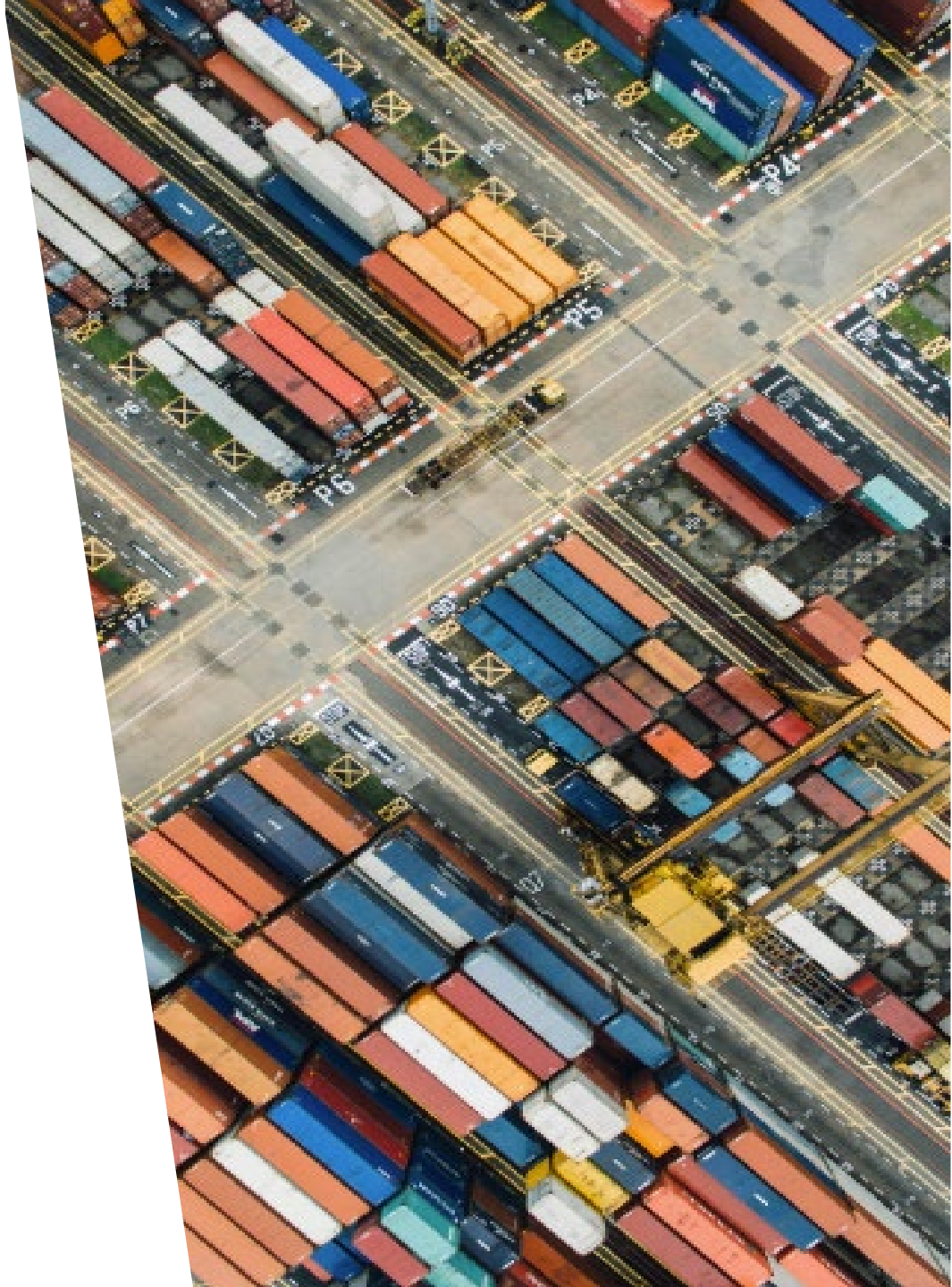
How Hedging and Banking Strategies Drive EUA Price Formation



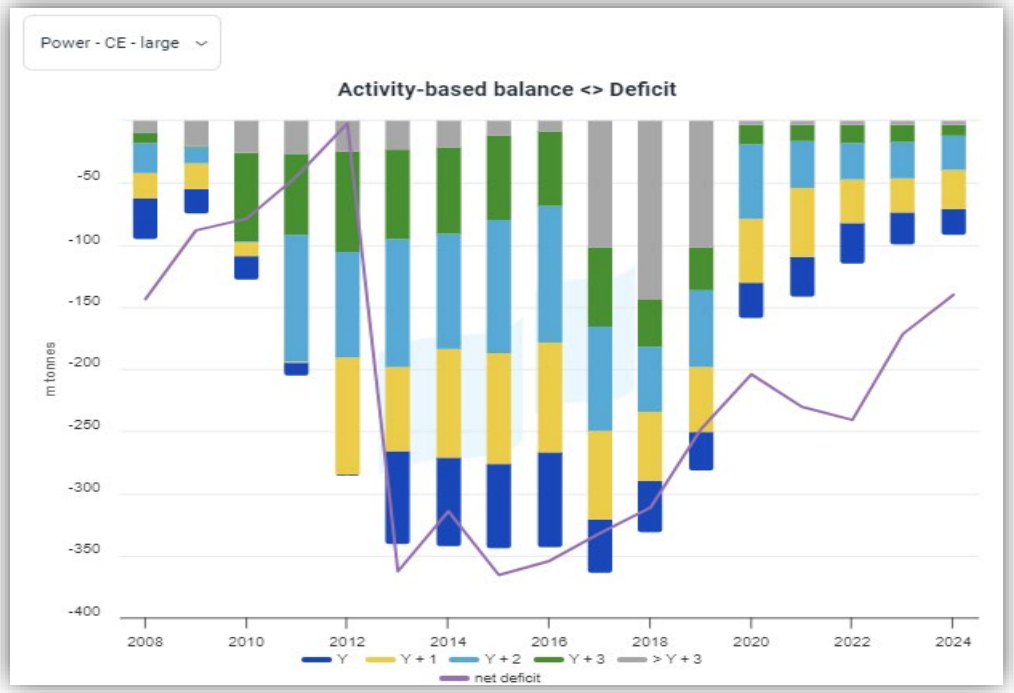
CLEARBLUE MARKETS

Timing in EU ETS

Phase out of free allowances and introduction of CBAM will accelerate hedging of energy-intensive industry

Time of purchasing EUAs does not equal time of emitting CO2.

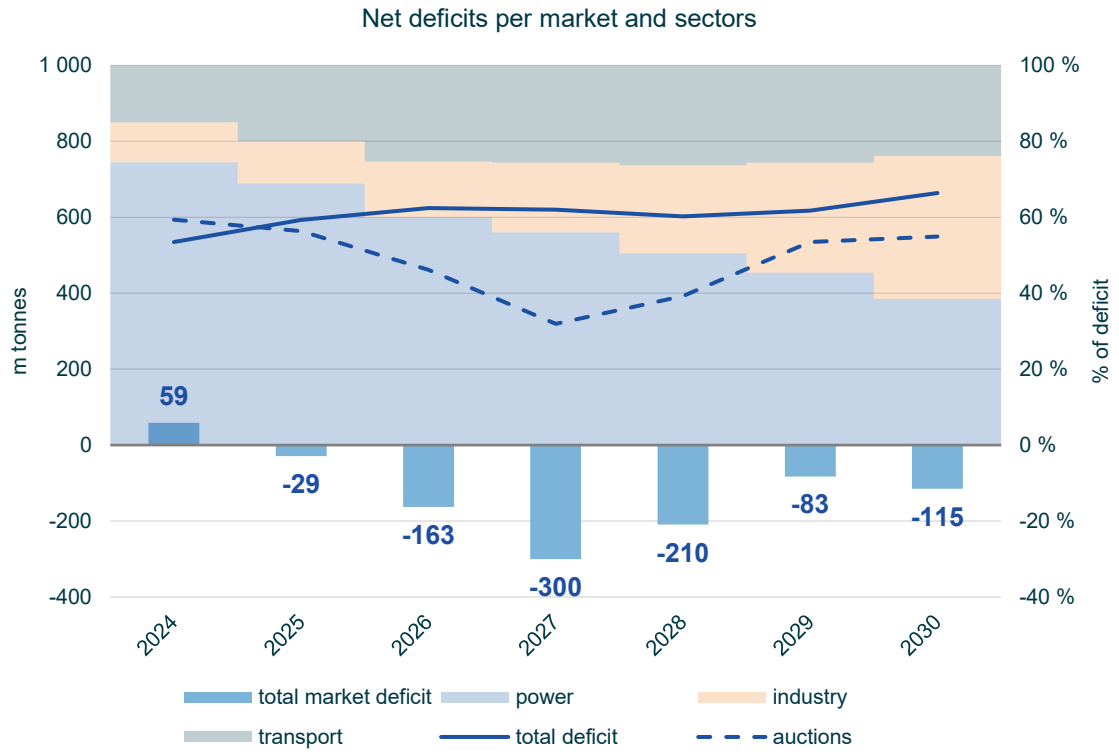
- Utilities hedging has fluctuated through time, performing long term hedges, especially 2017-2019, while recently long-term hedges are declining.
- Companies like Salzgitter have hedged 10+ years in advance, for up to 2030.
- Companies like Tata Steel, that have been able to pass over their EUA cost to customer, haven't been active in hedging
- Others may hedge 5 years in advance, others may trade only spot
- Actual emissions on a yearly basis serve as a fundamental layer, while the timing when compliance decides to trade will create the DEMAND.



- Utilities with outright generation hedged a few years in advance
- Currently mainly left with spread generation, hedging has become more shorter term

THE EU ETS – a system about to change

Phase out of free allowances and introduction of CBAM will accelerate hedging of energy-intensive industry

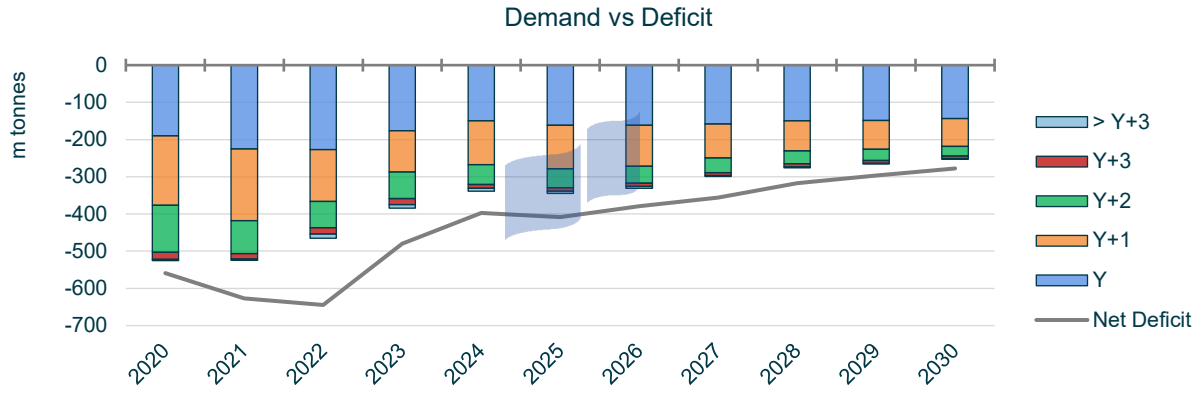


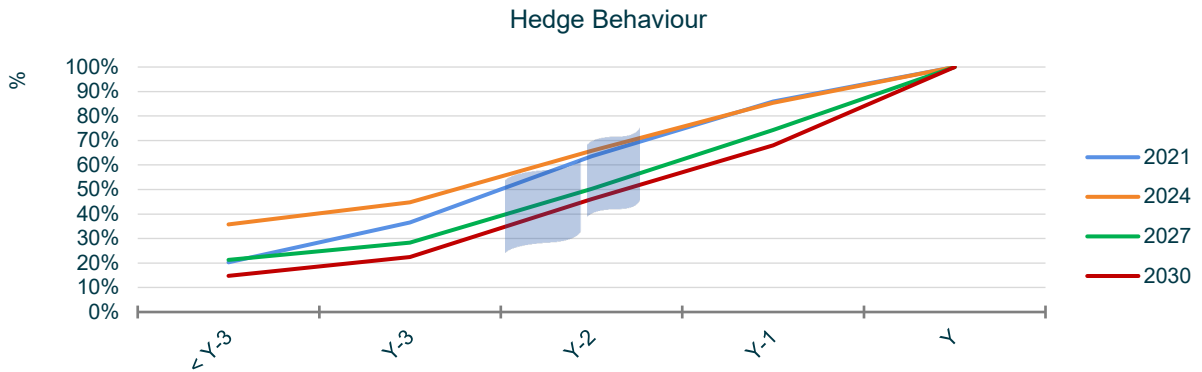
- Various political effects from the Fit-for-55 package (cap reductions, CBAM, etc) reduce supply going forward
- Due to various shifts of supply (REPowerEU, MSR, and other effects) overall total market deficit is increasing quickly towards 2027 with unprecedented relative (to auction supply) shortages
- With the power sector decarbonizing quickly, the distribution of overall deficit on the different compliance clusters changes
  - Power reducing from 74% to 39% of overall deficit
  - Industry increasing from 11% to 38%
  - Transport increasing from 15% to 24%

THE POWER SECTOR

On top of reducing the share of deficit, the power sector is also shortening hedge horizons

- The power sector reduced hedge horizons in the last years due to several reasons
  - Reduction of outright assets (especially lignite)
  - More renewables with weather dependent generation and hence unknown fossil generation
  - Higher interest rates rendering hedging more expensive
- On relative levels effects from changing hedge quotas are clear with purchases in years closer to delivery increasing
- Absolute effects are also driven by the generally quick decarbonization in the power sector

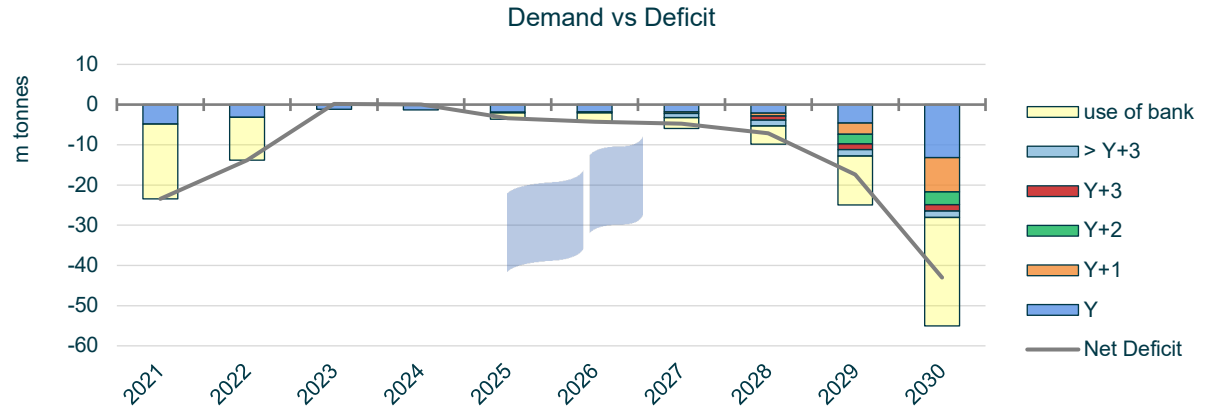


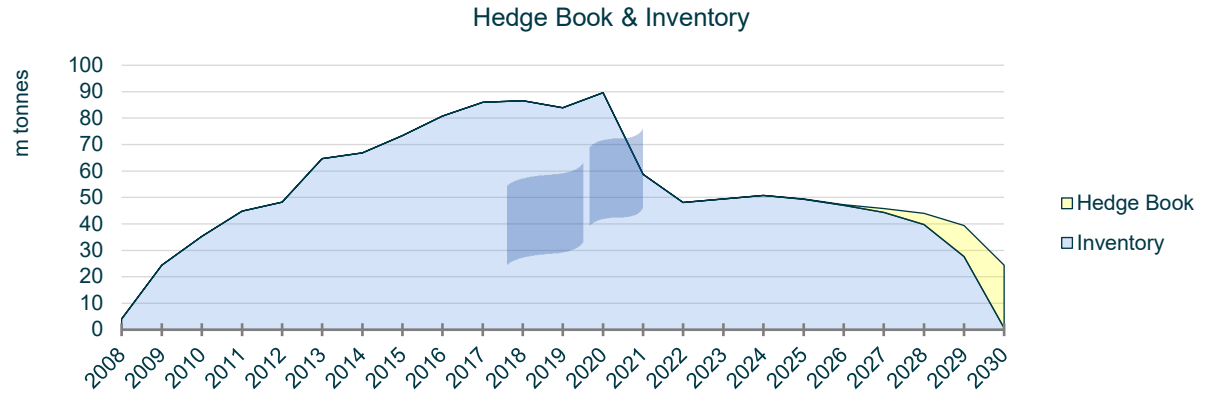


THE CEMENT SECTOR

Deficits will only gradually translate into demand as the sector banked substantial surpluses in the past

- Most of the historic deficits could be covered with banked surpluses from the past
- However, with the increasing deficits related to CBAM, the sector eats up its inventory over time
- With upcoming deficits not covered by surpluses, we expect the sector to start hedging to manage price risk
- Hedging is linked to large corporations with high trade exposure to energy markets in general
- Overall, demand is increasing significantly from 2028 onwards





ACTIVITY BASED MARKET BALANCE

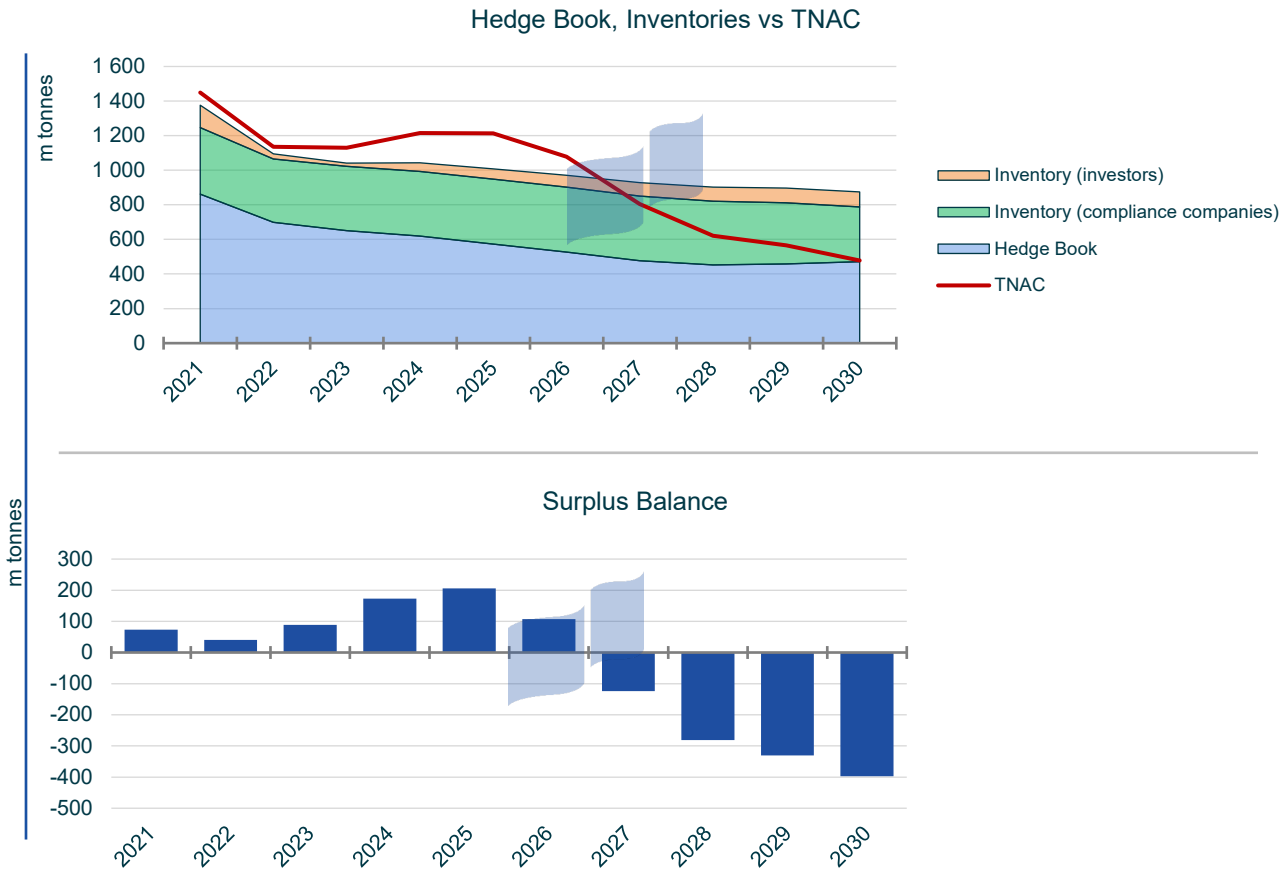
Currently observed strategies of compliance companies indicate unprecedented deficits from 2026 onwards – key uncertainties are any adjustment of compliance companies' strategies

- When considering timing of demand & supply of compliance companies, supply is higher than demand in 2024
- However as from 2025 onwards, demand is higher than supply with the deficit reaching its high in 2027
- Currently, we expect in our *MOST LIKELY* scenario that deficits are reducing again from 2028 onwards
- As demand is modelled based on strategies we currently observe in the market, the fundamental shortage of companies from 2025 onwards could change those strategies and move demand further forward

HEDGE BOOK, INVENTORIES AND TNAC

Surplus will not be high enough anymore in the future to allow companies to hedge large scale volumes (as they did in the past) and allow investors to furthermore participate in the carbon market with speculative length

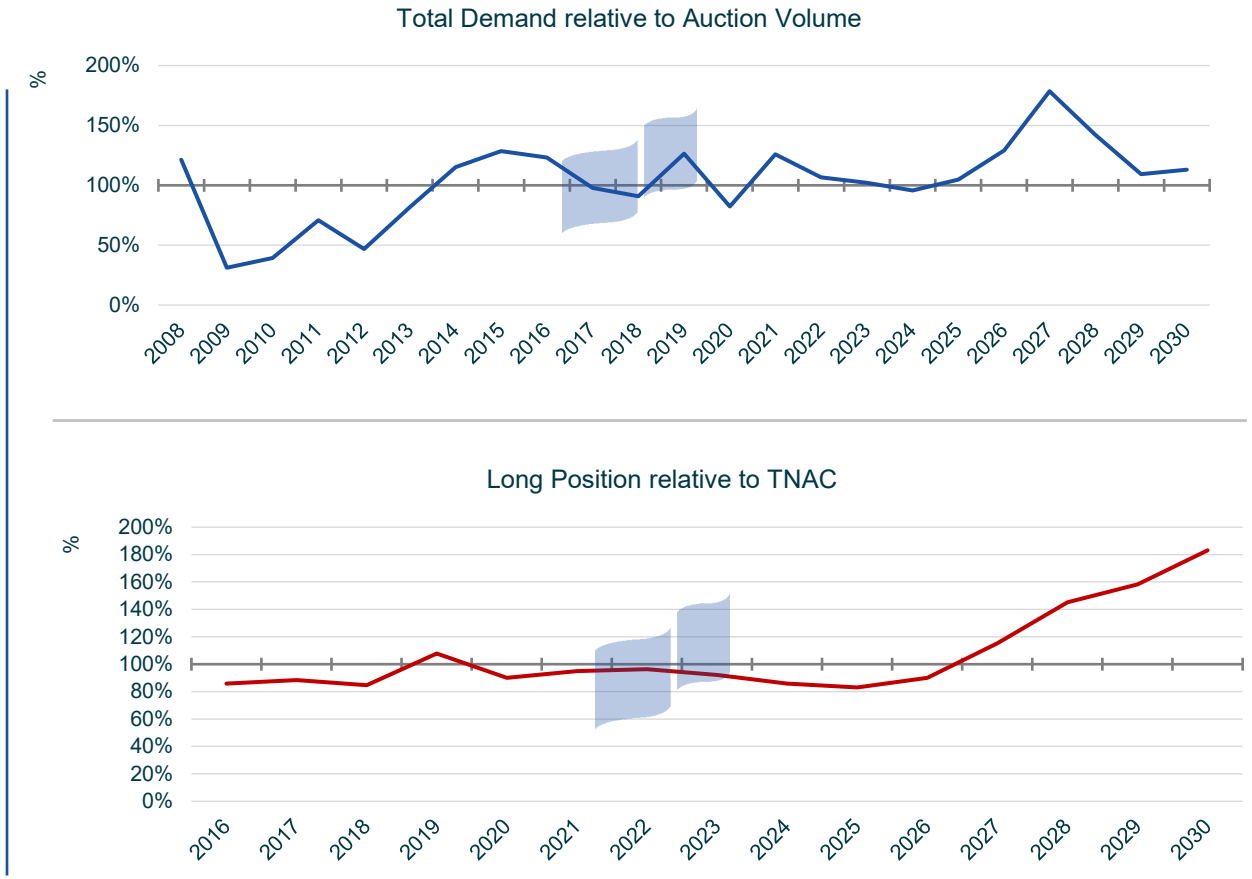
- Historically, the TNAC matched the aggregated number of inventories and hedge book of compliance companies and financial players
- The currently flat and slightly over-supplied market make a change of strategies necessary so that the surplus is picked up by players
- From 2027 onwards, the relationship between TNAC and inventories + hedge book breaks and significant change in strategies are necessary to balance the market
- Such strategy (or emission changes) need to be incentivised to price increases



PUTTING BALANCES INTO HISTORICAL CONTEXT

The expected deficits and long positions are unprecedented in an historical context and a severe price reaction will be necessary to balance the market going forward

- With increasing deficits, it is key to understand how these deficits compare to historic deficits to understand potential price developments
- Total demand relative to auction volume reach unprecedented highs in 2027 with the deficits reaching nearly 180% of auction volume in the respective year
- The total long position (inventory + hedge book) starts to go into historically unseen levels from 2027 onwards with the available surplus (TNAC) not being sufficient anymore to allow for the current strategies companies employ



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