Energy sector reform: Why and How? *Some experience from Hungary*

László Varró
Chief Economist

MAGYAR ENERGIA HIVATAL

Europe

HUNGARY:

10 Million People
5 Million Customers
5700 MW Peak Demand

- Some historical outlook: Necessity as a virtue: the drivers of change
- Social and political consequences
- Some lessons learned (?)

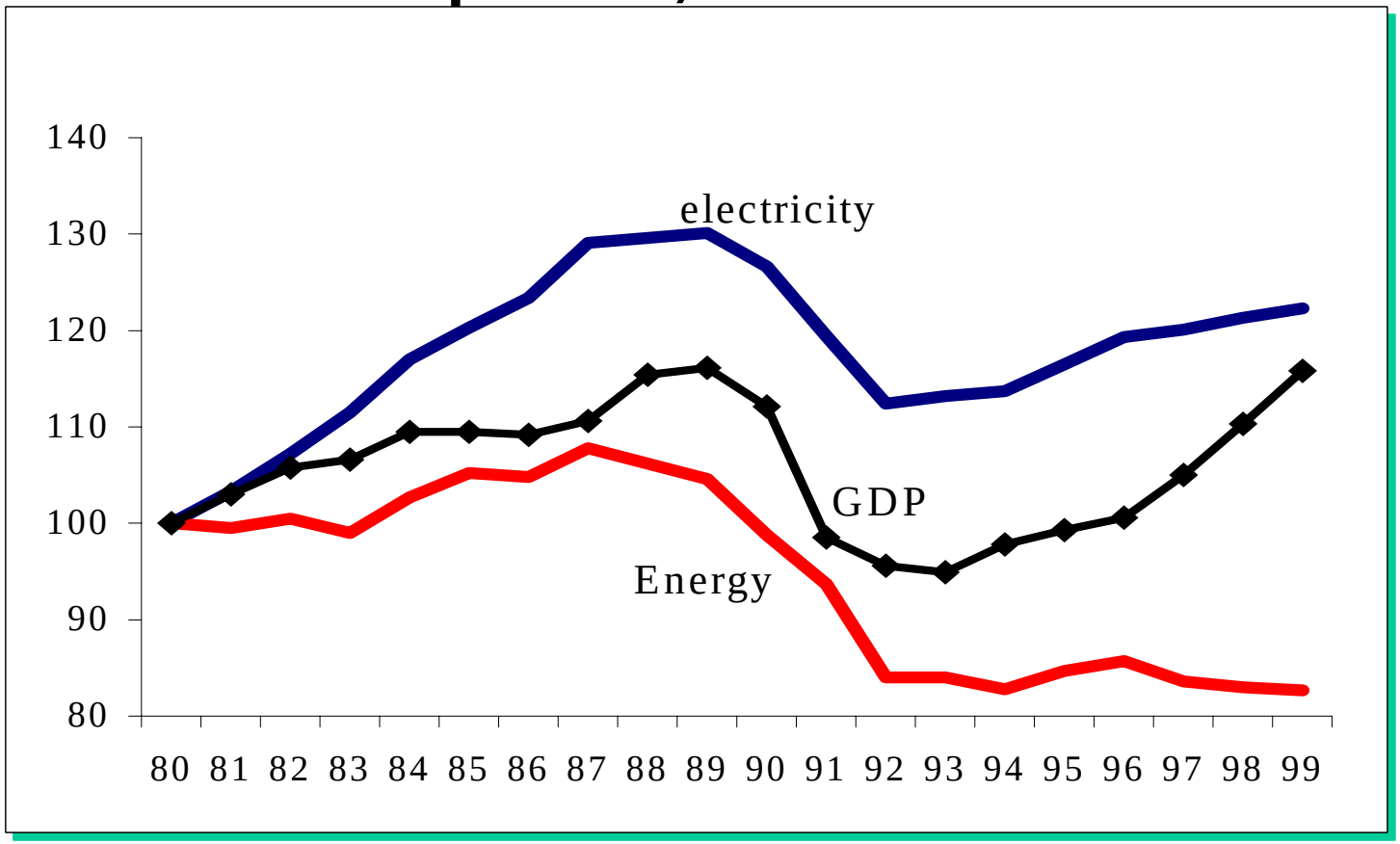
Some historical outlook: the starting position

- Very bad energy efficiency
- Reliance on soviet imports
- Heavy use of heating oil and coal
- Terrible SO_2 problem

The Greater Depression, 1989-1993

- 20% lost their jobs
- Strained state budget
- Deep structural changes
- *Falling energy demand acts as a cushion for reform delays*
- *1995 implicit electricity subsidy 1,5% of GDP*

GDP, total energy and electricity consumption, 1980=100%



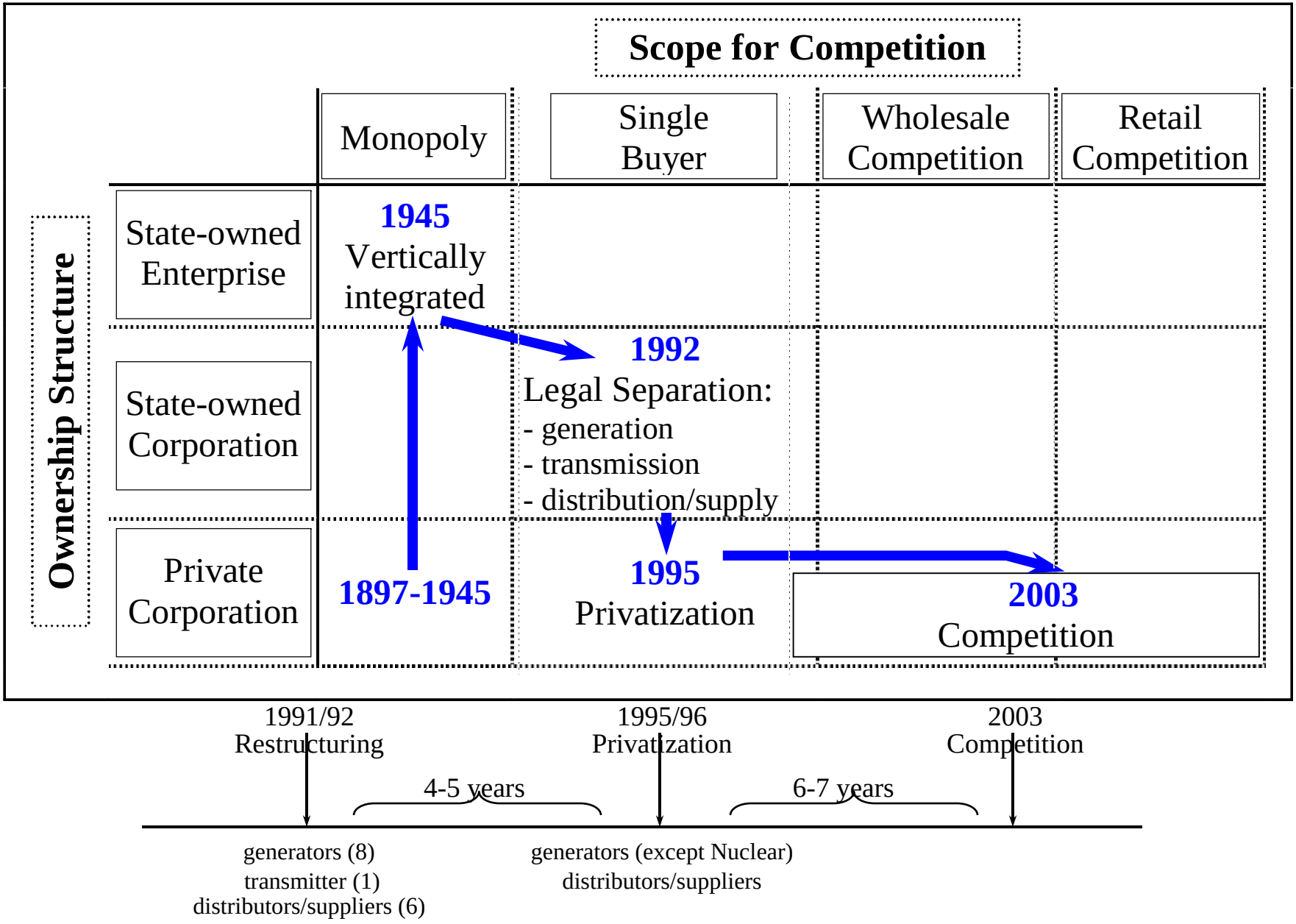
The virtue of necessity: drivers for change

- Budget crisis
- Looming capacity shortage
- SO_2 and other environmental issues
- Need to substitute from coal

The drivers for change

- Privatisaton a means for government objectives
- Structural reform is a prerequisite for privatisation

POWER SECTOR REFORM PATH IN HUNGARY



The big regulatory trade off

Strong investment guarantees

- Easy privatisation
- Modernisation investment „bankable”
- BUT: Rigid commitments, lack of competitve incentives

Strong competition

- „Big bang” structural reform
- Lower inflationary pressure
- BUT: Credit rationing, lack of investment
- After Enron hangorver

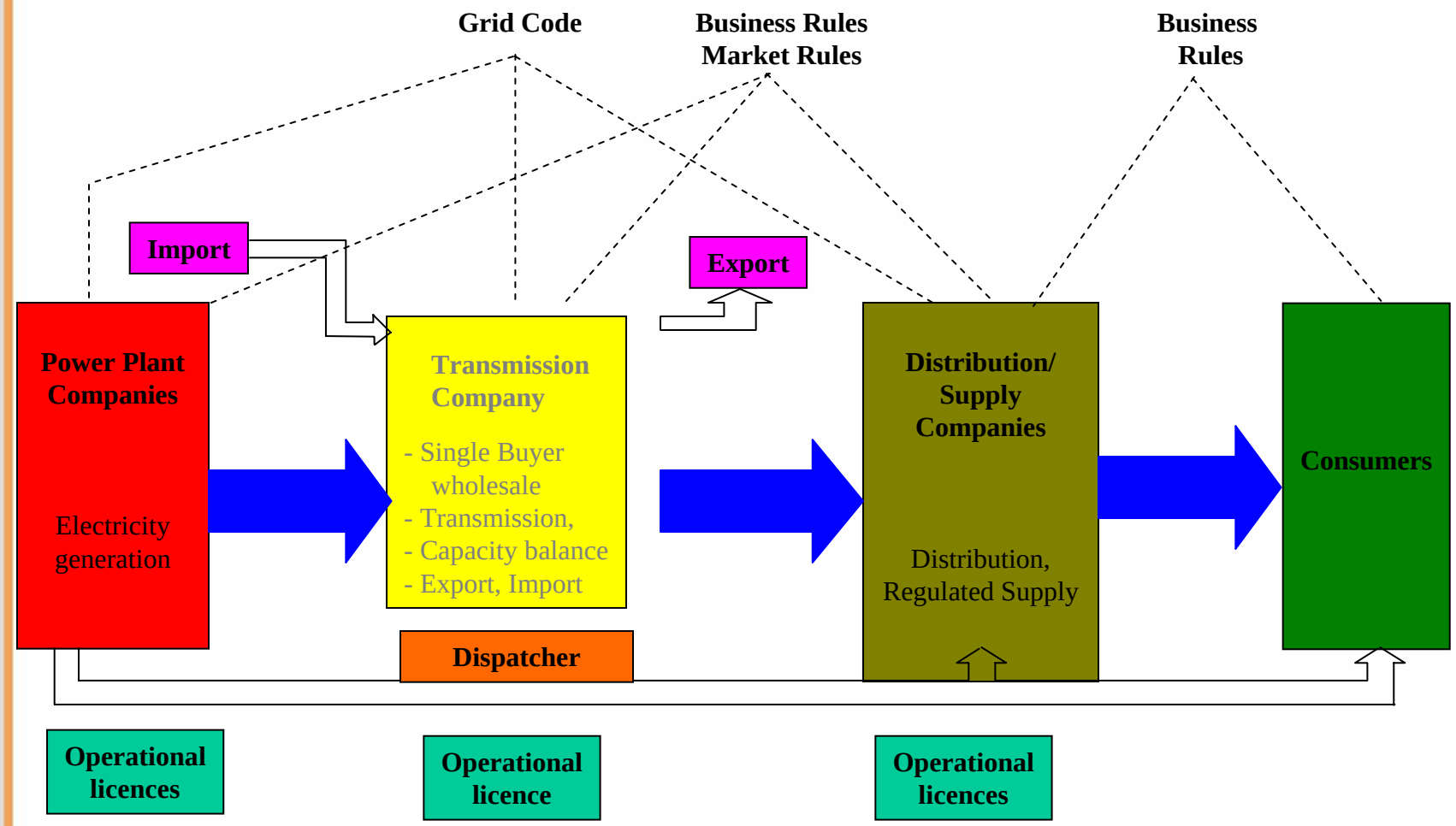
POLITICAL, ECONOMIC, CULTURAL AND SOCIAL ENVIRONMENT IN HUNGARY IN WHICH THE GOVERNMENT ESTABLISHED NEW REGULATORY FRAMEWORK

- **SHORTLY AFTER POLITICAL CHANGES ⇨ NO DETAILED PRACTICE IN DEMOCRATIC PROCEDURES**
- **AFTER 40-50 YEARS OF CENTRALIZED PLANNING ⇨ GOVERNMENTS TRY TO KEEP POWER OF DECISION-MAKING (LACK OF REGULATORY AUTONOMY)**
- **NO DEVELOPED CONFLICT RESOLUTION METHODS ⇨ LACK OF PRACTICE IN PUBLIC HEARINGS**
- **CONTINENTAL LAW ⇨ DETAILED LEGISLATION PRACTICE**
- **BEFORE DRAMATIC PRICE INCREASES ⇨ POLITICAL CONTROL OF PRICE SETTING**

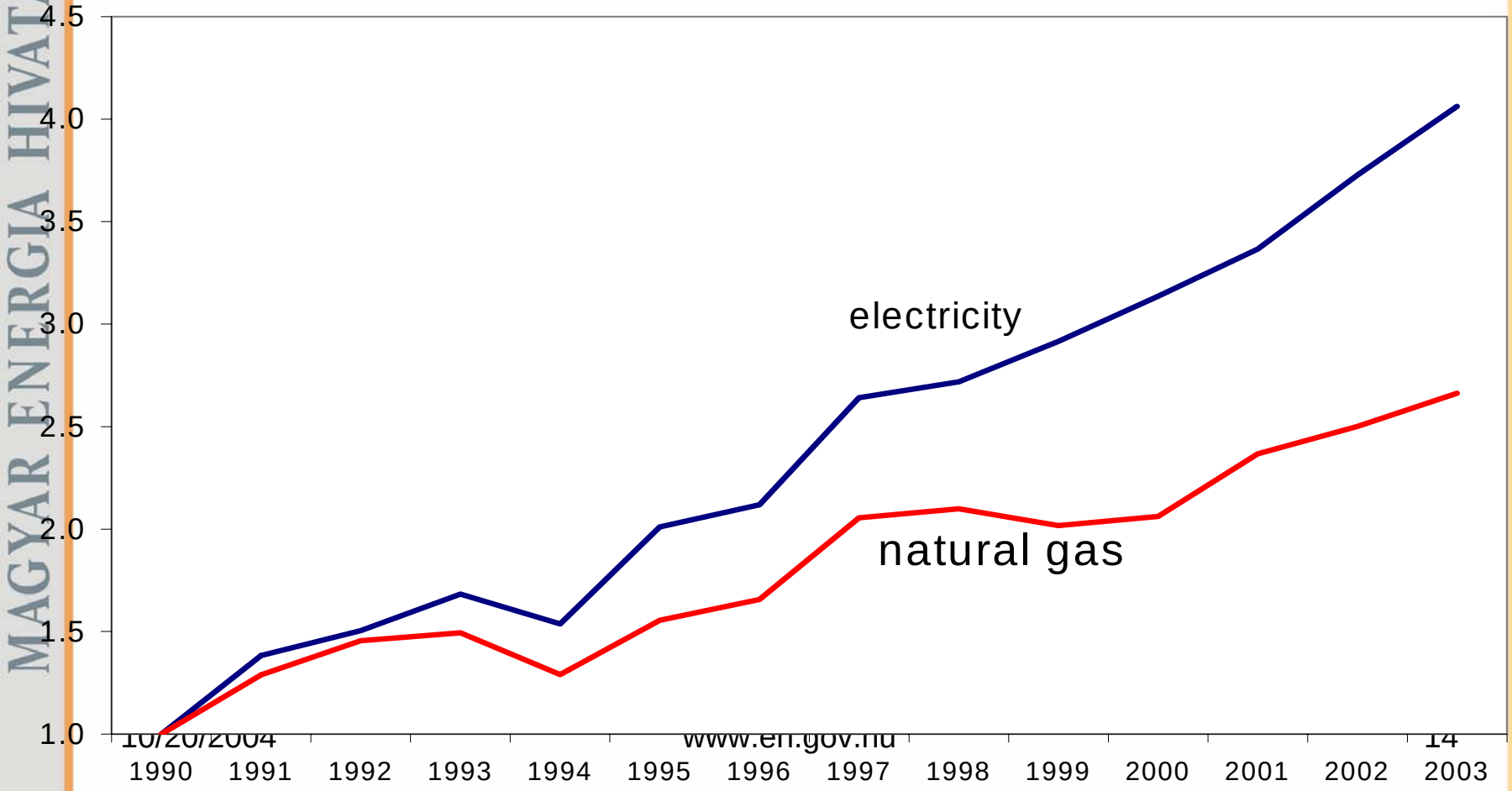
The first reform of 1995/97

- *Overriding priority for privatisation*
- *Rigid, detailed PPAs*
- *Privatisation in a single buyer modell*
- *The state owned single buyer modell acted as a puffer*

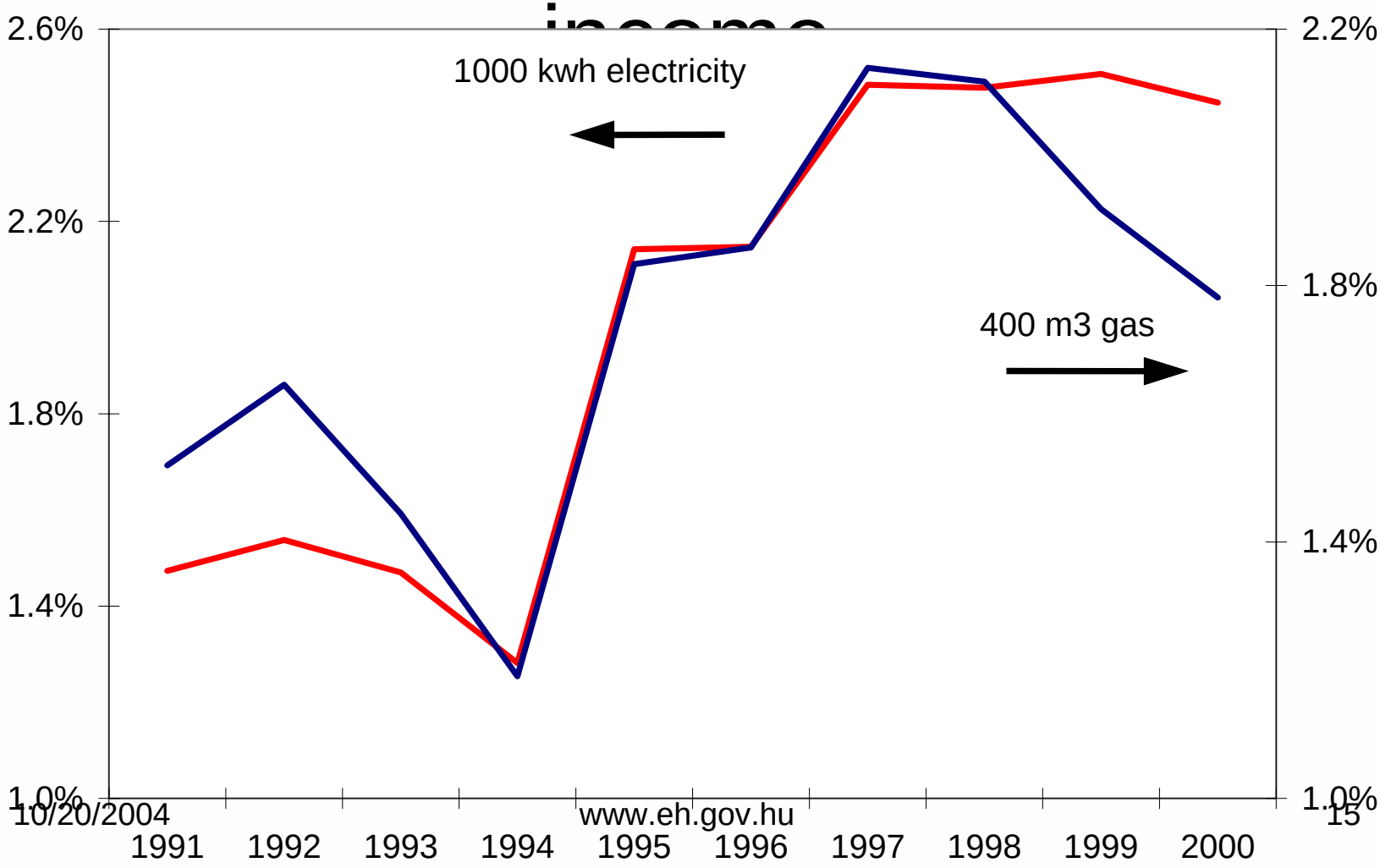
The single buyer model



Electricity and natural gas prices in Euro, 1990=1,00



Price of „normal” consumption as a percentage of disposable income



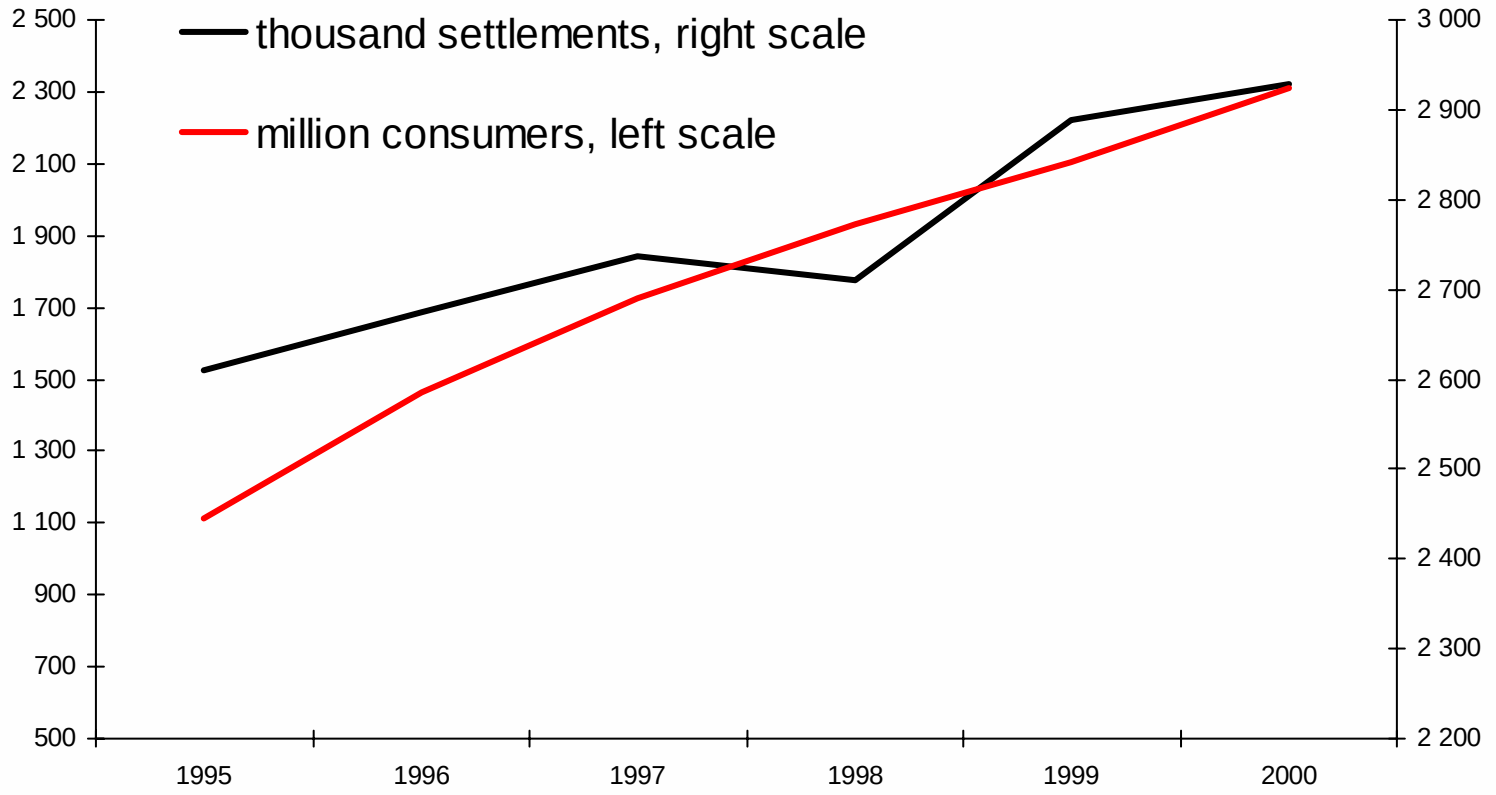
Consequences of the first reform

- *Significant investment*
- *Improved efficiency, technology transfer*
- *BIG environmental benefits*

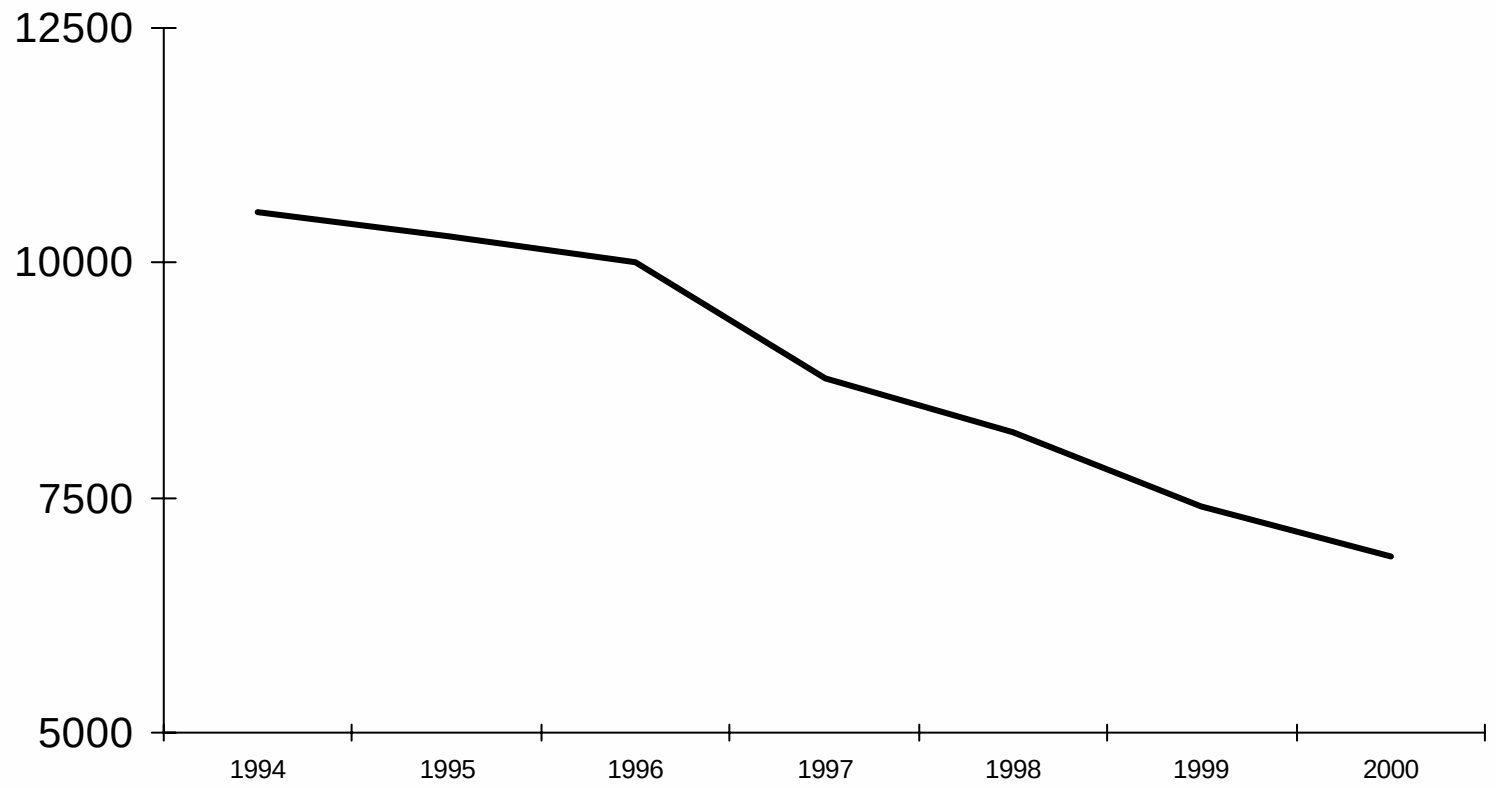
BUT

- *Cost cutting versus grid quality*
- *Political minefield*

Expansion of the gas network



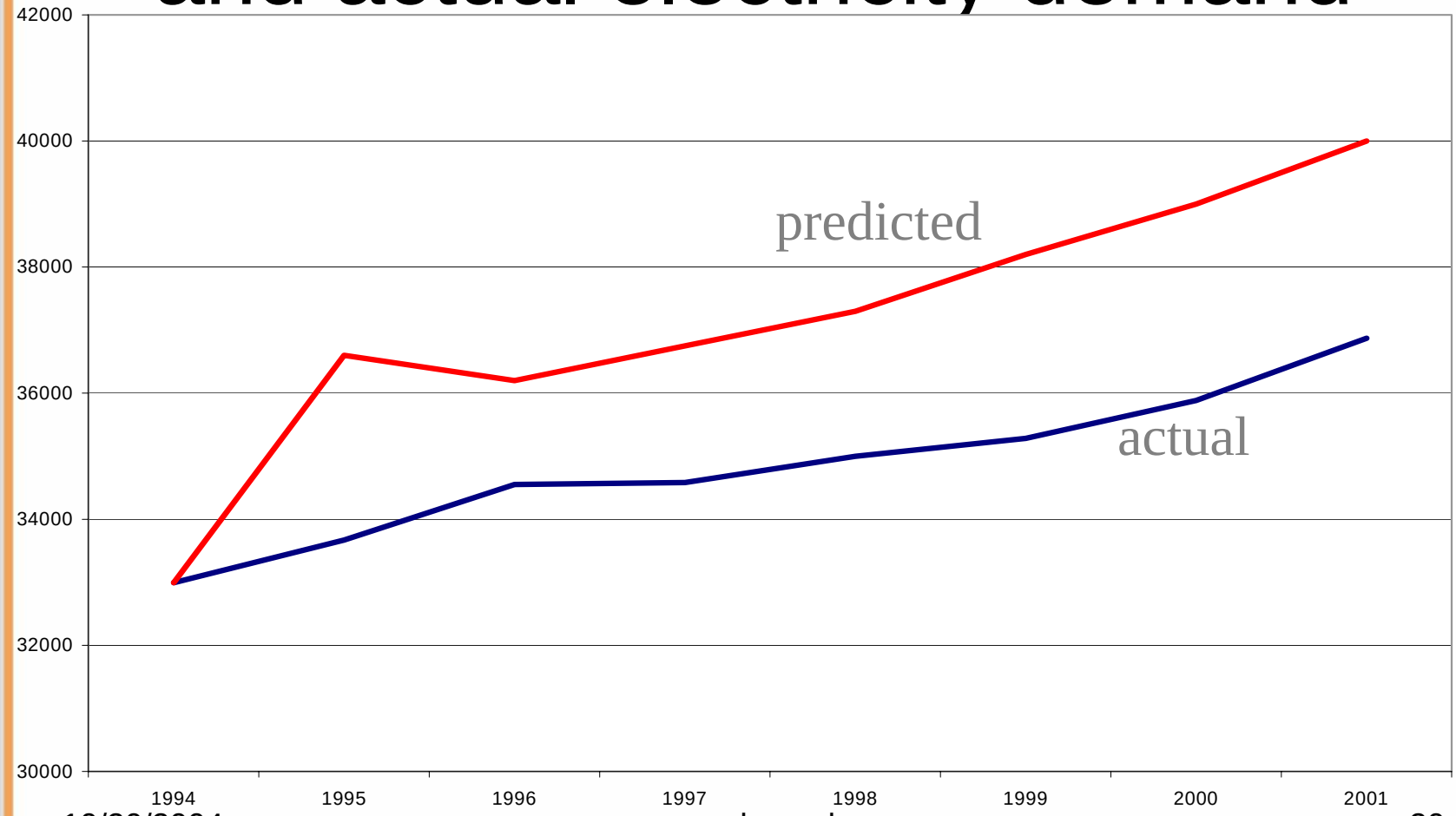
Employees of the distributors



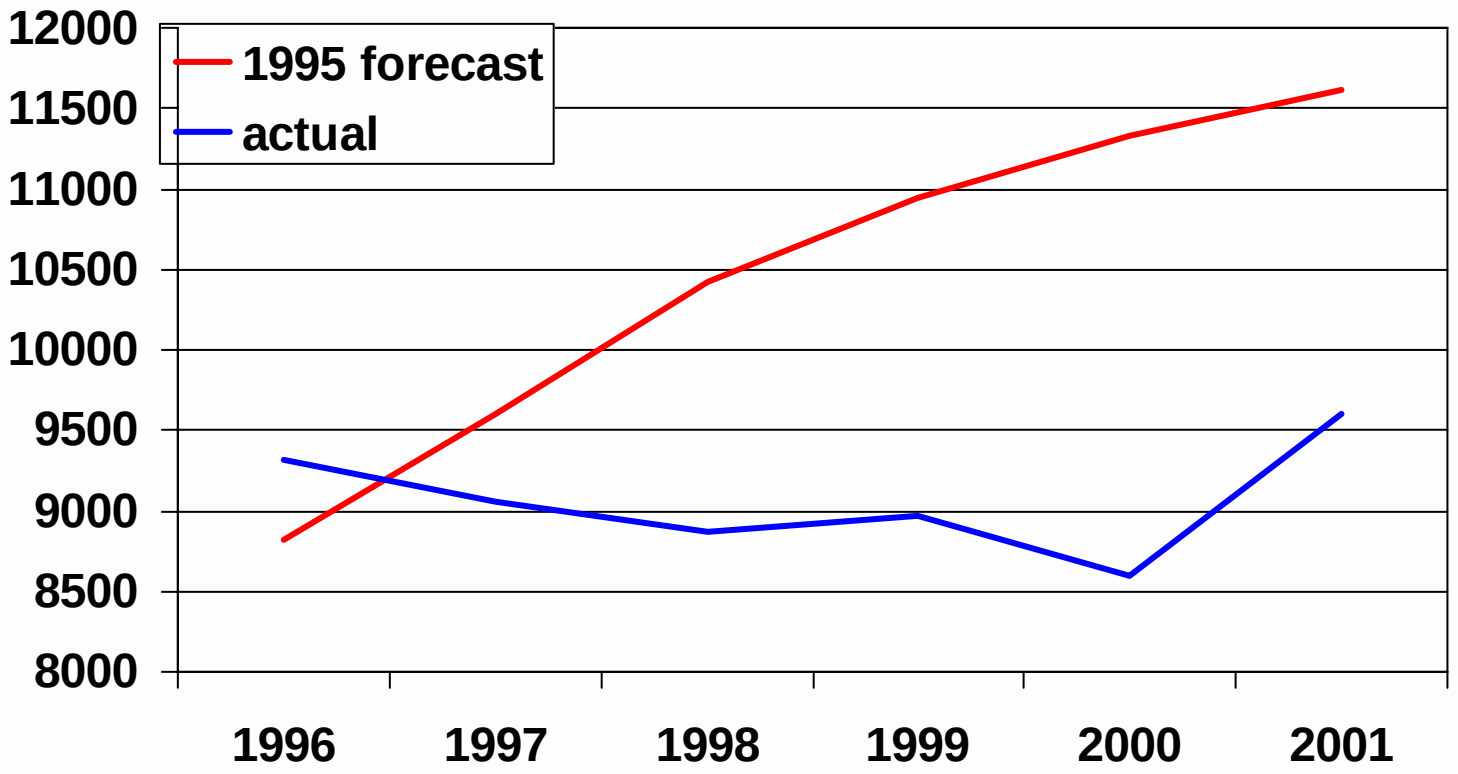
Our three most stupid mistakes

- Privatisation before tackling implicit subsidies
- No clear assignment of environmental liabilites
- „Overcontarcing”: Failure to consider demand elasticity

Price elasticity matters: predicted and actual electricity demand



Predicted and actual gas demand



The second reform 2001-

- *Driven by EU accession*
- *Gradual transition to a competitive market*
- *Regulated access to the monopoly infrastructure*
- *Constrains from the status quo*

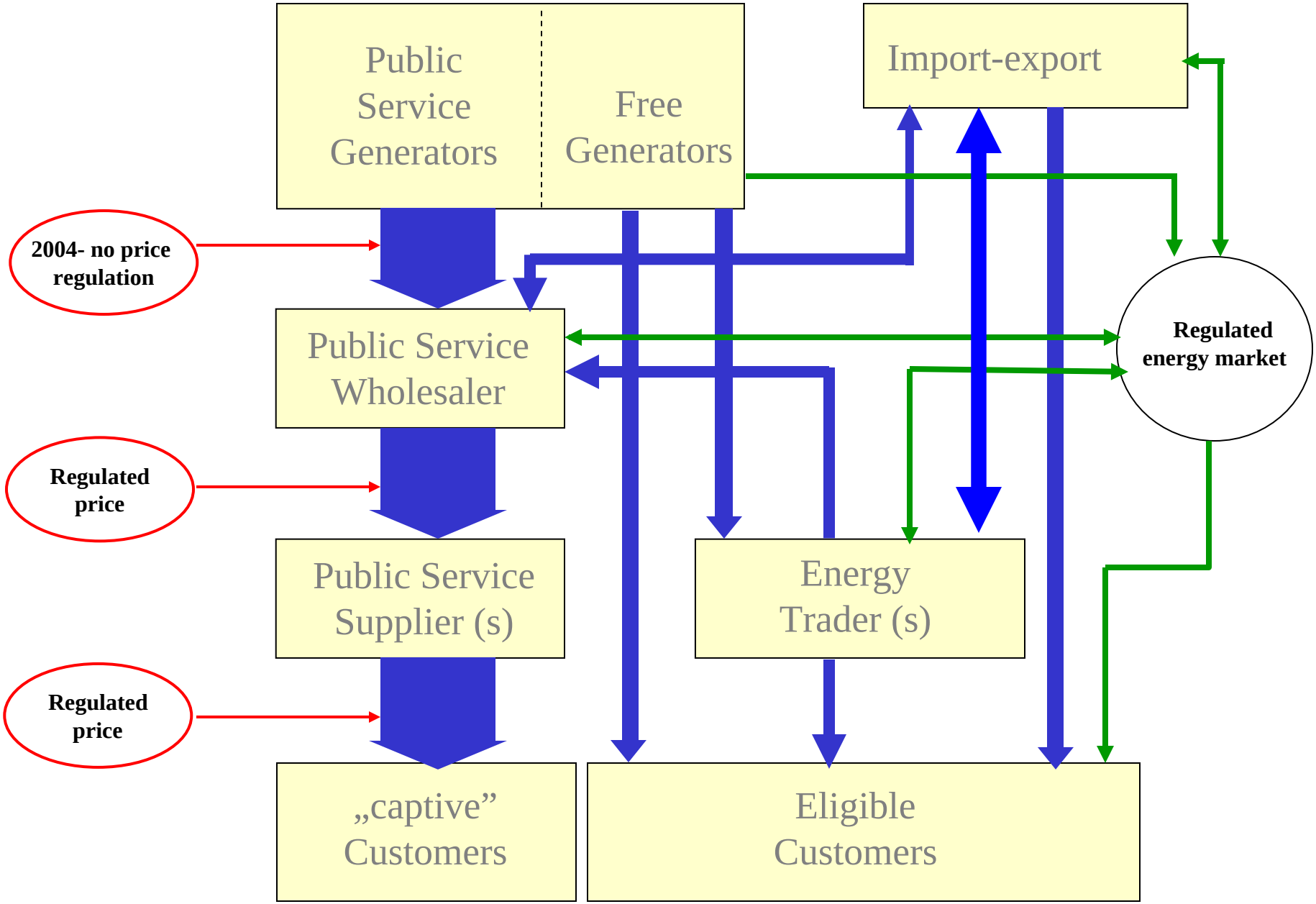
Constrains from the status quo

- *PPAs (stranded costs)*
- *Very strong lobby position of the privatised industry*
- *Weak customer representation*
- *Political sensitivity*

Gradual market opening

- *Busienss as usual in the captive market*
- *No compulsory renegotiation*
- *Independent system operator*
- *Optional market opening*
- *OTC bilateral + optional pool (if)*

Energy flow in the dual market



Reasons for the public wholesaler

- *Legal: Counterparty for the PPAs*
- *Economic: Concetrated management of standed costs*
- *Political: Government influence on captive market prices*

Regulation of natural monopoly elements

- The network: a critical infrastructure
- Incentives in monopoly regulation
- Rent seeking: interactions with the competitive market

The traditional method: cost + regulation

- Operational costs are passed through
- Investment projects are individually approved
- „Decent” return on capital, interest expenditure
- ***Strong investment, lack of efficiency incentives***

Incentive based regulation

- Price caps – benchmarking – yardstick competition
- Strong incentive to cut costs but:
- Non – homogenous product – cost cuts and network quality
- Should be coupled with a quality benchmark

Further complications

- Sunk costs
- Lack of secondary asset markets
- Investment during the price cap period

Call for credible regulatory signals and investment incentives

BUT: Asymmetric information between the regulator and the company

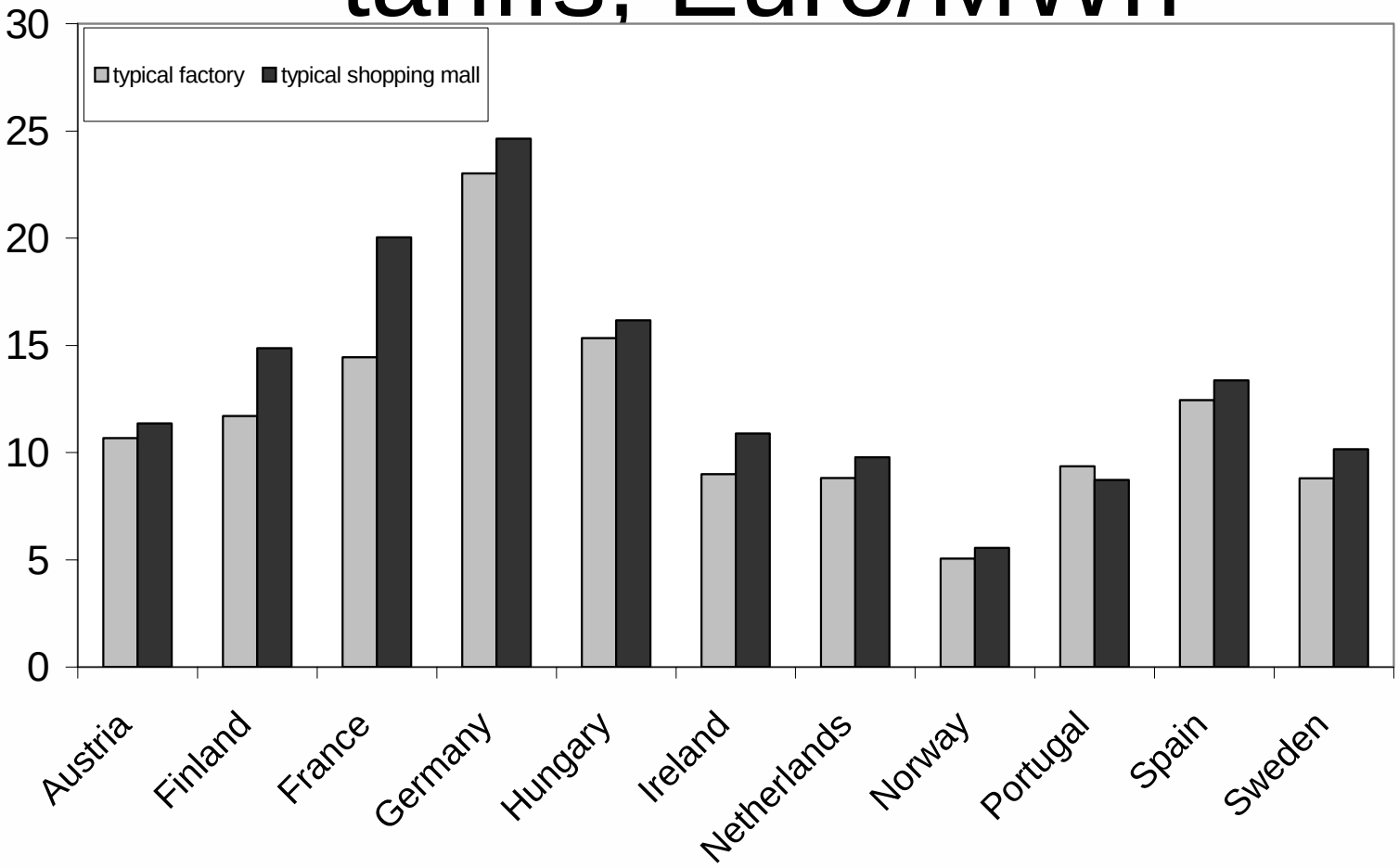
Network quality in price regulation

- In traditional cost+: good quality, but very inefficiently
- Lack of quality incentives in „normal” price caps
- Bad experience with administrative methods
- Simulated quality market

Network tariffs are in line with European practice

- Average factory (15 MW HV): 9 Euro/MWh
- Average shopping mall (5 MW MV) 16 Euro/MWh
- System controll fee is very high: rigidities, lack of auxiliary market, regulatory charges

Medium voltage network tariffs, Euro/MWh



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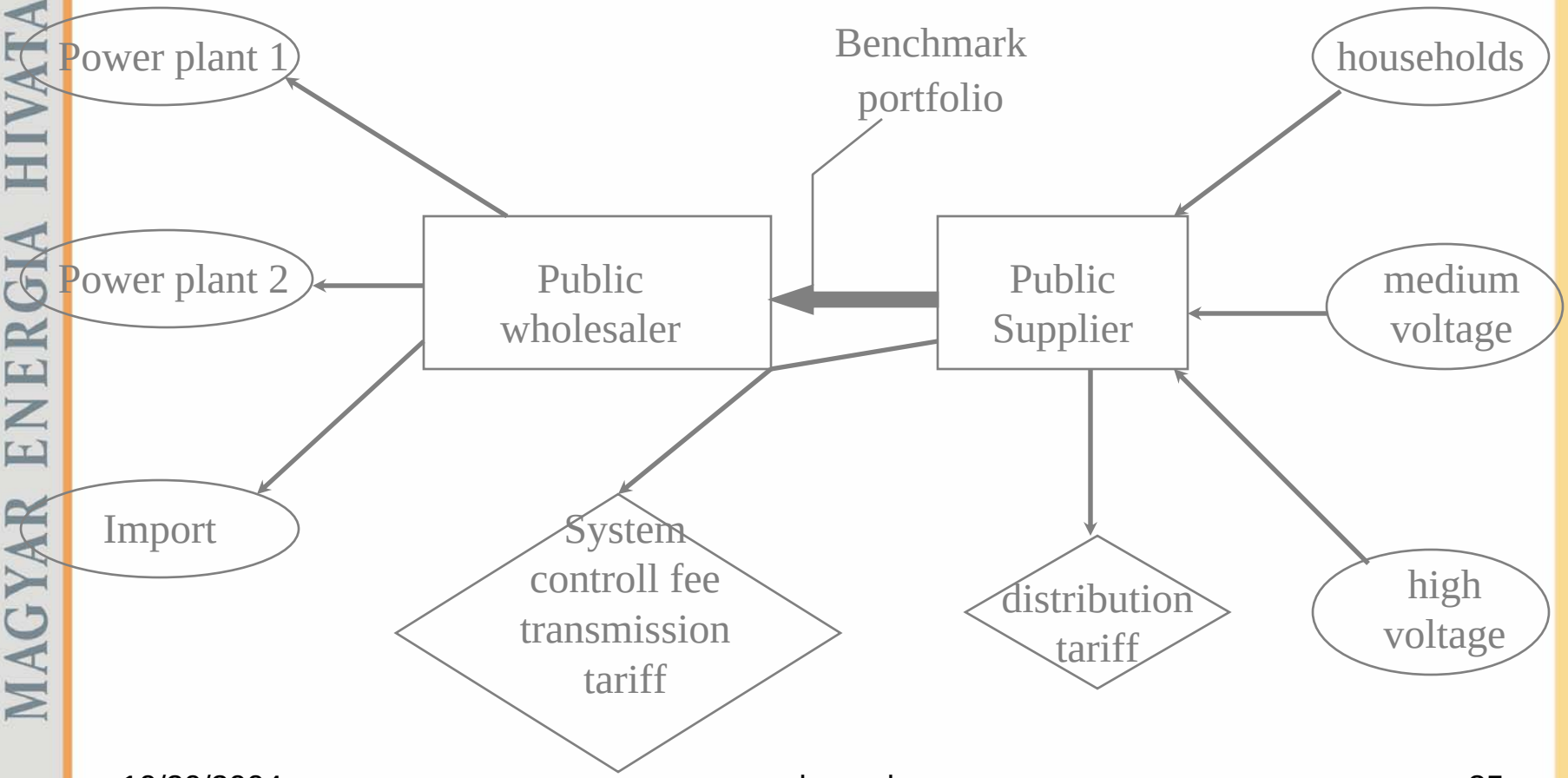
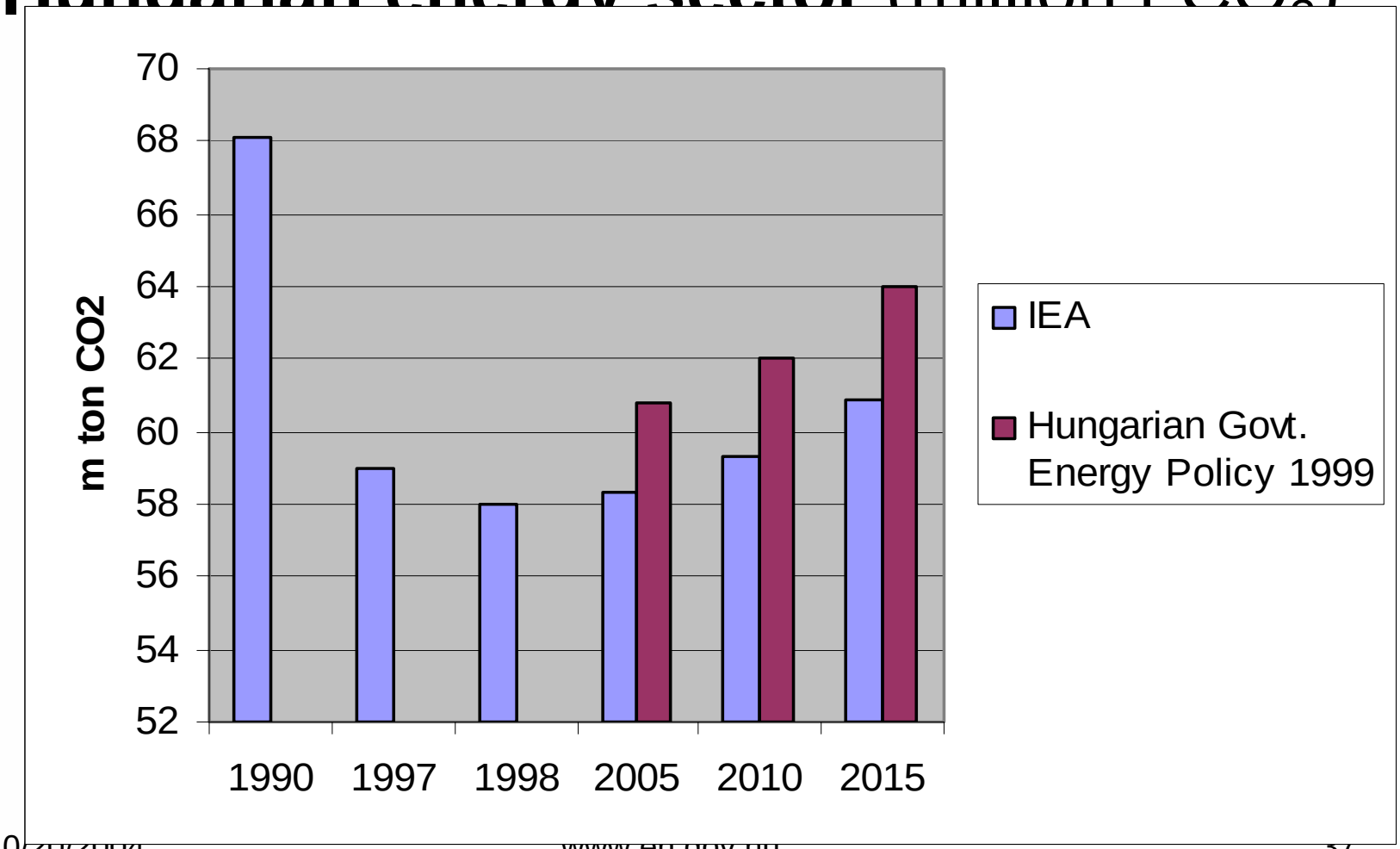
Price regulation in the captive market



Implementation of the Kyoto Treaty

- From by product to driving force
- Energy Efficiency
- Modernisation investment
- Renewables
- Emission trading

Estimates about CO_2 emissions of the **Hungarian energy sector** (million t CO_2)



Are we smart or just lucky?

- Collapse of the heavy industry
- Nuclear generation
- Coal - Gas substitution in domestic heating and power plants

Renewables and CHP

- Compulsory feed system
- Balancing market
- Basis: avoided social costs
- JI and emission trading

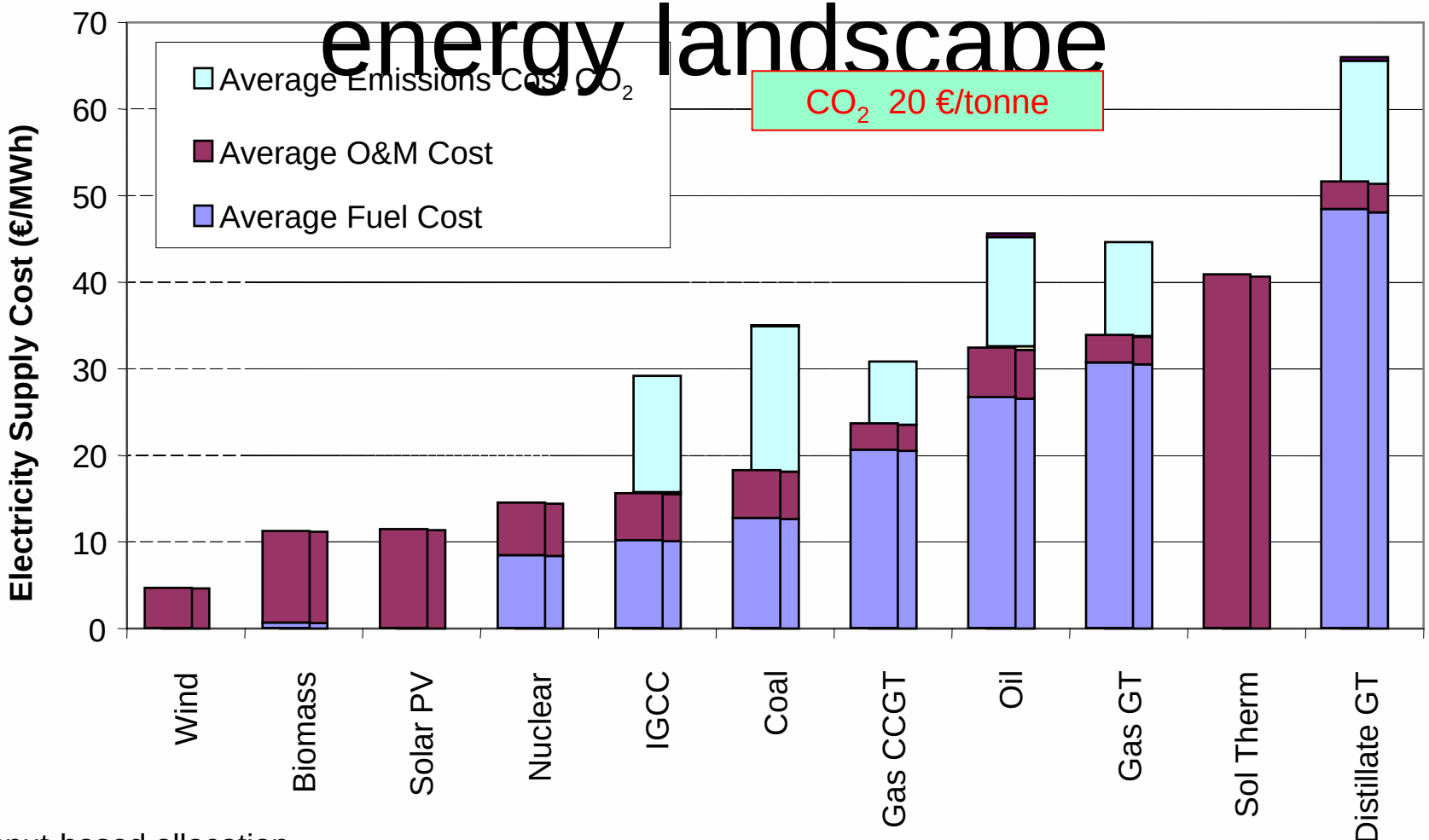
Kyoto joint implementation opportunities

- Savings from baseline philosophy
- District heating, CHP - also compulsory feed in
- Energy eficiency
- Renewables

EU emission trading regime from 2005

- Cap and trade philosophy
- Private good - public good
- Initial allocation: grandfathering versus forward looking
- New entrants
- CO2 considerations in licencing?
- Linking with JI?

Pricing CO_2 will change the energy landscape



*Input-based allocation

Role of the Energy Office

- *Licencing*
- *Market monitoring*
- *Customer protection*
- *Price „preparation”*
- *Approval of stranded costs*

Lessons from regulatory life

- *It is not cheap: financial and human resources*
- *Engineering, legal and economic expertise*
- *Monitoring and information*
- *Privatisation changes the game*
- *Credibility and transparency*

Thank you

Varró László
varrol@eh.gov.hu