

Driving Ambition for Carbon Neutrality



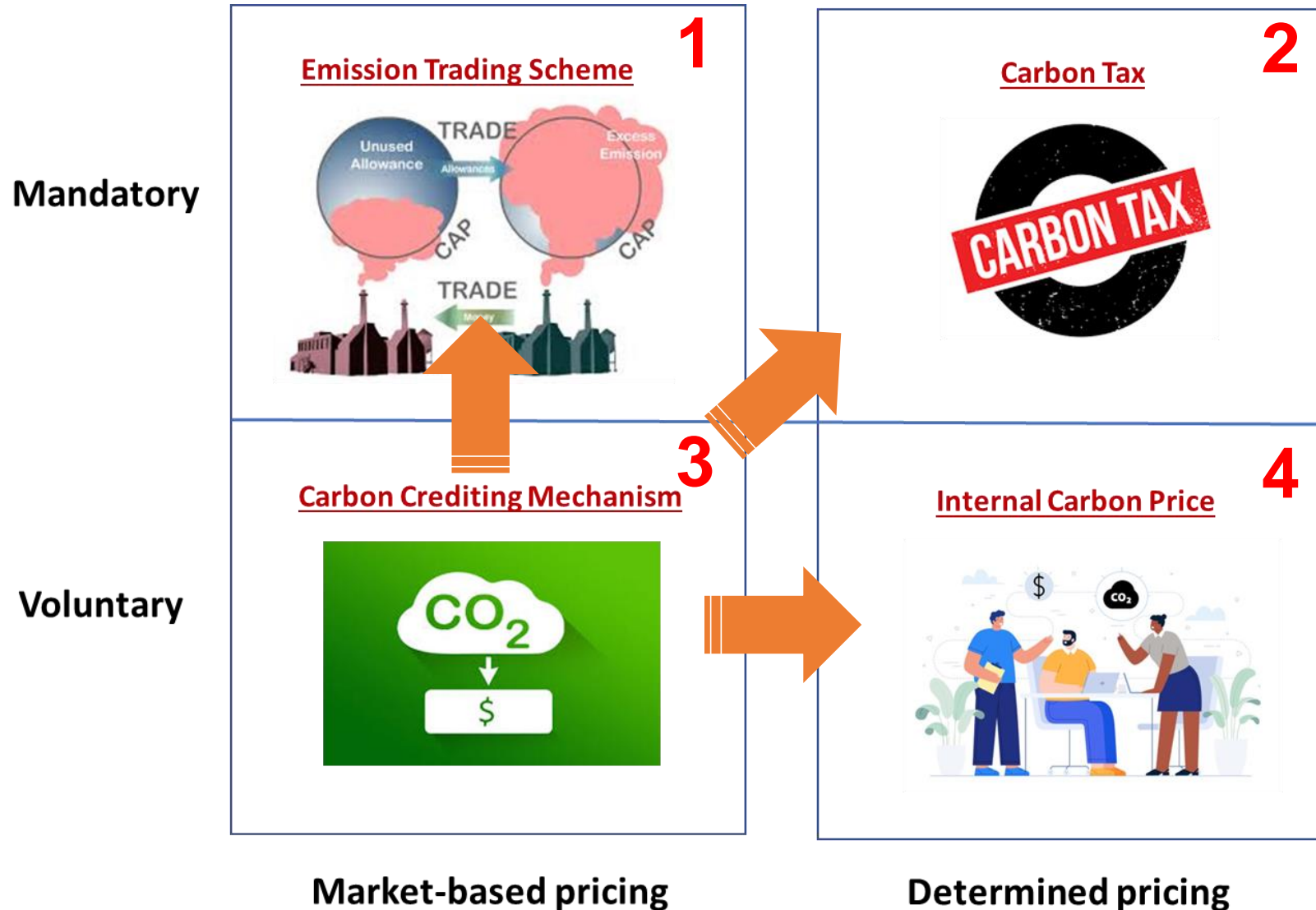
“ทิศทาง แนวโน้ม และตลาดคาร์บอนระดับสากล”

งานเปิดตัว Premium TVER วันที่ 4 ต.ค. 10.30-11.00

นพรัตน์ พรหมอินทร์ ผู้จัดการกลุ่มงานตลาดคาร์บอน อบก.

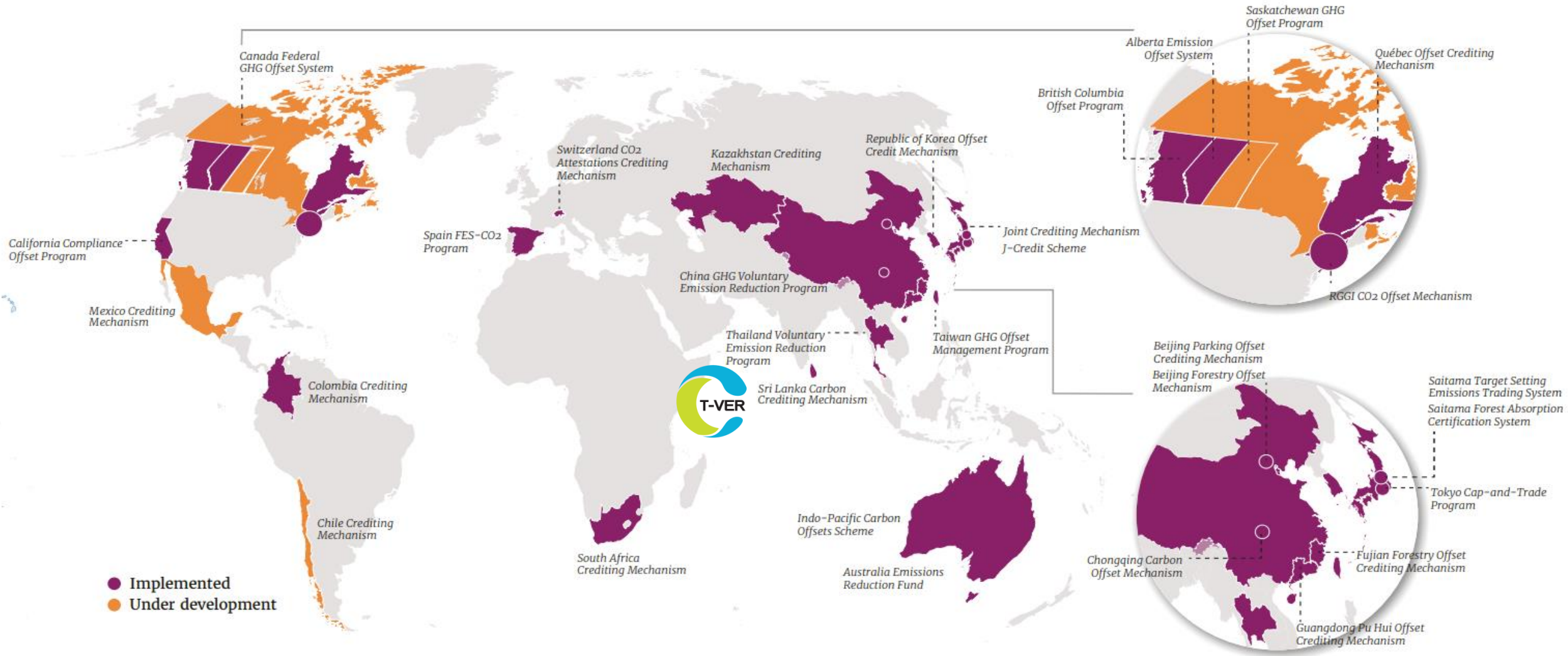
องค์การบริหารจัดการก๊าซเรือนกระจก
(องค์การมหาชน)

www.tgo.or.th

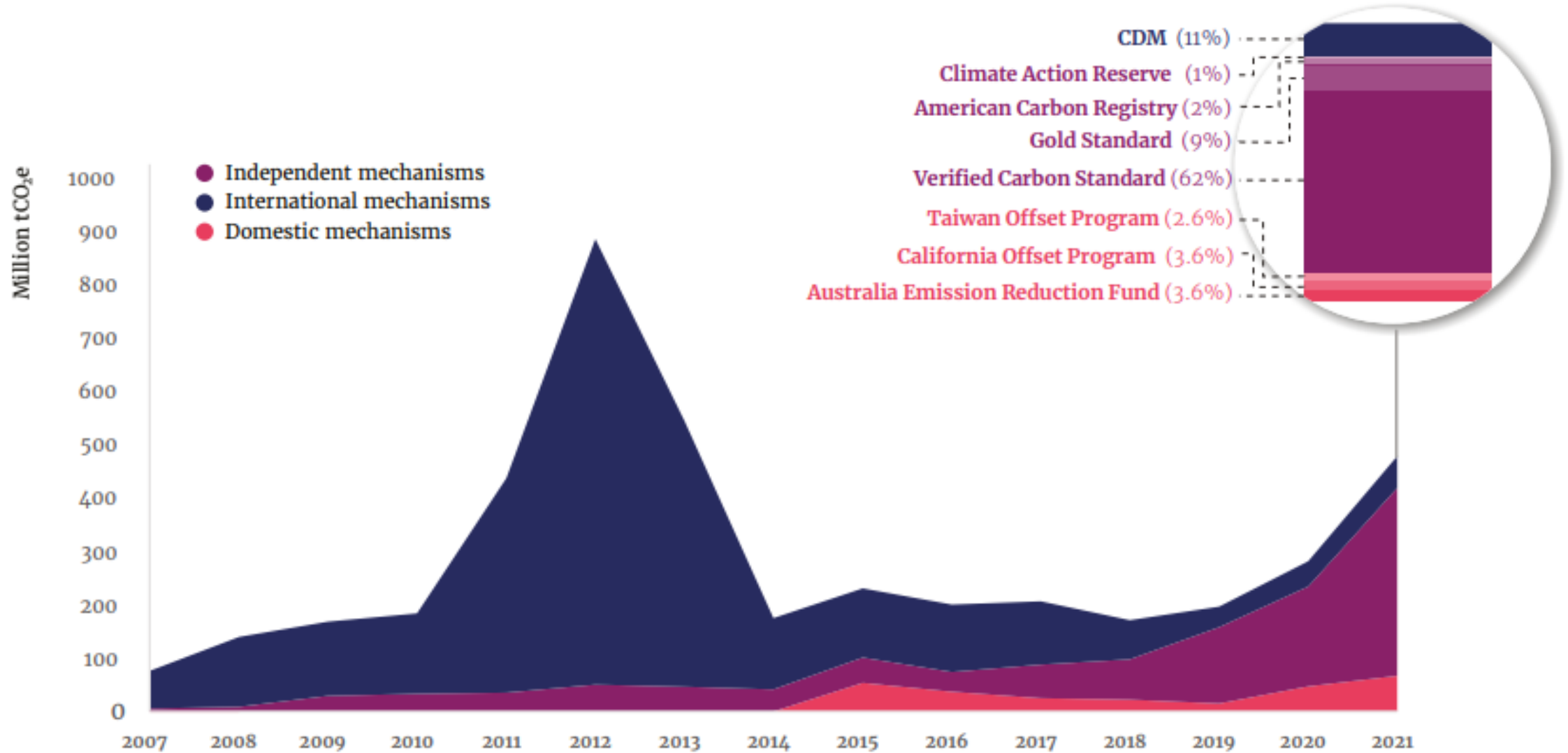


Source: Creagy 2022

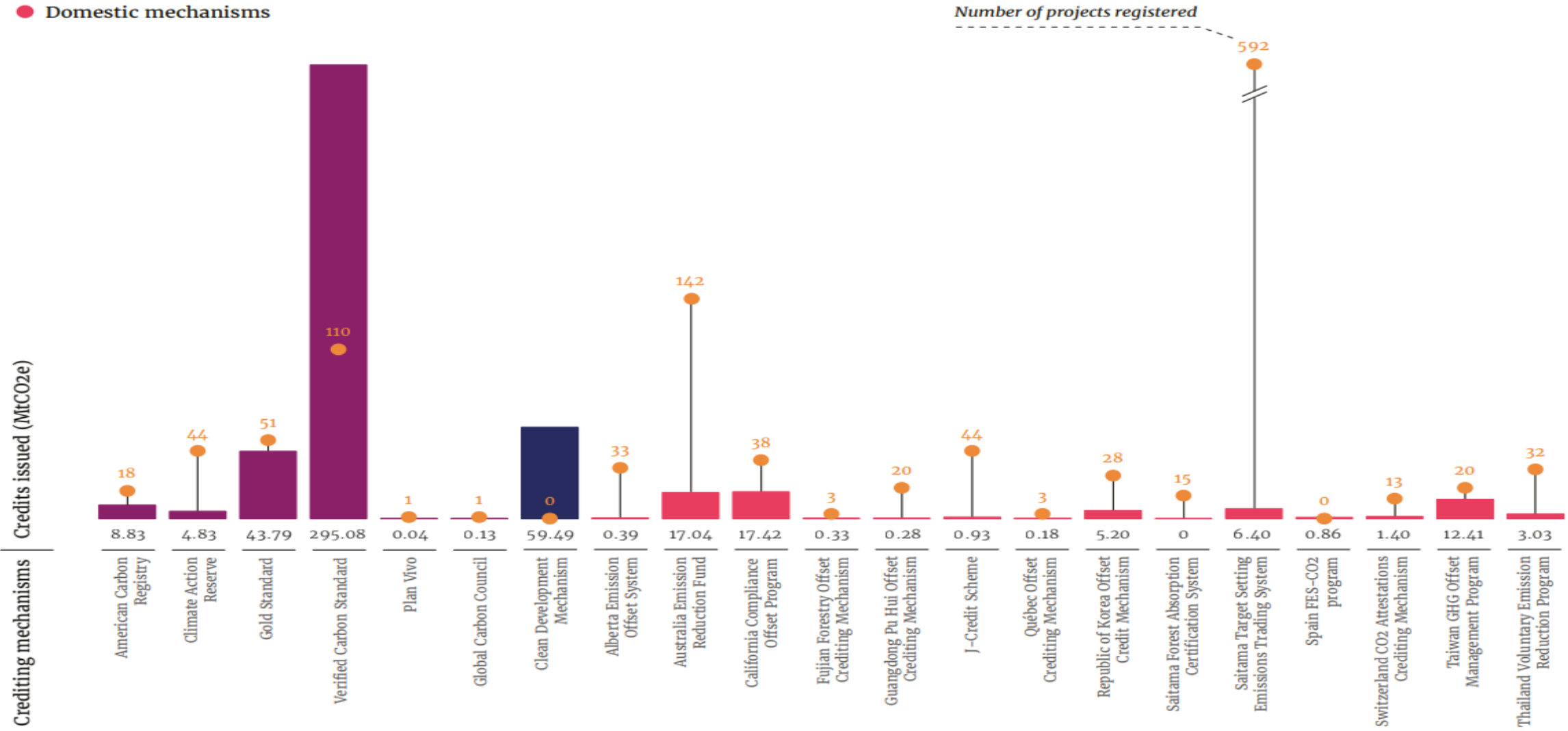
Remark: 1, 2, 3 = external carbon pricing 4 = Internal carbon pricing



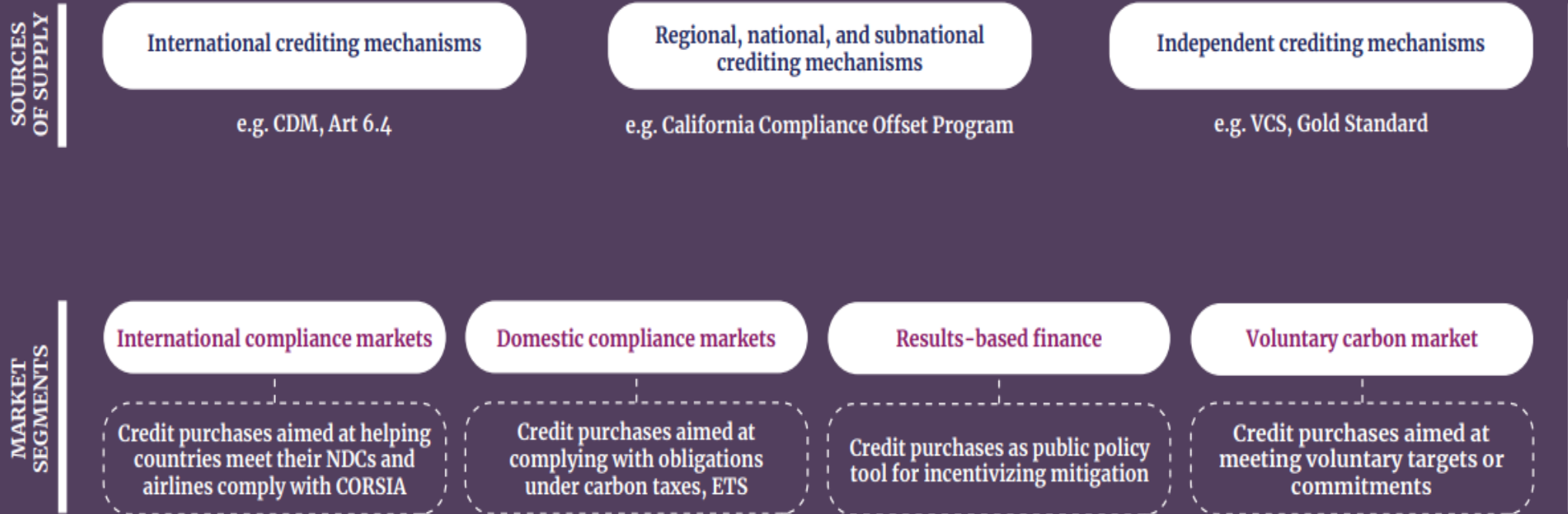
Circles represent crediting mechanisms in subnational jurisdictions and cities. "Implemented" crediting mechanisms have the required framework (e.g., legislative mandate) as well as the supporting procedures, emission reduction protocols and registry systems in place to allow for crediting to take place.



- Independent mechanisms
- International mechanisms
- Domestic mechanisms



*There is potential for overlap where domestic mechanisms rely on credits initially issued by other existing mechanisms.



xxxii Due to the heterogeneity and interaction between the different carbon markets (described in Box 7) there may be a potential overlap between issuances from international and independent mechanisms with domestic mechanisms, as some jurisdictions reissue credits from independent mechanisms where they meet specific domestic criteria. To reduce this duplication, issued credits registered in more than one registry are accounted for under the relevant domestic mechanisms (e.g., credits issued by the Climate Action Reserve and American Carbon Registry that meet specific requirements to be used in the cap-and-trade are counted for by the California Offset Program).

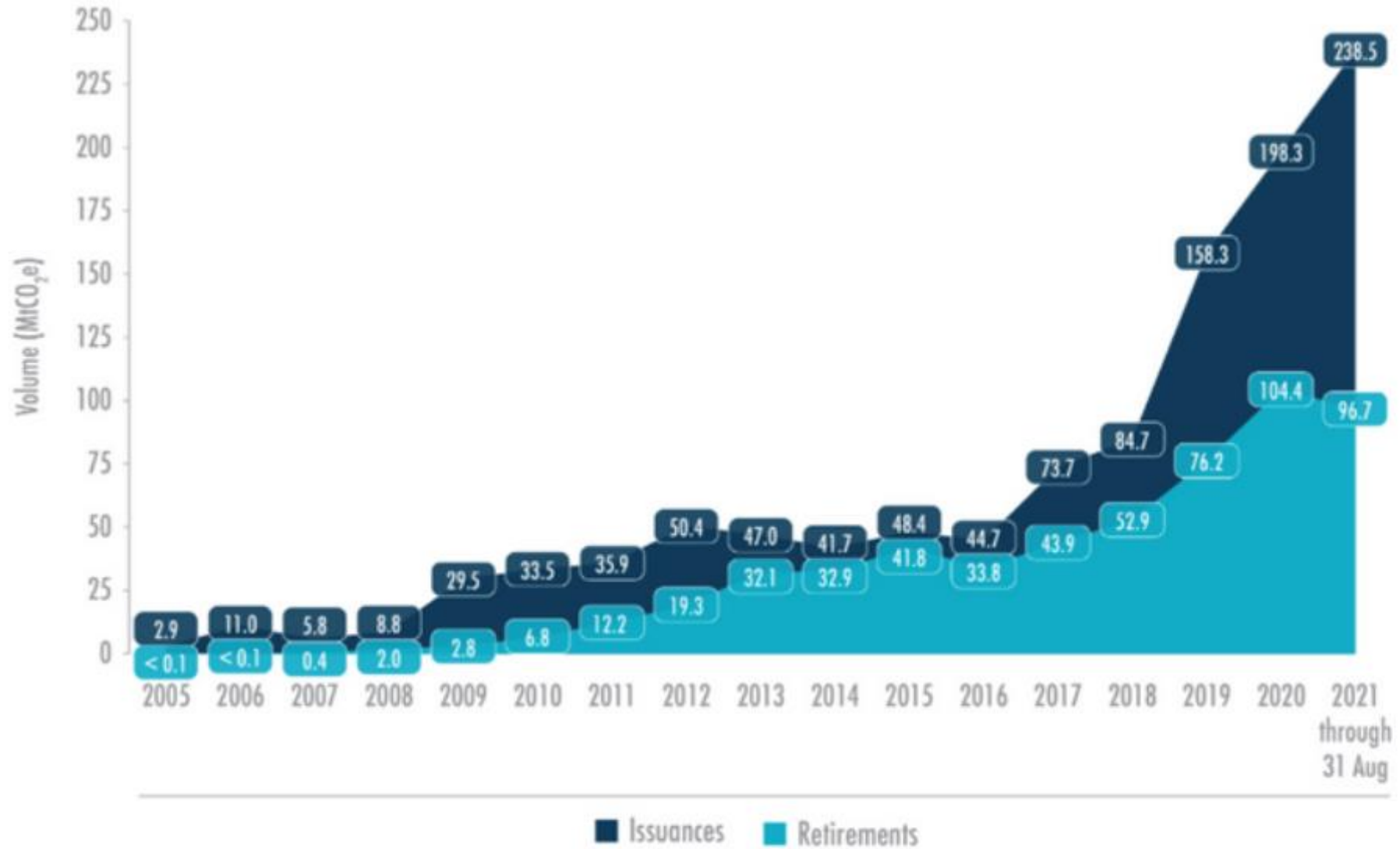
Value of Global Voluntary Carbon Markets Nearly Quadruples in 2021 towards \$2 Bn, Driven by Nature-based Solutions and Rising Prices

Figure 1. Voluntary Carbon Market Size by Value of Traded Carbon Credits, pre-2005 to 31 Dec. 2021



Figure 2. Voluntary Carbon Market Transaction Volumes, Prices, and Values by Category 2020 - 2021

	2020			2021		
	VOLUME (MtCO2e)	PRICE (USD)	VALUE (USD)	VOLUME (MtCO2e)	PRICE (USD)	VALUE (USD)
★ FORESTRY AND LAND USE	57.8M	\$5.40	\$315.4M	227.7M	\$5.80	\$1,327.5M
★ RENEWABLE ENERGY	93.8M	\$1.08	\$101.5M	211.4M	\$2.26	\$479.1M
CHEMICAL PROCESSES / INDUSTRIAL MANUFACTURING	1.8M	\$2.15	\$3.9M	17.3M	\$3.12	\$53.9M
WASTE DISPOSAL	8.5M	\$2.69	\$22.8M	11.4M	\$3.62	\$41.2M
ENERGY EFFICIENCY / FUEL SWITCHING	30.9M	\$0.98	\$30.4M	10.9M	\$1.99	\$21.9M
HOUSEHOLD / COMMUNITY DEVICES	8.3M	\$4.34	\$36.2M	8.0M	\$5.36	\$43.3M
TRANSPORTATION	1.1M	\$0.64	\$0.7M	5.4M	\$1.16	\$6.3M
AGRICULTURE	0.5M	\$10.38	\$4.7M	1.0M	\$8.81	\$8.7M

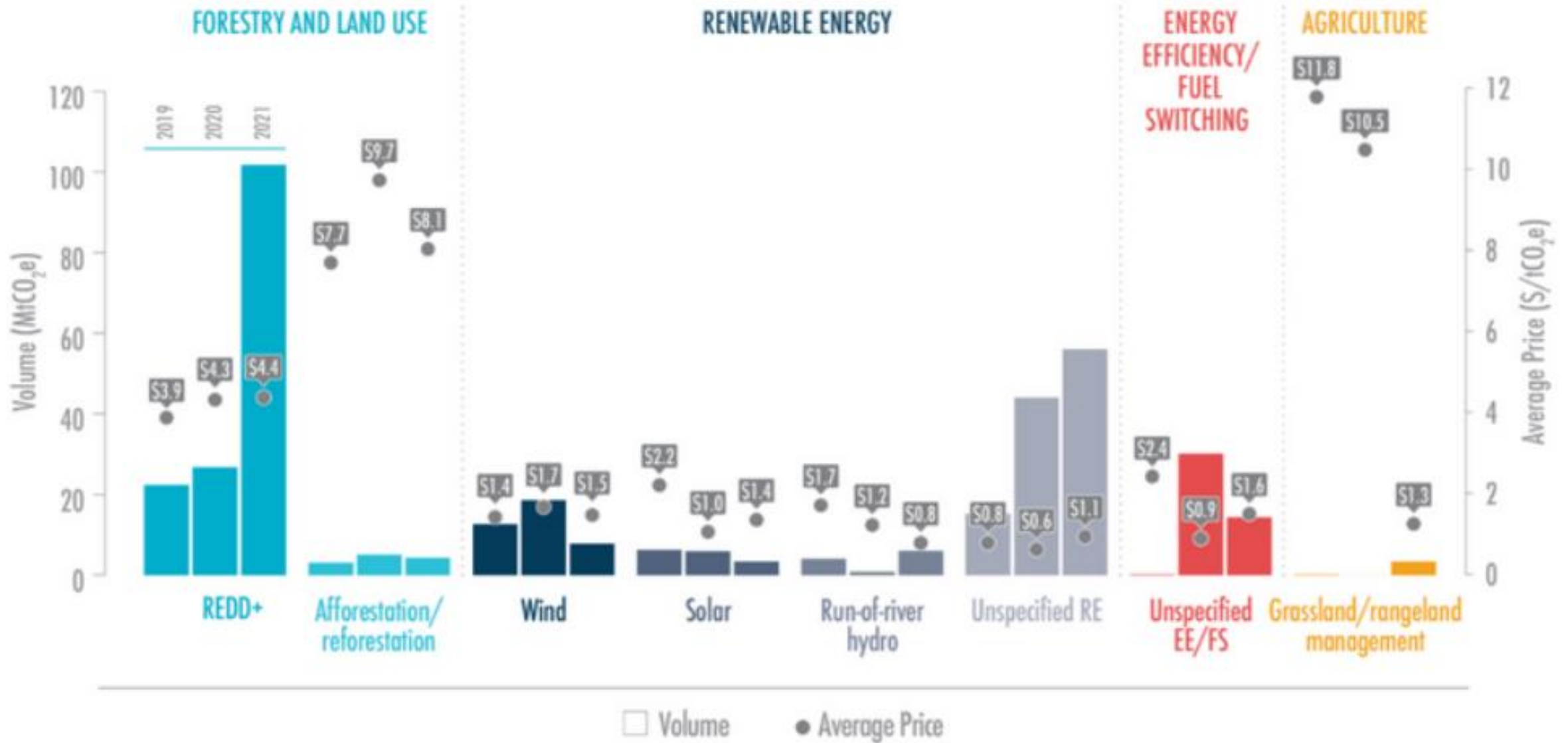


Source: Ecosystem Marketplace, a Forest Trends Initiative.

	2020		2021 (through August)	
	Issuances	Retirements	Issuances	Retirements
Forestry and Land Use	57,247,268	38,477,731	107,486,170	44,760,618
Renewable Energy	102,237,718	41,152,446	100,601,884	35,466,709
Energy Efficiency/Fuel Switching	8,266,837	5,519,068	6,311,075	4,628,514
Agriculture	125,351	1,792,683	112,144	1,582,333
Waste Disposal	12,249,756	7,845,430	5,971,932	4,001,304
Transportation	6,686	60,829	2,826,675	48,601
Chemical Process/Industrial Manufacturing	6,293,883	3,029,002	7,459,956	3,551,151
Other	4,296,141	1,596,175	6,028,329	1,668,866

Source: Ecosystem Marketplace, a Forest Trends Initiative.

Note: Based on Issuances and Retirements data sourced from American Carbon Registry, Climate Action Reserve, Gold Standard, Verified Carbon Standard, ProClima, EcoRegistry, Climate Forward, City Forest Credits, and Coalition for Rainforest Nations. EM also tracks the Global Carbon Council and ART-TREES, although no offsets have been issued or retired yet, so they do not currently impact these figures. EM also tracks the California Air Resources Board and the Clean Development Mechanism, but they are not included here as these are largely compliance.



Source: Ecosystem Marketplace, a Forest Trends Initiative.

REMOVALS GARNER NEARLY 5X PRICE PREMIUM OVER REDUCTIONS !!!

	2020		2021 (through August)	
	Volume (MtCO2e)	Price (USD)	Volume (MtCO2e)	Price (USD)
Removals	9.0	\$7.93	5.6	\$7.98
Reductions	84.4	\$1.60	52.9	\$1.71

Source: *Ecosystem Marketplace, a Forest Trends Initiative.*

Note: Volumes are calculated from EM Respondents that reported trade data as of 31 August 2021. Respondents did not always respond to all survey questions; differences in the totals (for example, between the total annual volume and the sum of project category volumes) can be attributed to this. Throughout the remainder of 2021 and beyond as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).

	2019		2020		2021 (through August)	
	Volume (MtCO2e)	Price (USD)	Volume (MtCO2e)	Price (USD)	Volume (MtCO2e)	Price (USD)
Africa	16.1	\$3.94	14.9	\$4.24	23.9	\$5.52★
Asia	45.6	\$1.80	63.0	\$1.60	91.8★	\$3.34
Europe	1.1	\$2.92	1.7	\$9.47	0.8	\$2.96
Latin America & Caribbean	15.3	\$3.45	18.9	\$4.17	36.6	\$3.74
North America	15.5	\$3.51	11.6	\$6.31	10.0	\$5.13
Oceania	0.5	\$12.53	0.1	\$20.57	0.1	\$32.93

Source: Ecosystem Marketplace, a Forest Trends Initiative.

Note: Volumes are calculated from EM Respondents that reported trade data as of 31 August 2021. Respondents did not always respond to all survey questions; differences in the totals (for example, between the total annual volume and the sum of project category volumes) can be attributed to this. Throughout the remainder of 2021 and beyond as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).

	2019		2020		2021 (through August)	
	Volume (MtCO ₂ e)	Price (USD)	Volume (MtCO ₂ e)	Price (USD)	Volume (MtCO ₂ e)	Price (USD)
American Carbon Registry (ACR)	2.5	\$5.36	5.4	\$8.44	2.0	\$11.37
Clean Development Mechanism (CDM)	4.9	\$2.02	7.0	\$2.19	8.2	\$1.13
Climate Action Reserve (CAR)	4.0	\$2.34	2.1	\$4.44	4.9	\$2.12
Gold Standard	13.2	\$5.27	13.9	\$4.57	5.2	\$3.94
Plan Vivo	0.9	\$8.99	1.2	\$8.49	0.7	\$11.58
Verified Carbon Standard (VCS)	44	\$1.74	66.1	\$3.76	125.6 ★	\$4.17

Source: *Ecosystem Marketplace, a Forest Trends Initiative.*

Note: Volumes are calculated from EM Respondents that reported trade data as of 31 August 2021. Respondents did not always respond to all survey questions; differences in the totals (for example, between the total annual volume and the sum of project category volumes) can be attributed to this. Throughout the remainder of 2021 and beyond as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).

Figure 5: Volumes and Prices by Buyer Sector, 2020

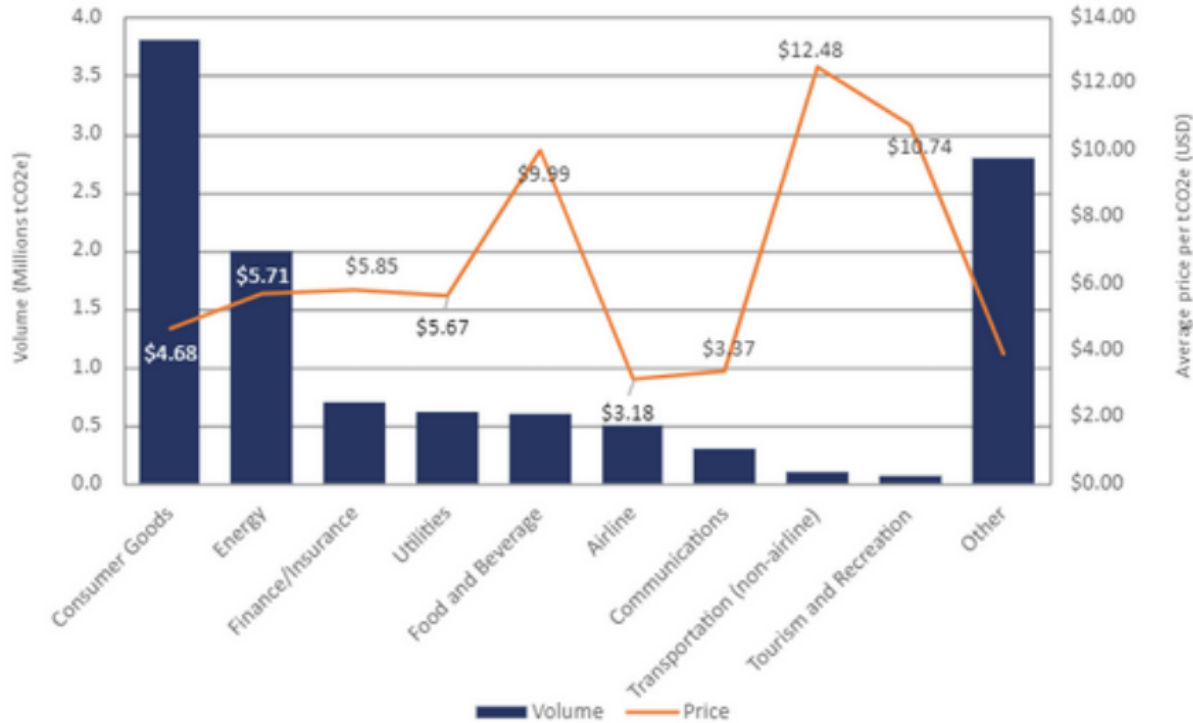
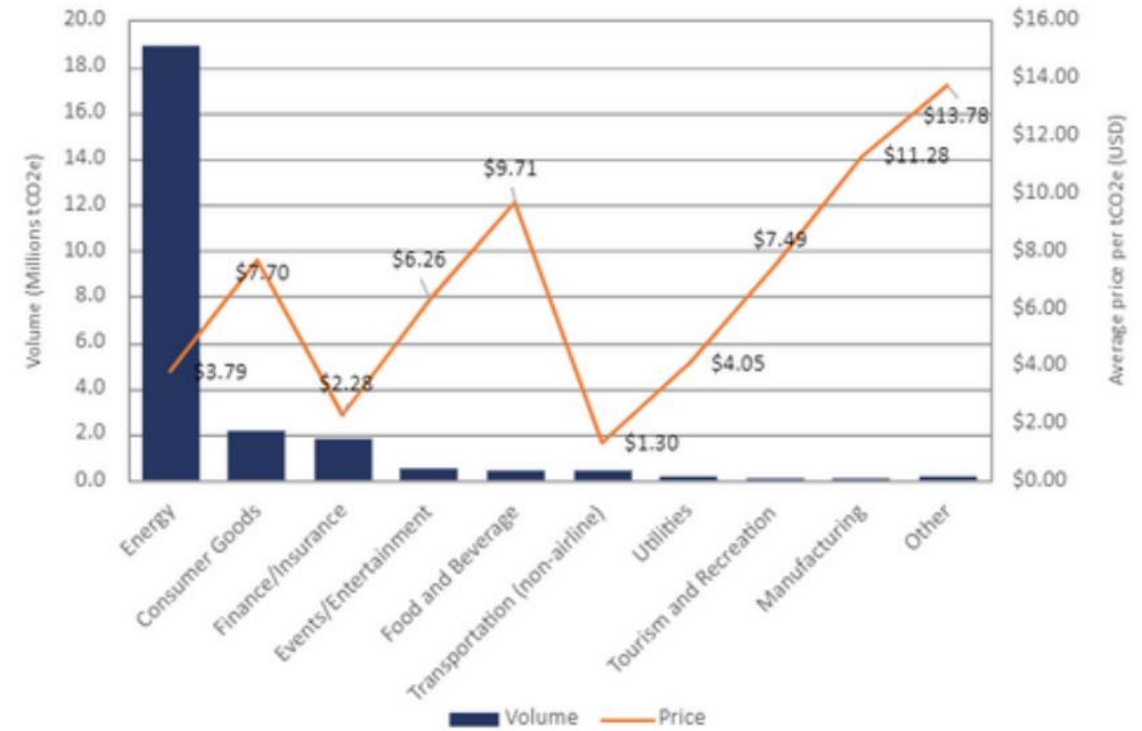


Figure 6: Volumes and Prices by Buyer Sector, 2021 through August

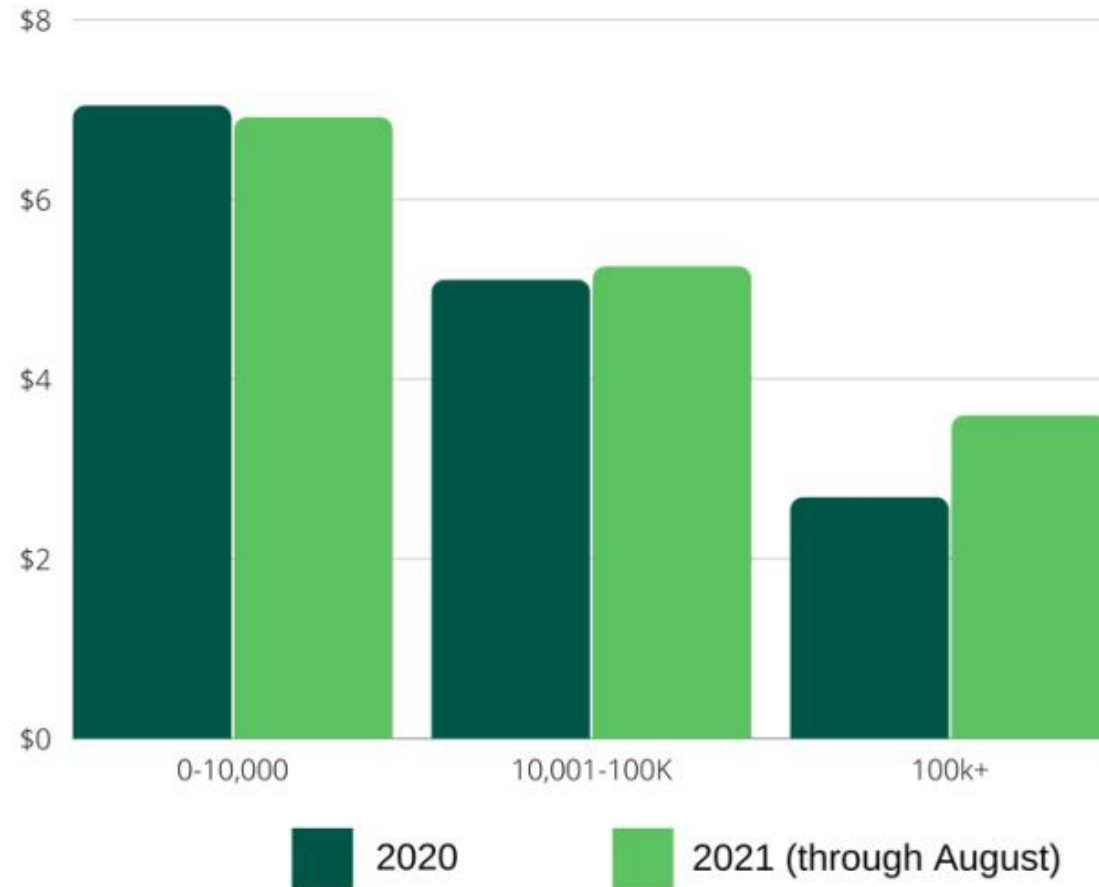


Source: Ecosystem Marketplace, a Forest Trends Initiative.

Note: Based on buyer market data reported by EM Respondents for 2020.

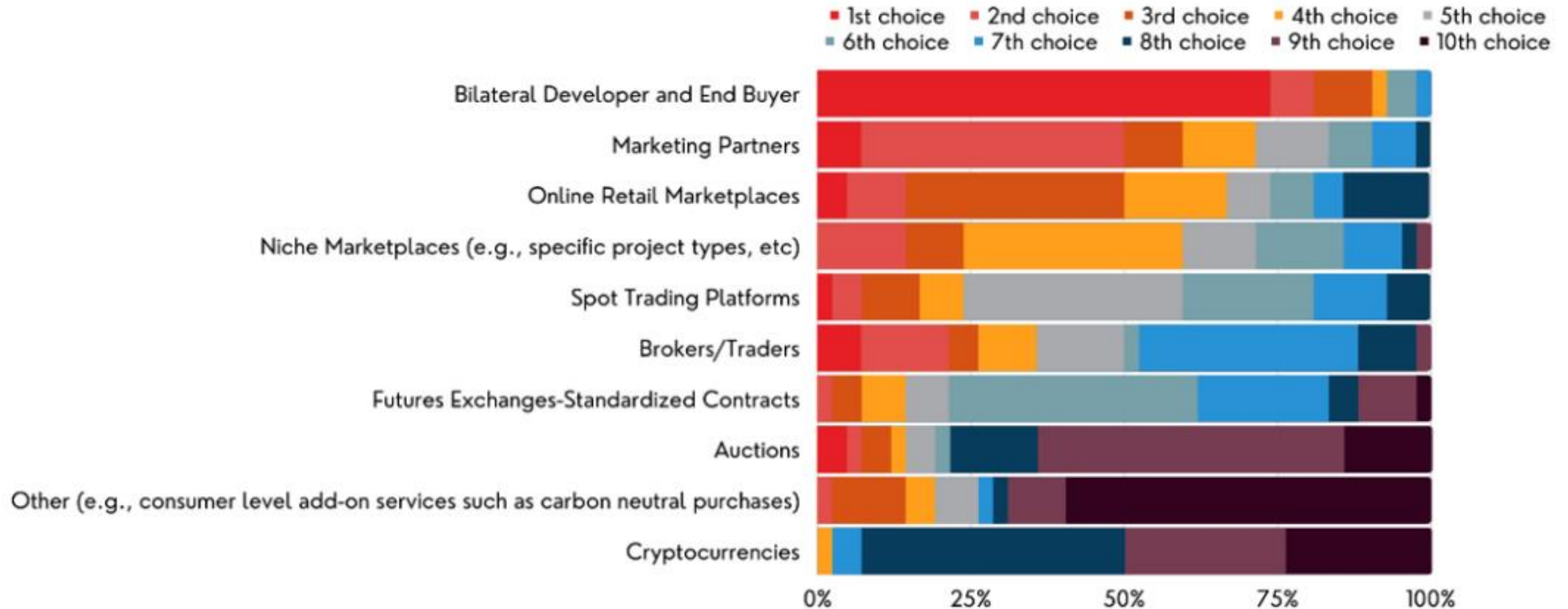
Source: Ecosystem Marketplace, a Forest Trends Initiative.

Note: Based on buyer market data reported by EM Respondents for 2021.



Source: *Ecosystem Marketplace, a Forest Trends Initiative.*

Note: Volumes are calculated from EM Respondents that reported trade data as of 31 August 2021. Throughout the remainder of 2021 and beyond as more organizations report to EM for the first time, and as existing EM Respondents report new transactions, these figures for 2020 and 2021 will likely continue to be updated. This will be reflected in future installments of EM's SOVCM report and on the EM Data Intelligence & Analytics Dashboard (<https://data.ecosystemmarketplace.com>).



Source: Ecosystem Marketplace, a Forest Trends Initiative.

- คาร์บอนเครดิตในตลาดโลกมีหลายมาตรฐานในการรับรอง (และหลายระดับ ได้แก่ Independent, International และ Domestic Mechanisms) โดย **VERRA (VCS) มี Market Share มากกว่าครึ่งหนึ่งของตลาดโลก**
- **ตลาด VCM กำลังเติบโตอย่างต่อเนื่อง** และก้าวกระโดด หลัง COP 26 จากกระแส Carbon Neutrality
- **เครดิตจากสาขา Forestry and Land Use เป็นที่นิยม** มีปริมาณซื้อขาย ราคา และมูลค่า สูงที่สุด
- ในอนาคตมีแนวโน้มที่ **เครดิตจากโครงการ ประเภท Removal จะมีราคา และ ความต้องการที่เพิ่มสูงมากขึ้นอย่างมีนัยยะ** (เมื่อเทียบกับ ประเภท Reduction) จากมาตรฐาน Carbon Neutrality และ NetZero ที่ต้องการใช้เครดิต ประเภท Removal ที่มีคุณภาพสูง
- **ทวีปเอเชียมีการซื้อขายคาร์บอนเครดิตสูงที่สุด** แต่มีราคาเฉลี่ยต่ำกว่า ทวีปโอเชียเนีย และแอฟริกา
- **ภาคพลังงานเริ่มเข้าซื้อคาร์บอนเครดิตอย่างมาก** และกลายเป็นกลุ่มผู้ซื้อรายใหญ่ในตลาด
- **ปริมาณการซื้อขายแบบ Big lot ส่งผลต่อราคาต่อหน่วยอย่างมีนัยยะ** สะท้อนถึงยังคงมีการซื้อขายแบบ OTC (Bilateral)
- **ช่องทางในการเข้าซื้อ มักจะเกิดขึ้นแบบ Bilateral > Broker/Trader/Partner > Online Market places** แต่เริ่มมีการนำวิธีการใหม่ๆ มาใช้ เช่น Auction และ Cryptocurrencies



ขอบคุณครับ/ค่ะ

Thank you for your attention



องค์การบริหารจัดการก๊าซเรือนกระจก (องค์การมหาชน)
THAILAND GREENHOUSE GAS Management Organization
(Public Organization)



SCAN ME

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