

NORD PCOL



building a secure market

“Price formation in the Carbon market - observations and effects”

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Nord Pool

- The Nordic Power Exchange

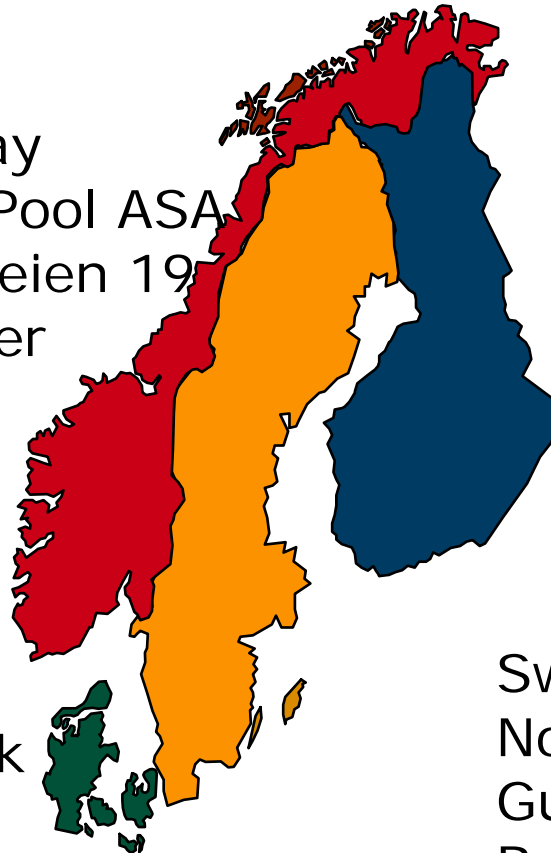


Norway
Nord Pool ASA
Vollsveien 19
Lysaker

Finland
Nord Pool Finland
Aleksanterinkatu 19A
Helsinki

Denmark
Nord Pool Denmark
Vesterballevej 5
Fredericia

Sweden
Nord Pool Sweden
Gustavlundsvägen 141 B
Bromma



Nord Pool's roles



Physical voluntary day-ahead market "Elspot"
Adjustment market "Elbas"

Published system price reference for the financial market



Financial-delivery contracts based on Elspot price

Futures, forwards, options and contracts for differences with maturities of up to 3-4 years

Direct exchange in competition with brokers



First exchange to trade contracts for European Allowances (EUA)

EUA forward and spot market

Swedish green certificates forward and spot market



Clearing of exchange-traded and bilateral derivative contracts

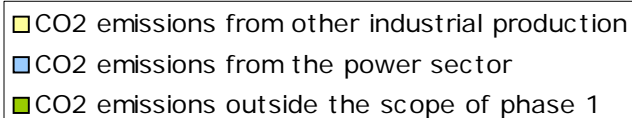
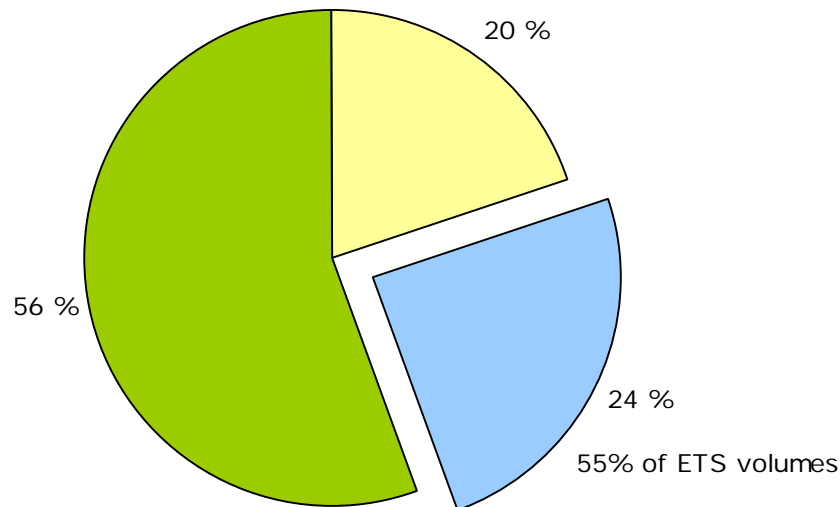
Clearing for both electricity and green markets



Specialist consulting firm providing strategic and management consulting services within the electricity business world wide.

EU Emission Trading Scheme

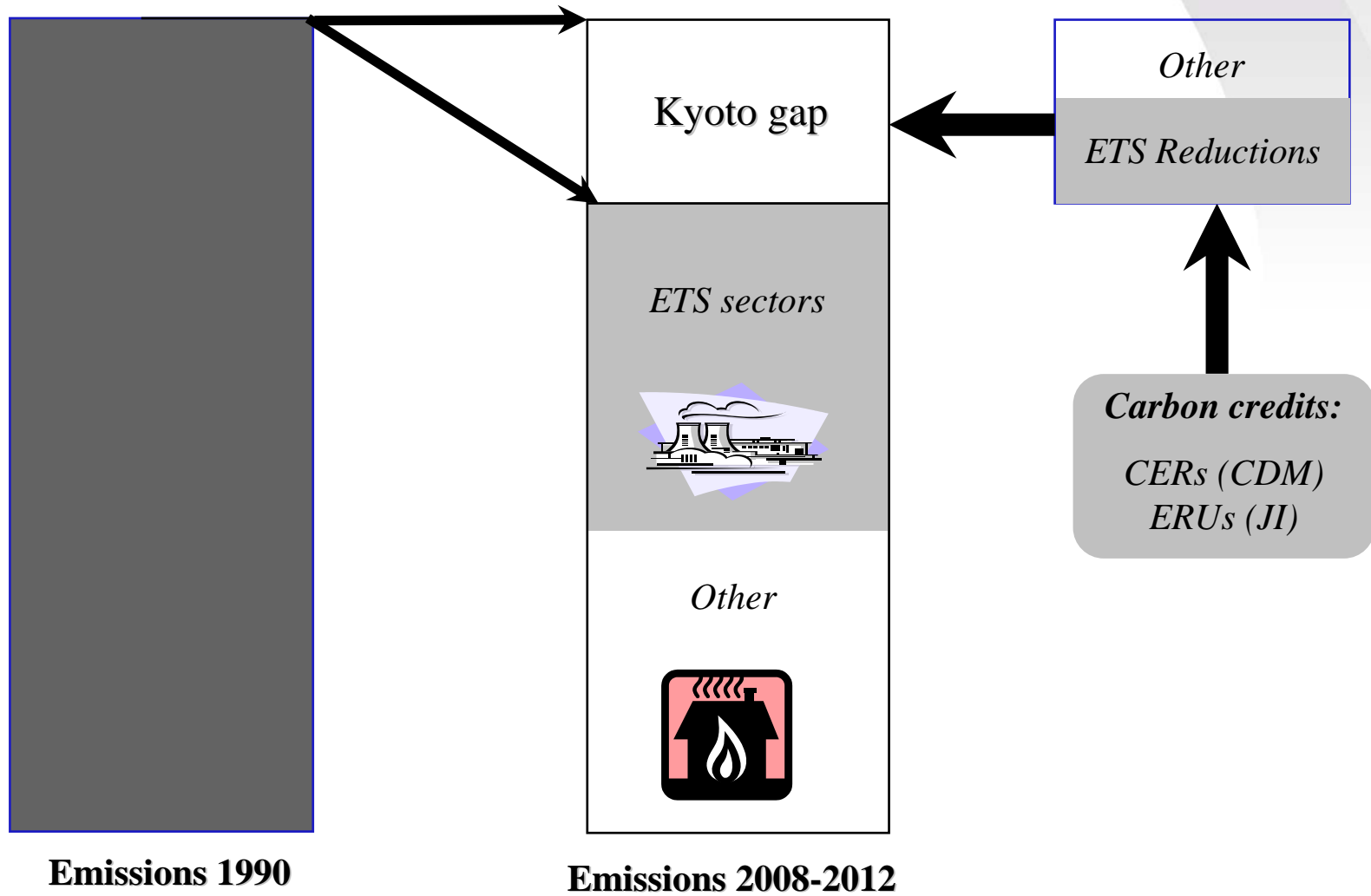
EU25 CO2 emissions: approx 4.9 bill tonnes



Include following sectors:

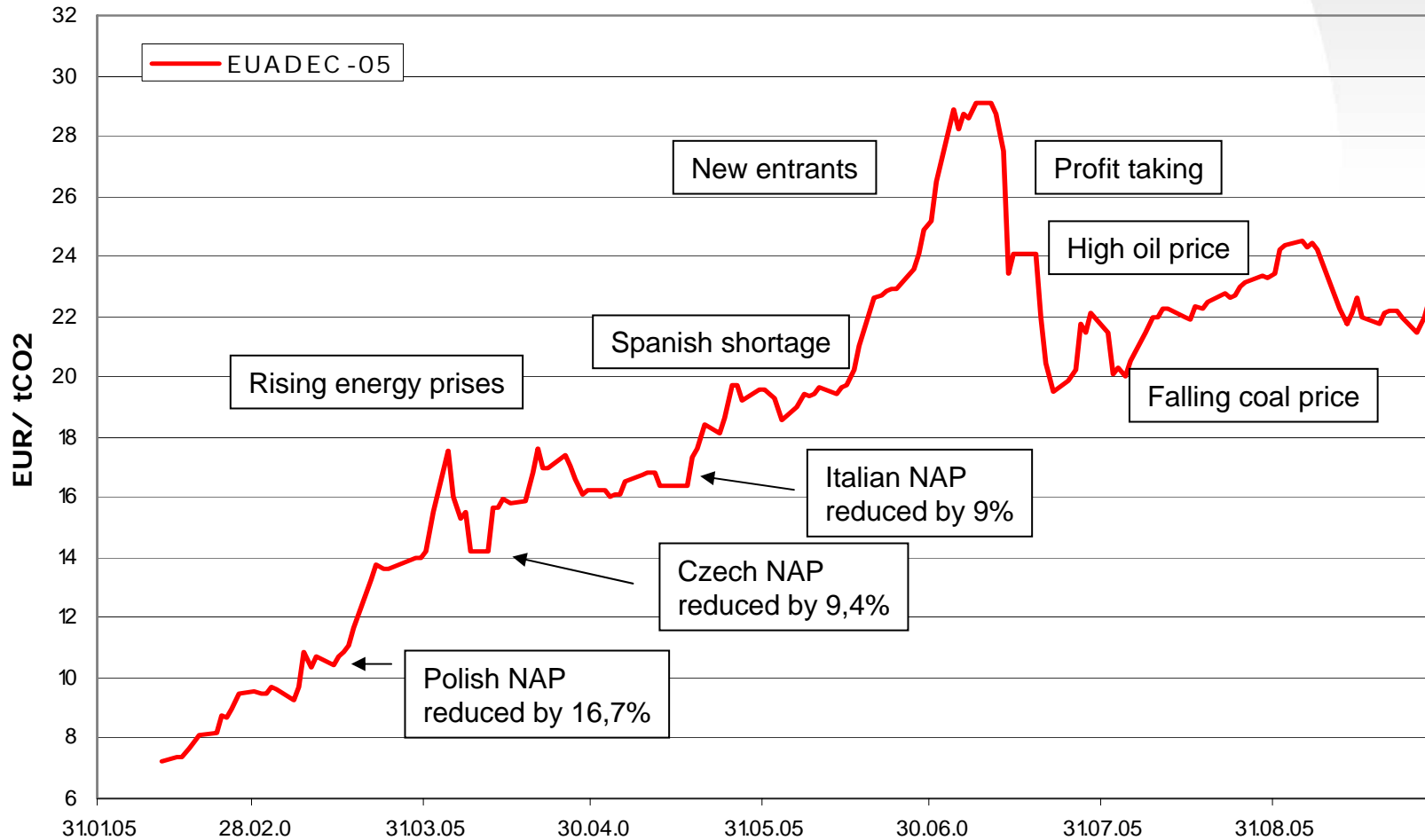
- Energy production (combustion)
- Oil refineries
- Iron & steel
- Pulp & paper
- Building materials
- **11-12.000 facilities**
- **EU ETS volumes: approx 2.2 bill tonnes CO2**

EU's Kyoto commitments



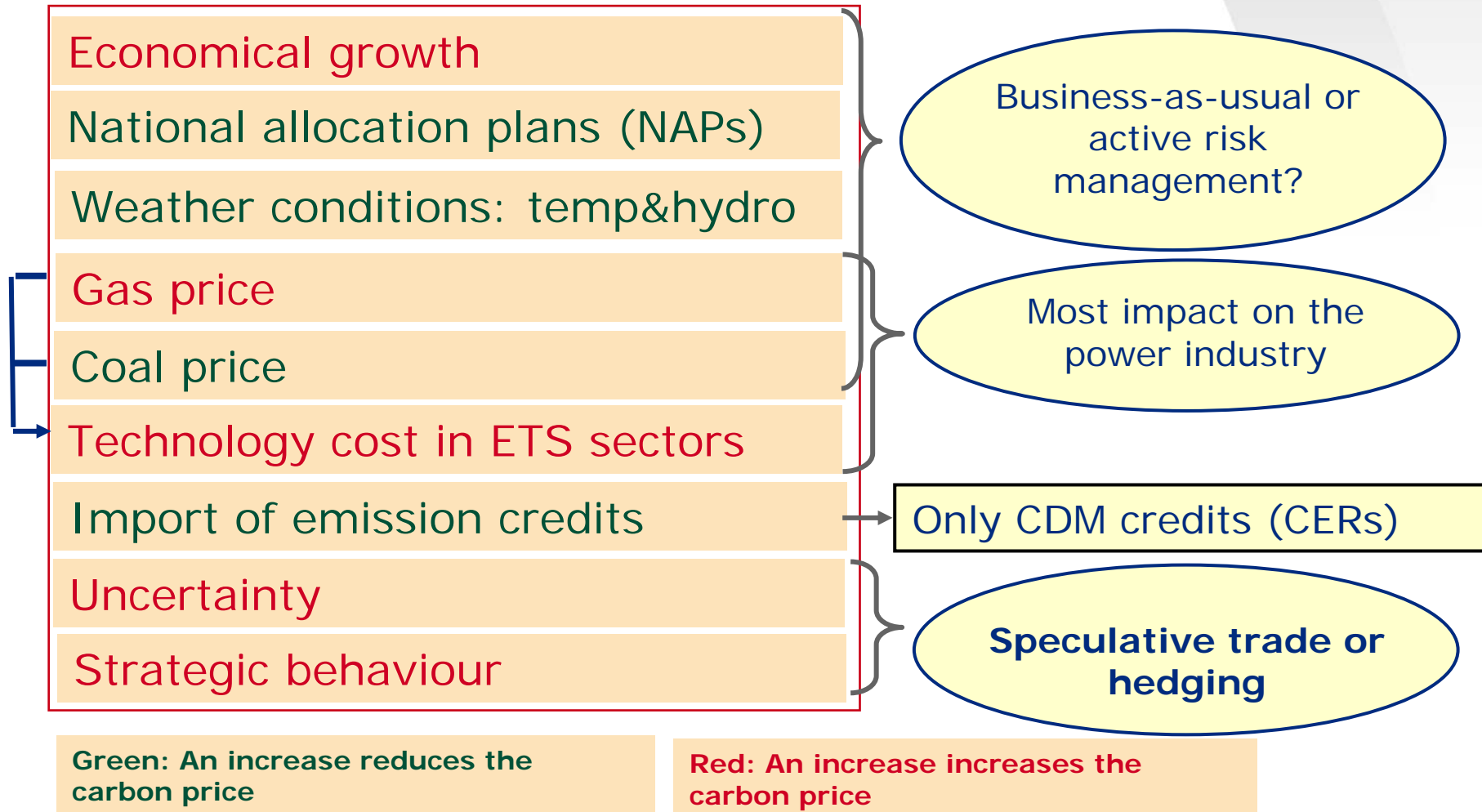
Carbon prices 2005

EUA Prices



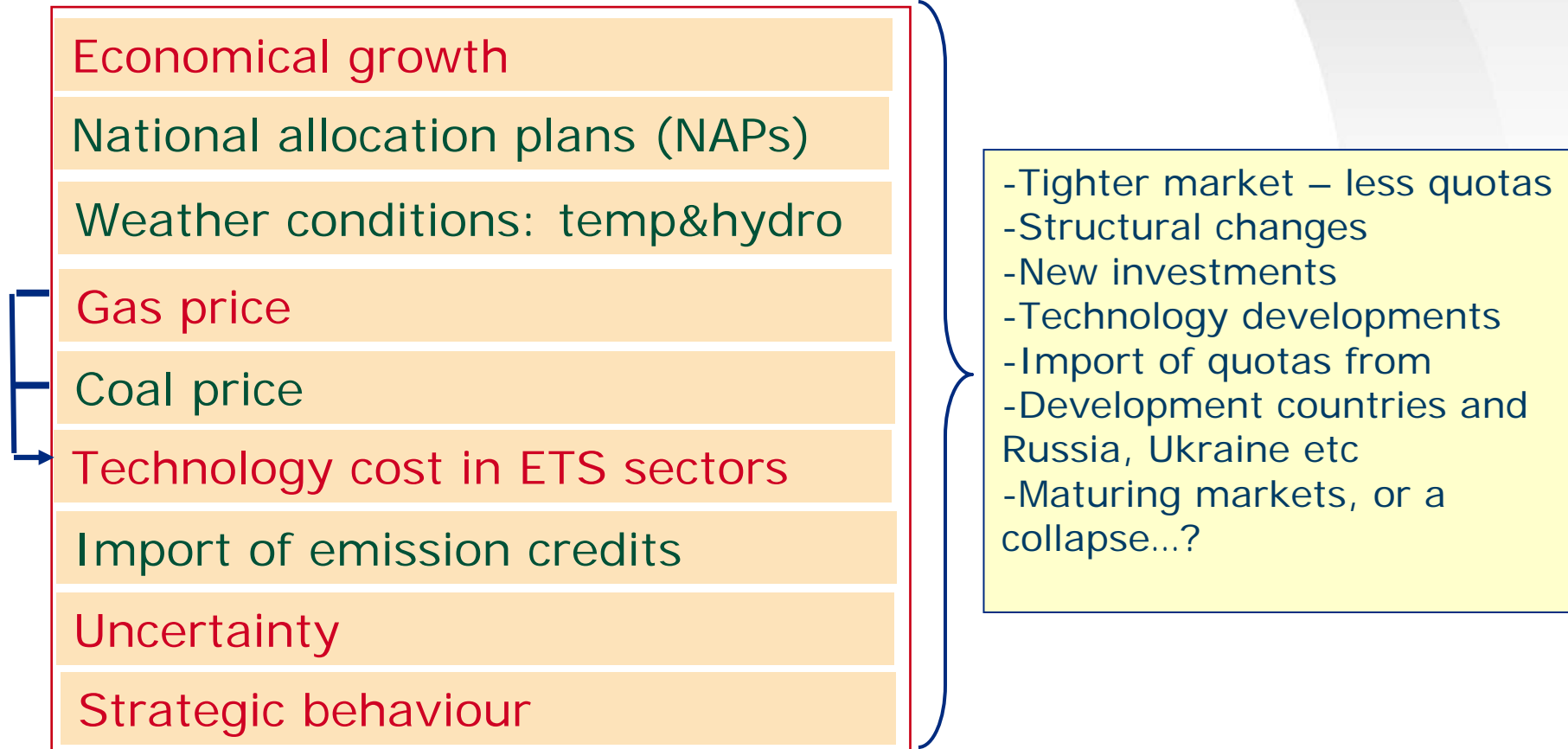
The market – short term (2005-2007)

Market drivers

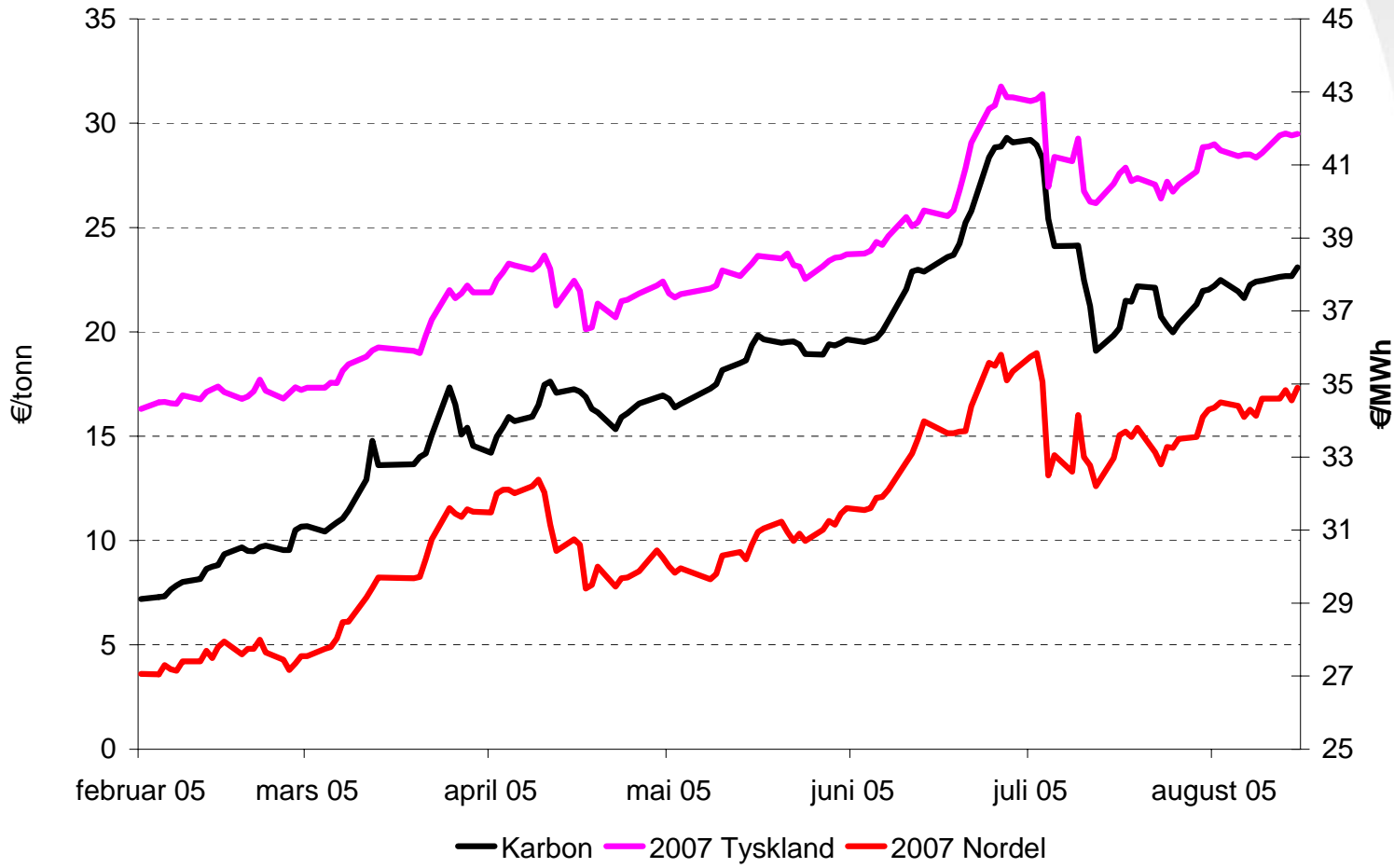


The market – Kyoto phase (2008-2012)

Market drivers

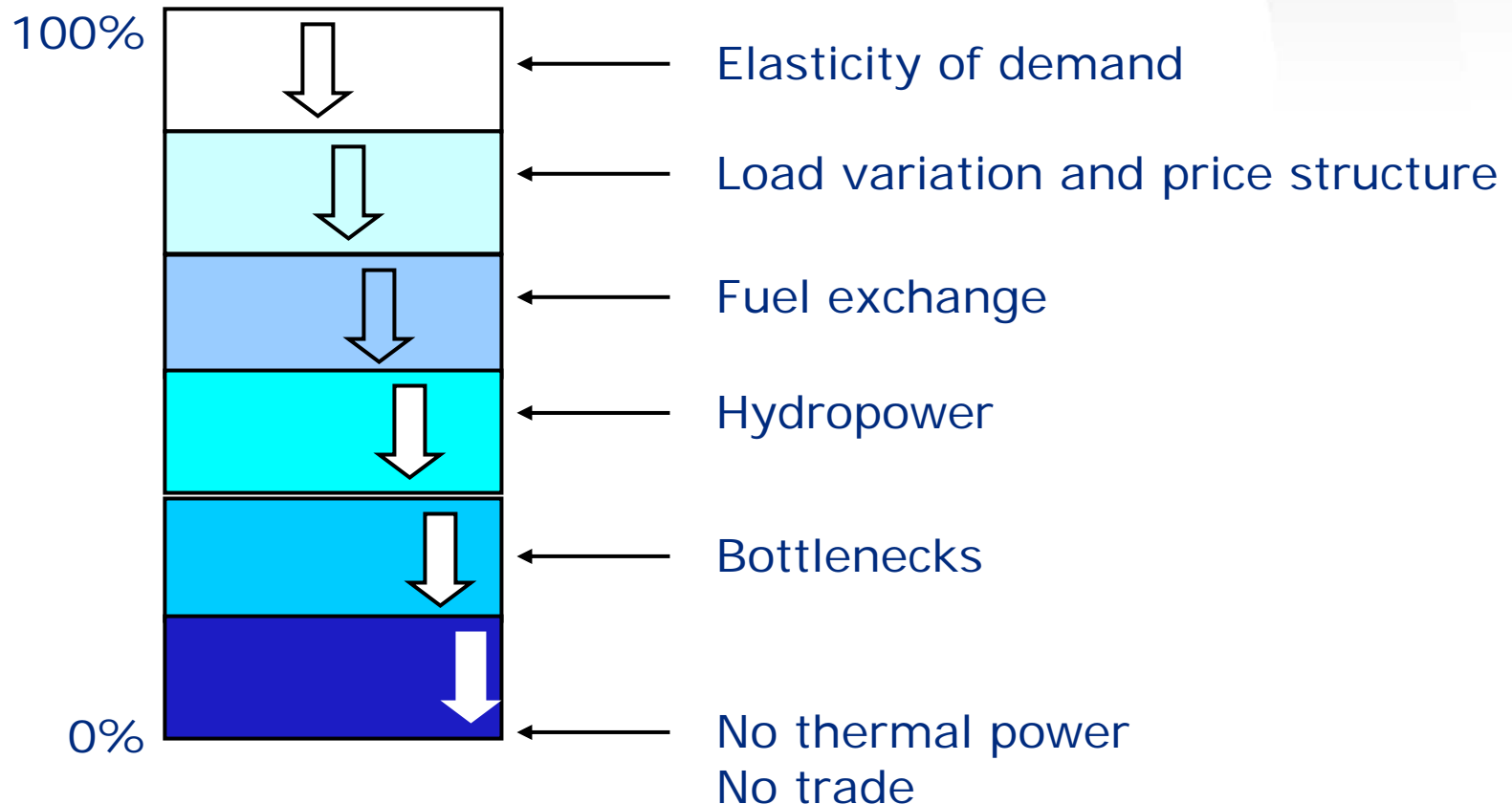


Forward power vs carbon price 2007



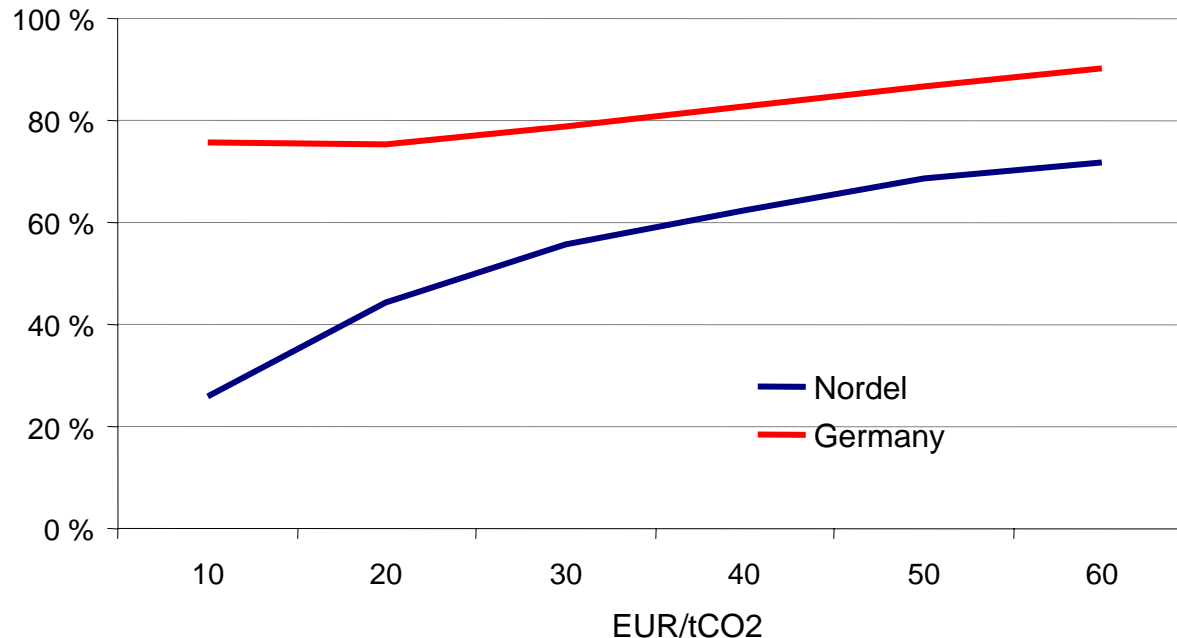
Strong correlation between power and carbon price

How does the carbon market effect the power market?



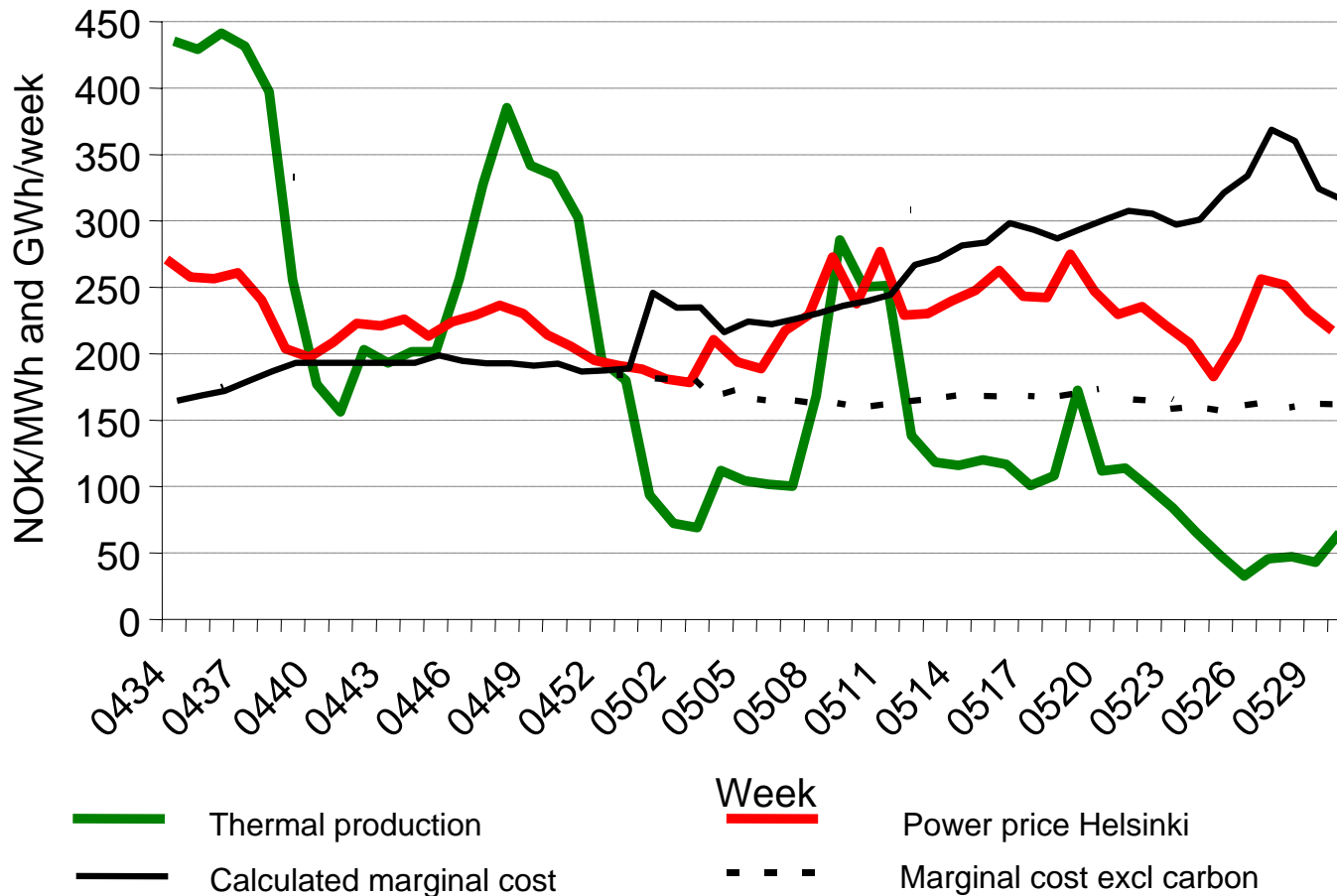
Simulations indicate.....

Definition:
*Price rise/cost
escalation for
coal*



- Based on ECON model and given today's fuel prices (August)
- The impact on the power prices in Germany is higher than in the Nordic region
- Today's carbon price yield about 45% effect in the Nordic region

Thermal production and environmental effect?



Significant less thermal production in Finland!

Trading with EUA's on Nord Pool

- About Nord Pool**
- Corporate information ▶
- Regulation and compliance ▶
- Courses and conferences
- Contacts
- Member list
- How to become a member
- Messages**
- Urgent Market Messages (UMM)
- Operational messages
- Exchange information
- Press releases
- Other messages
- Market data**
- Market data services
- El. Exch. Area
 - Denmark
 - Finland
 - Sweden
 - Norway
- Key Figures

Production	■	■	■	■
Consumption	■	■	■	■
Exchange	■	■	■	■
Reservoir	■	■	■	■
Reg. Power	■	■	■	■
- Spot market data
- Financial market data
- Elcertificates
- CO2 Allowances
- Non-exchange trades data (OTC)



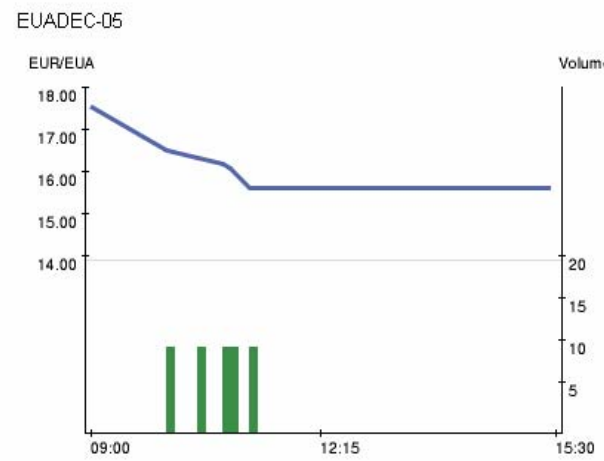
- [Market Statistics](#)
- [Rulebook](#)
- [Product Spec](#)
- [Member List](#)
- [About Allowances](#)
- [Contacts](#)

CO2 Allowances Exchange quotation and trading

Trading day: 05.04.05
Updated: 05.04.05, 15:52:06

Exchange trading today	Bilateral trading 09:00 - 15:30	Bilateral trading 15:30 - 09:00
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Product	Curr.	Best buyer	Best seller	Last traded	1000 EUA traded	Change	Highest traded	Lowest traded	Closing price	Open Interest
Forward										
EUADEC-05	EUR	15.90	16.10	15.70	60	-1.85	16.55	15.70	16.03	1199000
EUADEC-06	EUR	15.93	16.15	16.18	10	-1.40	16.18	16.18	16.18	120000
EUADEC-07	EUR	15.98	16.20	16.22	10	-1.46	16.22	16.22	16.22	35000
Sum 1000 EUA traded					80					



Nord Pool ASA - CO2 Allowances - Microsoft Internet Explorer

Closing price previous 30 trading days for EUADEC-05

Prices in EUR



For more information:

www.nordpool.com