MAGYAR ENERGIA HIVATAL

Stranded costs: Hungarian experiences

László Varró
Chief economist
Hungarian Energy Office

Content

- Background: Sources of stranded costs
- Legislative arrangements
- Experiences of capacity auction
- Conclusions

MAGYAR ENERGIA HIVATAL

Background: Sources of stranded costs

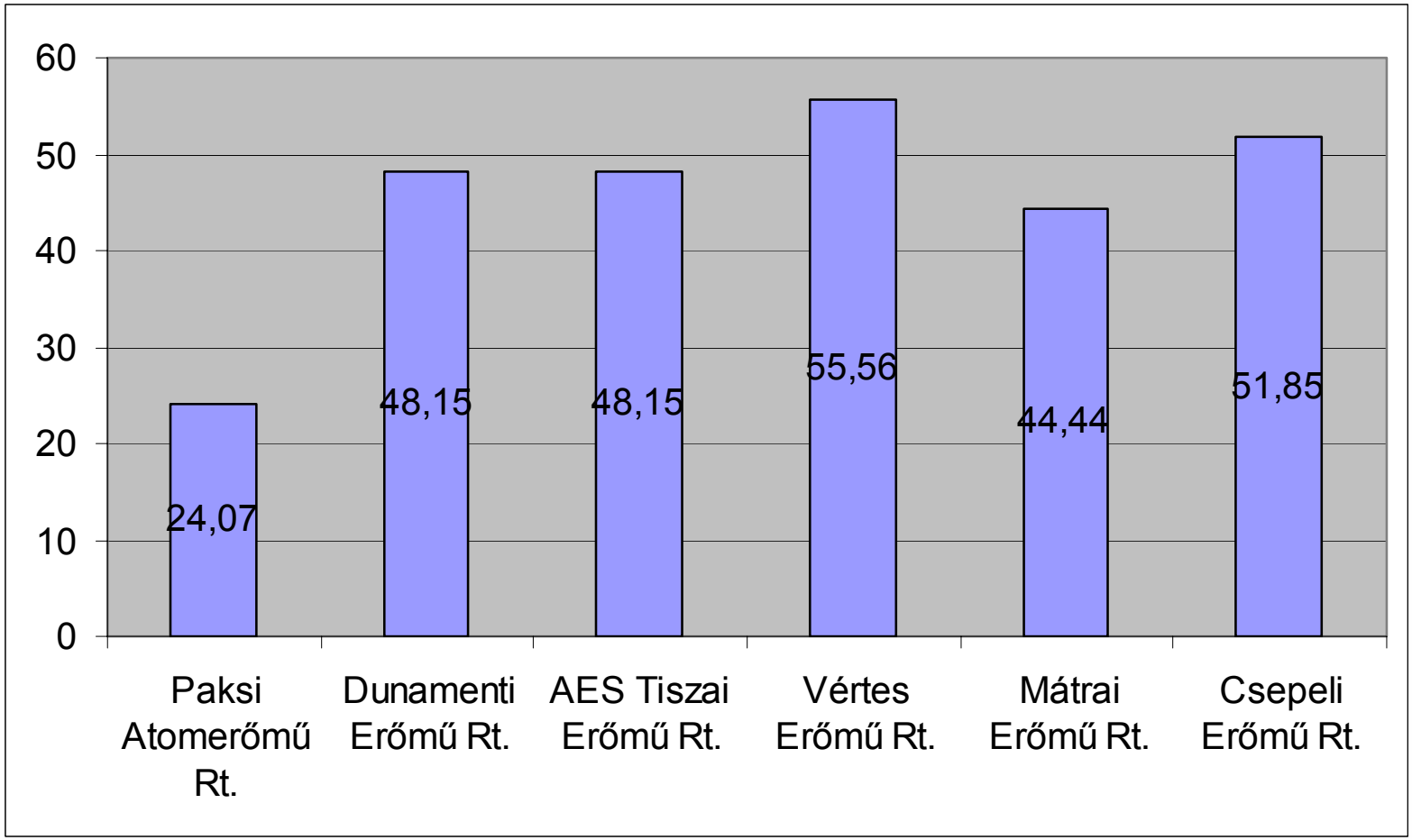
Sources of stranded costs

- PPAs: concluded between the public wholesaler (MVM) and power plants
- Market liberalization: eligible customers free to leave the public sector
- Result: capacity surplus in the public sector

Sources of stranded costs

- Investment driven privatisation strategy
- Overcontracting
- Some overpricing
- Dumping in the region

Average PPA prices, Euro/MWh

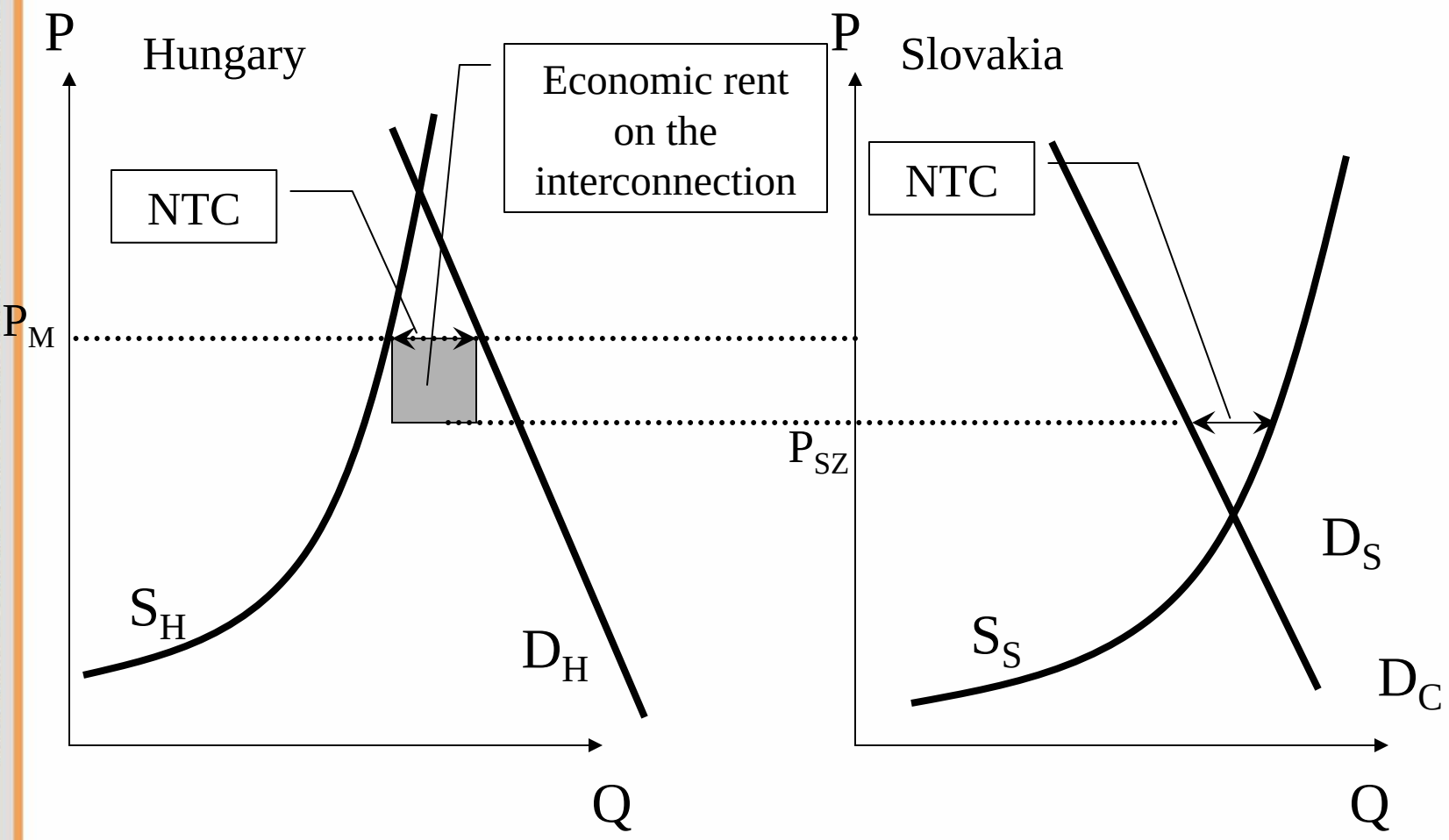


MAGYAR ENERGIA HIVATAL

Pricing patterns in the region

- nTPA in Germany
- Coal mining in Poland
- „Political" projekts in Slovakia/Checz Republic
- Different exposure to oil/gas prices
- In the medium term, there is a significant cost disadvantage

Price difference reflected in interconnection auctions



Some charactersitics of PPAs

- Complex, individual negotiations
- Capacity feeenergy fee
- Individual negotiations
- Usually not governed by Hungarian law
- Used as a credit collateral
- Difficult (impossible) to value due to optioality (the Metallgesselshaft trap)

How to reduce surplus capacity?

- Renegotiations of PPAs
  - ➢financial compensation paid to the power plants
- Auction of surplus capacity
  - ➢sales revenues may fall short of the capacities' cost price (stipulated in PPA's)

MAGYAR ENERGIA HIVATAL

Conflicting aims

- Ensuring free capacities
- Maintaining legal certanity (PPAs)
- Safeguarding financial viability of the public wholesaler (MVM)
- Minimising the costs incurred by customers

MAGYAR ENERGIA HIVATAL

Legislative background

Relevant legislation

- Electricity Act (CX of 2001)
  - Liberalization of the electricity sector and opening the market
  - Introducing stranded cost definition
- Goverment Decree about Stranded Costs (183/2002)
  - Determining procedure for application and rules of payment
  - Setting out duties of MVM and authorities

Administrative procedure 1. Tasks of authorities

- Defining scope of stranded costs (PPAs concluded before 1998)
- Defining duration of compensation (2003-2010)
- Forecasting total amount of stranded costs
- Calculating next year's sum
- Determining the amount of surcharge to system operation fee (ca. 1% of pre-tax household consumer price)

MAGYAR ENERGIA HIVATAL

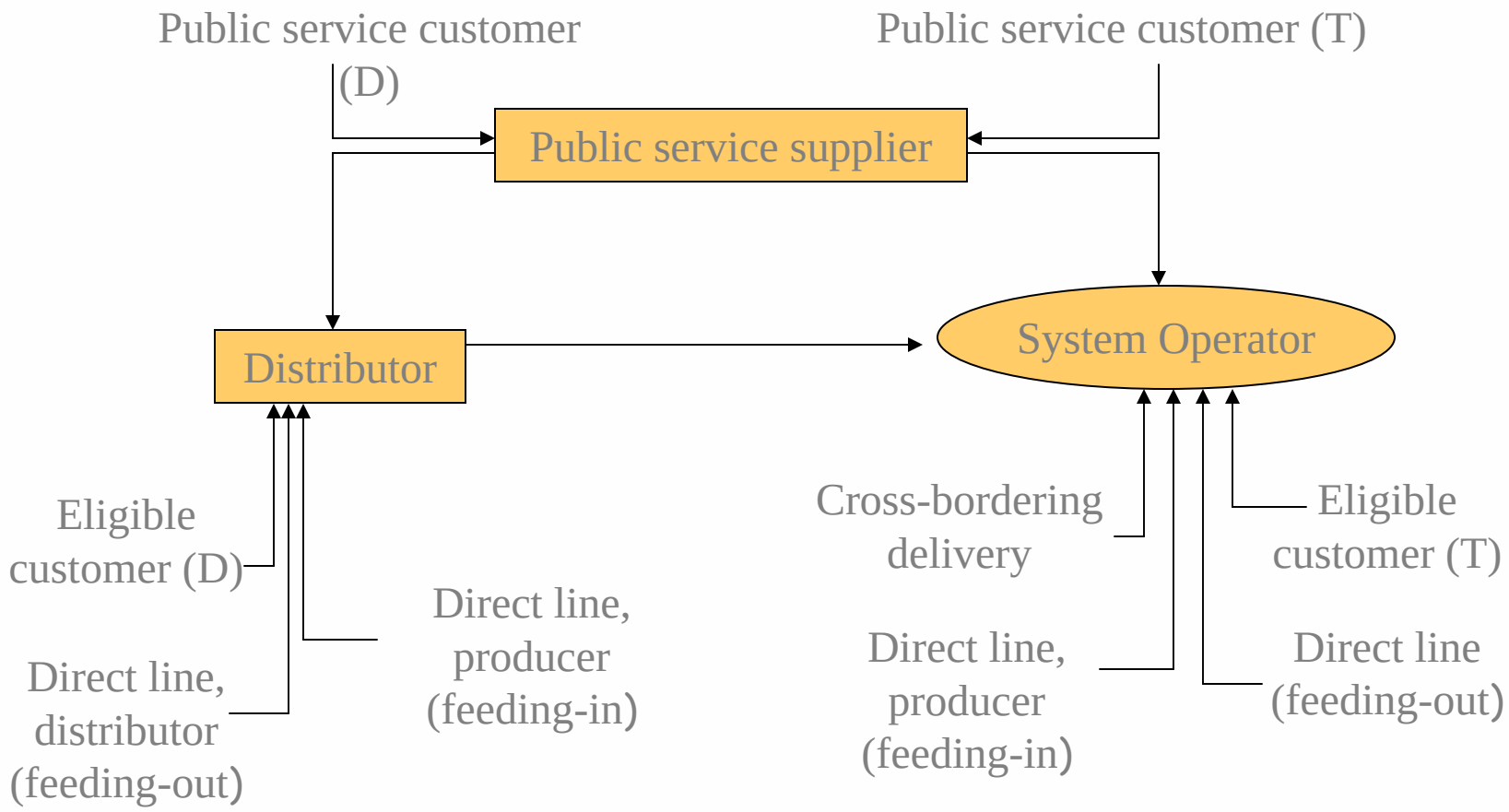
Administrative procedure 2. Tasks of MVM

- Forecasting surplus capacity
- Initiating renegotiastions of PPAs
- Auctioning surplus capacity
- Application for compensation

Administrative procedure 3. Tasks of authorities

- Revising application for compensation
- Calculating exact amount of stranded costs
- Payment of determined/accepted sum
- Adjusting next year's arrangements

Flow of system operation charges



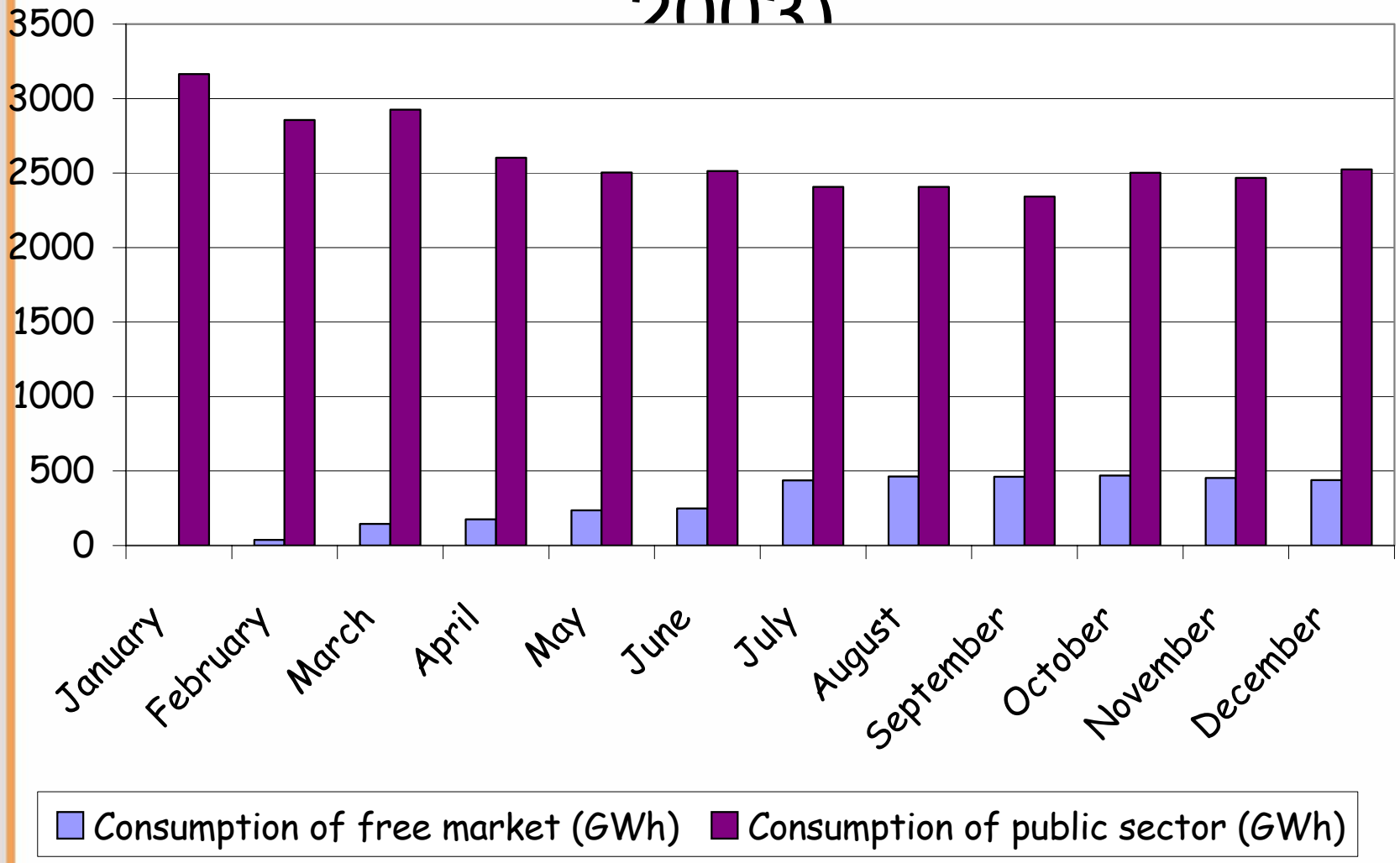
D: connected to distribution network
T: connected to transmission network

MAGYAR ENERGIA HIVATAL

MAGYAR ENERGIA HIVATAL

Experiences of capacity auctions

Market opening in practice (year 2003)



Determinants of stranded costs

- Volumes of capacities auctioned by MVM
- Price of auctioned capacities stipulated in PPAs (calculated as a virtual power plant – VPP)
- Price of capacities (virtual power plant) achieved at auction

First capacity auction in 2003*

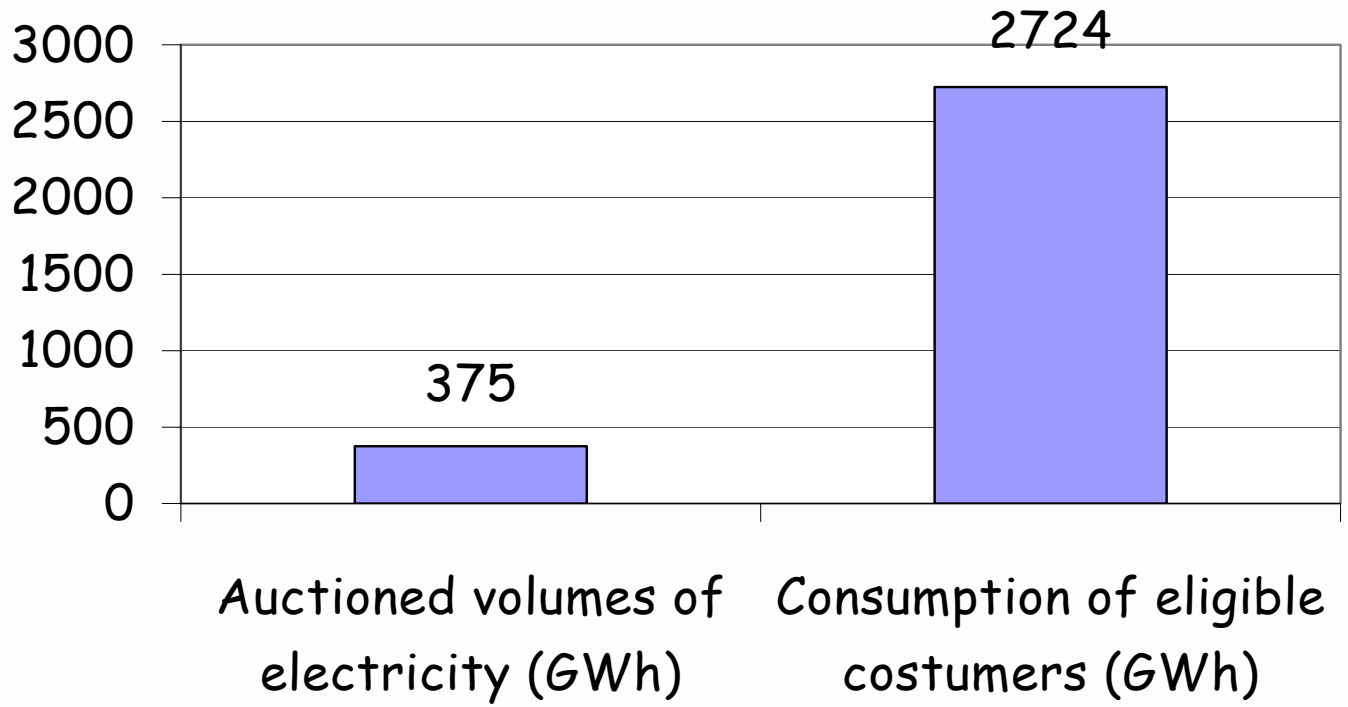
Auction				PPA**	
Sales record (MWh) (1)	Average price (HUF/kWh) (2)	Sales revenues (HUF) (3=1*2)	Stranded cost (HUF) (4)	Total revenues in case of PPAs (HUF) (5=3+4)	Average price in PPAs (HUF/kWh) (5:1)
375 445	8,020	3 011 015 896	3 800 000 000	6 811 015 896	18,141

* The auction has taken place in July 2003. The auctioned capacity was base-load capacity for the second half of 2003 (from July 1 to December 31).

** Estimated figures based on the sales revenues realised at the auction and the stranded cost compensation paid.

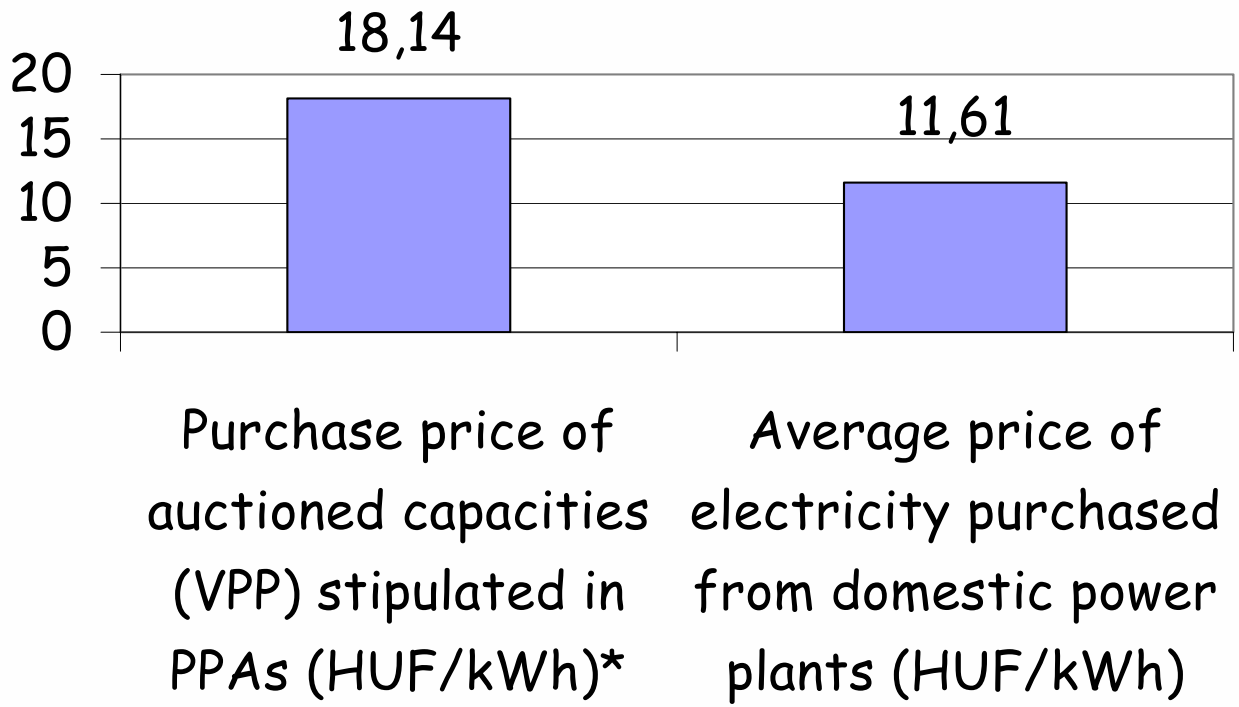
Volumes auctioned

- Huge difference between auctioned volumes and needs of free market (2nd half of 2003)

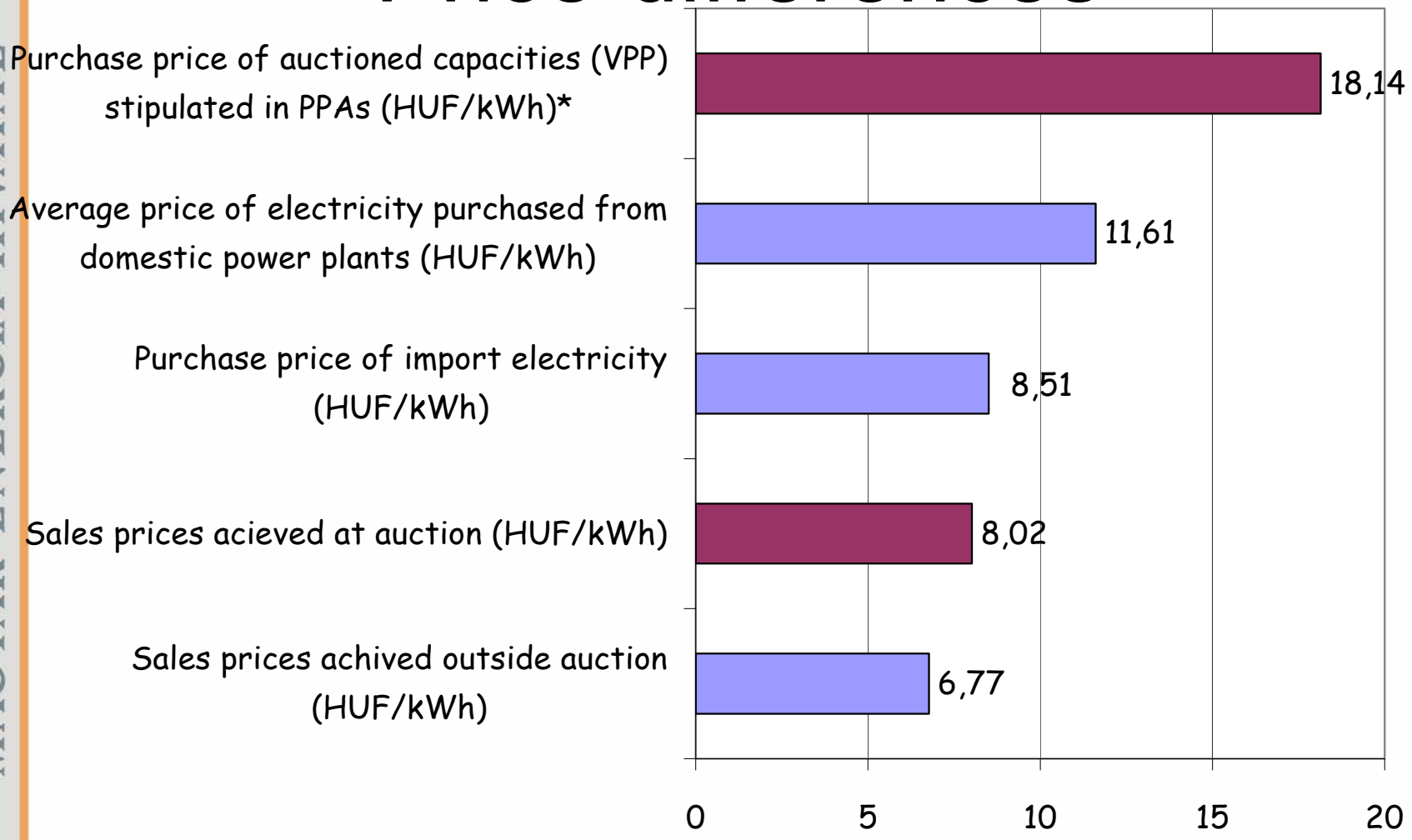


Composition of auctioned capacities (prices)

- Huge difference between the average electricity price of MVM portfolio and the price of auctioned portfolio (VPP)



Price differences



Electricity purchases and sales of MVM

	Procurement and sales volumes (GWh)	Procurement and sales ratios (%)
Procurement volumes	*33 180*	*100,0*
Domestic power stations	27 975	84,3
Import	5 007	15,1
Sales volumes	*33 180*	*100,0*
Public suplier	31 356	94,5
Trader	558	1,7
Auction	375	1,1
Other	182	0,5
System operator	586	1,8
Export	677	2,0

Second capacity auction in 2003*

	Capacity (MW)	Volume (GWh)	Price (HUF/kWh)	Revenue (HUF)	Total revenue (HUF)
Off-peak	110	258,6	5,58	1 442 988 000	3 712 878 000
Baseload	55	240,2	9,45	2 269 890 000	

* The auction has taken place in December 2003. The auctioned capacity was base-load and off-peak capacity for the first half of 2004 (from January 1 to June 31)

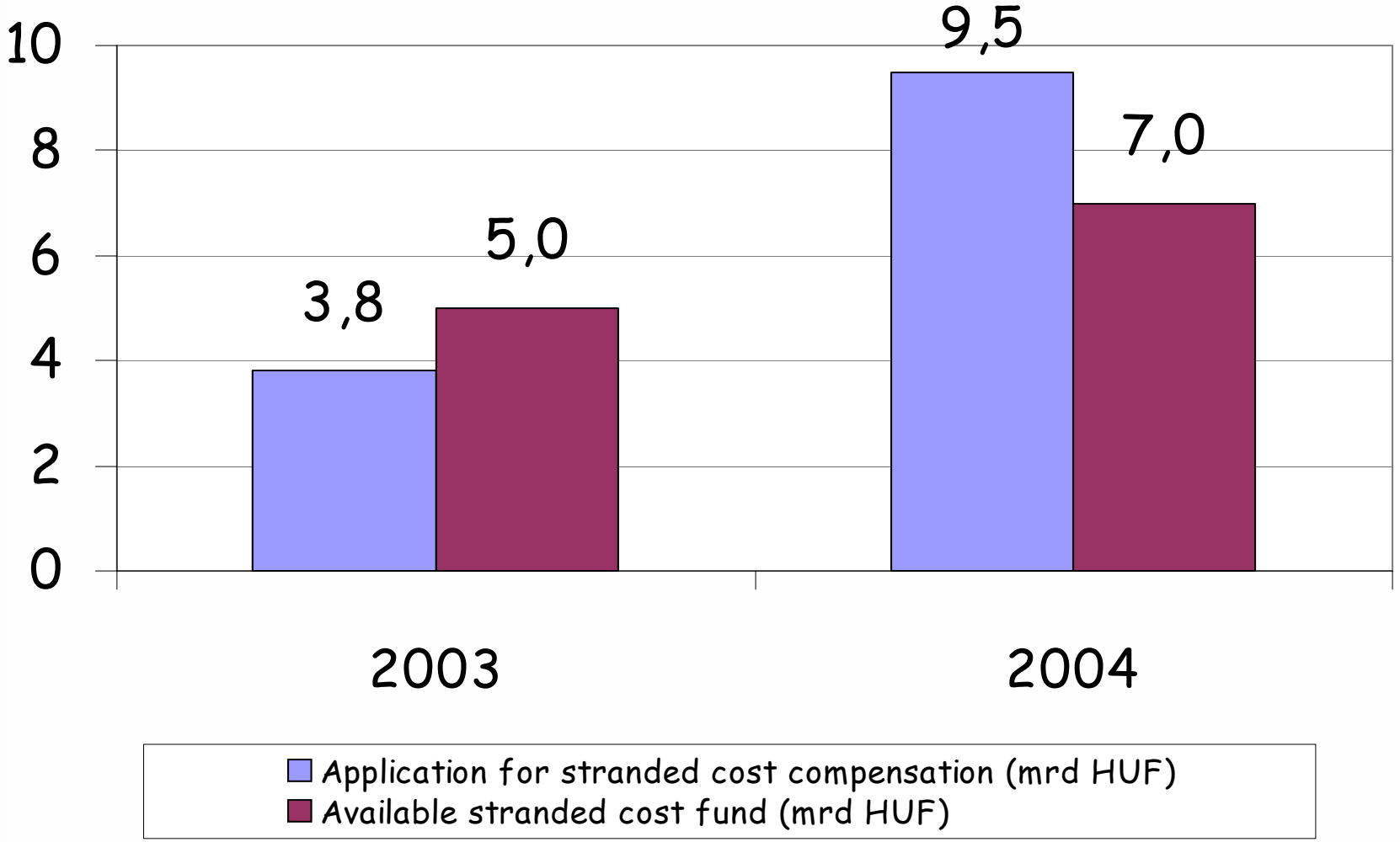
Capacity auction in 2004*

	Capacity (MW)	Volume (GWh	Price (HUF/kWh)	Revenue (HUF)	Total Revenue (HUF)
Off-peak	180	420,7	3,48	1 462 704 930	2 575 788 930
Baseload	30	132,5	8,4	1 113 084 000	

*The auction has taken place in June 2004. The auctioned capacity was base-load and off-peak capacity for the second half of 2004 (from July 1 to December 31)

MAGYAR ENERGIA HIVATAL

Applications and available funds



MAGYAR ENERGIA HIVATAL

MAGYAR ENERGIA HIVATAL

Conclusions

Auctioning strategies

- Applying for the maximum amount of stranded cost fund
- Minimising auctioned volumes
  - ➢auctioning few capacities
- Creating VPP from expensive capacities
  - ➢auctioning expensive capacities

MAGYAR ENERGIA HIVATAL

Areas for improvement

- Improving auction methods and rules
    - Ex-ante approval of auctioned volumes and goods (VPP) by the regulator
- Increasing volumes auctioned
    - Closer monitoring of MVM's forecast of surplus capacities
    - Releasing reserve capacities
    - Releasing capacities needed for covering losses of transmission network
- Creating VPP's from cheaper capacities

MAGYAR ENERGIA HIVATAL

Thank you!

László Varró
varrol@eh.gov.hu
Tel: 459-7720
Fax: 459-7720
http://www.eh.gov.hu