ECC Margin Optimization Tools Webinar

CCP Risk Methodology,
Leipzig, 04/13/22

Cross Margining at ECC

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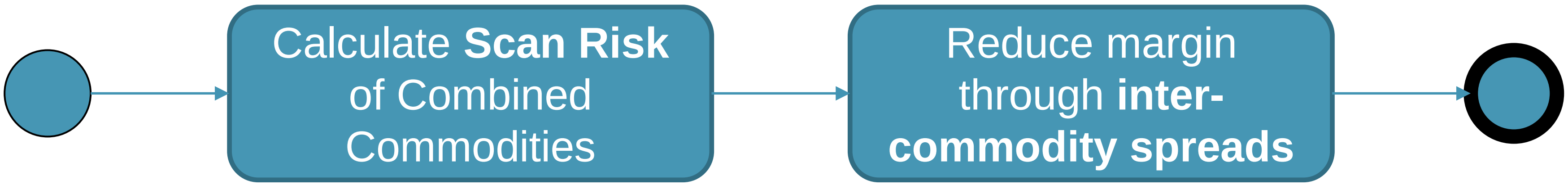
Initial margin of derivatives are calculated using SPAN®, which is essentially a two step approach



- Scan Risk of a combined commodity is the product of lot size and scanning range
- Scan Risk of portfolio is the sum of the Scan Risks of all combined commodities
- **The larger the portfolio, the greater the scan risk** – regardless of which positions are long or short

- **Inter-commodity spreads** can help to **reduce** the margin of a growing portfolio
- Required are **opposing** positions of correlated products
- Inter-commodity spreads are essentially the correlations between the contracts

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Cross Margining is more than just net the same or similar positions

Netting of Positions in the same Instrument	Perfect Spreads	Inter-commodity Spreads
Margin spread = 100%	*Margin spread = 99% to account for rounding*	*Margin spread depends on correlation*

Only net positions for each contract will be considered

Example:
- 10 Long Phelix DE Year 2023
- 7 Short Phelix DE Year 2023

➢ 3 Long Phelix DE Year 2023

Opposing positions with the same underlying and completely overlapping delivery periods which differ only in delivery profile or delivery period

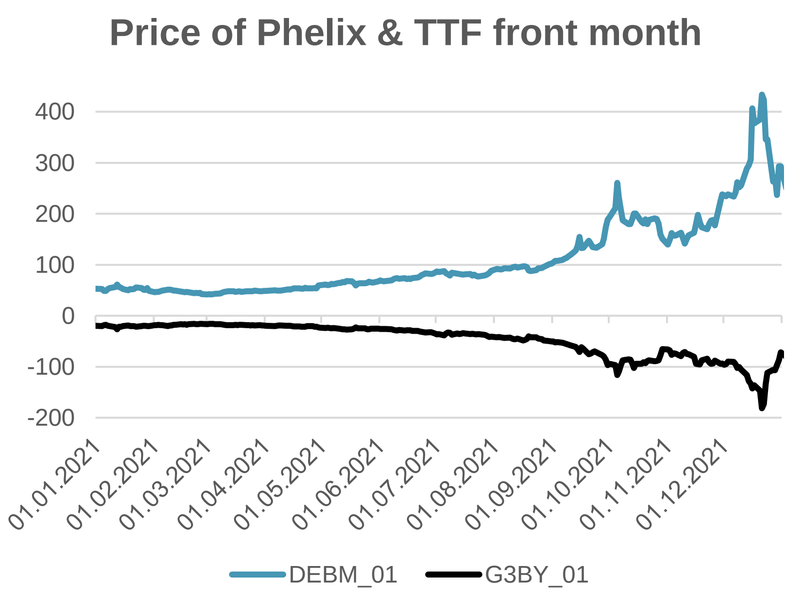
Example:
- Long Phelix DE Year 2023
- Short Phelix DE quarters Q1/23, Q2/23, Q3/23, Q4/23

Across commodities, across regions, across periods, across profiles.

Example:
- Long Phelix DE Base quarter Q3/22
- Short French Base Power Month Jul/22

Cross Margining enables the reduction of the SPAN® initial margin – especially in energy market

- Energy prices do not develop independently of each other
- Figure to the right shows the correlation between German Power and TTF gas
- Cross Margining is used to account for such a portfolio effect

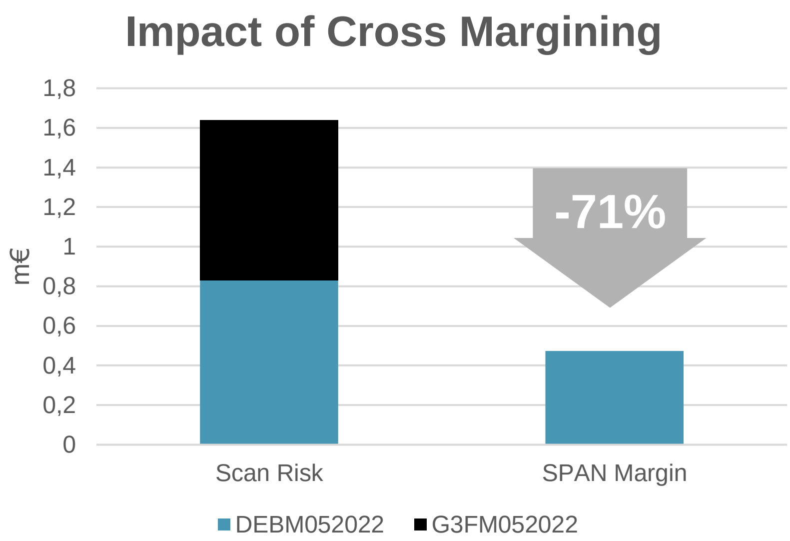


- The total margin of the portfolio above can be calculated as:
- $\boldsymbol{M = ScanRisk_X + ScanRisk_Y - 2 * C_P * \min(ScanRisk_X, ScanRisk_Y)}$
- With the credit C_P being essentially the Pearson correlation

Sample calculation shows the significant impact of cross margining

- Sample portfolio consists out of:
  - Long 10 DEBM Mai 2022
  - Short 20 financial TTF Mai 2022
- Inter-commodity spread: 72%

- To get the most out of cross-margining one has to consider two parameters:
  - The spread of the opposing positions
  - The ratio of the scanning ranges



$$\boldsymbol{M = ScanRisk_X + ScanRisk_Y - 2 * C_P * \min(ScanRisk_X, ScanRisk_Y)}$$

Margin Enhancements for Contracts in Delivery

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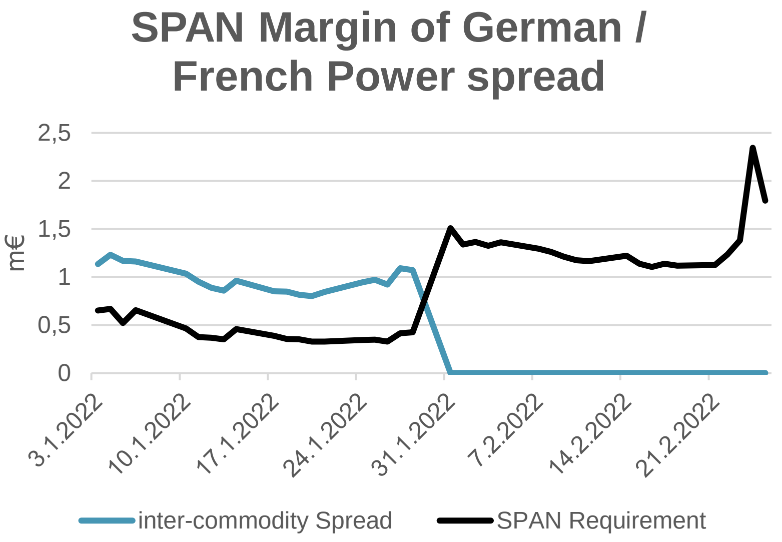
All contracts in delivery were excluded from spreading until March 30th 2022

- Originally, all contracts that ECC cleared were physical delivery contracts
- Futures with physical delivery can't be traded during delivery period
- Therefore, contracts in delivery were excluded from spreading

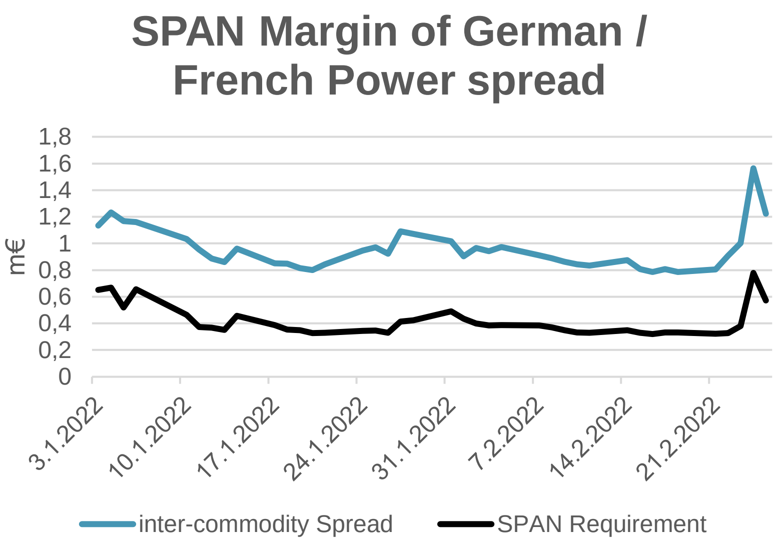
- Figure to the right shows the SPAN requirement of
  - Long 15 DEBM Feb 2022
  - Short 10 F7BM Feb 2022



Improvement for financially settled power and gas futures

- Months and week futures of financially settled power and gas futures are now included in the spreading during delivery period
- Scanning ranges will be adjusted daily according to price and volatility
- Reduction of contract size will not be considered

- Figure to the right shows same portfolio as in previous slide

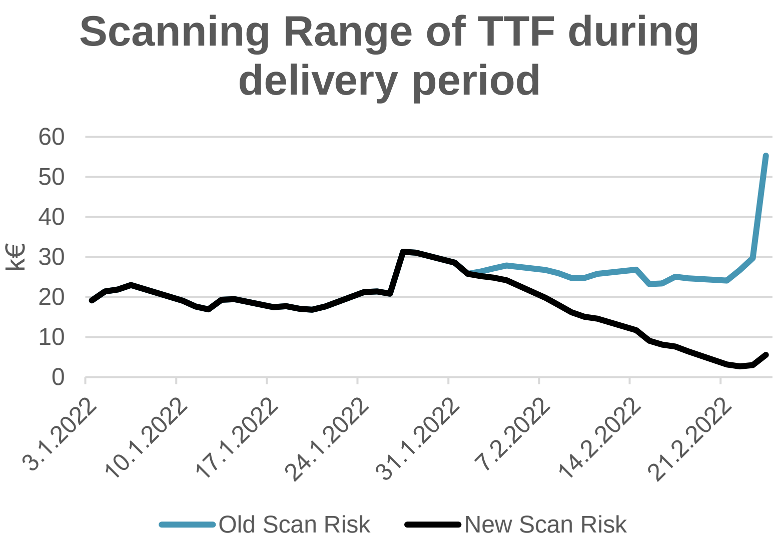


Improvement for physically settled gas futures

- Reduction of contract size will be considered
- Reduction is floored by 10%

- Futures with physical delivery can’t be traded during delivery period
- Since no prices are available, spreading is still not possible

- Figure to the right shows simulated scanning range of physical TTF month future



EUA as Margin Credit

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Collateral at ECC

Non-Clearing Member → Clearing Member → ECC

Defined between the Non-Clearing Member and the Clearing Member

Clearing Member may provide collateral transformation or request collaterals according their own risk model

In accordance with the ECC rules and regulation

Clearing Members are required to request at least the same amount of collateral from their clients, but are free do agree with their clients on the way of collateralization (collateral transformation)

Collateral accepted by ECC

ECC accepts the following collaterals from its Clearing Members:

Derivatives Market (according EMIR regulation)
• Cash in EUR (USD/GBP only intraday) • Bonds, which are classified as ECB eligible and meet certain criteria (e.g. credit rating) • EU Emissions Allowances (for short positions in emission futures only)
Spot Markets
• Cash in EUR (USD/GBP only intraday & GBP for DCPs) • Bonds, which are classified as ECB eligible and meet certain criteria (e.g. credit rating) • EU Emission Allowances • Bank Guarantees

Details are available at ECC website under the section Risk Management / Collateral Management/ Collateral Eligibility

Focus on Emission Allowances
Overview

- Improvements for Emission Allowances (waiver of the former 105 days holding period) as of 02/2022 has been perceived very positive by market participants.
- Subject to setup by the Clearing Member, Emission Allowances (haircut currently 35%) could be used **to cover 20% of the total margin requirement (derivatives according EMIR only for EUA short positions as underlying commodity**).

Margin Spot	Margin Derivatives	Total margin	Max saving
10.000.000 €		10.000.000 €	2.000.000 € (20% total margin cap)
10.000.000 €	50.000.000 € (without EUA short)	60.000.000 €	10.000.000 € (spot margin only, which is <20%)
10.000.000 €	50.000.000 € (5 mio. € for EUA short)	60.000.000 €	12.000.000 € (spot margin & EUA short, = 20% cap)

- ECC is in continuous dialogue with the Clearing Members to ensure a wide coverage.

Focus on Emission Allowances

Participation and Setup

1. Interested clients should speak to their Clearing-Member in order to make sure that the model is supported.
2. Provide the form O07a Application form Emission Rights as Margin Credit including the confirmation of the respective Clearing Member to ECC.
3. ECC performs the required setups in its systems and will inform the client after completion.
4. EUAs have to be transferred to a dedicated ECC **Collateral Registry Account EU-100-5016904-0-2** (no overlap with deliveries out of spot trading activities or futures).

   Said transfer can be done from any registry account of the trading participant or by a transfer from its existing holdings with ECC. It is recommended that clients add said account to its Trusted Account List to ensure a timely transfer on EU registry level.
5. After the transfer, the EUAs will be credited to the respective internal holding account (XYZEX_HLDNG_EUACOLL_MRGN_EUR) at ECC and the balance can be retrieved via the ECC Member Area.
6. A respective margin credit will be calculated and displayed in the margin report CC750 as a premium margin under the margin classes IMSM and/or SPAN.

Focus on Emission Allowances

Release of collateral

1. A retransfer of EUAs from the ECC Collateral Registry Account must be requested via the ECC Member Area either to a registry account of the trading participant or to the ECC registry account to fulfil delivery obligations for spot and derivatives trading at EEX.

   It has to be ensured that sufficient replacement collateral is deposited before any release can be carried out.

2. The Clearing Member has to confirm the release the EUAs by signing the form O07b_Release Emission Rights as Margin Credit.

   Such approval by the Clearing Member shall be effected without undue delay (until 12:00 CET of the next ECC Business Day) and may only be refused by the Clearing Member, if margin requirements vis-à-vis the Non-Clearing Member remain uncovered.

3. ECC will transfer the EUAs to a registry account or to the ECC holding account (according to the member request) afterwards.

Q&A Session

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Contact Details

Do you have further questions? Please get in contact with:

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Thank you for your attention!

Thank you

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