tecnología
- 110M créditos retirados

Para que el VCM alcance su potencial como mecanismo de financiamiento, los precios del carbono deben reflejar los costos reales del desarrollo sostenible

Precios de los créditos de carbono por tipo de proyecto en el 2T24 (USD/tCO₂e)¹



Los precios actuales del mercado de carbono son demasiado bajos para generar beneficios reales a los países donde se desarrollan los proyectos y para fomentar el desarrollo de proyectos de alta calidad...

Pero los nuevos proyectos en el pipeline están ofreciendo más beneficios y a precios más altos.

El uso corporativo de créditos de carbono ha enfrentado desafíos...

- 1 La percepción de baja integridad de muchos créditos de carbono sigue siendo un problema clave

... pero se están implementando soluciones

Registros / metodologías

- Metodologías mejoradas
- Enfoques jurisdiccionales
- Gobernanza mejorada

Organismos independientes

- ICVCM (Consejo de Integridad para los Mercados Voluntarios de Carbono)
- CORSIA (Esquema de Compensación y Reducción de Carbono para la Aviación Internacional)

Sector privado

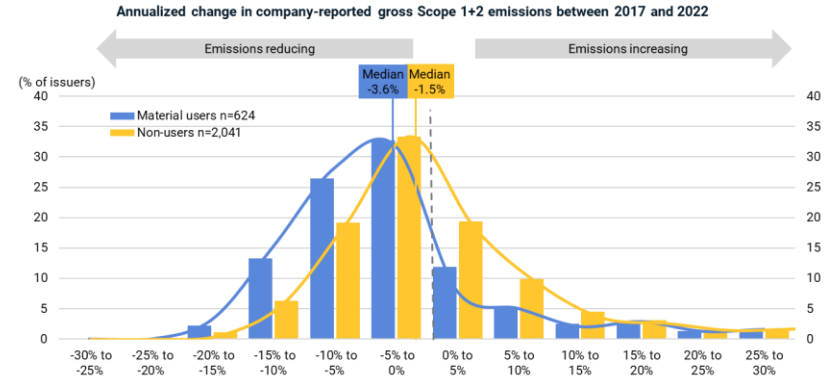
- Agencias de calificación (ej., MSCI)
- Seguros
- Soluciones de monitoreo, reporte y verificación (MRV) (ej. monitoreo geoespacial de la deforestación)

El uso corporativo de créditos de carbono ha enfrentado desafíos...

- 1 La percepción de baja integridad de muchos créditos de carbono sigue siendo un problema clave
- 2 Preocupación de que los créditos de carbono retrasen la descarbonización corporativa

... se ha avanzado... pero aún hay más trabajo por hacer

- 1 ICVCM CCPs, metodologías de registro mejoradas, soluciones del sector privado (MSCI's Carbon Project Ratings)
- 2 La jerarquía de mitigación es clara, y la investigación muestra que este no es el caso



Source: MSCI ESG Research as of July 1, 2024. Notes: only includes firms within the MSCI ACWI IMI that reported their Scope 1 and 2 emissions for every year in the period 2017-22.

El uso corporativo de créditos de carbono ha enfrentado desafíos...

- 1 La percepción de baja integridad de muchos créditos de carbono sigue siendo un problema clave
- 2 Preocupación de que los créditos de carbono retrasen la descarbonización corporativa
- 3 Incomodidad con las afirmaciones de neutralidad de carbono/compensación
- 4 Incentivo para actuar a corto plazo

... se ha avanzado... pero aún hay más trabajo por hacer

- 1 ICVCM CCPs, metodologías de registro mejoradas, soluciones del sector privado (*MSCI's Carbon Project Ratings*)
- 2 La jerarquía de mitigación es clara, y la investigación muestra que este no es el caso
- 3 'Green Claims Directive' de la UE, 'Claims Code' de VCMI, Guía BVCM de SBTi, la orientación sobre qué afirmar sigue siendo un problema clave
- 4 Los estándares voluntarios instan a actuar ahora, pero hay una brecha de incentivos para una adopción a gran escala

El camino para escalar el mercado



- 1** Elevar el estándar de calidad en la oferta de créditos
- 2** Mayor inversión en oferta de alta calidad
- 3** Incentivos claros para que las empresas compren créditos
- 4** Mercado de comercio bien estructurado, transparente y líquido
- 5** Políticas/regulaciones adecuadas y habilitantes

**El mercado global
de carbono podría
llegar a valer:**

\$1 – 3bn en 2025

\$5 - 24bn en 2030

\$20 – 70bn en 2040

\$30 - 200bn en 2050

Preguntas?

No dudes en contactarnos en carbonmarkets@msci.com si tienes preguntas o si te gustaría obtener más información sobre los servicios de datos y análisis de los mercados de carbono de MSCI.

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