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Argus Voluntary Carbon Markets

Market prices, news and analysis

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REDD+ CCB

Katingan trades in spades

Market sources reported a quartet of deals for credits generated by Indonesia's Katingan project.

A deal for an undisclosed volume of credits of Katingan's 2020 vintage was said to have been struck at levels just shy of \$4.50/t CO_{2e} late last week. Subsequently, another deal was heard for 100,000 credits of the same vintage at \$4.50/t CO_{2e}. Two deals were also heard for comparatively small lots of Katingan credits generated in 2019, the first for 2,000 credits at \$3.70/t CO_{2e} and the second for 5,000 struck at \$3.40/t CO_{2e}. Counterparties also looked to be inching closer to a deal for credits of the project's 2017 vintage, as a bid-offer spread narrowed from \$3 - \$3.50/t CO_{2e} to \$3 - \$3.30/t CO_{2e} by the end of the week, but no deal was reported.

A total of seven deals have now been sealed for Katingan credits so far in November in what has proved to be a marked uptick in demand for what was already one of the most liquid projects in the nature-based sector. Trade levels remain significantly discounted compared with the start of the year, however. This week's trade range of \$3.40 - \$3.70/t CO_{2e} for credits of the project's 2019 vintage is down from deals sealed for the same vintage at levels as firm as \$5.25/t CO_{2e} in February. Meanwhile, this week's \$4.50/t CO_{2e} trades for Katingan's 2020 vintage are down from deals for credits generated the same year at \$6/t CO_{2e} in February.

Elsewhere in Southeast Asia, several bid-offers spread for credits from Cambodia's Southern Cardmom project oscillated over the week, as some counterparties drew nearer to a deal and others strayed further from agreeing terms. One bid-offer spread for 50,000 credits of the project's 2020 vintage was seen in a range of \$0.50 - \$0.60/t CO_{2e}, tightening from \$0.35 - \$0.80/t CO_{2e} previously. A second bid-offer spread for 10,000 - 100,000 Southern Cardamom credits generated in 2019 surfaced in a range of \$0.30 - \$0.40/t CO_{2e}, firming on both the buy and sell side from \$0.20 - \$0.25/t CO_{2e} last week. A third bid-offer spread was otherwise reported for 10,000-25,000 credits of the projects' 2018 vintage in a range of \$0.15 - \$0.25/t CO_{2e}, widening from \$0.15 - \$0.20/t CO_{2e}. No deals for Southern Cardamom credits have been heard since the week ending 24 October, during which four were closed, two for the project's 2019 vintage and another two for its 2020 vintage.

PRICES

REDD+ CCB averages	\$/t CO _{2e}		
	28 Nov	21 Nov	Change
Latin America			
REDD+ v2018	2.99	3.00	-0.01
REDD+ v2019	3.45	3.47	-0.02
REDD+ v2020	4.22	4.23	-0.01
REDD+ v2021	4.67	4.68	-0.01
REDD+ v2022	5.19	5.20	-0.01
Southeast Asia			
REDD+ v2018	2.96	2.94	+0.02
REDD+ v2019	3.45	3.41	+0.04
REDD+ v2020	3.96	3.98	-0.02
REDD+ v2021	4.50	4.50	nc
REDD+ v2022	4.95	4.95	nc
Sub-Saharan Africa			
REDD+ v2018	1.43	1.43	nc
REDD+ v2019	1.78	1.78	nc
REDD+ v2020	2.05	2.05	nc
REDD+ v2021	2.40	2.40	nc
REDD+ v2022	2.73	2.73	nc

Sub-Saharan African REDD+ CCB projects	\$/t CO _{2e}		
	28 Nov	21 Nov	Change
Kasigau (Kenya) VCS 612			
Kasigau v2018	2.65	2.65	nc
Kasigau v2019	3.15	3.15	nc
Kasigau v2020	3.60	3.60	nc
Kasigau v2021	4.00	4.00	nc
Kasigau v2022	4.40	4.40	nc
Mai Ndombe (DRC) VCS 934			
Mai Ndombe v2018	0.20	0.20	nc
Mai Ndombe v2019	0.40	0.40	nc
Mai Ndombe v2020	0.50	0.50	nc
Mai Ndombe v2021	0.80	0.80	nc
Mai Ndombe v2022	1.05	1.05	nc

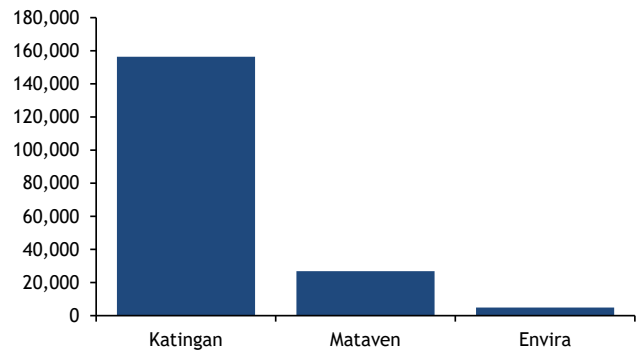
REDD+ CCB

Fresh buying interest surfaced in Latin America. A bid-offer spread for credits generated in 2017 by the Brazilian Envira project surfaced on 26 November in a range of \$1 - \$1.75/t CO₂e, before the offer was retracted the following day, while the bid remained in place at the same level. Sellers were also looking to offload credits of Envira's 2021 vintage at \$6/t CO₂e. Elsewhere in Brazil, sellers trimmed an offer for 50,000 credits of 2018 vintage from the Mataven project by \$0.05/t CO₂e to \$1.45/t CO₂e. And lastly in Peru, an offer for 18,000 credits of 2019 vintage from the Tambopata project was seen at \$7.80/t CO₂e, down by \$0.15/t CO₂e from previous levels.

In Sub-Saharan Africa, a bid-offer spread for 20,000 - 24,000 credits of 2020 vintage from the Mai Ndombe project based in Congo Kinshasa was seen in a range of \$0.45 - \$0.60/t CO₂e. Sellers were meanwhile looking for buyers for credits of 2020 vintage from the Kasigau project in Kenya at 3.90/t CO₂e for a batch of 20,000 and \$4.05/t CO₂e for an undisclosed volume.

Southeast Asian REDD+ CCB projects		\$/t CO ₂ e	
	28 Nov	21 Nov	Change
Katingan (Indonesia) VCS 1477			
Katingan v2018	3.35	3.35	nc
Katingan v2019	3.55	3.50	+0.05
Katingan v2020	4.50	4.45	+0.05
Katingan v2021	4.95	4.95	nc
Katingan v2022	5.45	5.45	nc
Rimba Raya (Indonesia) VCS 674			
Rimba Raya v2018	5.50	5.50	nc
Rimba Raya v2019	6.30	6.30	nc
Rimba Raya v2020	6.80	6.80	nc
Rimba Raya v2021	7.30	7.30	nc
Rimba Raya v2022	7.80	7.80	nc
Keo Seima (Cambodia) VCS 1650			
Keo Seima v2018	2.80	2.80	nc
Keo Seima v2019	3.60	3.60	nc
Keo Seima v2020	4.00	4.00	nc
Keo Seima v2021	4.45	4.45	nc
Keo Seima v2022	4.75	4.75	nc
Southern Cardamom (Cambodia) VCS 1748			
Southern Cardamom v2018	0.20	0.10	+0.10
Southern Cardamom v2019	0.35	0.25	+0.10
Southern Cardamom v2020	0.55	0.65	-0.10
Southern Cardamom v2021	1.30	1.30	nc
Southern Cardamom v2022	1.80	1.80	nc

Top three retirements

tCO₂

Latin American REDD+ CCB projects		\$/t CO ₂ e	
	28 Nov	21 Nov	Change
Envira (Brazil) VCS 1382			
Envira v2018	2.70	2.70	nc
Envira v2019	3.35	3.35	nc
Envira v2020	4.45	4.45	nc
Envira v2021	4.85	4.85	nc
Envira v2022	5.35	5.35	nc
Rio Anapu-Pacaja (Brazil) VCS 2252			
Rio Anapu-Pacaja v2018	0.75	0.75	nc
Rio Anapu-Pacaja v2019	0.85	0.85	nc
Rio Anapu-Pacaja v2020	1.65	1.65	nc
Rio Anapu-Pacaja v2021	1.95	1.95	nc
Rio Anapu-Pacaja v2022	2.30	2.30	nc
Mataven (Colombia) VCS 1566			
Mataven v2018	1.40	1.40	nc
Mataven v2019	2.10	2.10	nc
Mataven v2020	2.55	2.55	nc
Mataven v2021	3.05	3.05	nc
Mataven v2022	3.55	3.55	nc
Cordillera Azul (Peru) VCS 985			
Cordillera Azul v2018	2.85	2.85	nc
Cordillera Azul v2019	3.25	3.25	nc
Cordillera Azul v2020	3.60	3.60	nc
Cordillera Azul v2021	4.00	4.00	nc
Cordillera Azul v2022	4.50	4.50	nc
Tambopata (Peru) VCS 1067			
Tambopata v2018	7.25	7.30	-0.05
Tambopata v2019	7.70	7.80	-0.10
Tambopata v2020	8.85	8.90	-0.05
Tambopata v2021	9.50	9.55	-0.05
Tambopata v2022	10.25	10.30	-0.05

RENEWABLE ENERGY

Interest up, values down

Interest in renewable energy credits picked up over the week, with some sellers reportedly willing to forfeit margins in order to secure deals, which was said to have weighed on values in India and Turkey.

Buying interest strengthened in the past couple of weeks, as corporates scour the market in search of affordable credits to retire before the end of the year. Turkish renewable energy credits have recently take centre stage thanks to a combination of relatively high values in Brazil and buyer concerns over the accountability and integrity of projects located in China or India.

Some of the Turkish credit holders have decided to secure deals and potential future collaborations by selling credits at subdued levels, said one market participant, with credits of older vintages sold at values between \$0.65 and \$0.70/t CO₂e. Details on the specific vintages did not emerge. A fresh offers for an undisclosed volume of wind credits of 2018-2019 vintage from the Verra-hosted 1232 project was recently seen at \$0.70/t CO₂e. On more recent vintages, a buy tender for 70,000 wind credits of 2020 vintage was won with an offer at as low as \$0.92/t CO₂e. The transaction covers credits from a nonspecific Gold Standard-hosted project in the country. Meanwhile, other sellers kept their offers at relatively higher values, with two separate offers for similar-vintage wind credits from Gold Standard projects seen at \$1.30/t CO₂e and \$1.75/t CO₂e. The first offer was for 50,000 credits of 2021-2022 vintages from the Gold Standard 634 project, while the second was for 100,000 credits of 2022 vintage from the GS 1138 project. On Turkish hydro credits, offers were seen at levels around \$0.60/t CO₂e for large batches of 2020-2021 vintages from the Verra-hosted 534 and 536, 755 or 759 projects.

Buyers' recent preferences have brought sellers of Indian credits to further cut their offers. Two separate indications emerged both at \$0.71/t CO₂e for either 120,000 solar credits of 2022 vintage from the Verra-hosted 1890 project – down \$0.04/t CO₂e on the week – or 500,000 solar credits of 2022-2023 vintages from the Verra-hosted 1767 project. Similarly, offers for batches of 80,000 to 150,000 credits of 2021-2022 vintages from Indian wind projects under Verra came in at levels between \$0.71 and \$0.72/t CO₂e, with the latter offer down \$0.11/t CO₂e on the week.

In Brazil, a single offer emerged for 70,000 wind credits of vintages between 2018 and 2020 from the Verra-hosted 1812 project at \$3.90/t CO₂e.

PRICES

Renewable energy Brazil prices			\$/t CO ₂ e
	28 Nov	21 Nov	Change
Wind			
Wind v2020	4.05	4.05	nc
Wind v2021	4.10	4.10	nc
Wind v2022	4.35	4.35	nc
Solar			
Solar v2020	4.70	4.70	nc
Solar v2021	4.80	4.80	nc
Solar v2022	5.00	5.00	nc
Hydro			
Hydro v2020	2.15	2.15	nc
Hydro v2021	2.25	2.25	nc
Hydro v2022	2.35	2.35	nc
Renewable energy China prices			\$/t CO ₂ e
	28 Nov	21 Nov	Change
Wind			
Wind v2020	0.60	0.60	nc
Wind v2021	0.65	0.65	nc
Wind v2022	0.75	0.75	nc
Solar			
Solar v2020	0.70	0.70	nc
Solar v2021	0.80	0.80	nc
Solar v2022	0.90	0.90	nc
Hydro			
Hydro v2020	0.55	0.55	nc
Hydro v2021	0.65	0.65	nc
Hydro v2022	0.75	0.75	nc
Renewable energy India prices			\$/t CO ₂ e
	28 Nov	21 Nov	Change
Wind			
Wind v2020	0.55	0.55	nc
Wind v2021	0.60	0.60	nc
Wind v2022	0.65	0.65	nc
Solar			
Solar v2020	0.65	0.65	nc
Solar v2021	0.70	0.70	nc
Solar v2022	0.80	0.85	-0.05
Hydro			
Hydro v2020	0.40	0.40	nc
Hydro v2021	0.50	0.50	nc
Hydro v2022	0.60	0.60	nc
Renewable energy Turkey prices			\$/t CO ₂ e
	28 Nov	21 Nov	Change
Wind			
Wind v2020	0.90	1.20	-0.30
Wind v2021	1.05	1.25	-0.20
Wind v2022	1.10	1.30	-0.20
Solar			
Solar v2020	1.85	1.95	-0.10
Solar v2021	2.15	2.25	-0.10
Solar v2022	2.35	2.45	-0.10
Hydro			
Hydro v2020	0.50	0.50	nc
Hydro v2021	0.55	0.55	nc
Hydro v2022	0.70	0.70	nc

CLEAN COOKSTOVES

Asian, African values weaken

Values for credits originating from either Africa or Asia softened during the week, while some holders were trying to capitalise on the momentum offered by latest UN conference of the parties (COP29) held last week in Baku, Azerbaijan.

Several offers emerged for Ugandan cookstove credits at diverging values. One offer came in at \$3.70/t CO₂e for a large batch of 500,000 credits from 2021 vintage onwards generated by the Verra-hosted 3045 project. The offer was then followed by two much higher indications for credits from two other projects in the country, which claim letter of authorisations (LoAs), according to sources. Both offers were reported at as high as \$22.60/t CO₂e for 30,000 credits of 2021-2022 vintages from the Gold Standard-hosted 6831 project and/or 20,000 credits of same vintages from the Gold Standard-hosted 6604 project. Both offers had been previously circulated at levels around \$5/t CO₂e, suggesting an LoA might bring sellers to hike offers more than fourfold. A letter of authorisation under Article 6.2 of the Paris Agreement is to be released by the competent national authority to certify that the carbon credit can be transferred abroad as an international transfer of mitigation outcome (ITMO) and used by other members of the agreement towards their own nationally determined contribution (NDC), or by private companies for compliance and non-compliance purposes.

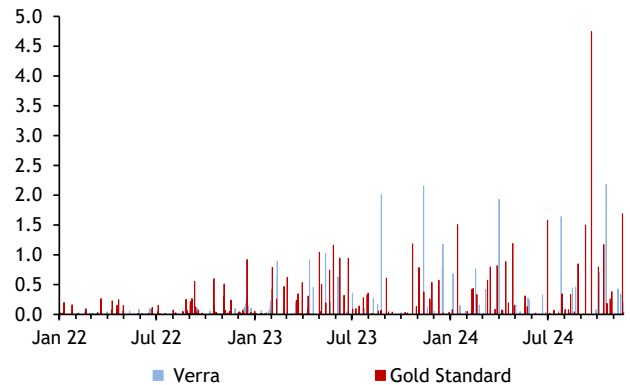
Other fresh offers for Africa clean cookstove credits were more akin to the initial indication, with an unknown volume of Nigerian credits of vintages from 2021 onwards from the Gold Standard-hosted 7312 project shown at similar \$3.70/t CO₂e. But a separate offer for Nigerian credits was reported much higher, at \$6.50/t CO₂e, for a nonspecific volume of 2022-vintage credits from the Gold Standard-hosted 11671 project. The project claims eight of the 17 UN sustainable development goals (SDGs), while the former, GS 7312, only three.

In Asia, holders of Indian credits were seeking buyers at levels well below latest market assessments. An offer for 200,000 credits of vintages from 2021 onwards from the Verra-hosted 2939 project was reported at as low as \$2.50/t CO₂e.

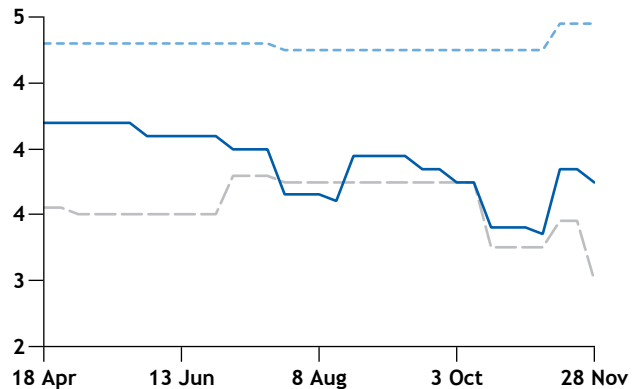
No information emerged on credits from projects located in Latin America.

Clean cookstoves prices		\$/t CO ₂ e	
	28 Nov	21 Nov	Change
Africa			
Clean cookstoves v2019+	3.75	3.85	-0.10
Asia			
Clean cookstoves v2019+	3.00	3.45	-0.45
Latin America			
Clean cookstoves v2019+	4.95	4.95	nc

Clean Cookstove issuances year to date *mn t/CO₂e*



Cookstoves V2019+ *\$/t CO₂e*



CLEAN COOKSTOVES CREDIT

Clean cookstoves issuances		
RENEW SAKHI - IMPROVED COOKSTOVES - 01 - V23, V24 ID "VCS 4229" - VMR0006 - India	205,769	
Promoting energy efficiency & clean cooking in Pemba - V22, V23 ID "GS 10806" - GS TPDDTEC v3.1 - Mozambique	10,000	
Clean cookstoves retirements		
African Biomass Energy Conservation PoA - Malawi Biomass Conservation (4) - V14 ID "GS 2446" - GS TPDDTEC v 1. - Malawi	8,393	
Improved Kitchen Regimes Manica Province Safe Water (Mozambique) - V23 ID "GS 7474" - GS TPDDTEC v 1. - Mozambique	4,821	

*last week updates (source: Verra & Gold Standard registries)

ARR, IFM & BLUE CARBON

Bid-offer spread tightens

Buyers and sellers were drawing closer to agreeing terms for credits from Pakistan's Delta Blue Carbon project.

A bid-offer spread for 10,000 - 20,000 credits of Delta Blue Carbon's 2021 vintage was reported in a range of \$24.65 - 26.85/t CO₂e, narrowing from \$24.75 - \$26.50/t CO₂e last week. Sellers meanwhile cut an offer for 50,000 credits of the same project's 2022 vintage by \$1/t CO₂e to \$28.50/t CO₂e. Delta Blue Carbon credits last traded back towards the start of November, when a small lot of 1,000 of its 2021 vintage changed hands at \$27/t CO₂e. That marked the fifth deal heard by Argus over the course of this year and a substantial decrease compared with trade levels at the onset of 2024. A very similar trade for the same number of credits also generated in 2021 by Delta Blue Carbon was struck at \$30/t CO₂e in early-January.

Activity on other projects types was relatively muted. In China, an offer for 50,000 credits of 2018 vintage from Verra's 1542 IFM project was reported at \$0.50/t CO₂e. Liquidity for IFM credits out of China has been heavily limited so far this year. The last deal was heard back towards the end of May, when a trade was struck for 50,000 credits of 2015 vintage from the Verra-hosted 1935 project at \$0.95/t CO₂e.

Meanwhile on ARR credits, an offer surfaced for credits of 2020 vintage from the Verra-hosted 1855 project based in the same country at \$4/t CO₂e. Sellers were also asking \$6.60/t CO₂e for a large lot of 160,000 credits generated in 2018 by Verra's 959 ARR project located in Uruguay.

ARR	\$/t CO ₂ e		
	28 Nov	21 Nov	Change
China			
China ARR v2018	2.55	2.55	nc
China ARR v2019	3.05	3.05	nc
China ARR v2020	3.70	3.70	nc
China ARR v2021	3.95	3.95	nc
China ARR v2022	4.75	4.75	nc
China ARR v2023	5.55	5.55	nc
Colombia			
Colombia ARR v2018	11.75	11.75	nc
Colombia ARR v2019	12.45	12.45	nc
Colombia ARR v2020	13.45	13.45	nc
Colombia ARR v2021	13.85	13.85	nc
Colombia ARR v2022	14.45	14.45	nc
Colombia ARR v2023	14.95	14.95	nc
Uruguay			
Uruguay ARR v2018	6.55	7.45	-0.90
Uruguay ARR v2019	7.65	8.25	-0.60
Uruguay ARR v2020	8.45	8.95	-0.50
Uruguay ARR v2021	9.35	9.75	-0.40
Uruguay ARR v2022	10.15	10.45	-0.30
Uruguay ARR v2023	11.05	11.25	-0.20

IFM	\$/t CO ₂ e		
	28 Nov	21 Nov	Change
China			
China IFM v2018	0.30	0.30	nc
China IFM v2019	0.90	0.90	nc
China IFM v2020	1.50	1.50	nc
China IFM v2021	2.10	2.10	nc
China IFM v2022	3.00	3.00	nc
China IFM v2023	3.50	3.50	nc
US			
US IFM v2018	10.15	10.15	nc
US IFM v2019	10.95	10.95	nc
US IFM v2020	11.50	11.50	nc
US IFM v2021	11.80	11.80	nc
US IFM v2022	12.70	12.70	nc
US IFM v2023	13.00	13.00	nc

Delta Blue Carbon	\$/t CO ₂ e		
	28 Nov	21 Nov	Change
Delta Blue Carbon			
Delta Blue Carbon v2018	25.20	25.20	nc
Delta Blue Carbon v2019	25.45	25.45	nc
Delta Blue Carbon v2020	26.40	26.40	nc
Delta Blue Carbon v2021	26.65	26.80	-0.15
Delta Blue Carbon v2022	27.85	27.85	nc
Delta Blue Carbon v2023	28.35	28.35	nc

ICVCM's CCP-APPROVED

Activity muted

Activity was this week relegated to solely Bangladesh, as both buying and selling interest in other regions appeared to fall off.

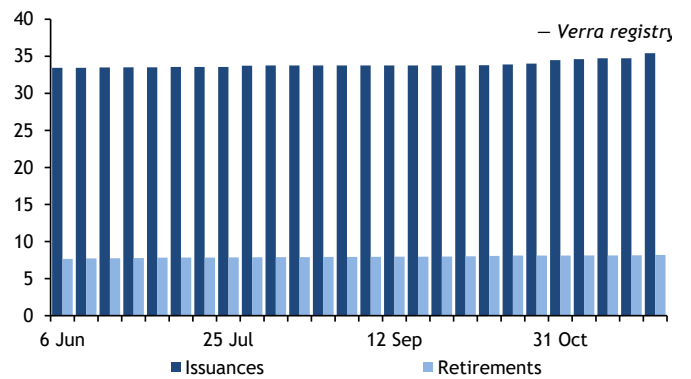
Buying interest resurfaced for credits from Verra's 2478 methane reduction project located in Bangladesh, with a bid for an undisclosed number generated in 2018 and 2019 seen at \$1/t CO2e. At the start of this month, a bid-offer spread had emerged for credits the same two vintages surfaced in a range of \$1.10 - \$1.40/t CO2e, with the bid being retracted mid-way through November. The bid has now re-emerged at a \$0.10/t CO2e discount but the offer has this week been removed.

Meanwhile, a bid-offer spread for a similarly unknown number of credits of vintages 2019 and 2020 from the same project was heard in a range of \$1.20 - \$1.50/t CO2e, narrowing from \$1.20 - \$1.65/t CO2e previously. This spread was initially reported back towards the end of October in a wider range of \$0.75 - \$2/t CO2e. The bid level reached a high of \$1.55/t CO2e during the first week of November but has since eased and remained steady at \$1.20/t CO2e for the past two weeks.

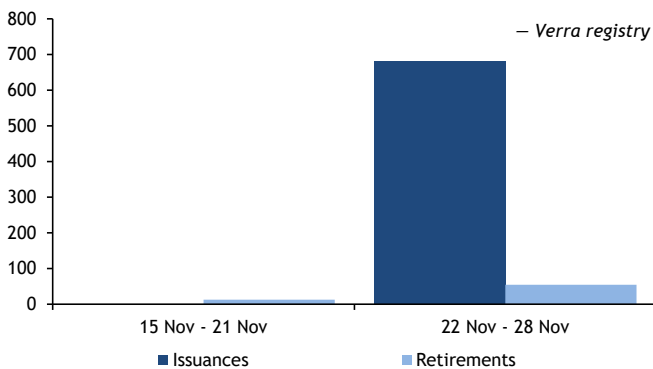
Despite Verra's 2478 project securing approval for the Integrity Council for the Voluntary Carbon Market's CCPs in June, no deals have been reported for its credits, notwithstanding relatively persistent demand. The project's credits changed hands four times over the first four months of this year, with the last deal heard back in mid-April when 20,000 credits of its 2020 vintage traded at \$1.50/t CO2e.

CCP-approved credits	\$/t CO2e		
	28 Nov	21 Nov	Change
Landfill Gas (LFG) US			
LFG US Verra 2020+	5.50	5.50	nc
LFG US Gold Standard 2020+	6.50	6.50	nc
LFG US ACR 2020+	8.00	8.00	nc
LFG US CAR 2020+	5.55	5.55	nc
Landfill Gas (LFG) China			
LFG China Verra 2020	1.50	1.50	nc
LFG China Gold Standard 2020	2.50	2.50	nc
Landfill Gas (LFG) Brazil			
LFG Brazil Verra 2020	4.90	4.90	nc
LFG Brazil Gold Standard 2020	6.20	6.20	nc
Methane			
Methane Bangladesh Verra 2020+	1.90	1.90	nc

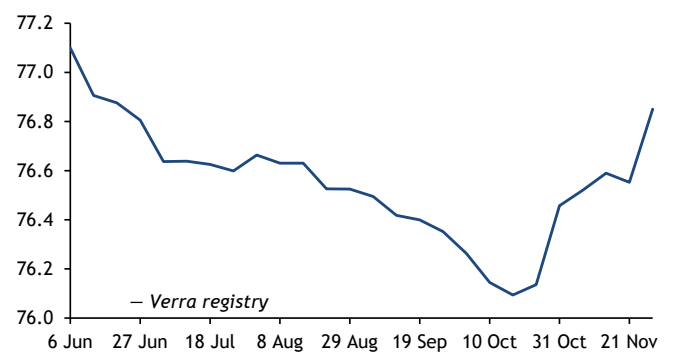
Total CCP credits issuances/retirements *mn t CO2*



CCP credits issuances/retirements *'000 t CO2*



Available CCP credits (pc of total issued)



WIDER CARBON

Biomass credits trade in India

A deal was struck for credits from one of India’s biomass projects, while ample selling interest for wind credits from Thailand and Mexico emerged.

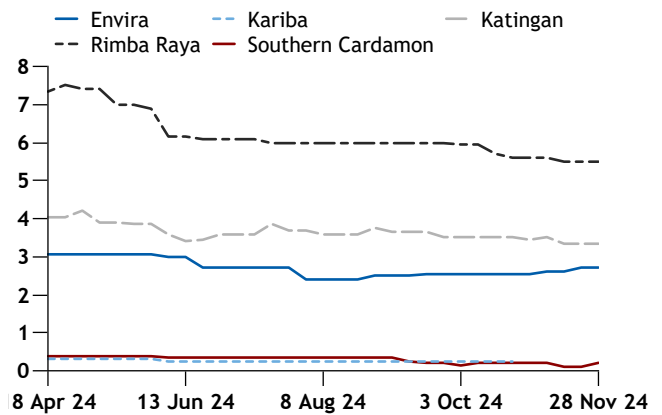
A bid-offer spread was reported early in the week for 20,000 credits of 2020 vintage from the Verra-hosted 1315 biomass project based in India at \$0.70 - \$1/t CO₂e. On 25 November, a deal was agreed at \$0.75/t CO₂e. The project, which was registered with Verra in 2014, has issued a total of 304,000 credits across all its 2012-2021 vintages. Its 2020 vintage has issued just under 30,000 credits, while the vintage with the most issued credits so far is 2017 at just shy of 42,000. Sellers were also asking \$0.80/t CO₂e for 41,000 credits of vintages 2020-2021 from Verra’s 1744 biomass project also located in India.

Holder of wind credits in Thailand and Mexico were otherwise keen to offload credits from a plethora of different projects. Five offers were heard for credits batches ranging from 52,000 - 60,000, all of 2023 vintage and all at the same level of \$3.50/t CO₂e from Verra’s 1999, 1997, 2000, 2001 and 2002 project located in Thailand. Meanwhile in Mexico, three offers surfaced for 100,000 or more credits each of 2021 vintage at the same level of \$3.30/t CO₂e from the same registry’s 1041, 1042 and 1043 projects. Offers for wind credits also surfaced in Pakistan and Argentina, where sellers were asking \$2.95/t CO₂e for 14,000 credits of vintages 2021-2022 from Gold Standard’s 3511 project and \$3.35/t CO₂e for 2021-vintage credits from Verra’s 1820 project, respectively.

Elsewhere on tech-based credits, an offer emerged for just under 40,000 credits of 2013 vintage from Gold Standard’s 707 landfill gas project based in Turkey at \$1.10/t CO₂e. Sellers were also looking to tap into demand for an undisclosed number of credits generated in 2020 by the Verra-hosted 2569 geothermal project in China at \$1.85/t CO₂e.

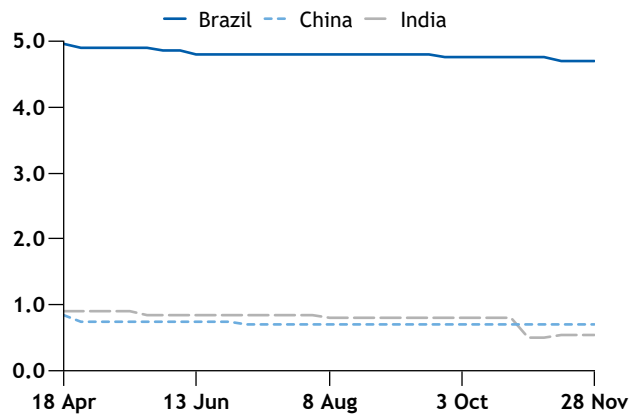
Project specific v2018

\$/t CO₂e



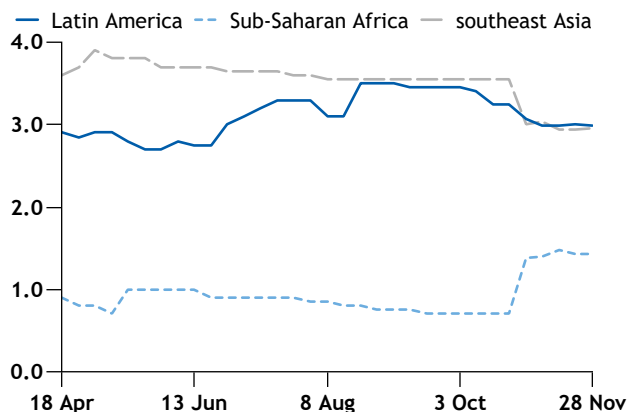
Renewable Energy (RE) V2020

\$/t CO₂e



REDD+ CCB V2018

\$/t CO₂e



NEWS AND ANALYSIS

Cop: Carbon market rules adopted

Countries at the UN Cop 29 climate talks in Baku, Azerbaijan, on late Saturday adopted the rules for international carbon trading under the Paris Agreement, a rare bright spot in contentious negotiations that have dragged on well past their scheduled end.

After adopting rules for Article 6.2 and Article 6.4 of the Paris Agreement during a late evening plenary, ministers and negotiators applauded in recognition of their efforts. The decisions come a year after the carbon market rules were supposed to have been adopted at Cop 28 in Dubai, nine years after Cop 29 in Paris, and about 24 hours after the Baku talks were scheduled to end.

“We have ended a decade-long wait and unlocked a critical tool for keeping 1.5 degrees in reach,” Cop 29 president Mukhtar Babayev said. “Climate change is a transnational challenge and Article 6 will enable transnational solutions. Because the atmosphere does not care where emissions savings are made.”

Article 6.2 and Article 6.4 govern how countries can use carbon credits to meet their greenhouse gas (GHG) emissions-reduction pledges, known as nationally determined contributions (NDCs). Article 6 aims to help set rules on global carbon trade.

Article 6 discussions helped get Cop 29 off to a positive start, with the adoption of key standards for the creation of carbon credits under the Paris accord. But after that, negotiators still had to resolve a number of issues, most notably the design of an international registry to keep track of the credits.

The talks ultimately settled on a “dual layer” approach, agreed to create a registry to issue and trade credits that would be run by the UN and would be separate from the Article 6 registry, which would only serve an accounting function. The text also says that the inclusion of any emissions credits – known as internationally transferable mitigation outcome (Itmo) units – in the UN registry does not represent any sort of validation of their environmental integrity, in response to concerns raised by the US and others.

Further refinements were made to the decision text over the last three days before the Saturday night decision, including the details on what countries need to include in electronic reporting of the credits.

Carbon market supporters have generally backed the Baku texts, although some do not agree with all of the details. But they say the text does not harm or constrain international carbon trading, meeting their main objective for Baku.

Saturday standoff

But Cop 29 has reached a stalemate in negotiations on a new climate finance goal, as developed and developing countries struggle to bridge a huge divide on how much the latter should receive from the former. The lack of progress has raised the possibility the talks could collapse and end without any agreement at all.

“This is the final stretch you have all been working very hard and I know that none of us want to leave Baku without a good outcome,” Babayev said. “However, time is not on our side.”

The cop presidency suspended the plenary after the Article 6 decisions to give countries more time to try to reach an agreement, saying it would resume “later tonight.”

Earlier in the evening, delegates from the Alliance of Small Island States (AOSIS) and the Least Developed Countries (LDCs) group staged a temporary walkout to protest what they say has been a process that lacks inclusion.

“The process is not including us as much as it should be, and when it does, and we provide input, our inputs are being ignored,” said Evans Njewa, a Malawai environment official who chairs the LDC Group.

The most recent negotiating text, released on Friday, angered developing country officials by proposing that developed economies provide \$250bn/yr in climate finance by 2035, from a broad range of sources, not just public funds.

Developing economies earlier this week floated numbers of \$440bn-\$600mn/yr for a public finance layer. They also called for \$1.3 trillion/yr in total climate finance from developed countries, a sum which the latest draft instead calls for “all actors” to work toward.

As a potential compromise, some countries, including Brazil and Somalia, have suggested at least \$300bn/yr and up to \$350bn/yr or \$390bn/yr.

Further eroding trust among delegates were reports that an official from Saudi Arabia had been allowed to make changes to negotiating text.

“At Cop 29, we are witnessing a geopolitical power play by some fossil fuel states at the expense of the poorest. As the EU, we strongly oppose abandoning the path set in Dubai,” German foreign affairs minister Annalena Baerbock said.

By Michael Ball

Cop: Talks leave ‘mountain of work’ for Brazil

The UN Cop 30 climate talks in Brazil next year may take on a new level of importance after countries at the now-completed Cop 29 in Baku, Azerbaijan, left some significant

NEWS AND ANALYSIS

issues on the table, most notably now to keep the world on track to meet the goals of the Paris Agreement.

Negotiators in Baku completed their work just after 05:30 local time (01:30 GMT) on Sunday – nearly a day and a half after the scheduled end of the Cop – with a deal on climate finance that has left developing countries furious.

The Indian negotiator called the agreement, which the country opposed after it was gavelled, "nothing more than an optical illusion". She complained that the text was adopted even though they had informed the secretariat they wanted to make a prior statement. Nigeria and Bolivia came out in support to India to say they were rejecting the deal, with the latter calling the agreement "an insult".

Known as the new collective quantified goal (NCQG), the deal sets a target of "at least" \$300bn/yr for developing countries by 2035, with developed countries "taking the lead". The goal is meant to build on the \$100bn/yr that developed countries agreed to deliver to developing countries over 2020-25. The finance will come from "a wide variety of sources, public and private, bilateral and multilateral, including alternative sources".

This is more than the \$250bn/yr first proposed by developed countries. But this is well below the \$1.3 trillion, including \$440bn-600bn/yr in public finance mostly in grants and concessional finance, sought by developing economies.

The delegations salvaged what for a time appeared to be doomed talks with two groups temporarily walking out of the negotiations. But developing countries indicated that the Baku deals falls short of what they need to deal with climate change and support their energy transition.

"They were never going to be enough," special envoy for climate change and environment for Vanuatu Ralph Regenvanu said. "And even then, based on our experience with such pledges in the past, we know they will not be fulfilled," he said.

India's negotiator pointed to the "unwillingness from developed countries to fulfill their responsibilities". This will severely impact growth in developing nations, she added.

EU climate commissioner Wopke Hoekstra, the only developed party to take the floor just after the finance deal was agreed, said that increasing the goal three-fold, from \$100bn/yr, "is ambitious, needed, realistic and achievable". He said that with the help of the multilateral development banks (MDBs), the bloc is confident \$1.3 trillion/yr of climate finance for developing economies could be reached.

Baku to Belem

The finance deal agreed in Baku calls on all actors "to enable the scaling up of financing" from all public and private sources

to at least \$1.3 trillion per year by 2035. A "Baku to Belem Roadmap to \$1.3 trillion", was launched to that effect.

The other major decision to come out of Baku was the adoption of the rules that will operationalise the international carbon market under Article 6 of the Paris Agreement.

Progress on the implementation of the first global stocktake – the main outcome document from Cop 28, which included the historic call to transition away from fossil fuels – was left for next year.

The talks failed to overcome a broad north-south divide and were hampered by the finance talks and efforts by some delegations to undo past decisions.

Developed countries called for stronger global action on emissions reductions, but developing nations responded that they cannot implement an energy transition without adequate finance. Many Latin American and African nations, as well as island states, also complained during the talks about the lack of mitigation ambition.

But countries including Saudi Arabia opposed including language on fossil fuels, or any mention that countries should undertake deep emissions cuts. India even pushed back on the 1.5°C temperature limit of the Paris Agreement, which was reinforced in Dubai last year.

The rejected draft text for the stocktake reaffirms "the need for deep, rapid and sustained reductions in greenhouse gas emissions in line with 1.5 °C pathways". It refers to the energy package without going into details, and keeps the door open to "transitional fuels".

Parties will revisit mitigation next year in Belem, leaving Baku "with a mountain of work to do," according to UN climate body UNFCCC executive secretary Simon Stiell.

Mitigation was always going to be the focus of Cop 30, particularly with countries due to submit their new emissions-reduction pledges, or nationally determined contributions (NDCs), to the UNFCCC by February. But the struggle in Baku could bring new pressure to the Brazilian government. The country's environment minister Maria Silva on Saturday warned that failure in Baku would likely damage the UN process, especially with the US, one of the world's leading emitters, expected to exit the Paris Agreement again after former president Donald Trump takes office in January.

By Michael Ball and Caroline Varin

CER expects to issue over 6mn ACCUs in 4Q

Australia expects to issue more than 6mn Australian Carbon Credit Units (ACCUs) over October-December, taking the total supply in 2024 to around 19mn, down from its previous estimate of 20mn units.

A total of around 15.5mn ACCUs had been issued as of 20 November, Australia's Clean Energy Regulator (CER) said on 28 November, with 4.6mn applications on hand. This implies that about 1.3mn units were issued over 28 October-20 November, with the latest fortnight data showing 14.2mn issues so far in 2024 as of 27 October.

"ACCU supply could still get to our earlier estimate of about 20mn for 2024 if all current applications on hand are sound and all requests for further information are responded to promptly," the CER said. But the regulator noted this would still surpass the record of 17.7mn in 2022.

If the issuance of ACCUs surpasses 6mn units in the fourth quarter, this would be the second highest ever, only below 7mn recorded in the third quarter of 2023, according to CER data.

Record ACCU transfers

Spot ACCU prices surged earlier in November, from the low of A\$39.50-39.60 (\$25.60-25.70) on 7 November to as high as A\$42.70-42.75 on 19 November across generic and human-induced regeneration (HIR) ACCUs.

"Market intelligence indicates the cause was very high levels of activity from safeguard entities as they prepare for the first compliance period under the reformed safeguard mechanism and some accumulate for future years," according to the CER.

Market activity was already strong in the third quarter, with a record 961 transfers of ACCUs between accounts in the Australian National Registry of Emissions Units (ANREU), according to data released by the CER for the first time on 28 November. These transfers accounted for 21.27mn ACCUs, below a record volume of 25.33mn in the previous quarter (*see chart*).

Much of the expected supply 6mn+ ACCUs in the fourth quarter may be already secured for safeguard, voluntary demand and carbon abatement contract (CAC) deliveries to the federal government and "not necessarily readily available on the spot market," the CER warned.



While safeguard entities do not need to hold and surrender ACCUs from their own registry accounts – as they can have other companies to do so on their behalf – the CER believes "there are still entities that need" to secure supply to comply with their surrender obligations by 31 March 2025.

But prices eased over the past week, with spot deals reported below A\$41 on 28 November. A near-term downside pressure is expected following the recent buying surge. This, coupled with uncertainties over the volume of the forthcoming safeguard mechanism credits (SMCs), which are to be created and used for the July 2023-June 2024 compliance year, could add further pressure, according to sources.

By Juan Weik

Voluntary Carbon Market Glossary


- ACCU – Australian Carbon Credit Unit. 1 ACCU = 1t of CO₂e.
- ACR – American Carbon Registry.
- Additionality – confirmation that a project would not have been financially feasible without carbon credit revenues.
- Afforestation – planting of new plants/trees/forests on land that has not previously hosted forests.
- ARR – Afforestation, Reforestation and Revegetation.
- Article 6 – a Paris Agreement provision that allows countries to co-operate with each other to achieve their NDCs.
- Avoidance/Reduction – credits generated by projects that reduce GHG emissions by using nature- or tech-based methods.
- BECCS – Bioenergy with Carbon Capture and Storage: a technology to capture and store CO₂ from industrial processes turning biomass into fuels or directly burning it to generate energy.
- Biochar – charcoal-like carbon-rich material produced by heating biomass in an oxygen-limited environment (pyrolysis).
- Blue Carbon – carbon captured by living organisms, such as mangroves, in coastal and marine areas.
- CA – Corresponding adjustment: a label to ensure offsets are not double-counted by two countries towards their own NDCs.
- CAR – Climate Action Reserve, a carbon registry.
- Carbon Insetting – financing of climate protection projects across a company's own value chain.
- CCB – Climate, Community, and Biodiversity standards certifying a project is tackling climate change, while supporting local communities and biodiversity.
- CCP + AF – Core Carbon Principles + Assessment Framework: threshold standards (CCPs) and guidance (AF) set by the ICVCM to promote high-quality carbon credits.
- CCS – Carbon Capture and Storage: process to separate and store CO₂ from industrial and energy sources.
- CDM - Clean Development Mechanism: Kyoto Protocol's article 12 mechanism for supplying CERs to investors funding carbon projects in developing countries.
- CDR – Carbon Dioxide Removal.
- CER – Certified Emission Reduction: emission reduction certificate generated by CDM projects.
- COP – Conference of the Parties: annual conference of the parties to the UN Framework Convention on Climate Change.
- CORSIA – Carbon Offsetting and Reduction Scheme for International Aviation.
- DACC+S – Direct Air Carbon Capture and Storage: a process to extract CO₂ from the atmosphere and permanently store it in geological formations.
- ERPA – Emission Reduction Purchase Agreement.
- ETS – emissions trading system; EU ETS – European Union Emissions Trading System.
- EUA - European Union Allowance: Europe's emission allowances which are tradable under the EU ETS. 1 EUA = 1t of CO₂e.
- GHG – greenhouse gas.
- GS – Gold Standard, a carbon registry.
- HFC – hydrofluorocarbon, a greenhouse gas
- ICVCM – Integrity Council for the Voluntary Carbon Market: an initiative to enforce standards of ethics, sustainability and transparency.
- ICROA – International Carbon Reduction and Offset Alliance.
- IETA – International Emissions Trading Association.
- IFM –Improved Forest Management.
- LDC – least developed country, classified by the United Nations.
- MRV – Monitoring, Reporting and Verification on carbon projects
- N₂O – nitrous oxide, a greenhouse gas.
- Nature-based carbon credit – generated from projects seeking to protect, restore or manage natural ecosystems.
- NDC – Nationally Determined Contribution: a climate action plan to cut emissions that applies to the Paris Agreement's parties.
- Permanence – The indefinite longevity of a project's emission reduction or removal as well as the guarantee that should there be any reversal this will be fully compensated.
- REDD+ – Reducing Emissions from Deforestation and Forest Degradation.
- Reforestation – restoration of existing forests via tree planting on areas where the number of trees has been decreasing.
- Removal – credits generated from nature- or tech-based projects that remove GHG emissions from the atmosphere.
- Revegetation – replanting/rebuilding the soil of distressed land.
- Scope 1,2 & 3 Emissions – the scopes categorise/measure a company's greenhouse gas emissions.
- Scope 1 – direct emissions from sources owned or controlled by the organisation, such as a fleet of vehicles.
- Scope 2 – indirect emissions from the production of electricity purchased/consumed by the company.
- Scope 3 – any other indirect emissions not produced by the company or as a result of activities from assets owned by it.
- SDGs – Sustainable Development Goals: UN's 17 objectives to end poverty, reduce inequality and tackle climate change, for which carbon projects can apply to receive additional accreditation.
- t/CO₂e – tonne of carbon dioxide equivalent. 1 credit = 1t of CO₂e.
- Technology-based carbon credit – generated by the reduction or removal of emissions through the use of technologies.
- VCM – Voluntary Carbon Markets.
- VCMI – Voluntary Carbon Markets Integrity Initiative: aims to enhance integrity by providing guidelines on carbon credits' use.
- VCS – Verified Carbon Standard, a credit programme managed by Verra.
- VER – Voluntary Emissions Reduction.
- Verified Carbon Unit (VCU) – credit listed on the Verra registry.
- Verra – Non-profit organisation hosting VCS programme and a carbon registry.
- Vintage – year of CO₂e emission reduction or removal.
- VVB – Validation/ Verification Body, used by carbon registries.

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Change to regional REDD+ CCB prices

Following consultation, Argus' regional REDD+ CCB prices are the average of relevant project-specific prices.

The projects included in the regional averages are:

Latin America

- Envira (Brazil) VCS 1382
- Rio Anapu-Pacaja (Brazil) VCS 2252
- Mataven (Colombia) VCS 1566
- Cordillera Azul (Peru) VCS 985
- Tambopata (Peru) VCS 1067

Southeast Asia

- Katingan (Indonesia) VCS 1477
- Rimba Raya (Indonesia) VCS 674
- Keo Seima (Cambodia) VCS 1650
- South Cardamom (Cambodia) VCS 1748

Sub-Saharan Africa

- Kasigau (Kenya) VCS 612
- Mai Ndombe (DRC) VCS 934

Any new REDD+ CCB project-specific price assessments introduced by Argus will be included in the relevant



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Registered office
Lacon House, 84 Theobald's Road,
London, WC1X 8NL
Tel: +44 20 7780 4200

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Publisher
Adrian Binks

Global compliance officer
Vladas Stankevicius

Chief commercial officer
Jo Loudiadis

President, Expansion Sectors
Christopher Flook

Global head of editorial
Neil Fleming

Editor in chief
Jim Washer

Managing editor
Andrew Bonnington

Editor
Nicola De Sanctis
Tel: +44 20 7199 5696
nicola.desanctis@argusmedia.com

Customer support and sales:

support@argusmedia.com
sales@argusmedia.com

London, Tel: +44 20 7780 4200

Houston, Tel: +1 713 968 0000

Singapore, Tel: +65 6496 9966



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