

IMPACT CARBON

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Korea ETS

K-ETS Monthly Auction

The fourth auction, held on April 10th, auctioned off allowances totaling to 1,590,000 tons – the total sum of combining March’s leftover of 140,000 tons, the original amount of 1 million tons, and the additional 450,000 tons taken from the June auction that the government decided to auction in advance to help the market’s liquidity.

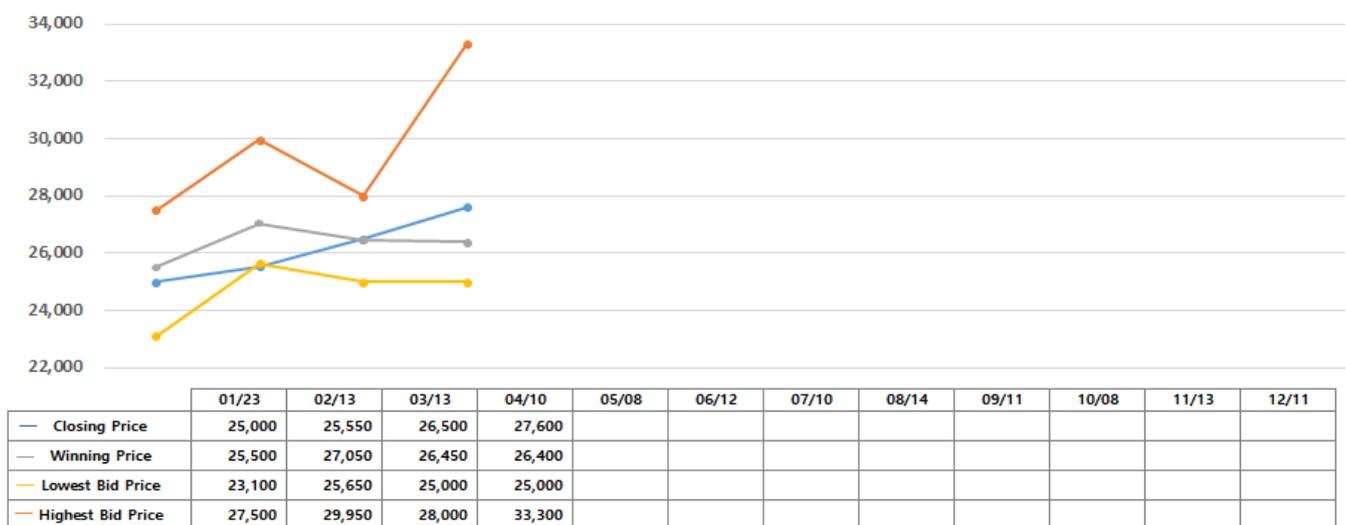
A total of nine companies won the total 1.59 million tons at the clearing price of KRW 26,400, 4.3% lower than the closing price of KAU18 in the secondary market.

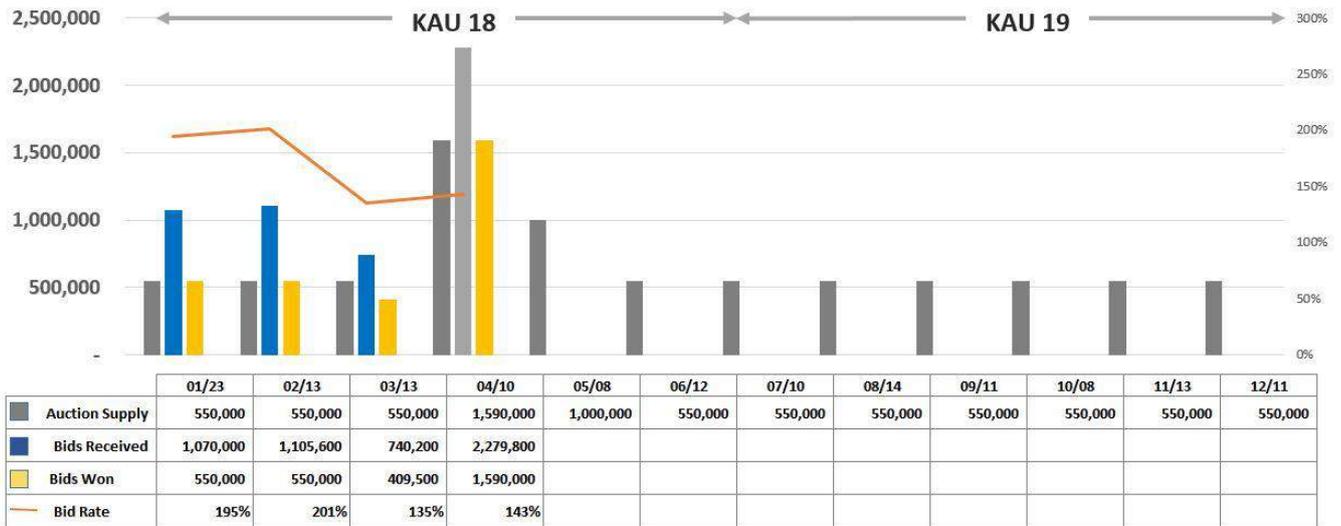
Table 1. Auction Results (January 2019 - April 2019)

	2019.01.23	2019.02.13	2019.03.13	2019.04.10
Auctioned permits	550,000 tons	550,000 tons	550,000 tons	1,590,000 tons
Total # of bids received	1,070,000 tons	1,105,600 tons	740,200 tons	2,279,800 tons
Bid rate	194.55%	201%	135%	143%
Participating companies	7	9	9	10
Winning companies	4	6	5	9
Lowest bid price	KRW 23,100	KRW 25,650	KRW 25,000	KRW 25,000
Highest bid price	KRW 27,500	KRW 27,050	KRW 28,000	KRW 33,300
Market closing price	KRW 25,000	KRW 25,550	KRW 26,500	KRW 27,600
Winning bid price	KRW 25,500	KRW 27,050	KRW 26,450	KRW 26,400
Amount of bids won	550,000 tons	550,000 tons	409,500 tons	1,590,000 tons
Total value of bids won	KRW 14,025,000,000	KRW 14,877,500,000	KRW 10,831,275,000	KRW 41,976,000,000

The total number of bids received totaled to 2,279,800 tons registering a 143% bid rate. Bid prices ranged from KRW 25,000 – KRW 33,300.

Figure 1. Auction Prices (January 2019 - April 2019)





Since the third auction, the bidding limit has been reduced from 30% to 15% while the bid price calculation has been lowered from the fourth auction, contributing to a lower winning price. However, the gap between the secondary market's KAU18 closing price and the auction price has gradually widened due to lack of market supply.

In contrast to expectations that the auction price will contribute to the stability of secondary market prices, it seems that the upcoming auctions - particularly June's amount reduction - will make competition for securing allowances more intense.

Korean Market Update

Market highlight:

➔ Market prices reached KRW 29,000

From the third and fourth auctions, the winning bid price has settled at KRW 26,400. However, KAU18 closing price has been gradually rising since late March, recording another high of KRW 29,000 on April 26th.

Since March's auction, the amount of supply in the market has dropped sharply and the sentiments of short companies are now being reflected in the market as the prices continue to rise after the submission of the emissions statements at the end of March.

Near-term outlook:

➔ With the compliance deadline just around the corner, KAU18 prices are likely to rise further and some surpluses are expected to come into the market in light of favorable high selling prices. There is also a possibility that the government will supply some allowances from the reserves to aid in the shortage problem.

Figure 2. Korea ETS Performance (January 2018 – April 2019)



	KAU18			KCU18			KOC		
	Closing Price	Monthly Increase	Trade Volume	Closing Price	Monthly Increase	Trade Volume	Closing Price	Monthly Increase	Trade Volume
2018	Jan	22,000	-	20,000	-	-	24,000	-	-
	Feb	22,000	-	26,000	-	-	23,000	▼1,000	-
	Mar	22,000	-	-	-	-	22,200	▼800	-
	Apr	22,000	-	-	-	-	22,200	-	62,226
	May	25,300	▲3,300	400,000	-	-	24,500	▲2,300	80,000
	Jun	26,250	▲950	29,000	21,800	-	26,000	▲1,500	2,545
	Jul	22,700	▼3,550	-	21,800	-	25,000	▼1,000	-
	Aug	21,600	▼1,100	-	21,800	-	25,000	-	13,218
	Sep	22,200	▲600	590,600	21,800	-	25,000	-	-
	Oct	23,200	▲1,000	7,289	21,800	-	25,000	-	-
	Nov	24,000	▲800	566,800	21,800	-	23,900	▼1,100	69,160
	Dec	25,000	▲1,000	113,553	21,800	-	24,500	▲500	72,433
2019	Jan	25,500	▲500	90,000	21,800	-	25,500	▲1,000	664,754
	Feb	26,500	▲1000	273,232	21,800	-	26,050	▲550	23,163
	Mar	26,650	▲150	330,000	21,800	-	26,500	▲450	4,229
	26-Apr	29,000	▲2350	103,500	21,800	-	27,000	▲500	-
	Total	-	-	2,549,974	-	-	-	-	991,728

So far, the total trade volume of KAU18 is 2.55 million tons, of which 599,900 (23.5%) were intraday deals and 1.95 million tons (76.5%) were negotiated transactions.

Among the total 26 sectors, 12 are observed as active buyers. The highest purchase ratio belonged to the power generation/energy sector with 84% and the industrial complex with 7.8%, together making up 91.8% of the total buying volume.

When it comes to sales, the cement industry recorded the highest at 40.9%, its surplus seen as an outcome of a decrease in production due to factors such as reduction in investment and demand and the sluggish domestic economy. Power generation/energy accounted for 39.2% followed by semiconductor with 8% and collective energy with 2.8%.

Monthly Trend by Commodity Type (KAU)

KAU18 prices in the secondary market, influenced by lower auction prices, have been steady at KRW 26,500 for the month of March. By the end of March, prices gradually rose recording an all-time peak of KRW 29,000 on April 26th.

Between the period of March 27 when prices started rising to April 26, there are four (4) days where prices increased without any trade. The period's trading volume of 103,500 tons was concluded in eight (8) trading days.

KAU18 prices are likely to rise for the meantime as selling prices continued to expand and market prices continue to increase even without exchanging trades.

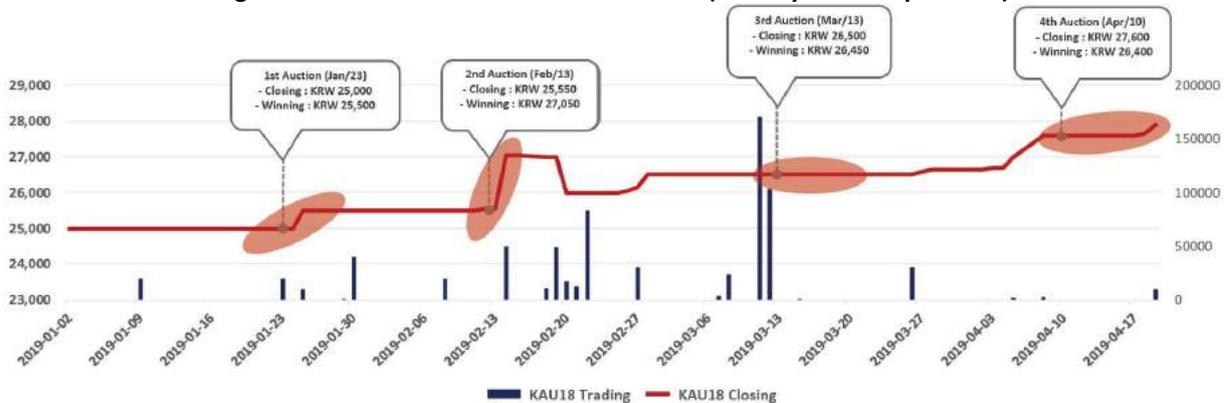
Table 2. KAU18 Price Fluctuations

KAU18 Closing Price and Daily Fluctuations (4 March 2019 - 26 April 2019)							
Date	Closing Price (in KRW)	Difference	Fluctuation Rate	Trade Volume			
				Intraday	Negotiated	Total	
7-Mar-19	26,500	-	-	3,479	-	3,479	
8-Mar-19	26,500	-	-	23,183	-	23,183	
11-Mar-19	26,500	-	-	170,000	-	170,000	
12-Mar-19	26,500	-	-	3,000	100,000	103,000	
13-Mar-19	26,500	-	-	-	-	-	
15-Mar-19	26,500	-	-	338	-	338	
26-Mar-19	26,500	-	-	-	30,000	30,000	
27-Mar-19	26,600	▲100	▲0.38	-	-	-	
28-Mar-19	26,650	▲50	▲0.19	-	-	-	
KAU18 3-Apr-19	26,700	▲50	▲0.19	-	-	-	
5-Apr-19	27,000	▲300	▲1.12	1,500	-	1,500	
8-Apr-19	27,600	▲600	▲2.22	3,000	-	3,000	
10-Apr-19	27,600	-	-	-	-	-	
18-Apr-19	27,650	▲50	▲0.18	-	-	-	
19-Apr-19	27,900	▲250	▲0.90	10,000	-	10,000	
22-Apr-19	27,900	-	-	10,000	-	10,000	
23-Apr-19	27,900	-	-	15,000	32,000	47,000	
24-Apr-19	28,000	▲100	▲0.36	10,000	-	10,000	
25-Apr-19	28,900	▲900	▲3.11	18,000	-	18,000	
26-Apr-19	29,000	▲100	▲0.34	4,000	-	4,000	
Total	-	-	-	271,500	162,000	433,500	

The monthly closing price of KAU18 reached a record high of KRW 29,000 on April 26th, marking a steady rise since August 2018. As the bidding price for the first and second auctions rose to KRW 27,050 on a series of overheated bids, the government lowered the bidding limit to 15%, as well as adjusted the lowest bid price calculation, to counter the rise.

However, KAU18 prices have been on the rise since early April as the market supply volume plunged, reflecting anxious sentiments from short companies that completed the submission of their 2018 statements at the end of March.

Figure 3. Auction-based KAU18 Price Trends (January 2019 – April 2019)



According to the environment ministry, the estimated amount of excess allowances held by companies is estimated to be at 25 million tons as of March 2019. However, uncertainties over the next implementation years tend to influence companies to bank their surplus rather than sell to the market. The ministry has urged the companies to supply the surplus to the market and is also planning to additionally tighten the banking restrictions and possibly introduce a new limit within the current phase shall the shortage continue to affect the ETS. The introduction of the market-maker system in June is also a measure to expand the volume of supply and encourage more transactions.

As the price of KAU18 continues to rise, there is a possibility that some surplus may enter the market but is expected to be insufficient compared with the demand.

Figure 4. KAU15 and KAU18 Monthly Closing Price Comparison

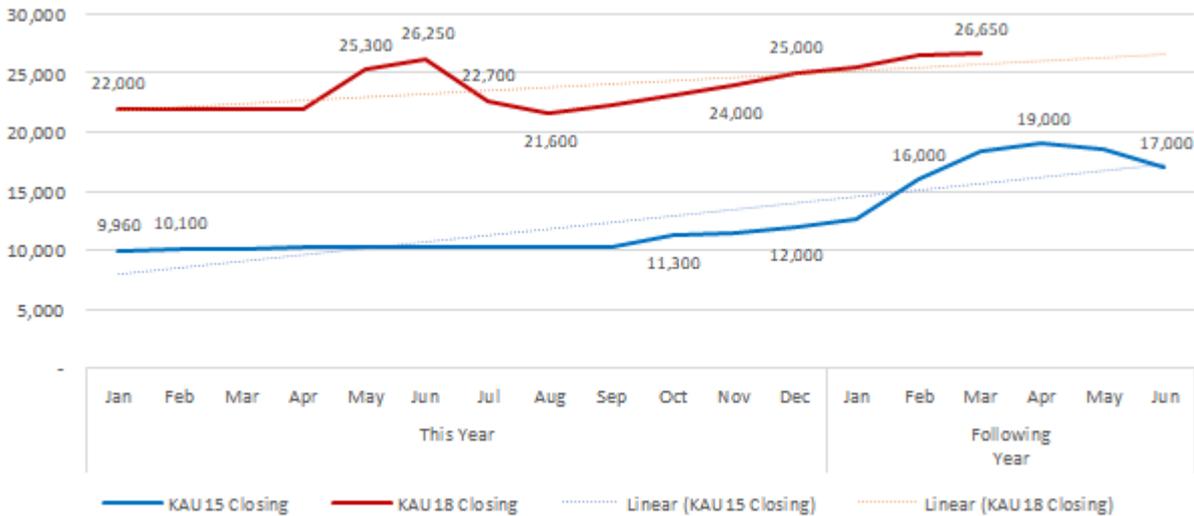
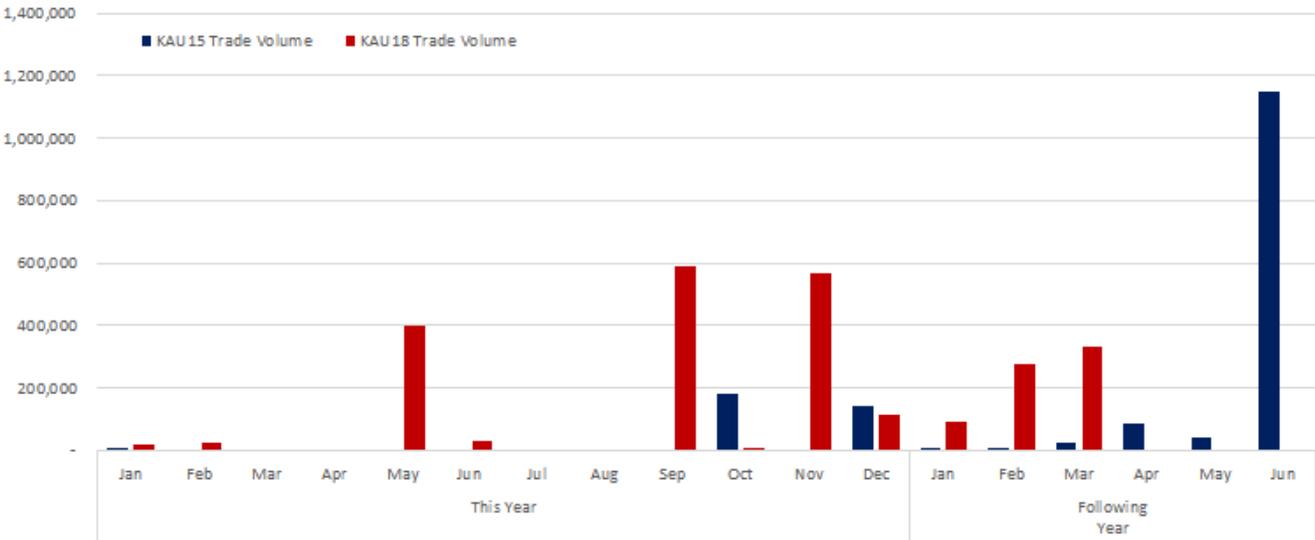


Figure 5. KAU15 and KAU18 Monthly Trade Volume Comparison



During the first phase the government had a huge influence on the price fluctuations of allowances and though government intervention was necessary at times, the government must concentrate in establishing appropriate measures without disrupting the market flow and dynamics.

In the ETS cycle, most of the trading volume was concentrated on the last quarter (March to June) of each cycle year accounting for around 66% of the total trade. In 2015, though, 70.9% of the volume was concentrated in June 2016. This also seems to be the case with KAU18, where transactions are likely to concentrate in June this year just before the compliance deadline.

The market maker system is also scheduled to start its operation on June 2019 and is expected to contribute in alleviating the shortage in the market.

Market Maker System

The new system, to start in 10 June 2019, is designed to secure liquidity in the market by engaging the participation of financials in trading allowances.

The reserve allocated for market formation in Phase 2 totals to 5 million tons, which financial institutions are authorized to offer and trade in the following manner:

Bid-Ask Spread Difference: KRW 1,000 or less

Total Call Time: Accumulated 20 minutes/day (2 minutes or more per call)

Submission Amount: Accumulated 3,000 tons or more / day

Monthly Trend by Commodity Type (KCU)

KCU18 remains without transaction at its price of KRW 21,800.

Monthly Trend by Commodity Type (KOC)

KOC Closing Price and Fluctuations (4 March 2019 - 26 April 2019)							
Date	Closing Price (in KRW)	Difference	Fluctuation Rate	Trade Volume			
				Intraday	Negotiated	Total	
13-Mar-19	26,050	-	-	-	-	-	
21-Mar-19	26,500	▲450	▲1.73	4229	-	4,229	
KOC 3-Apr-19	26,550	▲50	▲0.19	-	-	-	
5-Apr-19	27,000	▲450	▲1.69	-	-	-	
10-Apr-19	27,000	-	-	-	-	-	
Total	-	-	-	4,229	-	4,229	

KOC's intraday trade volume amounted to 4,229 tons covering the period of March 1 to April 26 and has recorded its current price of KRW 27,000 after two market gains.

With buying orders growing steadily, KOC is expected to level with KAU18 prices in the future once volume starts coming into the market.

The total number of KOCs issued during the first phase (January 2015 – August 2018) was 22.47 million tons, of which 15.39 million tons (68.5%) were converted to KCUs. The remaining 7.08 million tons (31.5%) were carried forward to the second phase but most of the supply is limited as majority of the KOCs were either concluded in forward contracts or are planned for own-use.

Projected KOC Supply in Phase 2

(First implementation year)

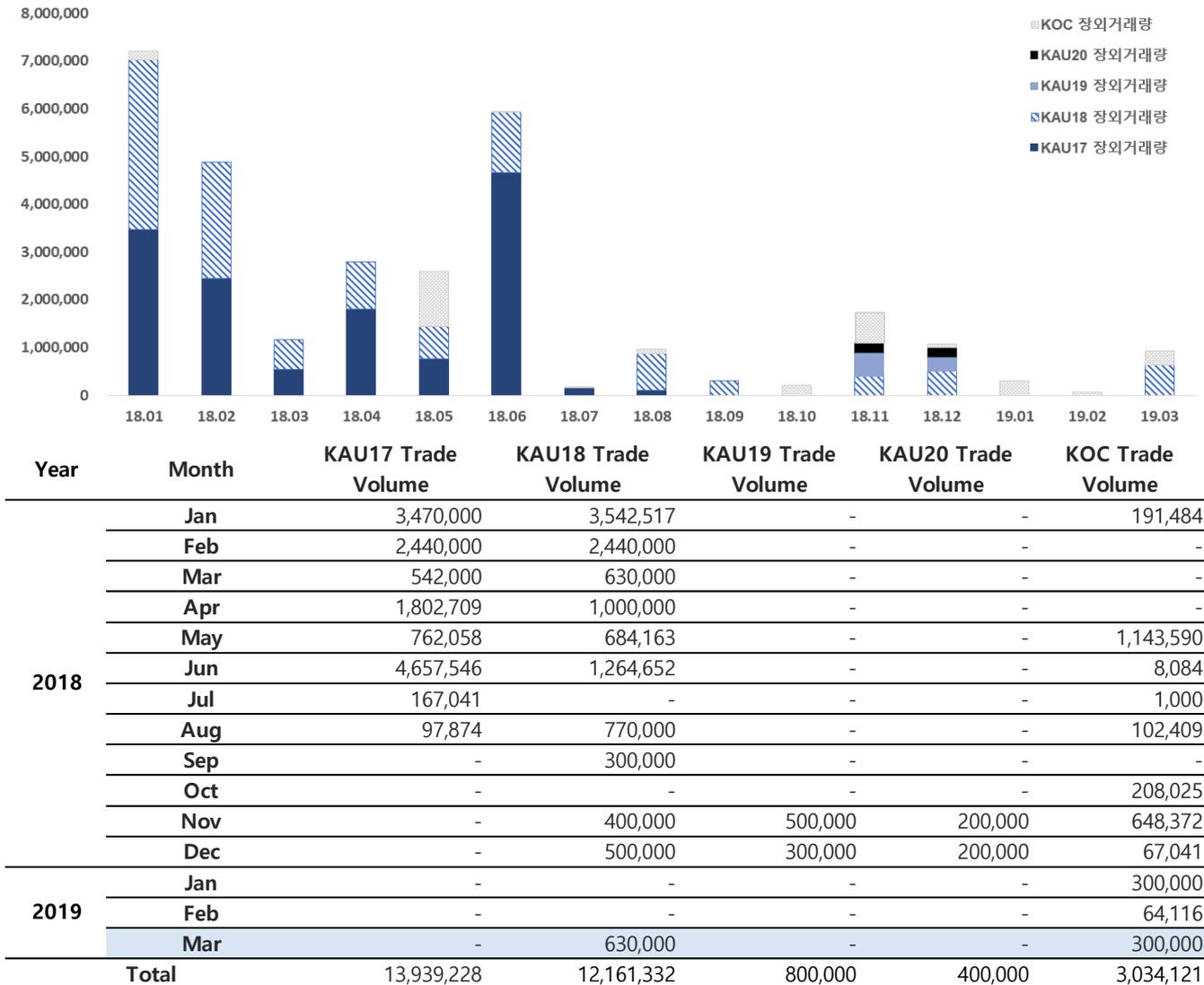
As of 26 April 2019, CER cancellation amount totaled to 2.01 million tons (estimated to be less than 5% of the supply available to the market) and will be issued as KOCs after the review and approval of the emission certification committee, scheduled some time in May or June.

Some will be used to surrender allowances during the first implementation year of Phase 2, along with the remaining 7.08 million tons from Phase 1 and the 1.59 million tons of KOCs issued in November 2018.

(Phase 2's maximum supply capacity)

KOCs that are available during the second phase are estimated to be up to 17.43 million tons, including the 7.08 million tons from the first phase. Of these, the estimated KOC supply through domestic CDM projects totaled to 7.59 million tons which is only one-third of the total issuance during phase 1. This is attributed to the reduction of CER issuance following the end of the domestic CDM projects that began in 2007. Meanwhile, the amount of overseas offset supply through CDM is expected to gradually increase to 250,000 tons in 2019 to 2.5 million tons in 2020.

Over-the-Counter Trading Trends based on Commodity Type (January 2018 – March 2019)



As of March 2019, total OTC transactions of KAU18 amounted to 12.2 million tons which is only 87% of KAU17's OTC deals in the last semester of its cycle signaling a squeeze market supply.

Table 3. K-ETS Phase 2 (2018-2020) Schedule

	1Q		2Q		3Q		4Q	
2018 (1st Year)	Jan	2: KAU 18 Listing ~31: MP submitted by new entities of 2nd year	May	30: 2017 notification of certified emissions/additional quota	Jul	~02: 2017 Emission certificate submission (5/31 ~)	Oct	31: Phase 2 Quota Notification
	Mar	~31: 2017 MP submission application for additional allocation	Jun	~11: 2017 banking application (borrowing X, 5/31~) 22: KCU 18 Listing ~29: notification/application for appeals	Aug	~02: Application for ETS Voluntary Participation 31: designation and notification of new entrants ~09: 2017 Submission of emission allowance 10: Delisting of KAU17/KCU17 31: Phase 2 Allocation	Nov	8: KAU19/KAU20 Listing
							Dec	~31: 2018 request for MP review
2019 (2nd Year)	Jan	23: First auction of allowances	Apr	10 Fourth auction of allowances	Jul	~ 1: (est) surrender of allowances (est) notification/application for appeals	Oct	8: (est) Tenth auction of allowances
	Feb	13: Second auction of allowances	May	8: (est) Fifth auction of allowances			Nov	13: (est) Eleventh auction of allowances
	Mar	13: Third auction of allowances ~31: 2018 emissions certification and MP submission (est) 2018 additional allocation application	Jun	31: (est) 2018 notification of certified emissions/additional allocation 10: (est) designation of market makers and system enforcement		10: (est) Seventh auction of allowances 31: (est) notification of results (complaints/objection)	Dec	11: (est) Twelfth auction of allowances
			Jul	~10: (est) 2018 allowance banking and borrowing 12: (est) Sixth auction of allowances	Aug	~31: (est) designation and notification of new entrants ~9: (est) surrender of allowances (for companies with objection)		
					Sep	14: (est) Eight auction of allowances 11: (est) Ninth auction of allowances		
2020 (3rd Year)	Jan	~15: (est) 2019 request for MP review	May	31: (est) 2019 notification of certified emissions/additional allocation	Jul	31: (est) notification of results (complaints/objection)	Oct	31: (est) notification of Phase 3 allocation quota
	Mar	~31: (est) 2019 emissions certification and MP submission (est) 2019 application for additional allocation	Jun	~10: (est) 2019 allowance banking and borrowing ~30: (est) 2019 surrender of allowances (est) 2019 notification/application for appeals		~31: (est) Phase 3 Allocation Plan (est) Phase 3 Assignment of Compliance Entities (est) designation and notification of new entrants		
					Aug	~10: (est) 2019 surrender of allowances (for companies with objection) ~31: (est) Phase 3 application for allowances allocation		
2021	Jan	~15: (est) 2020 request for MP review	May	31: (est) 2020 notification of certified emissions/additional allocation	July	31: (est) notification of results (complaints/objections)		
	Mar	~31: (est) 2020 emissions certification and MP submission (est) application for additional allocation	Jun	~10: (est) 2020 banking of allowances (borrowing X) ~30: (est) surrender of allowances (est) 2020 notification of appeals	Aug	~9: (est) 2020 surrender of allowances (for companies with objections)		

Ecoeye, Your Carbon Desk

Bangladesh Cook Stove Project



(photo credit: SK Securities)

Officials and employees from SK Securities, Korea Midland Power (KOMIPO) and Ecoeye conducted seminars and volunteer activities for overseas CDM projects in Bangladesh.

The project, which began in November 2018, aims to replace the traditional cook stoves with high-efficiency stoves to protect the environment by reducing the use of firewood and to help contribute in lowering the negative health impacts caused by indoor air pollution to Bangladeshi families with poor economic conditions.

The three companies will invest a total of USD 6 million to supply 600,000 cook stoves by October 2019. The project is expected to reduce greenhouse gas emissions by 2.4 million tons over the next five years.

The project is also supported by the Bangladesh Ministry of Environment, Korea Electric Power Corporation, Korea Trade-Investment Promotion Agency and Woori Bank.

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