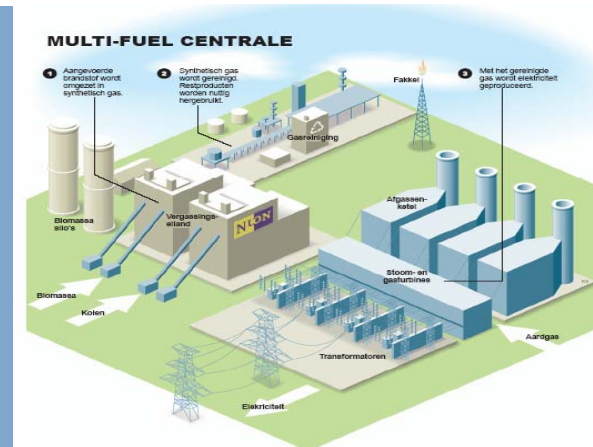


16 May 2006



# Liberalization of the European market a Dutch perspective

Ludo van Halderen

## Dutch success in Germany in 2006?

**You don't have to be  
large to be successful!**



# Today's topics



## ■ **Introduction of Nuon**

- Trends in European energy market from a Dutch perspective
- Implications for Germany

# Nuon is a Dutch player in northwest Europe

## Integrated utility with strong position in NL power market...

### Strategy

- Profitable growth as an integrated energy company, operating in fully liberalized markets in North-Western Europe

### Position:

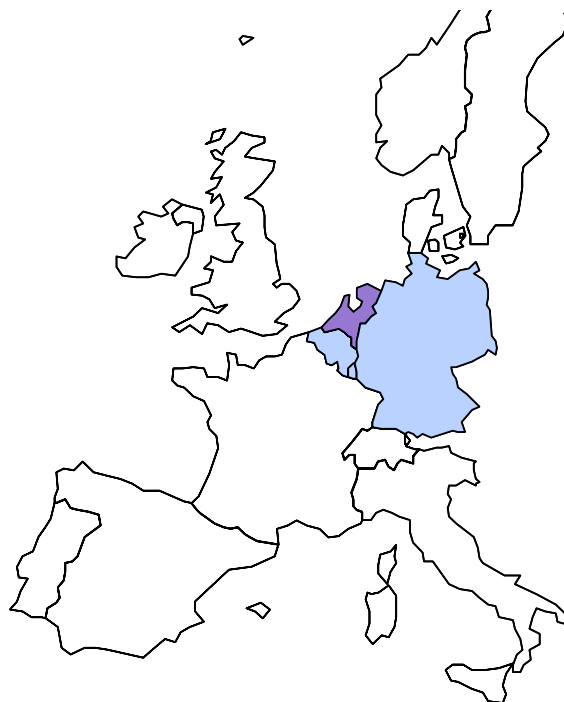
- Power
  - Second in the Netherlands in terms of
    - Generation capacity
    - Power sales
- Gas
  - Gas storage under construction
  - Most sourcing from Gasunie

### Other

- Number of employees: 9,665 FTE
- 100% municipal/provincial owned

## ...expanding into Belgium and Germany...

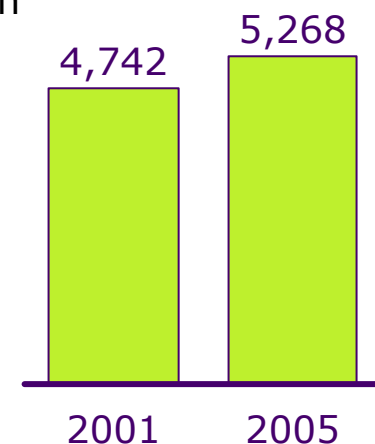
- Home
- Core growth



## ... improving financial performance

### Operating income

€ billion



### EBIT

€ billion

489

1,098

### ROIC

Percent

6

14

# Expansion in Germany and Belgium is a key part of Nuon business strategy

## Strategic goals

**A vertically integrated player**

**Customer focus**

**A challenging working environment**

## Strategic steps

- 1 Move upstream to assure sourcing position**
- 2 Build generation capacity in Belgium & Germany**
- 3 Create greater scale, especially in customers**
- 4 Get clarity on future ownership**
- 5 Establish LT shareholder focus on growth**

# Nuon is growing steadily in Germany

- Current focus area
- Industrial park
- ▲ Public lighting

Berlin Retail presence

## Regionally focused strategy...

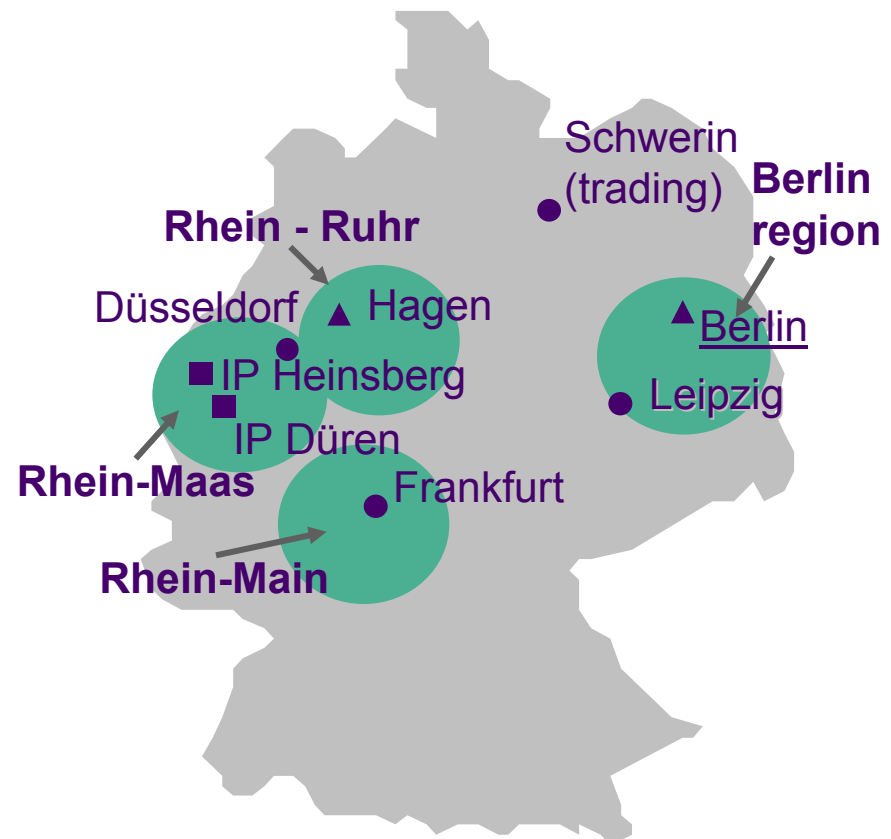
### Strategy

- Create regional growth platforms
  - Industry parks
  - Public lighting contracts
- Grow power/gas sales in core regions
  - Initially, businesses and utilities
  - Subsequently also retail users

### Key statistics

- 2005 net sales: €260Mln
- Wholesale:
  - 2005 electricity sales: 1.8 TWh
  - 2005 gas sales: 0,4 TWh
- Acquired 25.000 retail customers in first 3 months of offering (Jan 2006)

## ...expanding across multiple regions

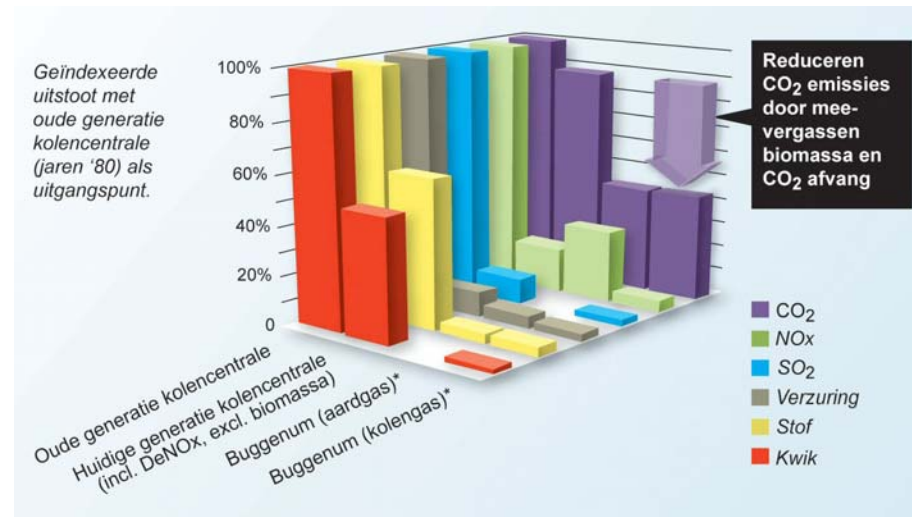


## Nuon has a leading position in clean fossil...

Nuon has the aspiration to be a leading company in the transformation to a clean, reliable and affordable energy supply. Clean fossil first step towards a sustainable future

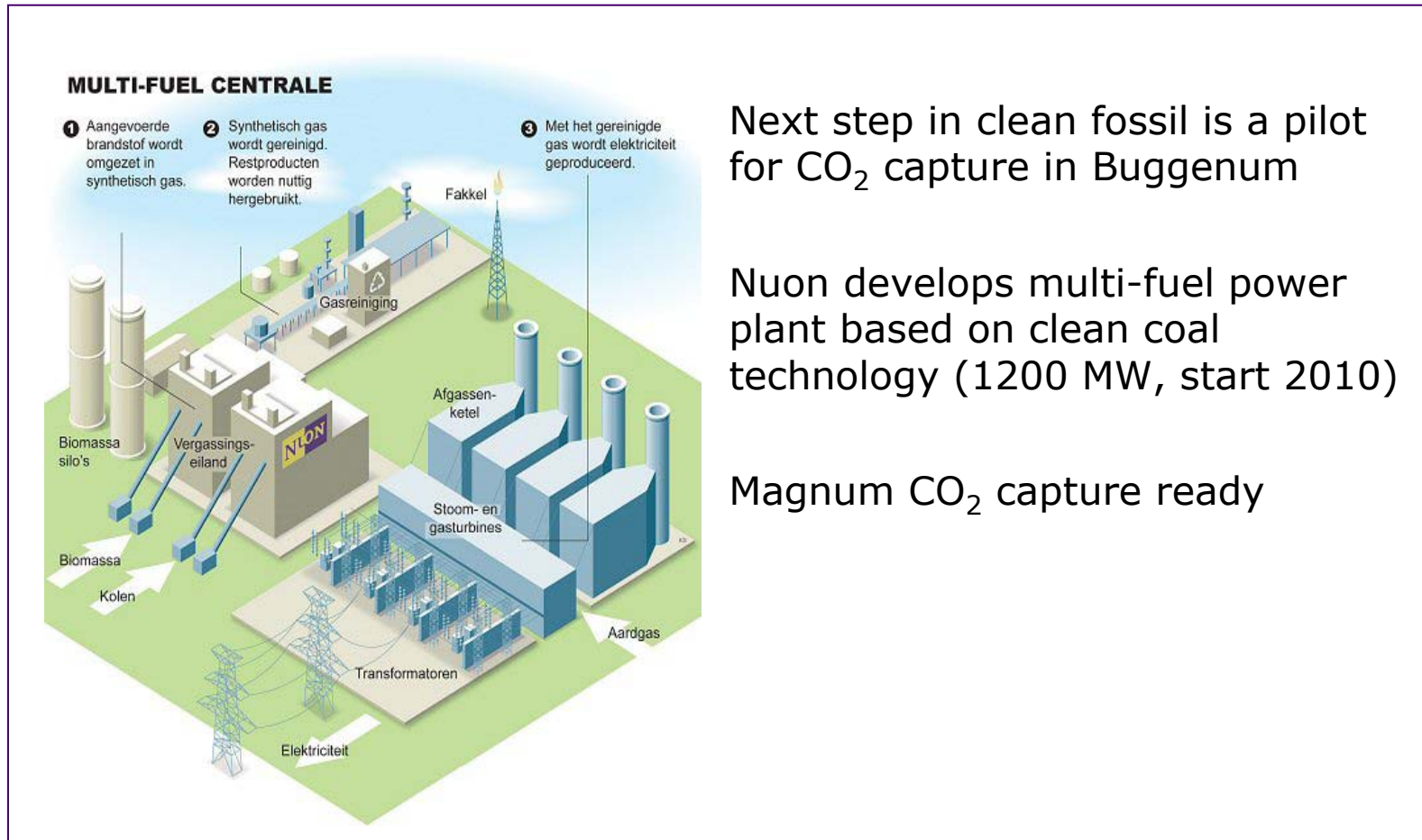


Nuon's clean coal plant in Buggenum



Coal gasification most clean fossil

## ... and proven technology for future steps



# Today's topics

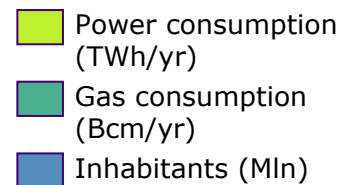
- Introduction of Nuon



- **Trends in European energy market from a Dutch perspective**

- Implications for Germany

# European energy market integrating, but significant country differences remain

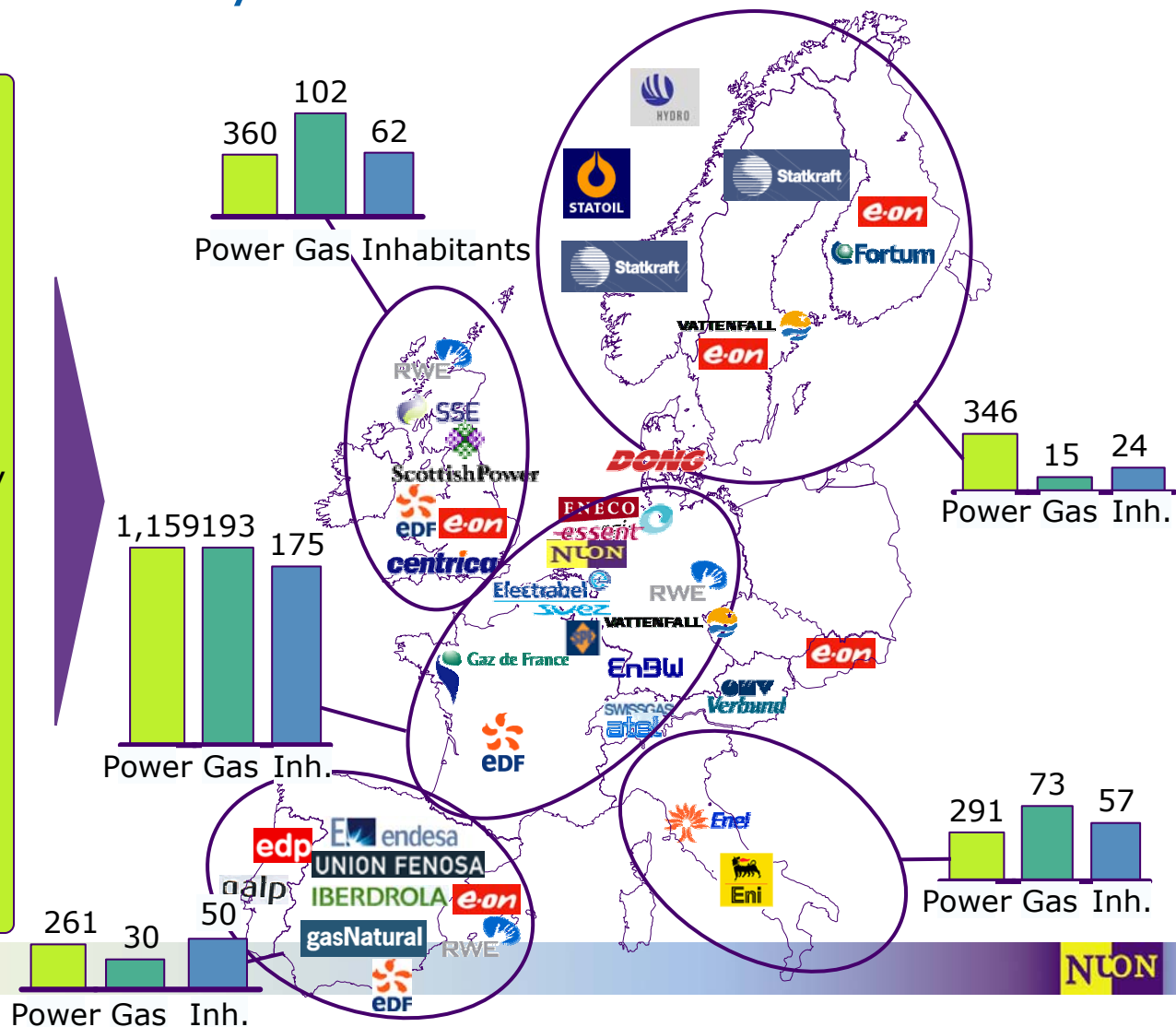


## Market

- Markets are more regional
- Increasing trading liquidity
- Concentration gas and electricity markets
- Gas and power converging
- Prices could stay high (gas price, production shortage)
- Interconnection congested
- Loss of share in core country drives international expansion

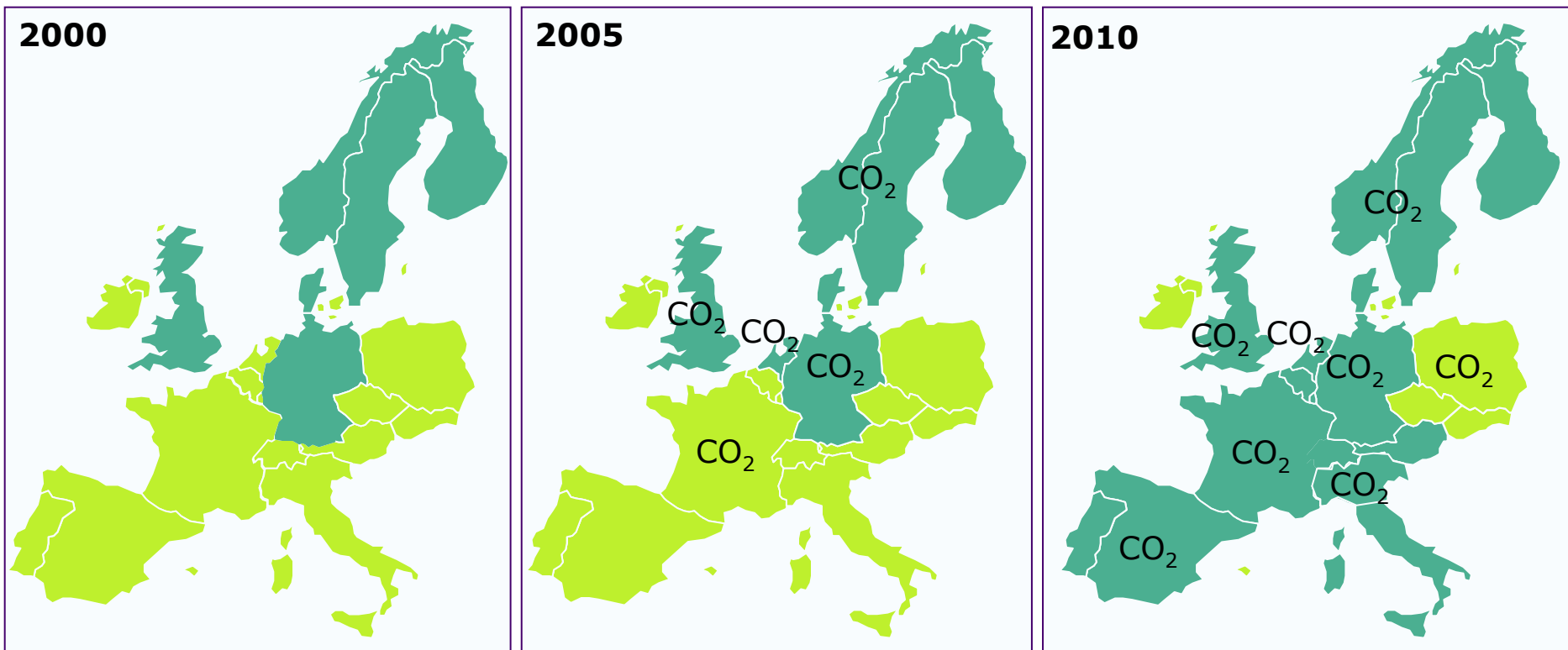
## Competition

- Dominant former monopolies
- Role governments still strong
- Few truly open markets
- Few new players



# Electricity market increasingly integrated and liquid, growing importance of CO<sub>2</sub>

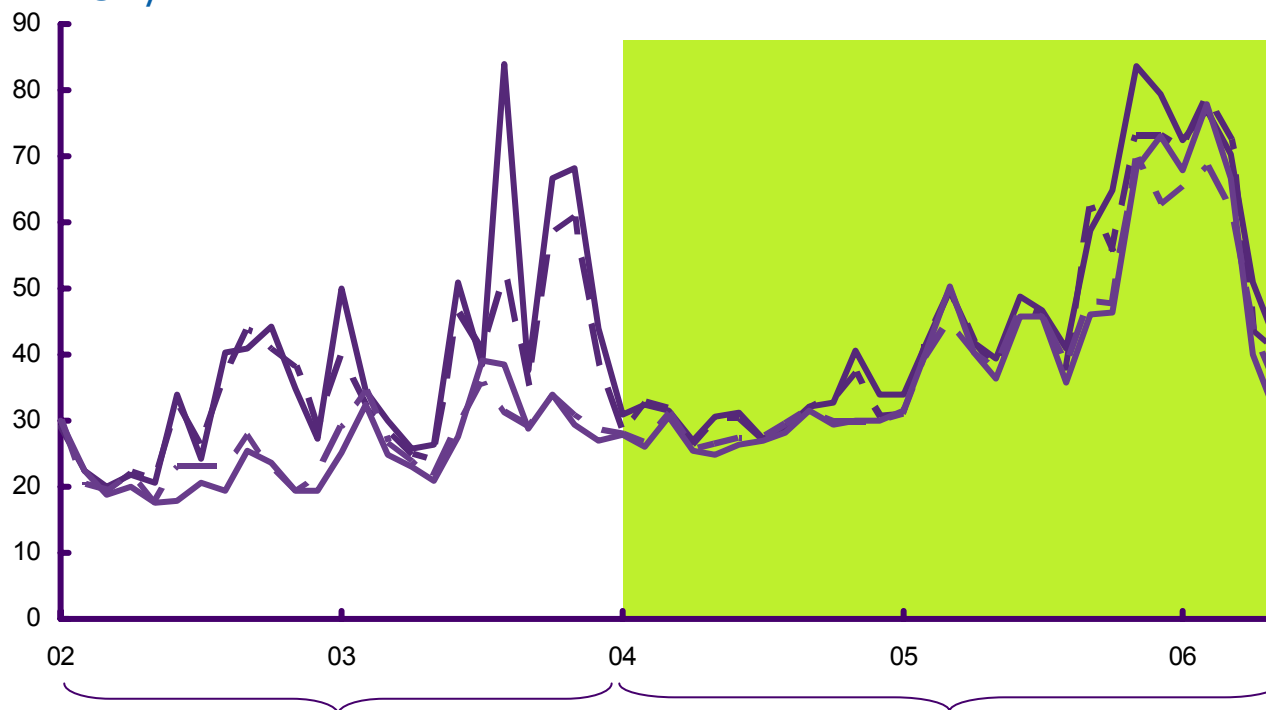
■ Liquid market (trading multiple >2)  
■ Non-liquid market (trading multiple <2)  
 CO<sub>2</sub> Intra-European CO<sub>2</sub> trade



- Market integration driven by larger transmission interconnection
- Increasing liquidity caused by interconnection and rapidly developing trade markets
- CO<sub>2</sub> is increasingly becoming a factor in asset optimization and trading

# Due to integration, power prices are converging

Monthly spot average European power exchange prices  
EUR/MWh



— APX (Netherlands)  
 - - BPI (Belgium)  
 — Powernext (France)  
 - - EEX (Germany)

**Recently, prices declined despite high oil prices**

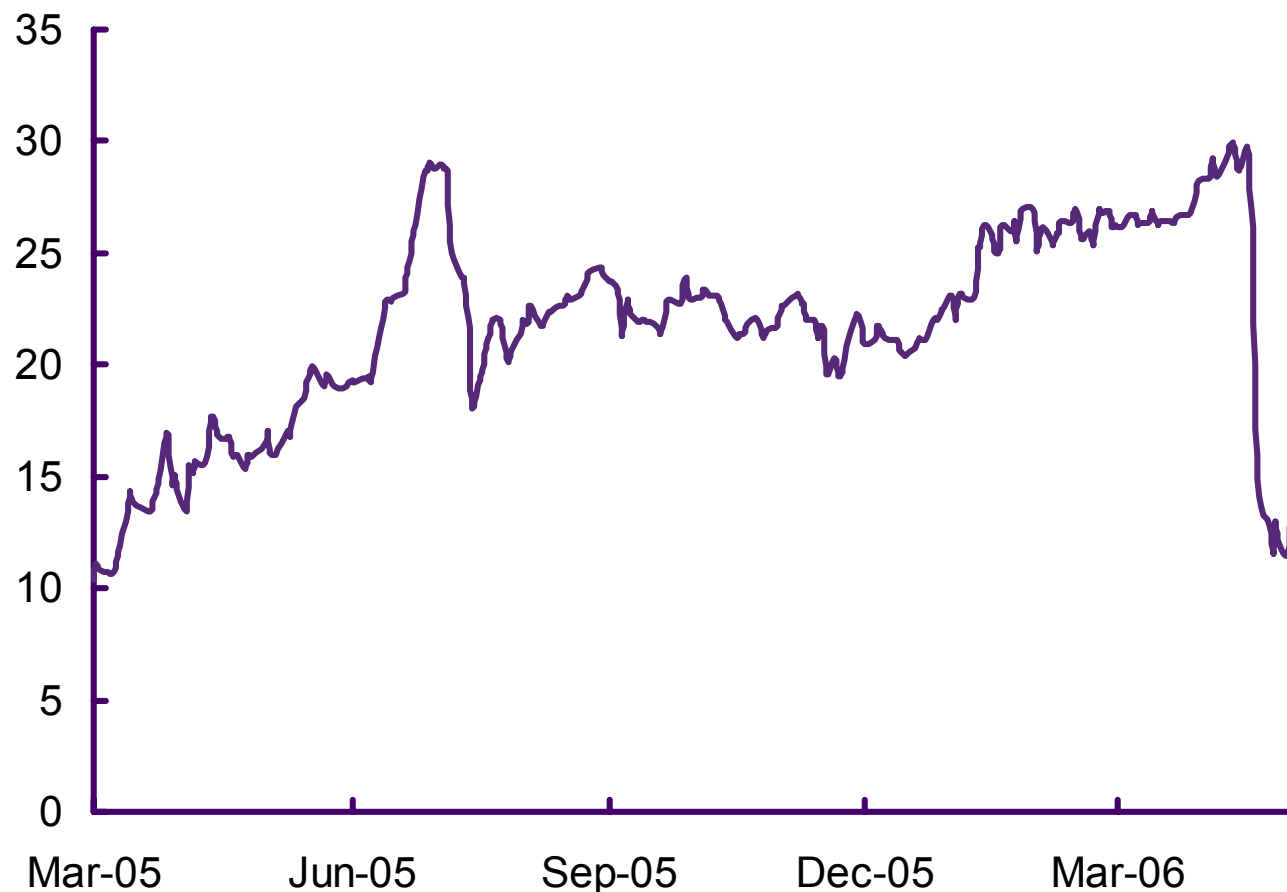
- Demand down (seasonal)
- Coal marginal price setter again
- Healthy hydro conditions
- CO2 price down in end of period

- Immature markets
- Lack of interconnection auctions

- Expanded pan European optimization, cross border trading
- Interconnection auctions open for non-incumbents
- High power/gas prices in 2004-2006 period as a result of
  - High coal and oil prices, combined with high demand
  - CO2 (e.g., less off peak, reduced German export)
  - France market tighter (i.e., less export in peak)

# CO2 prices dropped significantly after emission national governments reported 2005 emissions

Recent drop in CO2 market price  
EUR/t



**Publication of lower than anticipated emissions resulted in sharp decline of CO2 prices (EU 63.6 mln tonnes long) e.g.,**

- Germany 21 mln tonnes long
- France 19 mln tonnes long
- Netherlands 6 mln tonnes long
- Belgium 4 mln tonnes long

# Harmonization in CO<sub>2</sub> allocation plans?

## Netherlands

- Allocation based on historic emissions: 3 "highest" years from 2001 – 2005
- Windfall profits deduction for e-sector of 15% under discussion
- "Coal covenant" deduction under discussion
- 8% cap for CDM/JI
- New entrants reserve: First Come-First Serve?
- Ongoing discussion about left over reserve: withdraw or market

## France

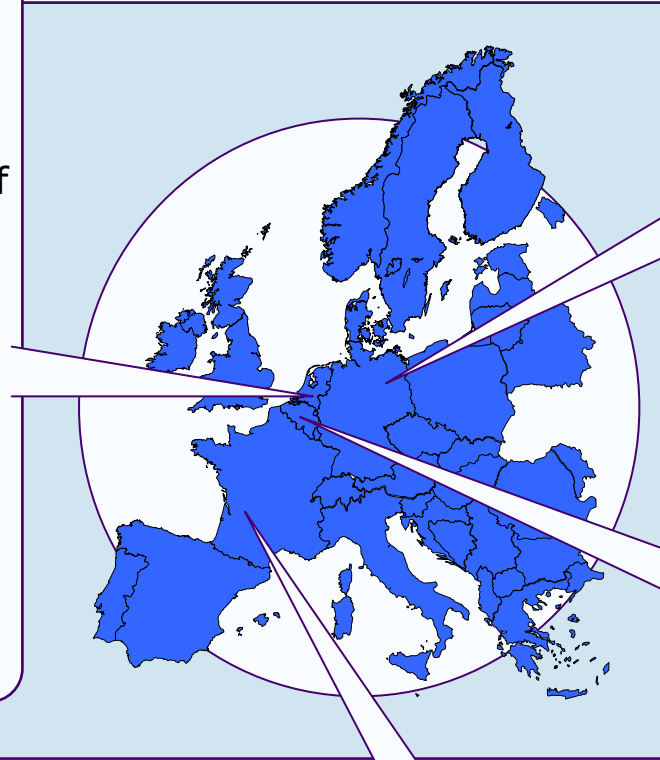
- Concept allocation plan not yet released

## Germany

- Allocation based on historic emissions 2000 – 2005 and reduction factor
- Allocation principle: industry first, left over for e-sector
- Windfall profit deduction of 15%
- Cap 12% - 60Mton CDM/JI per year (Clean Development Mechanism/Joint Implementation)

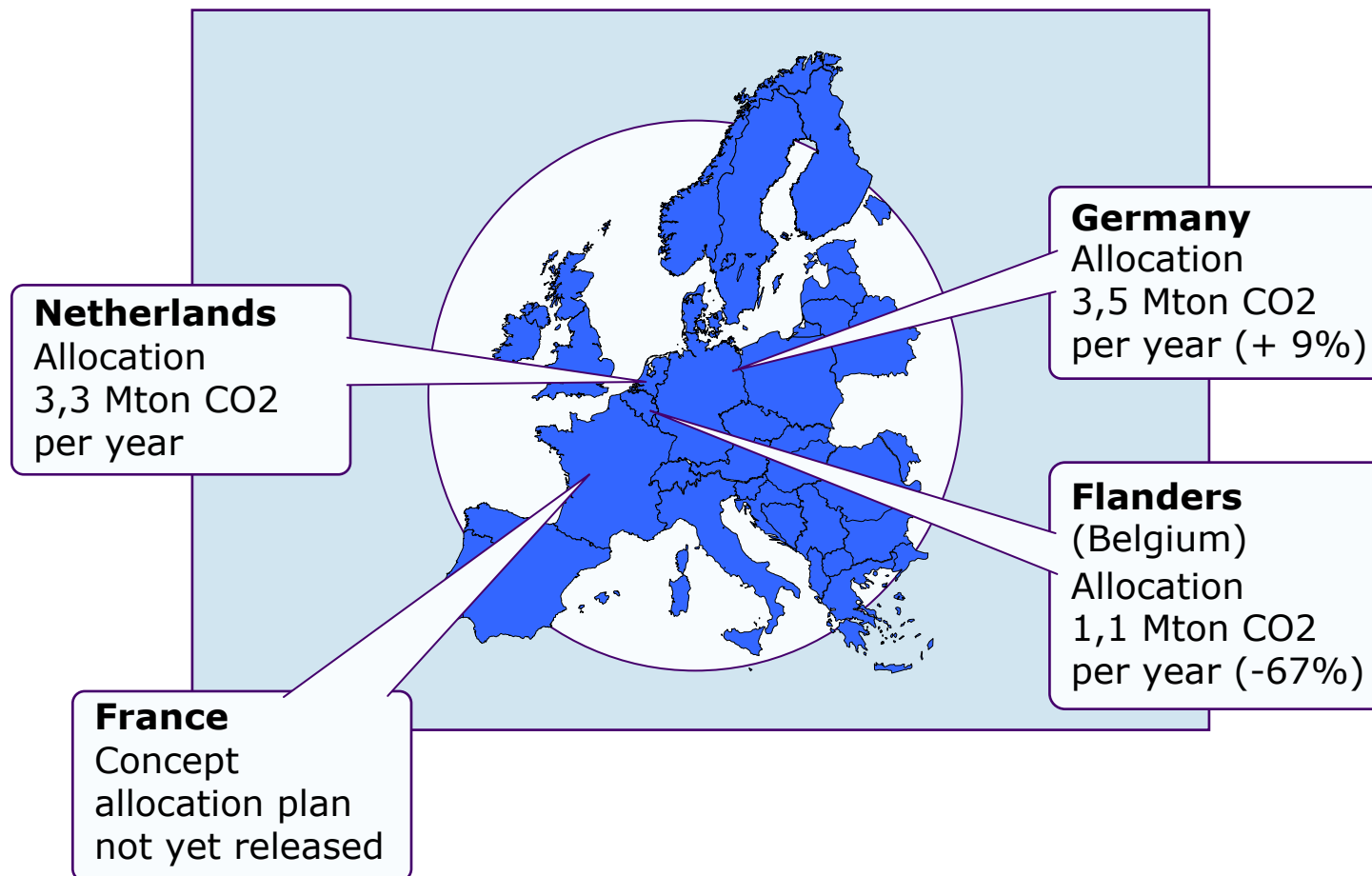
## Flanders (Belgium)

- Allocation based on gas, regardless of technology (emission factor + efficiency gas)
- No historic emissions but standardized operating hours (5.000/5.500 hours)
- If new entrants e-sector of national importance, sufficient allocation
- 24% cap E-sector for CDM/JI, 7% cap for industry



# Effects of allocation in NW Europe

CO2 rights for same (coal) plant in different countries



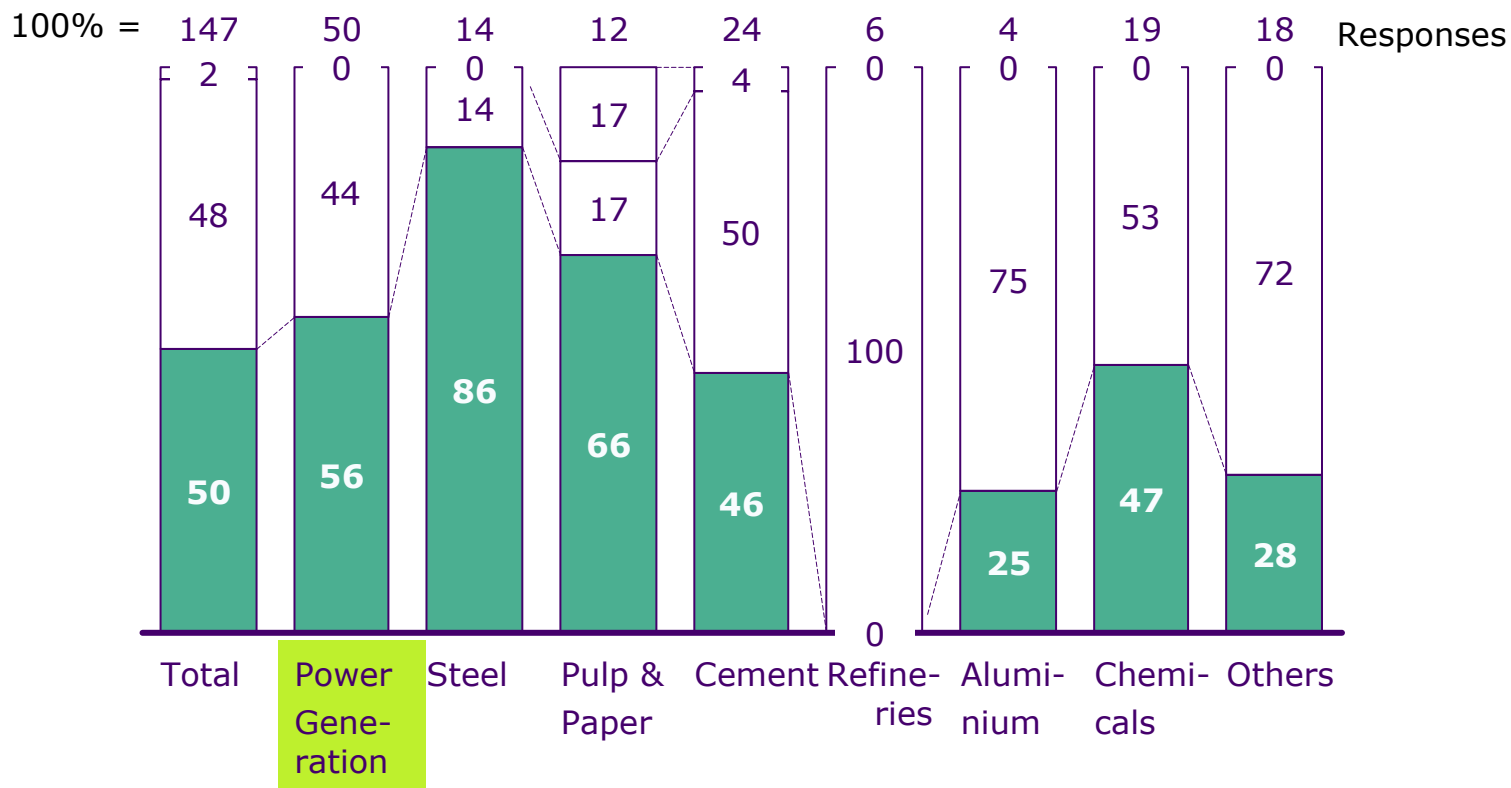
# CO2 is key issue when making investment decisions

Question: Is your decision making on long-term issues (e.g., investment decisions) affected by the EU ETS?

No, the EU ETS impact is not relevant

Yes, but the EU ETS impact is one of many other issues

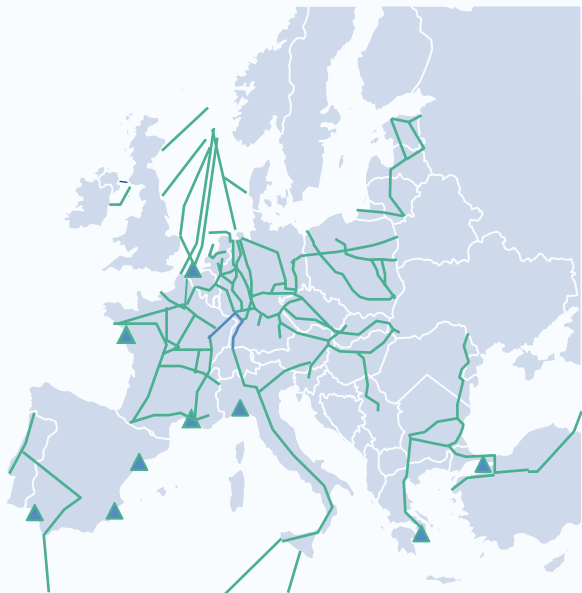
Yes, the EU ETS impact is one of the key issues



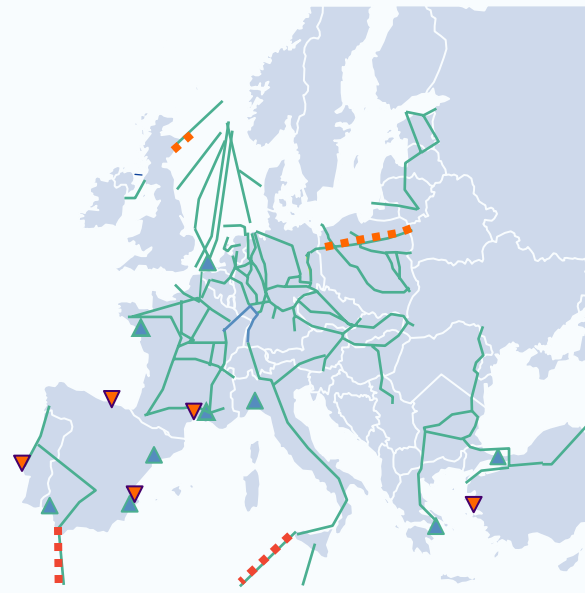
## Gas sourcing more global and, as in power market, Europe more integrated...

- New pipeline
- ▼ Planned LNG re-gas terminal
- ▲ Current LNG re-gas terminal

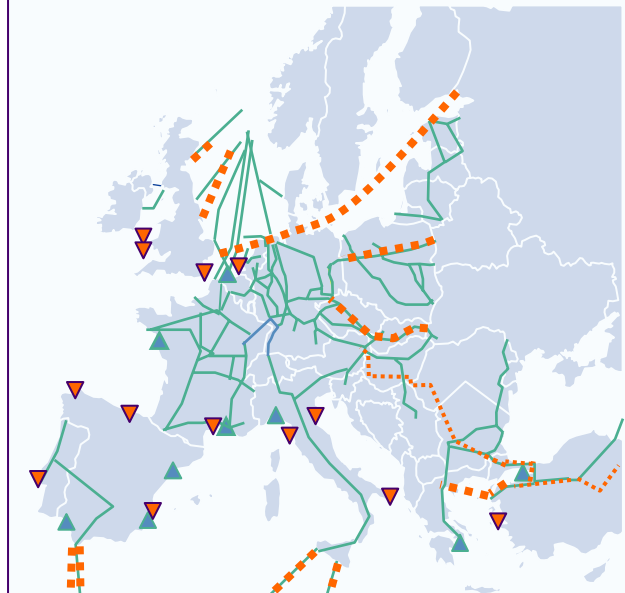
**2000**



**2005**



**2010**



- Gas sourced more remotely (e.g. from Russia, Middle East and Africa)
- More pipelines to remote sources and LNG facilities (e.g. Baltic pipeline)
- European markets more interconnected (e.g. UK-NL pipeline (BBL))

## .. but implications for utilities differ per country

### Pan-European implications

- Greater importance of sourcing assets and trading skills
- Greater importance of geo-politics

### Main implications for utilities

#### Netherlands

- Possibly less dependent on Gasunie
- Higher value of storage and LNG assets

#### Germany

- Greater dependence on Russian gas
- Higher value of East-West pipelines

#### Belgium

- Similar to NL
  - Possibly less dependent on Gasunie
  - Higher value of storage and LNG assets

#### France

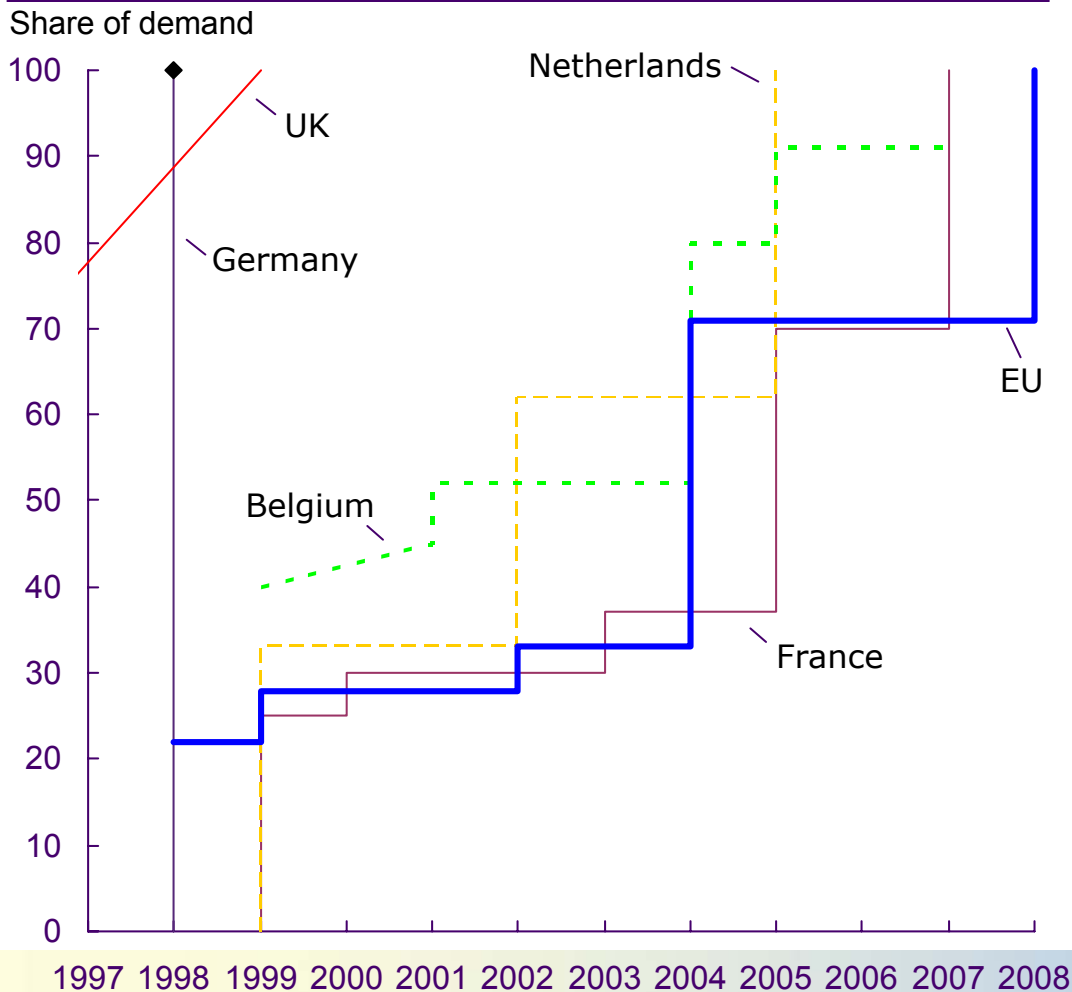
- Higher profitability of nuclear (high gas price)
- Control of LNG regas assets key to protect gas market position (GdF)

#### UK

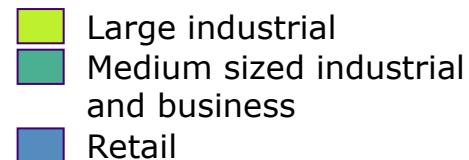
- Potentially decreasing spot market gas prices (over-investment in supply in short-term)
- Increased value of sourcing flexibility

# Countries have liberalized their power markets at different speeds

## Regulatory market opening

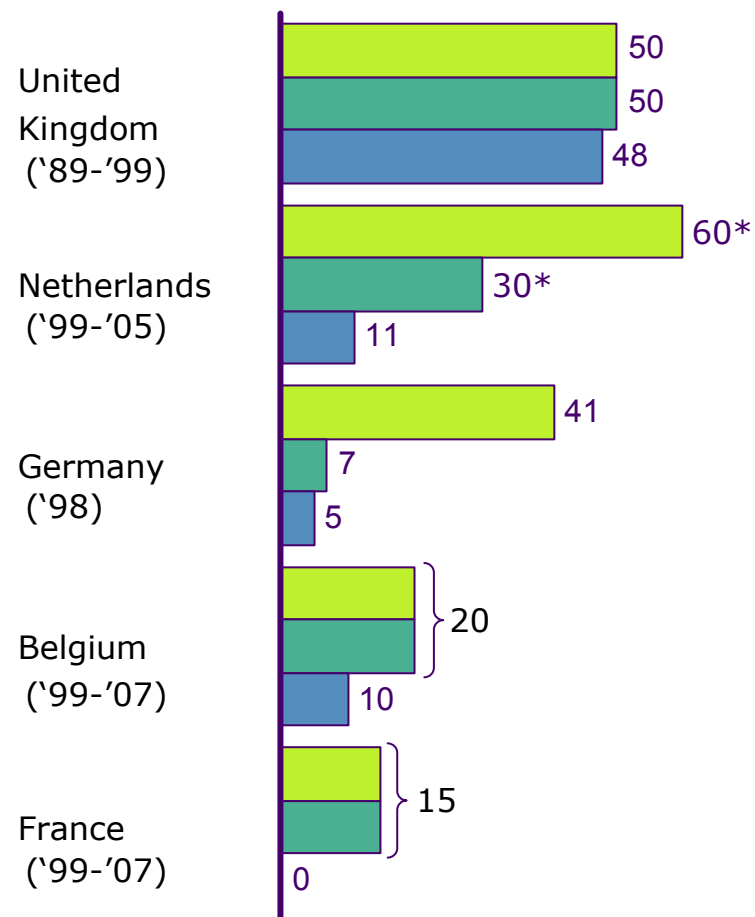


\* Rough estimates

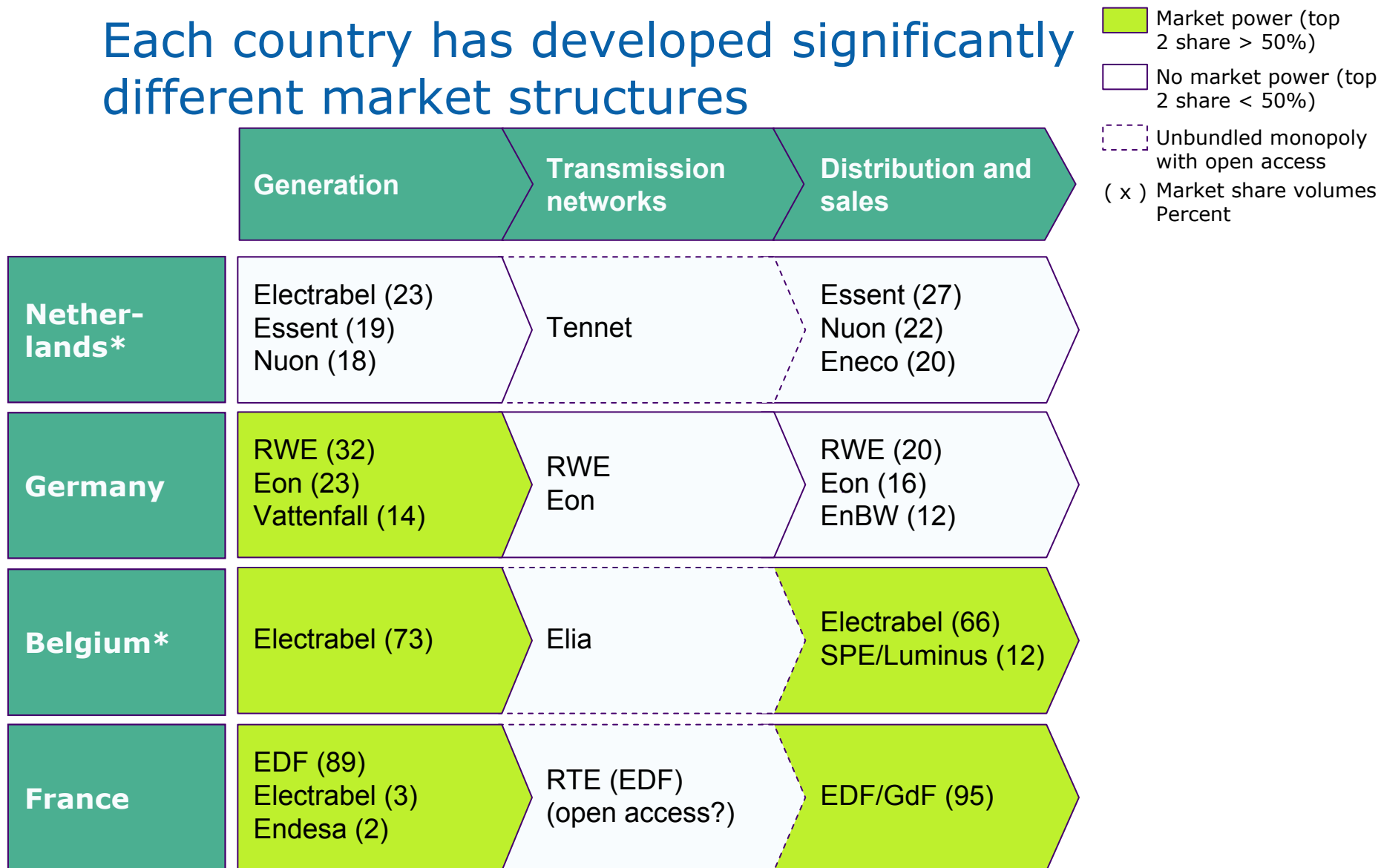


## Switching rate since liberalization

Percentage, (liberalization period)



# Each country has developed significantly different market structures



\* Generation based on installed capacity

## So, while market integration has triggered a European consolidation wave...

### Brussels threatens to act on energy 'market-rigging'

Financial Times  
16 February 2006

### EU Wants Reply From France On Suez-GdF By March 17

Dow Jones International News  
3 March 2006

### French Union CGT Calls For Strike Over Suez-GDF Merger

Dow Jones International News  
3 March 2006

### EDF eyes European takeovers as profits double

Financial Times  
23 February 2006

### Enel Would Back Gas Natural Counterbid For Endesa

Financial Times  
23 February 2006

### Gaz de France and Suez look at tie-up to combat Enel

Financial Times  
23 February 2006

### 'Centrica wil leveringsbedrijven Essent, Nuon en Eneco overnemen'

Energieia  
03/06/06

### Eon launches surprise €29bn cash bid for Endesa

Financial Times  
21 February 2006

### NRE en Intergas onderzoeken fusie netwerkbedrijven

Energieia  
03/03/06

### 'National Grid heeft bod gedaan op Obragas en Haarlemmermeergas'

Energieia/ANP  
02/28/06

## ...domestic regulations have positioned utilities very differently

	<b>Domestic regulation</b>	<b>Impact on utilities' position</b>
<b>Netherlands</b>	<ul style="list-style-type: none"> <li>■ Ownership transmission and distribution networks (likely) unbundled</li> <li>■ Foreign ownership of generation and sales allowed</li> </ul>	<ul style="list-style-type: none"> <li>■ Nuon/Essent/Eneco (if unbundled) attractive take-over targets</li> </ul>
<b>Germany</b>	<ul style="list-style-type: none"> <li>■ Transmission and distribution networks owned by generators</li> <li>■ Market concentration allowed</li> </ul>	<ul style="list-style-type: none"> <li>■ RWE/Eon cash-rich giants</li> </ul>
<b>Belgium</b>	<ul style="list-style-type: none"> <li>■ Transmission and distribution networks publicly owned</li> <li>■ Foreign ownership allowed</li> </ul>	<ul style="list-style-type: none"> <li>■ Electrabel/Distrigas owned by Suez</li> </ul>
<b>France</b>	<ul style="list-style-type: none"> <li>■ Large integrated monopolies largely state owned</li> <li>■ National state owned monopolies</li> </ul>	<ul style="list-style-type: none"> <li>■ GDF/EDF protected from foreign bidders (e.g. Enel)</li> </ul>

## Conclusion: Some pan-European trends, but significant country differences remain

### Pan-European trends

- Power: European integration
  - More interconnection
  - More liquidity
  - CO2 (links markets)
- Gas: Remote sourcing and European integration



### Country differences

- Power:
  - National allocation plans
  - Speed of liberalization
  - Market structure
  - (Foreign) ownership
- Gas: Impact of remote sourcing different by country

# Today's topics

- Introduction of Nuon
- Trends in European energy market from a Dutch perspective

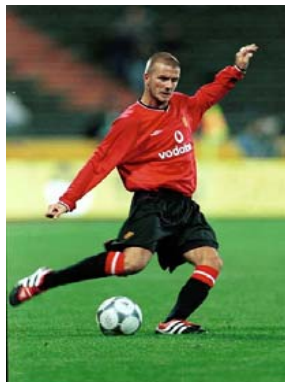


- **Implications for Germany**

# Germany at a cross-roads: In what group will you play?

## Group A: Competitive markets

**U.K.**



**Netherlands**



**Germany?**



## Group B: Protected monopolies

**France**



**Belgium**



**Further liberalization can lower energy prices,  
without jeopardizing security of supply**

# Further liberalization can lower energy prices, without jeopardizing security of supply

Increased competition helps maintain affordable prices

- More competition throughout the value chain
  - Low cost fuel supply
  - Competitive generation market
  - Open access to networks
  - Diversified retail and business offerings
- Attractive CO2 regime to encourage market entry from international players like Nuon

**Liberalize and maintain secure supply**

Supply can be secure in liberalized markets

- Reliable, diversified gas supply (stronger position towards Russia)
- Adequate reserve margins in generation
- Sufficient power transmission capacity

## Dutch success in Germany in 2006?

**Roy Makaay: From strength  
in Holland**



**To success in Germany**



**How can Nuon Germany and business users work together to create a broader competitive offering in the German market while maintaining secure gas and power supply?**

Did we mention already you don't have to be large to be successful in Germany?

**21 June, 1988, West Germany- Holland**

