



*6th meeting – ECDSO-g
Coordination Platform*

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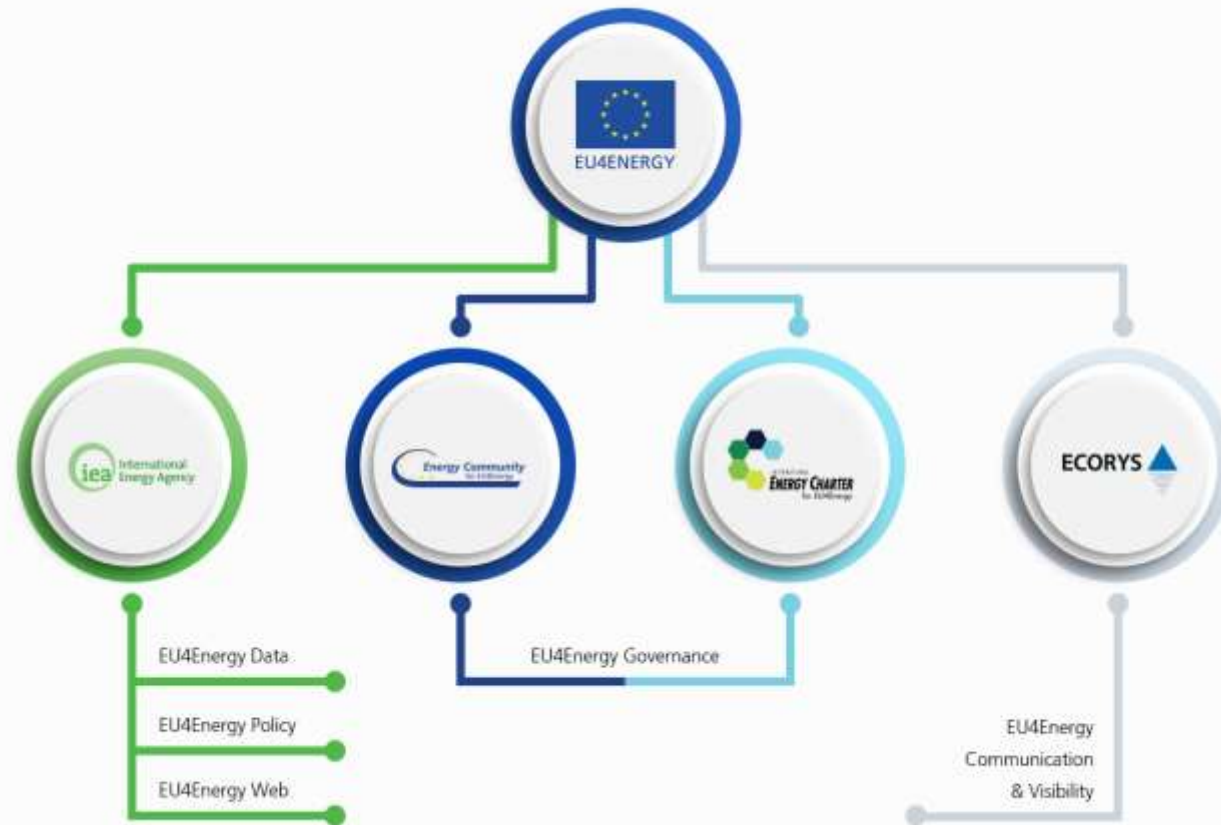
Kyiv, December 12, 2018

Introduction

Review of tariff design in the EU Member States

Methodology proposal

The EU4ENERGY Programme



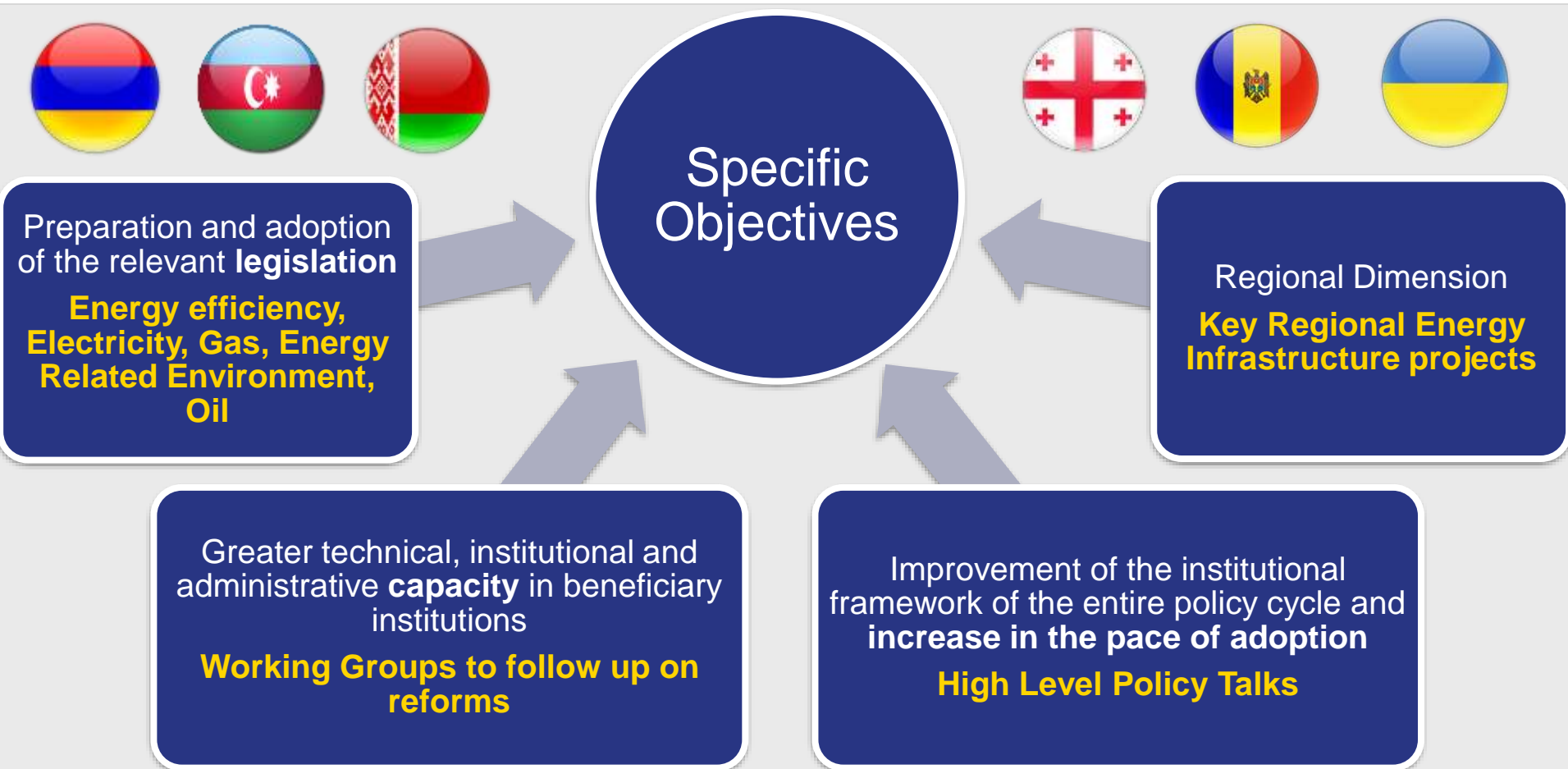
The EU4ENERGY Programme

EU4Energy Governance Countries

-  EU4Energy Governance Countries
-  EU4Energy Governance Offices
-  Energy Community Contracting Parties
-  Energy Community Observers
-  European Union



The EU4ENERGY Programme



Project objectives

1. **Improved methodology** for the determination of tariffs for natural gas distribution → technical assistance to NEURC in developing an improved methodology compliant with provisions of Directive 2009/73/EC and aligned with national legislation;
2. **Excel based model** illustrating its application i.e. the model shall allow for calculation of final distribution tariffs in line with the methodology;
3. **Identify** legal and **technical obstacles** for implementation of proposed draft methodology and recommend **actions** towards their removal.

In cooperation
with NEURC

Main elements of the future methodology

1. Rules for calculation of the **allowed revenue** for distribution service;
2. Definition of **tariff elements** for which the tariffs shall be calculated;
3. Rules for **allocation of allowed revenue** to tariff elements;
4. Rules for **calculation and application** of final distribution tariffs and distribution charges;
5. Rules for **data collection** by NEURC and data submission by DSOs;
6. Rules for **reconciliation / adjustment of revenue** across the regulatory periods.

Issues to consider in the future methodology

- Technical **characteristics of the distribution networks** in Ukraine (e.g. length, pressure, age) and metering opportunities for DSOs;
- Typical distribution **network use** i.e. behavior of network users (continuity, peaks, categories of users etc.);
- Status of accounting **unbundling** (eligible & non-eligible costs);
- **Efficiency of costs** for providing distribution service, including levels of distribution losses;
- **Investment needs** of DSOs in Ukraine
- Definition of key **regulatory principles** (regulatory period, tariff period, incentive mechanism, profit sharing)

Working method



Screening the current legislations & methodology;



Examining financial data (costs, net book value of assets, amortization, depreciation, planned investments) and technical data (consumer categories, load profiles etc.);



Developing the proposed methodology, excel tool and action plan;



Finalization, approval and communication to NEURC (end 2018).

Introduction

Review of tariff design in the EU Member States

Methodology proposal

Presentation based upon the study commissioned for the EU Commission (2015) covering EU Member States

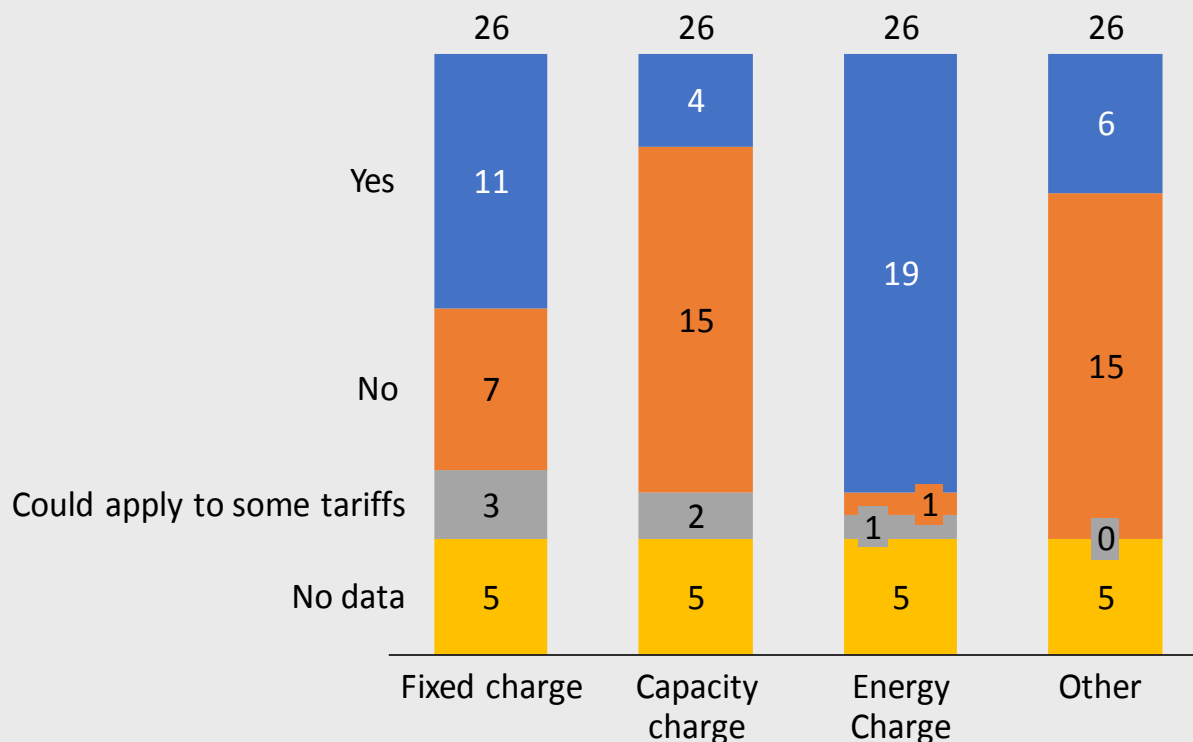
Common tariff elements:

- Annual consumption
- Pressure level
- Used capacity
- Geographic zones

Energy component (€/kWh) the most common element (19 of 26 observed countries):

- Most countries apply different bands to variable component except for Denmark, Estonia, Lithuania, and Luxembourg who apply a single value for energy component
- Fixed component very common (11/26 MS) expressed as € / customer
- Capacity component not common (4/26)

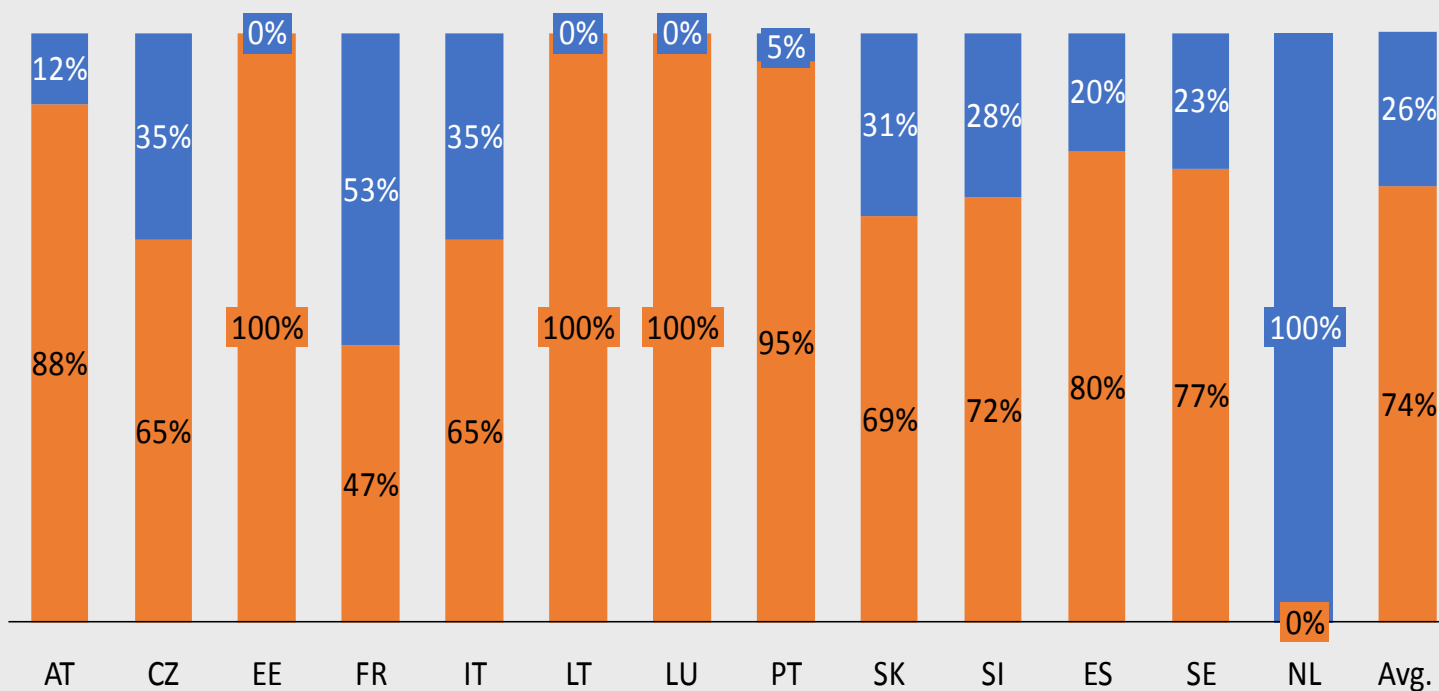
Structure of gas distribution tariffs for household consumers in the EU MS



Household consumers

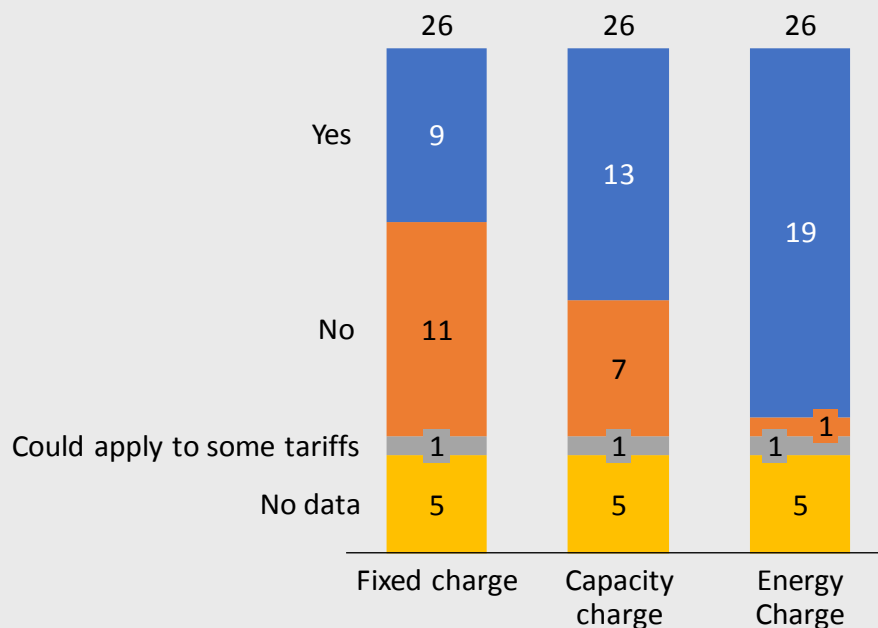
In most MS, energy component dominates total tariff fee

Fixed +capacity Energy



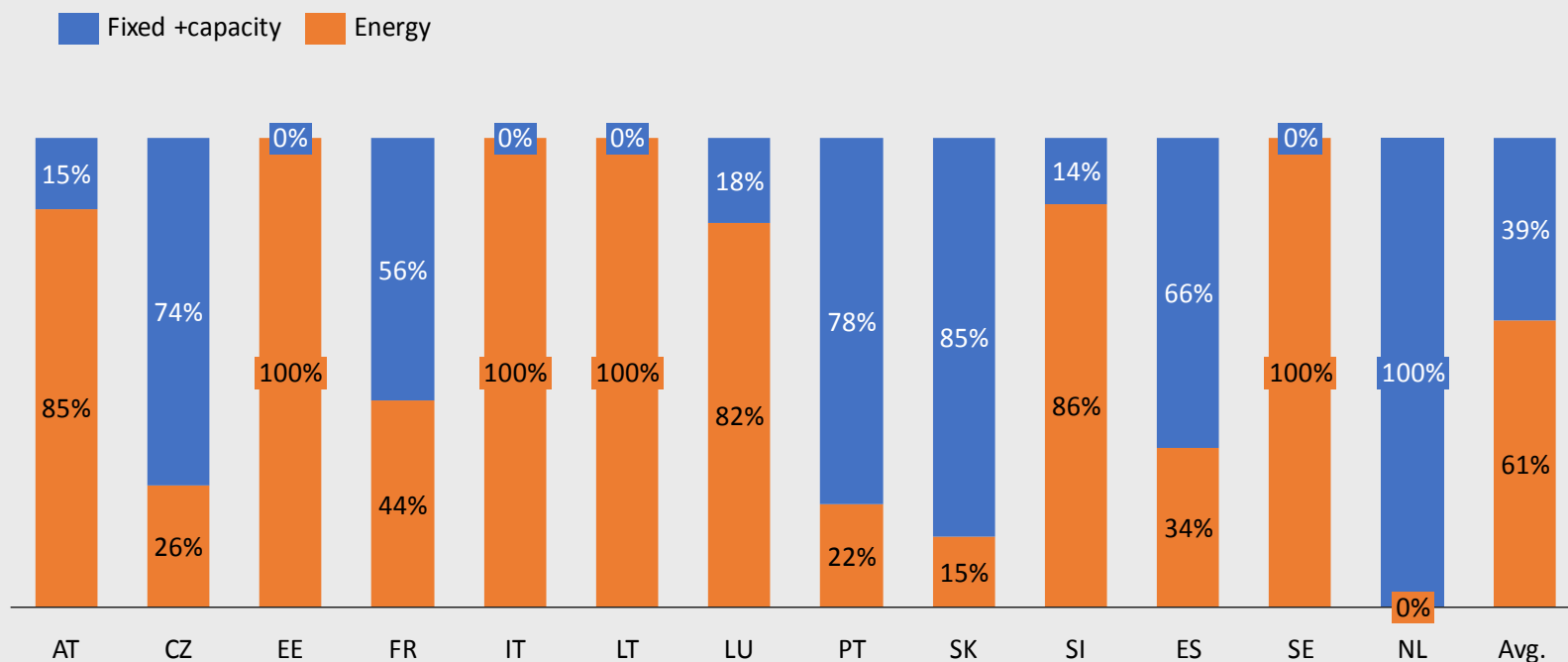
Structure of gas distribution tariffs for industrial consumers in the EU MS

Capacity component applied in some MS due to possibility to measure it. Same proportion of MS apply commodity charge



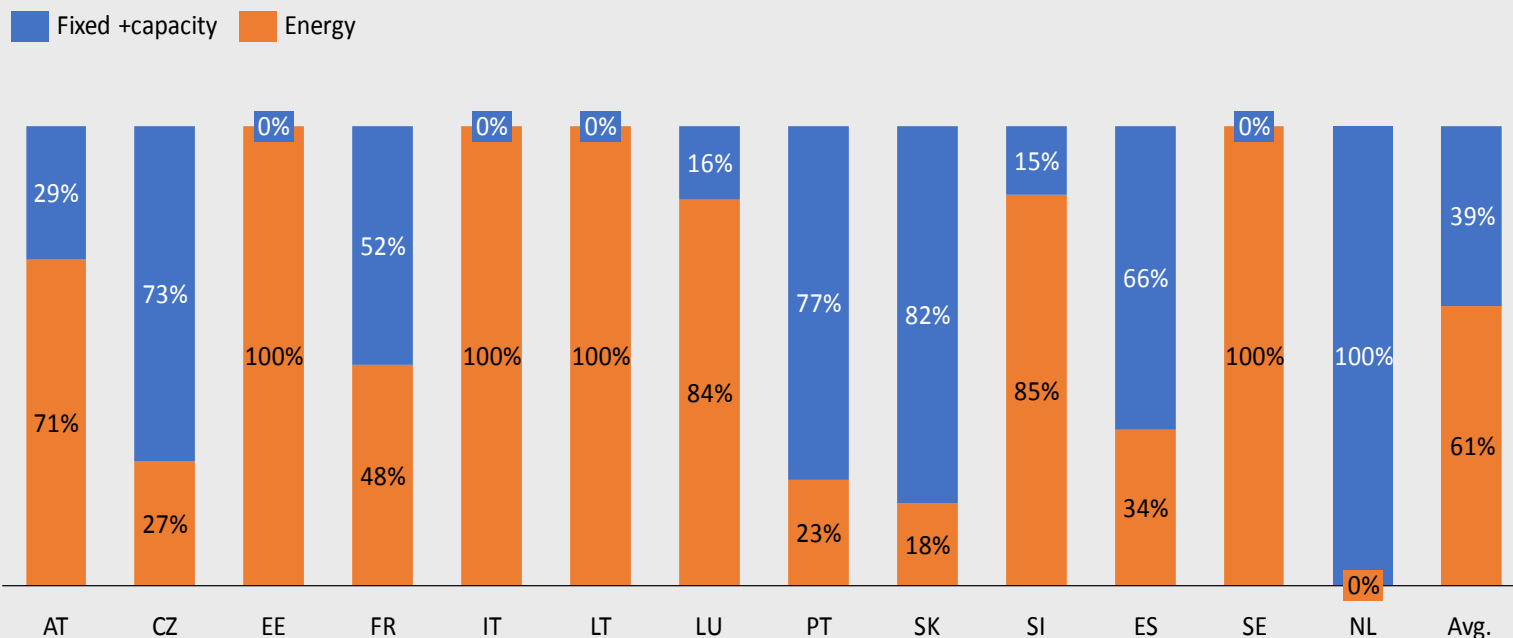
Industrial consumers

The share of capacity and commodity charge in gas distribution tariff in the MS for industrial consumers with annual consumption of 50 GWh of gas



Industrial consumers

The share of capacity and commodity charge in gas distribution tariff in the MS for industrial consumers with annual consumption of 90 GWh of gas



Introduction

Review of tariff design in the EU Member States

Methodology proposal

Regulatory principles

We base our proposal on:

Elements of current gas transmission methodology

Existing gas distribution methodologies

Best EU practice

Main principles

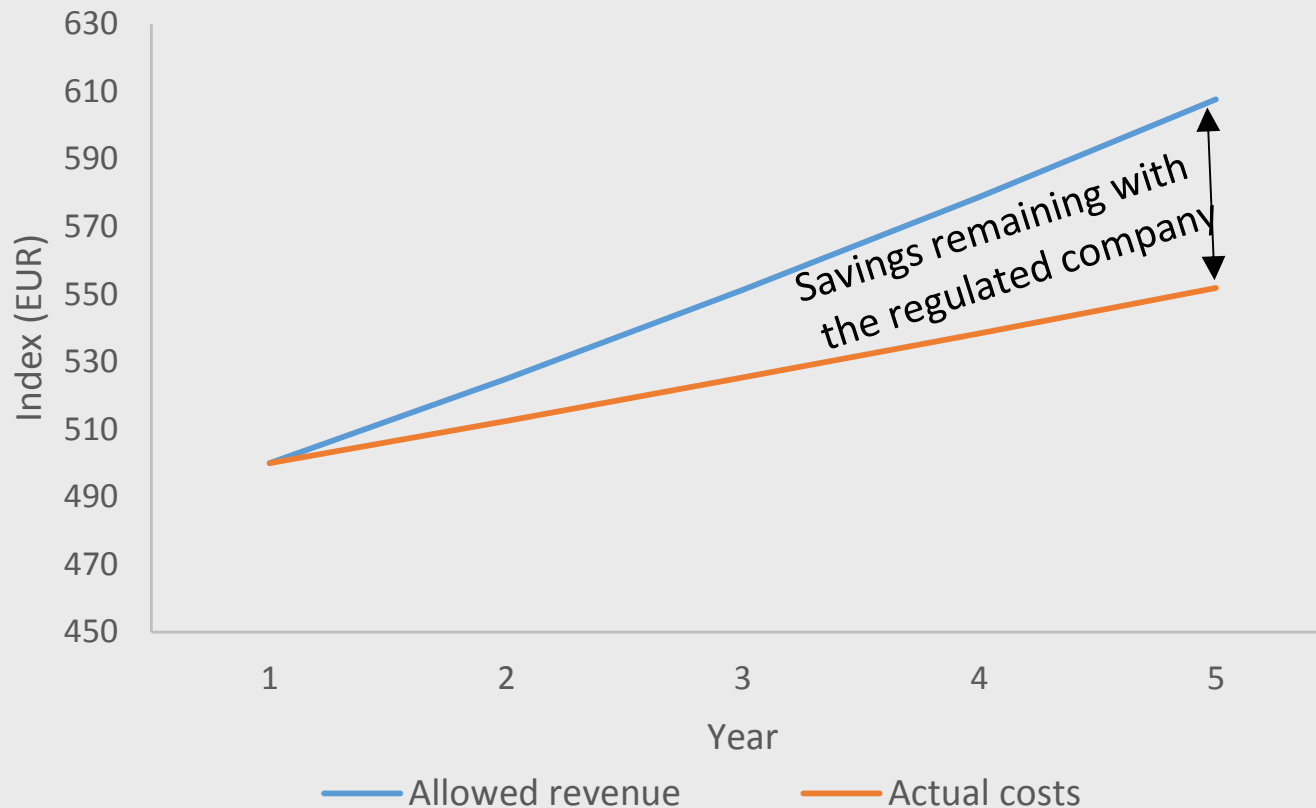
Incentive based regulation

Multi year regulatory period. First regulatory period shorter, subsequent longer.

Regulatory year starting on January 1 and ending on December 31.

First year denoted t

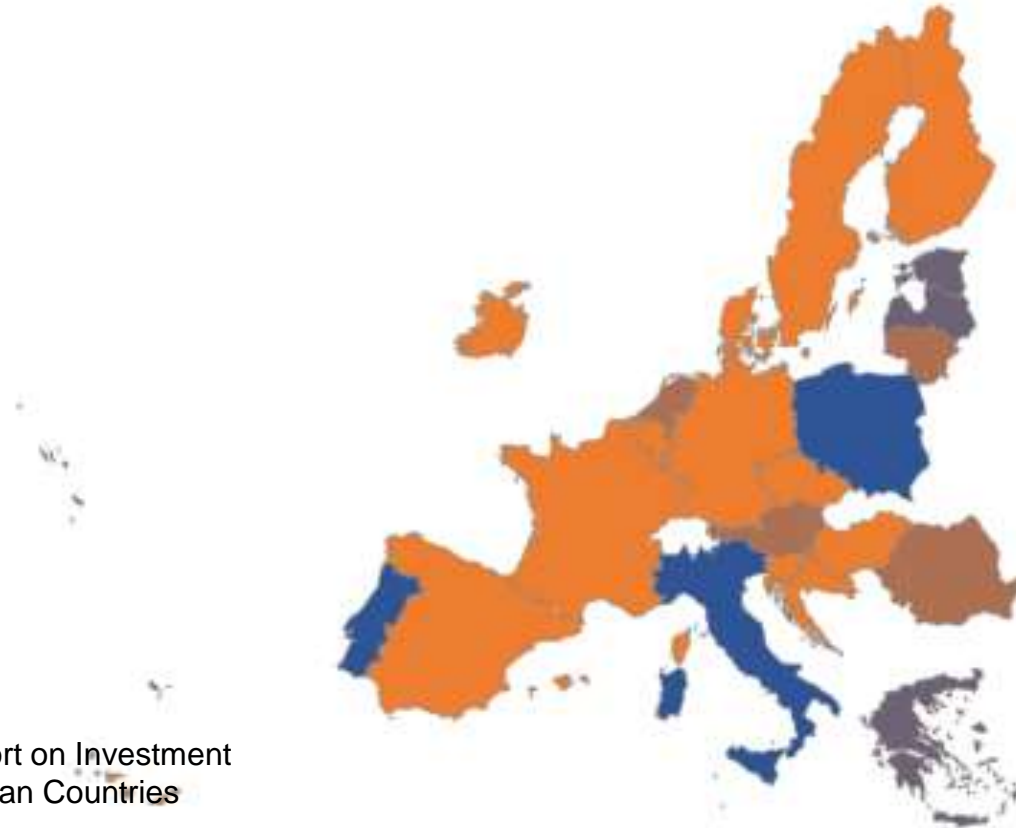
Incentive based regulation



Regulatory approach



- 1: revenue cap
- 2: price cap
- 3: Cost plus
- 4: Other



Source: CEER Report on Investment Conditions in European Countries

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Allowed revenue (AR)

Determined in year t-1 based on data from t-2 - > forecasted data

AR should cover: prudently incurred **operating costs (OPEX)** (incl. costs of gas losses), **depreciation and amortization (D)** of the regulatory asset base (assets used to provide the gas distribution service) and the **return** on the regulatory asset base (**RoRAB**) less other revenue (**OR**) and be adjusted for difference between the revised allowed revenues and actual revenues in the previous regulatory period / year ($PV\delta_t$)

$$AR_t^F = OPEX_t^F + RoRAB_t^F + D_t^F + PV\delta_t - OR_t^F$$

Operating and maintenance expenditures (OPEX)

Defined prior to the beginning of the regulatory period and indexed for inflation (CPI) and adjusted for efficiency gains (X) (subject of additional analysis)

We do not propose differentiation of controllable and non controllable costs, nor we single out any particular cost items

OPEX should consist of: labor costs, material costs, gas losses, service costs

$$OPEX_t^F = OPEX_{t-2}^A \cdot (1 + CPI_{t-1}^F - \bar{X}) \cdot (1 + CPI_t^F - X)$$

Profit sharing

We propose profit sharing: additional benefits shared between DSO and consumers

$$OPEX_{t-2}^A = OPEX_{t-2} - 0.5 \cdot \max[Savings, 0]$$

$$Savings = \frac{1}{n-1} \sum_{i=1}^{n-1} (OPEX_i - OPEX_i^{TS0})$$

Return on regulated asset base

Represents a return on invested capital

Function of residual value of regulated asset base and rate of return

Regulated asset base

Asset financed by the DSO used in the distribution activity (land, equipment, buildings, non tangible assets)

Increases with investments and decreases due to depreciation / amortization

Investments include those investments included in the investment plan

Verification of investment costs: public tendering vs benchmarking

Asset financed by third parties or received free of charge not included

Investment in progress not included in the RAB as well as working capital

Return on regulated asset base

$$RoRAB_t^F = RAB_{avg,t}^F \cdot WACC$$

$RoRAB_t^F$ - Forecasted return on regulated asset base; **$RAB_{avg,t}^F$** - Forecasted average value of regulatory asset base; **WACC** -Rate of return on regulatory asset base in the regulatory period.

$$RAB_{avg,t}^F = \frac{RAB_{t-1}^F + RAB_t^F}{2}$$

$$RAB_{t+i-1}^F = RAB_{t+i-2}^F + I_{t+i-1}^F - A_{t+i-1}^F - GA_{t+i-1}^F - DM_{t+i-1}^F, \quad i = 0 \dots n$$

Regulated asset base

Weighted average cost of capital (WACC) – rate of return

$$WACC = \frac{r_e}{(1 - t)} \cdot \frac{E}{E + D} + r_d \cdot \frac{D}{E + D}$$

r_e - Return on equity; r_d - Cost of debt; E - Amount of equity (50%); D - Amount of debt capital; t - Corporate tax rate

$$r_e = r_f + \beta \cdot EMRP + CRP$$

r_f - Risk-free rate of return; β - Beta coefficient; $EMRP$ - Equity market risk premium; CRP - Country risk premium





Depreciation and amortization calculated for assets used for the gas distribution activity, and it does not include assets received free of charge financed by third parties.

Depreciation and amortization of assets is calculated using straight line depreciation method. Depreciation and amortization rates are calculated assuming useful life of assets.

Possible tariff items

- A fixed charge expressed as EUR / month / consumer that is constant for all the consumer or for a class of consumers.
- Variable charge expressed as EUR/kWh that depends upon the amount of gas distributed to each consumer;
- A capacity charge expressed as EUR/kWh/h commensurate to the amount of capacity for each consumer.

Tariff structure

	Fixed [UAH/ month]	Variable [UAH / m3]	Capacity charge [UAH/m3/day]
Household			
Other categories			

Amendments of tariffs

Regular revision

During the last year of the regulatory period

Extraordinary revision

When actual revenue $> \pm 5\%$ AR

Otherwise, difference recorded in the regulatory account



*Thank you
for your attention!*

www.energy-community.org/regionalinitiatives/EU4Energy.html