

TRADING IN EUAs AND CERs

Key information on spot trading
on greenmarket



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THE MARKET FOR EUAs AND CERs

Annual quotas of emissions certificates have been issued to energy and industrial companies in Germany and thirty other European countries since 1 January 2005. The objective is to create market economy conditions under which the volume of the greenhouse gas emissions responsible for climate change will be continuously reduced. As the scheme applies to all companies producing a minimum thermal power output of 20 megawatts, the allocation, purchase and potential sale of emission certificates represents a major field of business that should not be underestimated – even for small and medium-sized enterprises.

➤ For more information on this subject, read our study on emission reduction schemes and price development on the CO₂ market, which can be ordered or downloaded at www.greenmarket-exchange.com/kmu

■ EUAs (European Union Allowances)

Emission credits issued by the governments of EU member states upon application by companies falling under the EU emissions trading scheme. An EUA permits a company to emit one metric tonne of CO₂ within a specific period under the European emissions trading framework. The majority of EUAs will be auctioned from 2013 to 2020.

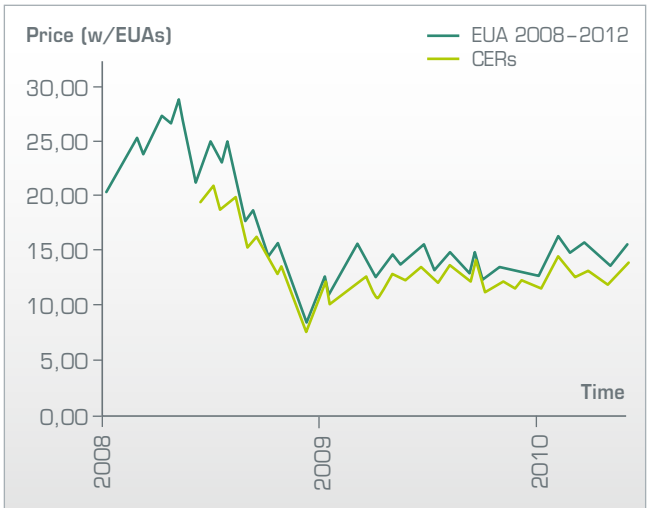
■ CERs (Certified Emission Reductions)

Emission credits generated by CDM projects. In EU emissions trading, CERs may be used to comply with mandatory emission reductions in the second and third period of trading to a maximum limit of 22%.

Prices of EUAs are determined using the ratio between the costs of CO₂ emissions saving (supply) and the costs of the emission level (demand) in the various industry sectors. The objective of emissions trading is to realise emissions reductions where they are most cost-effective.

Prices of CERs are always oriented to those of EUAs. For a number of reasons, CER prices are generally lower than EUA prices, increasing the attractiveness of emissions trading for many companies. For example, companies can generate liquidity with an EUA-CER swap in which they sell EUAs and buy lower-price CERs.

Price development for EUAs 2005–2010 (spot market)



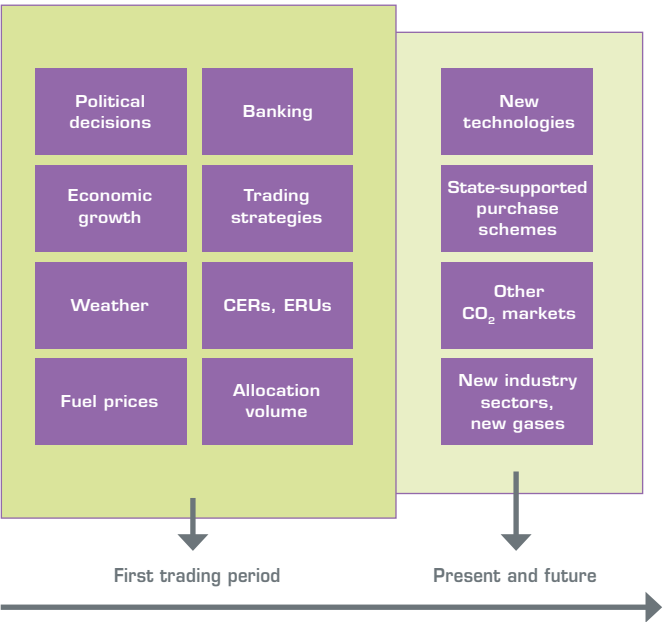
The EU will reduce the number of certificates by 1.74% from 2013. Many experts thus anticipate that prices will rise from this point. Numerous factors impact on price development, including energy demand, economic growth and interest rate trends.

Price forecasts to 2030

Year	Price forecast	Source
2011	18 €/EUA 15 €/CER	Barclays Barclays
2012	24 €/EUA 18 €/CER 21 €/EUA	Barclays Barclays Pointcarbon
2016	15-55 €/EUA	Pointcarbon
2020	5-24 USD/t CO ₂ 33-42 €/EUA	Netherlands Environmental Assessment Agency BDI
2030	34-50 €/EUA	BDI

Price forecasts from various institutes up to 2030, source: various.

Influential factors

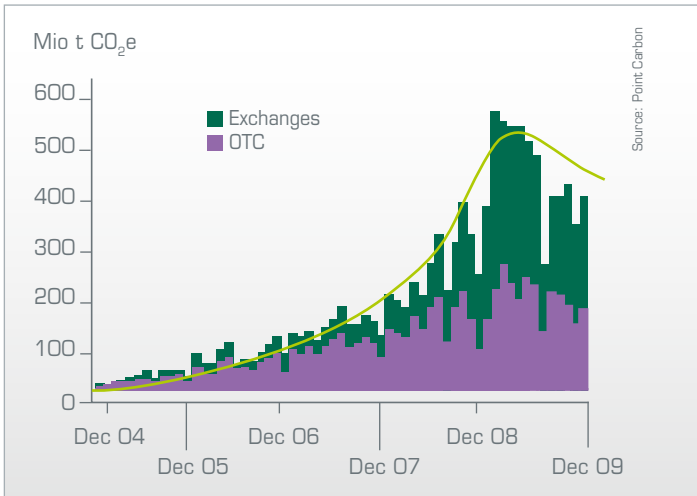


Carbon trading is already intense in Europe

Average trading in emissions certificates has boomed in recent years; a growing number of companies now no longer view these certificates as mere credits for CO₂ emissions, but as tradable financial assets. Over half of all emissions certificates are now traded on exchanges such as greenmarket. Reasons for the popularity of exchange trading include the increased capital efficiency and simpler trading process in a secure marketplace. The remaining OTC trading sector is also noting a trend towards eliminating counterparty risk (cleared trading).

As certificates grow scarcer, steady growth in exchange-based CO₂ trading volumes can be anticipated.

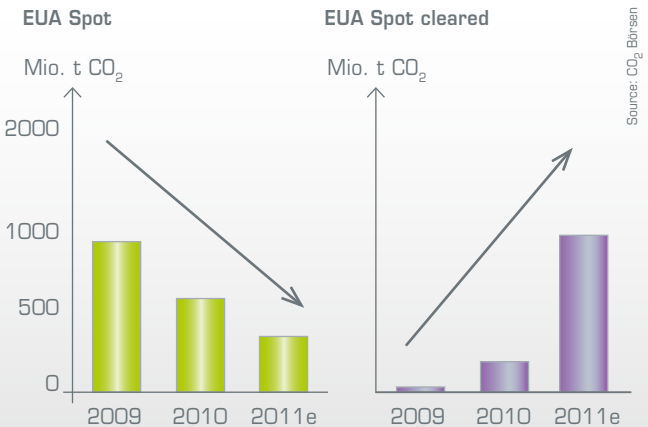
Emissions certificate trading: Exchange trading vs. OTC



EUAs and CERs on greenmarket

EUAs: Specifications		CERs: Specifications*	
ISIN	DE000A1A4YF4	ISIN	DE000A1A4YE7
Reuters	DEA1A4YF.MU	Reuters	DEA1A4YE.MU
Bloomberg	MSEXEUAS	Bloomberg	MSEXCERS
Underlying	EUA, 2008–2012, 1t CO ₂	Underlying	CER, 1t CO ₂ , (as per EU-ETS Directive)
Price tick	€ 0,01	Price tick	€ 0,01
Minimum price	€ 0,01	Minimum price	€ 0,01
Volume tick	1 t	Volume tick	1 t
Minimum volume	500 t 1t (OTC)	Minimum volume	500 t 1t (OTC)

*Exception: projects related to nuclear energy, land use, land use change, forestry and hydropower generating over 20 MW (large hydro-CERs are traded under a separate ISIN).



➤ Since 2008, more tonnes of CO₂ have been exchange-traded as certificates than „over the counter“. Remaining OTC trading operations increasingly take the form of cleared trading.

Opinions on greenmarket

Statkraft supplies a comprehensive range of products and services under the EU Emissions Trading Directive (EU-ETS) and within the Framework Convention of the Kyoto Protocol. Our clients are companies which are bound by quota systems and attempt to reduce the costs of complying with their emissions obligations. To achieve this, we need methods including simple trading templates which enable us to conduct transactions such as swap orders (EUA sale and CER purchase) simultaneously.



Michael Porr
Carbon Originator, Statkraft Markets

Citigroup Global Markets trades on the spot and futures markets on behalf of its clients. Physical purchase is as important as price hedging by means of futures certificates. Citi welcomes a platform that is able to offer both spot and futures trading under the same trading umbrella.



Benedikt von Butler
Director, Citigroup Centre



BHF-BANK provides its customers with access to the major CO₂ exchanges and supplies professional consulting and order execution. Expert trading partners such as greenmarket, with independent CCP and binding prices by market makers, are key assets for us.

André Zwingmann
Authorised Officer (Prokurist) for Emissions and Commodities,
Execution BHF-BANK AG



New regulation in the EU-ETS enforces many companies to be more active on emissions in their purchase departments. In order to minimize risks and costs and to realize chances, many issues are important like the timing to place an order. Regarding exchanges membership fees and other costs as well as bid and ask spreads, which are visible on the exchanges interface, should be taken into account and are of increasing importance.

Dr. Roland Geres
Director, FutureCamp Holding GmbH

CHANGE FOR THE BETTER.

CHANGE



A vertical image showing a mountain range. The mountains are layered, with the foreground being a vibrant green and the background fading into a hazy blue. A rainbow is visible in the sky above the mountains. The text "TO THE NEW GREENMARKET!" is overlaid in white, bold, uppercase letters across the middle of the image.

TO THE NEW GREENMARKET!



**greenmarket's new CCP setup
with SIX Securities Services
is revolutionising CO₂ trading.
Here's how you can benefit:**

↗ Higher capital efficiency

- Tightest spreads
- Real-time clearing and settlement
- Netting

↗ Simple trading

- Easy access
- Fully automated process
- Wide choice of GCMs

↗ Secure marketplace

- No counterparty risk
- Post-trade anonymity
- Transparent exchange-regulated market

Higher capital efficiency

Tightest spreads

greenmarket's spreads are significantly tighter than those on reference markets. Similarly to securities exchange trading, the reference market principle is set forth in the rules and regulations (regulations governing execution, § 4).

➤ In 78% of all cases, greenmarket offers tighter spreads in quotation and pricing than the reference market.

Real-time clearing and settlement

Clearing is effected after the transaction is concluded (matching). SIX x-clear eliminates bilateral counterparty risk and acts as a contractual intermediary, functioning as buyer for all sellers and as seller for all buyers.

Netting

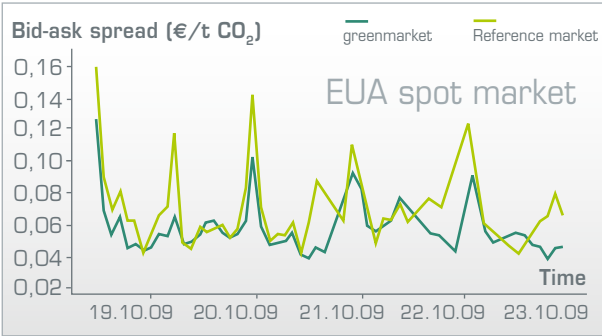
Netting, the term given to setting off trading debts against each other, is an efficient and cost-saving process. Netting is carried out by SIX x-clear, while SIX SIS is responsible for settlement and custody. Confirmation of the transaction is transmitted to the GCM.



Overview of bid-ask spread

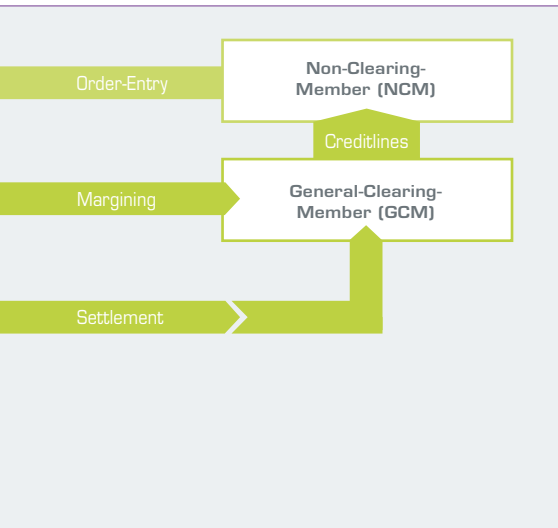
Marketplace	Hours with a better spread	%	Avg. spread
greenmarket	39	78 %	4,6 €ct
Reference market	11	22 %	5,9 €ct

Bid-ask spread greenmarket vs. reference market



Higher capital efficiency

Straight-through process: Real-time trading with integrated clearing & settlement



1. Become a member

- Download forms
- Complete forms

(Commercial Register entry/proof of equity/company description/
proof of qualification (CV)/static IP address)

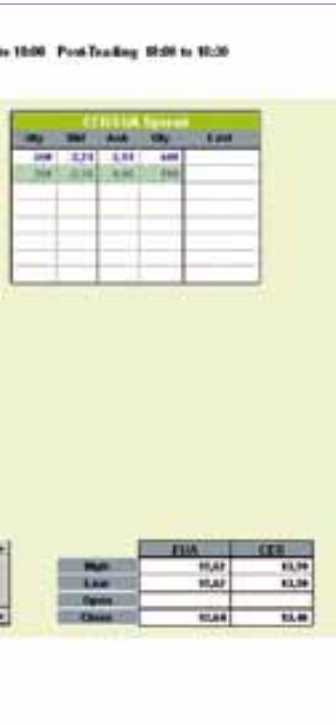
- Submit forms

2. Open an account

- Select a GCM
- Open an account
- Transfer cash/certificates from the register/
your bank account to the GCM account

3. Download software

- Open e-mail with access data
- Install Trayport GlobalVision Exchange Trading System

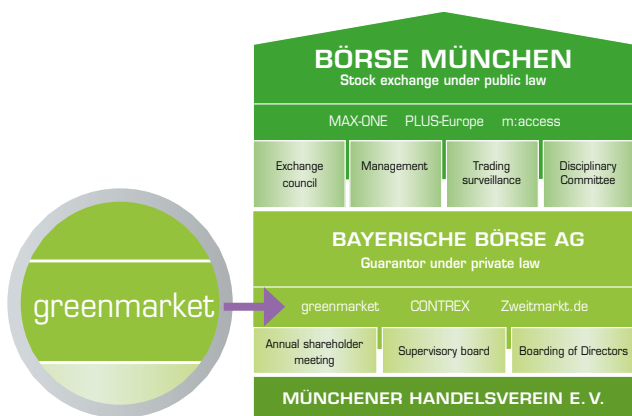


Secure marketplace

greenmarket was founded under the umbrella of Bayerische Börse AG and is thus subject to the regulations and supervision of the Bavarian State Ministry of the Economy, Infrastructure, Transport and Technology. Orderly trading is assured by official bodies of Munich Stock Exchange.

The Market Supervision Office has the responsibility of monitoring and managing all transactions in greenmarket in a reliable manner. Every day all specifications governing the members' activities in determining prices are defined and updated – from time limits for order execution or spreads to price and liquidity guarantees. Close contact with the market and ongoing communication with energy providers and financial institutions are essential to this process.

The Trading Surveillance Office (Handelsüberwachungsstelle, HÜSt) guarantees the execution of all orders in greenmarket in line with the market. As an independent body of the Stock Exchange, the office captures all data concerning exchange trading and systematically evaluates this data to ensure transactions are secure and transparent. Each individual order, each transaction in greenmarket is seamlessly traceable. This guarantees that you receive the best price and optimum execution.



No counterparty risk

SIX x-clear acts as a CCP (central counterparty), eliminating bilateral counterparty risk from transactions concluded between buyer and seller from the trade itself to its settlement.

Post-trade anonymity

The CCP enters an exchange transaction at the point where matching takes place, acting instead of the seller to the buyer and instead of the buyer to the seller to guarantee post-trade anonymity.

Transparent exchange-regulated market

In greenmarket, your exchange trading activities benefit from the conditions of an exchange under public law and from its rules and regulations based on securities trading.

Talk to us about CO₂ carbon trading in greenmarket



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Time to take action

In greenmarket, Bayerische Börse AG has established the fastest CO₂ carbon trading exchange. greenmarket applies the principles of free competition and equal opportunities to combine activities that mitigate climate change with a healthy profit motive.

Your benefits from greenmarket

- Increased capital efficiency
- Simple trading
- Secure marketplace

Interested in finding out more ...

- about trading on greenmarket in Munich?

Infoline: +49 89 549045-613

www.greenmarket-exchange.com

- about events, seminars or

Bayerische Börse AG?

Infoline: +49 89 549045-27

www.bayerische-boerse.de

Trading hours:

CERs, EUAs Mon–Fri 8 am–6 pm

Trade on greenmarket!



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www.climatepartner.com

greenmarket
The Fast Carbon Exchange

Founded by:

**bayerische
börse**