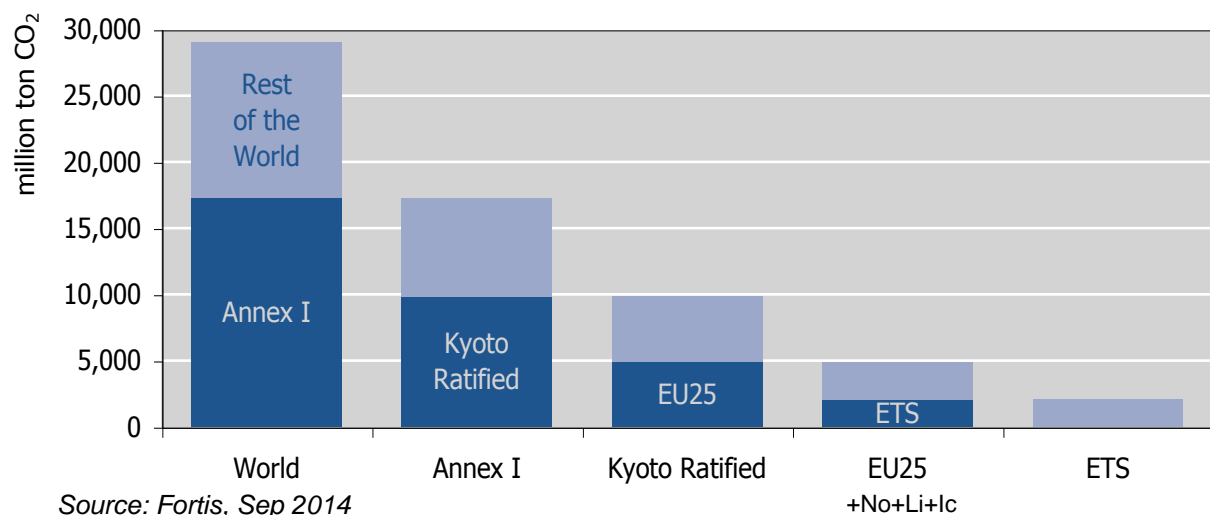


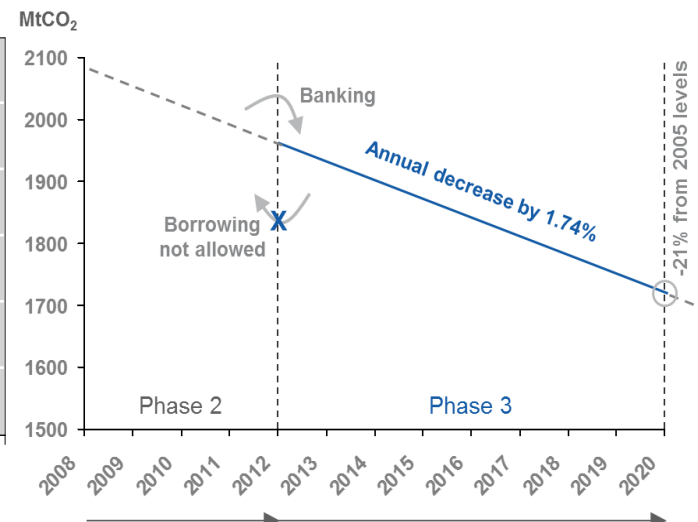
# EU Emissions Trading System Latest developments

Andreas Schröder, Analyst  
Vattenfall Energy Trading GmbH  
Asset Optimisation & Trading

# Scope



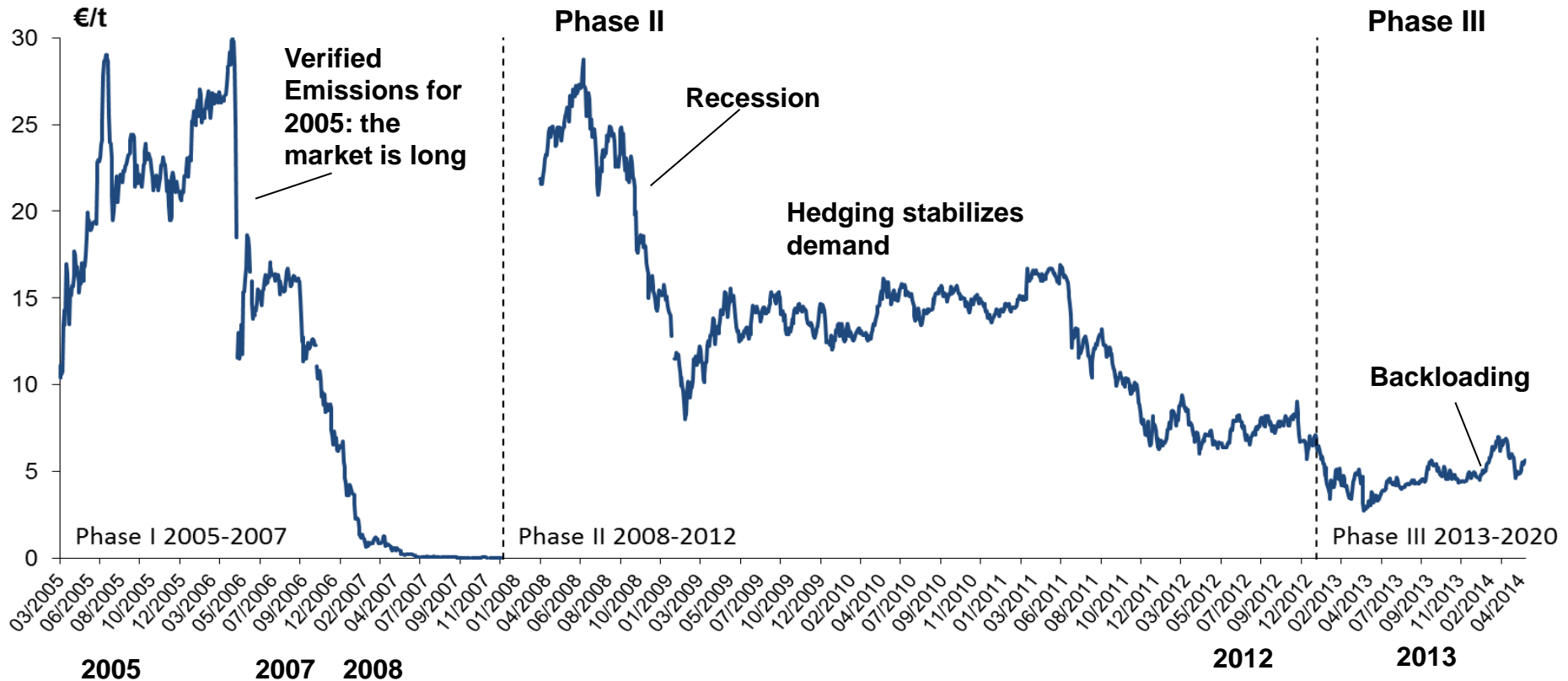
Source: Fortis, Sep 2014



[in MT]	2008	2009	2010	2011	2012	2013
Emissions	2,119.6	1,879.5	1,939.0	1,904.0	1,952.0	1,958.0
Allocation	1,957.1	1,971.2	1,997.0	2,015.9	2,124.7	1,032.2

Source: ICIS / Tschach Sep 2014 based on official figures such as Union Registry

# History



- Start-up phase
- National Allocation Plans
- Free allocation of allowances

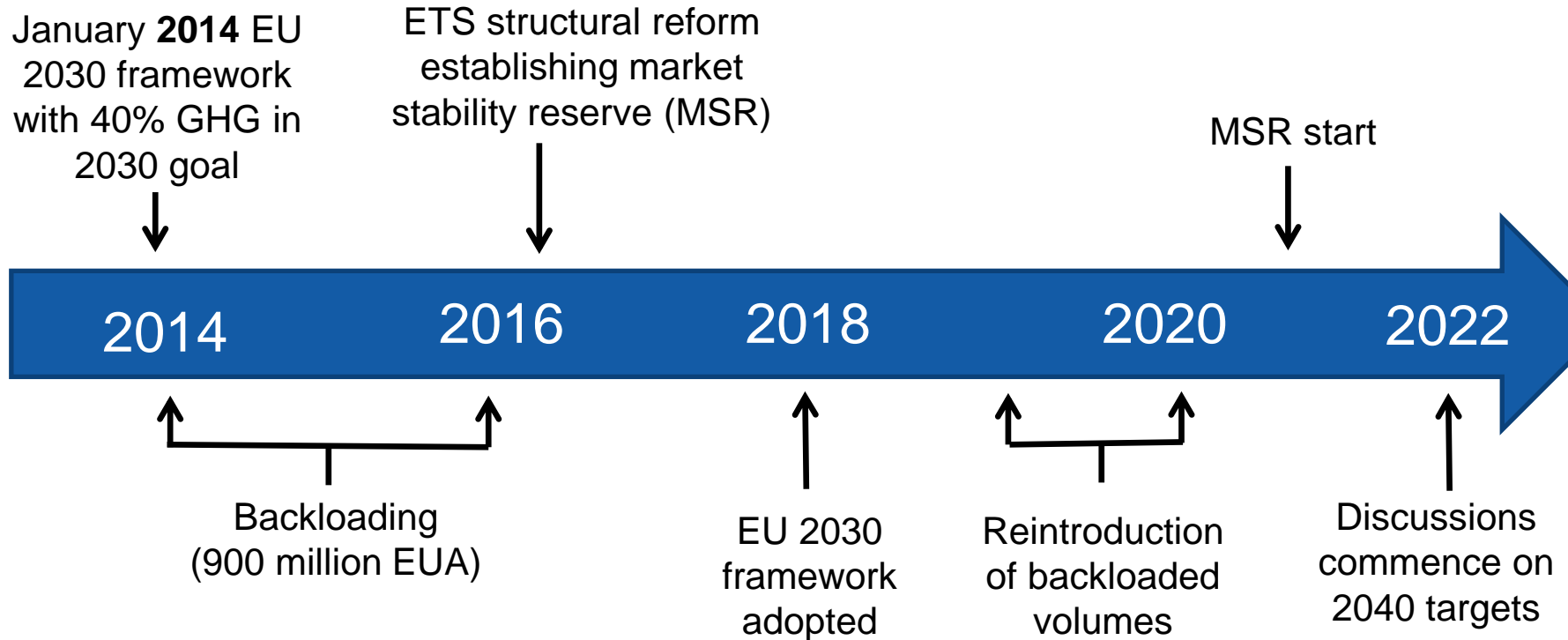
**Over-allocation!  
No Banking!**

- More stringent National Allocation Plans
- Free allocation
- 2008 cap is 6.5% below 2005 verified emissions

**Harmonise and Stabilise! Banking!**

- No NAPs, single EU cap
- -21% by 2020 to 2005
- 100% auction for power
- New: petrochemicals, aluminium, aviation

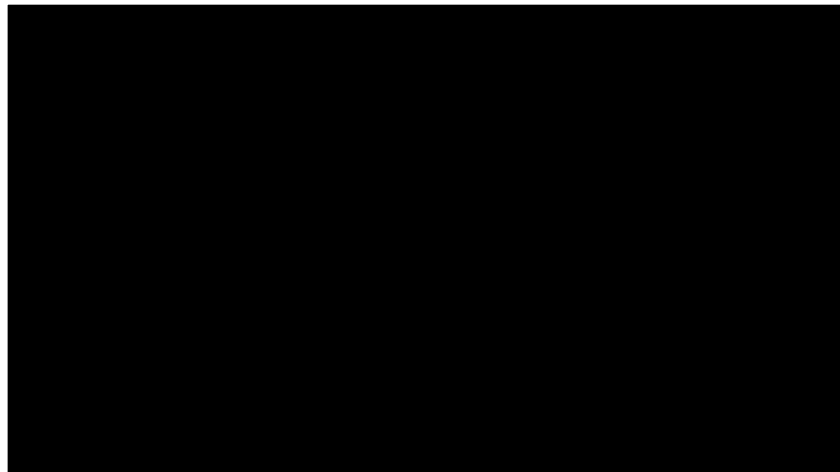
# Timeline future



# Surplus

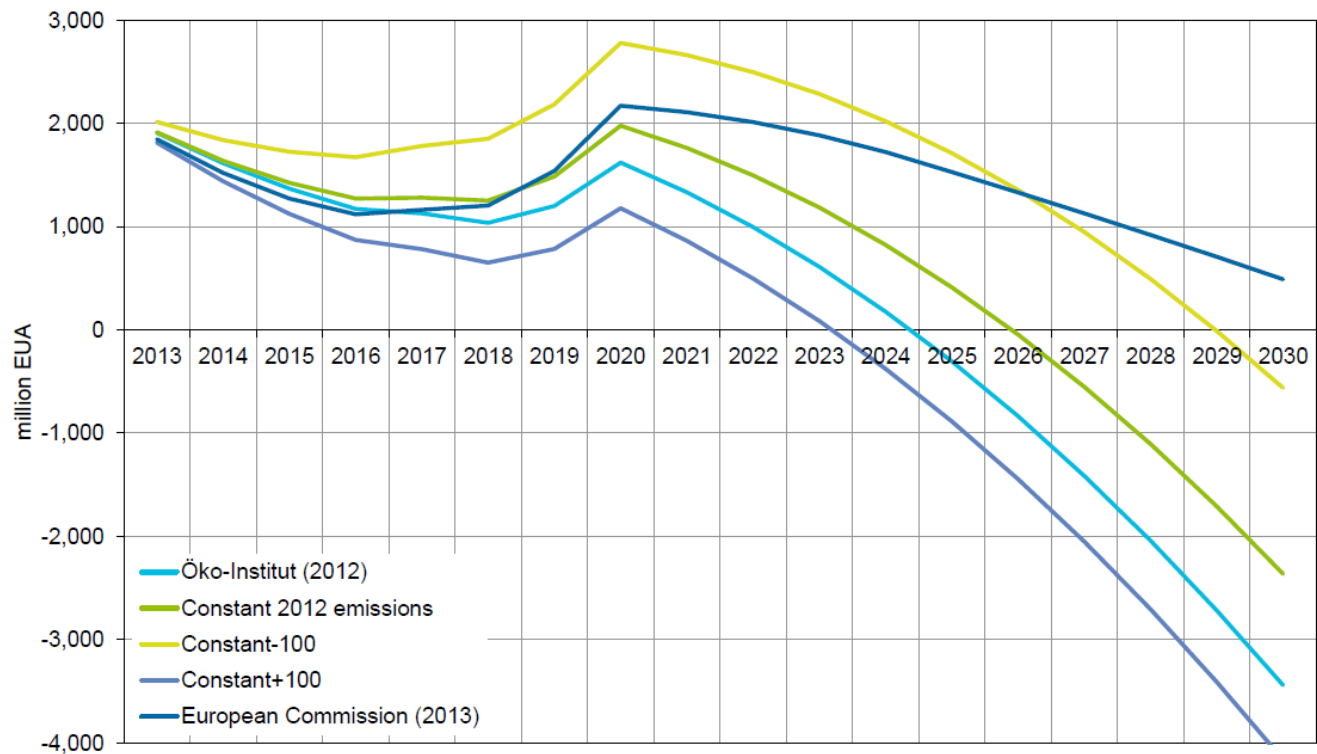
Historic surplus development

Source: ICIS/Tschach 2014

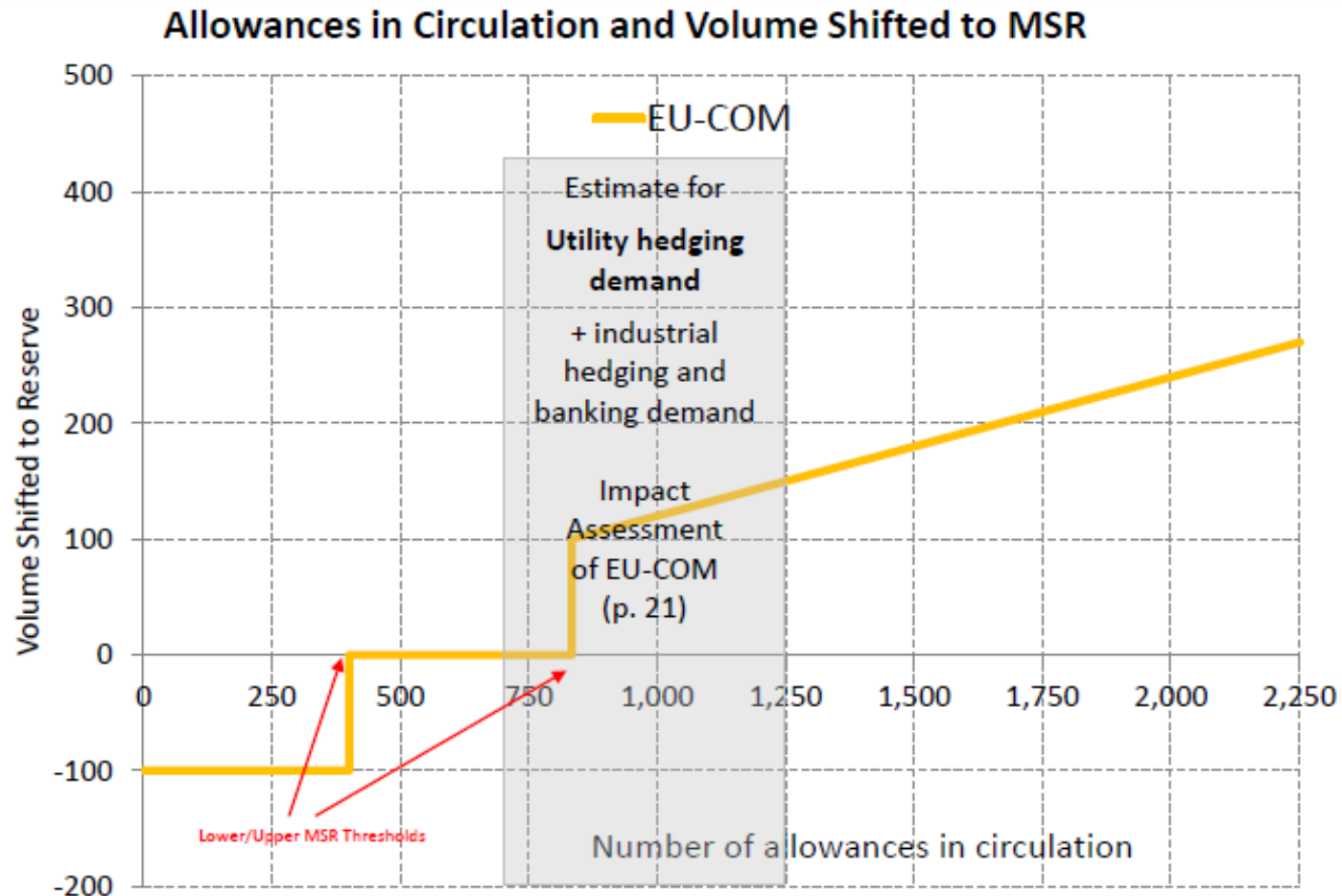


Surplus forecast

Source: Öko-Institut June 2014



# Market Stability Reserve (MSR)



Source: ICIS/Tschach April 2014

# 2030 Targets

- Leaked EU Council draft (1 Sep 2014): **Triple Target 40/30/30** for 2030
- EU Commission Impact Assessment (June 2014): **Triple Target 11 €/t vs. 40 €/t Single Target**
- EU Council Meeting 23-24 Oct + Env ministers 28 Oct

EU-Commission Impact Assessment (June 2014)	<u>CURRENT POLICY</u> <i>37.5% emissions cut (EU ETS only)</i>	<u>SINGLE TARGET</u> <i>40% emissions cut</i>	<u>TRIPLE TARGET</u> <i>40% emissions 30% renewables 30% energy efficiency</i>
CO <sub>2</sub> reduct. 2030 vs 1990 (%)	32	40	40
Renewables share 2030 (%)	24	27	30
Energy savings 2030 relative to 2007 baseline (%)	21	25	30
Energy efficiency cost [€/toe]	<b>181</b>	<b>184</b>	<b>693</b>
Renewables cost [€/MWh]	<b>34</b>	<b>34</b>	<b>134</b>
CO <sub>2</sub> -price [€/t]	<b>35</b>	<b>40</b>	<b>11</b>

Little effect  
but high cost  
→

Source: EU Commission Impact Assessment (June 2014)

# Exchange

## Auctions/allocation:

EUA, EUAA

## Secondary market:

EUA futures (most liquid Dec-14, Dec-15, ...)

CER (Kyoto Clean Development Mechanism)

ERU (Kyoto Joint Implementation)

Derivatives (Options on EUA+CER; EUA-CER

Swap, etc.)

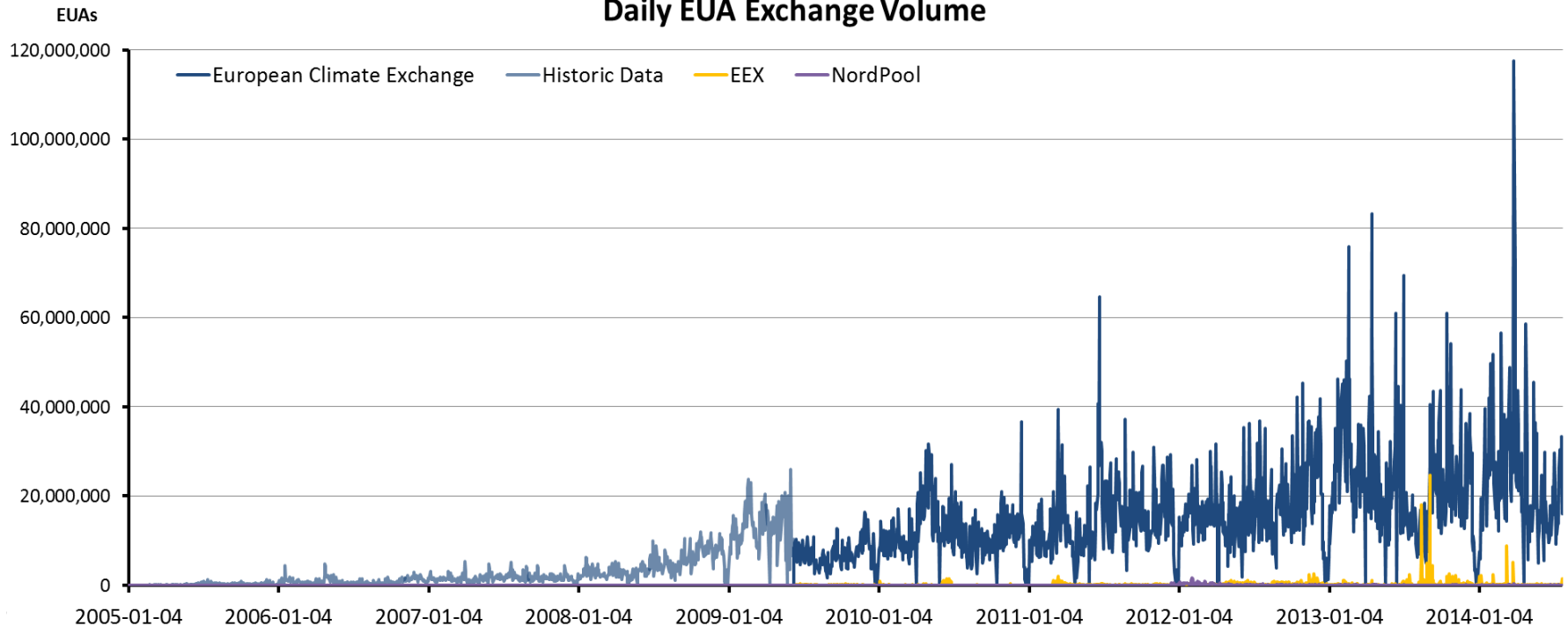
EUAA futures

\*Volume in Lots. 1 Lot = 1,000 tonnes CO<sub>2</sub>

	<b>EUAs</b> European Union Allowances	<b>CERs</b> Certified Emission Reductions	<b>ERUs</b> Emission Reduction Units	<b>EUAAAs</b> European Union Aviation Allowances
<b>Futures</b>	16,433	146	10	
<b>Daily Futures</b>	246	1		
<b>Options</b>	862	0	0	
<b>UK Auctions</b>	1,215 (Auction Lot Size of 500 tonnes CO <sub>2</sub> )			To be confirmed

Source: ICE, Sep 2014

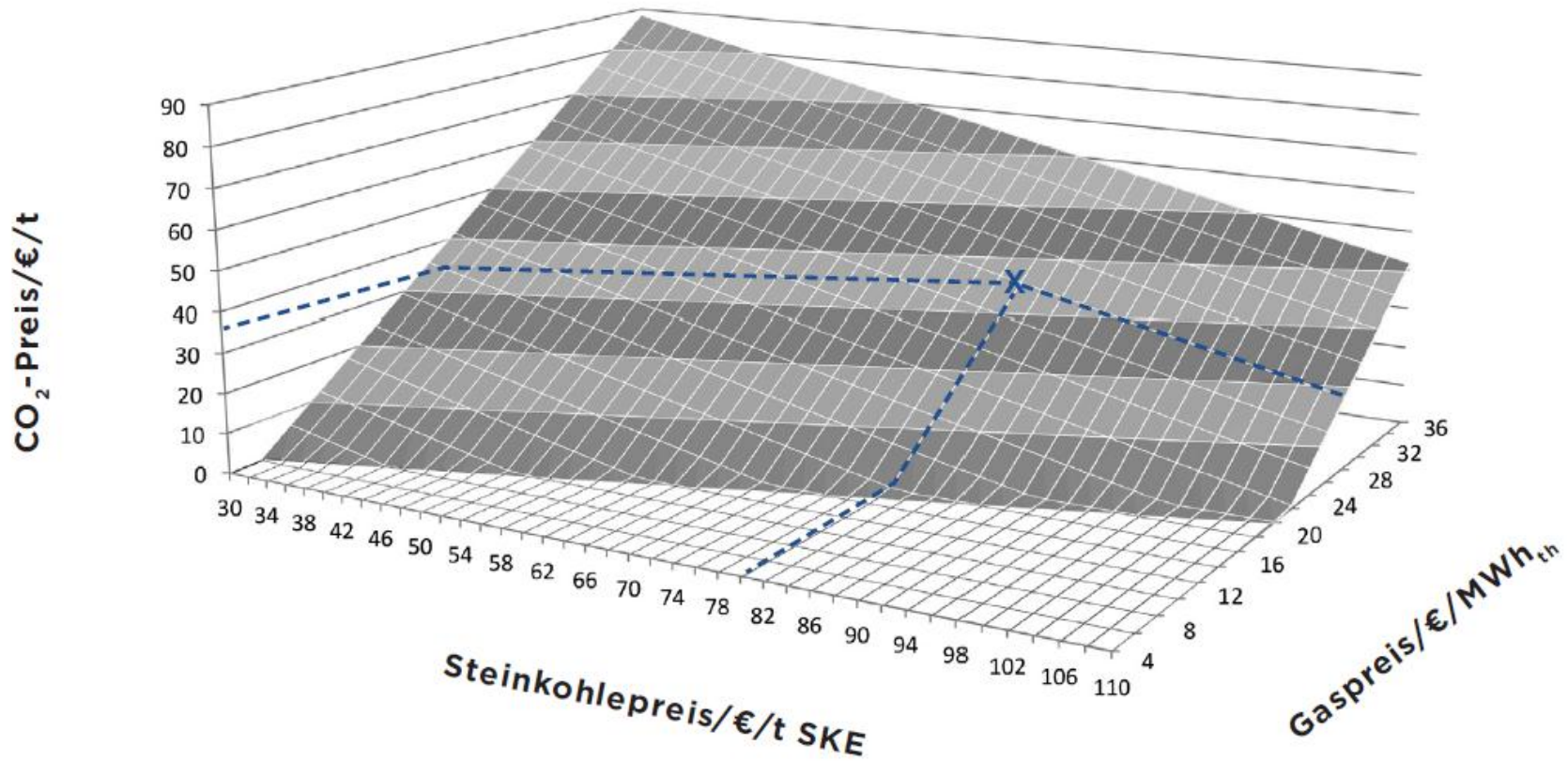
## Daily EUA Exchange Volume



Source: ICE, EEX, NordPool, 2014



# Fuel switching price



Source: Schäuble, Jacobs, Töpfer (2014)