



Ministry of Environment



Korea Environment Corporation

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## '#4' Insight Hot Topic

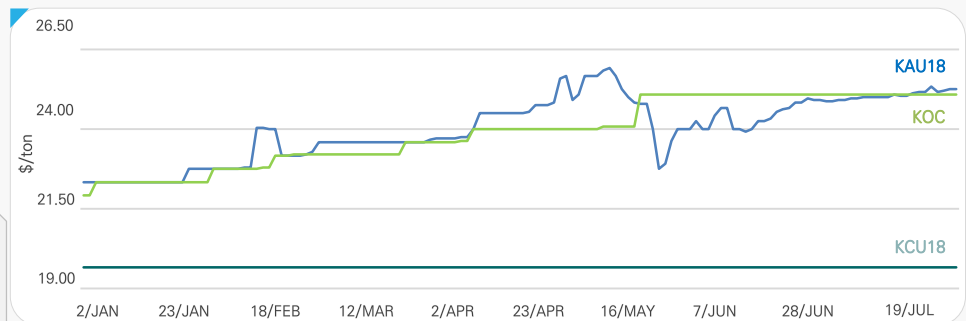
- The Ministry of Environment newly includes companies that emit greenhouse gases within its national emission trading scheme (KETS).
- 21 companies in four different sectors including industry, building, energy conversion and waste management are designated as new business entities eligible for allocation.



## K-ETS Summary

※ 2019.1.1 - 7.31

	KAU 18	KAU 19	KAU 20	KCU 18	KOC
Highest (\$/ton)	24.12	24.09	23.67	18.43	23.92
Lowest (\$/ton)	20.58	19.61	19.61	18.43	20.71
Closing JUN 28 <sup>th</sup> (\$/ton)	23.55	23.75	23.67	18.43	23.92
Total Volume (1K ton)	4,329	643	0	0	933



## Market Summary

### ETS

- Average price of KAU18 has shown slight changes (0.02 percent) higher since last month of July 2019.
- Total transaction volume of KAU18 rises to 1,048K ton higher in addition to small gap between the highest (\$24.53) and lowest (\$24.06).

### Offset

- The approval of KOP and Offset project are 391 cases, 12 cases increased compare to the last month.
- Sectors with newly registered programs are building, agriculture.
- Total issued KOC is 26,062K ton no changes since last month.



## Upcoming Key Issues

### Policy

- Ministry of Environment cooperates to reduce greenhouse gases with private businesses in power generation and waste management sector.
- Governmental support for businesses implementing GHG reduction facilities already reached \$48M throughout 4 years since 2015.

### Policy

- Ministry of Industry plans to implement additional electric charges based on renewable energy generation in line with RE100 commitment.
- Companies will be supported for their independent power generation or purchasing renewables by giving extra credits.



Emission Transaction  
Korea Exchange



GIR  
GHG Inventory & Research Center of Korea



NGMS  
National GHG Management System





## 01 K-ETS Status

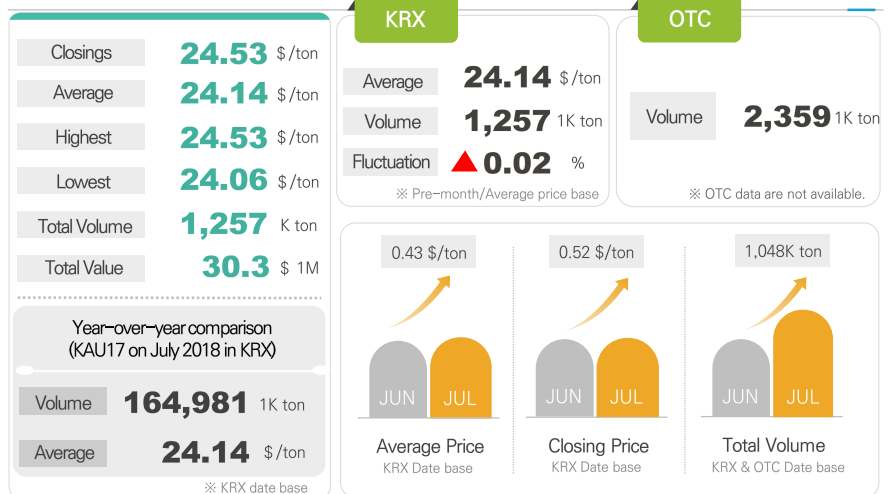
Transaction status

### Korea ETS Status & Market Trends

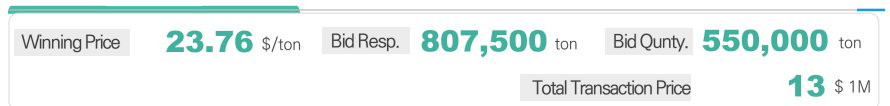
July 2019

#### KAU18

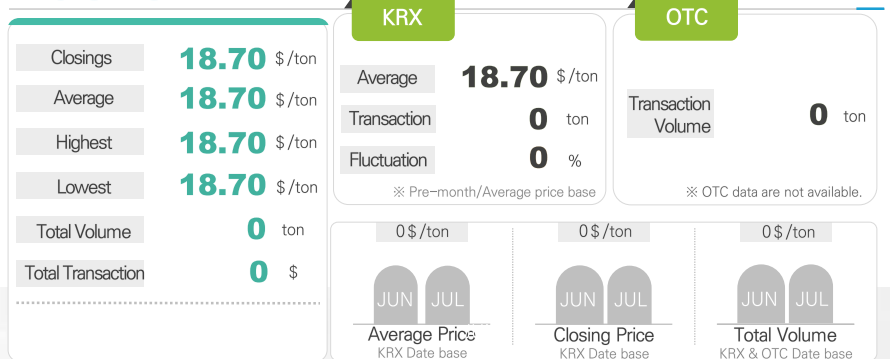
Q2-2019 average exchange rate from BoK(\$1= ₩1,166)



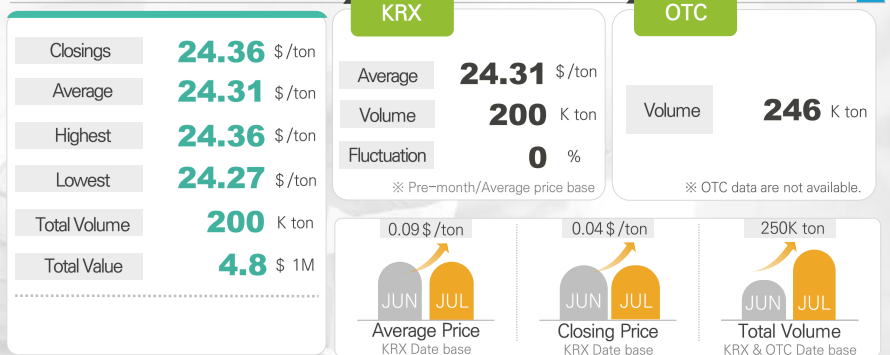
#### KAU19 Auction



#### KCU18



#### KOC





## 01

### K-ETS Status

Transaction status

- Information on K-ETS Market date are available at Korea Exchange (KRX) website. (<http://global.krx.co.kr/main/main.jsp>)
- Any transaction data of KAU20, KCU18 are not available.



## Korea ETS Status & Market Trends

July 2019

### KAU18

Q2-2019 average exchange rate from BoK(\$ 1= ₩1,166)

Transaction Date	Closing Price (\$)	Trade Volume (tCO <sub>2</sub> -eq)		Trade Value (\$)	
		Bilateral Trade	Total Volume	Bilateral Trade	Total Value
1/JUL	24.06	0	5,000	0	120,283
2/JUL	24.10	0	18,313	0	440,591
3/JUL	24.10	9,100	9,100	255,255,000	218,915
4/JUL	24.14	145,994	161,994	4,102,431,4000	3,904,443
5/JUL	24.14	0	18,500	0	446,633
8/JUL	24.19	200,000	230,061	5,630,000,000	5,555,506
9/JUL	24.19	0	54,656	0	1,321,868
10/JUL	24.19	12,226	63,058	344,773,200	1,525,073
12/JUL	24.19	0	2,000	0	50,085
15/JUL	24.27	0	5,840	0	141,742
16/JUL	24.23	0	64,068	0	1,552,676
17/JUL	24.23	20,000	79,125	563,000,000	1,906,887
18/JUL	24.31	0	2,729	0	66,599
19/JUL	24.36	1,706	10,727	48,365,100	261,201
22/JUL	24.36	2,000	7,000	56,800,000	170,861
23/JUL	24.53	0	9,104	0	222,426
24/JUL	24.36	20,000	42,626	565,000,000	1,036,364
25/JUL	24.40	150,300	165,155	4,232,520,000	3,992,405
26/JUL	24.44	0	30,000	0	733,276
29/JUL	24.44	200,000	245,462	5,560,000,000	587,966
30/JUL	24.53	0	3,000	0	73,584
31/JUL	24.53	20,000	30,000	565,000,000	729,845

### KAU Auction

Auction Date	Bid Qnty.	Bid Response	Bidders	Low Bid Price (\$)	High Bid Price (\$)	Winning Price (\$)	Successful Bid Qnty.	Total Price Amount (\$)
KAU18								
13/MAR	550,000	740,200	9	21.44	24.01	22.68	409,500	9,289,022
10/APR	1,590,000	2,279,800	10	21.44	28.56	22.64	1,590,000	36,000,000
8/MAY	1,000,000	1,285,300	10	23.28	26.11	23.89	1,000,000	23,885,077
12/JUN	550,000	777,500	5	23.07	24.79	23.11	550,000	12,711,835
KAU19								
10/JUL	550,000	807,500	7	23.33	25.39	23.76	550,000	13,066,037



## 01 K-ETS Status

Transaction status

- Information on K-ETS Market date are available at Korea Exchange (KRX) website. (<http://global.krx.co.kr/main/main.jsp>)
- Any transaction data of KAU20, KCU18 are not available.



## Korea ETS Status & Market Trends

July 2019

### KAU19

Q2-2019 average exchange rate from BoK(\$ 1= ₩1,166)

Transaction Date	Closing Price (\$)	Trade Volume (tCO <sub>2</sub> -eq)		Trade Value (\$)	
		Bilateral Trade	Total Volume	Bilateral Trade	Total Value
1/JUL	24.14	0	2,000	0	48,246
2/JUL	24.14	0	1,500	0	36,213
3/JUL	24.10	0	6,000	0	144,596
4/JUL	24.14	0	1,500	0	36,213
5/JUL	24.14	0	5,000	0	120,711
8/JUL	24.19	0	3,000	0	72,555
9/JUL	24.19	0	1,500	0	36,277
10/JUL	24.19	0	2,000	0	48,370
11/JUL	24.19	0	3,000	0	72,555
12/JUL	24.19	0	4,000	0	96,740
15/JUL	24.19	0	4,000	0	96,740
16/JUL	24.23	0	13,000	0	315,180
17/JUL	24.27	0	7,000	0	169,897
18/JUL	24.31	0	1,500	0	36,470
19/JUL	24.36	0	9,000	0	219,082
22/JUL	24.36	0	9,500	0	231,518
23/JUL	24.36	0	7,000	0	170,561
24/JUL	24.44	0	8,500	0	207,632
25/JUL	24.44	0	11,500	0	281,303
26/JUL	24.44	0	5,000	0	122,212
29/JUL	24.49	0	8,000	0	195,668
30/JUL	24.53	0	15,000	0	367,924
31/JUL	24.49	0	74,000	0	1,817,117

### KOC

Transaction Date	Closing Price (\$)	Trade Volume (tCO <sub>2</sub> -eq)		Trade Value (\$)	
		Bilateral Trade	Total Volume	Bilateral Trade	Total Value
1/JUL	24.27	0	0	0	0
3/JUL	24.27	200,000	200,000	4,862,778	4,862,778
16/JUL	24.27	0	0	0	0
25/JUL	24.31	0	0	0	0



## 02

### Korean Offset Status

Korea Offset Program(KOP)

- Information on Approval KOP project are available at Offset Registry System (ORS, <http://ors.gir.go.kr>) 'Public Information'.

#### Reference

Available public information on KOP  
 - PP, Project name,  
 Crediting period,  
 Applied methodology,  
 PPD etc.



## KOP, Offset Project (External Project) Status

July 2019

Total Approval Project **391** Cases

• KOP 297 cases, CDM 94 cases  
 (▲ shows changes from last article)

Sector	Cases	KOP / CDM
Waste	<b>48</b> cases	<b>1/47</b>
Industrial Power	<b>265</b> cases	<b>218/47</b>
Building	<b>44</b> cases	<b>44/0</b> ▲ 11
Transportation	<b>2</b> cases	<b>2/0</b>
Agriculture	<b>28</b> cases	<b>28/0</b> ▲ 1
Forestry	<b>4</b> cases	<b>4/0</b>

### Approval of KOP project by applied methodology (excluding CDM)

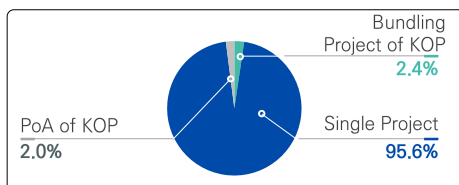
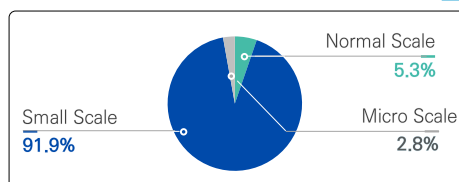
Sector	Methodology	Approval Cases
Waste	· Methodology of injecting bio-methane into city gas supply chain	1
Industrial Power	· Fuel switch methodology	118
	· Fuel switch by wood pellet methodology	40
	· High efficiency equipment replacement methodology	42
	· Waste energy recovery & utilize methodology	17
	· Installation of Electric saving facility methodology	1
Building	· Converting building heating from central heating to district heating	43 ▲ 11
	· High efficiency lighting equipment replacement in building	1
Transportation	· Methodology for producing bio-CNG for automobile fuel use.	1
	· (AM0101) High speed passenger rail systems	1
Agriculture	· Reducing fossil fuel consumption using waste energy in rural	2
	· Reducing fossil fuel consumption using geothermal energy in rural	20 ▲ 1
	· Fuel conversion using wood pellets in rural	1
	· Energy use methodology of 'gardening facility' using 'high efficiency heat-conservation material'	2
	· Heat production using solar heat energy in rural area	1
· Power Generation and usage by Biogas Plant in rural area	2	
Forestry	· Afforestation & Reforestation methodology	2
	· Forestry recovery methodology	2

### Approval of KOP project by scale type (excluding CDM)

Project Type	Cases
Normal Scale	15
Small Scale	261 ▲ 11
Micro Scale	8 ▲ 1

※ Single Project (Total 284 cases)

Project Type	Cases
Single Project	284 ▲ 12
Bundling Project of KOP	7
PoA of KOP	6





## 02

### Korean Offset Status

Korea Offset Program(KOP)

- Information on issued KOCs of KOP are available at Offset Registry System (ORS, <http://ors.gjr.go.kr>) 'Public Information'.



### KOP, KOCs Issued Status

July 2019

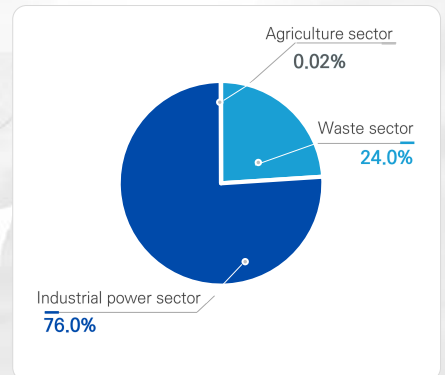
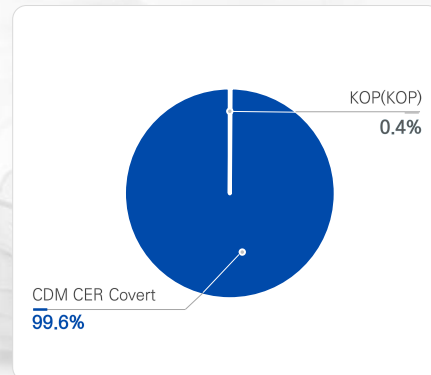
Total Issued KOC **26,062** <sup>1K</sup>ton

Sector	Waste	Industrial Power	Building	Transportation	Agriculture	Forestry
Issued KOC	6,246 K ton	19,809 K ton	- ton	- ton	6 K ton	- ton
KOP	26 K ton	70 K ton	-	-	6 K ton	- ton
CDM	6,220 K ton	19,739 K ton	-	-	-	-

### Status of Issued KOC by KOP and CDM CER Convert

No.	Sector	Detail Sector	Issued KOC	Sub-total
KOP (KOP)	Waste	Waste treatment	25,708 ton	25,708 ton
	Agriculture	Energy demand Energy production by new&renewables	2,651 ton 3,256 ton	5,907 ton
	Industrial Power	Energy demand	70,121 ton	70,121 ton
KOP (CDM)	Industrial Power	Thermal energy through fossil fuel and biomass Renewable energy Energy demand Chemical industry GHG capture & destruction	216,999 ton 2,428,823 ton 84,762 ton 12,647,566 ton 4,361,273 ton	19,739,423 ton
	Waste	Waste treatment	6,220,556 ton	6,220,556 ton
	Building	-	-	-
	Transportation	-	-	-
	Forestry	-	-	-
Total		26,061,715 (Unit: tCO <sub>2</sub> -eq)		

### Status of Issued KOC



#### Reference

Available open source data for KOP (KOP, CDM CERs converts)  
- PP, Project name, Crediting period, KOC serial number, ER, MR, Monitoring period, VR etc.





02

## Korean Offset Status

Korea Offset Program(KOP)



03

## QUESTION

Q&A



## KOP, Approval Methodology Status

July 2019

Since October 2016  
CDM Methodologies that utilizable for KOP **211**  
Methodologies

Since May 2019  
KOP Approval Methodology **43**  
Methodologies

From July 2019  
Utilizable  
Methodologies  
Total **254**  
Methodologies

Total Approval **43** Methodologies

Waste <b>4</b> Methodologies	Industrial Power <b>13</b> Methodologies	Building <b>4</b> Methodologies	Transportation <b>3</b> Methodologies	Agriculture <b>15</b> Methodologies	Forestry <b>4</b> Methodologies
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If you have any questions or comments regarding our 'KETS INSIGHT' or any questions about 'K-ETS and Korea Carbon Market', please contact us by email.

Q & A



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# ETS



Climate Change & Carbon Market  
INSIGHT

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Ministry of Environment



Korea Environment Corporation

**KRIC** Korea Research Institute on Climate Change



**04**  
**Hot Topic**  
Climate and ETS

**Hot Topic**

## South Korean Government Newly Designates 21 Businesses Eligible for Allocation in 2020

Headlines covered on 31<sup>st</sup> of July

The South Korean government newly appoints and includes companies that emit greenhouse-gas within its national emission trading scheme (KETS). According to the Ministry of Environment’s announcement (Notice No. 2019-141) on Wednesday 31st of July, 21 companies in four sectors including industry, building, energy conversion and waste management are designated as entities eligible for allocation 2020, in order to achieve national greenhouse-gas reduction targets. This means a company that fulfills its obligations to reduce GHG emissions from next year, the third implementation year of the second planning period (2018-202) of the KETS, based on the provisions of Article 9 of the Act on Allocation and Trading of Greenhouse Gas Emissions.

〈Table 1〉 List of business entities eligible for allocation 2020

No.	Sector	Sub-sector	Companies
1	Industry	Chemicals manufacturing	SK Advanced Co Ltd
2	Energy Conversion	Electricity	Pocheon IPP Co Ltd
3	Industry	Auto parts manufacturing	Hyundai Mobis Co Ltd
4	Industry	Refined products manufacturing	Hyundai Chemical Co Ltd
5	Industry	Concret and cement	Sampyo Industry Co Ltd
6	Energy Conversion	Electricity	GS Donghae Electric Power Co Ltd
7	Industry	Chemicals manufacturing	Versum Materials Korea Inc
8	Industry	Glass product manufacturing	Samsung Corning Advanced Glass LLC
9	Building	Hospital	Ajou University Medical Center
10	Building	Post secondary education	Ulsan National Instittue of Science and Technology
11	Building	Post secondary education	Daegu Gyeongbuk Institute of Science and Technology
12	Energy Conversion	Heat changing and air steam supply	JB Corp
13	Building	Real estate	Satrfield Hanam Co Ltd
14	Energy Conversion	Heat changing and air steam supply	Ulsan E&P Co Ltd
15	Industry	Chemicals manufacturing	PMCTECH Co Ltd
16	Industry	Plastic product manufacturing	Dongshin Polymer Co Ltd
17	Industry	Metals	Sungho Metal Co Ltd
18	Industry	Primary battery manufacturing	EcoProBM Co Ltd
19	Energy Conversion	Heat changing and air steam supply	NET Inc
20	Waste	Waste disposal	ERG Service
21	Waste	Waste disposal	ES.Sejong Co Ltd

Businesses objecting to the designation, as of allocating target companies shall file an objection and submit to the Ministry of Environment within 30 days from the date of designation and notification, in pursuant to Article 38.1.1 of the Act on the Allocation and Transaction of Greenhouse Gas Emission Rights. Therefore, companies that have been assigned to reduce greenhouse gas emissions from next year will be able to use certain form provided as the ministry’s announcement (Notice No. 2018-126) for objections with the relevant calling materials.

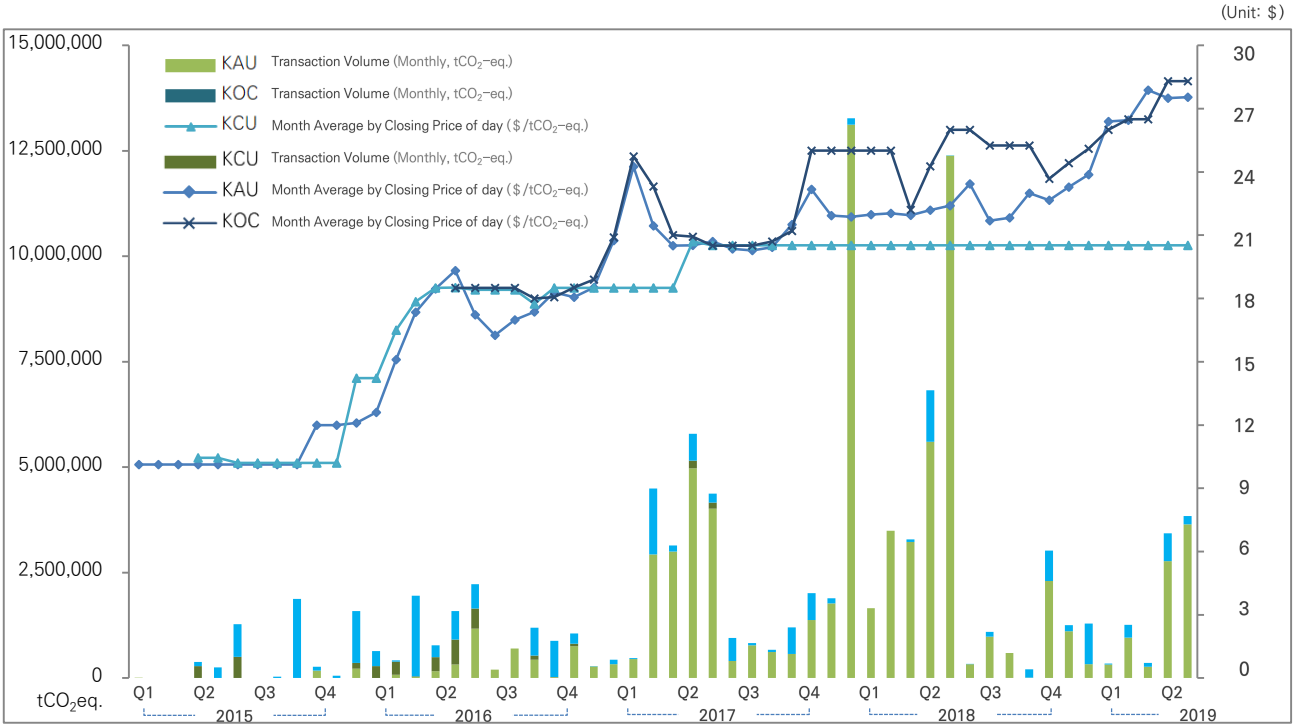
Source: Ministry of Environment, 2019





## [Annex 1] Total Transaction of KAU, KCU, KOC in K-ETS

Since Jan. 2015 to Jun. 2019  
Average Exchange rate from BoK(\$1 = ₩1,131)



## [Annex 2] Total Transaction Volume of K-ETS since 2015

(Unit: tCO<sub>2</sub>-eq.)

No.	KAU			KCU			KOC			Total
	KRX	OTC	Sub-total	KRX	OTC	Sub-total	KRX	OTC	Sub-total	
2015 Q1	1,140	-	1,140	-	-	-	-	-	-	1,140
2015 Q2	-	-	-	779,658	-	779,658	-	1,130,000	1,130,000	1,909,658
2015 Q3	-	-	-	-	-	-	-	1,912,774	1,912,774	1,912,774
2015 Q4	320,000	78,315	398,315	141,059	-	141,059	-	1,370,613	1,370,613	1,909,987
2016 Q1	23,600	78,000	101,600	326,829	286,149	612,978	-	2,293,723	2,293,723	3,008,301
2016 Q2	1,275,244	371,787	1,647,031	1,398,306	10,000	1,408,306	2,413	1,523,552	1,525,965	4,581,302
2016 Q3	858,224	468,300	1,326,524	100,000	-	100,000	200,000	462,570	662,570	2,089,094
2016 Q4	405,000	642,867	1,047,867	58,632	-	58,632	459,409	654,044	1,113,453	2,219,952
2017 Q1	2,532,760	1,179,500	3,712,260	-	-	-	149,500	1,539,348	1,688,848	5,401,108
2017 Q2	6,994,034	4,993,317	11,987,351	323,276	-	323,276	317,695	678,636	996,331	13,306,958
2017 Q3	1,394,764	397,651	1,792,415	-	-	-	90,820	565,592	656,412	2,448,827
2017 Q4	2,786,270	934,000	3,720,270	-	-	-	145,017	1,242,220	1,387,237	5,107,507
2018 Q1	3,651,884	14,619,517	18,271,401	-	-	-	-	150,000	150,000	18,421,401
2018 Q2	12,296,566	8,916,128	21,212,694	-	-	-	144,771	1,151,674	1,296,445	22,509,139
2018 Q3	865,042	1,034,915	1,899,957	-	-	-	13,218	103,409	116,627	2,016,584
2018 Q4	687,642	2,736,868	3,424,510	-	-	-	141,593	915,413	1,057,006	4,481,516
2019 Q1	975,232	630,000	1,605,232	-	-	-	692,146	600,000	1,292,146	2,897,378
2019 Q2	2,530,338	4,300,664	6,831,002	-	-	-	41,702	907,707	949,409	7,780,411
Total	37,597,740	41,381,829	78,979,569	3,127,760	296,149	3,423,909	2,398,284	17,201,275	19,599,559	102,003,037