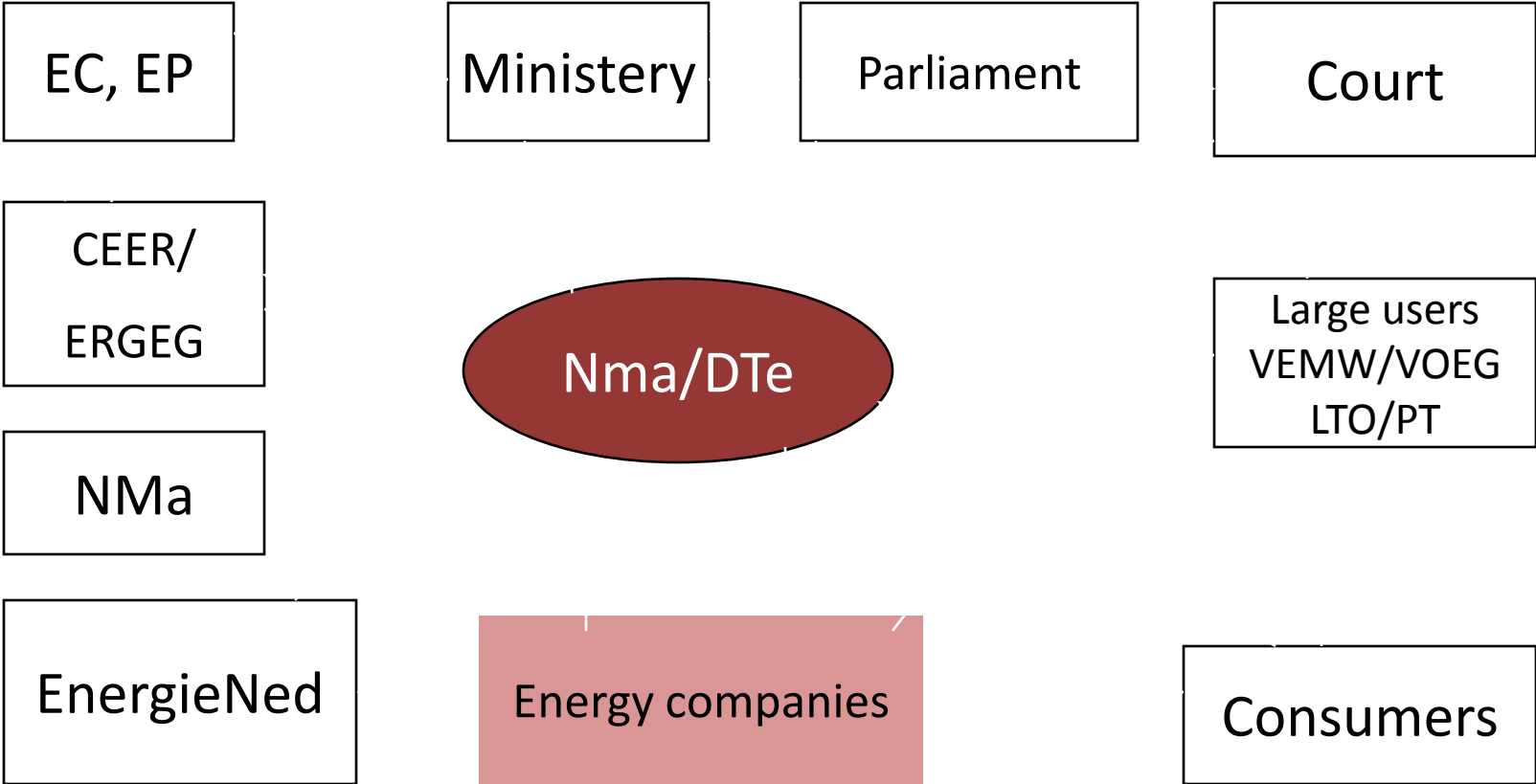


TSO regulation;
introduction to principles,
approaches and methodologies

Jan-Peter Heida

Bucharest, April 9, 2008

Regulation is faced with many stakeholders



Gas transport in the Netherlands

Facts (2005):

Overall

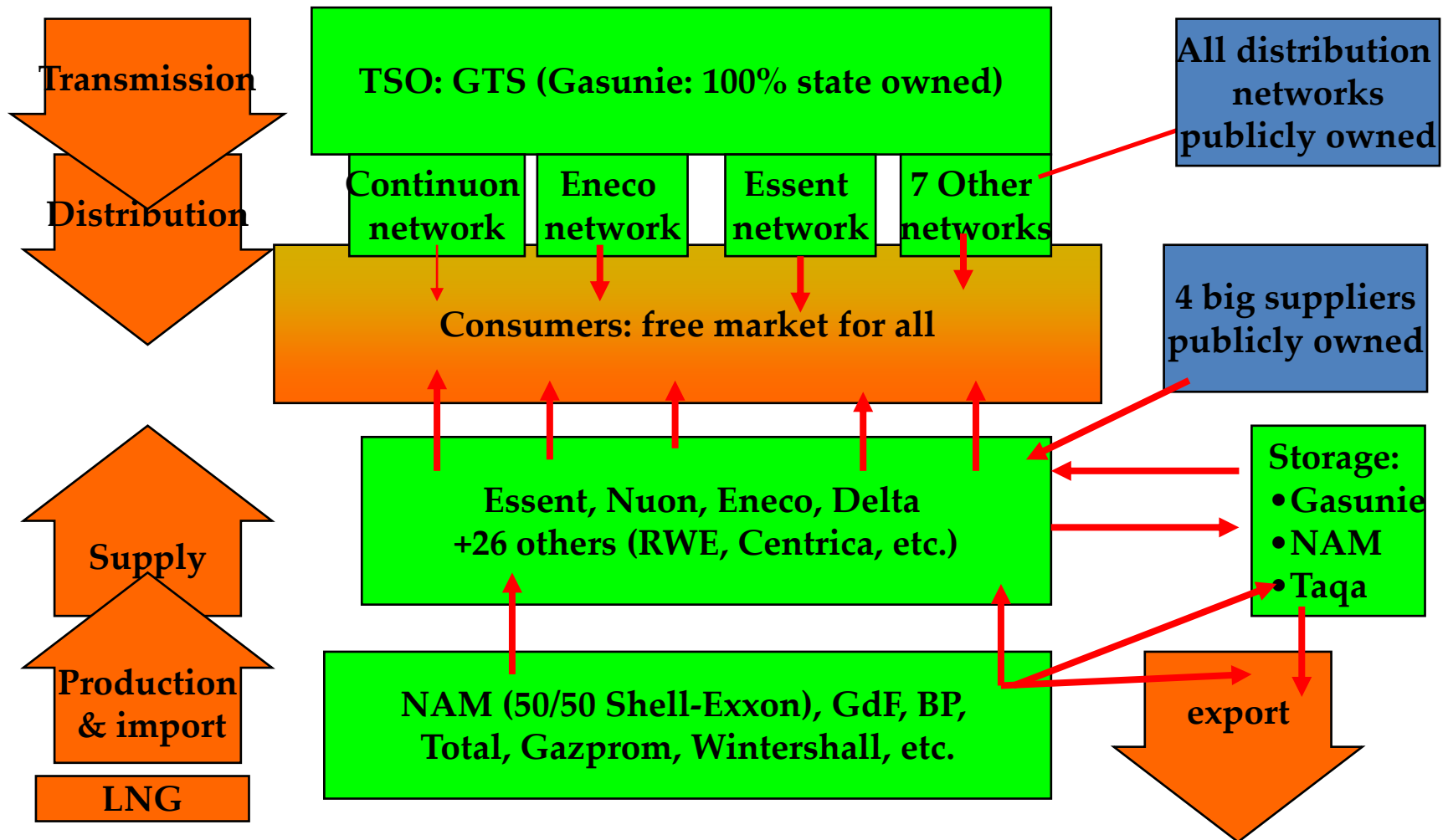
- Network 134.000 km
- Consumption 47 BCM
- Production 71 BCM
- Regulated B€ 2,1

Transmission

- Volume 85 BCM/yr
- 1100 Exit points, 50 entry points
- Entry:
 - 60% small fields,
 - 30% Groningen,
 - 10% import
- Exit
 - 55% export
 - 45% home market



Gas market structure in the Netherlands

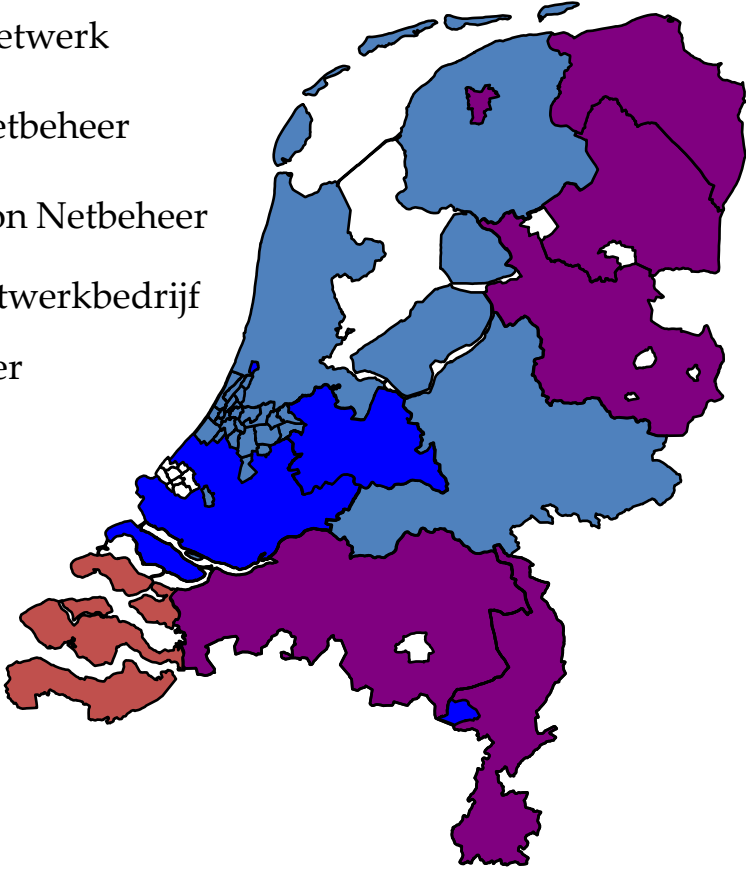


Regional gas networks in the Netherlands

Large companies

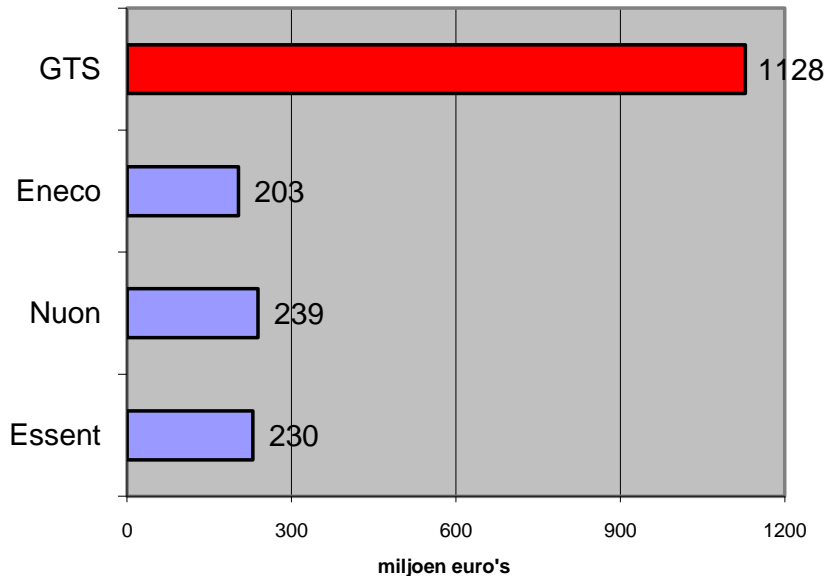
- Essent Netwerk
- Eneco Netbeheer
- Continuon Netbeheer
- Delta Netwerkbedrijf

And 8 smaller companies

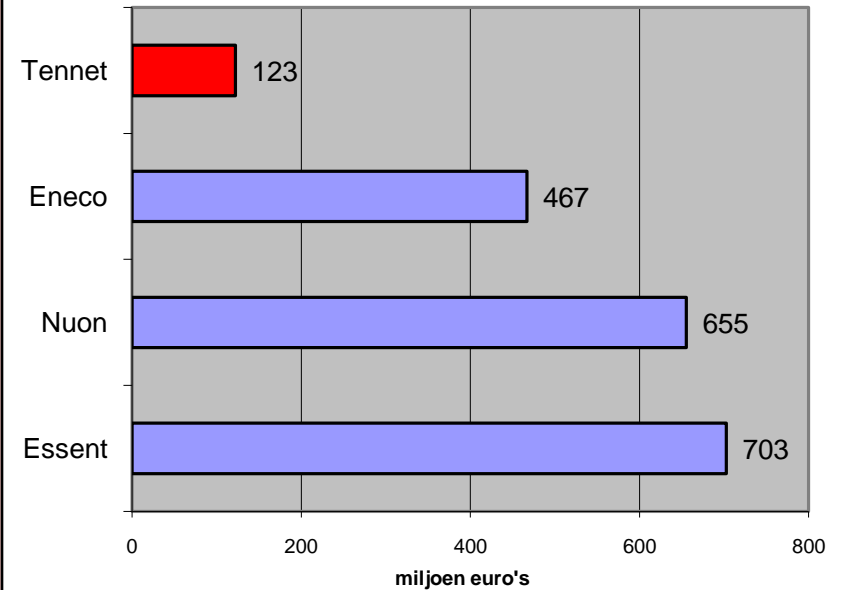


In gas the TSO is much larger than regional companies, in electricity it is smaller

Transport revenues - GAS



Transport revenues - ELECTRICITY



Key tasks of TSO regulator

Access

Non-discrimination for access of

- producers
- suppliers
- consumers

Tariffstructure

Tariffs based on cost causation

Investments

Investments timely to

- Facilitate market growth
- Maintain high quality
- Enable investment in production
- Enable international flows

Networkcosts

Value for money

No monopoly profit

No cross subsidies with liberalized markets


“Unbundling is key to ensure a well functioning market” (experience in Electricity)

Statements of EU

When TSO is integrated

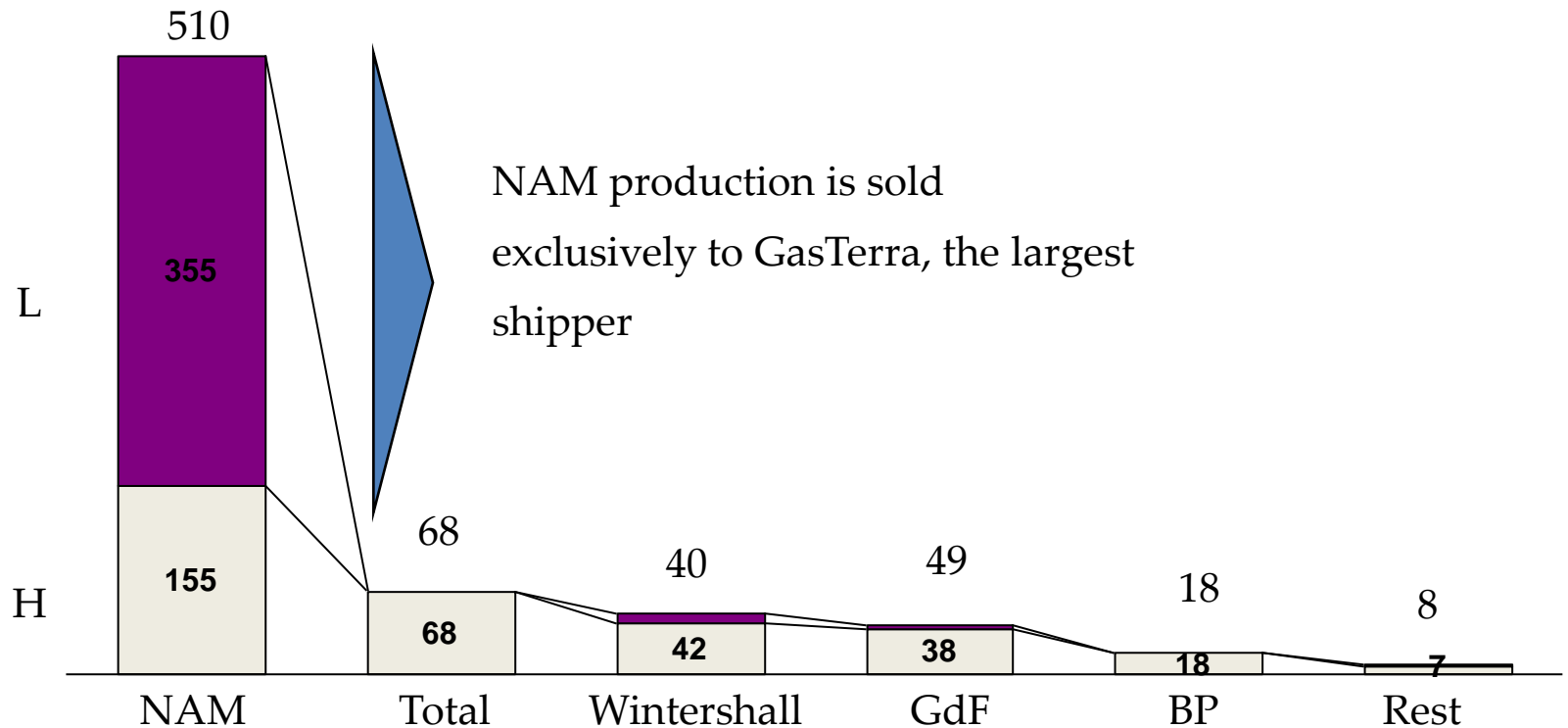
- Possible to release market sensitive information to group members
- No incentive for developing the network
- High regulatory burden to ensure non-discriminatory access

Dutch experience

- 
- 1998 TSO, ‘TenneT’ (380 kV network) was formed by joint electricity producers (SEP)
- 1999 Large user filed complaint with competition authority as it was refused rights to import; SEP still controlled investment decisions
- 2000 Temporary full State ownership of TenneT (Ministry of Finance is shareholder with little involvement)
- 2001 Indefinite State ownership
- 2004 Acquisition of small 150 kV network
- 2008 All 150 kV networks to TenneT

Most production is in the hand of one party

Gas production the Netherlands



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Criteria for Dutch tariff code

- Incentivize short term efficient actions by users
- Incentivize long term security of supply infrastructure
- Non-discriminatory access
- No hindering of legal demands for the environment

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Between now and 2012, large investments are foreseen in the GTS system

Red: 2010
Grey: 2011
Yellow: 2012



Plans based on contracts with shippers (18) after open season

Main driver: expansion of interconnection capacity

EUR 1 to 1,5 billion

370 km new main transport line

120 km connection line

4 new compressor stations

Investments can be regulated in roughly three different ways

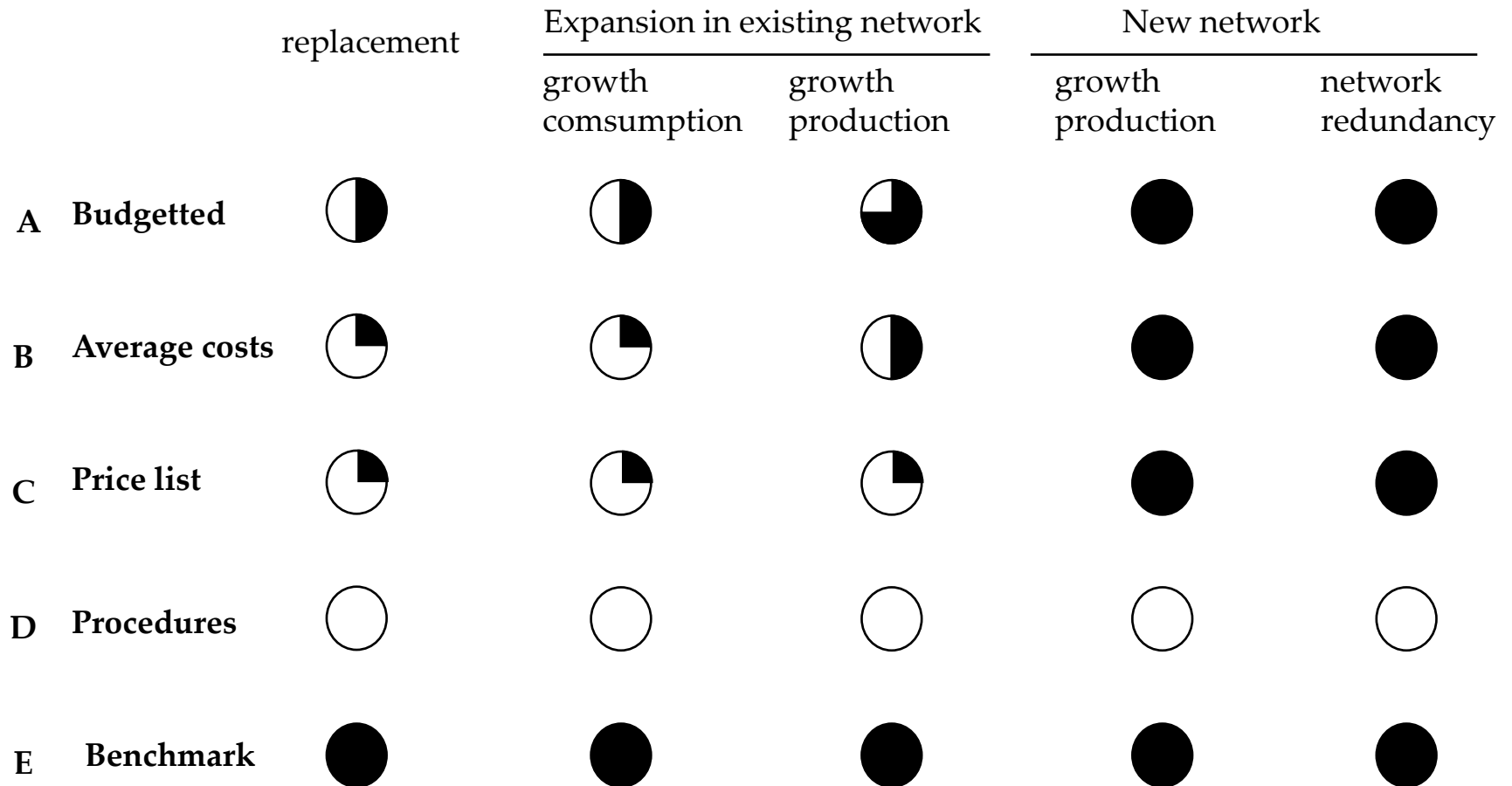
Ways of regulating TSO investments and timing

Period before investing	Period of investing	Period after investment
<p>Budget in advance (A,B,C)</p> <p>At the start of a period it is known what will be invested in. The TSO can get a budget in advance:</p> <ul style="list-style-type: none">A. Budget after study by independent consultantB. Average costs of current asset base (i.e. per kilometer)C. Standard pricelist for parts invested in <p>The budget is added to the RAB</p>	<p>Procedures during (D)</p> <p>If the TSO adheres to certain procedures in realising the investment, the RAB is automatically increased with realised costs.</p> <p>Procedures for instance:</p> <ul style="list-style-type: none">• Proper mandates for management, directors and board• European procurement procedures• Asset management certified	<p>Benchmark after (E)</p> <p>After the TSO has invested, it is benchmarked against other TSO's.</p> <p>Only efficient assets are included in the RAB.</p>

The risk for a TSO depends on the way of regulation and on the type of investment

DUTCH SITUATION

Less risk ○ 1 ◐ 2 ◑ 3 ◒ 4 ● 5 More risk








The degrees of freedom for investment decisions depends on the regulatory regime

Room for TSO decisions in investment process

 Little

 Much

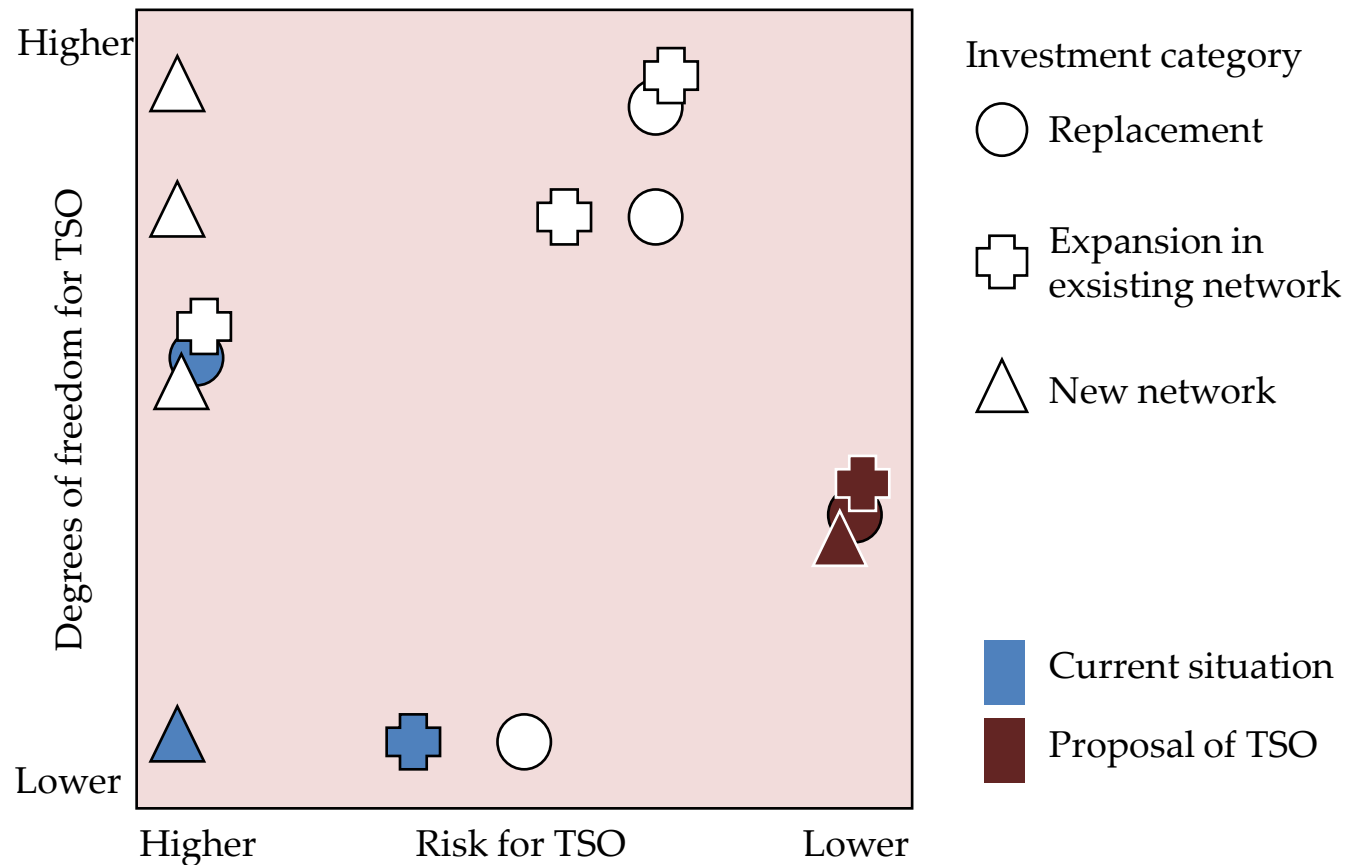
	Degrees of freedom	Type of regulation
A Budgetted		Regulator decides on all aspects of investments; TSO applies regulator's decision within budget set by regulator.
B Average costs		TSO gets a fixed price for increased capacity (e.g., EUR/ MVA). TSO is responsible for investment level and location
C Price list		Regulator sets a pricelist for network components at the beginning of a period. TSO can invest in necessary parts against set prices. Pricelist calibrated to markets (e.g., copperindex)
D Procedures		TSO has to show that it adheres to set procedures for decisions on and realisation of investments. Regulator audits procedures
E Benchmark		Regulator runs benchmark after investments are realised. TSO gets efficient asset base in RAB

For TSO and regulator, the preferred method is a trade off between risk and degrees of freedom

DUTCH SITUATION

Method of regulation

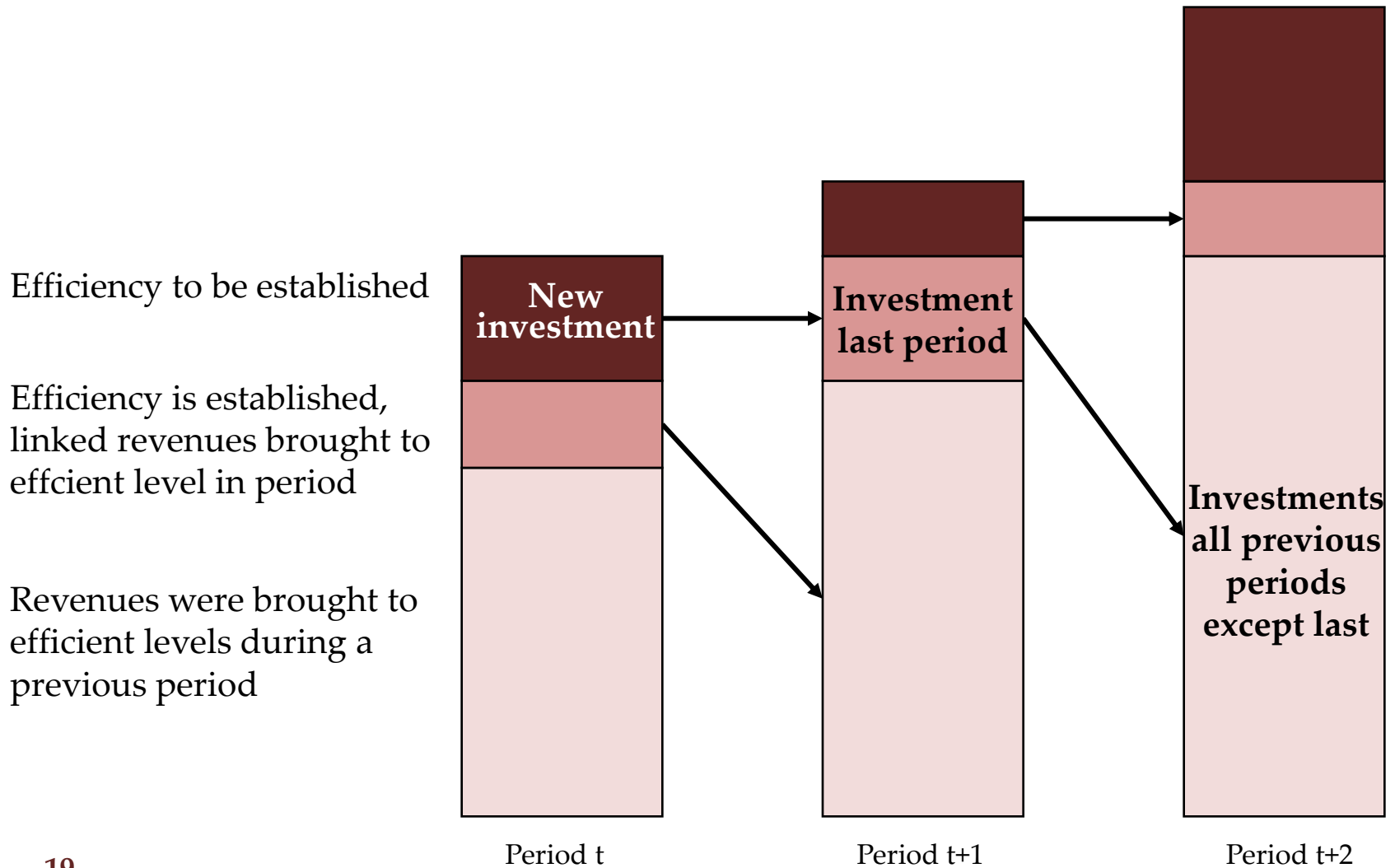
- List prices
- Average costs
- Benchmark
- Procedures
- Target budget



The three key decisions with investments should be approved by the relevant government body

Decision	Government body	Discussion
<ul style="list-style-type: none">- Need for investment	<ul style="list-style-type: none">- Ministry of Economic Affairs	<ul style="list-style-type: none">- Complex societal business case with large political impact
<ul style="list-style-type: none">- Implementation	<ul style="list-style-type: none">- Min. Economic Affairs- Min. For spatial planning- Local governments	<ul style="list-style-type: none">- Complex urban/rural planning implications with national and local trade-offs beyond TSO and electricity regulator
<ul style="list-style-type: none">- Costs	<ul style="list-style-type: none">- Regulator	<ul style="list-style-type: none">- Regulator should focus on costs

All assets of a TSO go through a regulatory cycle of three steps to avoid repetitive reduction of asset base



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The end

- Thank you for your attention
- Feel free to ask questions; now or later

Dr. J.P (Jan-Peter) Heida

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