



Energy Community Regulatory Board

Electricity Prices and Tariffs in the Energy Community

2008 - 2009

Table of Contents

1	INTRODUCTION.....	3
1.1	The Energy Community	3
1.2	Scope of Work.....	3
1.3	Methodology.....	4
2	ELECTRICITY PRICES	5
2.1	Average retail prices	5
2.1.1	The overall picture for all customer groups	5
2.1.2	Developments per customer group	7
3	TARIFFS FOR REGULATED SERVICES	14
3.1	Transmission tariffs	14
3.2	Distribution tariffs.....	17
3.3	Supply service cost	20
4	NETWORK LOSSES	22
5	COLLECTION RATES	25
6	CONCLUSIONS	27



1 INTRODUCTION

1.1 The Energy Community

On 25 October 2005 the Treaty Establishing the Energy Community (hereinafter: “the Treaty”) has been signed by the European Community and the authorities of Albania, Bulgaria, Bosnia and Herzegovina, Croatia, the Former Yugoslav Republic of Macedonia, Romania, Serbia, Montenegro and the United Nations Interim Mission in Kosovo (UNMIK¹)². Following signature and ratification of the Treaty Moldova joined the Energy Community as of 1 May 2010.

By signing the Treaty the signatory parties agreed to implement the *acquis communautaire* on electricity, gas, environment, competition and renewables³ with a view to realizing the objectives of the Treaty and to create a regional gas and electricity market within South East Europe (SEE⁴).

The Energy Community Regulatory Board (ECRB)⁵ operates based on Article 58 of the Energy Community Treaty. As an institution of the Energy Community the ECRB advises the Energy Community Ministerial Council and Permanent High Level Group on details of statutory, technical and regulatory rules and should make recommendations in the case of cross-border disputes between regulators.

1.2 Scope of Work

The Energy Community Secretariat in 2008 commissioned a study on the status of electricity tariffs in the Contracting Parties of the Energy Community. The final “Study on tariff methodologies and impact on prices and energy consumption patterns in the Energy Community” (hereinafter: Electricity Tariff Study 2008), prepared by IPA Energy & Water Economics, was published in March 2009⁶.

¹ Pursuant to United Nations Security Council Resolution 1244.

² Following ratification, the Treaty entered into force on 1 July 2006. For details on the Treaty and the Energy Community see www.energy-community.org.

³ For details of the relevant *acquis* see: http://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY/Legal/Treaty

⁴ Title III of the Treaty. Covering territories of Contracting Parties and neighboring EU countries.

⁴ Title III of the Treaty.

⁴ Title IV of the Treaty.

⁵ For details see www.ecrb.eu.

⁶ Final report of the study available at

http://www.ecrb.eu/portal/page/portal/ECRB_HOME/ECRB_DOCUMENTS/STUDIES/Electricity%20Tariffs_version%20for%20STC%20approval_2009.0305.pdf

The study results have been presented to the 14th Athens Forum. The Forum requested ECRB (CWG) to update the Forum on the development with regard to electricity prices and tariffs⁷.

The present report provides

- An analysis of the **network tariff results** in the Energy Community Contracting Parties 2008-2009. The data analysed in the present report follows the data pool used in the Electricity Tariff Study 2008 (closing with 2007 data).
- Going beyond the Electricity Tariff Study 2008, this report also includes information on development of **energy prices in 2008 and 2009** in the Energy Community Contracting Parties.
- Exceeding the geographic scope of the Electricity Tariff Study 2008, the present report also provides information for **Moldova**, turning from an Observer into a Contracting Party of the Energy Community as Contracting Party as of 1 May 2010.

1.3 Methodology

Data used for this study has been provided by the national regulators.

⁷ Conclusions of 14th Athens Forum available at <http://www.energy-community.org/pls/portal/docs/332213.PDF>

2 ELECTRICITY PRICES

2.1 Average retail prices

2.1.1 The overall picture for all customer groups

The assessment shows **considerable differences** among average retail prices in the Contracting Parties, the lowest (in Serbia) being approximately half of the highest (in Croatia). It is also clear that the **price levels increased** throughout the Region. Providing a complete picture, it has to be noted that changes in exchange rates may have substantial effects on the real price levels (expressed in €/MWh). In Albania and Serbia, electricity retail prices certainly did not decrease from 2008 to 2009 in local currency. The exchange rates, however, increased by 7% and 15%, respectively. In other Contracting Parties the currencies are either fixed against the Euro or did not differ much from it. Croatia and Montenegro have seen the greatest increases in average electricity retail prices from 2007 to 2009, 25% and 15% respectively.

Table 1 and figure 1 show the average retail price development over time.

Table 1: Average retail prices for all customers

c/kWh	2005	2006	2007	2008	2009
Albania	5.8	5.91	5.74	6.9	6.4
Bosnia and Herzegovina	5.4	5.64	5.84	6.4	6.47
Croatia	7.12	7.33	7.33	8.17	9.20
FYR of Macedonia	4.52	4.66	5.06	5.32	5.32
Moldova	n.a.	n.a.	n.a.	6.87	7.27
Montenegro	4.7	5.33	6.91	7.12	7.97
Serbia	3.39	3.88	4.62	5.28	4.91
UNMIK	n.a.	n.a.	5.13	5.36	5.58

Figure 1: Average retail prices for all customers

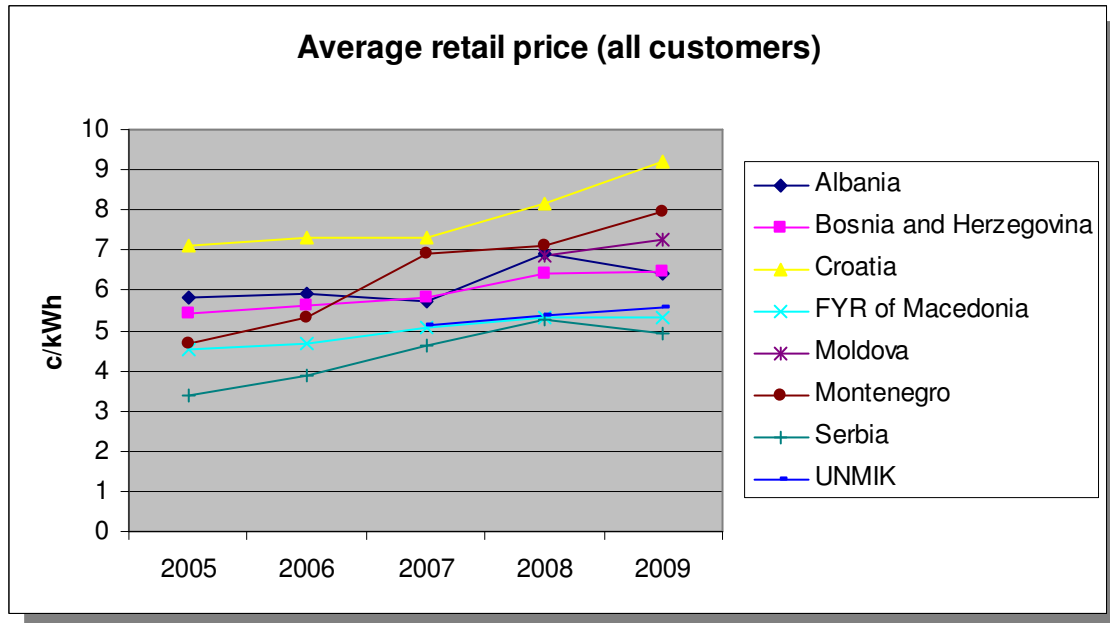
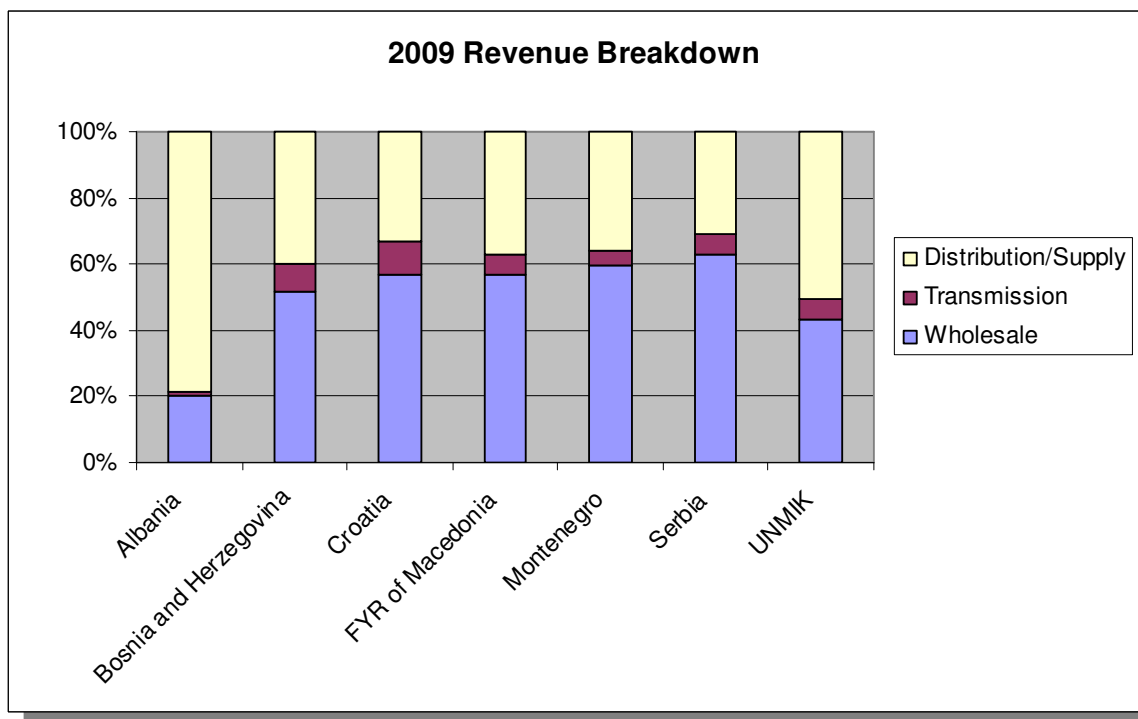


Figure 2 shows the proportions of revenues from customers by supply chain components. With the exception of Albania, the **proportion of revenues allocated to supply chain components do not vary significantly**. The generation price is main explanatory factor for the deviation in Albania: hydro power with lower price dominates the electricity generation portfolio in Albania.

Figure 2: 2009 Revenue Breakdown (in %)⁸



2.1.2 Developments per customer group

Apart from the general picture as explained in the previous chapter, analysis of price developments needs to go further in detail. Information on average prices therefore was collected for the following customer types:

- Industrial customers- connected at voltages above 400V including both connected at distribution and transmission levels;
- Commercial customers- non- residential customers connected at 400V or below;
- Residential customers;
- Governmental- if there is specific tariff for supplying governmental customers⁹.

⁸ Data for Moldova not available.

⁹ Governmental customers relate to Government institutions, not to the officials and/or employees of the Government or its institutions

It shows that there are **significant differences between prices for different customer groups** between the Energy Community Contracting Parties. **Commercial customers generally pay more than other customers**, especially in Montenegro where the average price for commercial customers is particularly high. Also, in most of the other markets the **price for residential customers is considerably lower** than for commercial customers (Bosnia and Herzegovina, FYR of Macedonia, Serbia, UNMIK). The prices for these two customer categories are at the same or similar level in Croatia and Moldova. The category “governmental customers” exists only in Albania where the average price paid by these customers is higher than for other categories.

The split by these categories for 2009 is shown in the following graph.

Figure 3: 2009 Average prices by customer type

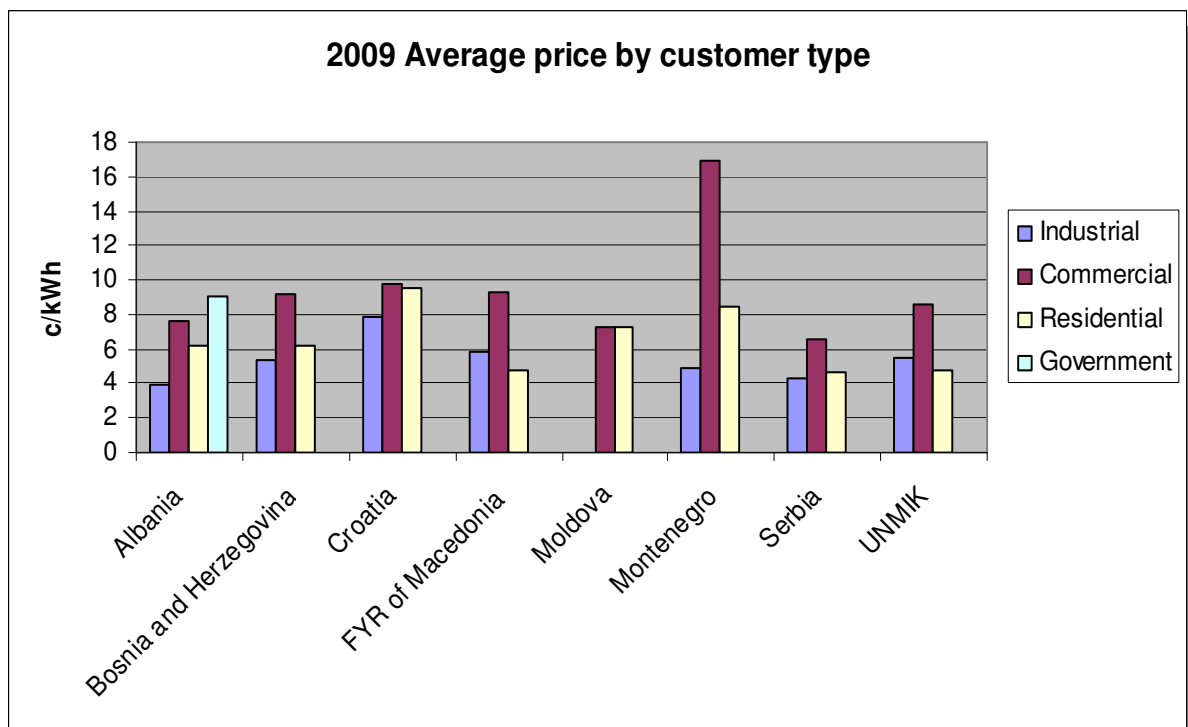


Table 2: 2009 Prices by Customer Type

c/kWh	Industrial	Commercial	Residential	Governmental
Albania	3.94	7.57	6.24	9.09
Bosnia and Herzegovina	5.37	9.22	6.16	
Croatia	7.89	9.80	9.52	
FYR of Macedonia	5.87	9.33	4.76	
Moldova	n.a.	7.27	7.27	
Montenegro	4.88	16.9	8.52	
Serbia	4.25	6.56	4.67	
UNMIK	5.46	8.6	4.75	

The following chapters more in detail provide development information on the individual customer categories.

2.1.2.1 Industrial customers

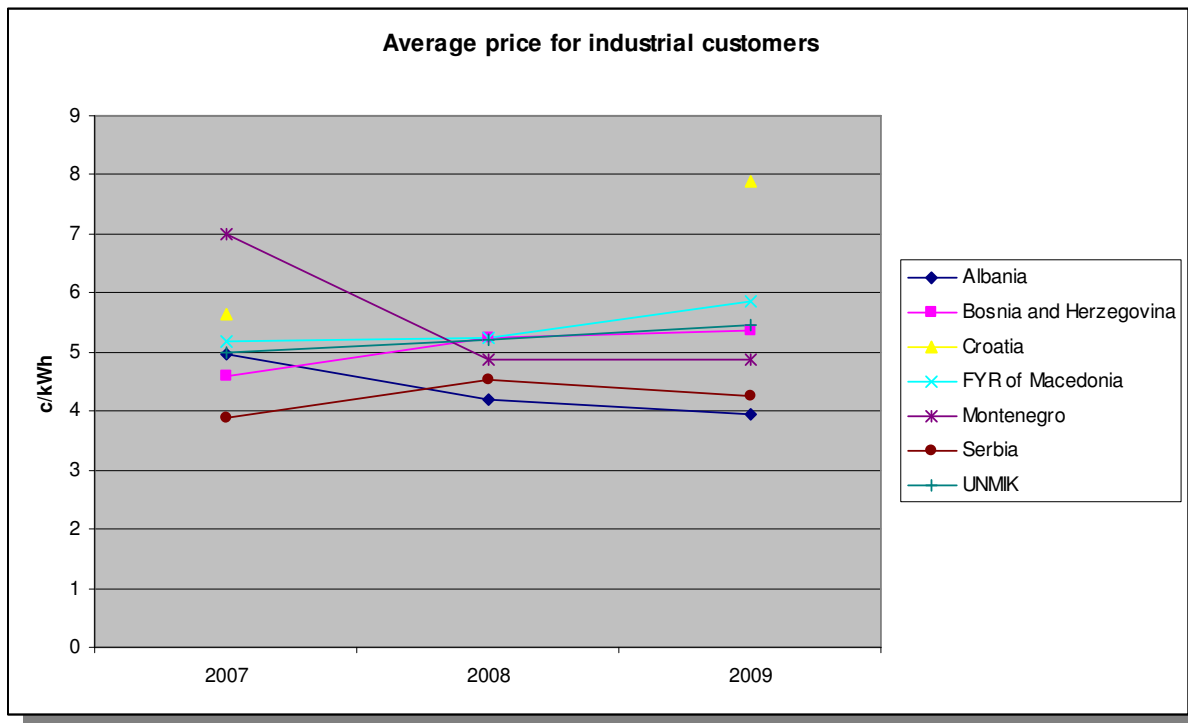
Electricity prices for industrial customers between 2007 and 2009 increased in most of the Contracting Parties, the highest in Croatia. In Albania and Montenegro the prices for industrial customers decreased over the same period, most probably in order to rebalance the prices to reflect the relative costs of different customer categories.

Table 3: Average prices for industrial customers

c/kWh	2007	2008	2009
Albania	4.95	4.2	3.94
Bosnia and Herzegovina	4.59	5.23	5.37
Croatia ¹⁰	5.64	n.a.	7.89
FYR of Macedonia	5.19	5.24	5.87
Montenegro	6.99	4.88	4.88
Serbia	3.87	4.54	4.25
UNMIK	4.98	5.2	5.46

¹⁰ High voltage customers not included

Figure 4: Average price for industrial customers



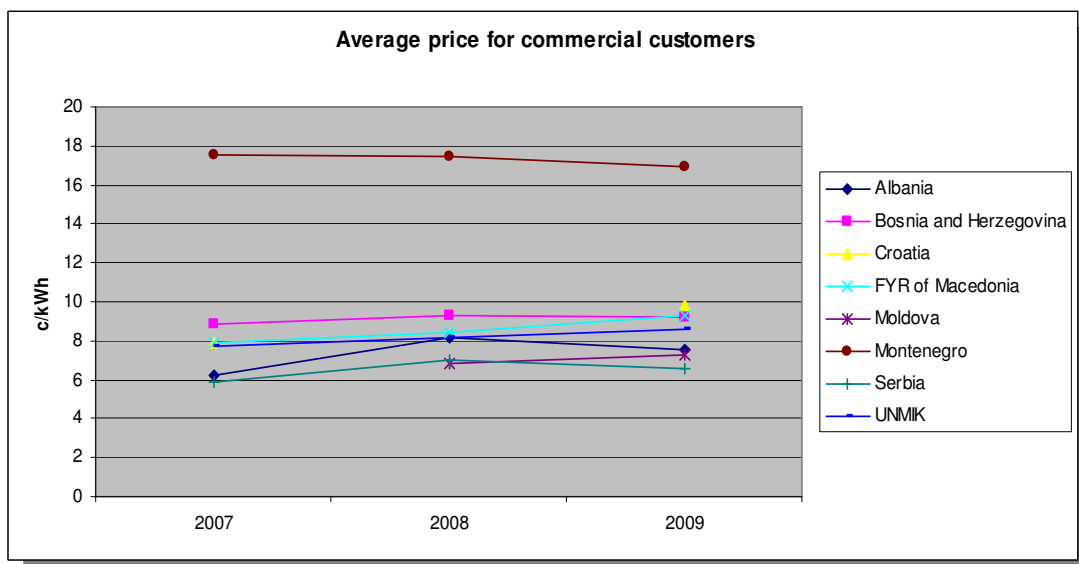
2.1.2.2 Commercial customers

With the exception of Montenegro, **electricity prices for commercial customers increased from slightly to moderately in the period between 2007-2009**. The change in Bosnia and Herzegovina is the lowest (3.6%), while in other Contracting Parties ranges between 10% and 25%.

Table 4: Average price for commercial customers

c/kWh	2007	2008	2009
Albania	6.22	8.13	7.57
Bosnia and Herzegovina	8.9	9.29	9.22
Croatia	7.86	n.a.	9.80
FYR of Macedonia	7.91	8.42	9.33
Moldova	n.a.	6.87	7.27
Montenegro	17.58	17.42	16.9
Serbia	5.89	7.02	6.56
UNMIK	7.68	8.2	8.6

Figure 5: Average price for commercial customers



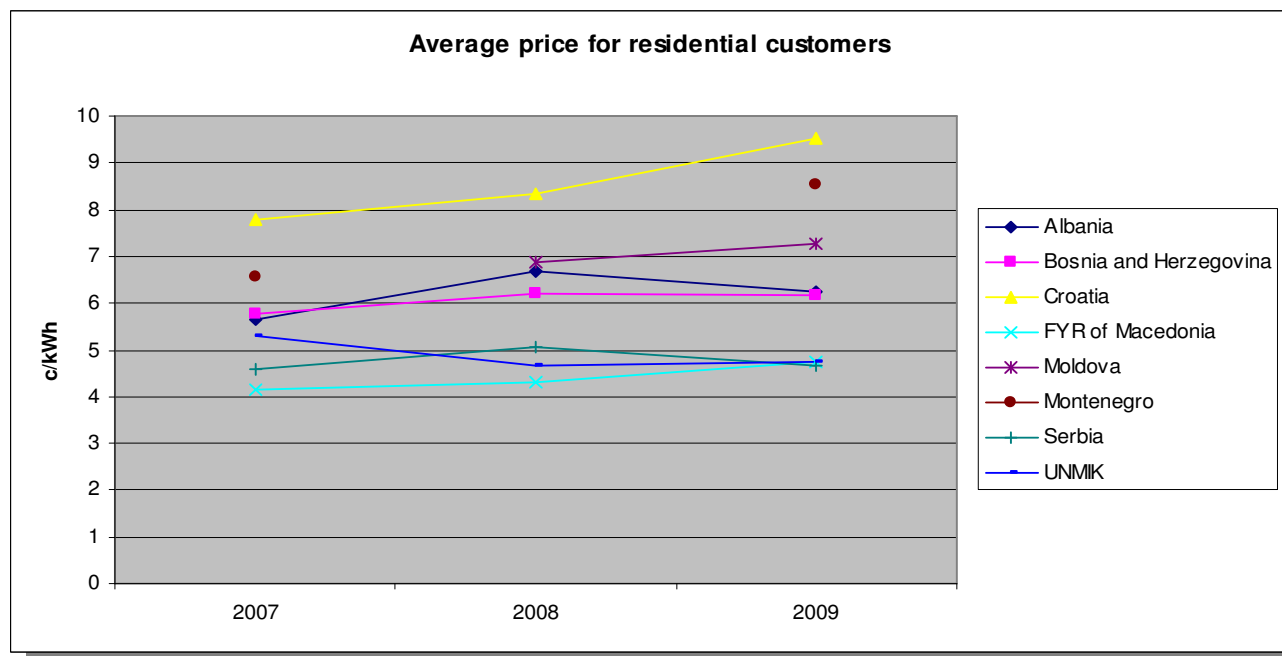
2.1.2.3 Residential customers

Electricity prices for residential customers in the majority of Energy Community Contracting Parties **increased in the period 2007 – 2009**. Croatia and Montenegro – in average having the highest electricity prices in the Region anyhow - faced the biggest change (> 20%). Only in UNMIK the price for residential customers declined over the same period.

Table 5: Average price for residential customers

c/kWh	2007	2008	2009
Albania	5.66	6.69	6.24
Bosnia and Herzegovina	5.77	6.2	6.16
Croatia	7.77	8.34	9.52
FYR of Macedonia	4.16	4.32	4.76
Moldova	n.a.	6.87	7.27
Montenegro	6.58	n.a.	8.52
Serbia	4.59	5.06	4.67
UNMIK	5.3	4.65	4.75

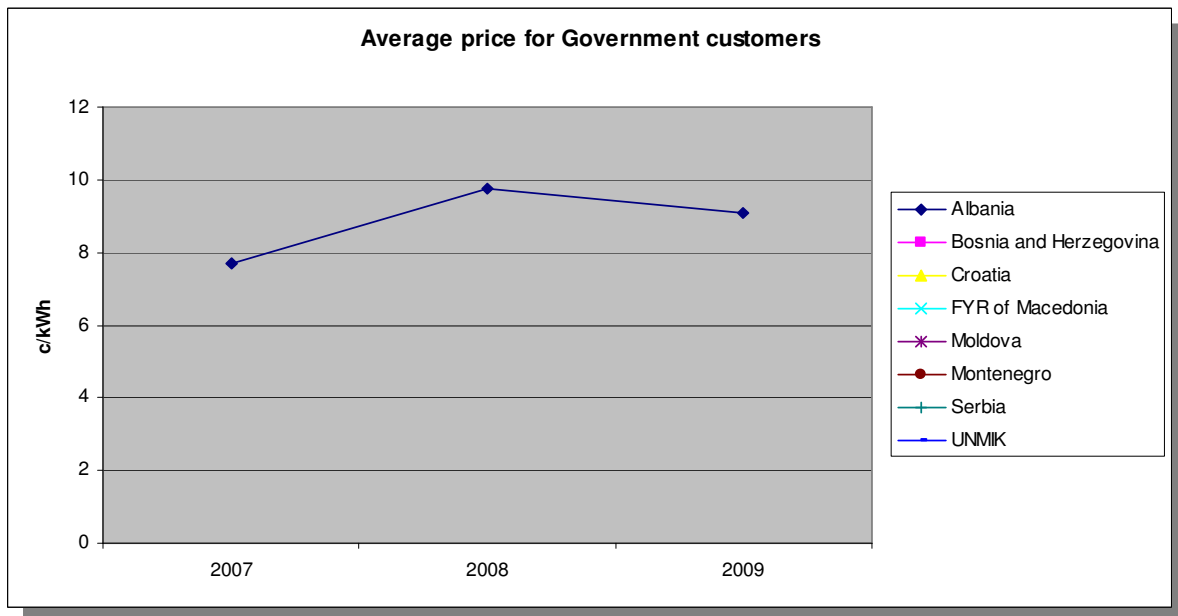
Figure 6: Average price for residential customers



2.1.2.4 Governmental customers

The category of governmental customers exists only in Albania, where the price for these customers moved in both directions between 2007 and 2009, but generally stayed over the price levels for other customer categories.

Figure 7: Average price for Government customers



3 TARIFFS FOR REGULATED SERVICES

3.1 Transmission tariffs

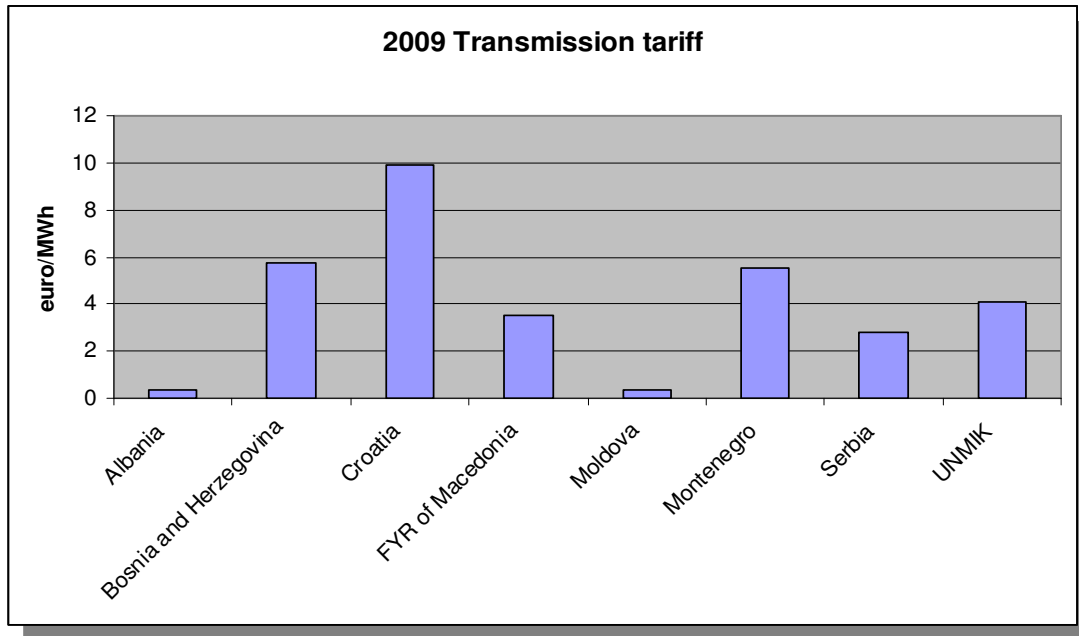
The assessment shows that there are **considerable differences between transmission tariffs** in the Contracting Parties, reaching from less than 0.5 €/MWh to almost 10 €/MWh.

The table and chart below show the average level of transmission tariffs per unit of electricity transported in 2009.

Table 6: 2009 Transmission tariffs

	€/MWh
Albania	0.38
Bosnia and Herzegovina	5.77
Croatia	9.90
FYR of Macedonia	3.55
Moldova	0.33
Montenegro	5.51
Serbia	2.78
UNMIK	4.11

Figure 8: Transmission tariffs in 2009



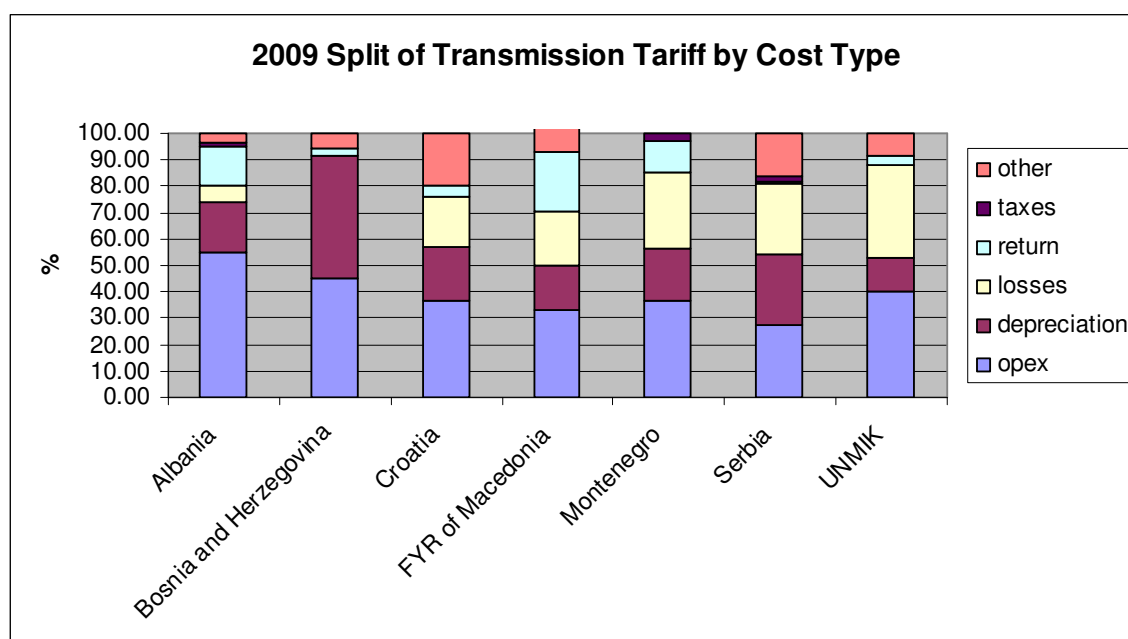
To analyse what is driving the big differences between transmission tariffs levels in the Contracting Parties, a closer look has to be devoted to the **breakdown of transmission revenues by cost types**. An assessment of the data received identifies the biggest differences between transmission cost components for the categories “return” and “other”.

- The share of return in the transmission revenues varies strongly, reaching from 0.89% in Serbia to 22% in FYR of Macedonia.
- The component “other” is mainly a mixture of other revenues (e.g. capacity auction revenues) and the costs for purchasing ancillary services (explicitly stated by Croatian and Serbian regulator).
- It is worth noting that in Bosnia and Herzegovina the share of depreciation in the transmission revenue breakdown plays an incredibly important role. Also for Bosnia and Herzegovina cost for network losses are not displayed as separate transmission tariff component, although it certainly exists.

Table 7: Split of transmission tariff by cost type (2009)¹¹

%	opex	depreciation	losses	return	taxes	other
Albania	55.00	19.00	6.00	15.00	1.40	3.60
Bosnia and Herzegovina	44.80	46.41	n.a.	8.79	n.a.	n.a.
Croatia	36.56	19.99	19.36	4.08	n.a.	20.01 ¹²
FYR of Macedonia	33.30	16.48	20.81	22.07	0.53	9.81
Montenegro	36.80	19.56	28.70	12.05	2.86	n.a.
Serbia	27.66	26.55	26.59	0.89	2.27 ¹³	16.05 ¹⁴
UNMIK	40.00	13.00	35.00	3.20	n.a.	8.80

Figure 9: Split of transmission tariff by cost type (2009)



¹¹ Data for Moldova missing.

¹² Includes ancillary services.

¹³ Includes regulatory charge.

¹⁴ Includes ancillary services.

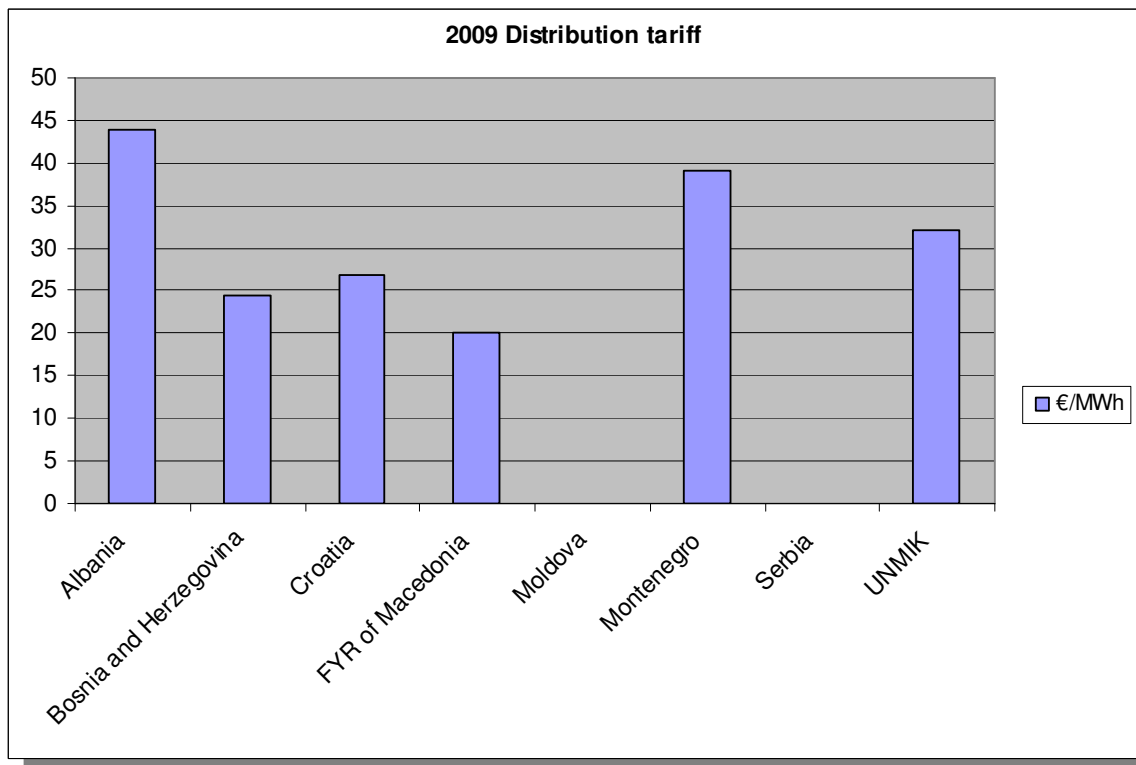
3.2 Distribution tariffs

The data on distribution tariffs for Moldova and Serbia are not available, because the distribution tariff systems in these Contracting Parties have not been developed up to 2009. In other Contracting Parties the **differences between distribution tariffs are significant**, being twice as high in Albania and Montenegro than in other CPs.

Table 8: 2009 Distribution tariffs

	€/MWh
Albania	43.8
Bosnia and Herzegovina	24.5
Croatia	26.9
FYR of Macedonia	20.1
Moldova	n.a.
Montenegro	39.03
Serbia	n.a.
UNMIK	32

Figure 10: Distribution tariffs in 2009



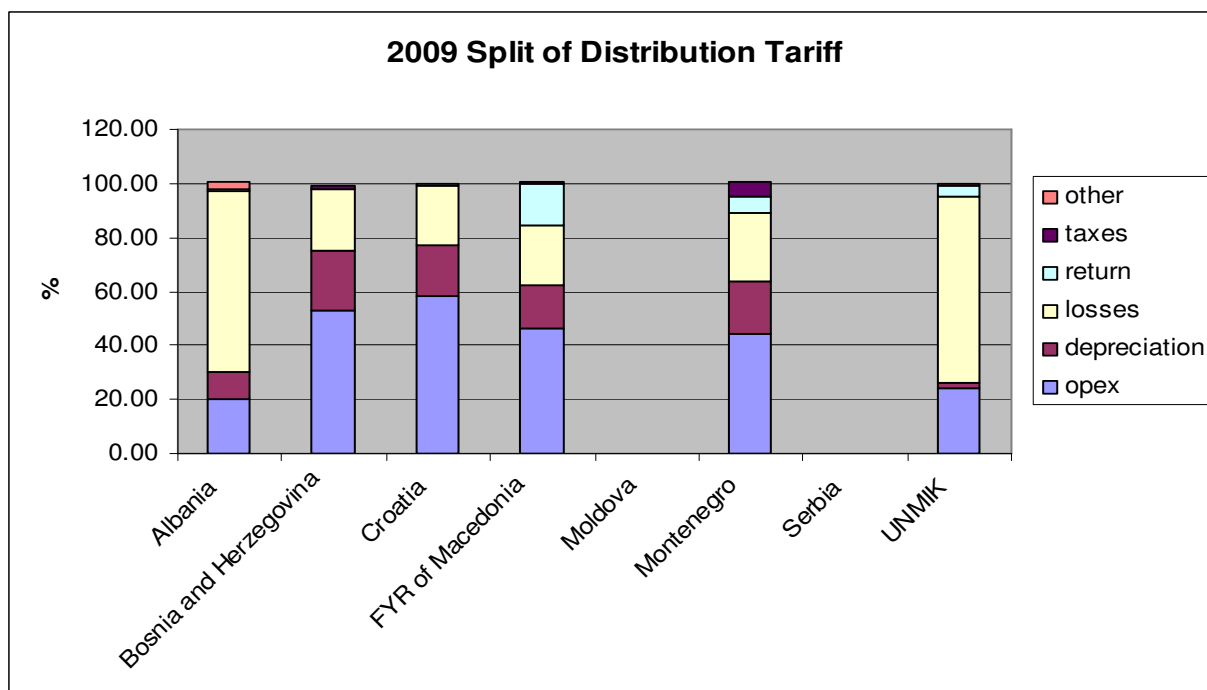
As for transmission tariffs, the **split of distribution revenues by cost type** has also been analysed for distribution tariffs. It shows that the biggest differences in the structure of distribution tariffs exist with respect to return and distribution losses.

- The range of the share of return in the distribution tariff revenue reaches from less than 1 % in Albania to over 15% in FYR of Macedonia.
- The costs of coverage of distribution losses reach from around 20% in the majority of cases to almost 70% of the total distribution tariff.

Table 9: Split of distribution tariff by cost type (2009)

%	opex	depreciation	losses	return	taxes	other
Albania	20.00	10.00	66.90	0.90	0.09	2.51
Bosnia and Herzegovina	53.25	22.00	22.69	n.a.	1.01	n.a.
Croatia	58.30	18.70	22.00	1.10	n.a.	n.a.
FYR of Macedonia	46.47	15.74	22.16	15.67	0.80	n.a.
Montenegro	44.56	19.35	25.36	5.94	5.31	n.a.
UNMIK	24.00	2.00	69.00	4.00	n.a.	1.00

Figure 11: Split of distribution tariff by cost type (2009)



3.3 Supply service cost¹⁵

The information on separate supply service costs is not available for Moldova and Serbia for 2009. However, the differences in supply service costs in other Contracting Parties are considerable and can not be explained, for example, with the number of customers served. Proper unbundling of accounts between distribution and supply, on one side, and improved efficiency, on the other, may lead to less discrepancy among supply service costs in the Contracting Parties.

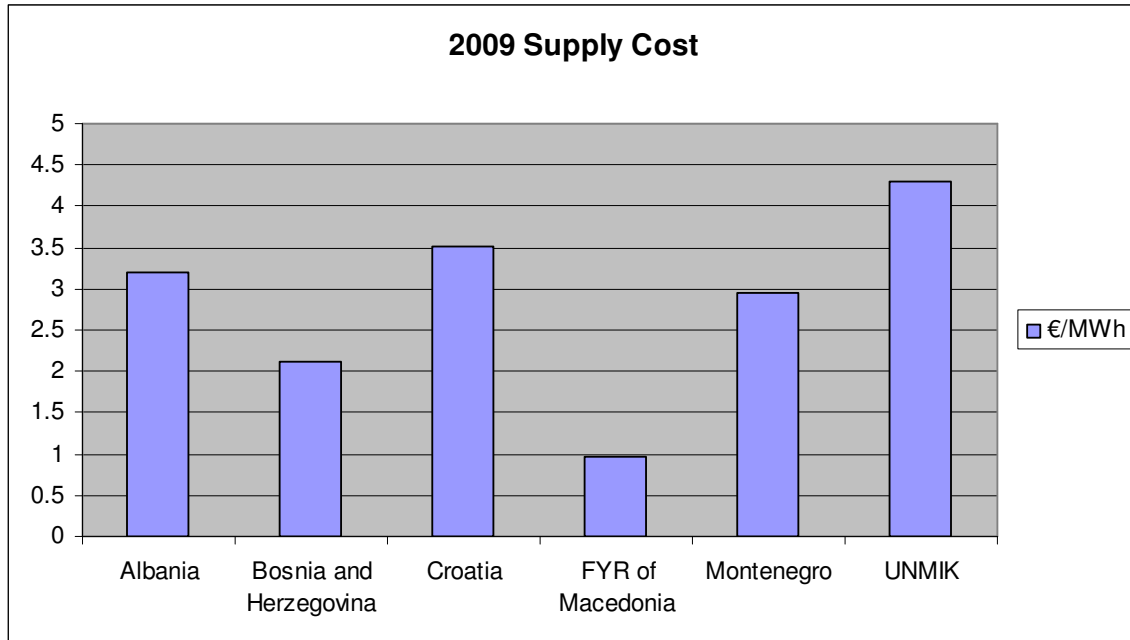
The cost of supply service, not including purchase of electricity, is displayed in the table and chart below.

Table 10: Supply cost in 2009

	€/MWh
Albania	3.2
Bosnia and Herzegovina	2.12
Croatia	3.52
FYR of Macedonia	0.97
Montenegro	2.95
UNMIK	4.3

¹⁵ The costs of electricity suppliers related to providing services to the customers (managing account, billing, pricing, etc.)

Figure 12: Supply service costs in 2009



4 NETWORK LOSSES

The level of losses in a network can be considered as efficiency indicator. With respect to transmission losses presented in the table and chart below, it can be concluded that in most of the Contracting Parties transmission losses are **stable** or show only slight variations. Moreover, they remain **within the range typically also known for EU countries** (1.5% to 2.5%, as per Electricity Tariff Study 2008). The exceptions are Albania and UNMIK where the losses vary more significantly from year to year and go beyond abovementioned expected range.

Table 11: Transmission network losses

%	2005	2006	2007	2008	2009
Albania	4.50	3.30	3.70	n.a.	n.a.
Bosnia and Herzegovina	2.00	2.00	2.00	2.00	2.00
Croatia	2.39	2.20	2.40	2.10	2.20
FYR of Macedonia	1.81	1.81	1.81	n.a.	2.25
Montenegro	2.90	2.90	2.90	n.a.	3.68
Serbia	3.36	3.04	2.97	2.79	2.68
UNMIK	n.a.	3.57	3.15	4.35	3.31

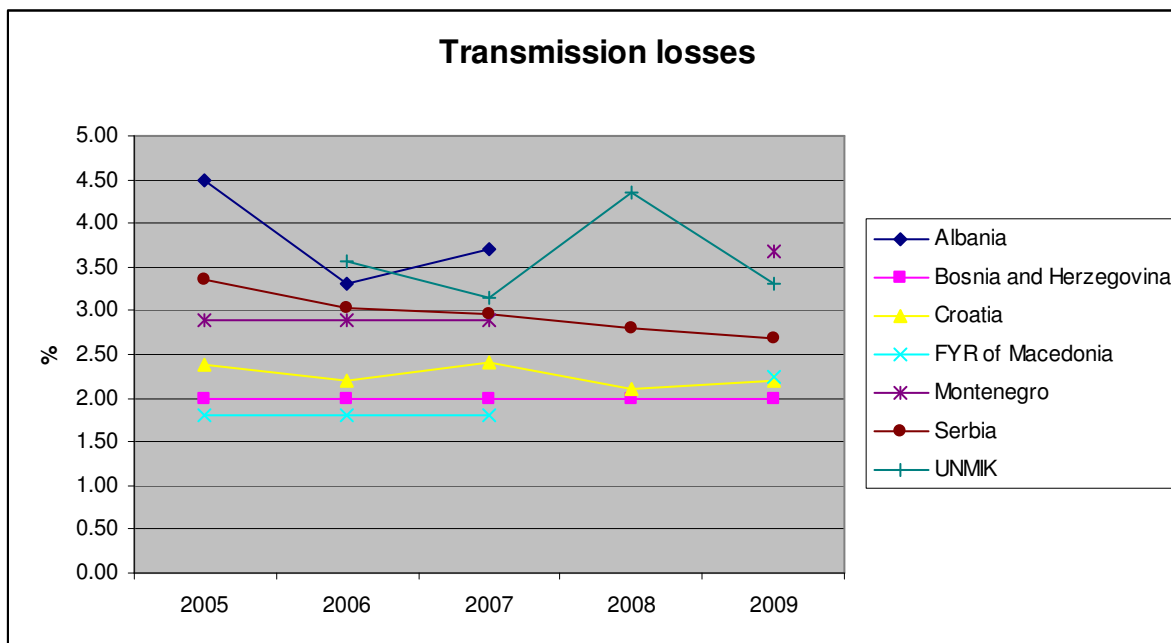


Figure 13: Transmission losses

Losses are **of much greater significance on distribution networks than for transmission**. The level of distribution losses for most of the Contracting Parties is quite high and particularly high in UNMIK. However, in all CPs with high levels of losses a **downwards trend** is recognized. Having in mind that the level of distribution losses in EU usually adds up to 5% to 10%, it has to be highlighted that – so far- only in Croatia distribution losses already approached this level.

Table 12: Distribution network losses

%	2005	2006	2007	2008	2009
Albania	38.10	39.40	35.40	32.00	n.a.
Bosnia and Herzegovina	15.34	16.44	14.18	14.30	14.23
Croatia	9.85	8.31	9.83	7.20	9.30
FYR of Macedonia	28.00	24.16	21.95	n.a.	16.08
Montenegro	25.96	29.06	22.80	22.50	n.a.
Serbia	14.42	14.91	14.20	14.48	15.19
UNMIK	n.a.	n.a.	47.40	42.80	42.80

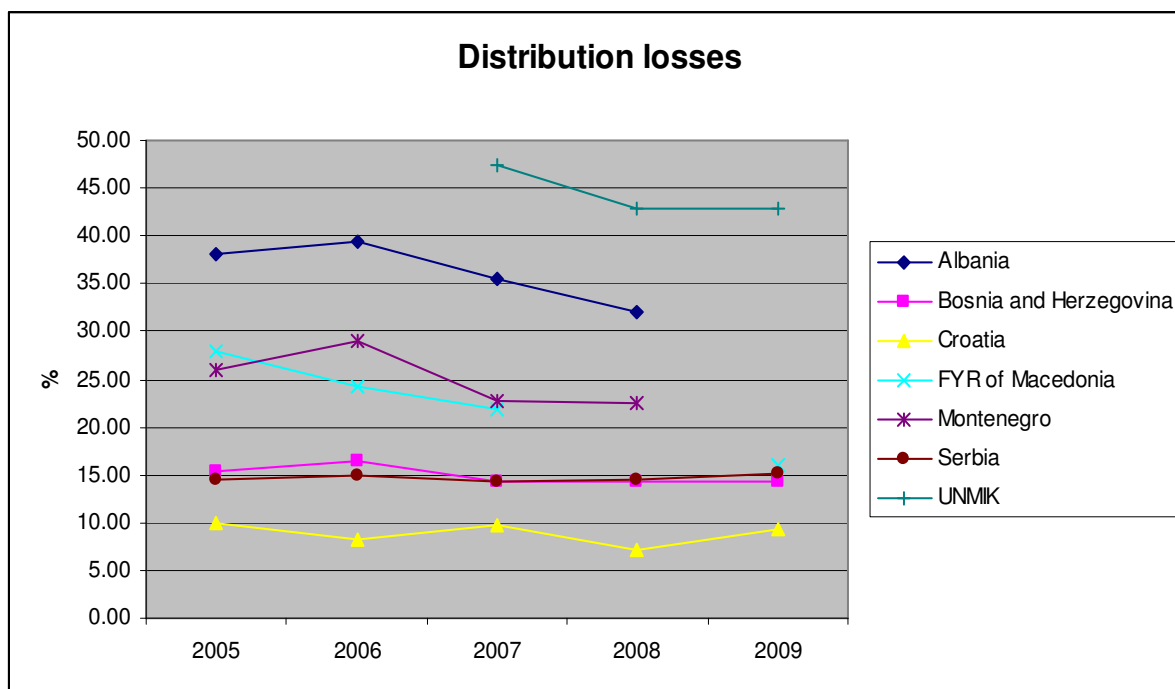


Figure 14: Distribution losses

5 COLLECTION RATES

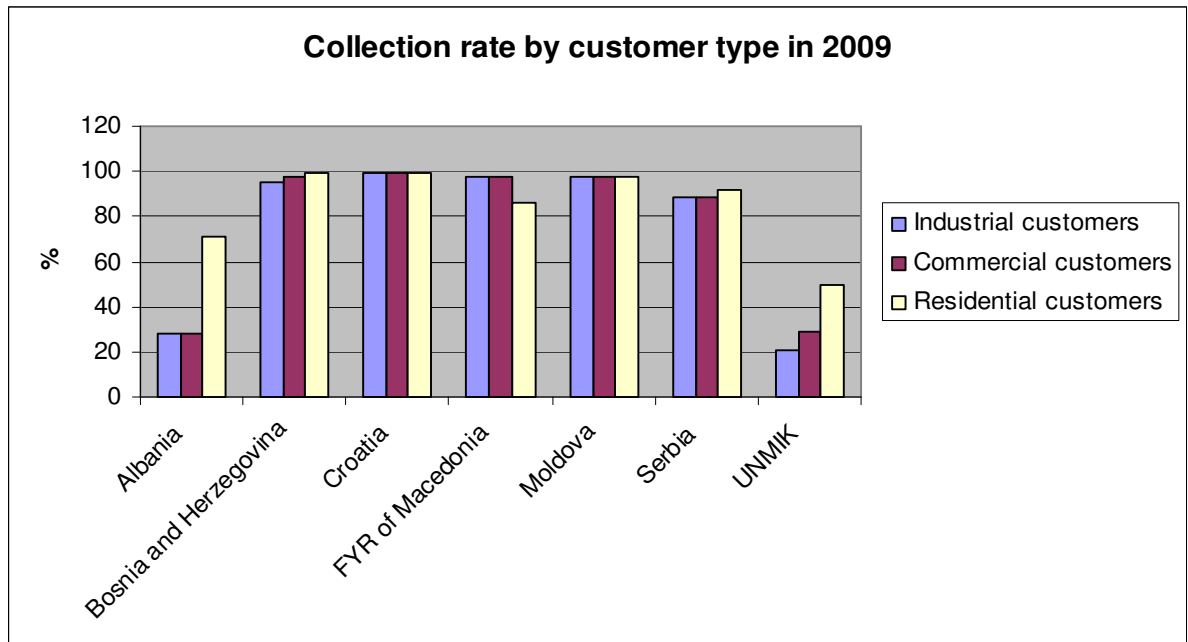
The collection rate as the amount received as a percentage of the amount billed is an efficiency criterion of supply service. The data on collection rates in 2009 shows that the **collection rates vary** from one Contracting Party to another, being especially low in Albania and UNMIK. Secondly, collection rates for residential customers are in general higher than for other customer categories. Looking back at the data provided in the 2008 Electricity Tariff Study, where the case was exactly opposite (lower collection rates for domestic customers) on the one hand but the overall levels of collection rates higher, on the other, it may be concluded that the influence of non-payment by industrial and commercial customers was substantial.

The levels of collection rates by customer types in 2009 in Contracting Parties are presented below.

Table 13: Collection rates by customer type in 2009

%	Industrial customers	Commercial customers	Residential customers
Albania	28.52	28.52	71.48
Bosnia and Herzegovina	95	98	99
Croatia	98.9	98.9	99.7
FYR of Macedonia	97.3	97.3	86
Moldova	98	98	98
Montenegro	n.a.	n.a.	n.a.
Serbia	88.78	88.78	91.53
UNMIK	21	29	50

Figure 15: Collection rate by customer type



6 CONCLUSIONS

Taking into account changes in electricity prices and tariffs from 2007 to 2009, the main conclusions of the 2008 Electricity Tariff Study may be repeated and, in some specific cases, slightly revised.

In general, there are **significant variations between electricity retail prices in the Contracting Parties**, both on average level and by customer types. Moreover, **they continue to increase from year to year**, but with different growth rates. In Contracting Parties where electricity prices expressed in Euro per MWh decreased, this was only due to the effect of exchange rate fluctuations. Residential customers still pay less than commercial customers, meaning that **cross- subsidies between customer groups continue to exist**. Much of the variations in overall price levels between Contracting Parties are driven by differences in wholesale costs, more precisely in generation costs (and this is related to the predominant use of certain types of electricity generation).

Both transmission and distribution tariffs vary significantly among Contracting Parties, the level of **rate of return** being **one of the main drivers for these differences**. Concerning distribution, the costs for coverage of **network losses also contribute to great differences among distribution tariffs** of Contracting Parties. **Costs of supply service also vary considerably among Contracting Parties**, but the difference can not be explained, for example, with the number of customers served. Proper unbundling of accounts between distribution and supply, on one side, and improved efficiency, on the other, may lead to less discrepancy among supply service costs in the Contracting Parties.

Transmission network losses continue to be **stable and with slight variations** among Contracting Parties, although certain exceptions exist. **Distribution network losses** show **great differences** among Contracting Parties, but **downward trend** is also noticeable.

Opposite from the developments between 2005 and 2007, where collection rates were historically low, but were showing increasing trend **in some Contracting Parties, collection rates from 2007 to 2009 decreased again** due to the decline of collection rates for industrial customers. However, **in the majority of Contracting Parties the collection rate is slowly approaching 100% level**.