Session 4 – Industry: their experience with emissions trading – the electricity industry

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Company compliance strategies

- **Three basic options:**
  - Internal abatement
    - » Fuel switching (if portfolio allows) in short term
    - » Repowering, restructuring plant portfolio, carbon capture in longer term
  - Use of ETS market
    - » Spot trading of EU allowances (active / passive)
  - Hedge
    - » EU allowance forward contracts / derivative products
    - » CERs (and ERUs post 2008): Bilateral, Primary markets, Funds
    - » *But limited availability of CERs in the first period*

Anticipate that most utilities will (initially) adopt "compliance" strategy vs. active trading. Balance for each utility based on own circumstances. Spread acquisition of CERs to limit market, delivery, and other risks.

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Company investment strategies

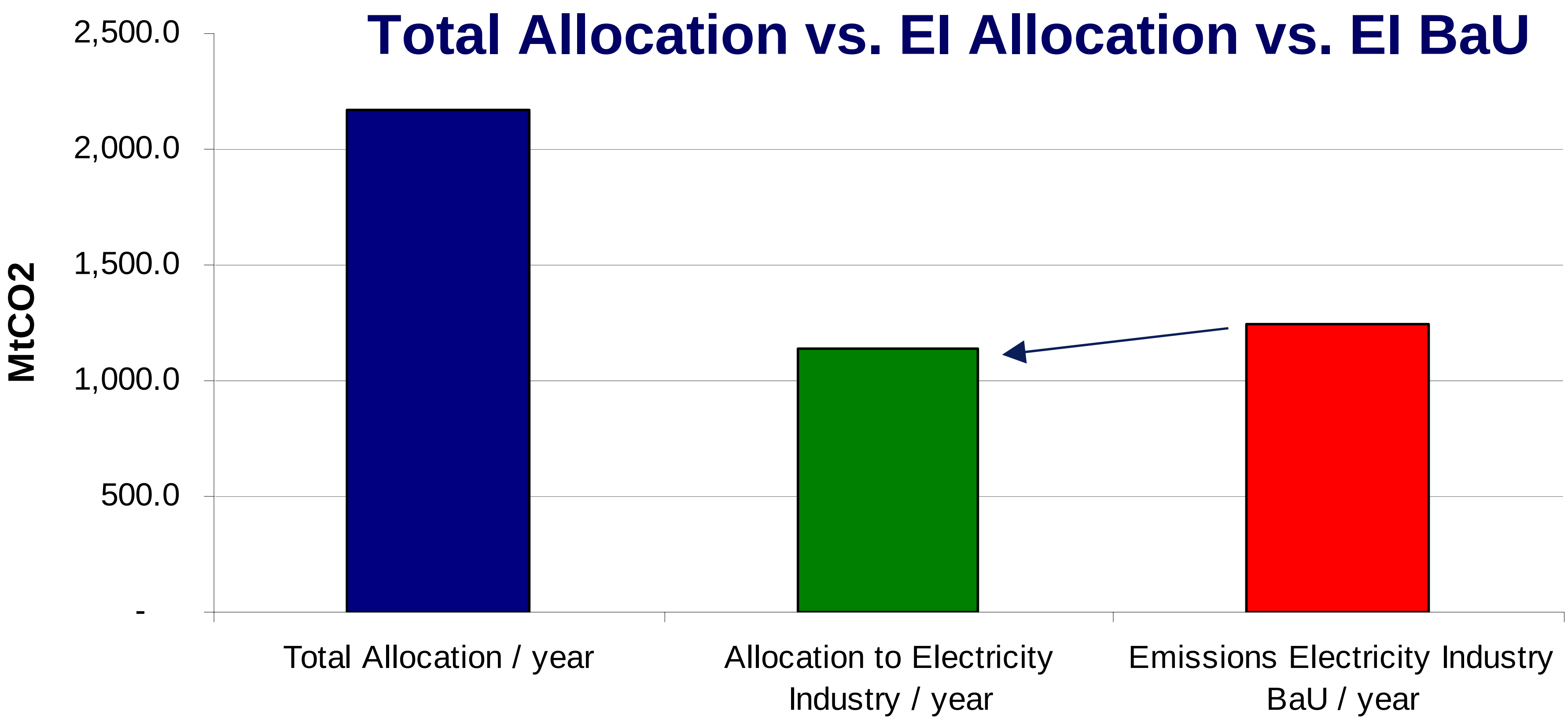
- **ETS adds to existing energy market and supply security uncertainties**

- **Will impact long-term investments**
  - (lower/zero Carbon technologies favoured)

- **5-yearly re-allocation process creates risk**
  - How are future shortfalls to be determined?

- **IPPC / LCP / NEC Directives re-investment decisions co-incident with ETS**

Impact of NAP1 on the power sector



In the period 2005-2007 (compared to Business-as-Usual) the electricity industry (EU-25) received more than half of the total allowances; will reduce its emissions by 10%; and has a shortfall of over 300 MtCO2.

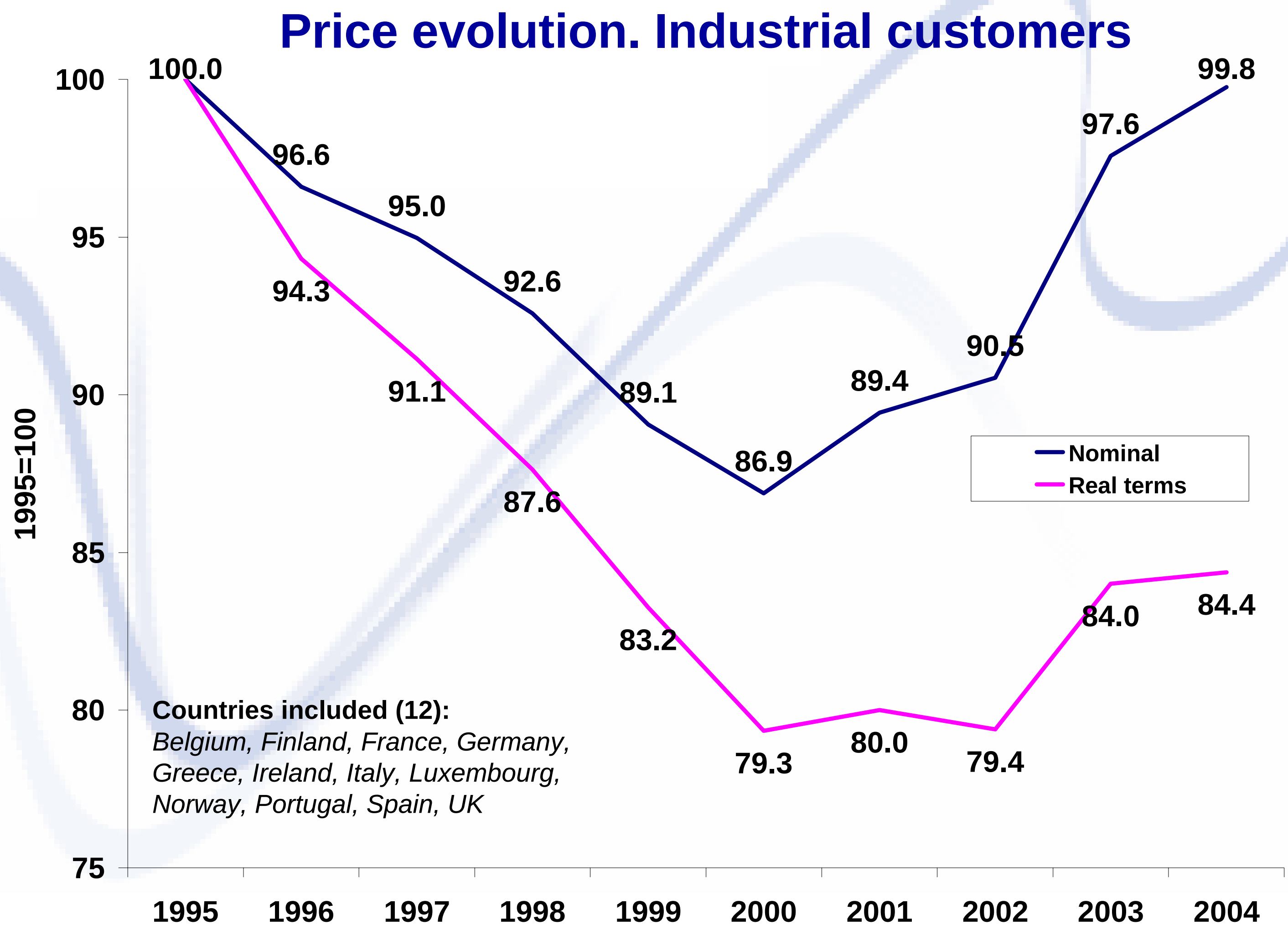
CO_2 price drivers

- **NAPs set supply of CO_2 allowances**
  - Scale of reductions against business as usual
  - Extent of use of JI/CDM mechanisms
  - In phase I the absence of banking to 2008-12
  - Future linkage with other trading schemes (Norway, Japan, Canada (and perhaps also Australia, US states))

Experience: CO_2 Costs

- **Demand drivers for allowances**
  - Economic growth
    - » (~15Mt per 1% increase in GDP)
  - Weather (Rainfall, temperature and wind speed)
    - » (~ +\-80Mt p.a. variation)
  - Fuel price spreads – gas/coal
  - JI & CDM supply
  - Future linkage with other trading schemes

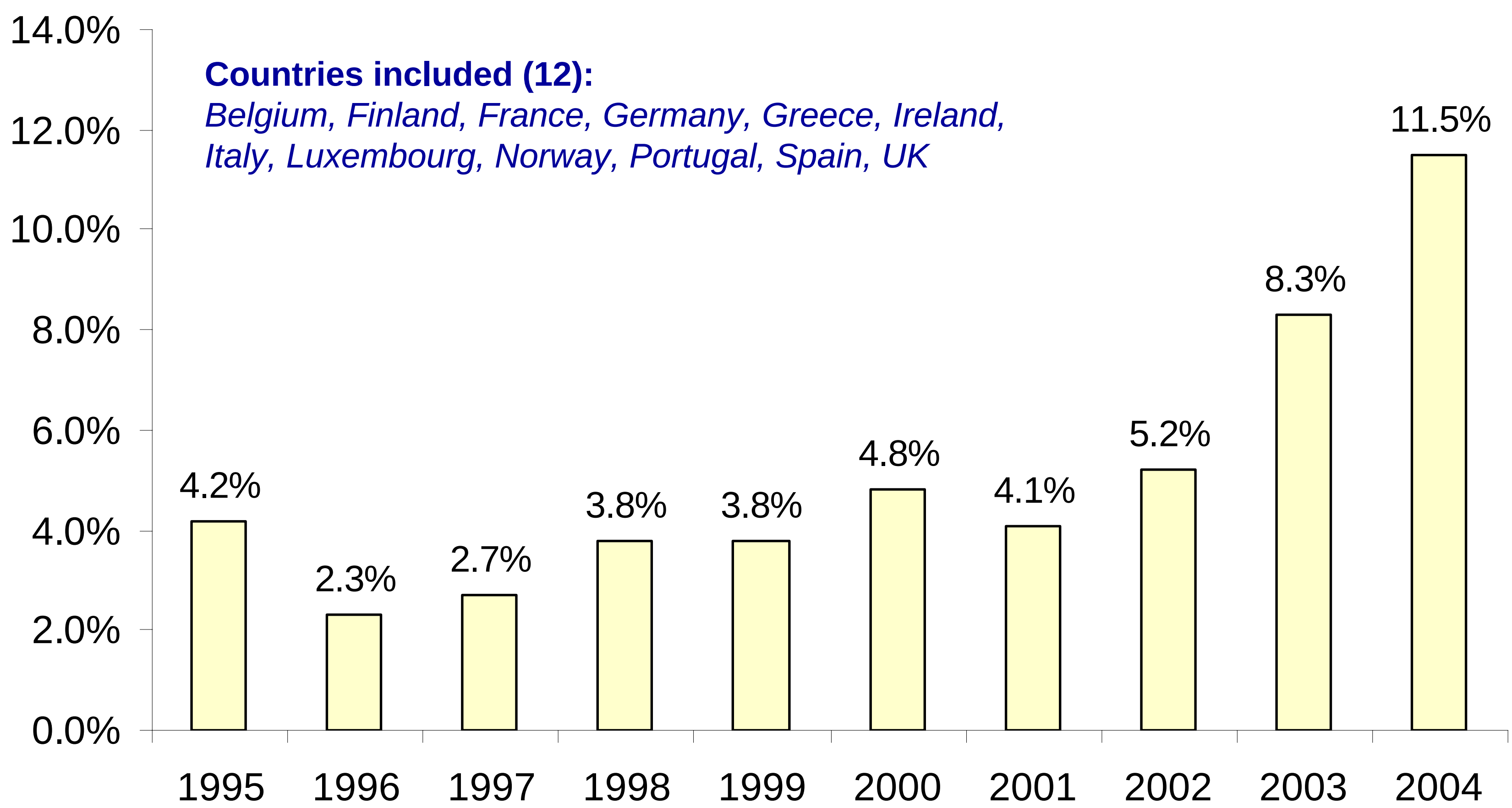
EU electricity markets have been able to deliver price reduction



Price evolution for industrial users using a weighted average (1995-2004)
Industrial users: 24 GWh, without VAT (Draft KEMA report)

Price evolution is particularly noteworthy if compared against electricity taxes,

Evolution of taxes for industry



Share of taxes (excl. VAT) for industry (24 GWh, 1995-2004). (Draft KEMA Report)

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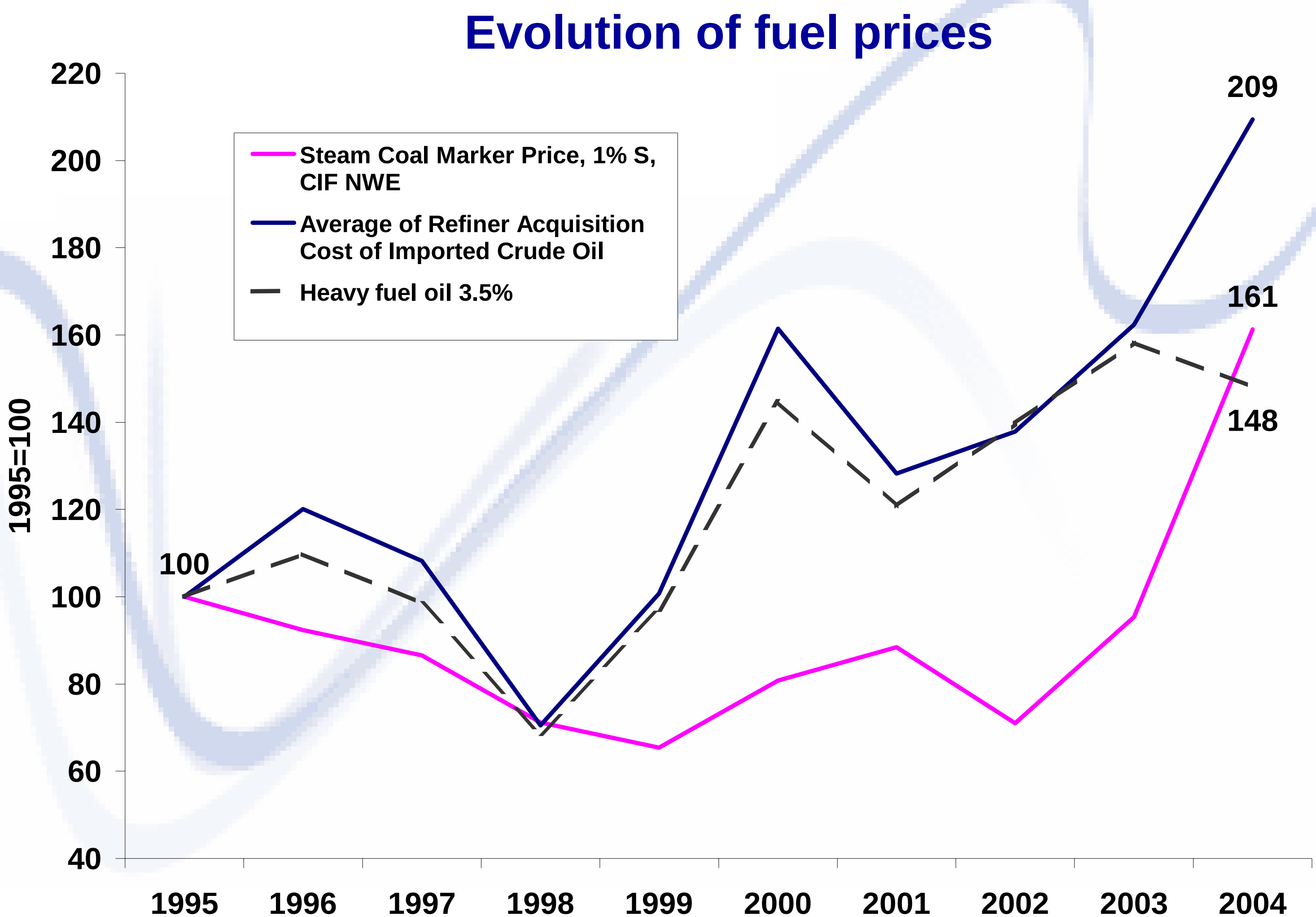
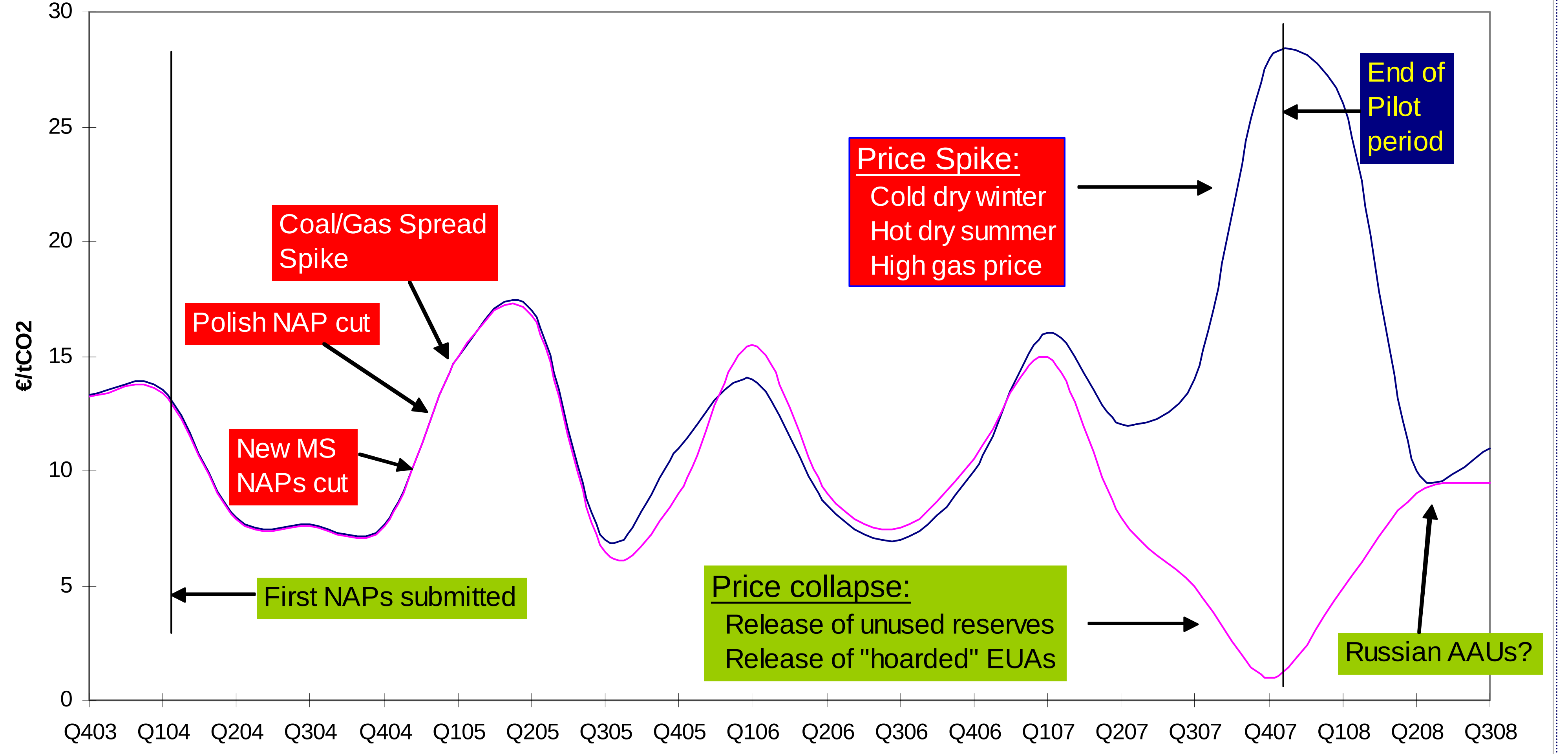
Price evolution should also be put in perspective with oil and coal price increases



Evolution of oil and coal prices (1995-2004) (Draft KEMA report)

Future Development of CO2 costs?



Major uncertainty caused by lack of banking to 2012: Hedge using CERs

Review of the Directive in 2006

EURELECTRIC recommendations:

- Amendments made to the Directive should be compatible with the Lisbon Strategy
- Long-term certainty is critical for investment planning and decision making - avoid unnecessary risks to the security of electricity supply
- Transparency; standardised presentation of allocation plans
- Timeliness; Clarity on final ruling (publication) of plans
- Emissions trading is one among many factors which has an influence on electricity markets and prices

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Electricity Prices

- **Purpose of ETS is to assign price to CO_2 emissions**
- **ETS will increase costs for all participating industry**
  - Distributional effects arise
- **Operators incorporate in planning plant dispatch**
- **Altered merit order = market signal to operate / build lower CO_2 intensive plant**
- **Price impact will be influenced by range of factors:**
  - CO_2 prices
  - Electricity Market fundamentals, market model
  - Plant capacity and extent of interconnection
  - Extent of competition / regulation in specific markets

Strategic decisions of individual companies will determine electricity price impact

Urgent policy actions

- **Member State level**
  - Agree monitoring, reporting and verification requirements
  - Accredit verifiers
  - Establish registries and issue allowances
  - Establish administrative arrangements for JI/CDM
- **At EU level**
  - Review to consider improvements in 2008-12 NAPs process
  - Post-2012 process to recognise energy policy concerns
- **UN level**
  - Establish ITL (at the latest by end 2007)
  - Accelerate Executive Board processes

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