



Steps Toward Efficient Carbon Pricing

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Sept 2022



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Context

Improve Data Clarity

Raise Pricing Efficiency

Summary

background

- In July 2021 , China' s national ETS was officially launched. The power industry is the first to be included. In the first compliance period, 4.5 billion tons of carbon allowance were issued to 2,200 compliance companies.
- In the future, 7 major industries including petrochemicals, chemicals, building materials steel, non-ferrous, papermaking, and aviation will be included in the national ETS. By then, the total carbon allowance will be expanded from the current 4.5 billion tons. To 7 billion tons, covering about 60% of the country's total CO2 emissions .

status quo

- By July 2022, the national ETS has traded for one year with total volume close to 200 mn tons;
- In April 2021 , the Guangzhou Futures Exchange was established, and electricity futures and carbon emission allowance futures are expected to be launched.
- 2 problems need to be resolved, going forward.
- **How to improve the clarity of carbon market data?**
- **How to improve the efficiency of carbon market pricing (futures)?**

2. Improve Data Clarity

Before 2025

Simplify the allocation method of CEA

“relative” → “absolute”

“Intensity” → “Cap”

Current Goal: Intensity-based emissions reduction



Different intensity baselines for different industries, equipments and processes



Spend a lot of time each year to recalibrate the baselines



Before 2030

Higher quality of data disclosure
Higher frequency of data updates

The emission data of compliance enterprises was not disclosed in time



Hard for traders to form supply & demand expectations



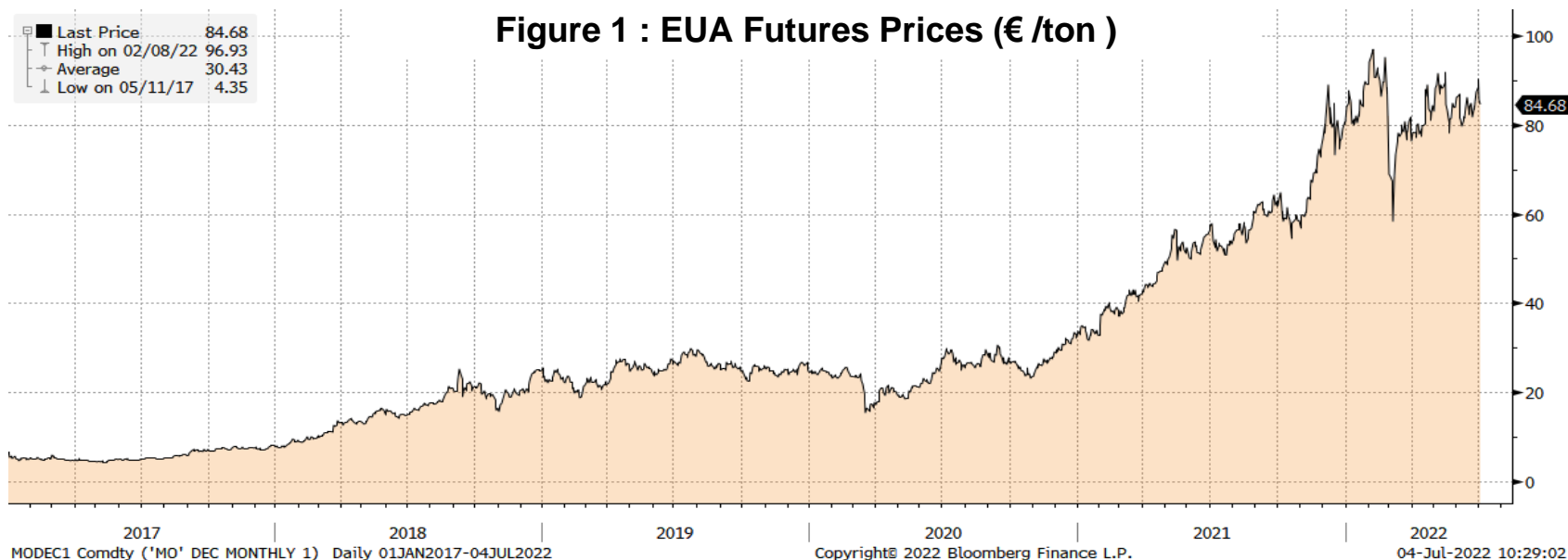
Institutions are more reluctant to enter the market



Market liquidity expected

3. Raise Pricing Efficiency: EUA

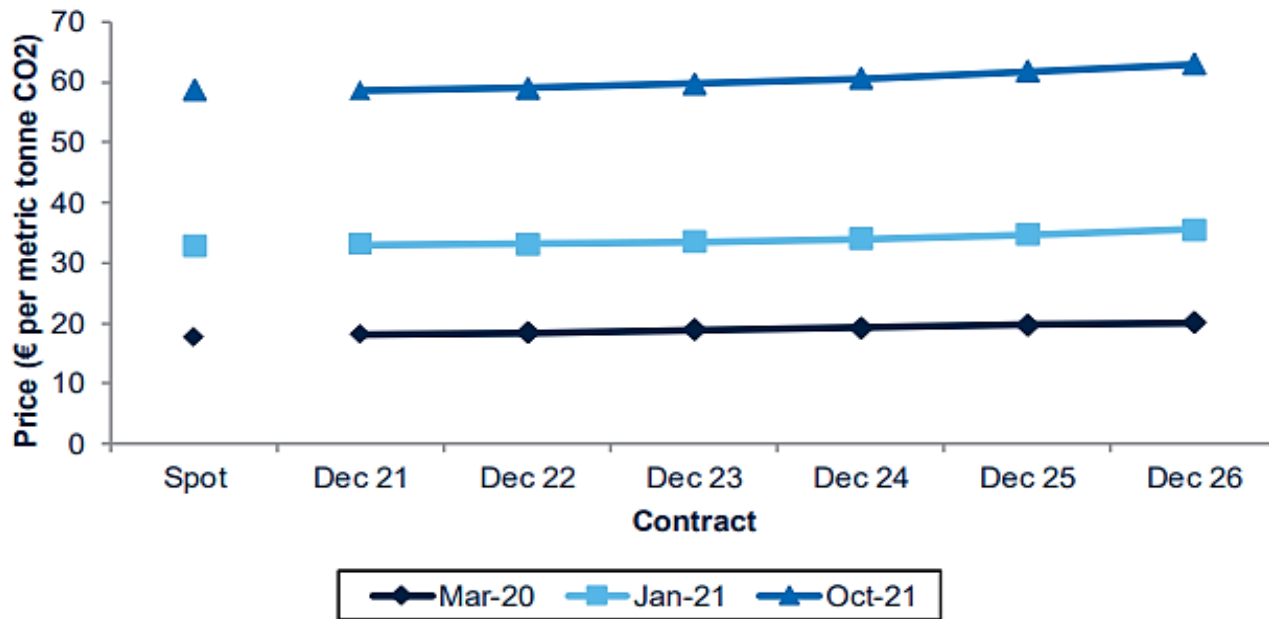
- In 2021, the amount of EUA surpassed 1.6 billion tons, and the total trading volume of EUA futures on ICE reached 15 billion tons;
- In 2021, CEA of China's power industry was 4.5 billion tons.
- How much futures trading volume can constitute effective pricing in China's national ETS?



Source: Bloomberg

3. Raise Pricing Efficiency: EUA

Figure 2 : Forward Price Curve for EUA (€ /ton)



Note: The y-axis unit is euros per tonne of CO_{2e}. Prices as at last trading day of given month.

Source: Oxera analysis of ICE data.

3. Raise Pricing Efficiency: Commodity V2.0

1. New futures & derivatives laws

- “Close-out netting” etc. viewed as milestones
- Exchange transparency



2. Update hedge accounting criteria

- No.24 Rules (Hedge Accounting) (2018)
- Carbon Market Participants Need to Hedge Risks

3. Institution vs retail traders

- EUA open interest close to 2 million lots or 2 billion tons
- International 1.08 billion lots vs. Domestic 32 million lots
- Position v. daily trading volume



4. 3-5 years Price Curve for “Carbon-Power” portfolio

- 70+ China’s future contracts mostly with only 1 -year curves
- Carbon offsets curve goes out to 2030 on offshore exchange

5. Futures prices converge with spot prices

- Unique “1,5, 9 active contracts” phenomenon
- The main contract interval : 3+ months



6. Neutral & transparent governance for futures exchanges

- CCX and ICE
- Entrepreneurial and competitive



Know your clients' needs and build capacity for trading

- Clear and present challenges for power companies
- AEX and Partners Launched China Carbon and Power OTC Trading Simulation Lab in Shanxi

Opportunities

- Create a robust pricing benchmark for CEA: 40-50 billion tons a year, full institution participation, with a forward price curve of at least three years;
- A+H carbon futures trading Architecture.



Thank You !

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