



JANUARY 2020



IMPACT CARBON

Ecoeye International
www.ecoeye-int.com



MARKET SITUATION

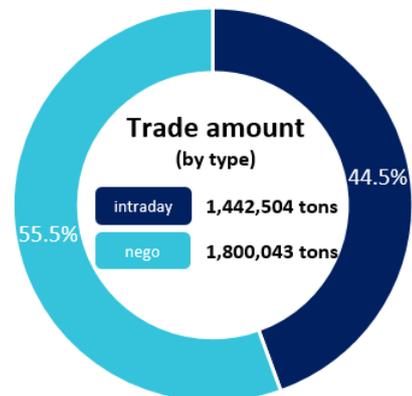
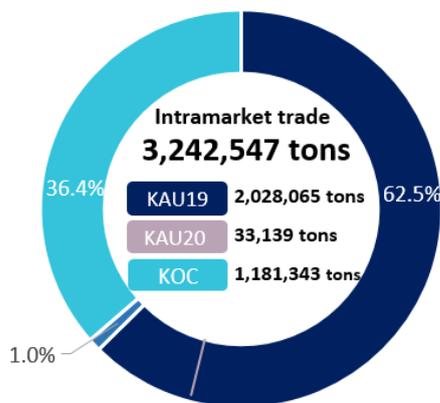
Comprehensive Trading Information (January 2019 – December 2019)

KAU19	
↓ 38,100 ▼250(-0.7%)	
Closing Price	38,100 Won
- 1 Month Average	40,171 Won
- 3 Month Average	37,422 Won
- Total Average	32,176 Won
Total Trading Amount	2,028,065 tons
- Intraday	1,289,266 tons
- Negotiated	738,799 tons
Total Trading Value	65.3 B Won

KCU19	
→ 31,850 (0.0%)	
Closing Price	31,850 Won
- 1 Month Average	-
- 3 Month Average	-
- Total Average	-
Total Trading Amount	-
- Intraday	-
- Negotiated	-
Total Trading Value	-

KAU20	
↑ 39,000 ▲1,050(+2.8%)	
Closing Price	39,000 Won
- 1 Month Average	-
- 3 Month Average	32,113 Won
- Total Average	32,085 Won
Total Trading Amount	33,139 tons
- Intraday	2,000 Won
- Negotiated	31,139 tons
Total Trading Value	1.06 B Won

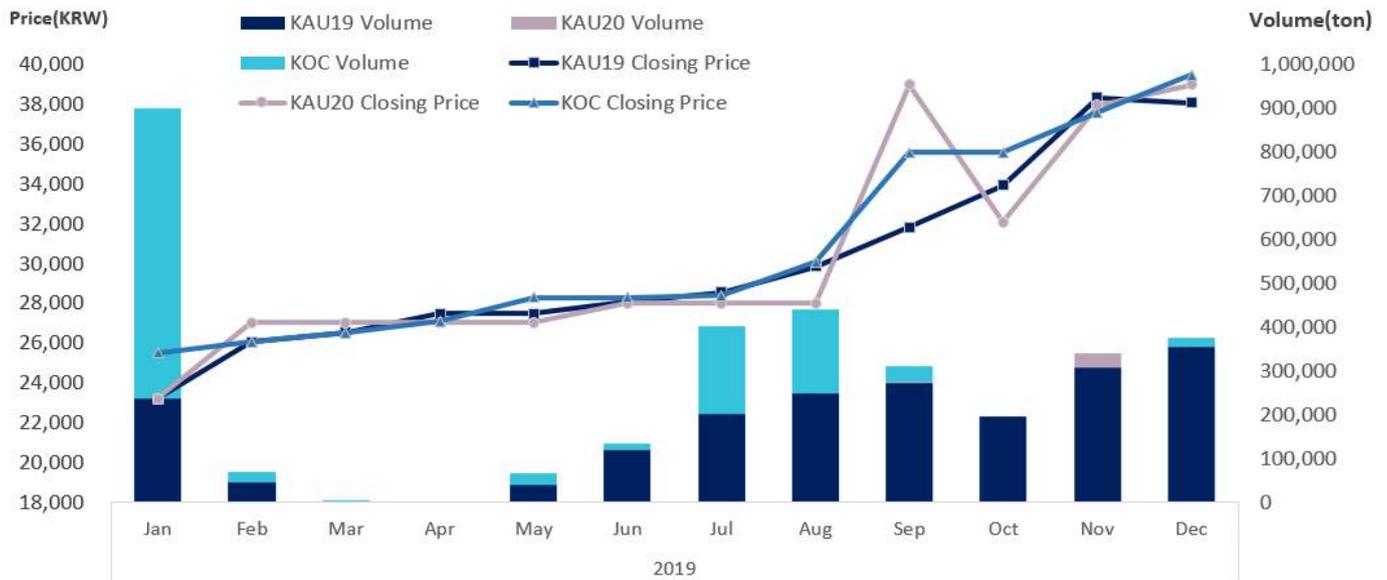
KOC	
↑ 39,500 ▲1,900(+5.1%)	
Closing Price	39,500 Won
- 1 Month Average	39,300 Won
- 3 Month Average	39,300 Won
- Total Average	27,029 Won
Total Trading Amount	1,181,343 tons
- Intraday	151,238 tons
- Negotiated	1,030,105 tons
Total Trading Value	31.9 B Won



*Trade information are official data from the Korea Exchange (KRX); based on November 2019 (in comparison with previous month)



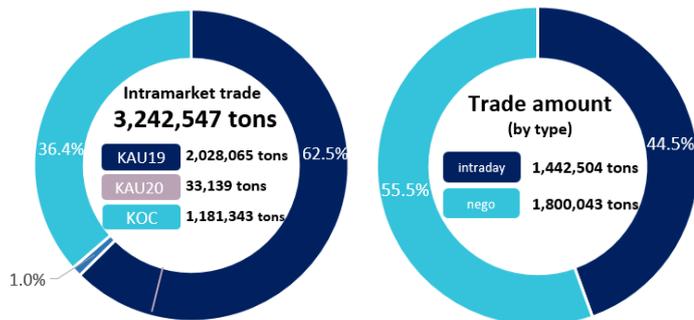
Emission Allowance Monthly Trading Information (January 2019 – December 2019)



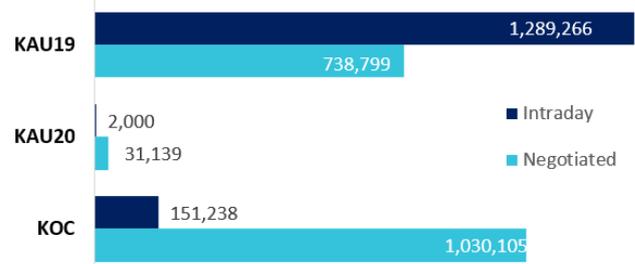
	KAU19			KAU20			KOC		
	Closing Price	Monthly Increase	Trade Volume	Closing Price	Monthly Increase	Trade Volume	Closing Price	Monthly Increase	Trade Volume
Jan	23,200	-	237,000	23,200	-	-	25,500	▲1,000	664,754
Feb	26,050	▲2,850	45,000	27,050	▲3,850	-	26,050	▲550	23,163
Mar	26,550	▲500	-	27,050	-	-	26,500	▲450	4,229
Apr	27,500	▲950	-	27,050	-	-	27,100	▲600	-
May	27,500	-	40,500	27,050	-	-	28,300	▲1,200	25,000
Jun	28,100	▲600	118,000	28,000	▲950	-	28,300	-	16,702
Jul	28,550	▲450	202,500	28,000	-	-	28,400	▲100	200,000
Aug	29,850	▲1,300	250,300	28,000	-	-	30,100	▲1,700	190,963
Sep	31,850	▲2,000	273,522	39,000	▲11,000	1,139	35,600	▲5,500	36,532
Oct	33,950	▲2,100	196,517	32,100	▼6,900	-	35,600	-	-
Nov	38,350	▲4,400	308,743	37,950	▲5,850	32,000	37,600	▲2,000	-
Dec	38,100	▼250	355,983	39,000	▲1,050	-	39,500	▲1,900	20,000
Total	-	-	2,028,065	-	-	33,139	-	-	1,181,343

*End-of-the-month closing price

*No intramarket trade for KCU19

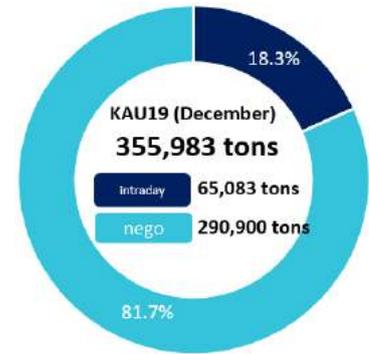
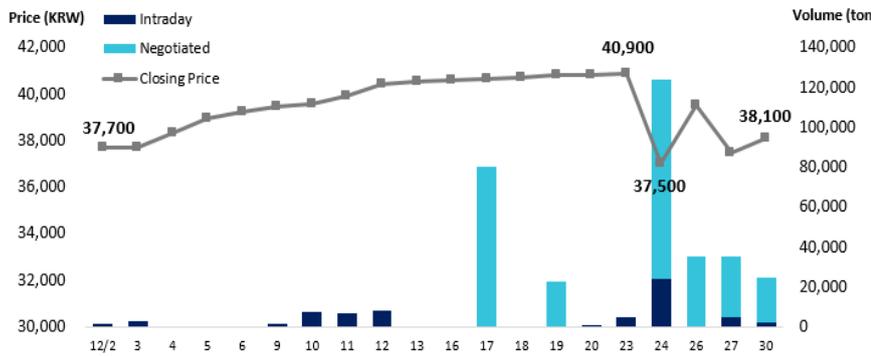


Intraday and Negotiated Trade Volume (January 2019 - December 2019)





KAU19 Trading Trends (December 2019)



Price (KRW)	Closing Price	38,100	Trade Volume	Intraday	65,083
	Average Price	40,171		Negotiated	290,900
	Monthly Highest	40,900		Total	355,983
	Monthly Lowest	37,500		Total Trade Value (B won)	14.3

	Date	Closing Price	Gap	Rate	Trade Volume			
					Intraday	Negotiated	Total	
KAU19	2-Dec-2019	37,700	▼ 650	-1.69	1,500	-	1,500	
	3-Dec-2019	37,700	-	-	3,000	-	3,000	
	4-Dec-2019	38,350	▲ 650	1.72	-	-	-	
	5-Dec-2019	38,950	▲ 600	1.56	-	-	-	
	6-Dec-2019	39,250	▲ 300	0.77	-	-	-	
	9-Dec-2019	39,450	▲ 200	0.51	1,500	-	1,500	
	10-Dec-2019	39,600	▲ 150	0.38	7,200	-	7,200	
	11-Dec-2019	39,900	▲ 300	0.76	7,000	-	7,000	
	12-Dec-2019	40,450	▲ 550	1.38	8,000	-	8,000	
	13-Dec-2019	40,550	▲ 100	0.25	-	-	-	
	16-Dec-2019	40,600	▲ 50	0.12	-	-	-	
	17-Dec-2019	40,650	▲ 50	0.12	-	80,000	80,000	
	18-Dec-2019	40,700	▲ 50	0.12	-	-	-	
	19-Dec-2019	40,800	▲ 100	0.25	-	23,000	23,000	
	20-Dec-2019	40,800	-	-	1,100	-	1,100	
	23-Dec-2019	40,900	▲ 100	0.25	5,000	-	5,000	
	24-Dec-2019	37,050	▼ 3,850	-9.41	23,744	100,000	123,744	
	26-Dec-2019	39,500	▲ 2,450	6.61	-	35,000	35,000	
	27-Dec-2019	37,500	▼ 2,000	-5.06	5,000	30,000	35,000	
	30-Dec-2019	38,100	▲ 600	1.60	2,039	22,900	24,939	
	Total		-	-	-	65,083	290,900	355,983

(Trade) From December 1st to 30th, about 350,000 tons of allowances have traded. During this period, there are nine trading days when trades are nonexistent. It was likely that the supply of

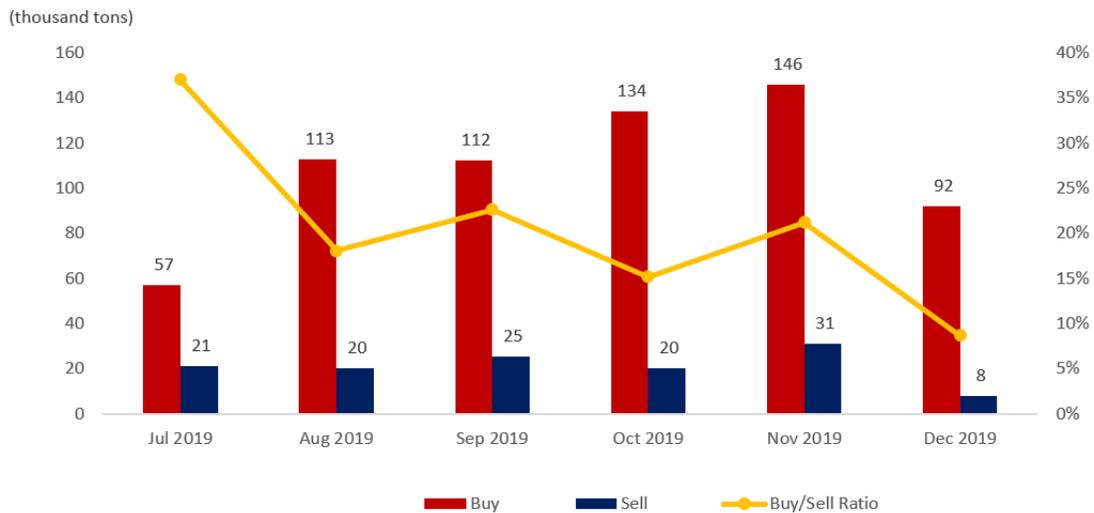


allowances to market makers had been temporarily suspended when the prices exceeded KRW 40,000. As a result, the supply rate has dropped compared to the previous month.

Intraday trade volume has fallen significantly, dropping 78.9% compared to November and, 66.9% and 73.7% compared to October and September, respectively, with daily volumes only ranging between 1,500 tons to 24,000 tons. On the other hand, the volume of bilateral trade increased to 290,000 tons accounting for 81.7% of the month's trading volume.

(Buy/Sell Sectors) From January 2019 to November 2019, cumulative trading volume of KAU19 was 1.67 million tons, of which 1.22 million (73.2%) were intraday deals and around 450,000 (26.8%) were negotiated deals.

The power generation and energy sectors accounted for the highest buying portion at 75.5% followed by petrochemicals at 4.8%, waste at 3.2%, and steel at 2.8%, making up the top 4 buying sectors. For the selling sector, market makers sold 956,000 tons (57.2%) followed by collective energy sector at 17.9%, semiconductor at 5.7%, and waste at 3.6%.

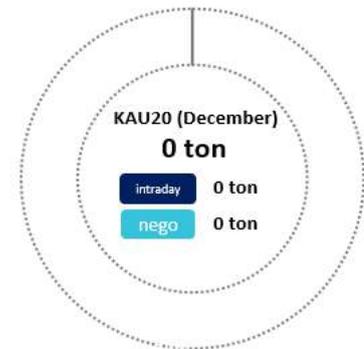
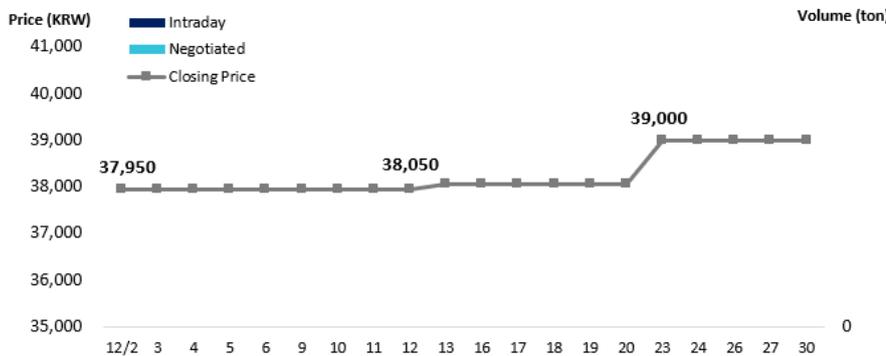


(Price) Secondary market's KAU19 prices started at KRW 37,700 at the beginning of the month and steadily increased breaking KRW 40,000 on December 12th and reaching the peak price of KRW 40,900 on December 23rd before it slid down to close the month at KRW 38,100.

In the last three months since KAU19 started its full trade on September 2019, trade volume has been on a swing but average prices have steadily increased. The monthly average price rose by KRW 3,163 from November's average price.



KAU20 Trading Trends (December 2019)



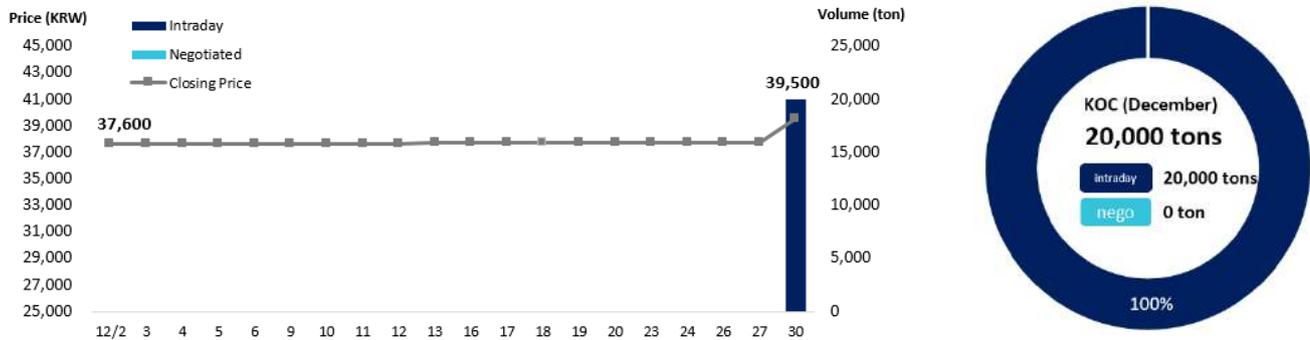
Price (KRW)	Closing Price	39,000	Trade Volume	Intraday	-
	Average Price	-		Negotiated	-
	Monthly Highest	39,000		Total	-
	Monthly Lowest	37,950		Total Trade Value (B Won)	-

	Date	Closing Price	Gap	Rate	Trade Volume		
					Intraday	Negotiated	Total
KAU20	2-Dec-2019	37,950	-	-	-	-	-
	3-Dec-2019	37,950	-	-	-	-	-
	4-Dec-2019	37,950	-	-	-	-	-
	5-Dec-2019	37,950	-	-	-	-	-
	6-Dec-2019	37,950	-	-	-	-	-
	9-Dec-2019	37,950	-	-	-	-	-
	10-Dec-2019	37,950	-	-	-	-	-
	11-Dec-2019	37,950	-	-	-	-	-
	12-Dec-2019	37,950	-	-	-	-	-
	13-Dec-2019	38,050	▲100	0.26	-	-	-
	16-Dec-2019	38,050	-	-	-	-	-
	17-Dec-2019	38,050	-	-	-	-	-
	18-Dec-2019	38,050	-	-	-	-	-
	19-Dec-2019	38,050	-	-	-	-	-
	20-Dec-2019	38,050	-	-	-	-	-
	23-Dec-2019	39,000	▲950	2.50	-	-	-
	24-Dec-2019	39,000	-	-	-	-	-
	26-Dec-2019	39,000	-	-	-	-	-
	27-Dec-2019	39,000	-	-	-	-	-
	30-Dec-2019	39,000	-	-	-	-	-
	Total		-	-	-	-	-

KAU20 trading volume was nonexistent in December, but it rose twice by a cumulative by KRW 1,050 closing the month at KRW 39,000.



KOC Trading Trends (December 2019)



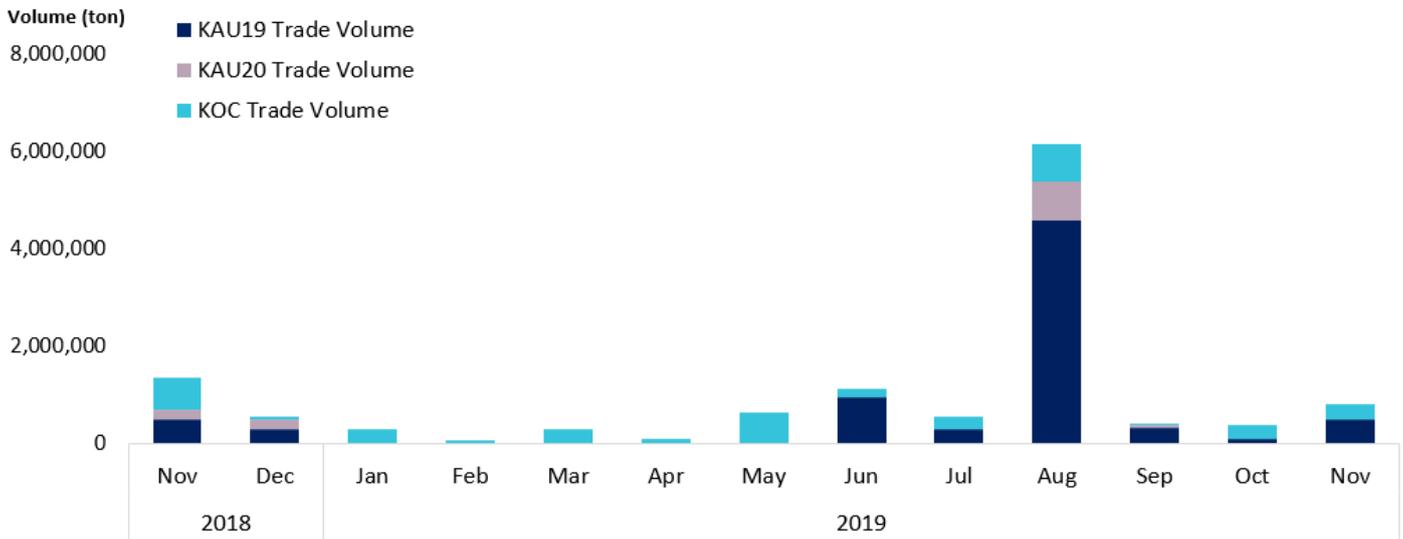
Price (KRW)	Closing Price	39,500	Trade Volume	Intraday	20,000
	Average Price	39,300		Negotiated	-
	Monthly Highest	39,500		Total	20,000
	Monthly Lowest	37,600	Total Trade Value (KRW)	790 million	

	Date	Closing Price	Gap	Rate	Trade Volume			
					Intraday	Negotiated	Total	
KOC	2-Dec-2019	37,600	-	-	-	-	-	
	3-Dec-2019	37,600	-	-	-	-	-	
	4-Dec-2019	37,600	-	-	-	-	-	
	5-Dec-2019	37,600	-	-	-	-	-	
	6-Dec-2019	37,600	-	-	-	-	-	
	9-Dec-2019	37,600	-	-	-	-	-	
	10-Dec-2019	37,600	-	-	-	-	-	
	11-Dec-2019	37,600	-	-	-	-	-	
	12-Dec-2019	37,600	-	-	-	-	-	
	13-Dec-2019	37,700	▲100	0.27	-	-	-	
	16-Dec-2019	37,700	-	-	-	-	-	
	17-Dec-2019	37,700	-	-	-	-	-	
	18-Dec-2019	37,700	-	-	-	-	-	
	19-Dec-2019	37,700	-	-	-	-	-	
	20-Dec-2019	37,700	-	-	-	-	-	
	23-Dec-2019	37,700	-	-	-	-	-	
	24-Dec-2019	37,700	-	-	-	-	-	
	26-Dec-2019	37,700	-	-	-	-	-	
	27-Dec-2019	37,700	-	-	-	-	-	
	30-Dec-2019	39,500	▲100	4.77	20,000	-	20,000	
	Total	-	-	-	-	20,000	-	20,000

20,000 tons of KOCs had been traded via intraday on December 30th, the first trade since the last recorded on September 26 and the price has risen by 5.1% to KRW 39,500 compared to previous month.

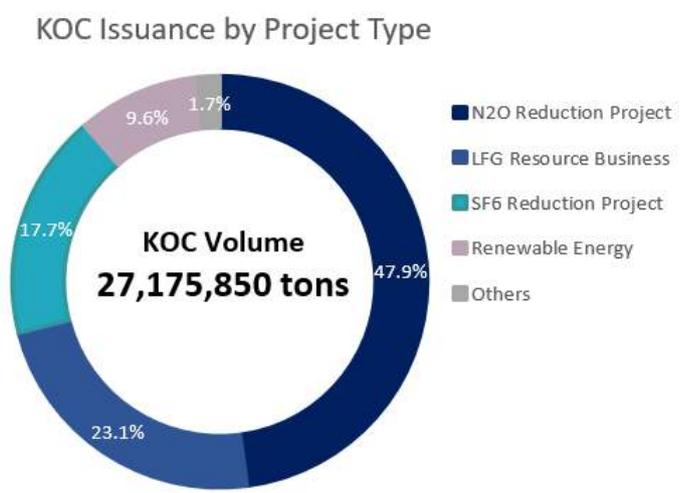
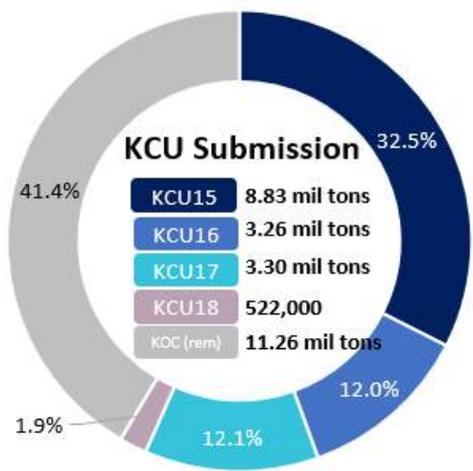


Over-the-Counter Transactions (November 2018 – November 2019)



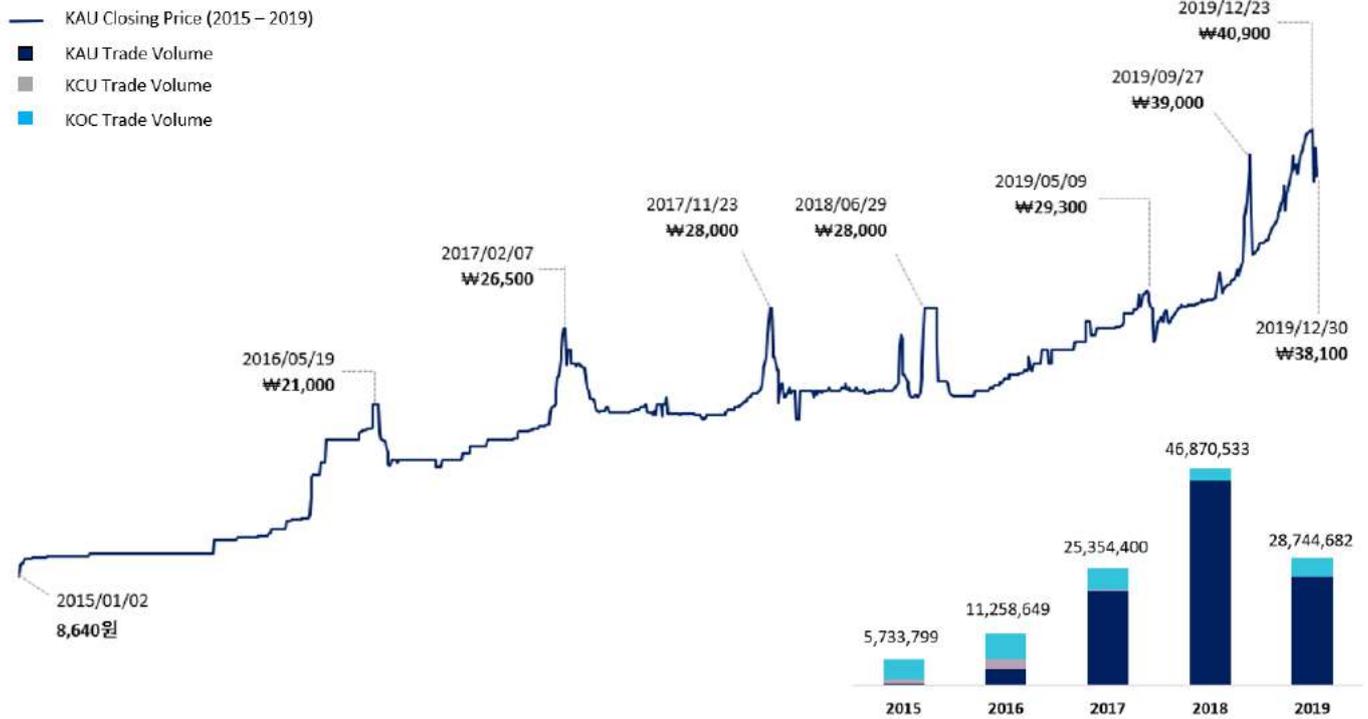
Year	Month	KAU19 Trade Volume	KAU20 Trade Volume	KOC Trade Volume	Total	
2018	Nov	500,000	200,000	648,372	1,348,372	
	Dec	300,000	200,000	67,041	567,041	
	Jan	-	-	300,000	300,000	
	Feb	-	-	64,116	64,116	
	Mar	-	-	300,000	300,000	
2019	Apr	-	-	96,369	96,369	
	May	3,000	-	632,253	635,253	
	Jun	955,000	-	179,085	1,134,085	
	Jul	300,000	-	246,484	546,484	
	Aug	4,580,000	800,000	784,422	6,164,422	
	Sep	336,099	50,000	39,388	425,487	
	Oct	100,000	-	300,000	400,000	
	Nov	515,000	-	300,000	815,000	
	Total		7,589,099	1,250,000	3,957,530	12,796,629

KOC Issuance and Usage Status (as of December 2019)





Total ETS Performance (January 2015 – December 2019)

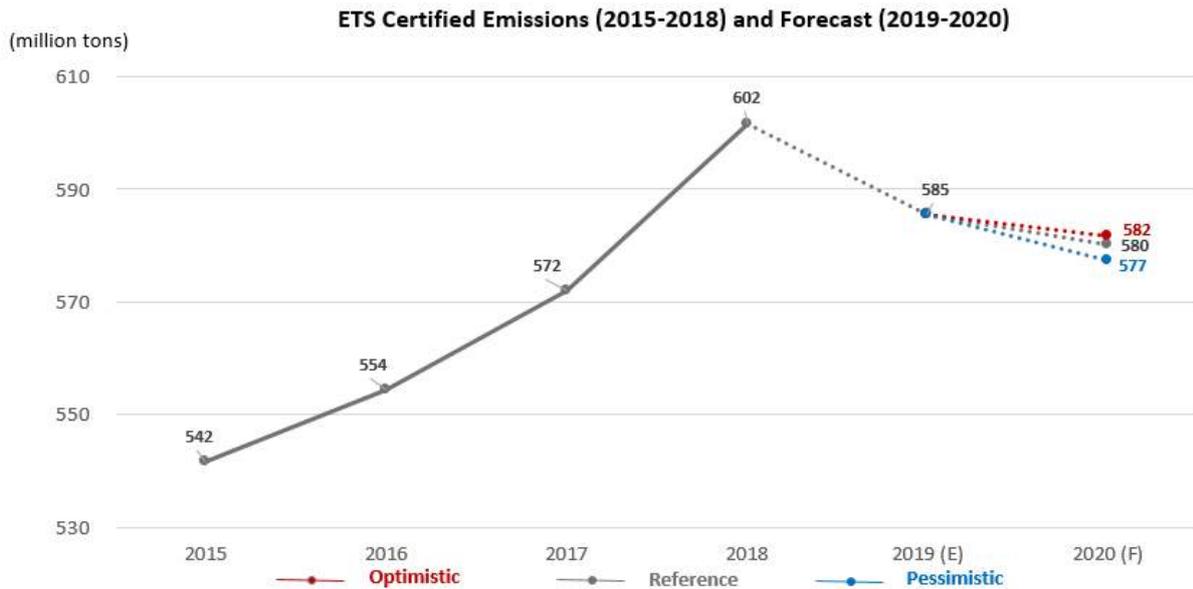


	KAU		KCU		KOC		Total	
	Intramarket	OTC	Intramarket	OTC	Intramarket	OTC	Intramarket	OTC
2015	321,380	78,315	920,717	-	-	4,413,387	1,242,097	4,491,702
2016	2,562,068	920,954	1,883,767	296,149	661,822	4,933,889	5,107,657	6,150,992
2017	13,707,828	6,594,468	323,276	-	703,032	4,025,796	14,734,136	10,620,264
2018	17,530,386	26,670,560	-	-	299,582	2,370,005	17,829,968	29,040,565
2019	7,828,437	16,492,785	-	-	1,181,343	3,242,117	9,009,780	19,734,902
Total	41,950,099	50,757,082	3,127,760	296,149	2,845,779	18,985,194	47,923,638	70,038,425
	92,707,181		3,423,909		21,830,973		117,962,063	



MARKET FORECAST

(Overall Projected Emissions)

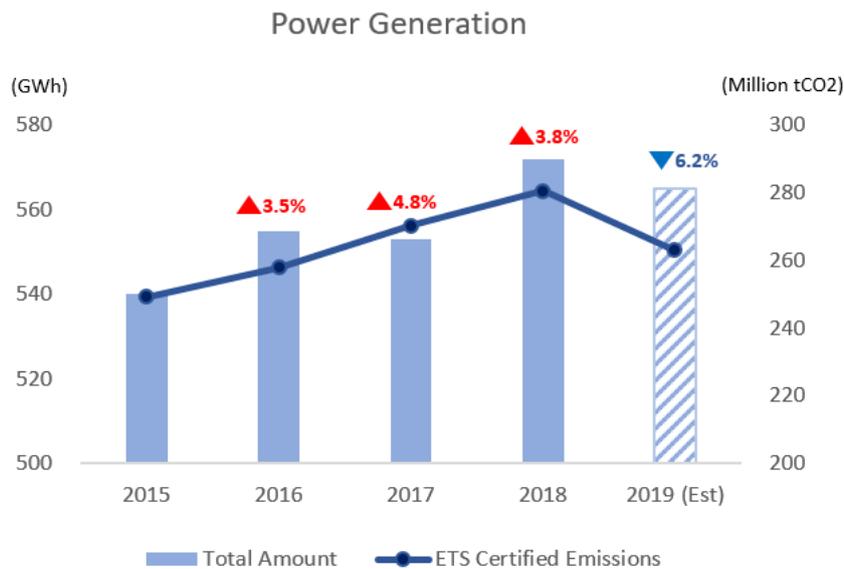


Certified emissions have been steadily increasing since 2015 but are expected to slow down in 2019. Estimated emissions for 2019, calculated by Ecoeye, are expected to decrease by -2.7% compared to 2018—a reduction of approximately 16 million tons.

The decrease in projected emissions is attributable to the decrease in the energy conversion sector (general and collective energy sectors) and the increase in nuclear power generation. The energy conversion sector is expected to decrease by -6.8% compared to 2018 with the steel and petrochemical sectors also showing a drop. On the other hand, industrial complexes, cement, and oil refining industries are expected to see an increase in their emissions in 2019.

(Power Generation Sector)

(Generation Performance) The share of power generation by energy sources put coal on the top followed by nuclear power, gas, renewables, and oil. Except for renewable energy generation, the generation of all energy sources decreased year-on-year.



(Forecast) While total power generation is expected to fall -0.9% year-on-year in 2019 due to stagnant electricity demand, the share of power generation from fossil fuels such as coal, gas and oil will increase due to the end of preventive maintenance and the expansion of new facilities. The estimated GHG emissions of power generation companies, including new entrants, are expected to fall by -6.2% year-on-year.

In 2020, energy demand is expected to recover and electricity demand to increase according to the Korea Energy Economics Institute (KEEI). With the introduction of new nuclear power plants, total power generation from nuclear power will increase as well as power generation from renewable energy. The share of coal, oil, and gas is expected to decrease and GHG emissions will continue to decline as the government decided to abolish six old coal-fired power plants by 2021, a year earlier than originally planned.

(Supply and Demand Forecast)

(2018 Emissions) In 2018, the base power generation (nuclear power + coal) decreased by -3.8% compared to the previous year, while the peak power generation (gas + oil) increased due to the surge in power demand. As a result, certified emissions of the power generation sector in 2018 was up by 3.8% compared to 2017.

Calculation shows that the total supply of allowances in 2018 amounted to 631.9 million tons and the certified emissions amounted to 601.5 million tons creating a surplus of around 30.4 million tons of allowances in the market. However, the total amount included the 37.1 million



tons of banked allowances from Phase 1 effectively leaving the market with a deficiency of 6.61 million tons of allowances.

(Forecast) For the second (2019) and third (2020) implementation years, a reduction in the energy conversion sector and increase in nuclear power generation are expected to cut the emissions by -2.7% and -3.5% , respectively, compared to 2018.

The excess in allowances are expected to be ascertained by the amount of offset credits and other ETS reserves. Basing on the forecasted emissions, it is expected that the second implementation year will have a shortage of around 8.87 million tons while the third implementation year will have at least 15.04 million tons of excess allowances.

However, the expected emissions for the rest of Phase 2 may differ from the actual ones depending on the economic trends and changes in policies for new and expanded facilities, and the future use of offset credits and other reserves so the surplus amount may change according to what is actually supplied to the market.

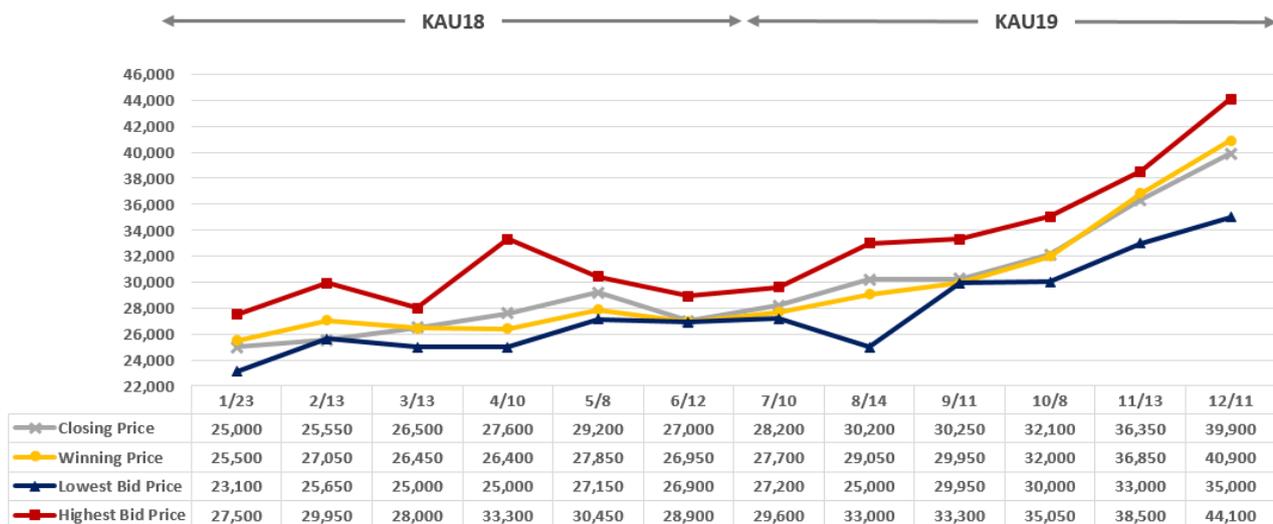


MONTHLY AUCTION

	December 2019
Auctioned Permits	550,000 tons
Total number of received bids	788,500 tons
Bid Rate	143%
Participating companies	10
Winning companies	8
Lowest Bid Price	KRW 35,000
Highest Bid Price	KRW 44,100
Market Closing Price	KRW 39,900
Winning Bid Price	KRW 40,900
Total amount of bids won	550,000 tons
Total value of bids won	KRW 22,495,000,000

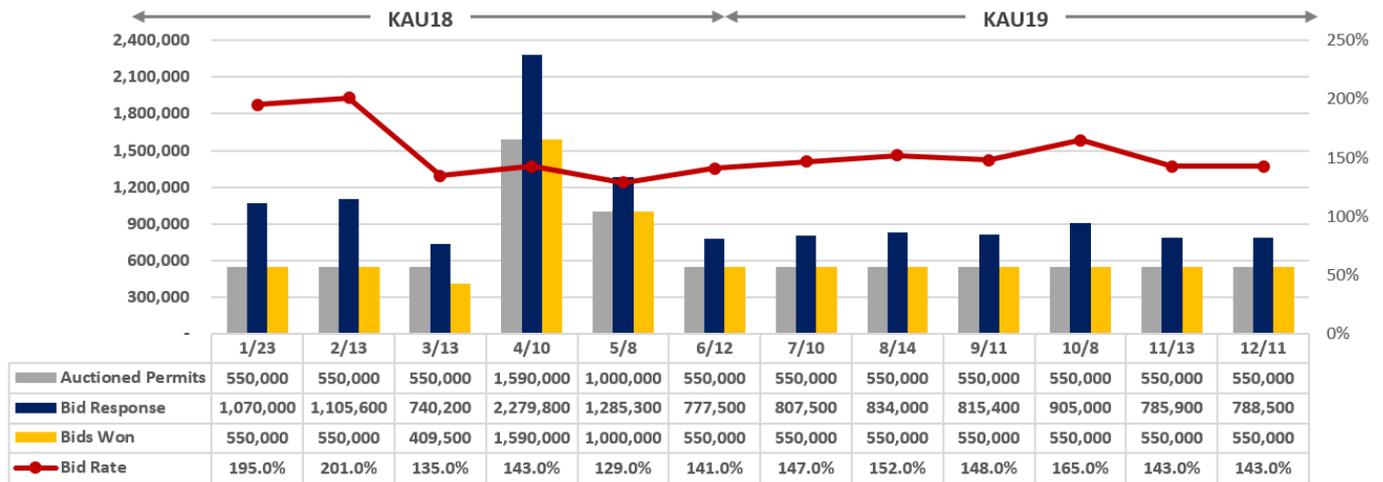
The December auction had a total of ten companies bidding for 550,000 tons of allowances where eight companies won at the clearing price of KRW 40,900. This auction registered the highest bid prices ranging from a low of KRW 35,000 to the highs of KRW 44,100.

The closing price of KAU19 on the auction day was KRW 39,900 and the clearing price was 2.5% higher than the closing price.





The auction price surpassed the resistance level of KRW 40,000 amid recent price increases of KAU19 in the market. The following day, KAU19 secondary market prices followed suit increasing by 1.38% settling at KRW 40,450.





POLICY UPDATES

Basic Plan for the Phase 3 of the Emission Trading System

On December 30, the Ministry of Strategy and Finance and the Ministry of Environment published the basic plan of the ETS containing the direction and operation of the system for the next ten years. Under the purpose of contributing to the country's achievement of its GHG reduction goal in 2030, strategies including promotion of effective reduction, improvement of allocation method, expansion of market functions, and cooperation with international carbon markets, were established.

The operational plan includes directives on allowance allocation and management, market function activation (third party participation, liquidity, derivatives), sharing of reduction technologies, and flexibility mechanisms, among others. Under the foreign reduction policy, overseas reduction projects/activities recognized as Korea's reduction performance will be converted to offset credits from 2021 onwards.

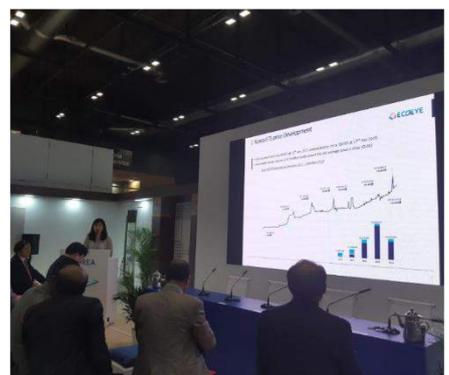
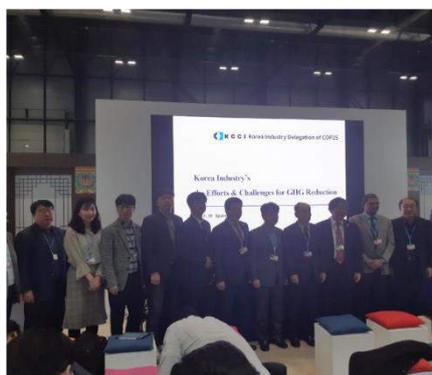


Ecoeye, Your Carbon Desk (December Activities)



4-6 December 2019
Myanmar

Visit with the Korean Ministry of Environment to introduce Ecoeye's GHG reduction projects such as the mangrove and high efficiency cook stoves. Currently, Ecoeye has supplied around 220,000 high-efficiency cook stoves in Myanmar with a target to distribute 700,000 units by 2020.



9-12 December 2019
Spain

Participation in several COP25 side events to speak about the Korean ETS, carbon finance, and CDM transition, among others.

Table 1. 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 ~) ~02: Application for ETS Voluntary Participation	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	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: deadline of notification of complaints/objections	Oct	1: Delisting of KAU18/KCU18
	Feb	13: Second auction of allowances	May	8: Fifth auction of allowances 31: 2018 notification of certified emissions/ allocation addition or cancellation		10: Seventh auction of allowances 29: notification of results (carry-over)	Nov	8: Tenth auction of allowances 13: Eleventh auction of allowances
	Mar	13: Third auction of allowances ~31: 2018 emissions certification and MP submission 2018 additional allocation application	Jun	10: Operation of market maker system 12: Sixth auction of allowances		31: designation and notification of new entrants	Dec	30: 2019 request for MP review 11: Twelfth auction of allowances
					Aug	2: 2018 additional quota/cancellation amount notification of results 14: Eight auction of allowances		
					Sep	11: carry-over/borrowing 11: Ninth auction of allowances ~30: surrender of allowances		
2020 (3rd Year)	Jan	8: First auction of allowances	Apr	8: Fourth auction of allowances	Jul	8: Seventh auction of allowances	Oct	14: Tenth auction of allowances
	Feb	12: Second auction of allowances	May	13: Fifth auction of allowances 31: (est) 2019 notification of certified emissions/additional allocation		31: (est) notification of results (complaints/objection) ~31: (est) Phase 3 Allocation Plan (est) Phase 3 Assignment of compliance entities (est) designation and notification of new entrants	Nov	31: (est) notification of Phase 3 allocation quota 11: Eleventh auction of allowances
	Mar	11: Third auction of allowances ~31: (est) 2019 emissions certification and MP submission (est) 2019 application for additional allocation	Jun	10: Sixth auction of allowances ~10: (est) 2019 allowance banking and borrowing ~30: (est) 2019 surrender of allowances (est) 2019 notification/application for appeals	Aug	12: Eight auction of allowances ~10: (est) 2019 surrender of allowances (for companies with objection) ~31: (est) Phase 3 application for allowances allocation	Dec	9: Twelfth auction of allowances
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)		



[Disclaimer]

This newsletter is intended solely for information purposes and is published once a month by Ecoeye International.

It may contain forward-looking statements, uncertainties and assumptions which reflect our view with respect to the current and future performance of the market. Although we try to provide quality information, actual results may differ due to other factors; therefore, we do not guarantee the accuracy, completeness, reliability and suitability of the contents of this newsletter. Any decision made or action taken in reliance on the information is strictly at your own risk. In no event will we be liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage arising out of, or in connection with, the use of this newsletter

[About Us]

Ecoeye is a carbon specialist firm with a strong track record on emission reduction project development and a leading offset provider in Korea. We provide carbon trading services, ETS advisory and domestic market analysis and forecasting

[Contact Us]

Carbon Market Research Team

Hyunshin Park
Team Leader
phs0321@ecoeye.com

Maureen Lee
Publisher/Market Analyst
mlee@ecoeye.com

For offset project partnership, offset trading and other inquiries, you may reach us at
info@ecoeye.com



ecoeye-int.com



company/ecoeye



@EcoeyeInt