Features of New Tariff Systems - Electricity Sector

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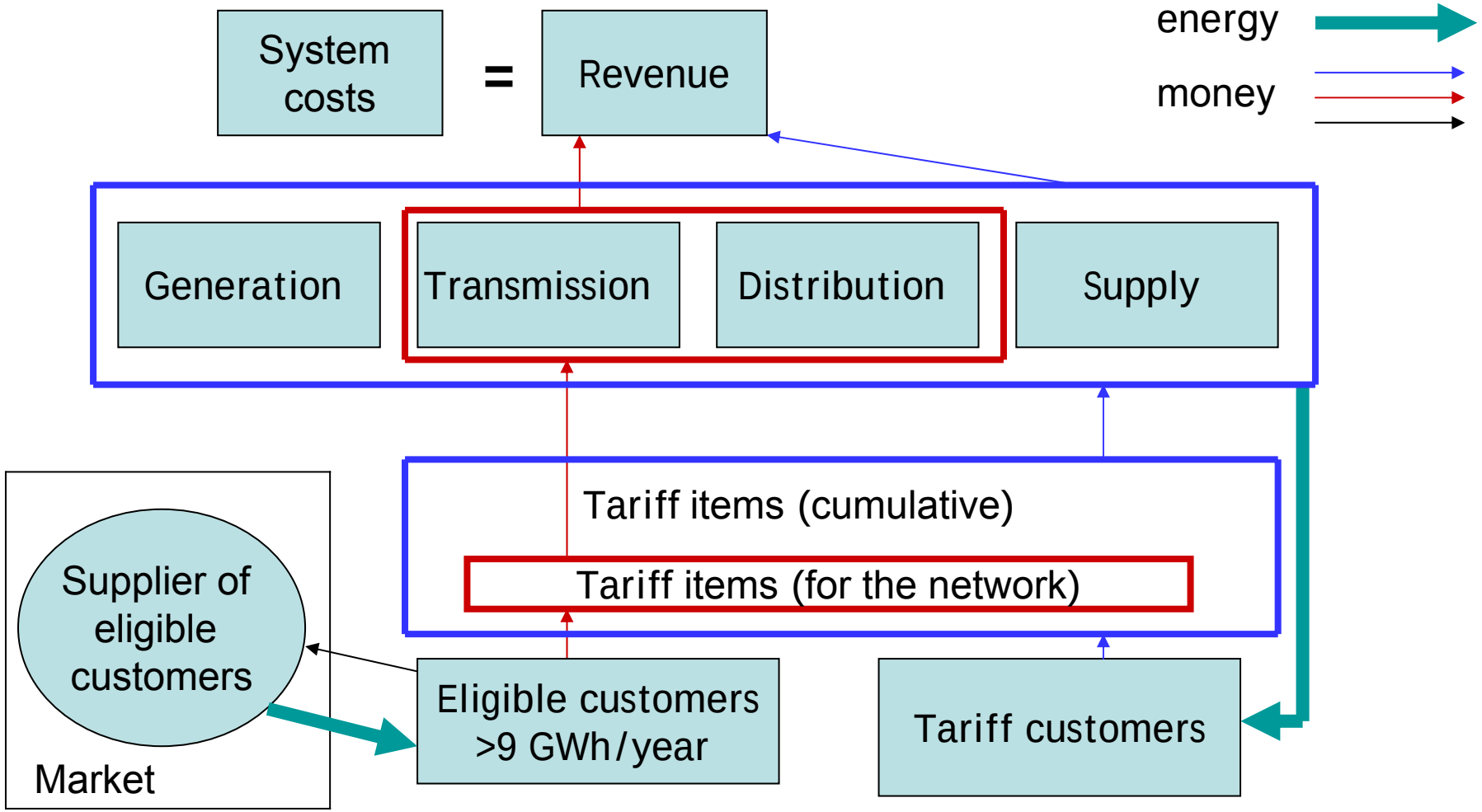
Presentation Content

- The integral (previous) tariff system
- Reasons for change
- Review of new tariff systems
  - Common charactestics of all tariff systems
  - Review of key characteristics of particular tariff systems
  - Tariff items' structures
  - Procedure of proposal of tariff item amounts

Integral (previous) tariff system

Basic relations



Integral tariff system

Structure

- **Charge for service of electricity delivery to tariff customers**
  - All electric power system costs (generation, transmission, distribution and supply including costs of organizing the market and activities related to regulation of electric power activities)

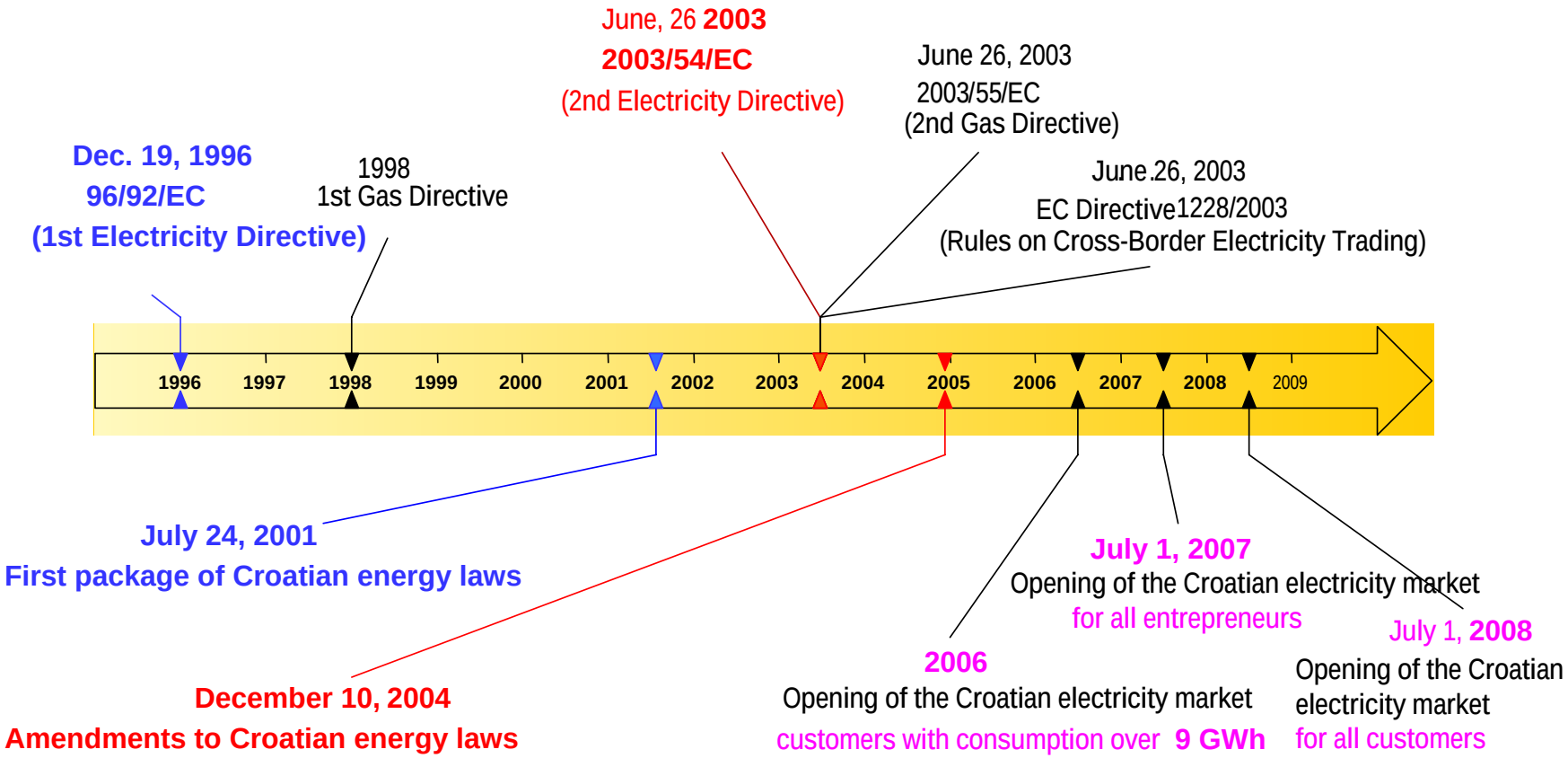
- **Charge for service of electricity delivery to eligible customers**
  - electric power network costs (transmission and distribution including costs of organizing the market and activities related to regulation of electric power activities)

Reasons for change

- **Liberalization of the energy sector**
  - Introduction of market relations in some energy activities for the purpose of efficiency increasing (lower costs) and lower prices (competition)
  - More security and better quality of customers' supply

1. **Process of accession to the EU**
   - Implementation of EU Directives
   - Preparation for accession to the Energy Community
2. **Croatian legal framework**
   - CERA's legal obligation is to pass tariff methodologies

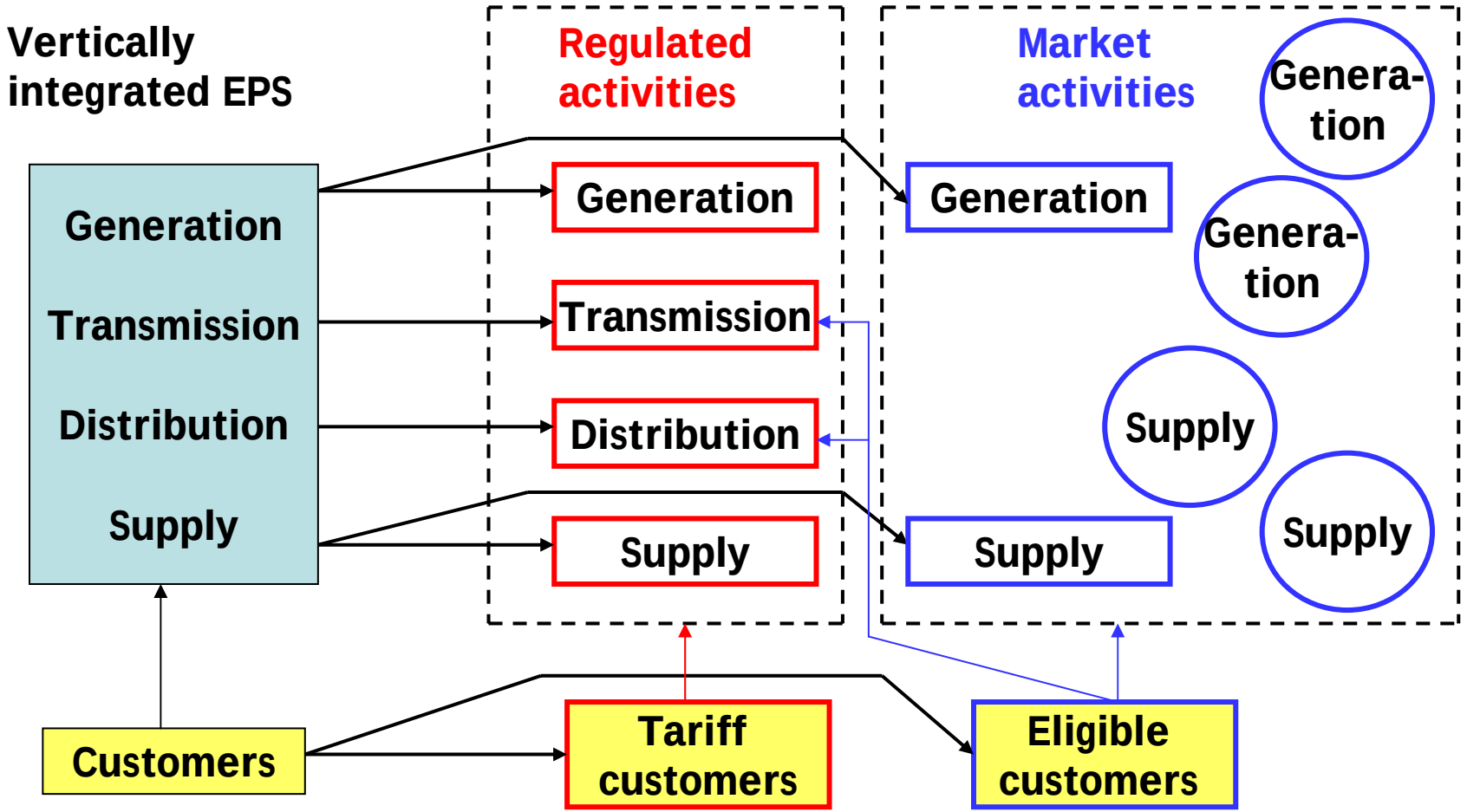
Process of energy market opening



Legal framework for restructuring of the electric power system

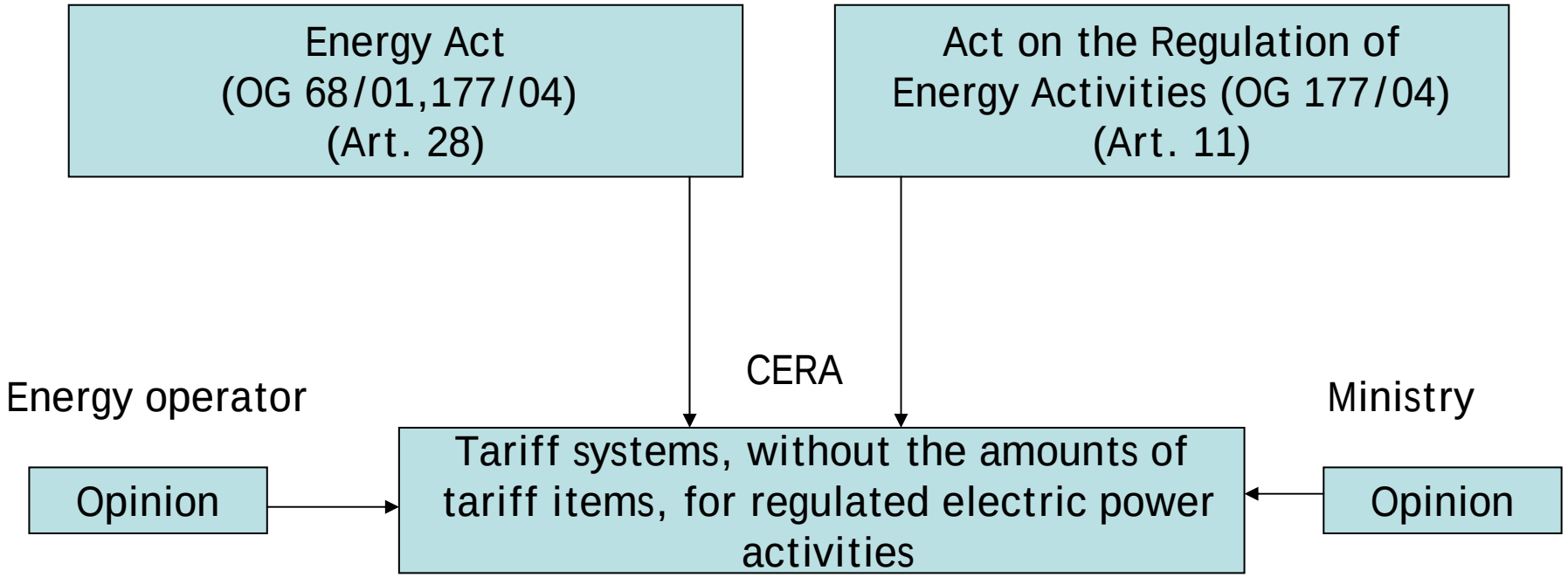
- Energy Act (OG 68/01 i 177/04)
- Act on the Electricity Market (OG 177/04)
- Act on the Regulation of Energy Activities (OG 177/04)

Restructuring of the electric power system



New tariff systems for regulated electric power activities

Legal framework



New tariff systems

Passing and coming into effect

HERA passed new tariff systems, without amounts of tariff items, for:

- **Electricity generation, with the exception of eligible customers**
- **Electricity transmission**
- **Electricity distribution**
- **Electricity supply, with the exception of eligible customers**

and they came into effect on the eighth day of its publication in the "Official Gazette" (No. 143, Dec 29, 2006).

New tariff systems

Presumptions

- The necessity of unbundling of the existing integral tariff system and creating conditions for market functioning
- New tariff systems structured in the way that they provide smooth transition to market relations
- Gradual and target-oriented introduction of changes in order to provide possibilities for tariff systems to be tested in practice, corrected and improved
- Taking into consideration the sensitivity of implementation and realistic operative limitations

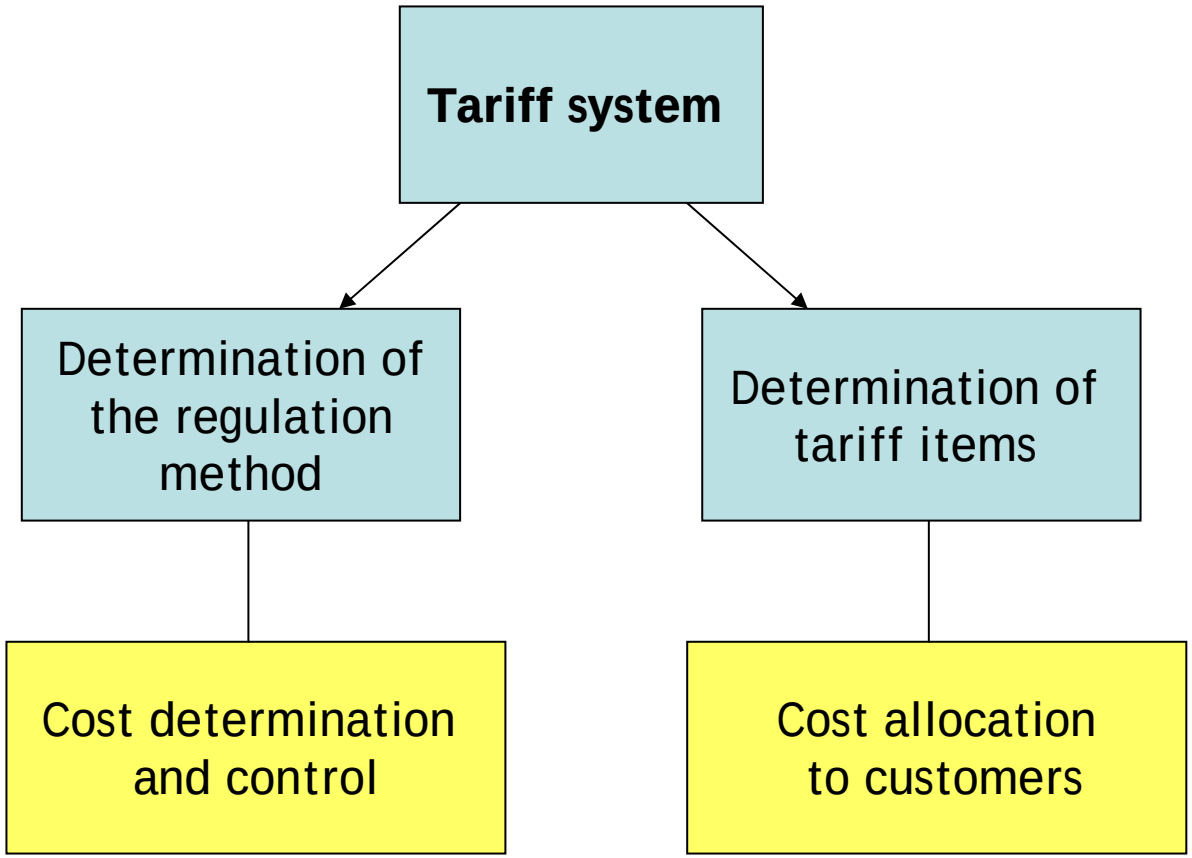
New tariff systems

General principles

- Establishing stable and foreseeable business conditions and encouraging sector development with the purpose of satisfying the demand for electricity
- Acknowledging justified business costs and reasonable period of return on investments to energy operators
- Allocation of costs to users as realistic as possible, proportional to the amount in which they are incurred
- Encouraging rational use of electricity

New tariff systems

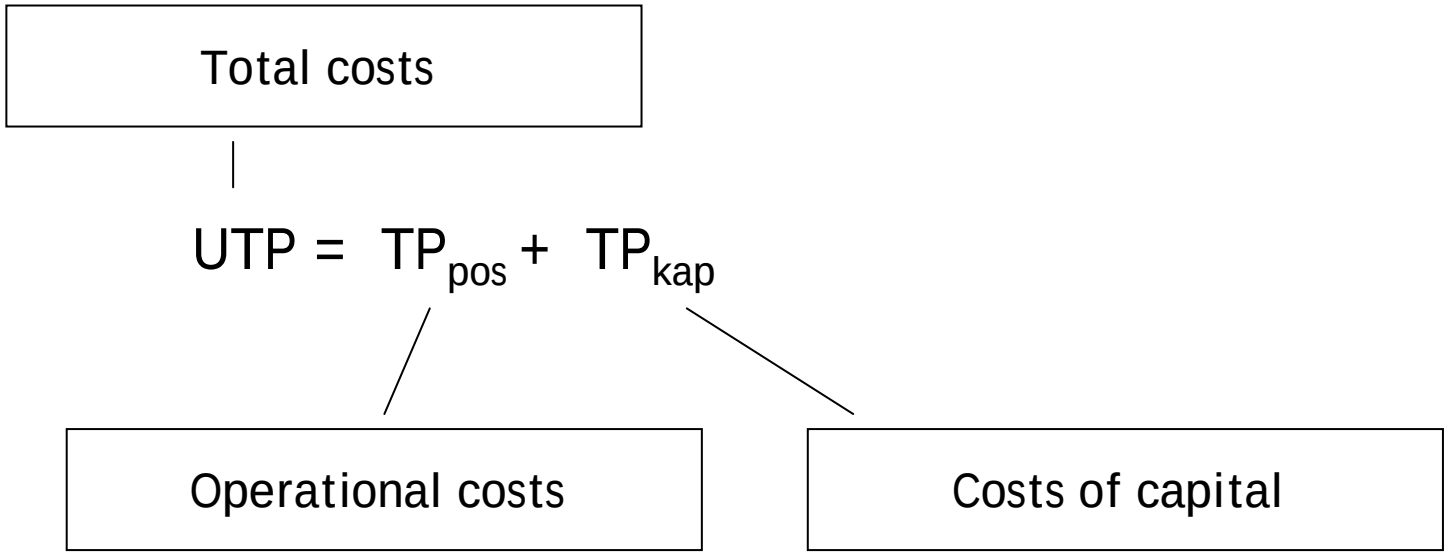
General principles



New tariff systems

Selection of the regulation method

COST PLUS METHOD
(Cost-of-Service, Rate-of Return)



COST PLUS METHOD
(Cost-of-Service, Rate-of Return)

$$UTP = TP_{pos} + TP_{kap}$$

$$= TP_{pos} + A + PR_{im}$$

$$= TP_{pos} + A + (PPTK/100) \cdot RI$$

Long-term tangible and intangible assets and working capital (kn)

Weighted average costs of capital (%)

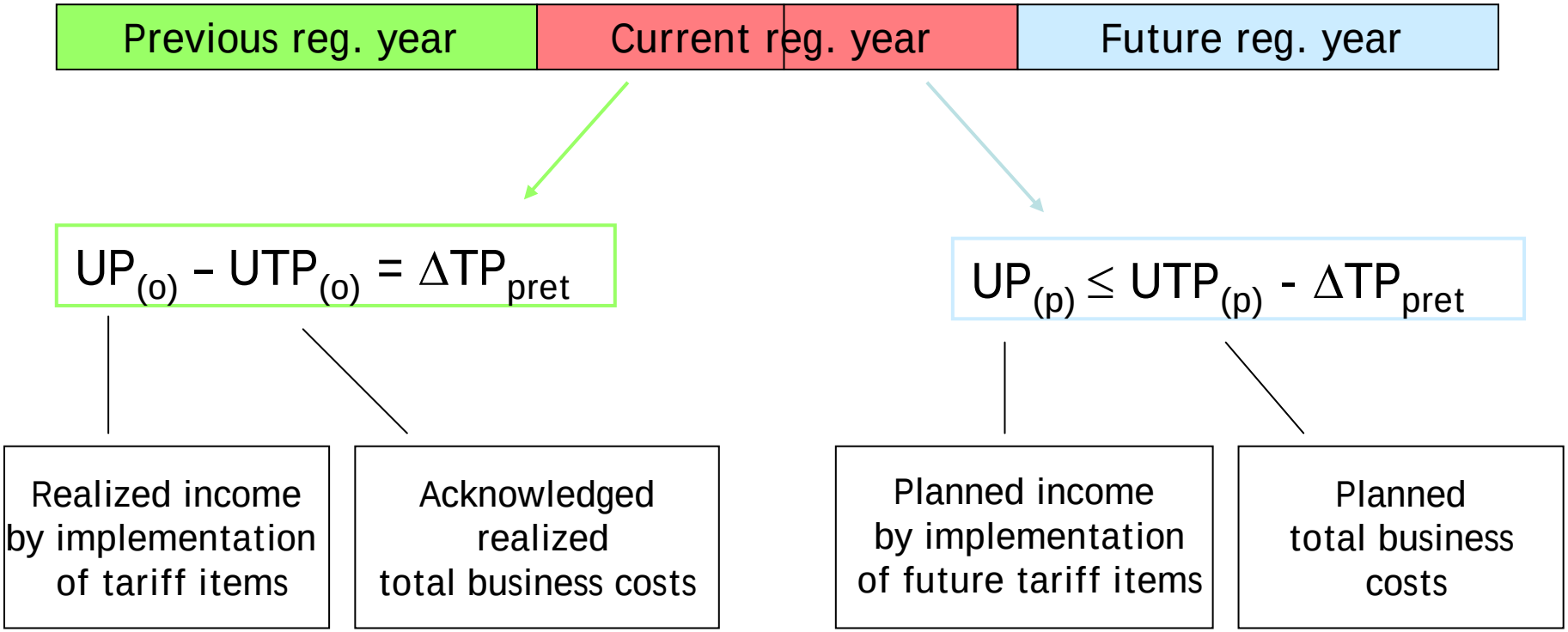
New tariff systems

Regulatory period

Regulatory period = regulatory year (Jan 1 – Dec 31)

New tariff systems

Determination of costs and revenues



New tariff systems

Determination of costs and revenues

- Business costs and costs of development are based on business and development plans prepared, adjusted and adopted for every year based on a three-year development plan with the Agency's consent
- Energy operator has the obligation to develop business plan for the future regulatory year, so the Agency can follow in a transparent way the data on capital and working assets, equity, revenues and costs from performing a regulated activity, as well as on financial flows and investments

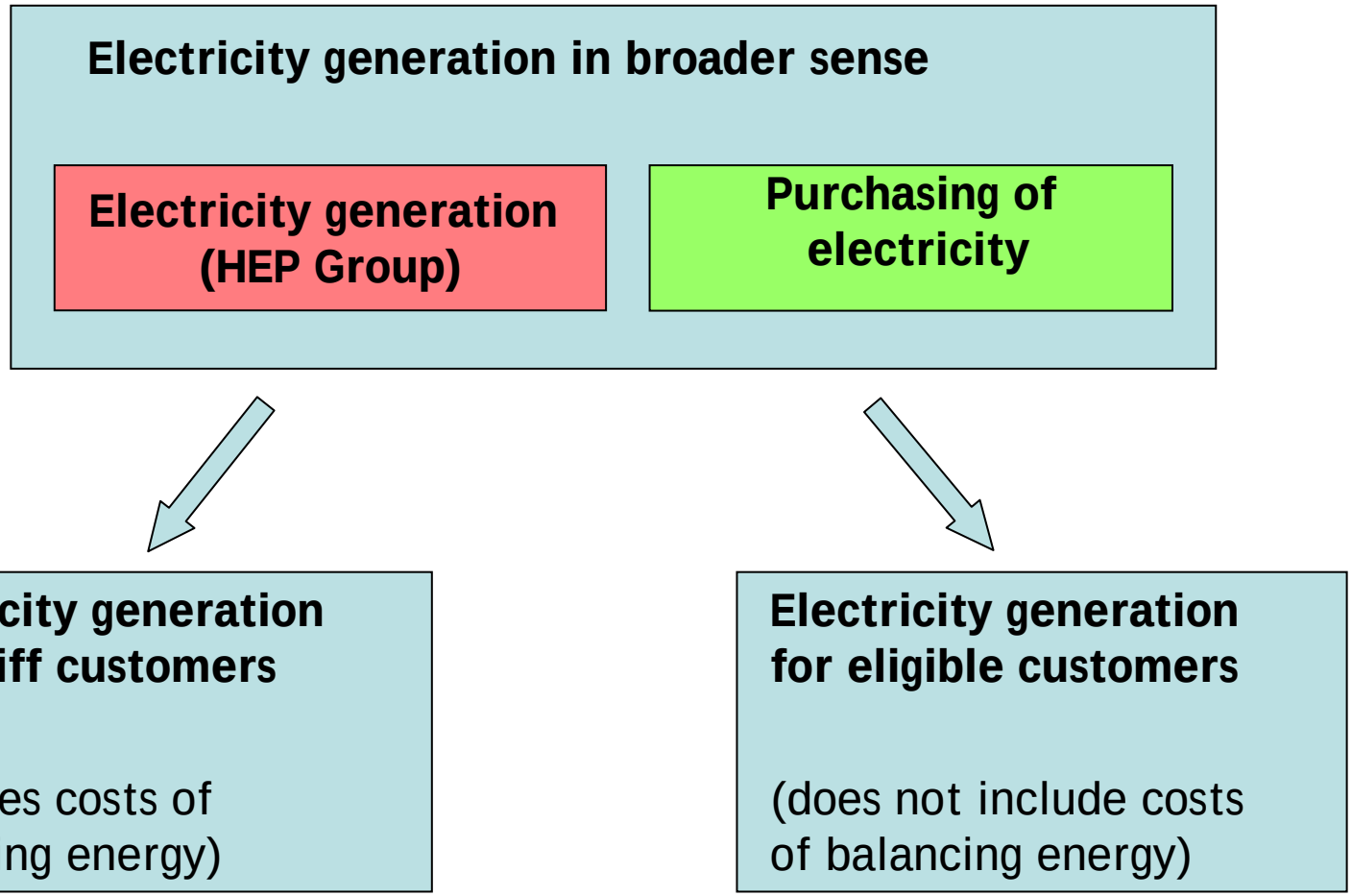
New tariff systems

Determination of costs and revenues

- Energy operator has the obligation to submit its financial report for the previous regulatory year to the Agency, verified by an independent authorized auditor, until May 31 of the current regulatory year at the latest
- Business plan for the future regulatory year must be developed and submitted to the Agency by November 30 of the current regulatory year at the latest

Tariff System for Electricity Generation

Defining electricity generation for tariff customers



Tariff System for Electricity Generation

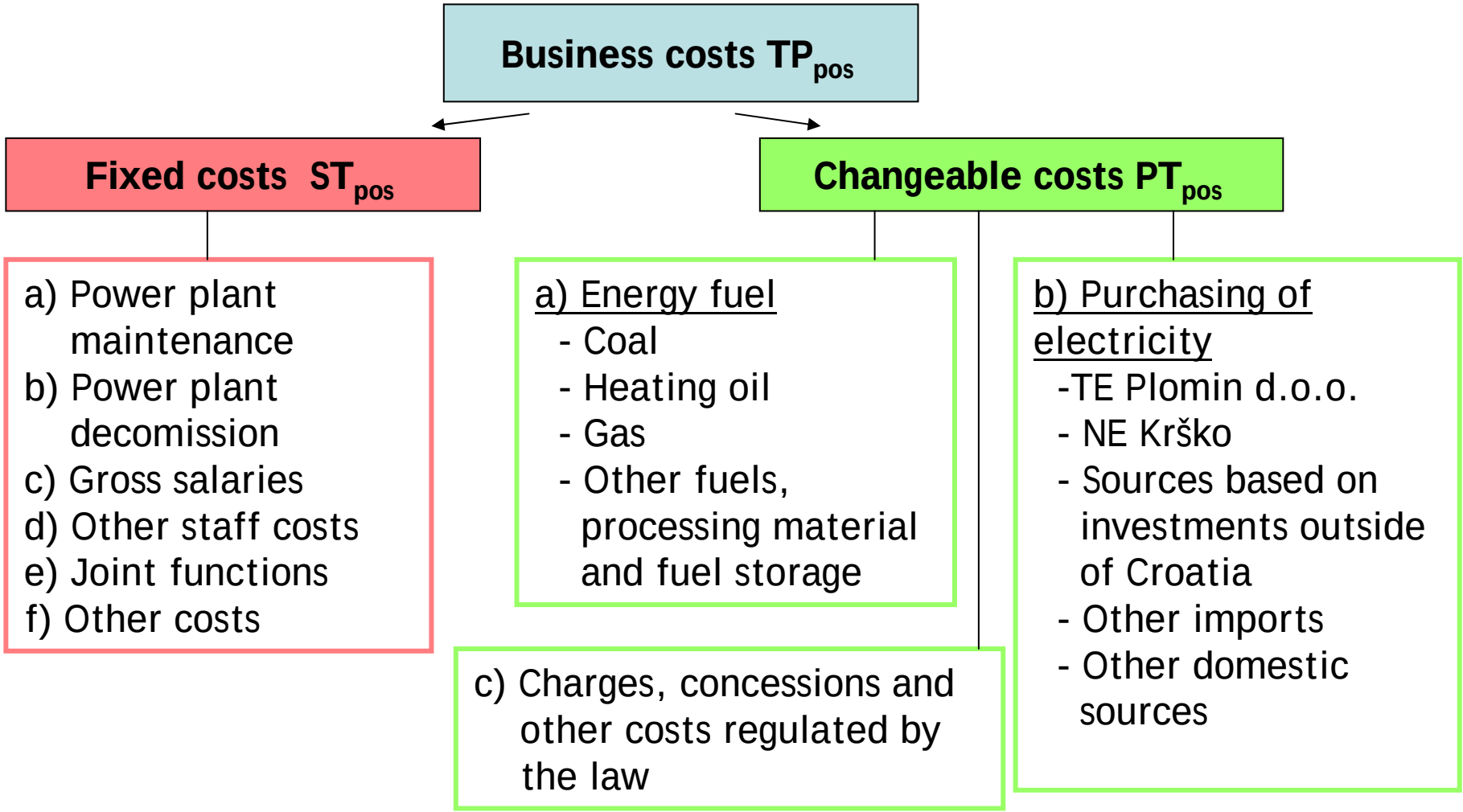
Cost structure

$$UTP = TP_{pos} + TP_{kap} - TR_{gub} - TR_{pu} - TR_{enuost}$$

$$= TP_{pos} + A + PR_{im} - TR_{gub} - TR_{pu} - TR_{enuost}$$

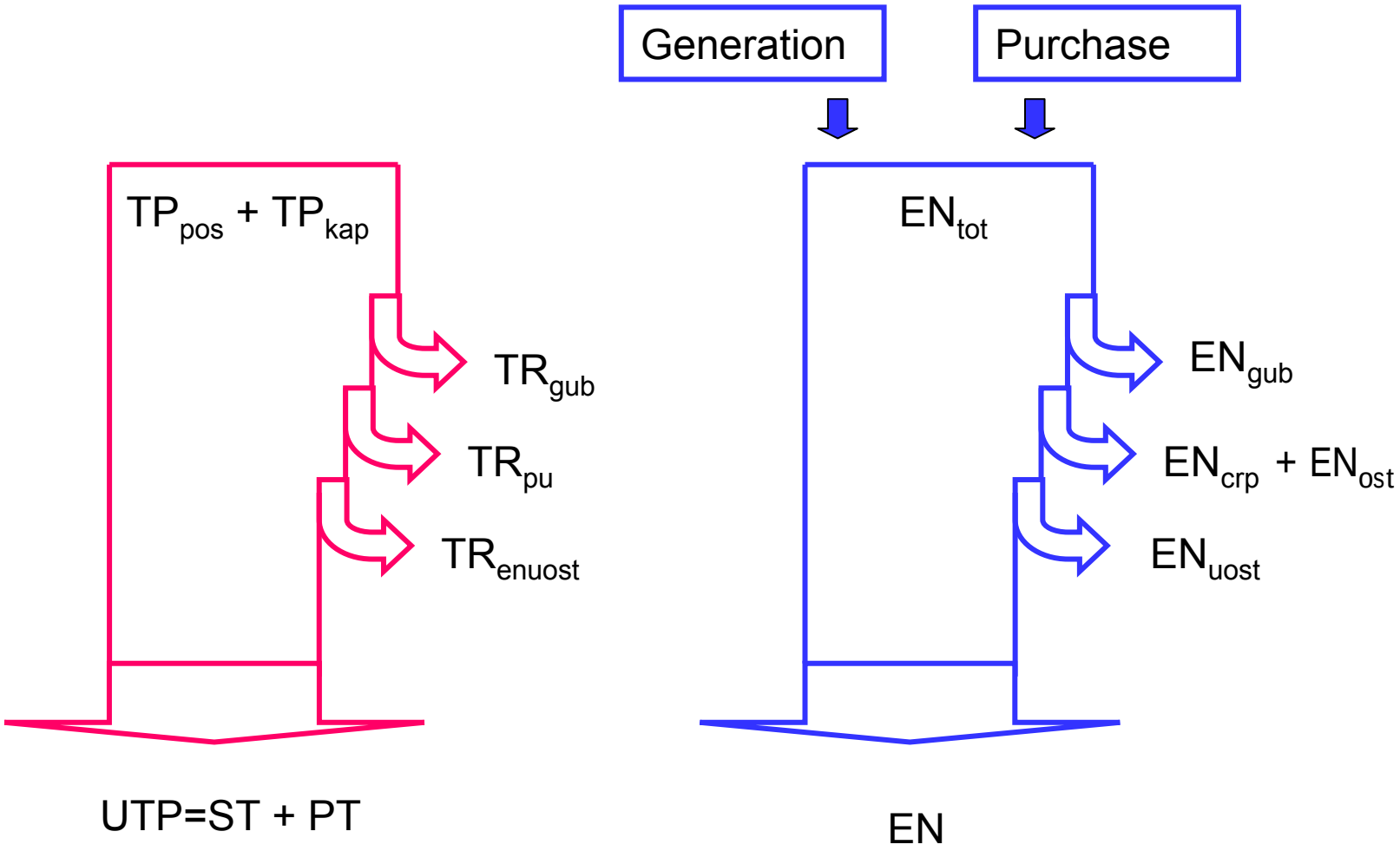
Tariff System for Electricity Generation

Cost structure



Tariff System for Electricity Generation

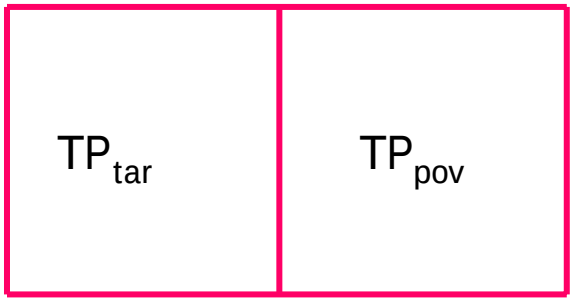
Cost and electricity structure



Tariff System for Electricity Generation

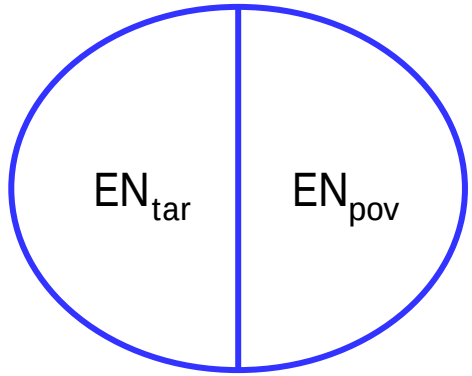
Costs allocation

$UTP = ST + PT = TP_{tar} + TP_{pov}$



$TP_{tar} = (EN_{tar}/EN) \cdot UTP$

$EN = EN_{tar} + EN_{pov}$



Tariff System for Electricity Generation

The sensitivity of electricity generation price to the change of input parameters

$$C_s = C_0 \cdot \left(1 + \frac{\varepsilon_h \Delta h}{100} + \frac{\varepsilon_u \Delta u + \varepsilon_p \Delta p + \varepsilon_{lu} \Delta lu}{100} + \frac{\varepsilon_d \Delta d + \varepsilon_e \Delta e}{100} + \frac{\varepsilon_n \Delta n}{100}\right)$$

Tariff System for Electricity Generation

Tariff elements

- Tariff elements
  - Active energy (variable troškovi)
  - Active power (fixed costs)
- The same value of tariff items for all models

Tariff system for Electricity Transmission

Cost structure

$$UTP = TP_{pos} + TP_{kap} + \Delta TR_{enu} - TR_{nsu}$$

$$= TP_{pos} + A + PR_{im} + \Delta TR_{enu} - TR_{nsu}$$

Tariff system for Electricity Transmission

Cost structure

Business costs TP_{pos}

a) Network maintenance
b) Loss coverage
c) Purchase of ancillary services
d) Covering of allowed deviations
e) Gross salaries
f) Other staff costs
g) Other business costs

- Secondary regulation
- Tertiary regulation
- Generation of reactive energy
- Black start
- Capability for island operation

Tariff system for Electricity Transmission

Tariff elements

- Tariff elements
  - Active energy
  - Active power
  - Excess reactive energy
  - Charge for metering service

Tariff system for Electricity Distribution

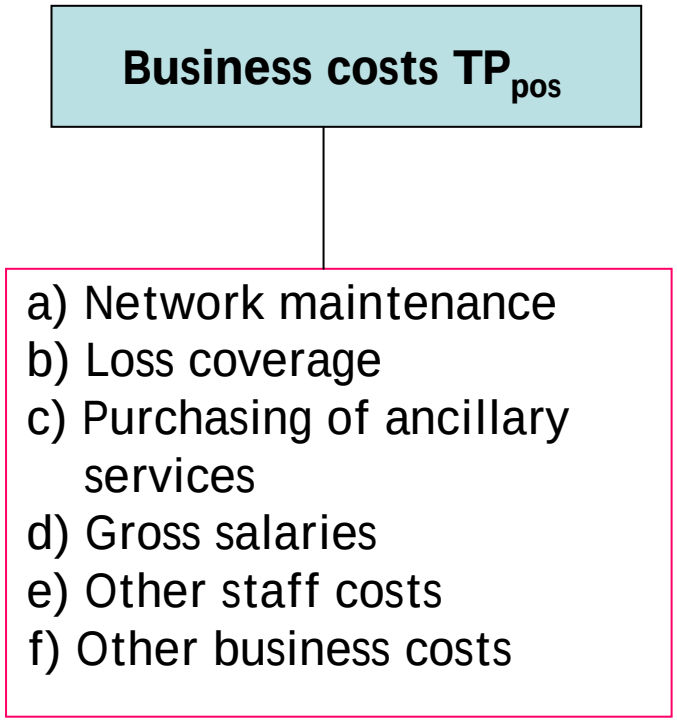
Cost structure

$$UTP = TP_{pos} + TP_{kap} - TR_{nsu}$$

$$= TP_{pos} + A + PR_{im} - TR_{nsu}$$

Tariff system for Electricity Distribution

Cost structure



Tariff system for Electricity Distribution

Tariff elements

- Tariff elements
  - Active energy
  - Active power
  - Excess reactive energy
  - Charge for metering service

- Charge for metering service

  - refers to standard metering service determined by the Grid Code and the General Conditions, paid monthly

  - determined by customer category and equipment level of the billing metering point

Tariff System for Electricity Supply

Cost structure

$$UTP = TP_{pos} + TP_{kap} + \Delta TR_{povp} - TR_{nsu}$$

$$= TP_{pos} + A + PR_{im} + \Delta TR_{povp} - TR_{nsu}$$

Tariff System for Electricity Supply

Cost structure

Business costs TP_{pos}

a) Gross salaries
b) Other staff costs
c) Settlement of accounts and billing
d) Banking charges and payment transactions
e) Other business costs
f) Costs of joint functions
HEP d.d. i HEP-ODS d.o.o.

Tariff System for Electricity Supply

Tariff elements

- Tariff elements
  - Charge for supply

- Charge for supply

  - based on the number of equivalent billing metering points

  - referent point is the charge for customer category households

New tariff systems

Customer categories

- Entrepreneurship

  a) customers on high voltage grid

  b) customers on medium voltage grid

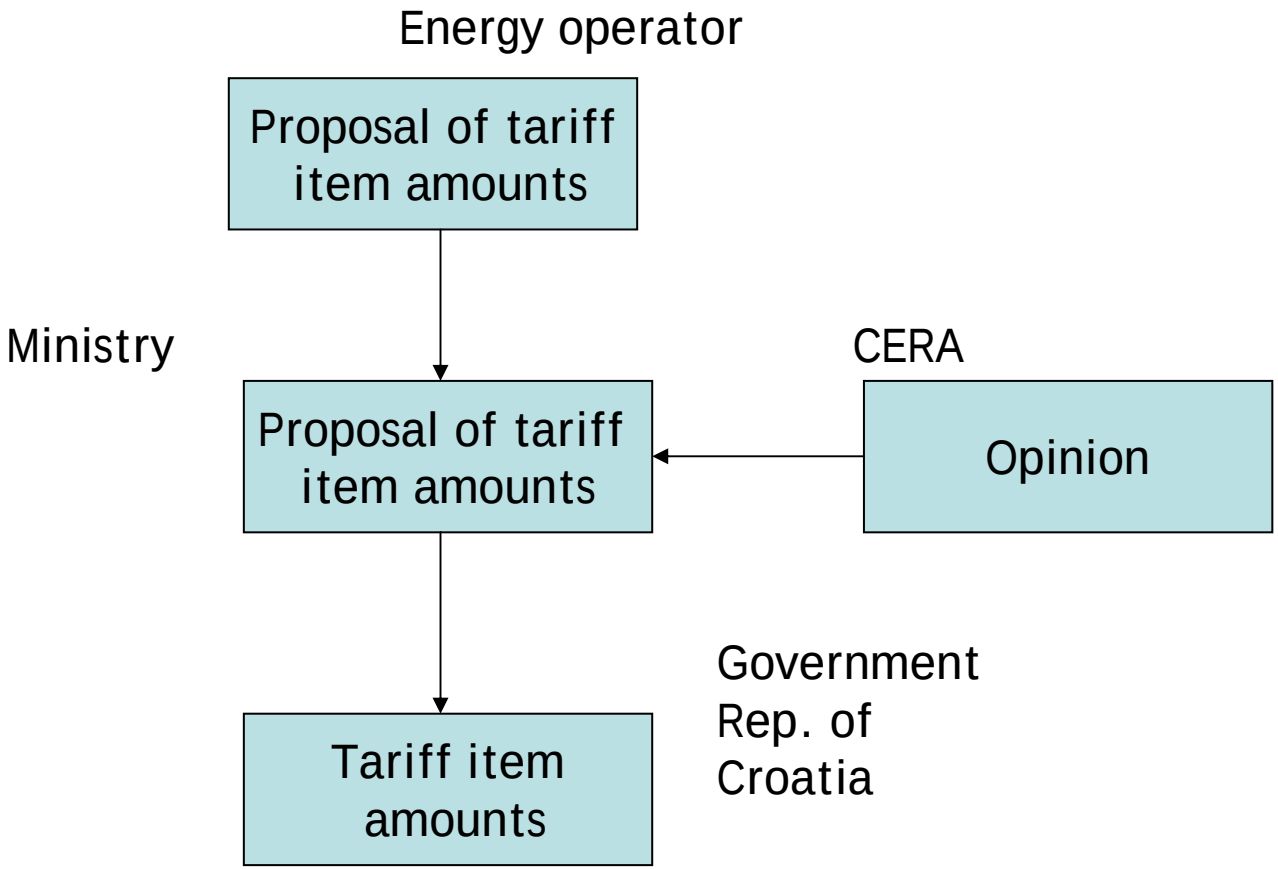
  c) customers on low voltage grid

  - with power metering
  - without power metering
  - public lightning

- Households

New tariff systems

Proposals for tariff item amounts



New tariff systems

Passing and coming into effect

The Tariff System for Electric Power Services Carried Out as Public Services ("Official Gazette", No. 101/02, 121/02, 129/02 and 98/05) is no longer valid, except for the part that refers to the amounts of tariff items, which shall be in effect until the decision of the Government of the Republic of Croatia on tariff items' amounts determined by new Tariff Systems comes into effect.

Features of New Tariff Systems - Electricity Sector

Thank you for your attention!