

**NP «MARKET COUNCIL»
EDUCATION CENTRE**

AUTONOMOUS NON-PROFIT ORGANIZATION



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Service quality regulation

ERRA VIDEO TRAINING PROGRAM

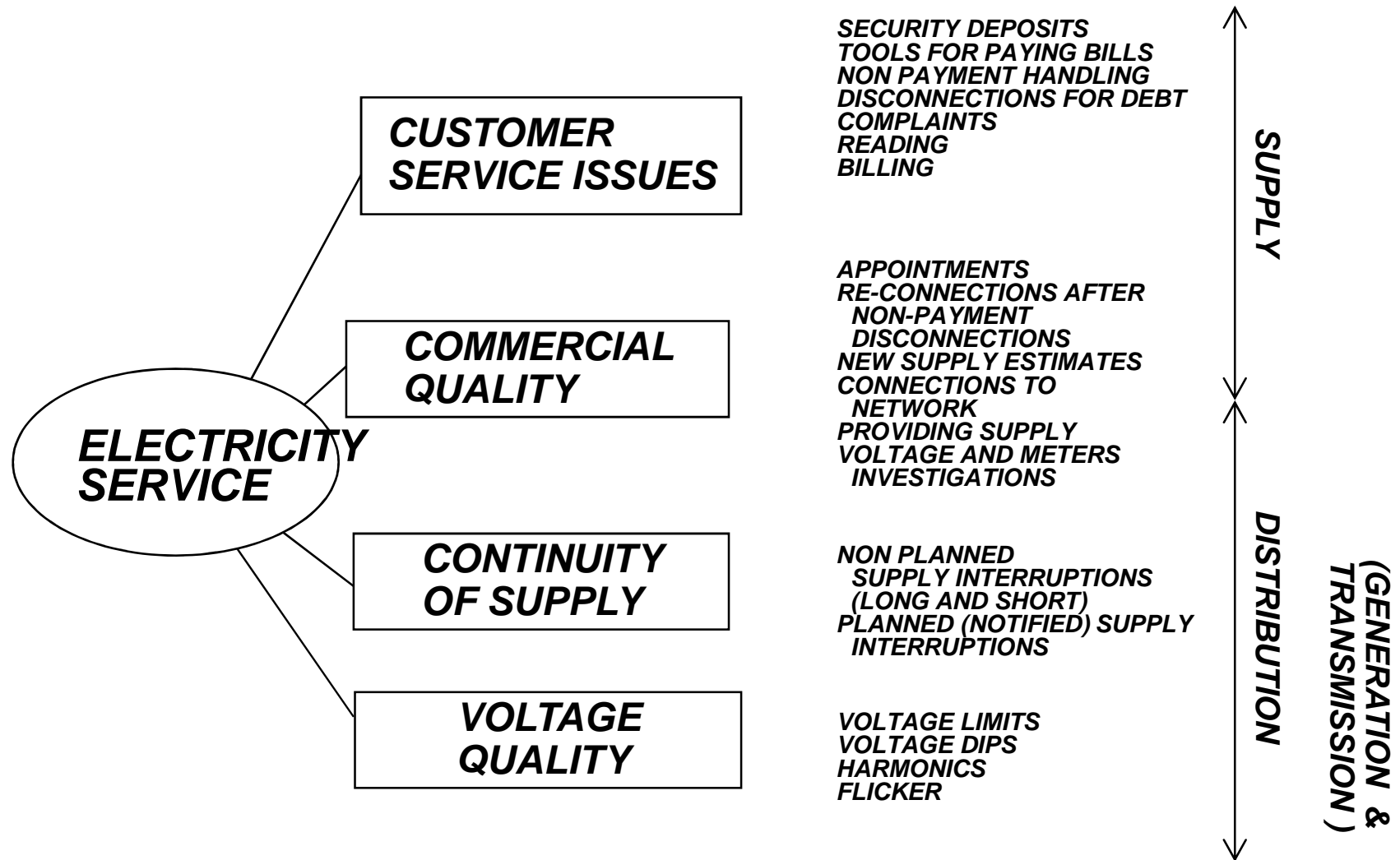
- **Complex elements of Consumer protection**
- **Supply Quality Regulation**
 - Quality of Supply requirements; Consumer expectation; Setting Quality of Supply requirements; Measuring and enforcing Quality of Supply related parameters
- **EU Service Quality Regulation - Benchmarking the continuity of supply, Voltage quality and commercial quality**
- **Reliability of Supply /Continuity of Supply/**
- **Commercial Quality Regulation**
 - What is Commercial Quality?; Why to regulate Commercial Quality?; Mayor elements of Commercial Quality measurements; Guaranteed Standards in Commercial Quality regulation – Hungarian practice and EU Benchmark

- Passive elements of consumer protection:
 - Efficient competition on Regional market with Supply market conditions
 - Significant Market Power concept, rules
 - Last Resort Supplier concept
 - Guidance to the consumers on homepage: FAQ + How to change supplier?
 - Approval of Business Conduct Rules of suppliers/traders, DSOs
 - **Setting Quality of Supply requirements + monitoring + enforcement**
 - Consumer satisfaction measurements

- Active elements of consumer protection:
 - Universal Service Provider (regulated tariff + controlled service level)
 - Assistance for vulnerable consumers
 - Social assistance
 - Assistance for handicapped consumers
 - Consumer participation in regulatory meetings
 - Dispute settlement
 - Complaint handling

- Complex elements of Consumer protection
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- Quality of Supply requirements set by the Regulator + monitor
 - Continuity of supply (network reliability)
 - Voltage quality
 - **Commercial quality (customer relations)**
 - → *Message: The Regulator should have authority setting (quality) requirements!*
- Financial incentives
 - Quality dependent network tariff
 - Overall Standards of performance
 - Guaranteed Standards of performance (active consumer's involvement in control and compensation system)
- Enforcement
- Consumer satisfaction measurements (survey):
 - Expectation and Satisfaction

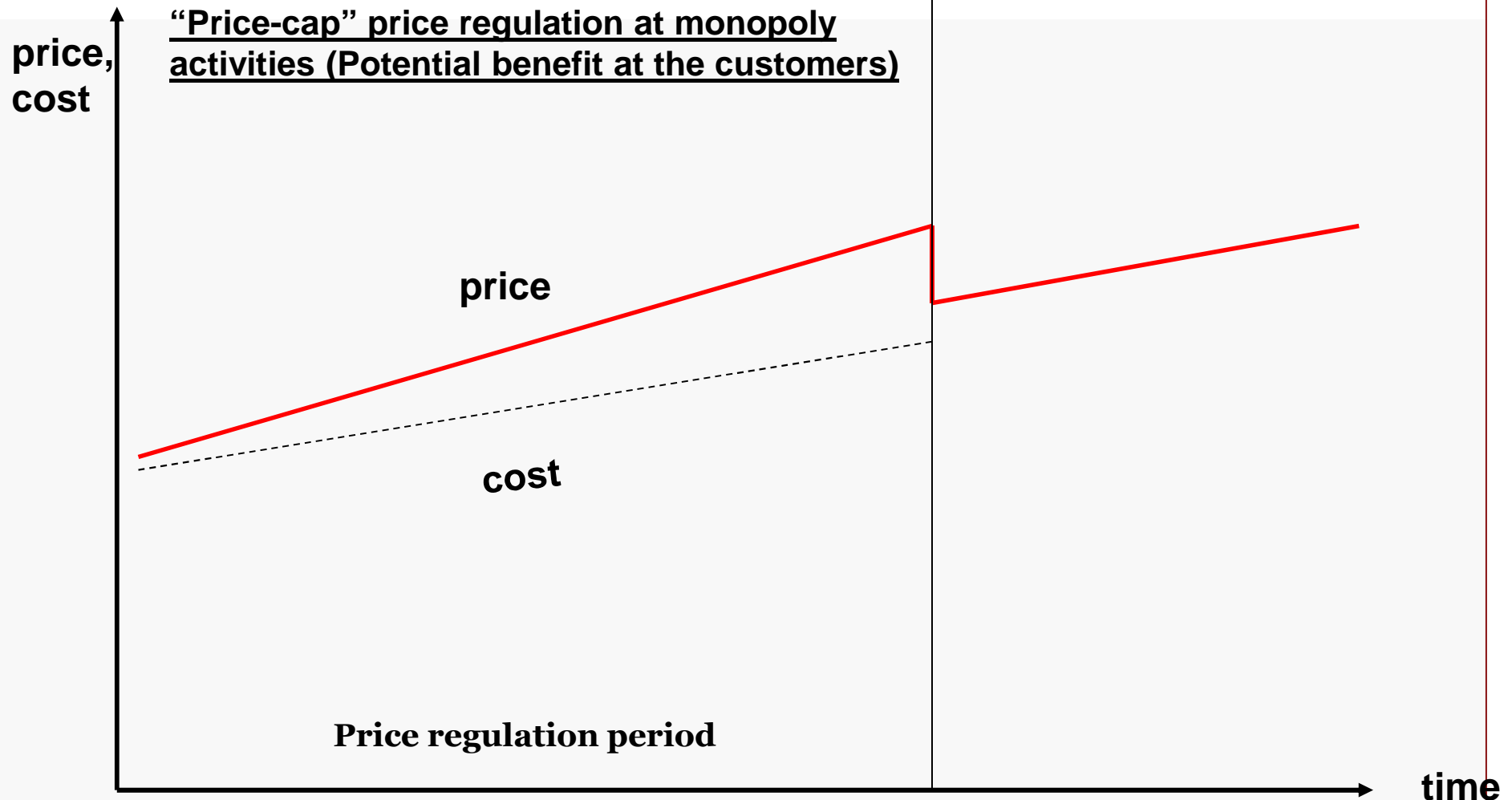


“Price Cap” (performance based) network charge setting:

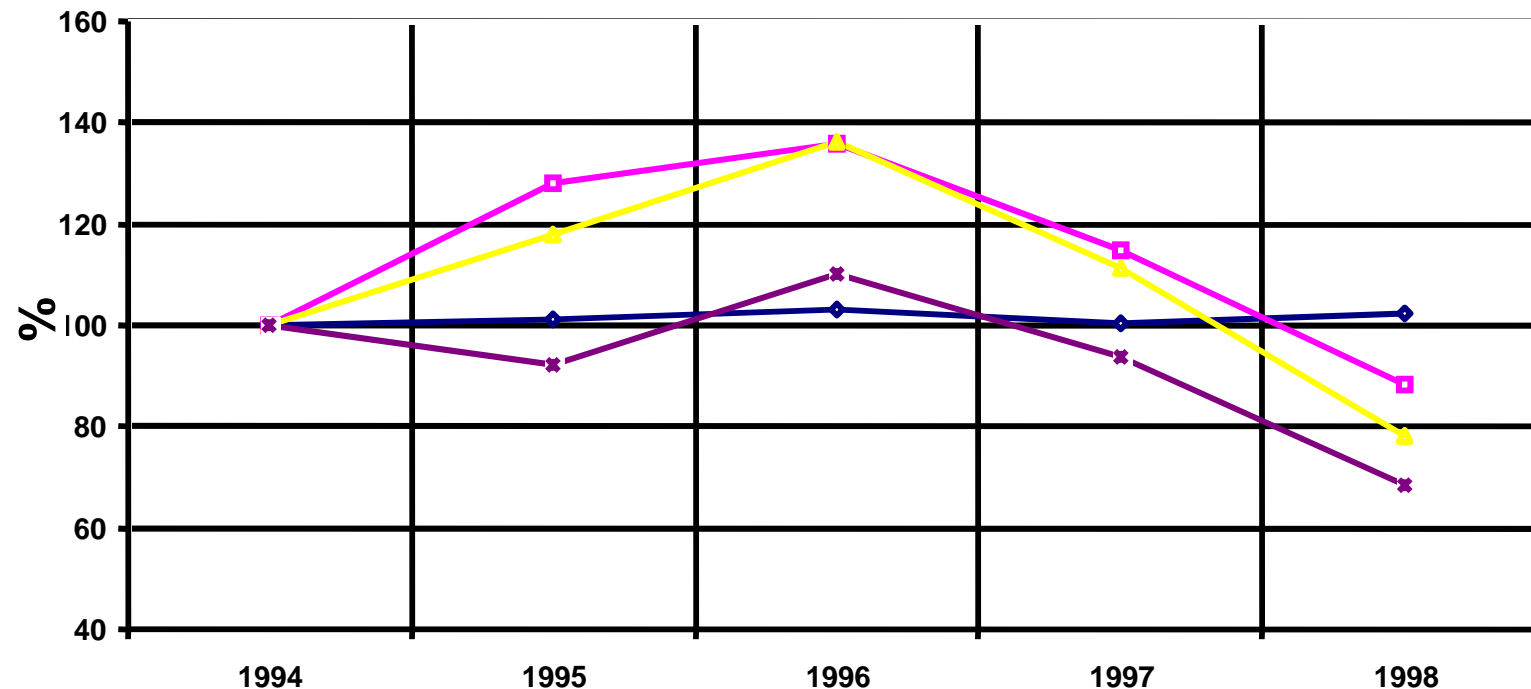
Price Regulation & Supply Quality

- Justified cost, price formula regulation, price regulation period
- No regulatory intervention in the price regulation period (regarding network charge)
- Strong profit incentive for (private) investors: improve efficiency and reduce cost
- Cost reduction may result less reliable supply, negative effect on supply quality (including commercial quality)

Why to measure the quality of service? (2)



REAL (DEFLATED) COST OF PRIVATISED ELECTRICITY DISTRIBUTION/SUPPLY IN HUNGARY



- ◆ Sold energy [changes (%)]
- ◻ Cost of licensed activity [changes (%)]
- ▲ Cost of licensed activity without depreciation [changes (%)]
- * Real cost of licensed activity without depreciation (without inflation) [changes (%)]

Consumer satisfaction survey in Hungary (1)

- 16-year history (and practice) of Consumer Satisfaction measurement
- Reliable results of subjective opinion of consumers (high probability of good result) → input for the Regulator: What are the key issues to regulate, to control and to enforce
- Accurate sampling – representative result
- Very good Benchmark possibility
 - Trend analysis
 - DSO to DSO, Supplier to Supplier
 - Comparison with other type of services
- Gap analysis (expectation – satisfaction) → required level II
- Different measurements for DSOs and suppliers
- Quality assurance of the measurement system (common questioner, individual measures, audit ordered by HEO)


Consumer satisfaction survey in Hungary (2)


- Yearly survey was introduced in 1996
- 7600 domestic and 2600 non-domestic customers are interviewed
- **Assesses the performance of the electricity and gas DSOs and Universal Service Suppliers.**
- **Distribution** activity: the quality of supply (continuity of supply, voltage quality, gas quality, restoration of supply) and the contact with customers (commercial quality).
- **Universal Service Suppliers'** activity: billing, the performance of the Customer centres and Call centres, handling of complaints, communication with the customers (commercial quality).

Assessment of Consumers' Satisfaction; Distribution/Supply (1996 – 2004)

- Quality of Supply
 - Quality of product and service
 - Restoring faults, interruptions (planned, non-planned)
- Operational relations
 - Meter reading, billing
 - Tools for paying bills, non-payment handling
 - Handling of complaints
- Communication with the consumers
 - Assessment of employees
 - Provision of information,
 - External relations
- Prices (subjective evaluation of cost-benefit and fairness)
 - Tariffs
 - Discounts
 - Tariff zones
- Comparison with other public services
- Environmental protection activity

Maximum underperformance based on gap values 2007

Electricity	Activity	gap		Satisfaction index	
		Households	Non-households	Households	Non-households
					
DSO	Restoration of interruption	-24,6	-33,8	71,2	64,1
	Uninterrupted supply	-14,7	-22,1	82,3	75,5
USP	Claim settlement	-42,7	-49,9	52,9	47,0
	Call centre	-15,3	-25,1	76,5	68,7

Gas	Activity	gap		Satisfaction index	
		Households	Non-households	Households	Non-households
					
DSO	Notice on outages	-20,7	-28,5	74,5	67,5
	Remedy	-24,6	-27,4	71,2	68,7
USP	Claim settlement	-34,1	-40,3	61,3	55,4
	Bill transparency	-35,2	-33,3	65,5	62,3
	Settlement within reasonable time	-33,8	-40,1	61,5	55,1
	Call centre		-35,9		59,0

Components of the standard of distribution and supply quality, and their control

- The regulatory staff should continuously develop ideas of supply quality measurement (based on the changing consumer' expectation and on reality)
- The investors/licensed companies require time to implement new data collection practice and increase service level (it could cost a lot)
- The Quality of Supply Optimum: at the minimum point of „total cost curve”, where
 - Total Cost = System Cost + Interruption (Consumer's) Cost
 - System Cost related to the investment and operation cost of networks
 - Interruption (Consumer's) Cost related to the cost of energy not served
- The regulator should prepare new requirements very carefully, with some stability, based on continuous consultation with distributors, suppliers and consumer representatives (“negotiation” is better than non-realistic requirements)!

- Different data collection and reporting concept before and after performance based pricing (Quality Regulation introduced):
 - Before: aim of data management; assisting optimisation of O&M + Development of networks
 - After: aim of data management; understanding how the interruptions cause disturbances to the end-users (outages/customer)
- Reporting obligation:
 - Prompt report (breakdowns resulting more than 50,000 kWh loss of consumption)
 - Yearly summarized reports
- Evaluation together with Distribution/Suppliers and representatives of Consumers; publication of results (!!)
- Uniform (very detailed reporting requirements), comparable data collection (audited) and evaluation procedures (penalization of data failures)
- Eliminate disturbing factors, continuous evaluation and development of reporting and data management system (more automated data collection)

How to determine the requirements?

- Reports of breakdowns, and their evaluation; before setting binding (panelised) requirements - based on the present service quality - 2-3 years data collection could be necessary to have reliable data
- Assessment of consumers' expectation and satisfaction + readiness for paying higher tariff level for better service quality
- Differentiate between requirements on individual and regional (area) level:
 - Individual quality: a „contractual” quality referring to each consumer (guaranteed standards) → measured by the consumers
 - Area quality: quality referring to a given geographic area supplied by a single distributor (overall standards) → measured by the Regulator

EU Electricity Directive (72/2009/EC)

Article 37: Duties and powers of the regulatory authority

(1) The regulatory authority shall have the following duties:

h) monitoring compliance with and reviewing the past performance of network security and reliability rules and **setting or approving standards and requirements for quality of service and supply** or contributing thereto together with other competent authorities,

Hungarian Electricity Act (Act 76 of 2007 on Electricity)

Article 159: Powers of the Hungarian Energy Office (HEO)

The Office shall be vested with the following responsibilities in connection with the supply of electricity, and the supervision of the security of supply and the effective functioning of the electricity market:

(13) **to establish** ex officio – by way of a **resolution** and within the framework defined by law – the **minimum quality requirements** for activities subject to authorisation under this Act and their **expected standard** for each individual authorised operator, the **minimum requirements** for the **method of keeping contact with users**, the detailed rules of providing information to users not regarded as household customers, as well as the minimum requirements for authorised network operators relating to the safe operation of the network,

Government Decree No 273/2007 (X.19.) on the
implementation of certain provisions of Hungarian
Electricity Act

Article 117 (1)

In the interest of users the Office shall determine quality indicators – both general and pertaining to specific users – corresponding to the activities of authorised operators (minimum quality requirements, and expected standards). The Office shall have powers to commission an independent expert to conduct a survey on the level of customer satisfaction in the territory of operation of an authorised operator, the standard expected from individual authorised operators, and the quality parameters of electricity.

Hungarian Electricity Act (Act 76 of 2007 on Electricity)

Article 96: *Breach of authorisation – Enforcement Powers of the HEO*

(1) In the event of the authorised operator's **breach of any of the obligations** specified in this Act and in its own standard service agreement, or the **resolutions issued by the Office**, the Office

(a) **shall call** on the authorised operator in writing – indicating the applicable legal consequences – to **comply with its obligations**,

(b) **may impose a fine** in the amount specified in the relevant government decree, also in individual cases consistent with the substantive severity of the infringement,

(c) **may amend or withdraw the authorisation** (license)

- License condition (general quality management system, data management, data supply, quality requirements as obligation);
- Moratorium (if the requirements can not be fulfilled immediately);
- Quality management plan (Auditing, ISO 9001, 9002, others)
- HEO' resolutions on data supply and quality requirements
- Performance based tariff /network charge/ setting

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- **2001** (April), “Quality of electricity supply: initial benchmarking on actual levels, standards and regulatory strategies”, CEER (Working Group on Quality of Electricity Supply)
- **2003** (September), “Second benchmarking report on quality of electricity supply”, CEER (Working Group on Quality of Electricity Supply)
- **2005** (December), “Third benchmarking report on quality of electricity supply 2005” (C05-QoS-01-03), CEER
- **2008** (December), “4th Benchmarking Report on Quality of Electricity Supply 2008”, (C08-EQS-24-04), CEER
- **2010** (June) ERGEG “Position Paper on Smart Grids - An ERGEG Conclusions Paper”, Ref: E10-EQS-38-05, 10 June 2010
- **2012** (April), “5th CEER Benchmarking Report on the Quality of Electricity Supply 2011”, CEER

Some recent documents from the European Energy Regulators

- *Third CEER Benchmarking Report on Quality of Electricity Supply (2005)*
- *Towards Voltage Quality Regulation (2006 and 2007)*
- *Service Quality Regulation in Electricity Distribution and Retail, Springer (2007)*
 - Joint effort by CEER and FSR
- *4th CEER Benchmarking Report on Quality of Electricity Supply (2008)*
- *5th CEER Benchmarking Report on Quality of Electricity Supply (2011)*

Download: www.energy-regulators.eu

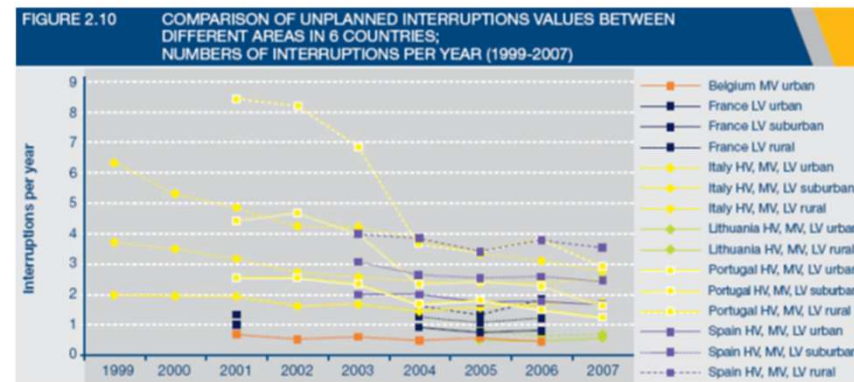
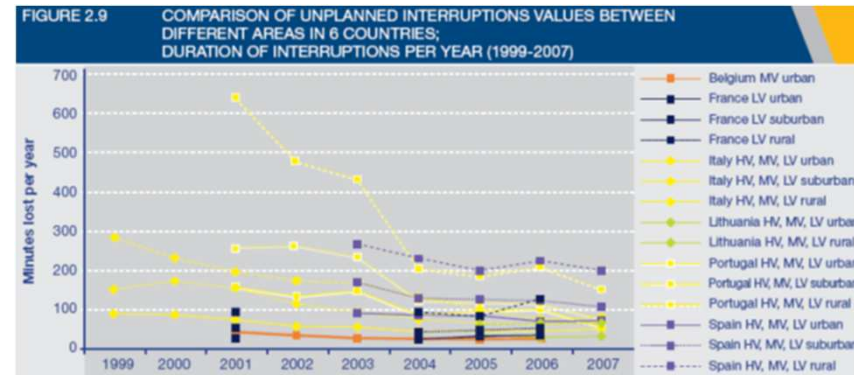


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- Trends in minutes lost and number of interruptions
- Continuity of electricity supply in Europe is improving
 - Customer minutes lost per year decreasing almost continuously since 2001
 - Number of unplanned interruptions stabilizing



- Comparison of urban and rural networks
 - Continuity of supply is better in urban than in suburban and rural areas



Network Reliability /Distribution/
(required minimum levels)

- Number of interruptions per customer (SAIFI): (1,66–3,01/year)
- Number of hours lost per customer (3,12–6,27 hours/year)
- Number of hours lost per involved customer (1,57–2,11 hours/year)
- Restoration in case of unplanned interruptions (in 3 hours 70–84%, in 24 hours 85–100%)

The Elements of Incentive Mechanism (network charge „penalty”)

- Network reliability (Outage rate) (non served energy due to unplanned interruptions per available energy) (‰)
- Frequency of interruption (SAIFI or CI)
- Duration of interruption (SAIDI or CMC)

Deviation from the required levels:

5-10% → 0,5% reduction in distribution charge

10% - → 1% reduction in distribution charge

- Max 3% reduction
- Increased profit limit as bonus

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What is Commercial Quality – Why is it important to regulate?

- **Commercial quality = transactions (contacts) between the companies (DSOs, suppliers) and the customers**
 - Covers not only the supply and sale of electricity, but also services that can be requested or expected by customers
 - e.g. new connections, increase of the connection capacity, elimination of voltage quality problems, answer complaint letters and phone calls
 - The most common type of commercial quality aspect is the **timeliness of services** requested by customers.
- **Regulation of commercial quality is reasonable both for deregulated market of electricity (commodity) and for the regulated network operation**
 - deregulated market: a certain level of customer protection is needed (information asymmetry, consumers has less bargaining power) – especially until the retail market is not competitive enough.
 - regulated network/system operation: price-regulation method (price/revenue cap) → network companies reduce their overall costs in order to increase efficiency/profit → a decline of the actual quality levels of network services
 - involvement of customers and their representatives

EU legislation: Directive 2009/72/EC (Annex I.)

„... ensure that customers:

a, Have a right to a contract with their electricity service provider that specifies:

- the services provided, the service quality levels offered, as well as the time for the initial connection;
- any compensation and the refund arrangements which apply if contracted service quality levels are not met, including inaccurate and delayed billing;
- information relating to customer rights, including on the complaint handling and all of the information referred to in this point, clearly communicated through billing or the electricity undertaking's website.

f, Benefit from transparent, simple and inexpensive procedures for dealing with their complaints. In particular, all customers shall have the right to a good standard of service and complaint handling by their electricity service provider. „

Commercial quality regulation in Hungary – regulatory resolution

The regulatory resolution was issued in 2003 and modified in 2008.

It contains three types of indicators:

- **Performance standards with economic consequences** (Minimum quality requirements)
 - e.g. Call Centre service level index
- **Performance standards without economic consequences** (Expected level of service)
 - e.g. Average waiting time at customer/client centres
- **Monitoring type of indicators**: (no requirement)
 - e.g. Average number of yearly meter reading

Monitoring of performance:

- **Yearly report** prepared by the DSOs and USPs by March 31st → HEO prepares a draft evaluation of the report → Consultation with the licensees and representatives of consumer organizations → Press release
 - Audits: yearly or in case of complaints to check the reliability of data reported:
 - two Guaranteed Standards are chosen randomly

Performance standards with incentives to be met by DSOs and their minimum requirements defined (dead band 5%):

Standard	Minimum requirement	Penalty level I.	Penalty level II.
Response time to customer complaints and enquiries	15 days 100%	$90\% < x < 94,99\%$	$x < 90\%$
Call centres' service level – time for answering the consumers' calls concerning outages or faults	30 sec 75%	$65\% < x < 69,99$	$x < 65\%$
Call centres' service level – time for recording the monthly meter reading reported by consumers	30 sec 85%	$75\% < x < 79,99\%$	$x < 75\%$
Number of consumer complaints / 1000 consumers received by the regulator and the Hungarian Authority for Consumer Protection, which proved to be justified	0.040	$0,05 < x < 0,06$	$x > 0,06$
Percentage of consumers with waiting time less than 20 minutes at Consumer/Client centres	90%	$80\% < x < 84,99\%$	$x < 80\%$

The maximum value of penalty imposed is \approx € 150.000 at level I. and \approx € 300.000 at level II.

Main principles of setting guaranteed standards:

- to ensure a minimum quality of service for each single consumer,
- to protect consumers through **automatic compensation** (as compensation based on request did not work successfully).

Guaranteed standards are to be met by:

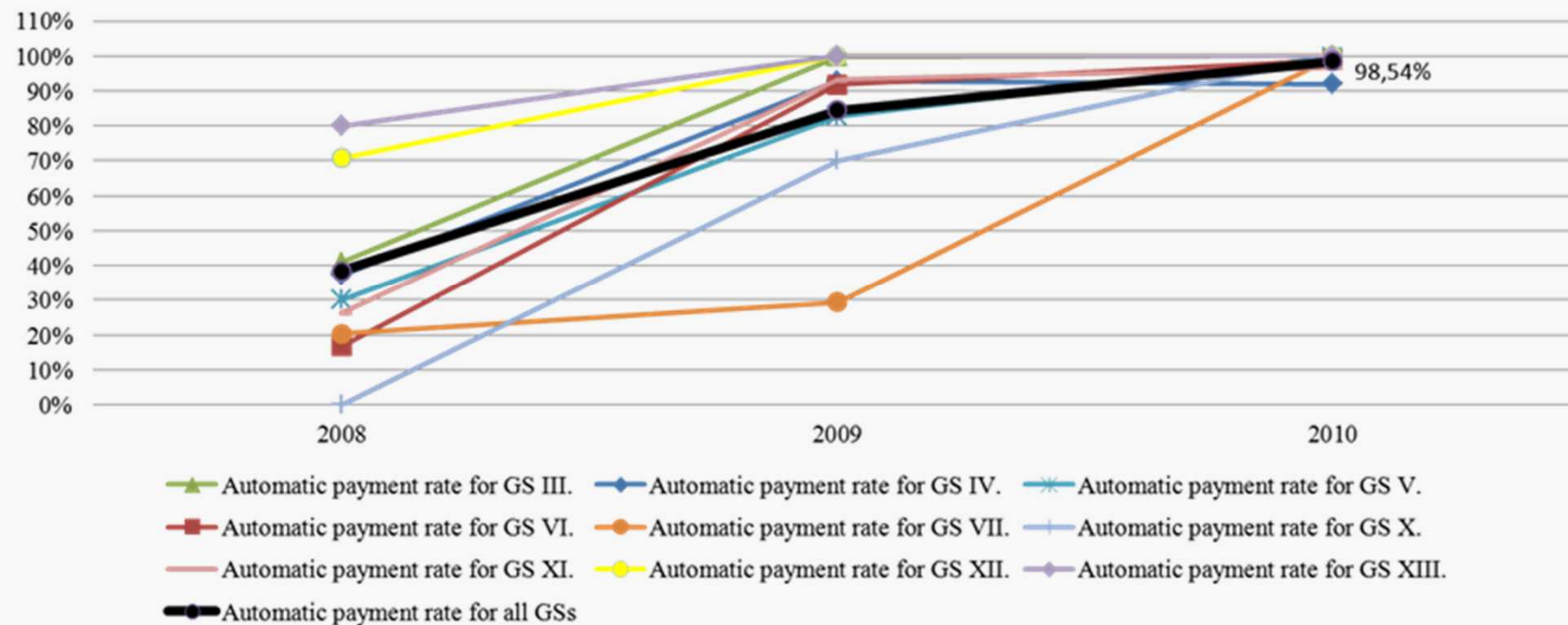
- the DSOs,
 - the USP suppliers,
 - the suppliers/traders
- } for **all LV and MV consumers**

Automatic compensation

- for domestic customers : 17 EUR
- for non-domestic customers : LV - 34 EUR, MV - 102 EUR
- Deadline for payment: 30 days

Guaranteed Standards (Requirement)	DSO	USP	SP
Response time to customer enquiries for connection to the network (III.) (8 days for simple works, 30 days for complex works)	+	+	-
Time for connecting new customers to the network or extending the capacity (IV.) (8 days)	+	-	-
Punctuality of appointments with customers (V.) (4 hours)	+	-	-
Response time to customer enquiries (VI.) (15 days)	+	+	+
Time for giving information in advance of a planned interruption (VII.) (<200kVA 15 days, ≥200kVA 30 days)	+	-	-
Redemption in case of incorrect invoicing (X.) (8 days)	+	+	+
Time for meter inspection in case of meter failure (XI.) (15 days)	+	-	-
Time for restoration of supply following disconnection due to non-payment (XII.) (24 hours after the payment of the debt by the customer)	+	+	+
Unlawful disconnection (XIII.) (compensation)	+	+	+

Rate of automatic payment for Guaranteed Standards in 2008-2010.



In 2011 the total amount of compensation paid: by the DSOs: 823.712 €
 by the USPs: 1.307.133 €
 by the SPs: 118.700 €
 total: **2.249.545 €**

The Report contains three chapters: Continuity of Supply, Voltage Quality and **Commercial Quality**:

- The contents are based on answers by **18 CEER Member countries** Austria, Czech Republic, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, The Netherlands, Norway, Portugal, Slovak Republic, Slovenia, Spain, Sweden and United Kingdom.
- For the first time **historical data** for three years (2008-2010) were surveyed.
- **Groups of indices**:
 - Connection (Group I);
 - Customer Care (Group II);
 - Technical service (Group III);
 - Metering and billing (Group IV).
- The impact of market opening on commercial quality is not discussed
- The chapter focuses on **residential customers with a connection to the LV network**

- **Guaranteed Standards (GSs)** refer to quality levels which must be **met in each individual case**. If the company fails to provide the level of service required by the GS, it must **compensate the customer affected**.
- **Overall Standards (OSs)** refer to a **minimum level of performance** (commonly in % of cases), which has to be met in a given period with respect to the whole population in that set (e.g. in a 90% of new customers have to be connected to the distribution network within 20 working days).
- **Other Available Requirements (OAR)**: Regulators can issue requirements in order to achieve a certain quality level of service. These quality levels can be set as the regulator wants, e.g. a minimum level which must be met all customers at all times. If the requirements set by the regulators are not met, the regulator can impose sanctions (e.g. financial penalties).
- **Only Monitoring (OMs)**: Before issuing GSs and OSs, regulators **can monitor** performances of DSOs, SPs, USP, metering operators, in order to **understand the actual quality level** and to publish the actual data on services provided to the customers.

Commercial quality standards introduced in some EU countries (1)

COMMERCIAL QUALITY STANDARDS FOR CONNECTION-RELATED ACTIVITIES AND CUSTOMER CARE						
	Quality indicator	Standards (median value and range)	Compensation (median value and range)	Company Involved	Numb. of countries applying the standard	Type of standard in Hungary
CONNECTION	I.1 Time for response to customer claim for network connection	16 days (range 8-30)	27 € (range 18-50)	DSO	12	GS
	I.2 Time for cost estimation for simple works	14 days (range 5-35)	30 € (range 18-30)	DSO	14	GS, OAR
	I.3 Time for connecting new customers to the network	11 days (range 2 working days - 18 weeks)	40 € (range 18-250)	DSO	17	GS
	I.4 Time for disconnection upon customer's request	5 working days (range 5-8)	Only one country 30 EUR	DSO	6	-
CUSTOMER CARE	II.5 Punctuality of appointments with customers	2.5 hours (range 0,5-4)	24 € (range 18-100)	DSO, SP	11	GS
	II.6 Response time to customer complaints and enquiries (including 6a and 6b)	15 days (range 5-40)	20 € (range 18-30)	DSO, SP	13	GS, OS
	II.6a Time for answering the voltage complaint	18 days (range 5-60)	22 € (range 18-50)	DSO	11	GS
	II.6b Time for answering the interruption complaint	15 days (range 7-21)	Only one country 30 €	DSO	7	-
	II.7 Response time to questions in relation to costs and payments (excluding connection)	13 days (range 5-40)	Only two countries (range 25-30)	DSO, SP	9	-

Commercial quality standards introduced in some EU countries (2)

COMMERCIAL QUALITY STANDARDS FOR TECHNICAL SERVICE AND METERING AND BILLING						
	Quality indicator	Standards (median value and range)	Compensation (median value and range)	Company Involved	Numb. of countries applying the standard	Type of standard in Hungary
TECHNICAL SERVICE	III.8 Time between the date of the answer to the VQ complaint and the elimination of the problem	6 months (range 1- 24)	50 € (range 18-50)	DSO	5	GS
	III.9 Time until the start of the restoration of supply following failure of fuse of DSO	4 hours (range 3-24)	30 € (range 18-50)	DSO	9	GS
	III.10 Time for giving information in advance of a planned interruption	2 days (range 1-15)	22 € (range 18-30)	DSO	13	GS
	III.11 Time until the restoration of supply in case of unplanned interruption	12 hours (range 1-24)	30 € (range 18-100)	DSO	13	GS
METERING AND BILLING	IV.12 Time for meter inspection in case of meter failure	10.5 days (range 3-30)	25 € (range 18-30)	DSO, MO	9	GS
	IV.13 Time from notice to pay until disconnection	15 days (range 8-28)	N/A	DSO	6	-
	IV.14 Time for restoration of power supply following disconnection due to non-payment	(range 1 day-8 working days)	30 € (range 18-50)	DSO, SP, MO	10	GS
	IV.15 Yearly number of meter readings by the designated company	1 per year (range 0.33-365)	N/A	DSO, MO	11	OAR

- There is a widespread use of commercial quality standards in the European countries (17 countries reported 208 national CQ standards attached to 15 performances);
- There is a trend for increasing the adoption of guaranteed standards (general shift from the overall standards towards the guaranteed standards) → *Enforce guaranteed standards to better protect customers*
- There are proven opportunities of high tech developments for improving quality for customers → *Maximise the benefits of high tech developments for customers: → smart metering*
 - accurate billing, based on actual, measured consumption
 - more accurate profile/picture of electricity consumption
 - provide the parties with accurate picture of grid status
 - ease and shorten both the procedure of supplier switching and the process of dis- and re-connection due to non-payment



New trends in regulating customer relations → *Develop the regulation of customer relations: to consider the elaboration of procedures how to regulate both customer communication by phone and by personal visits. Attention should be paid to a quick, exhaustive and useful response.*

Hungarian Call Centre requirements

- Number of received calls per hour
- Average waiting time
- Ratio of lost calls
- Average duration of discussion time
- Ratio of occupation
- 70/30
- Automatic measurements and reporting of these indicators



'PRAGMATISM!' Message to the Regulators

- Before the selection of the parameters, which will be measured and required → ask the opinion of all the interested parties:
 - the customers: importance and satisfaction of the different elements of service quality
 - the license holders: the possibility to collect the necessary data/information for the measurements; the necessary developments (if needed)
 - the politicians: their interest (and their readiness accepting the rates)
- Reliability of the reported data is always a question (computer generated figures are the best) (detailed definition of data collection is required)
- Introduce financial/economic incentives, when the Regulator trust in the reliability of reported data's