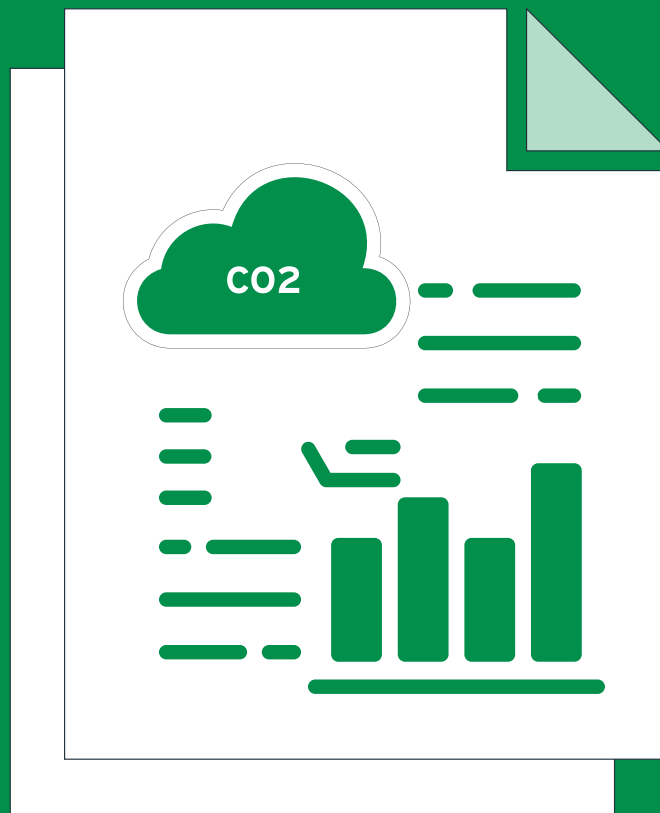


Credits Bridging Voluntary and Compliance Carbon Markets

Forecasting Supply, Demand, and Prices for Projects



MAY | 2024

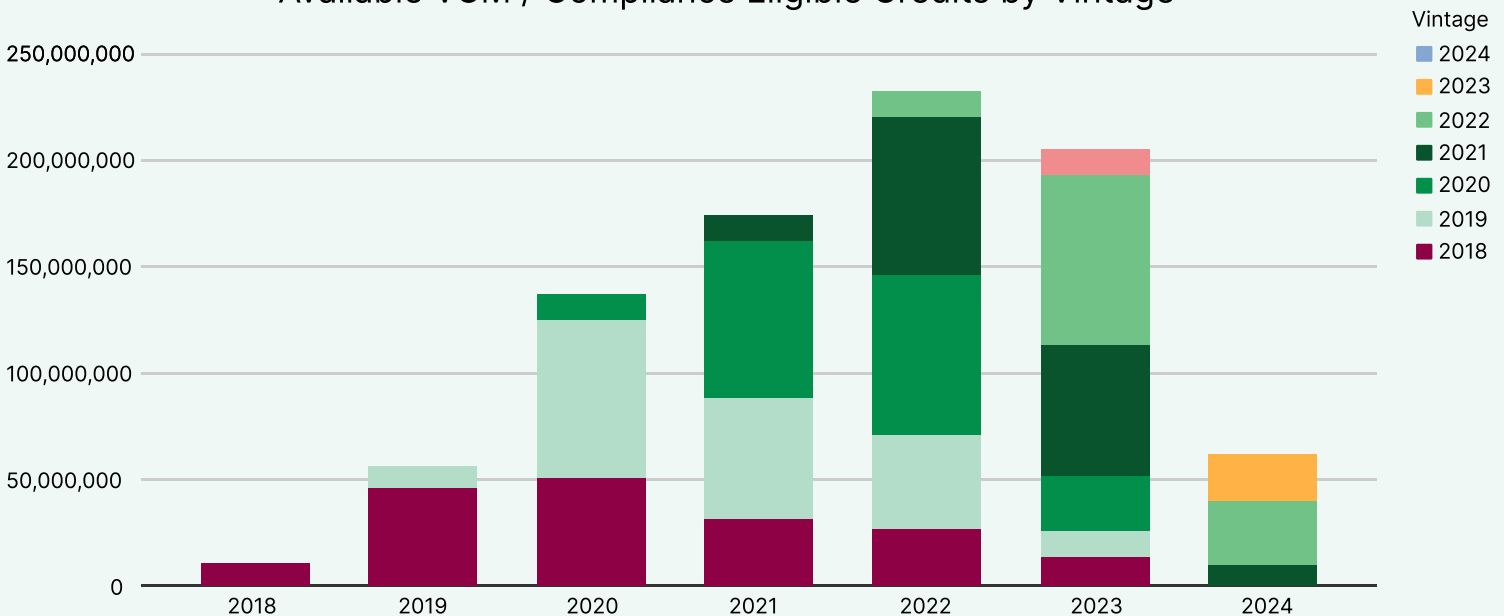
Policy Market Update



Introducing our new Policy and Market Report: following the latest trends including Article 6, CORSIA, CCP Probability and our Policy Country Scores. Beyond CORSIA, we've identified VCM credit supply and demand from Compliance instruments, CORSIA, towards NDCs (Article 6).

This edition introduces data from our new market-leading VCM/Compliance Tracker, which tracks which projects and credits in the VCM eligible for inclusion under compliance markets all over the world.

Available VCM / Compliance Eligible Credits by Vintage



Increasing compliance demand for VCM credits from developing carbon pricing mechanisms, emerging partly in response to the EU's Carbon Border Adjustment Mechanism (CBAM). In the near and long-term, we expect to see more national and subnational compliance pricing schemes (Mexico's ETS, Turkey's ETS, India's ETS, and Brazil's ETS), to incorporate carbon offset mechanisms. They will join a list of already established schemes including California ARB Offset Scheme, Colombia's emissions compensation schemes and South Africa's Carbon Offset Administration System (COAS) under its carbon tax.

Across nine compliance schemes, we have located about 450,000,000 compliance-eligible credits in the market, with four of the schemes still accepting credits from the Clean Development Mechanism (Chile, Colombia and South Africa's carbon tax schemes, and South Korea's ETS).

Our VCM/Compliance Tracker lists credit unit types from domestic and international crediting schemes. These include: Australia Carbon Credit Units (ACCU), California ARB Offsets (ARBOCs), RGGI CO2 Offsets, Querétaro SBC-QROs, Korean Offset Credits (KOCs) and Washington Ecology Offset credits.

450m

Volume of compliance-eligible credits available

80.8m

Volume of compliance-eligible issuances in Q1 2024

4,300+

VCM / Compliance eligible projects

[Check out our Free VCM / Compliance Tracker Tool here!](#)

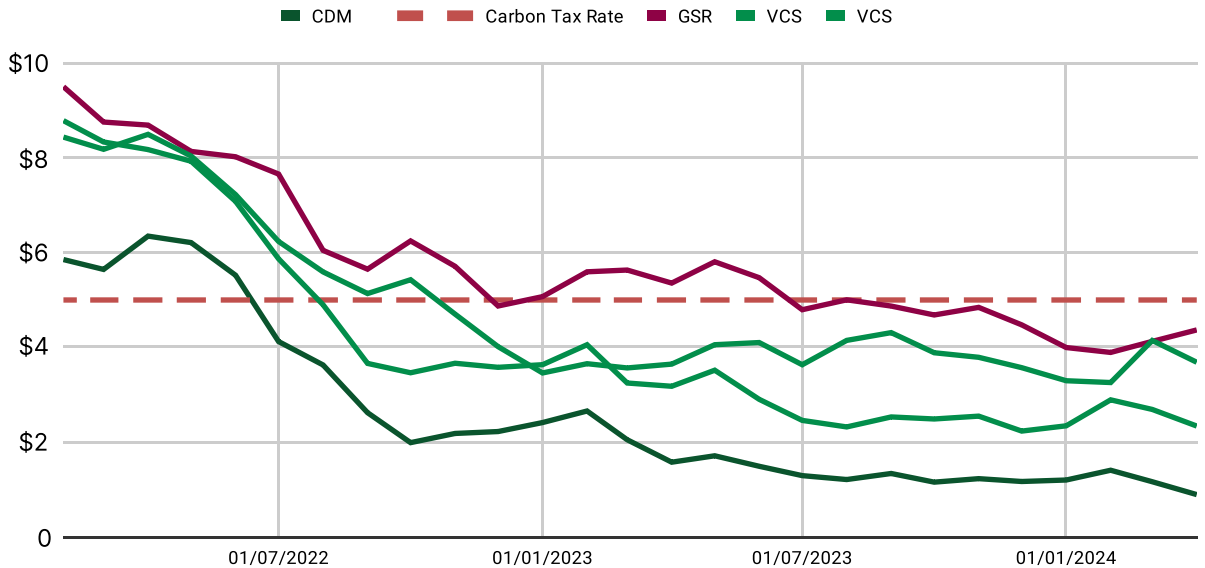
Chile's Green Tax Scheme

Chile announced the initial 8 projects registered under its SCE, with the country's total demand for carbon credits amounting to 31 million tonnes of CO₂e. AlliedOffsets conducted desk research, revealing that **3.76% of this demand (approximately 1.1 million credits) can be met by 13 similar projects eligible for the second round of the SCE.**

Looking at SCE approved project historical prices reveals that projects have trended under the carbon tax rate. We expect these prices to converge, as seen in response to Colombia's emission compensation system (under Decreto 926).

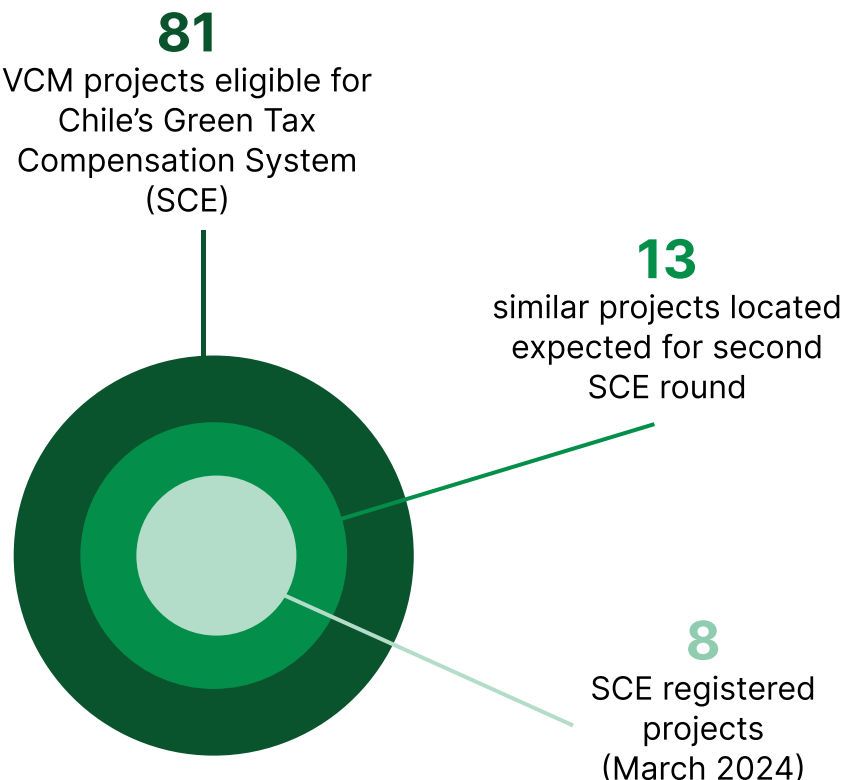
Historic Prices: Chile Green Tax SCE Approved Projects

The chart here shows the difference between the current carbon tax rate (\$5/t), and estimated price per credit of approved projects organised by standard.



Using the VCM/Compliance Tracker filtered for **renewable energy sector projects**, we found: **13 similar projects eligible for the second round of Chile's Emissions Compensation System.**

In March, Chile's Environment Ministry (MMA) announced the first 8 projects registered under its Green Tax Emission Compensation System (SCE). Launched in October 2023, the Emissions Compensation System targets facilities exceeding 100 tons of particulate matter per year (250/kt of CO₂ per year), and targets up to 87 entities*.



Chile's current tax rate sits at \$5 dollars per tonne, and is expected to rise in coming years. The IMF proposes four rising scenarios: "moderate" (\$15 per ton by 2025, \$50 by 2035), "baseline" (\$15 by 2024, \$60 by 2030), "hybrid" (\$5 by 2024, \$11 by 2027, \$60 by 2035), and "based on the social costs of carbon" (\$35 by 2024, \$75 by 2030)

As we expect the second round of approved projects to be renewable energy projects, we located 13 similar projects with available credits on our VCM/Compliance Tracker dataset. Partner with us to identify these price mismatch opportunities, see the lists of obligated facilities and buyers under the SCE (and other compliance schemes covered), and lists of brokers and intermediaries who sell the credits.

Try our Free VCM / Compliance Tracker tool here

Singapore's Carbon Tax-eligible credits: In search for higher quality and integrity

Singapore's aggregate demand for international carbon credits sits at 2.5 million tonnes of CO₂e. AlliedOffsets underwent desk research and found that 68% of demand (close to 1.7 million credits) can be supplied by 14 Ghanaian cookstove projects aligned to Singapore's ICC Framework criteria. Singapore and Ghana are expected to sign an Implementation Agreement to collaborate on cooperative approaches under Article 6 of the Paris Agreement.

The market awaits the first correspondingly adjusted, ICC credits available for use under Singapore's carbon tax. Ahead of COP28, Singapore's National Environment Agency (NEA) published **its latest guidelines on project types eligible for the International Carbon Credit (ICC) Framework**, following the country's implementation agreement with Papua New Guinea.

Of Singapore's signed MOUs with 16 countries, it has pending implementation agreements with Bhutan, Ghana, Paraguay and Vietnam. Our analysis, which applies the latest ICC criteria for projects against the dataset of projects located in these countries analyses forecasted supply of ICCs.

We located 77 projects with 21 million issuances across the four countries. In Ghana, a country expected to finalise its agreement, we located 24 cookstove projects with 1 Jurisdictional REDD+ project (ART106). Full ICC eligibility would require a complete implementation agreement, projects to receive letters of authorisation, and host governments to apply a corresponding adjustment.

ICC criteria places a restriction on vintages (minimum 2021), and largely excludes renewable energy projects (with some exceptions) and project based REDD+ projects from ACR, ART, Gold Standard, Global Carbon Council, and Verra.

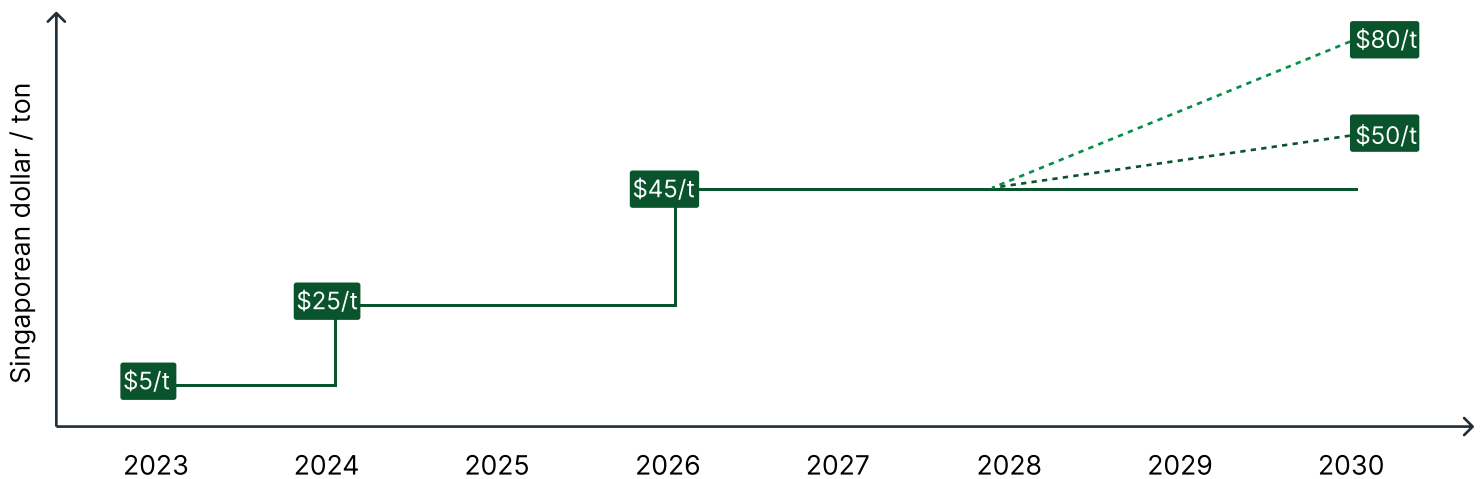
Over 21 million credits across 77 projects located across the 4 Implementation Partner countries

- Papua New Guinea (4 pending projects)
- Vietnam (46 active and pending projects)
- Ghana (25 active and pending projects)
- Paraguay (2 pending projects)

Over 1.7 million ICC eligible credits from 25 projects for cancellation Singapore's Carbon Tax scheme.*

- 24 Household cookstove projects (Ghana)
 - Vintage 2021: 705,812 credits
 - Vintage 2022: 1 million credits
- 1 Jurisdictional REDD+ project: ART106 (pending)

*Analysis follows published ICC criteria, including the exclusion of methodologies from Verra, Gold Standard, ACR, and Global Carbon Council.

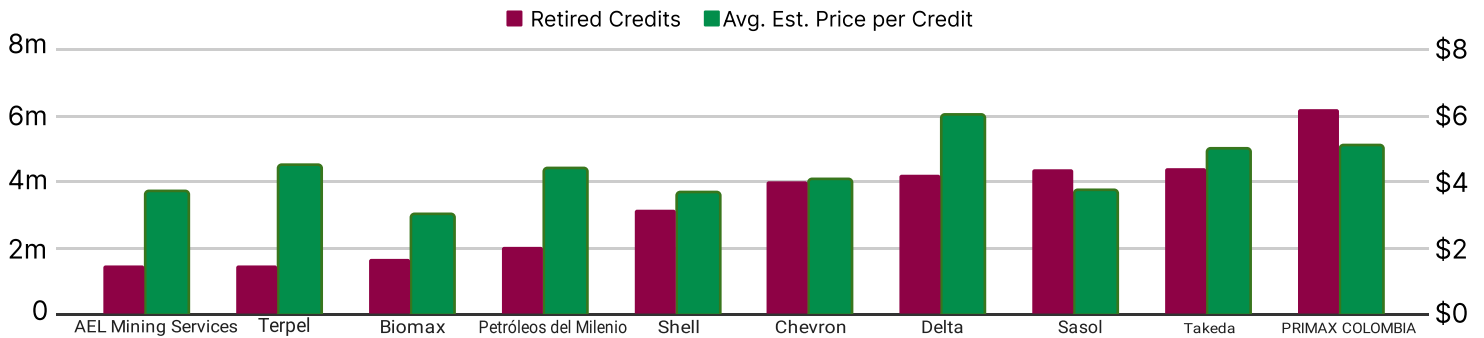


- Singapore's carbon tax rate currently sits at S\$25/t (\$18/t) in 2024 and 2025, and will rise to S\$45/t in 2026 and beyond.
- Corporates can use offsets for up to 5% of taxable emissions.
- Singapore requires ICCs to meet seven recognised principles for high environmental integrity, in alignment with IC-VCM's Core Carbon Principles (CCPs).

VCM/Compliance Convergence: Tracking Buyer Activity

As governments define rules around VCM credit use, they have the potential to generate compliance demand in a moment of decreased demand for VCM credits. Our VCM/Compliance Eligibility Tracker and VCM data reveal that Delta continues to lead the list of all-time buyers of compliance-eligible credits. We have identified 142 distinct brokers, traders, and intermediaries of eligible credits, with the California ARB Offset Scheme having the highest number of brokers transacting compliance-eligible credits.

Top Buyers by Est. Average Price per Credit

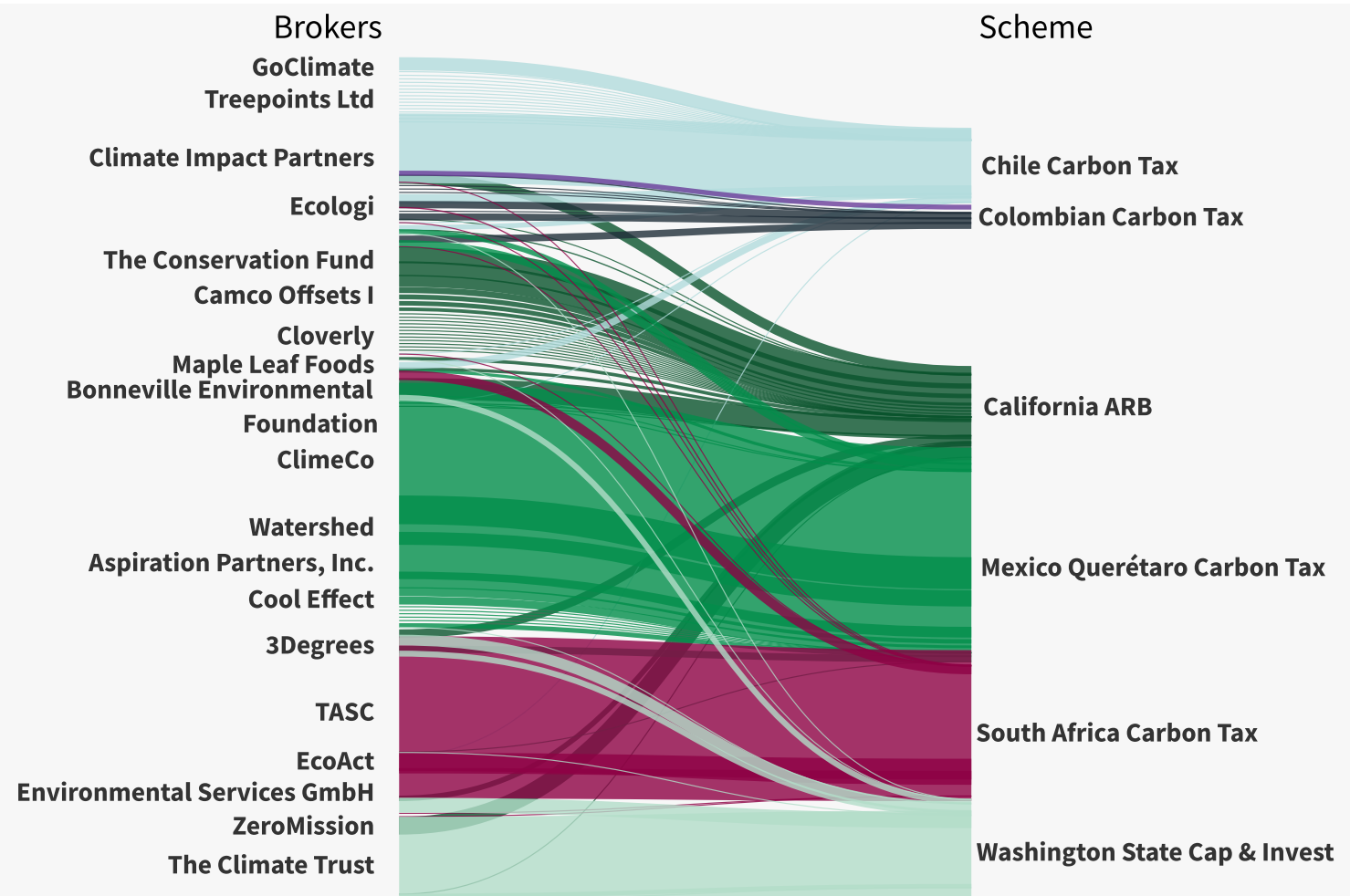


Despite stepping away from the VCM, Delta still leads the list of all-time buyers of compliance-eligible credits, followed by Primax Colombia, Takeda, Terpel, Petroleos del Milenio, Chevron, Shell and AEL Mining Services.

We've identified 142 distinct brokers, traders and intermediaries of credits eligible for use under one or more compliance schemes including Climate Impact Partners, South Pole, ACT Commodities, Patch, and Bonneville Environmental Foundation.

Compliance schemes by number of brokers who have transacted compliance-eligible credits:

1. California ARB Offset Scheme: 31
2. RGGI Offset Scheme: 28
3. Chile Green Tax Emissions Compensation System (SCE): 25
4. Mexico Querétaro Emission Carbon System: 19



Country Policy Scores

We regularly assess carbon market governance worldwide based on five key criteria: government commitment to decarbonization, institutional and legal frameworks for emission reduction targets, policies processes engaging the private sector and fostering CDR technology development, market performance (rate of retired credits, rate of CDM projects, and diversity of project sectors), and business friendliness. For the full methodology, [click here](#).

Q1 2024 Performance Analysis: Selected Countries

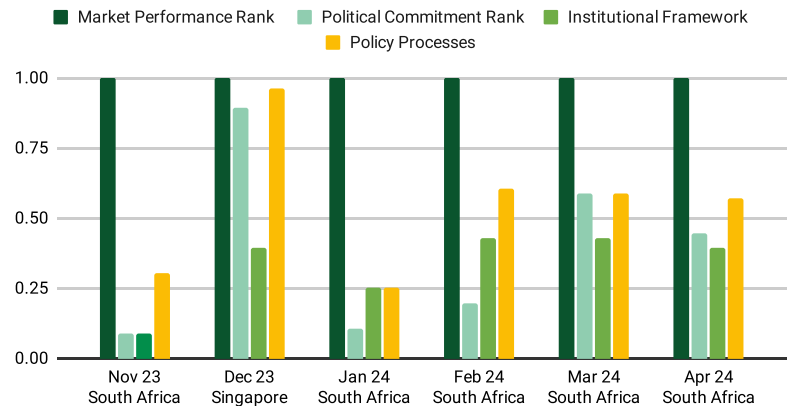
Rank	Country Name	Political Commitment (20)	Institutional Framework (20)	Policy Processes (20)	Market Performance (15)	Business Friendliness (25)	Total (100)	Increase from Feb 2024
1	Chile	19	19	16	10	16	80	-
10	Kenya	16	16	14	11	13	70	▲5
11	South Africa	12	12	15	14	12	65	▲3
11	Ghana	16	14	13	10	12	65	▲5
20	Vietnam	18	5	10	10	13	56	▲5
26	Turkey	15	10	5	11	10	51	▲8

Chile tops our Policy Score table in March, with strong Political Commitment, Institutional Framework and Business Friendliness metrics (80/100), whilst we've seen a trend of increased scores over the past month.

Kenya's score has risen (+5) bolstered by its successful hosting of the [Carbon Market Conference](#). The government focuses on high-integrity credits and profit-sharing agreements, with private companies sharing up to 25% of profits. South Africa (approx. 15% of the African market) saw its VCM performance score increase (+3), following news that [Johannesburg Stock Exchange \(JSE\) will begin carbon credit trading](#) later this year. Ghana saw increased its political commitment score (+5), after its [agreement with Switzerland involving 180,000 Improved Cookstoves \(ICS\)](#) that meet the highest standards of quality, integrity, and co-benefits. First ITMOs are set to be issued in Q3 2024. Finally, Vietnam increased its score (+5) after receiving [\\$51.5 million results-based payment](#) from the World Bank's Forest Carbon Partnership Facility for emissions reduced. Benefitting over 1300 forest communities, the programme also generated an additional 4.9 million tonnes of emission reductions that can be sold as high-integrity carbon credits. Turkey's score increase (+8) comes from post COP28 progress in defining [low-carbon pathways for hard-to-abate sectors](#), and preparing to launch its ETS in 2025.

This view illustrates the relative positions of countries with the highest VCM performance compared to other metrics. Each country's position is normalized from 0 to 1, with higher scores indicating better performance.

Top Carbon Market Performers Against Other Metrics



South Africa has maintained its lead in market performance over the past months, with a solid 75% of retirements, 8 project sectors represented and 72% of the market originating from CDM projects. Retirements and CDM project rates increased by 18% and 10%, respectively, in 1Q 2024 compared to 4Q 2023. In March 2024, the country exhibited advancements in political commitment to support VCM after the [treasury proposed increasing the national tax rate](#) from 190 rand (\$10.05) to 640 rand (\$33.86).

Singapore excelled in December, boosting its market efficiency from 17% in November 2023 to 135% in December 2023. In 1Q 2024, moreover, we saw 3 more project sectors become represented in the market (increasing to 6) while the percentage of CDM projects relative to other projects remained at 5%. The country is yet to issue further guidance on high-integrity 'International Carbon Credits' eligible for use against its carbon tax.

Article 6: Authorisations and Corresponding Adjustments

Authorization procedures for international carbon transfers under Article 6.2 of the Paris Agreement may set a demand signal for implied credits and impact their integrity. Users can leverage our data and analysis on the latest developments to track and forecast international carbon trading activities related to Article 6 agreements.

The first projects with Article 6 authorisations/Corresponding Adjustments by country

- **Rwanda:** GSR1023 Improved Cookstoves Programme for Rwanda) - Atmosfair gGmbH

- 37,134 v2021 issuances
- 19,065 v2022 issuances

VCS2749/VCS4150 DelAgua Clean Cooking Grouped Project in Rwanda - DelAgua Group

- 717, 558 v2021 credits purchased by Base Carbon

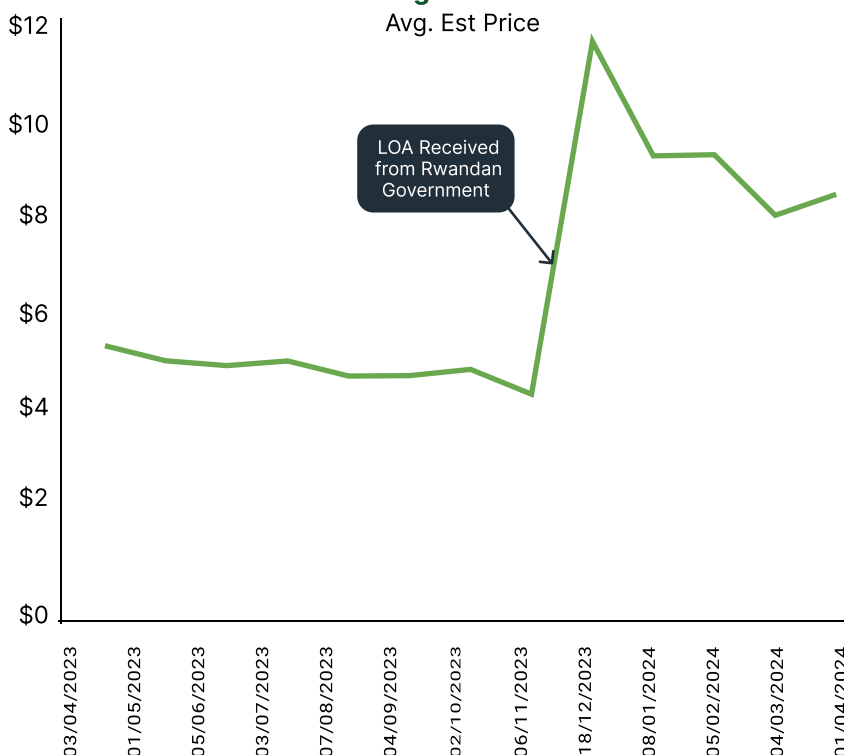
- **Tanzania:** GSR11323 UpEnergy-Social and Climate Impact Programme: Cooking Devices - UpEnergy Group

- Credits purchased by: Ecoeye (undisclosed fee)

- **Guyana:** ART102 Jurisdictional REDD+ project

- v2021 issuances eligible for CORSIA Phase 1

Price Premium of Article 6 Corresponding Adjustments: Delagua VCS2749



CORSIA: Currently, only 7.1 million vintage 2021 credits in the market are eligible for Phase 1 of CORSIA. Issued by the Government of Guyana's jurisdictional REDD+ project listed under the Architecture for REDD Transactions (ART) TREES, the credits have been given the commitment for corresponding adjustments as of January 2024. Following ACR and ART's unconditional approval by ICAO, there are several conditionally approved projects. 170 projects are active under conditionally approved programs (Cercarbono, CAR, VCS, GS), with 49.4 million credits issued.

Limited supply of correspondingly adjusted credits due to governments exercising caution on which projects to authorise. So far, Letters of Authorization (LOAs) and commitments for Corresponding Adjustments (CAs) have been awarded to 37 projects across the VCM, as the market is currently dominated by cookstove projects.

Three factors which may impact government decisions to apply corresponding adjustments:

1. Limited progress around the adoption of decisions relating to Article 6.4 (namely around methodologies, and operating principles) at COP28, after months of technical work by the 6.4 Supervisory Body (SB6.4).
2. Concerns around limited clarity on definitions of high quality or integrity credits from the VCM. The market awaits further guidance from industry initiatives, including the IC-VCM's Core Carbon Principle labels. In early April, Gold Standard and ACR were approved by the IC-VCM, with Verra set to be reassessed in coming weeks. The market expects the approval of methodologies to follow shortly after.

Limited infrastructural capacity for many developing economies have regarding monitoring, reporting and verification (MRV), and the tracking transaction activity of carbon assets. Decisions around which activities can be used to meet host country NDCs also play an important role.



AlliedOffsets is the world's largest data source for the voluntary carbon market. We have aggregated data from the world's leading carbon offsetting registries and our AI and advanced analytics layer allows us to identify unique insights into project pricing, quality, and much more. Our data is used by leading sustainability and carbon consultants, financial institutions, offsetting corporations, project developers, buyers, and academics.