Excess capacities and competition

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2. Price setting in liberalised markets
3. The relevance of excess capacities in generation
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5. Long term contracts
6. Perspectives for future price develop-ment
7. Conclusions

1. INTRODUCTION

- Competition: expectations of EC -> very simplified assumptions on strategic behaviour of generators / grid operators!

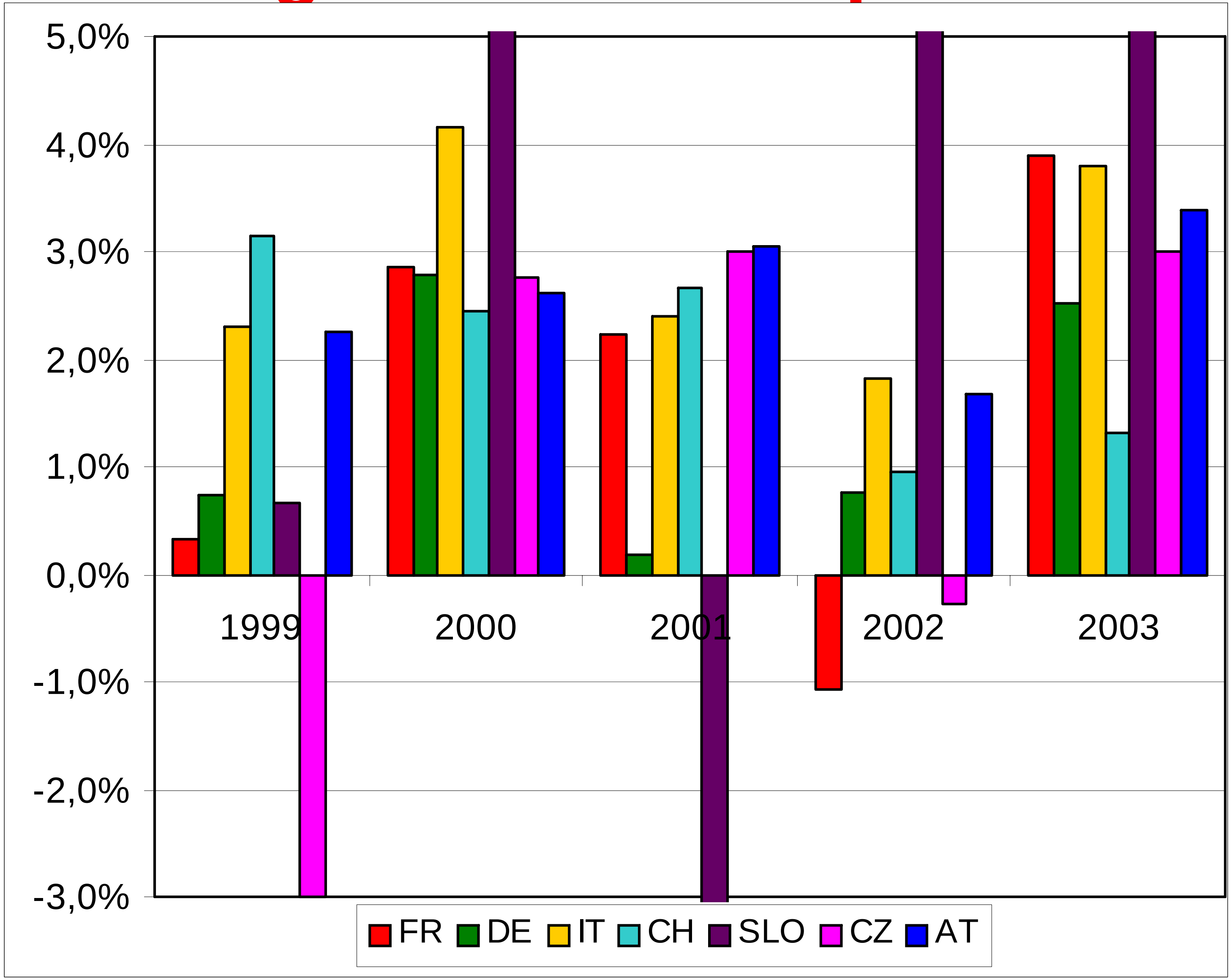
- General lack of competition: in generation and supply in every country and sub-market

- In wholesale markets: strong suspictions regarding exertion of market power in every sub-market

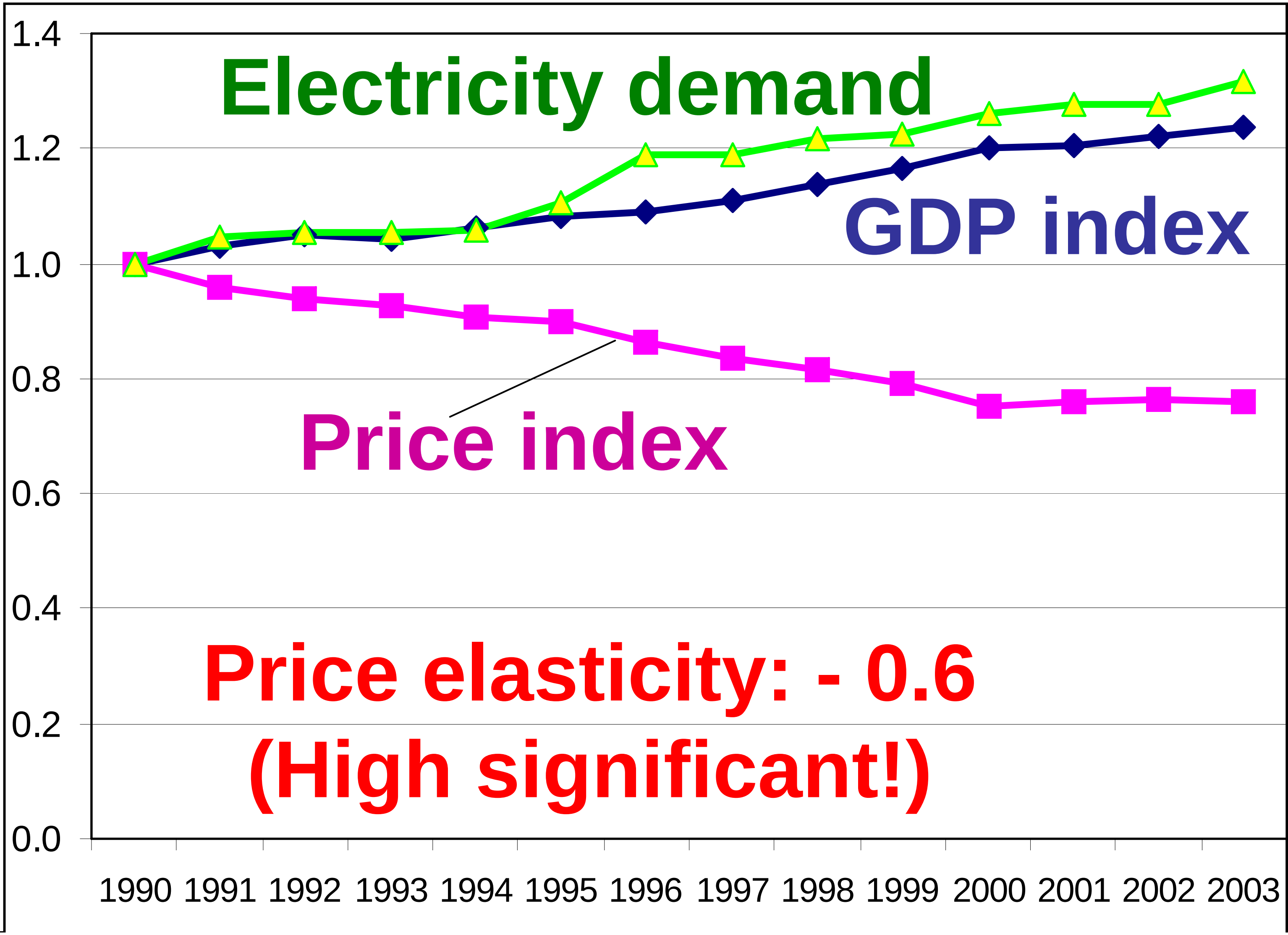
Motivation:

- Centralised or decentralised electricity supply?
- Currently, incumbent utilities make money with power plants constructed and depreciated under regulated monopoly conditions without any additional investments -> Optimal solution for society? How long?
- Enhanced due to the exertion of market power

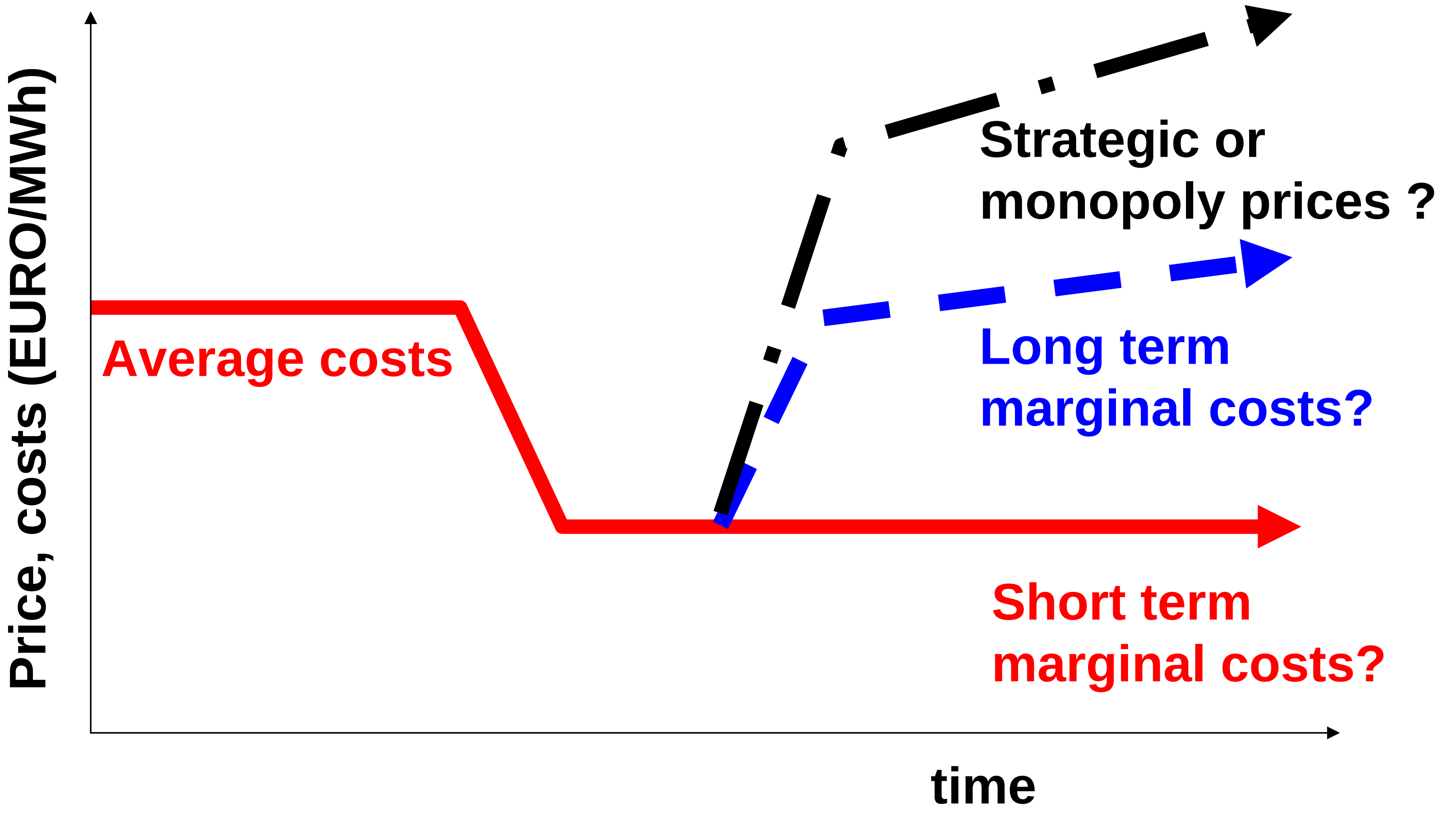
Electricity demand growth in Europe



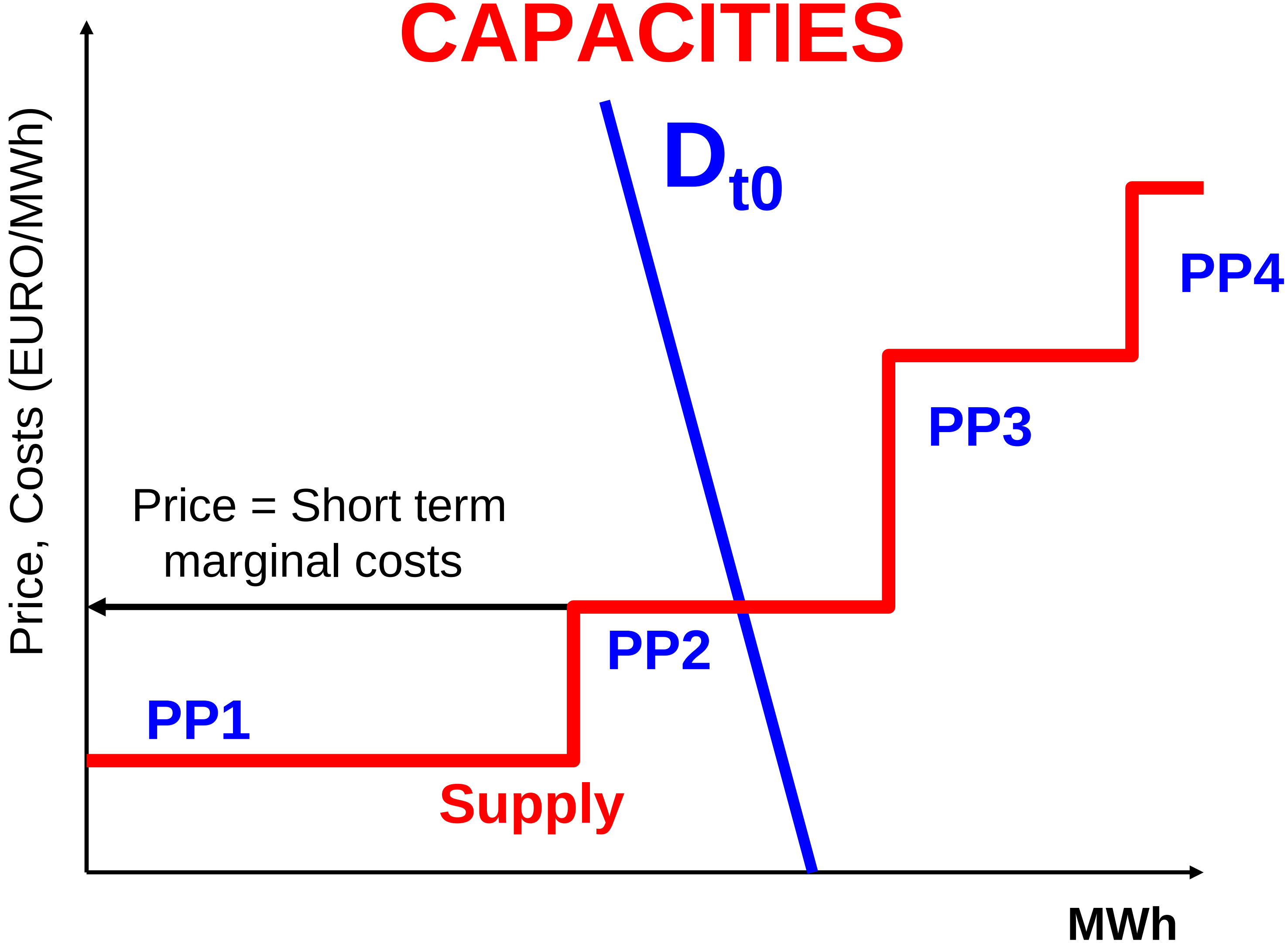
IMPACT PARAMETER ON ELECTRICITY DEMAND IN CENTRAL EUROPE (DE, FR, AT, CH)

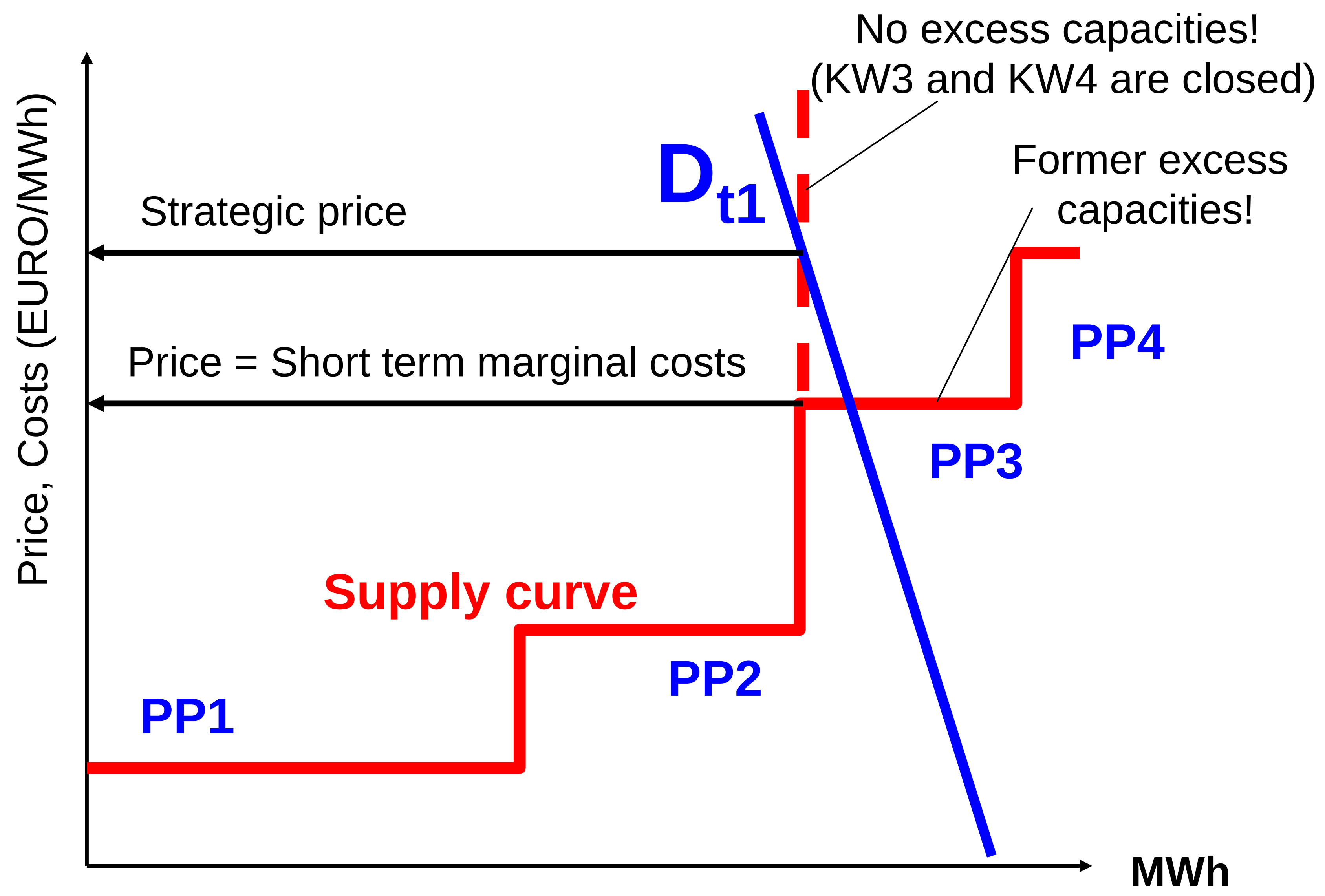


2. PRICES IN LIBERALISED MARKETS



PRICE SETTING IN A COMPETITIVE MARKET WITH EXCESS CAPACITIES




No excess capacities!
(KW3 and KW4 are closed)
Former excess capacities!
Strategic price
Price = Short term marginal costs
Price, Costs (EURO/MWh)
D t1
PP4
PP3
PP2
PP1
Supply curve
MWh

Note: If there is no reserve capacity every player can exert market power and bring about high strategic prices!

3. EXCESS CAPACITIES IN GENERATION

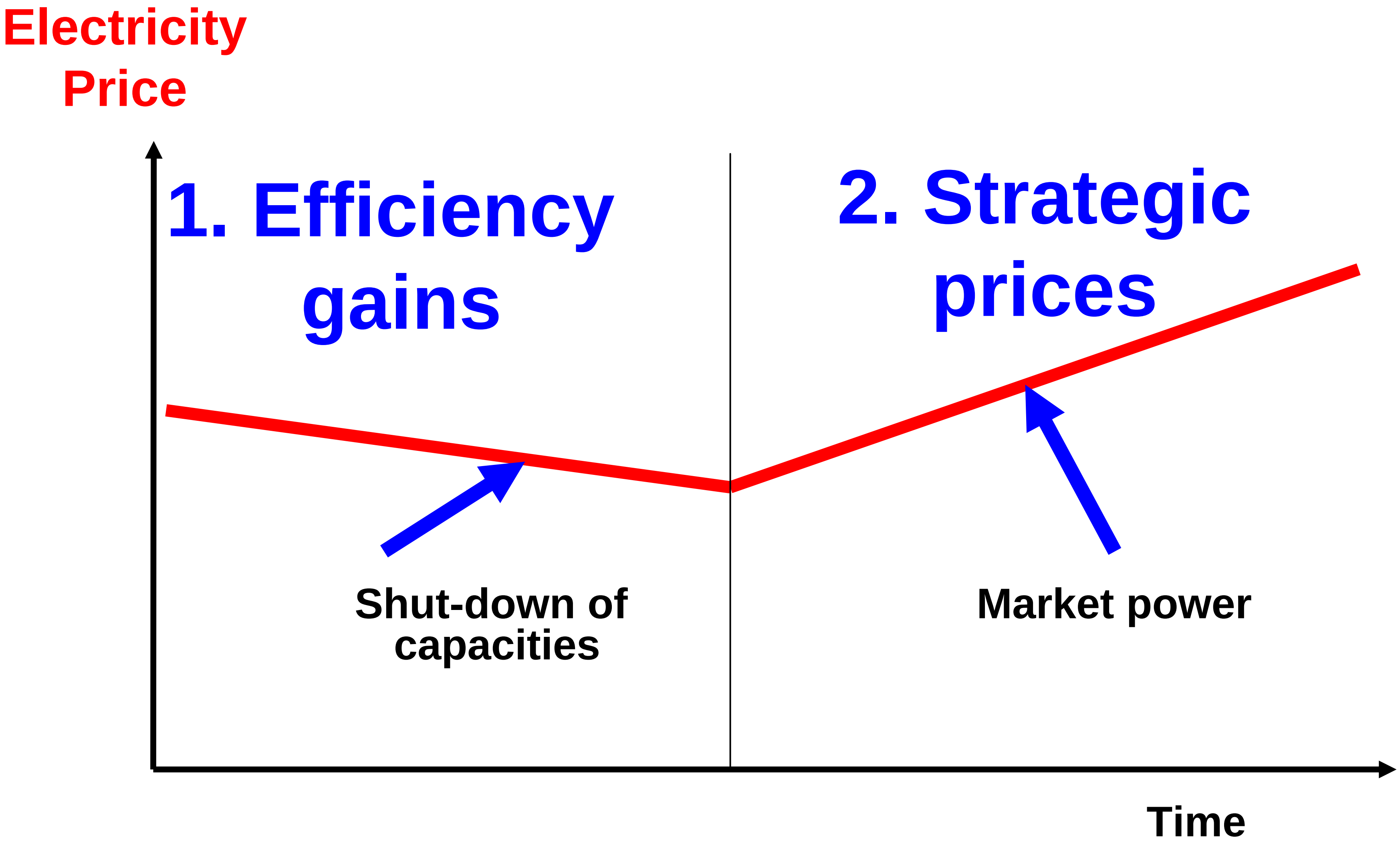
Remark 1:

CROSS-BORDER TRANSMISSION CAPACITIES ENSURE A LARGER MARKETS

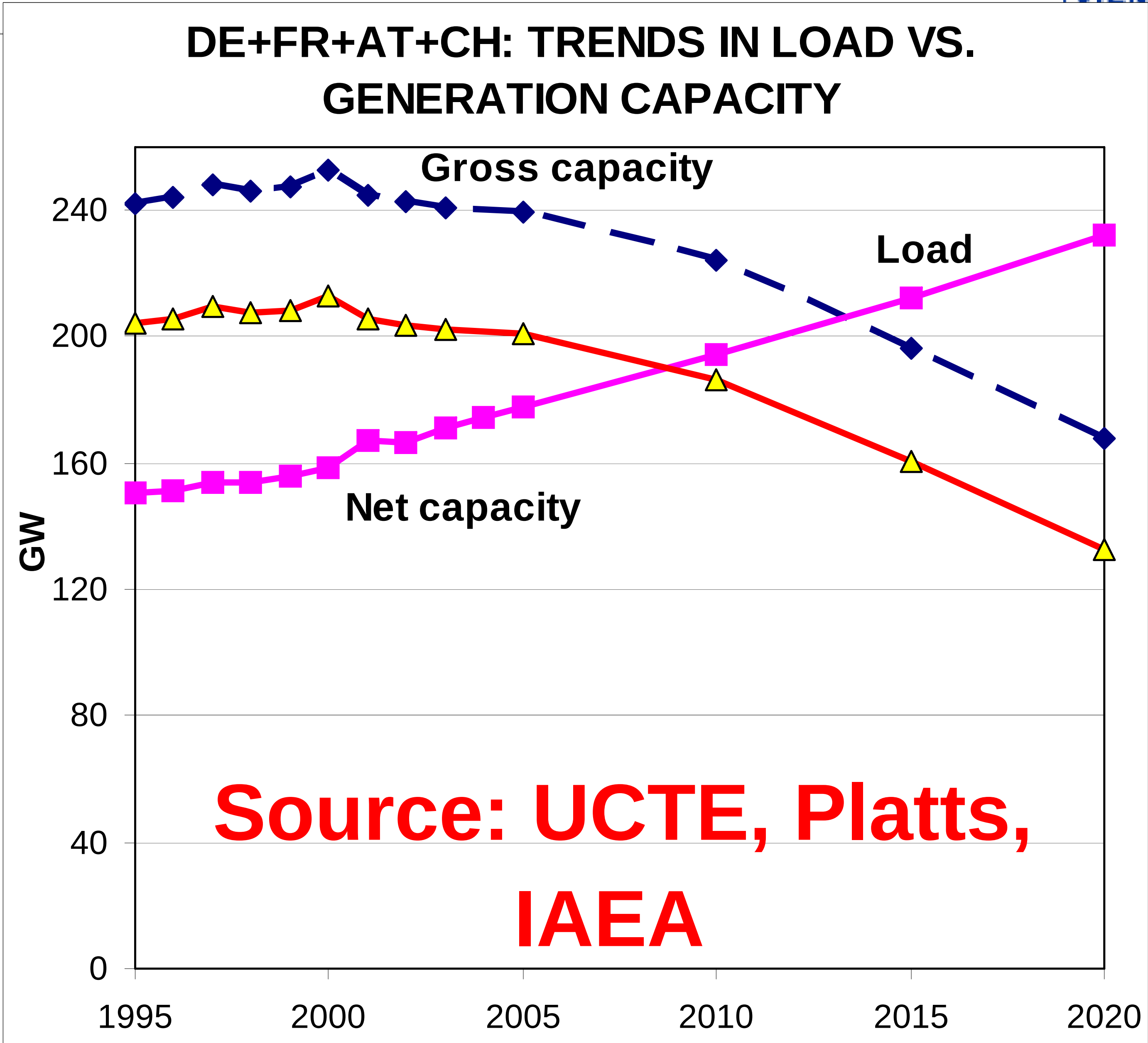
Remark 2:

POLITICAL DECISION: ELECTRICITY HIGHWAYS OR DECENTRALISED GENERATION?

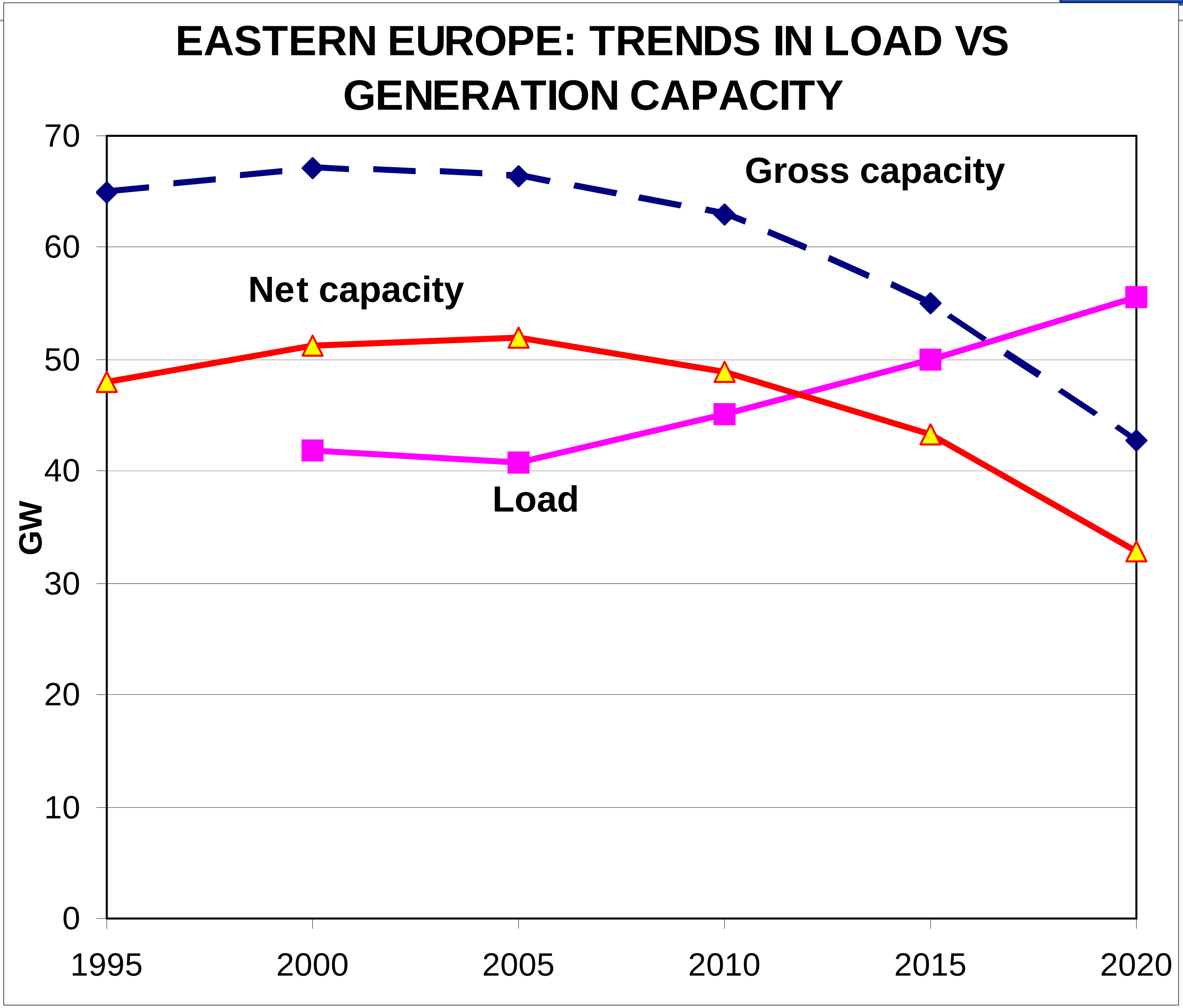
AMBIGOUS ROLE OF EXCESS CAPACITIES



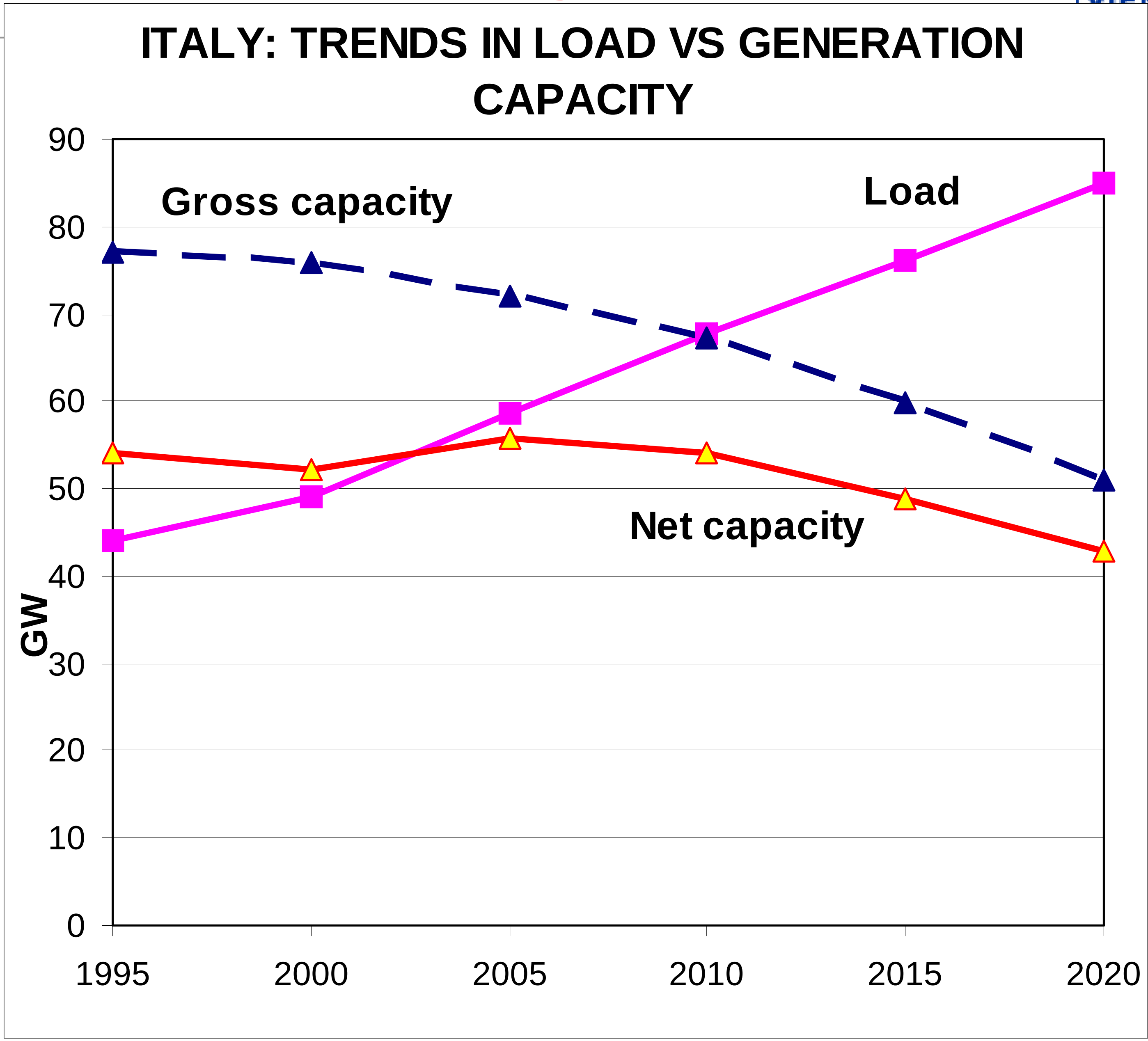
3. EXCESS CAPACITIES



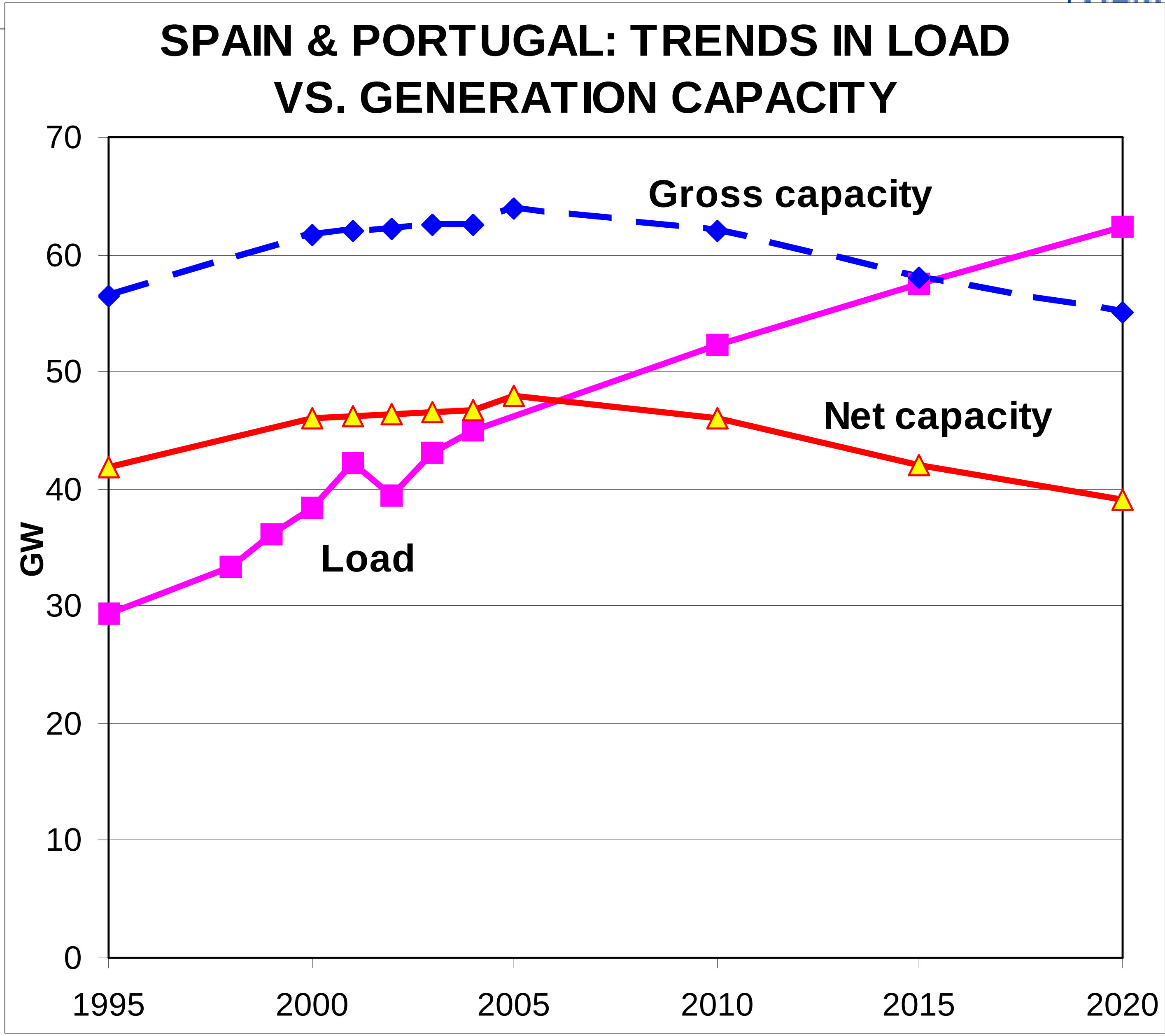
Eastern Europe



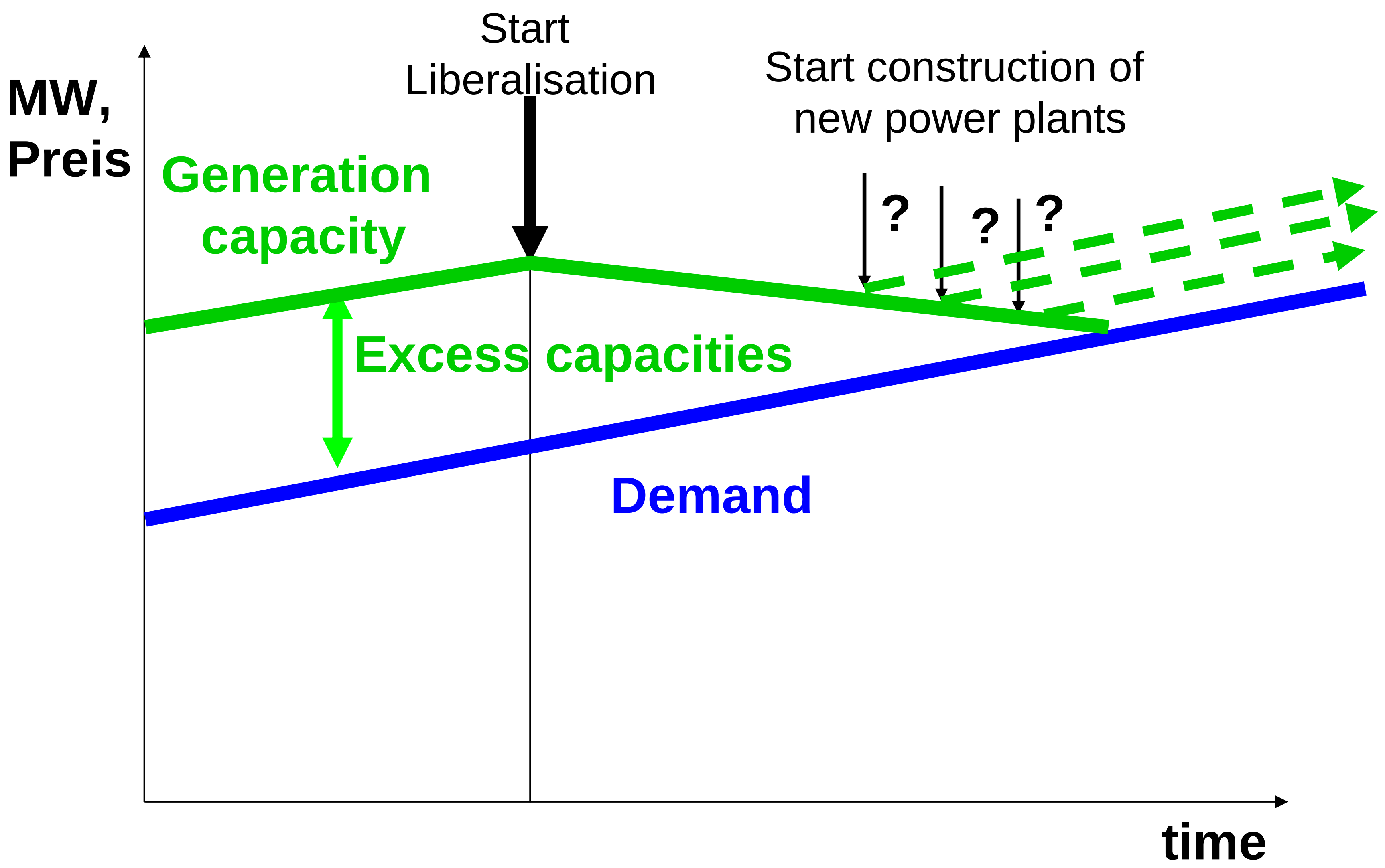
Italy


ITALY: TRENDS IN LOAD VS GENERATION CAPACITY
Gross capacity
Load
Net capacity
GW
90
80
70
60
50
40
30
20
10
0
1995
2000
2005
2010
2015
2020

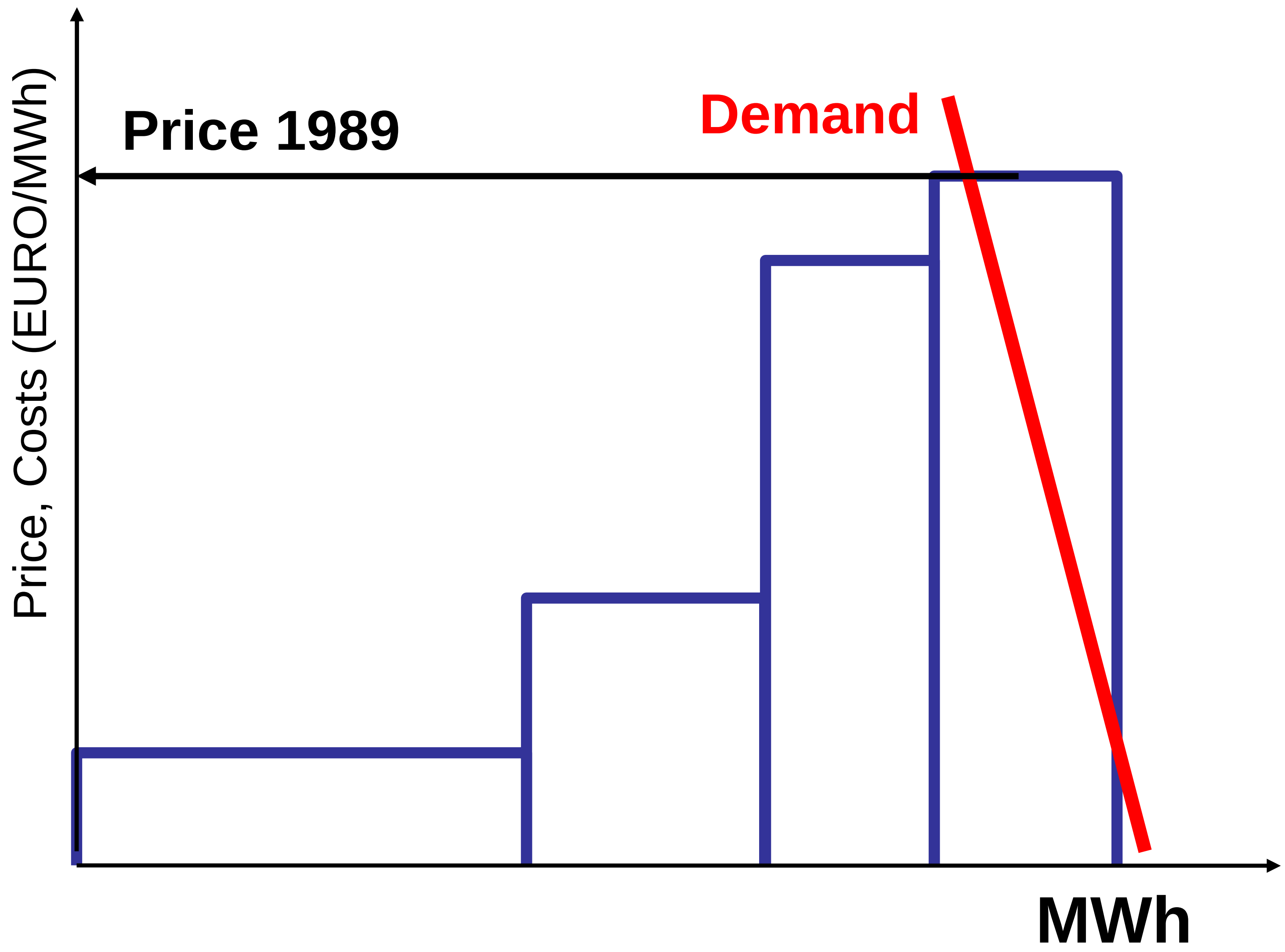
Spain&Portugal



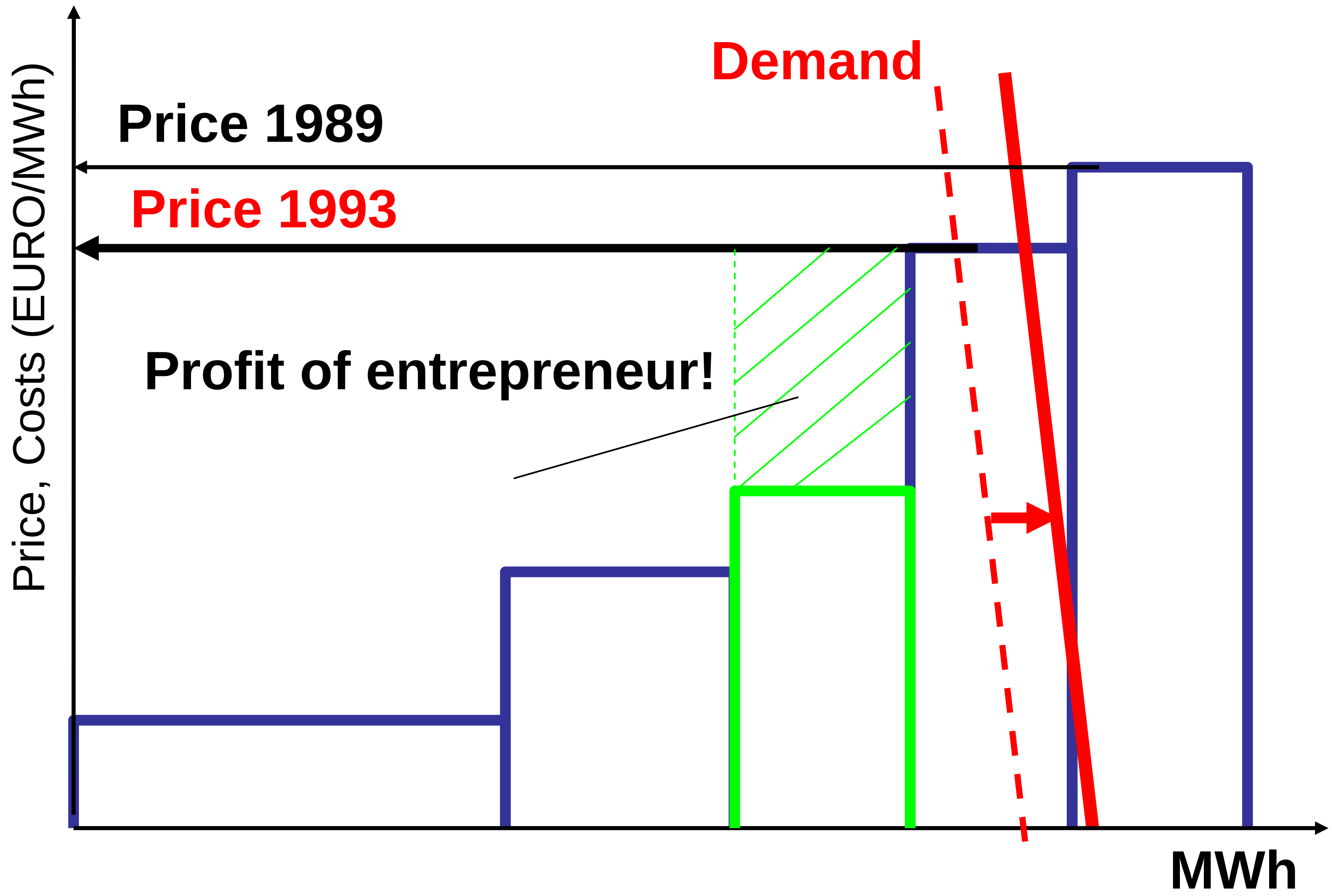
RECENT TRENDS



ENGLAND 1989

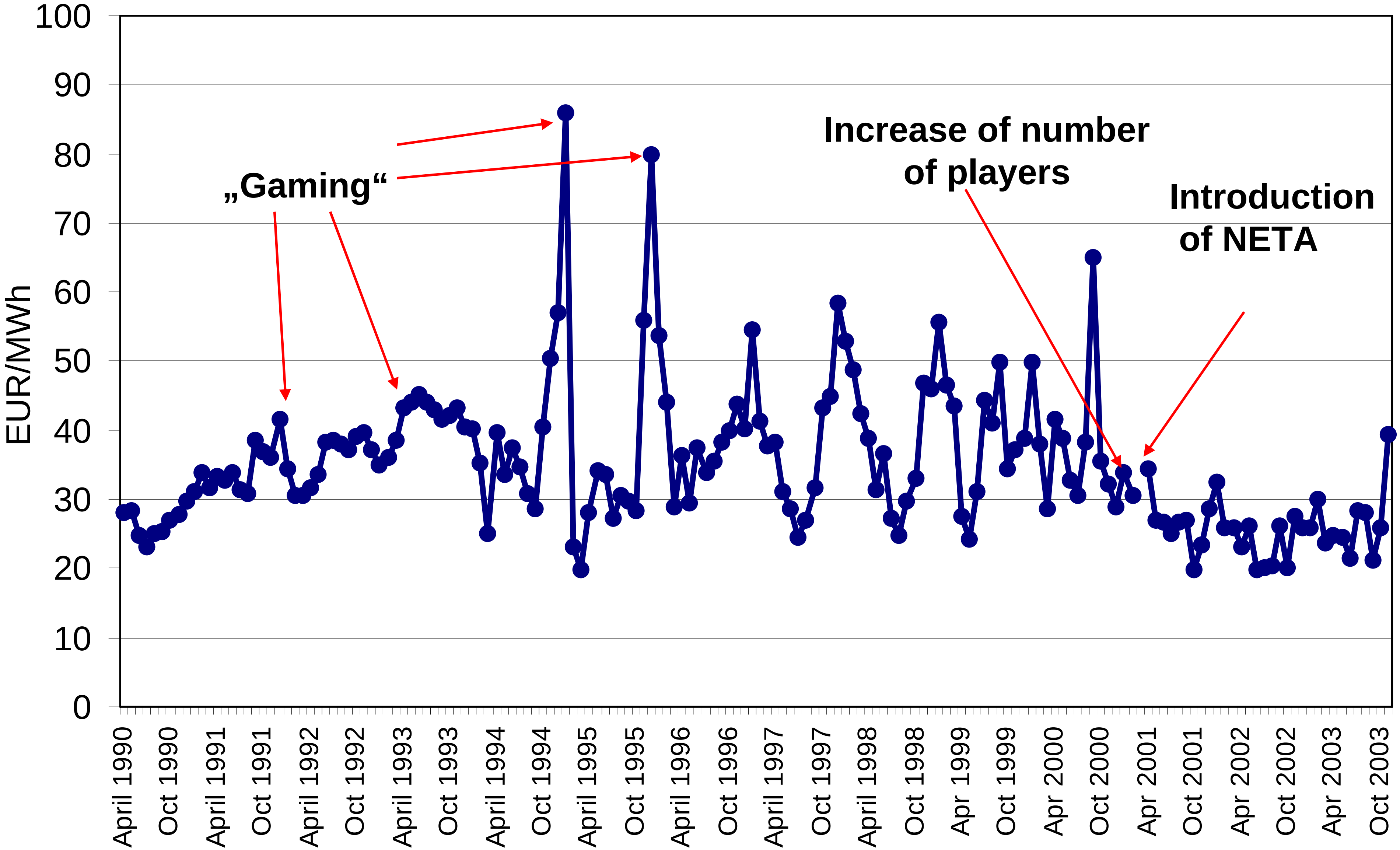


ENGLAND 1993

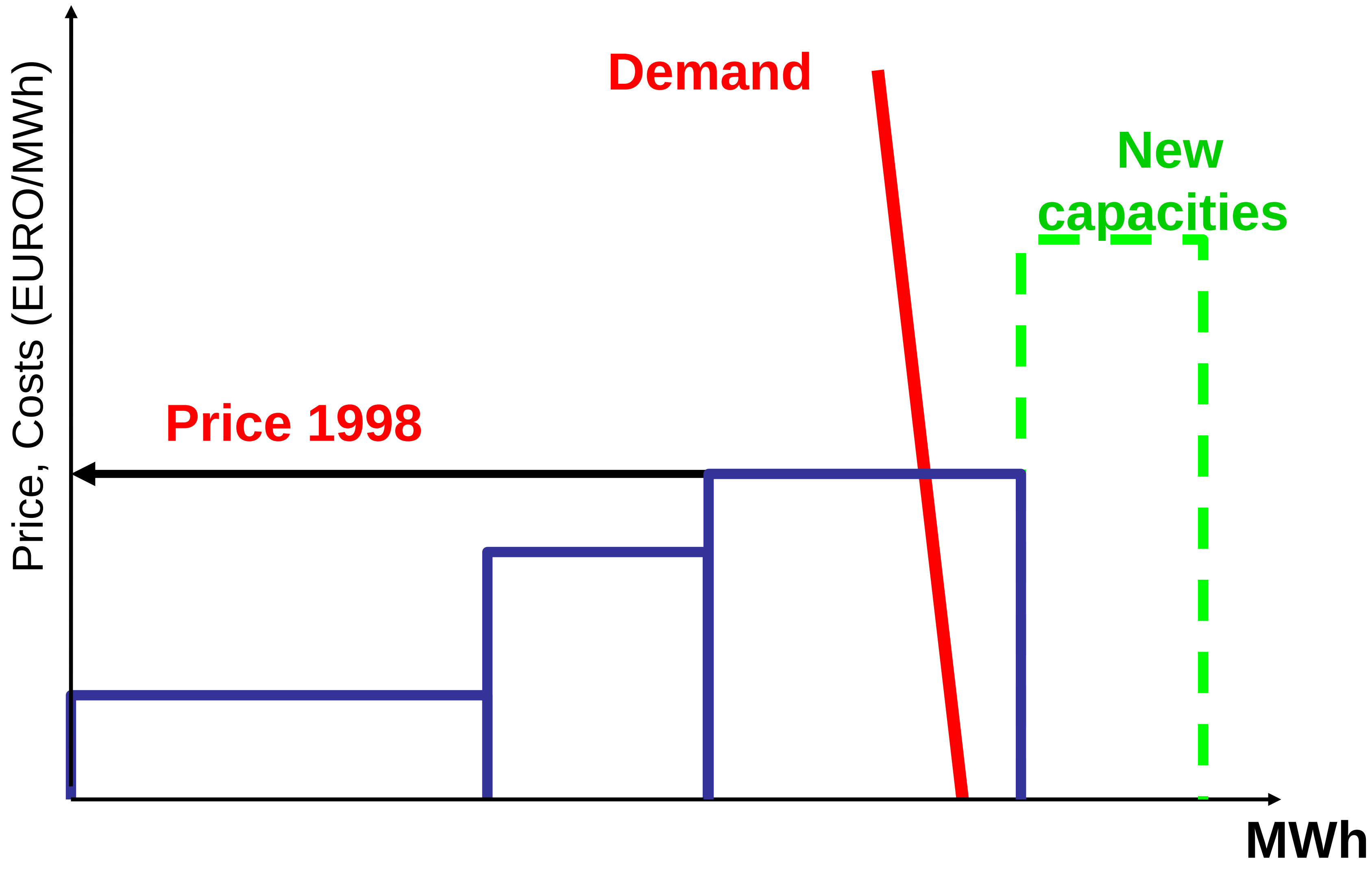


→ „high“ market price, new capacities “cheap“

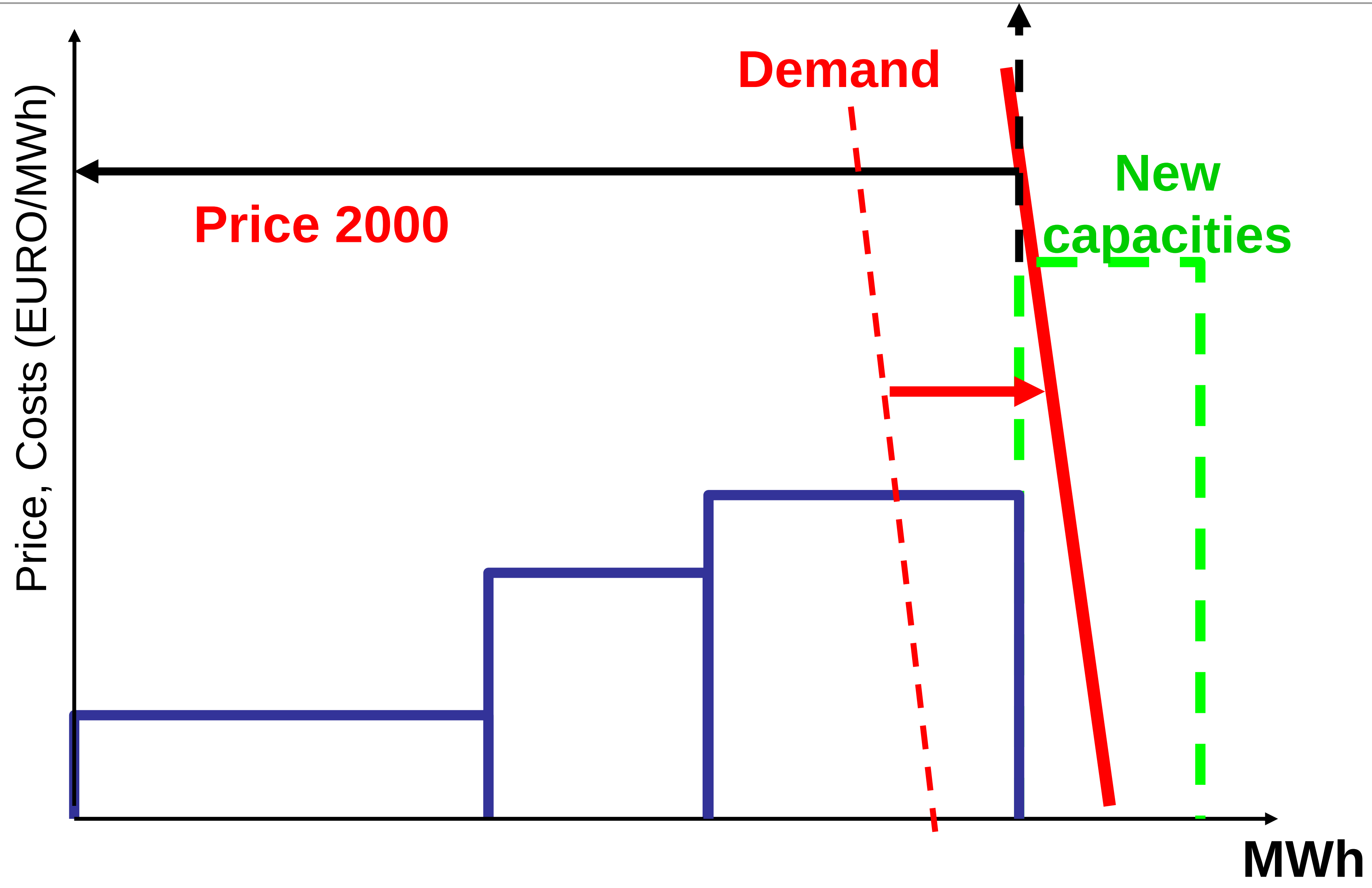
England&Wales: Spotmarktpreise



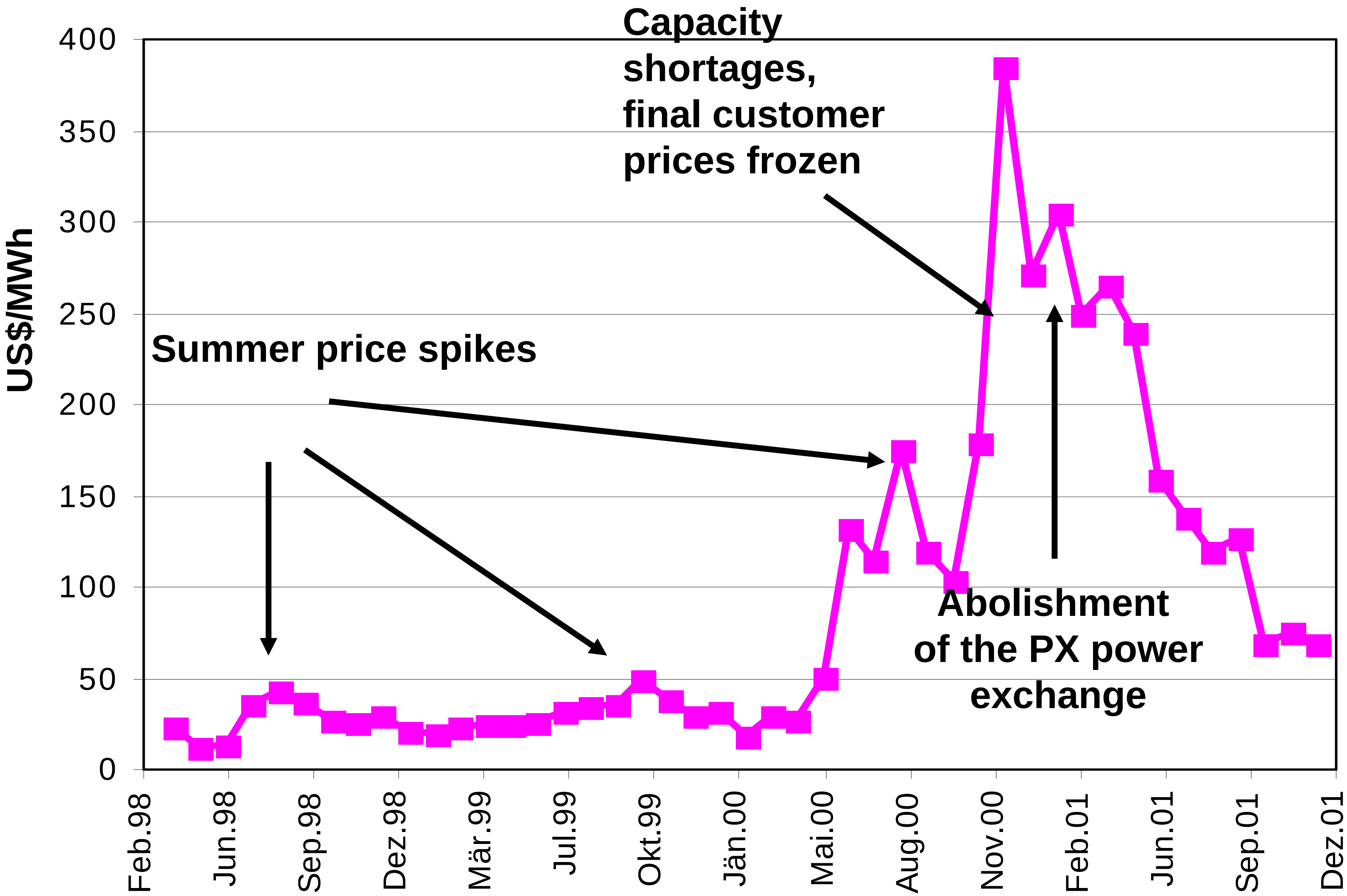
CALIFORNIA 1998



CALIFORNIA 2000

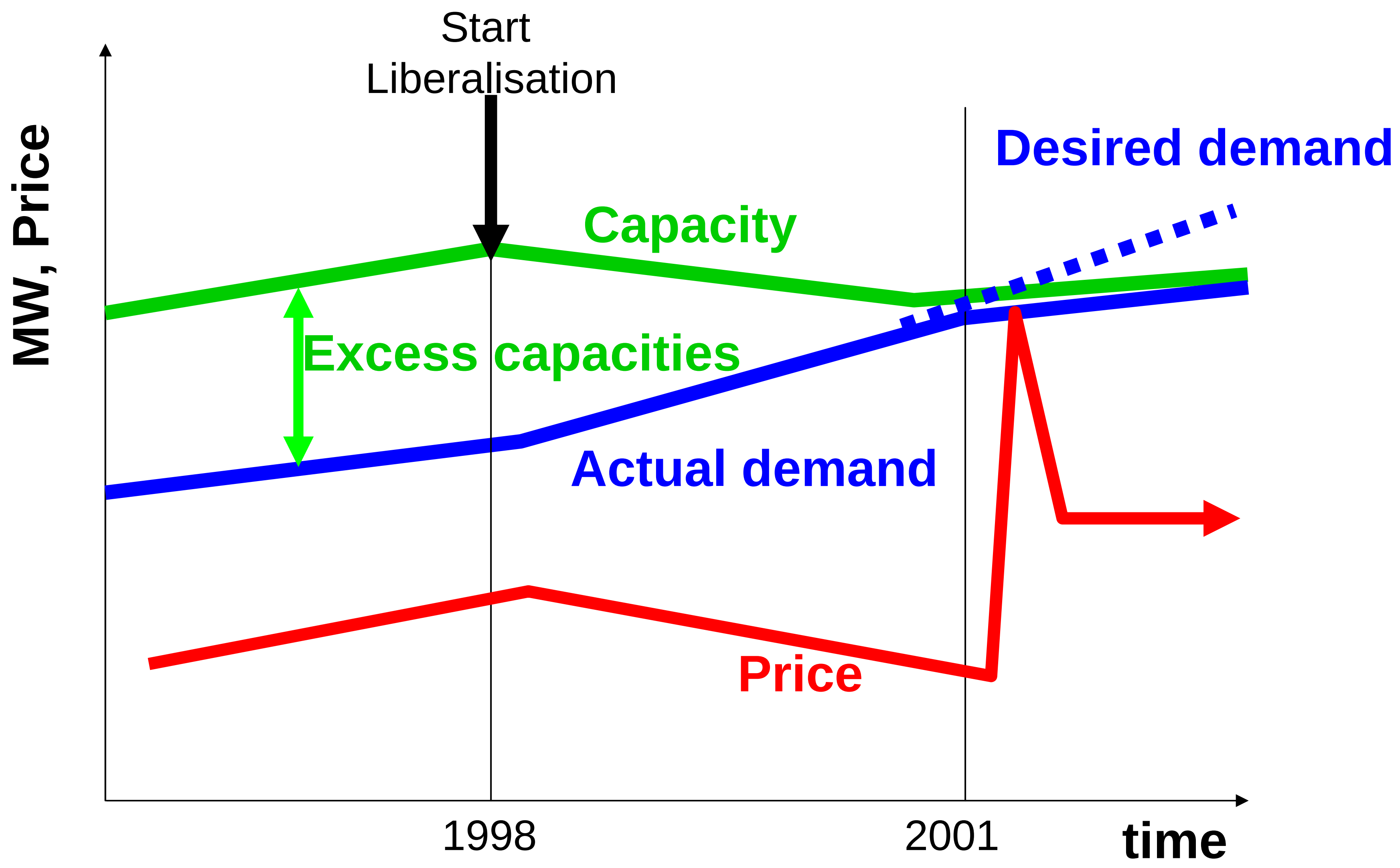


California: Wholesale electricity prices

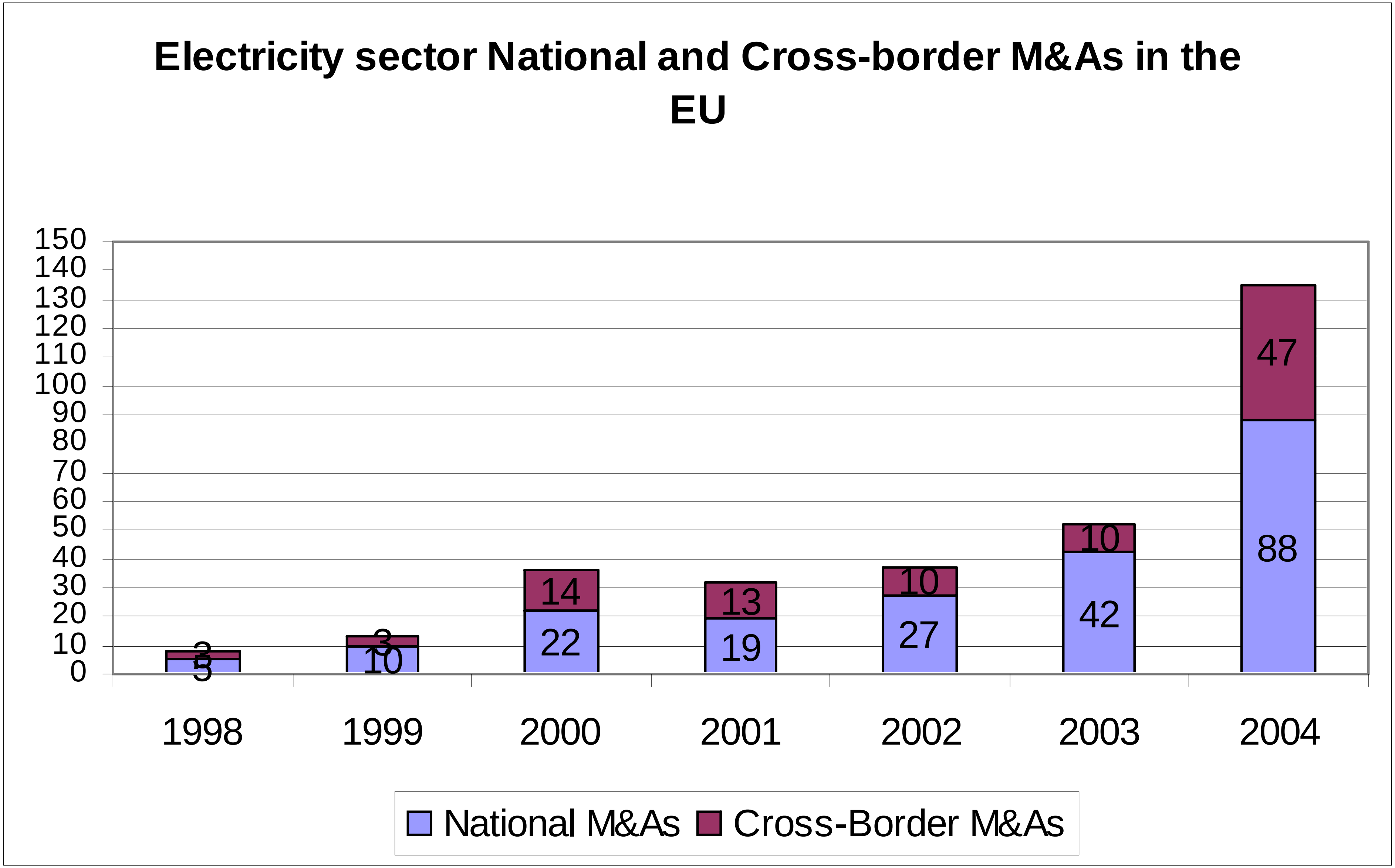


Quelle: Blumstein et al 2002

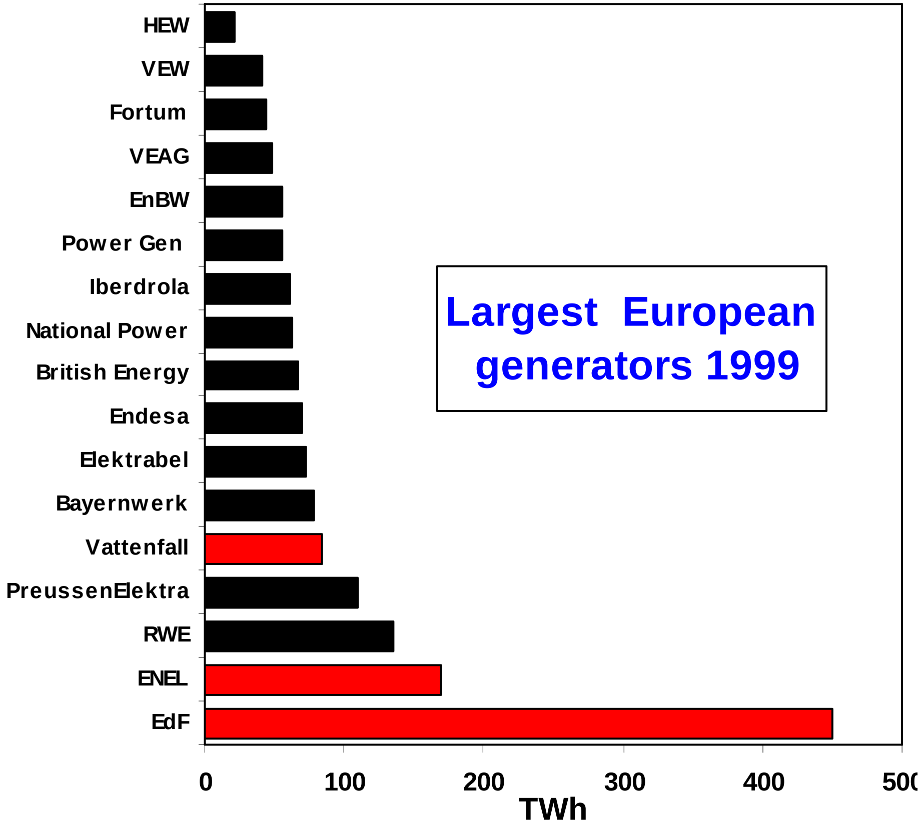
CAPACITY DEVELOPMENT CALIFORNIA

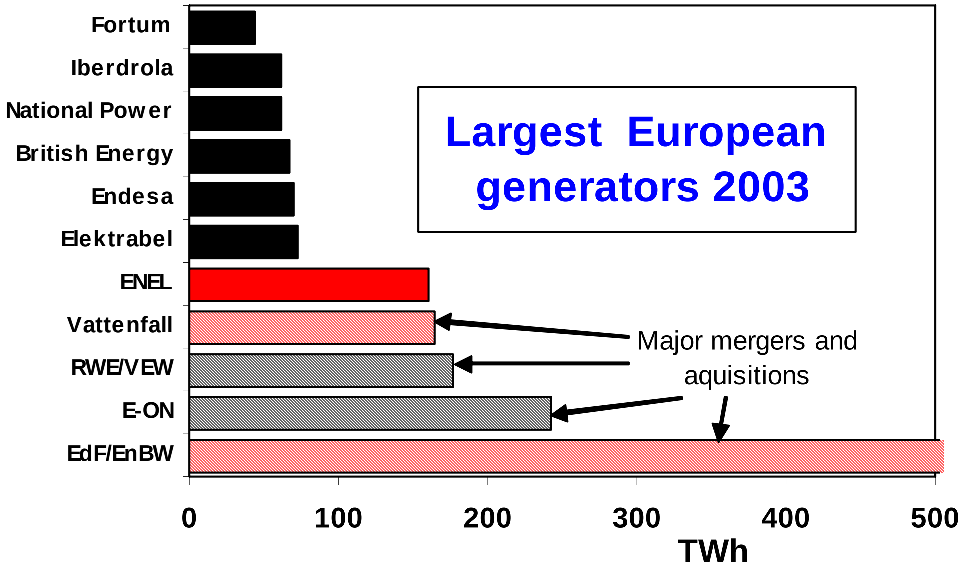


4. MERGERS AND AQUISITIONS



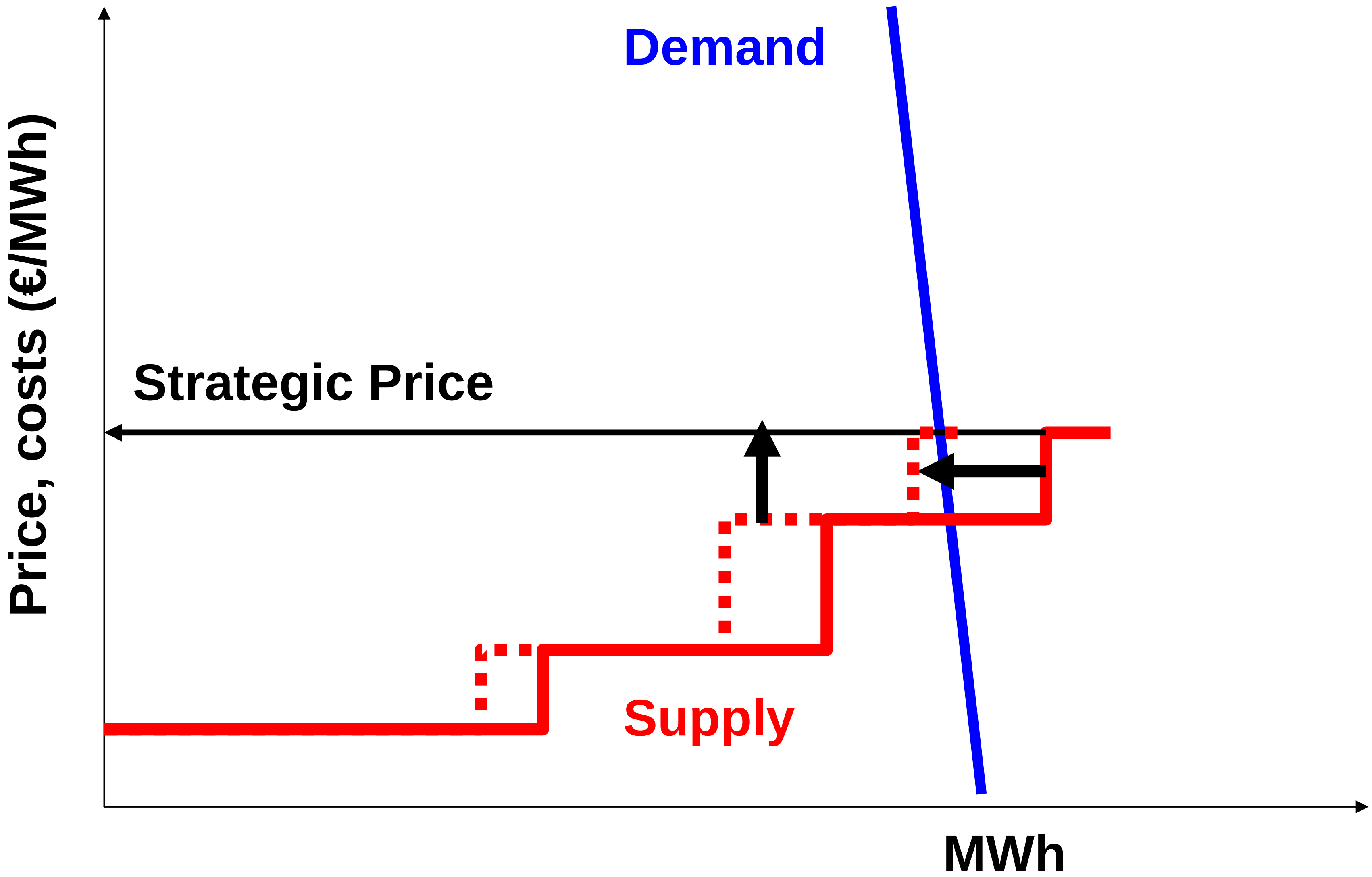
NUMBER OF LARGE GENERATORS IN EU-15





17 → 11 !

„GAMING“ BY TAKING PLANTS OUT OF THE MARKET



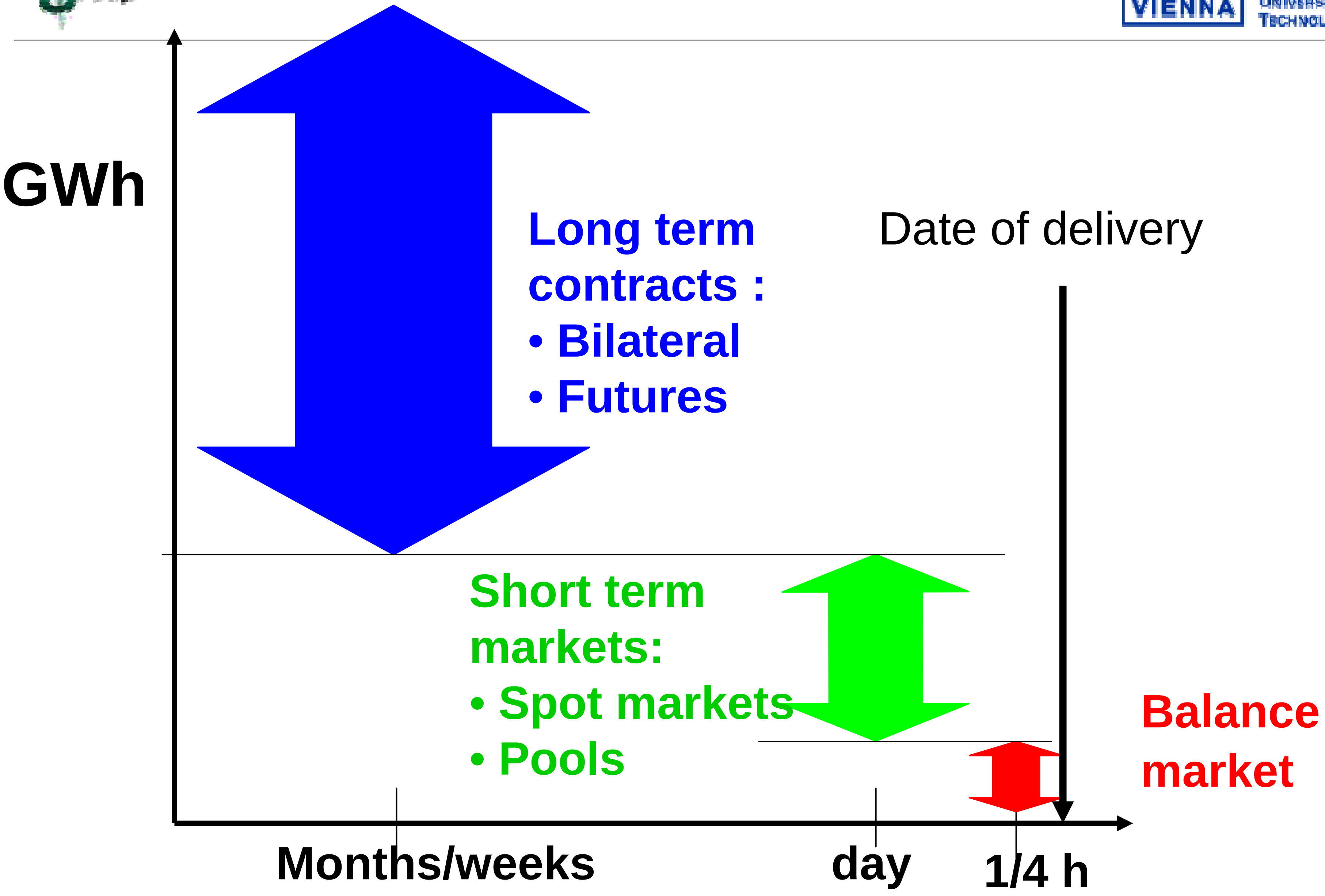
IF I OWN 30 GW OF GENERATION CAPACITY I CAN AFFORD TO TAKE OUT 3 MW.

IF I OWN 3 GW OF GENERATION CAPACITY I CANNOT AFFORD TO TAKE OUT 3 MW.

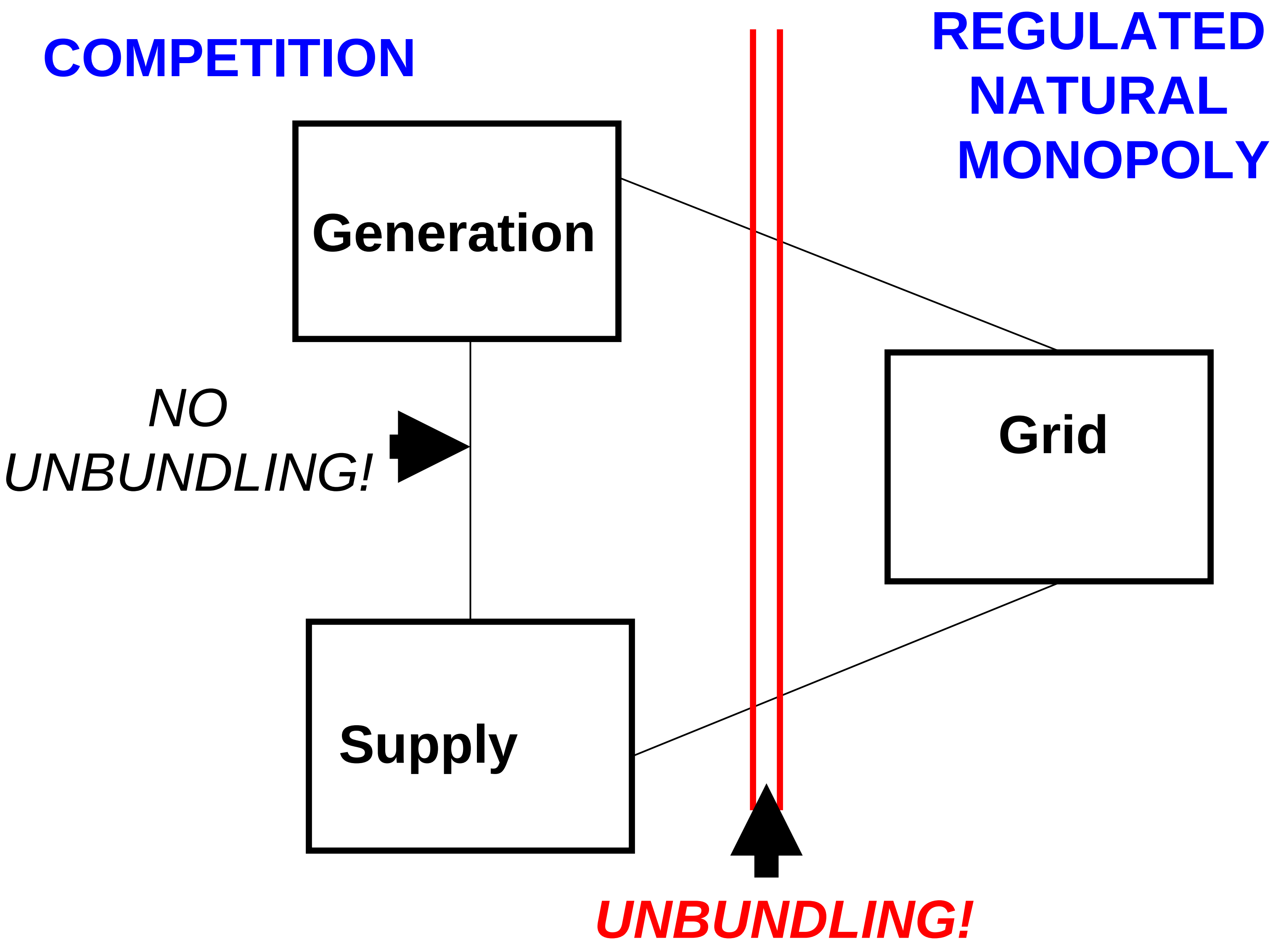
5. THE RELEVANCE OF LONG-TERM CONTRACTS

- **Nordic market: long term bilateral contracts always allowed**

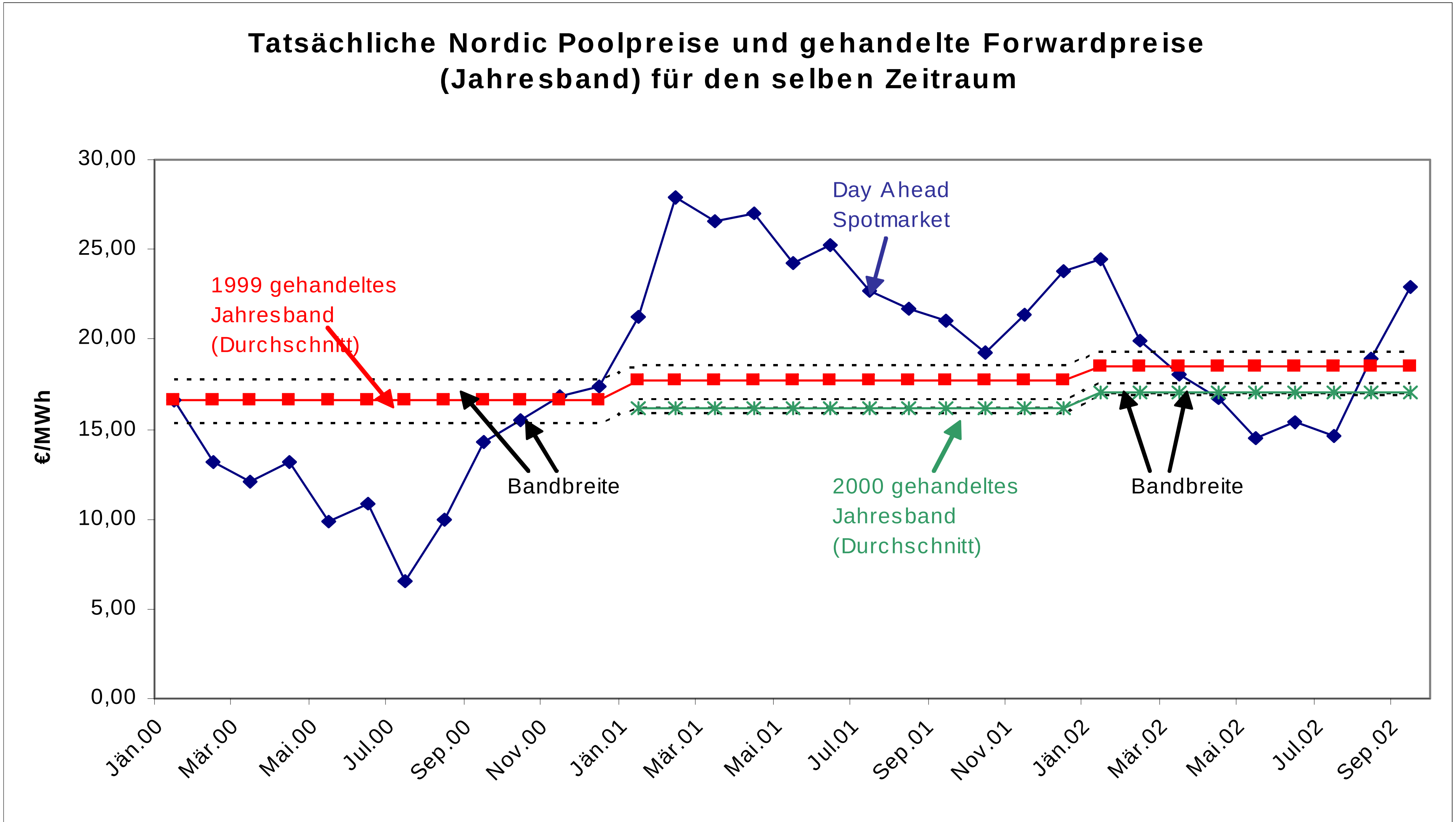
- **England & Wales (till 2001): mandatory pool led to „contracts for differences"**


GWh
Long term contracts :
• Bilateral
• Futures
Date of delivery
Short term markets:
• Spot markets
• Pools
Balance market
Months/weeks
day
1/4 h

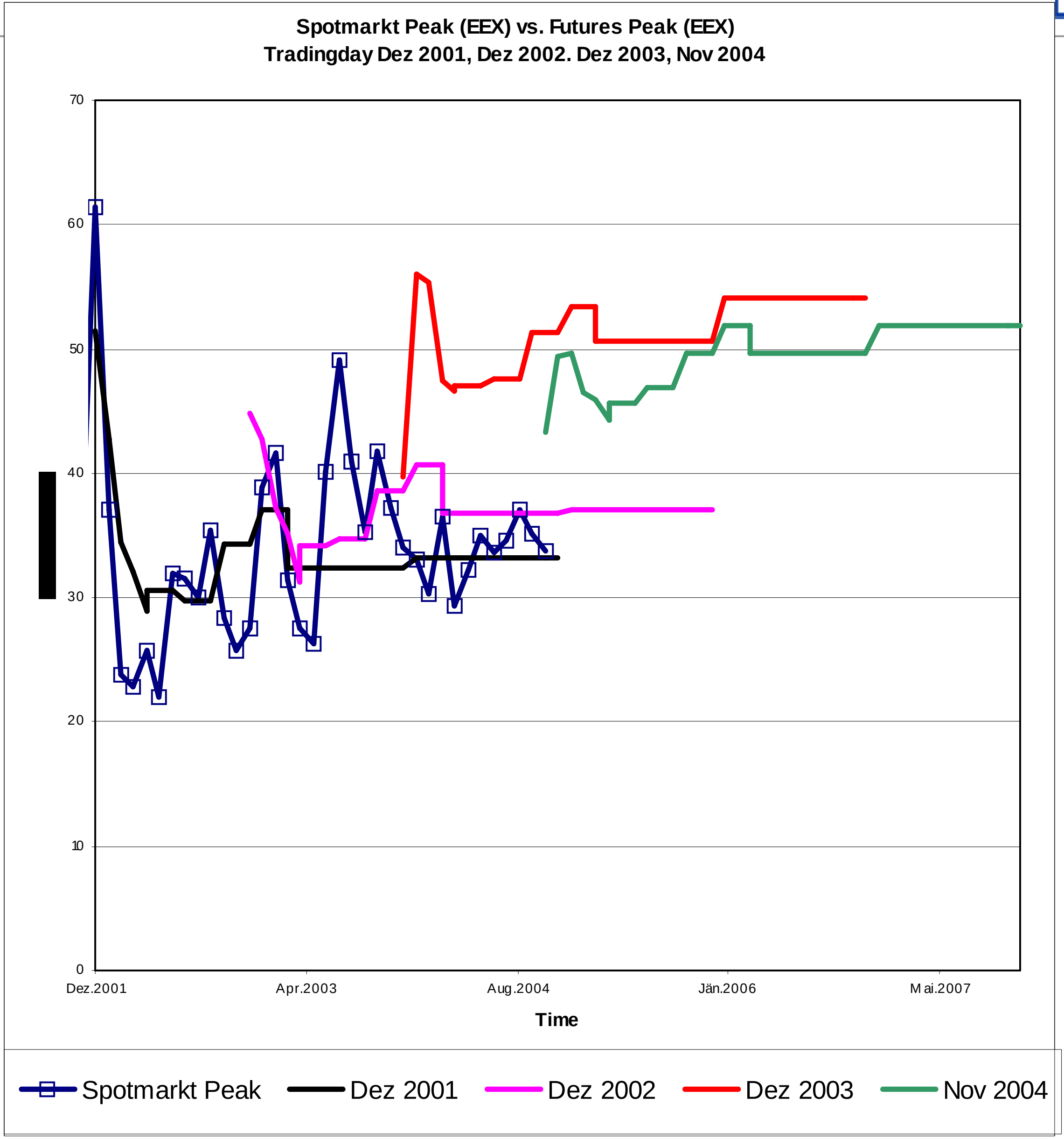
CORRECT UNBUNDLING



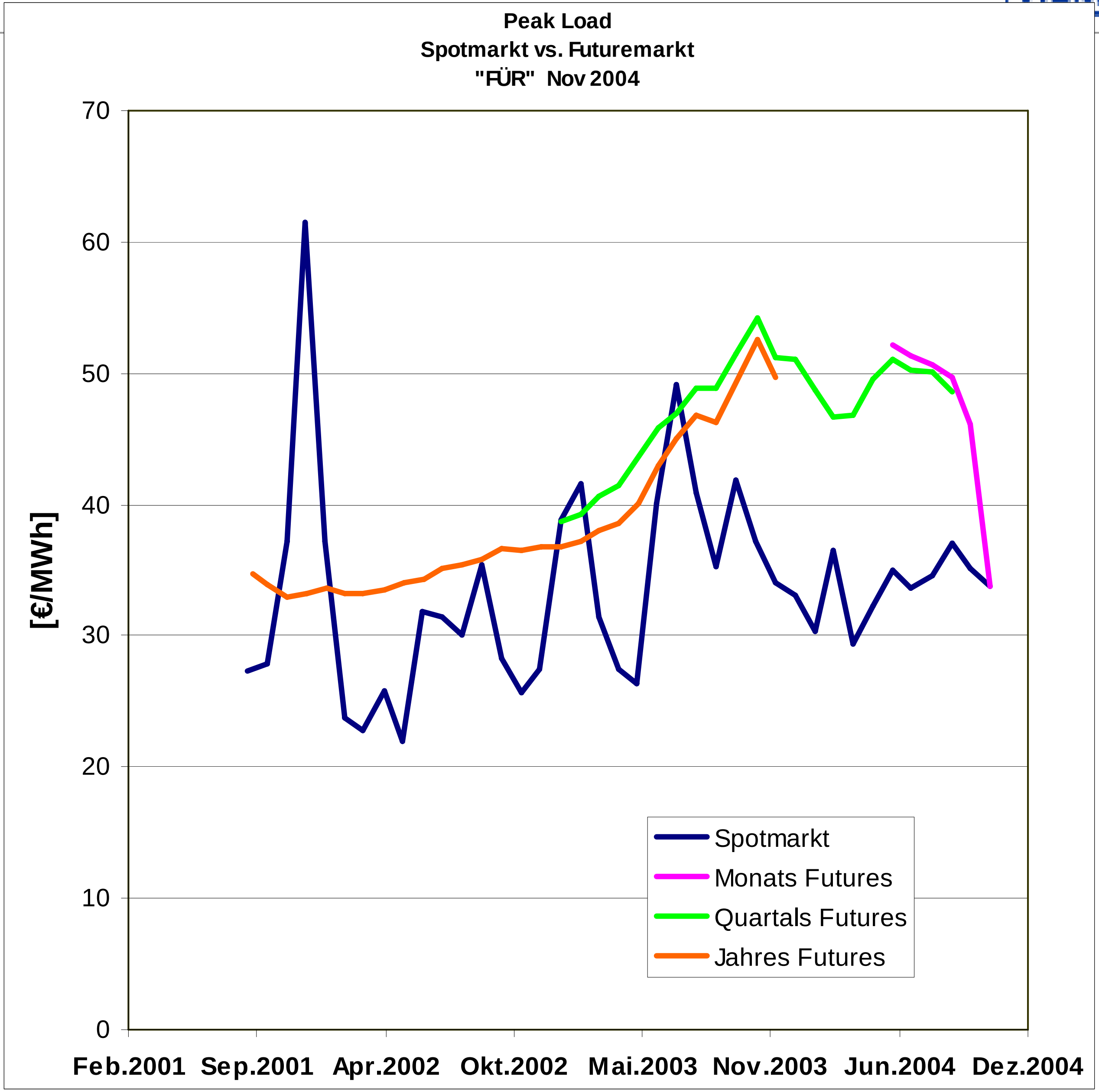
A PERFECT MARKET?



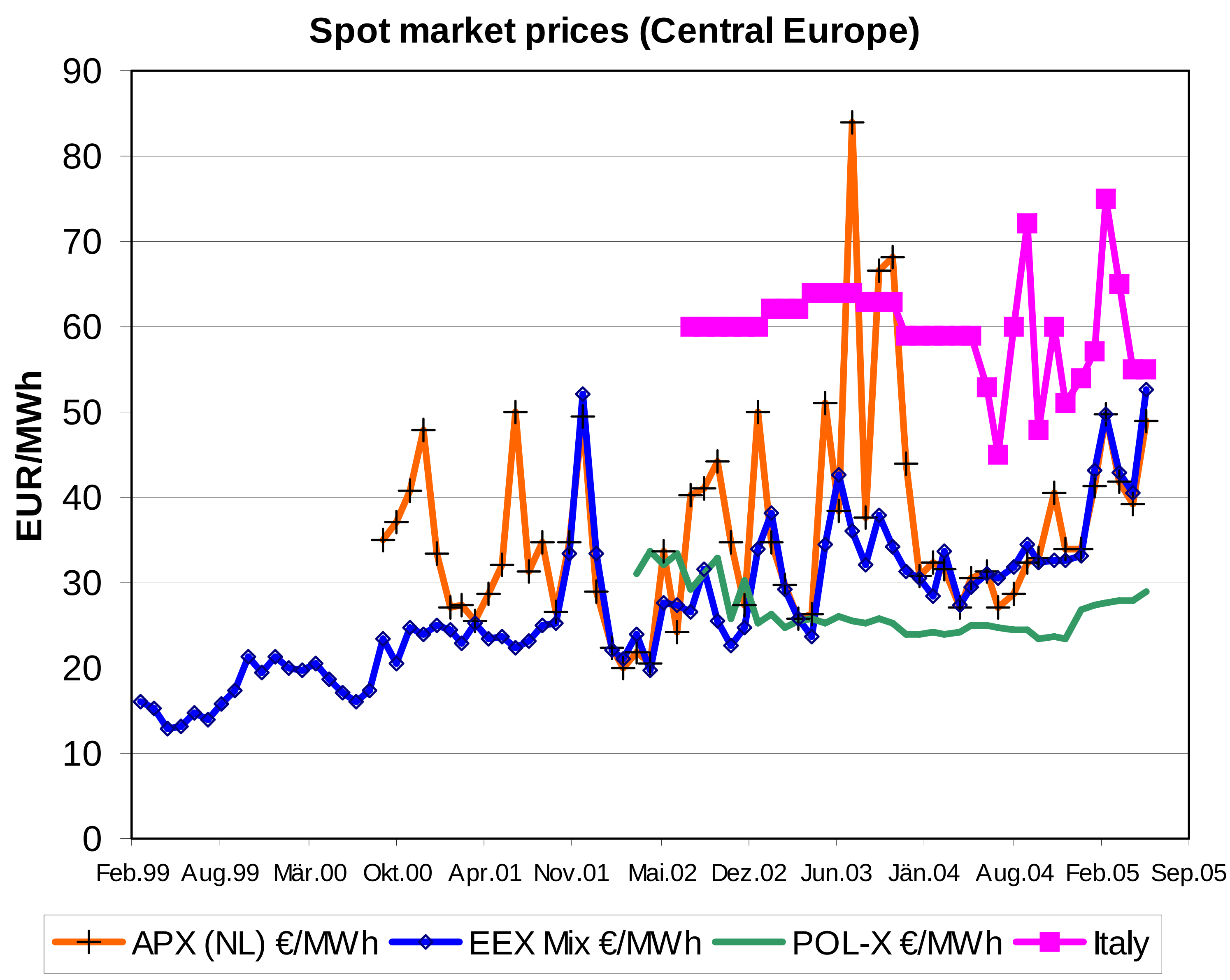
FUTURES „FROM“ YEAR X, PEAK



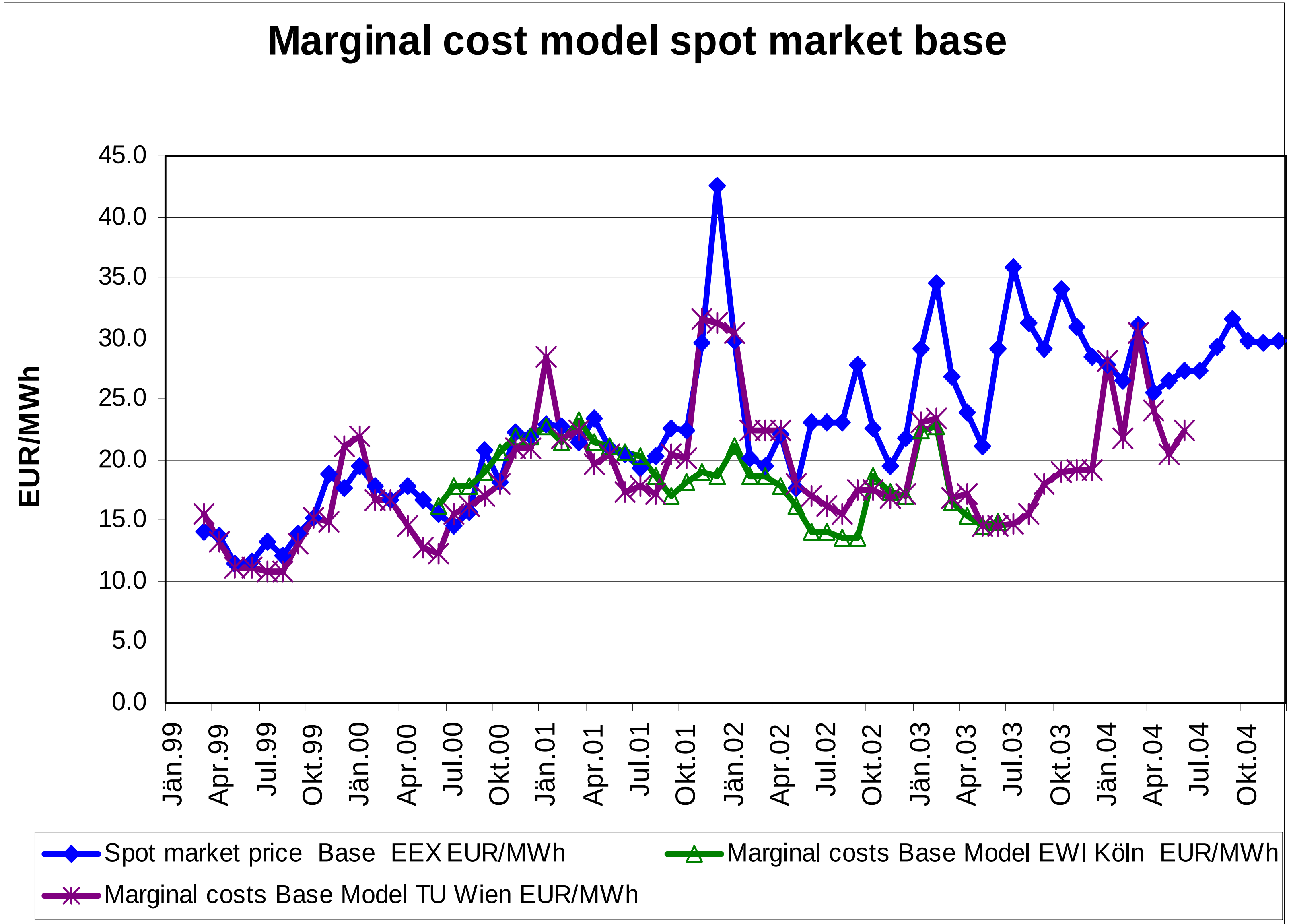
FUTURES „FOR“ NOV. 2004, PEAK



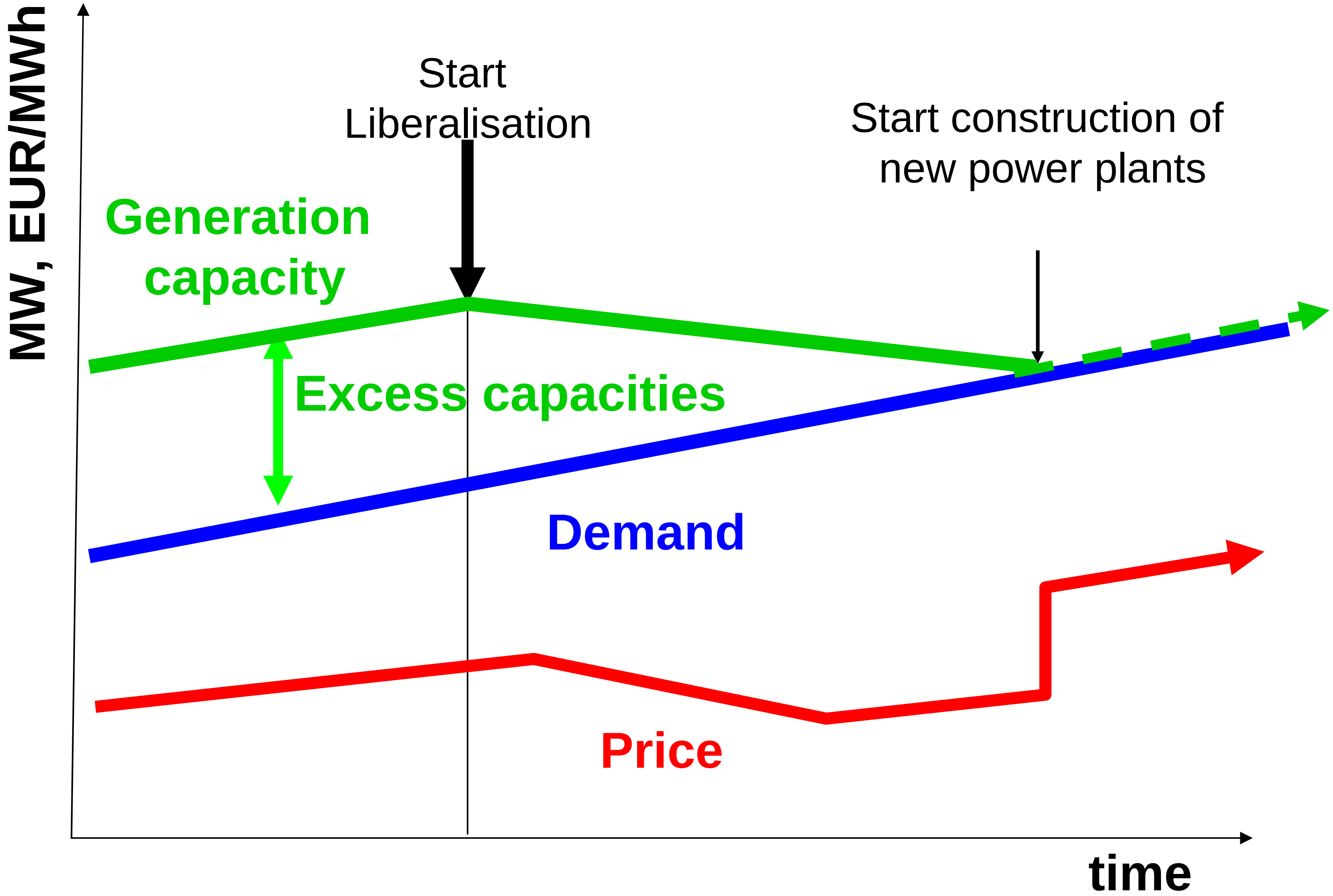
6. Wholesale price development



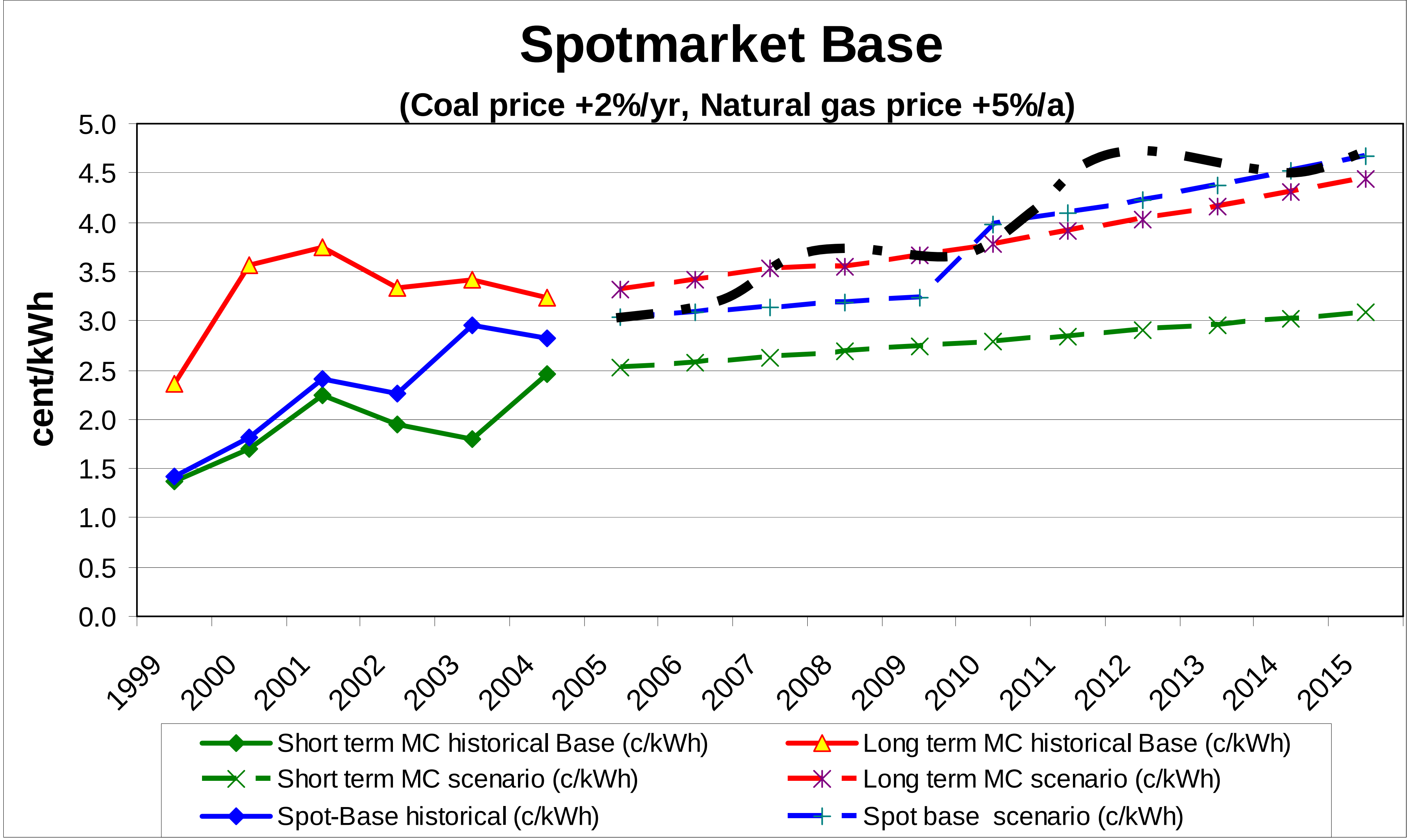
Market power?
A marginal cost model



CAPACITY DEVELOPMENT: MODEL BOTTLENECK



Perspectives for price development



7 CONCLUSIONS

- I am in favour of higher electricity prices but not by means of monopoly rents of large generators but by means of higher energy taxes
- A certain magnitude of reserve capacity in the system is absolutely necessary for effective competition
- If reserve capacity falls below this margin incentives for new plants (by IPPs?) or demand side activities must be developed

FURTHER INFORMATION:

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