

Korean ETS Market Review

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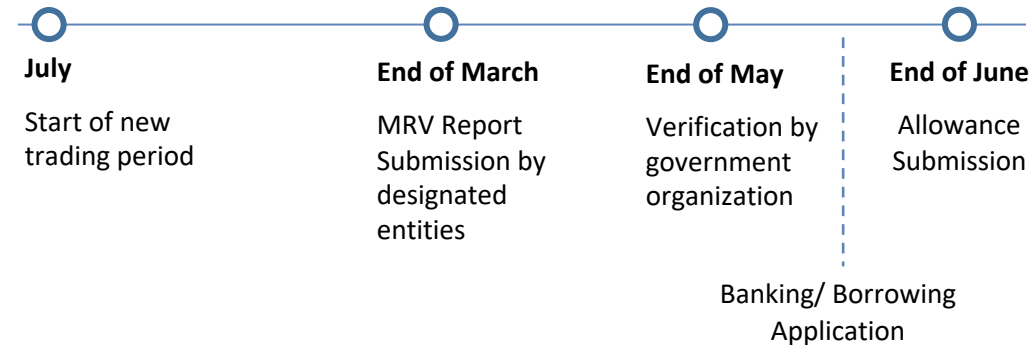
- 3rd biggest national emission trading scheme which started in 2015. Currently under 3rd phase of implementation.
- Covers approximately 73% of national GHG emissions, including indirect (scope 2) emissions

Korea ETS (K-ETS)

- **Cap Setting:** Downstream based on national GHG reduction target
- **Sectoral Coverage:** Power, Industry, Buildings, Waste and Aviation (Domestic)
- **GHG Coverage:** All 6 of the major GHGs covered
- **K-ETS Phase 3 ('21-'25)**
 - Phase 1 ('15-'17) and Phase 2 ('18-'20)
 - Number of Entities: 684 companies
 - Emissions Cap (2022): 589 MtCO₂e
 - Allocation Method: Grandfathering through benchmarking (90%), Auctioning (10%)

K-ETS Yearly Procedures

Trading year starts every July and ends at the end of June the following year.

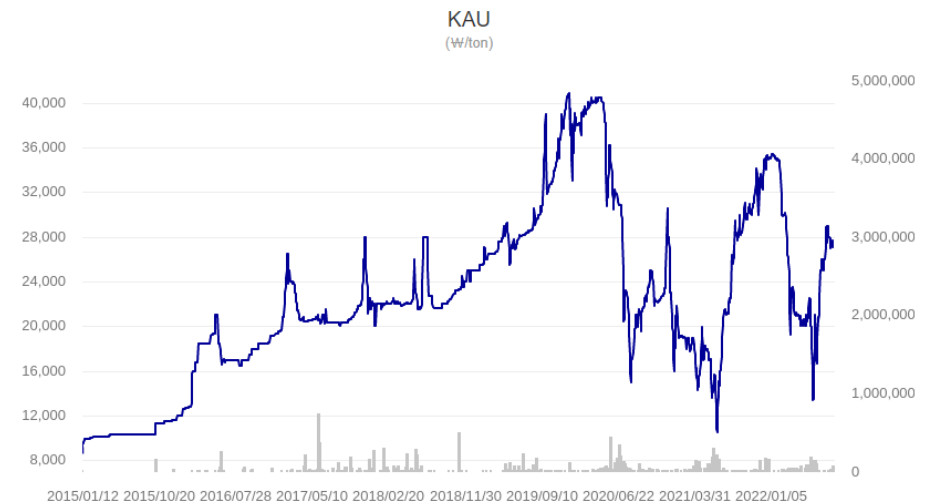


*Specific schedules regarding government verification and allowance submissions are run flexibly based on the above default timeline

Market Information

Seasonality trend very strong, generally in alignment with the allowances submission period

Price recovery has been slower compared to other compliance markets after COVID 19 due to the issue of surplus



Source: Carbon-I (2022)

Average KAU Price (USD*)		Total Trade Volume (tCO ₂ e)	
1M	\$22.14	1M	589,183
3M	\$18.85	3M	3,443,954
Total	\$17.93	Total	69,617,979

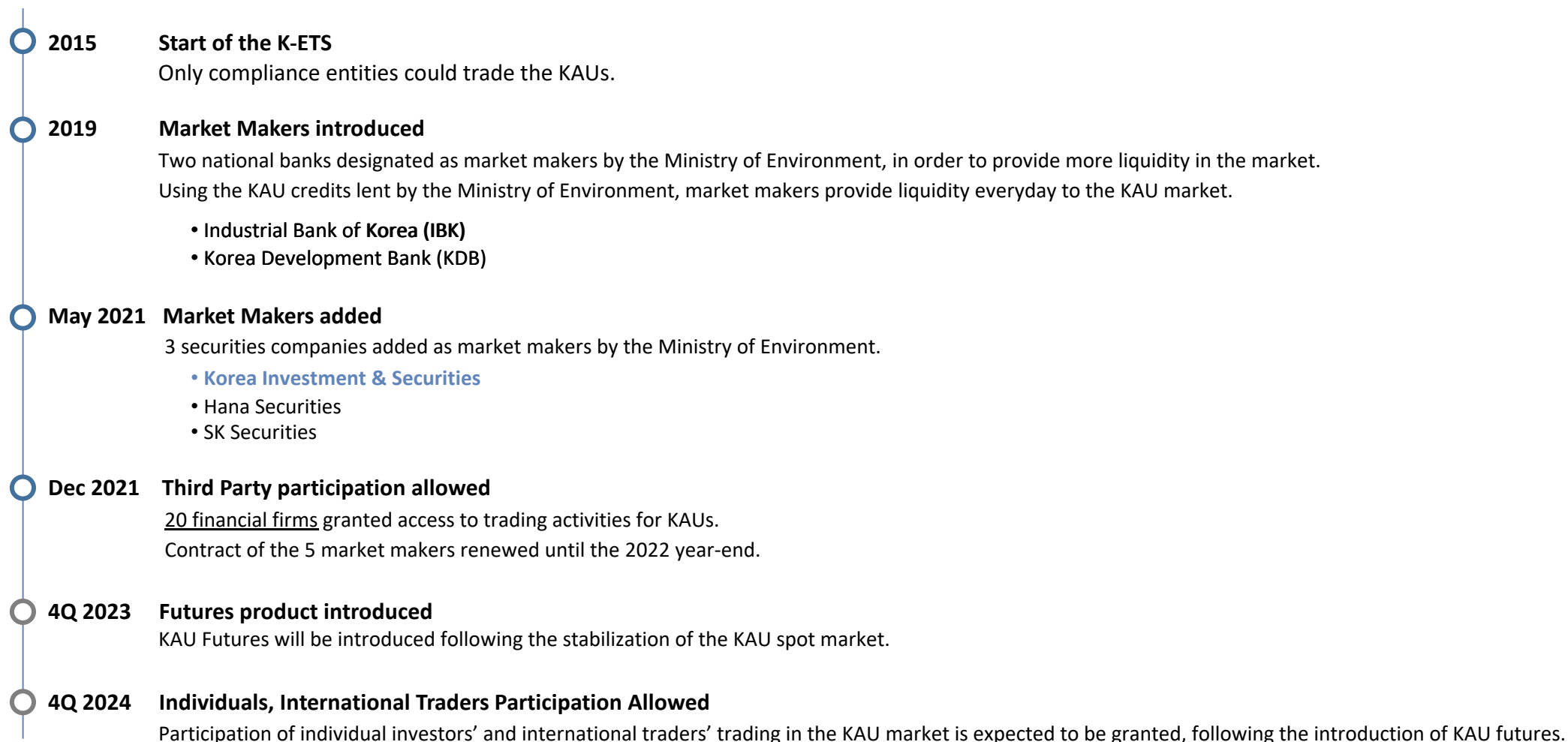
*KRW/USD = 1250

Source: Carbon-I (2022)

Market Expansion

- Introduction of market makers in 2019, following addition of securities companies in 2021
- Various new provisions to increase market liquidity will be introduced sequentially until 2024

Market Expansion Timeline

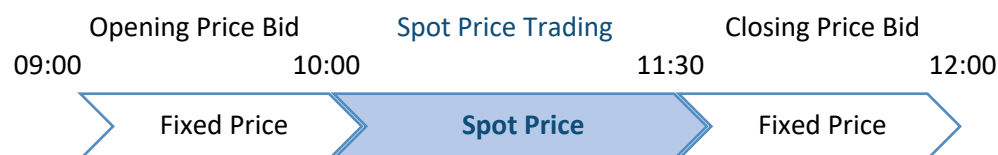


Trading Regulations

- Korean ETS trades at spot price for 1.5 hours and at fixed price for 1.5 hours per day, with a $\pm 10\%$ price range.
- The introduction of financial firms has increased liquidity in the market, but participation of third-party financial firms remains low yet.

General Trading Rules

Trading Hours



- Market operates for 3 hours/day from 09:00AM – 12:00PM.
- Designated entities can trade during any time of the trading hours.
- Market maker financial firms can participate between 10:10AM – 11:30AM.
- Third-party market participants can participate between 10:00AM – 12:00PM.

Pricing

Price ceiling/floor set at $\pm 10\%$ of the previous closing price

Bidding

Bidding up to 100,000 tCO₂e allowed per bid

Banking Limit

Banking is allowed based on benchmark of the yearly net sales volume of the entity

Banking Limit under K-ETS Phase 3	
'21 KAUs	Net Sales Volume X 2
'22 KAUs	Net Sales Volume X 2
'23 KAUs	Net Sales Volume
'24 KAUs	Net Sales Volume

Financial Firms' Involvement

Holding Limit

Financial firms have a separate banking limit than the designated entities, in order to serve the purpose of providing liquidity in the market.

Banking Limit under K-ETS Phase 3	
Market Makers	Total banking limit of 1.5 million KAUs Automatic roll-over of remaining KAUs
Third-Party Participants	Total banking limit of 200,000 KAUs per vintage

Source: Carbon-I (2022)

Trade Volume Change

The introduction of market makers seems to have added liquidity to the market

Nonetheless, the role of third-party participants seems to be minimal in adding liquidity in the market

Average Daily Trade Volume (tCO ₂ e)	
~April 2021	37,070
After market maker introduction	51,920
After third-party participation	50,597

Source: Carbon-I (2022)

Market Forecast

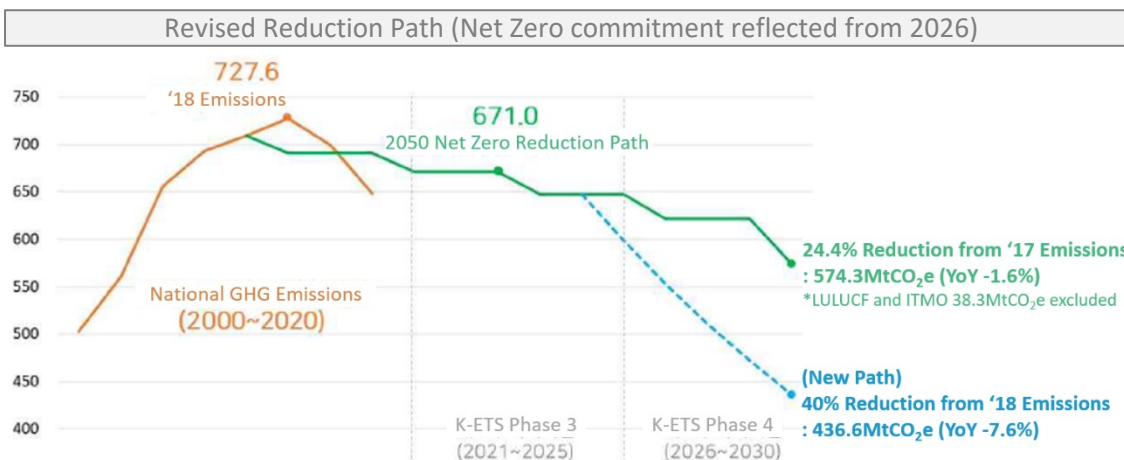
- More rigorous cap-setting and allocations is expected in the Korean ETS market.
- Market is expected to grow sequentially due to both tightening cap and market expansion policies.

Policy Expectations

▪ Net Zero and ETS

The Korean government's net zero commitment in 2050 is expected to tighten the ETS cap.

Confusion remains regarding when the revised cap and respective allocation for entities will come in force (within Phase 3 vs. Phase 4).



Source: Carbon-I (2022)

▪ Reformation in Allocation Method

The new government has announced its intention to following issues regarding allocation method

- Increase in percentage of allowances auctioned
- Increase in percentages allocated based on Benchmarking by sector

Market Expectations

▪ Increasing Market Liquidity and Finding Proper Carbon Price

Diverse market participants will provide liquidity to the market as well as reduce volatility. Korean government also expects this will help to discover proper carbon price.

▪ Enlarging the Role of Finance

The K-ETS will be connected to the Finance industry in various ways so financial firms will play a key role in the market

- Trading: financial derivatives
- Project Finance: carbon finance for emission reduction projects

▪ Big Potential for Voluntary Market

Both Korean financial firms and compliance entities are interested in the voluntary market, and there are potential big demands on using voluntary offsets for Net Zero purpose

Thank You for Your Attention

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