ECRB Market Monitoring Report 2015

Electricity and Gas Markets in the Energy Community

– Contracting Parties & Georgia –

Reporting Period 2014

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INTRODUCTION

1. About ECRB

The Energy Community Regulatory Board (ECRB) operates based on the Energy Community Treaty. As an institution of the Energy Community[1] the ECRB advises the Energy Community Ministerial Council and Permanent High Level Group on details of statutory, technical and regulatory rules and makes recommendations in the case of cross-border disputes between regulators.[2]

2. Background

Market monitoring is a core element of regulatory responsibilities. Only in-depth knowledge of market performance, stakeholder activities and development trends allow regulators to create an effective market framework that balances the needs of market players and is able to promote competition, customer protection, energy efficiency, investments and security of supply at the same time. The relevance of regulatory market monitoring is not only recognized by the Energy Community acquis communautaire but is also since years a central ECRB activity.

Based on a workshop held in 2014 with the support of the Agency for the Cooperation of Energy Regulators (ACER), ECRB decided to prepare a Market Monitoring Report that assesses the gas and electricity markets in the Energy Community Contracting Parties (CPs) and Georgia, mirroring the related activity of ACER'.

3. Scope

The present report covers the Energy Community Contracting Parties **Albania, Bosnia and Herzegovina, FYR of Macedonia, Kosovo*, Moldova**[3]**, Montenegro, Serbia** and **Ukraine**[4] as well as the Observer Country **Georgia**. It describes the status quo of electricity and gas markets both on retail and wholesale level with the aim to identify potential barriers and discuss recommendations on potential improvements. Data presented in this report refers to the year **2014**.

[1] www.energy-community.org. The Energy Community comprises the EU and Albania, Bosnia and Herzegovina, Macedonia, Kosovo*, Moldova, Montenegro, Serbia and Ukraine. Armenia, Georgia, Turkey and Norway are Observer Countries. [**Throughout this document the symbol * refers to the following statement: This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence*].
[2] For more information about ECRB consult www.energy-community.org – about us – institutions – regulatory board.
[3] Only for gas wholesale markets.
[4] Excluding Crimea.

4. Methodology

Data and analysis provided in this report is based on information provided by the regulatory authorities of the analyzed markets, data collected from ENTSO-E[5] and the SEE CAO[6] databases about country profiles, cross-border capacity calculation and allocations volumes as well as on the EUROSTAT database on energy prices. Where information origins from the 2014 Annual Implementation Report of the Energy Community Secretariat[7], this is explicitly mentioned in the text.

Indicators used for the presented assessments orientate on those used for the 2012 and 2013 ACER/CEER *Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets* adjusted to data availability and market development in the analyzed markets.

Table 1: Data sources related to wholesale electricity market analysis

Type of source[8]	Source	Data items	Made available through	Format
98%	NRAs	• Detailed data on wholesale markets and Cross Border electricity trade through data collection forms • Contribution to data checks	Bilateral E-mail exchange	XLS
1%	ENTSO-E	• Generation, demand/load data • Limited contribution to data checks	Website	XLS
1%	SEE CAO	• Auction results • Limited contribution to data checks	Website	PDF/XLS

The process description of how the analysis was developed is presented below.

[5] www.entsoe.eu.
[6] www.seecao.com.
[7] http://www.energy-community.org/pls/portal/docs/3356393.PDF.
[8] Percentage of data acquisition only represents rough indications of used data sources.

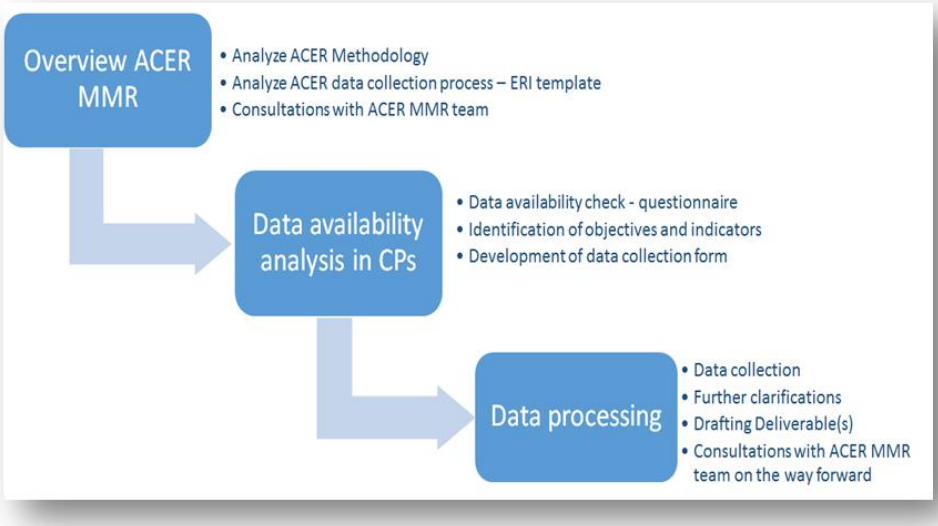


Table 2: List of wholesale electricity market indicators

Section	Indicators
Market integration	• Evolution of wholesale/balancing electricity prices • Wholesale/balancing electricity price differentials • Wholesale/balancing electricity price convergence
Market concentration	• Evolution of number of market participants • Electricity volume traded through bilateral contracts • Market share of largest generating company • Market share of largest provider of balancing energy and reserve capacity • Concentration measure – HHI • Electricity traded through bilateral contracts as a percentage of the amount of total consumption
Cross border trade (utilization of cross border capacity)	• Cross-border capacity allocation efficiency in different timeframes • Evolution of annual/quarterly level of commercial use of interconnectors (day-ahead and intraday) as a percentage of NTC values • Percentage of NTC used in the “right direction” • Percentage of months in an year with net DA nominations against price differential • Volumes of net D-1 commercial nominations against price differentials • Month ahead cross-border capacity allocation as a percentage of declared NTC • Level of intraday cross-border trade • Total amount of balancing energy and reserve capacity contracted abroad • Balancing energy activated abroad as a percentage of the amount of total balancing energy activated in national balancing markets • Congestion revenues • Amount of curtailed capacities and number of curtailment cases

WHOLESALE MARKETS

A. ELECTRICITY

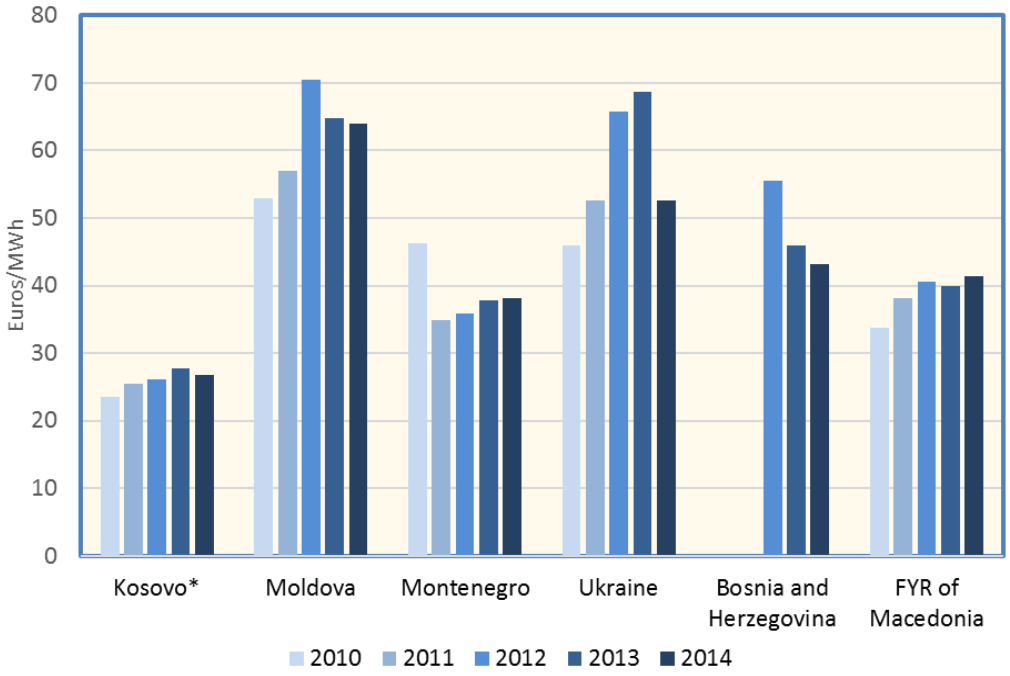
This section reports on key developments in electricity wholesale markets, including an assessment of the level of wholesale market integration and its benefits.

1. Market Integration

1.1. Price convergence

Figure 1 presents recent trends for wholesale electricity prices in the Contracting Parties. In 2012 a significant price hike was observed in Ukraine and Moldova[9]. In 2014 wholesale electricity prices decreased in Ukraine and Bosnia and Herzegovina while in other Contracting Parties the price level remained at the same level. The price difference between Ukraine / Moldova and other Contracting Parties is still significant.

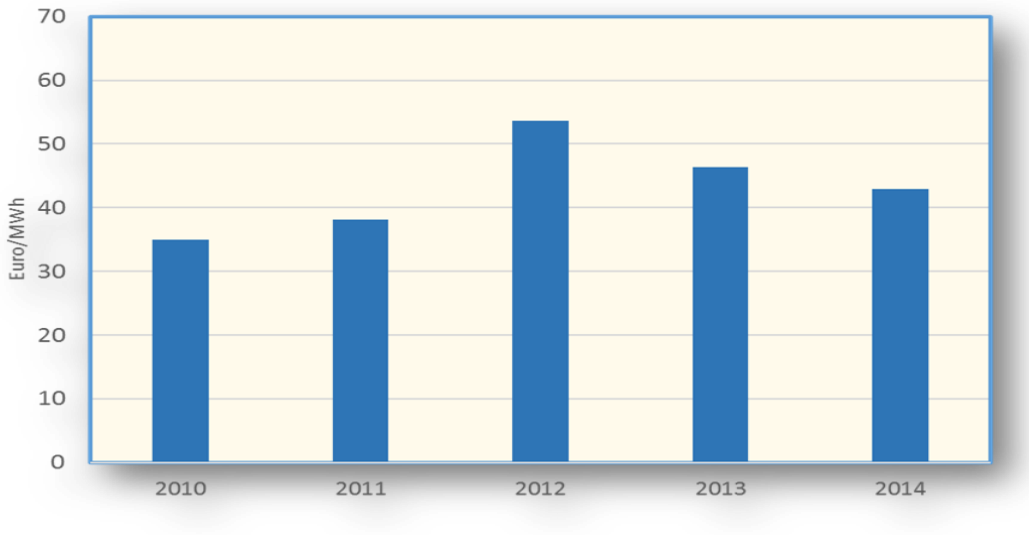
Figure 1: Evolution of wholesale electricity prices of Contracting Parties – 2010-2014 (Euros/MWh[10])



[9] Wholesale price increase in Moldova was due to import price increase from Ukraine (Moldova being dependent on Ukraine imports). Explanations for the price hike in Ukraine were not provided.
[10] Mega Watt Hour.

Wholesale price convergence and price differential are indicators for market integration, even though an optimal level of market integration does not necessarily require full price convergence. The figures below provide an overview of the convergence of monthly average wholesale electricity prices in the Contracting Parties over the last years[11]. According to Figure 2, the price differential increased in 2012 as prices had significantly increased in Ukraine and Moldova. Despite a general downwards trend since 2012, **price differentials still remain significant**. According to the data analysed, the lowest wholesale prices exist in Kosovo, the highest in Moldova. Wholesale **price convergence in recent years increased** between Bosnia and Herzegovina, FYR of Macedonia and Montenegro in 2014. Another important element explaining the persistence of only limited price convergence is still the very extensive level of price regulation and cross-subsidisation within Contracting Parties as well as the lack of a reference price for electricity in the Region which both hinder formation of competitive wholesale prices.

Figure 2: Wholesale electricity price differential in Contracting Parties 2010-2014 (Euros/MWh)



The figures below show the correlation between available export capacities from Bosnia and Herzegovina to Montenegro and from Ukraine to Moldova as well as the level of monthly price convergence in the respective Contracting Parties. Highlighted areas show interesting example of correlation between the indicators. As commercial nominations decrease wholesale price differential increases. This example shows the impact of market integration on price convergence.

[11] Price differentials are calculated as the difference between the maximum and minimum wholesale prices of the assessed Contracting Parties during a specific month within a year. Only a month with maximum differential is selected.

Figure 3: Price convergence between Bosnia and Herzegovina and Montenegro compared to D-1 commercial nominations from Bosnia and Herzegovina to Montenegro – 2013-2014 (MWh and Euro/MWh)

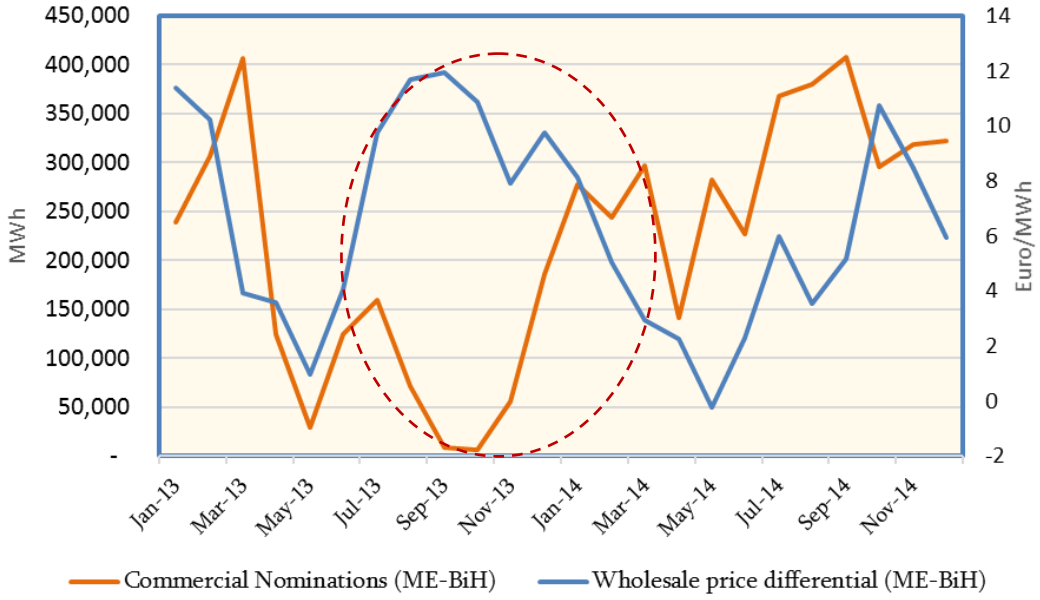
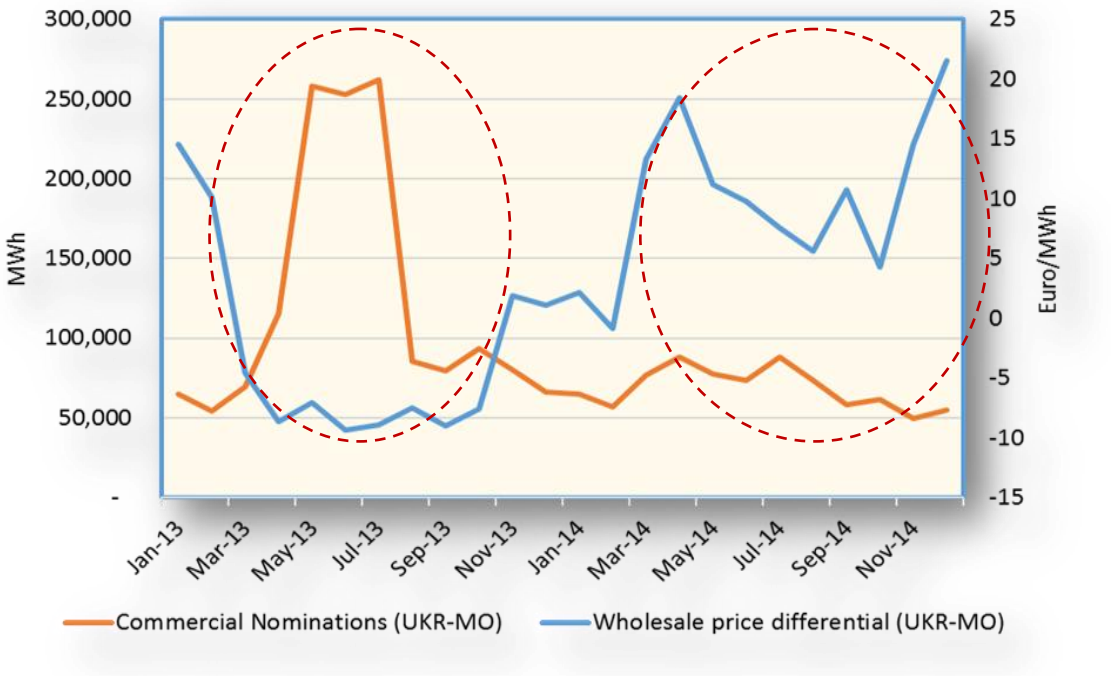


Figure 4: Price convergence between Ukraine and Moldova compared to D-1 commercial nominations from Ukraine to Moldova – 2013-2014 (MWh and Euro/MWh)



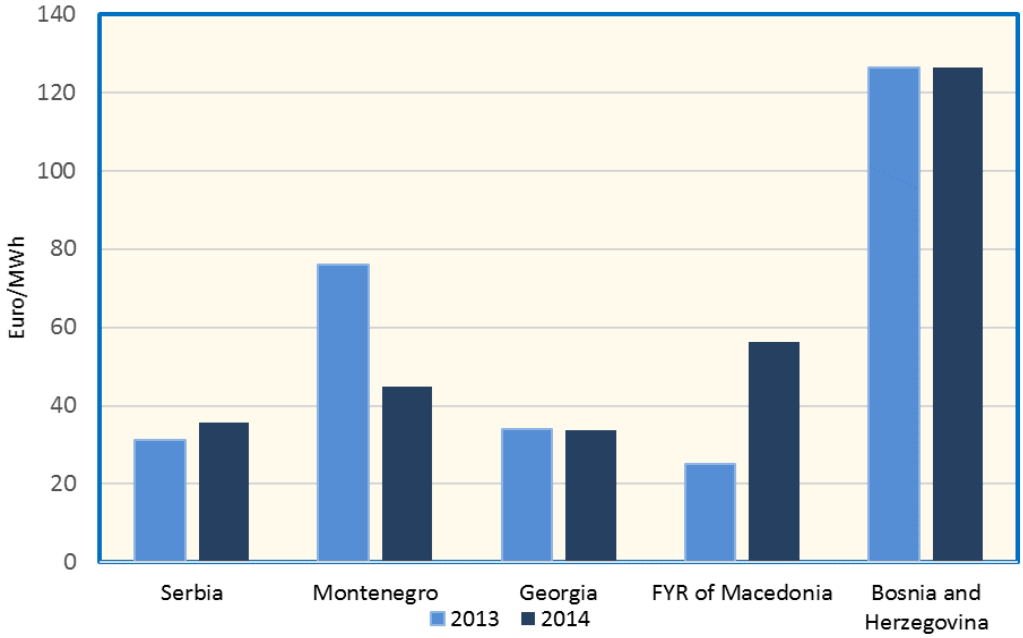
In this context, it is worth mentioning the unique situation of the Moldavian electricity market with only few participants and limited electricity supply options making price convergence more sensitive to interconnector capacity utilization.

1.2. Balancing

Electricity system balancing includes all actions and processes performed by a Transmission System Operator (TSO) in order to ensure that the total electricity withdrawals[12] equal the total injections in a control area at any given moment. Among other elements, adequate imbalance settlement and cross-border balancing exchanges are key elements for ensuring that systems are balanced in the most efficient way. An integrated cross-border balancing market aims at maximizing the efficiency of balancing by using the most efficient balancing resources. The following figures show the level of balancing market integration in the Contracting Parties and Georgia.

Balancing electricity price levels and their convergence can be treated as an indicator of regional balancing cooperation. Figure 5 provides an overview of the **development of balancing energy prices** over the last years.

Figure 5: Evolution of balancing electricity prices in Contracting Parties – 2013-2014 (Euros/MWh)



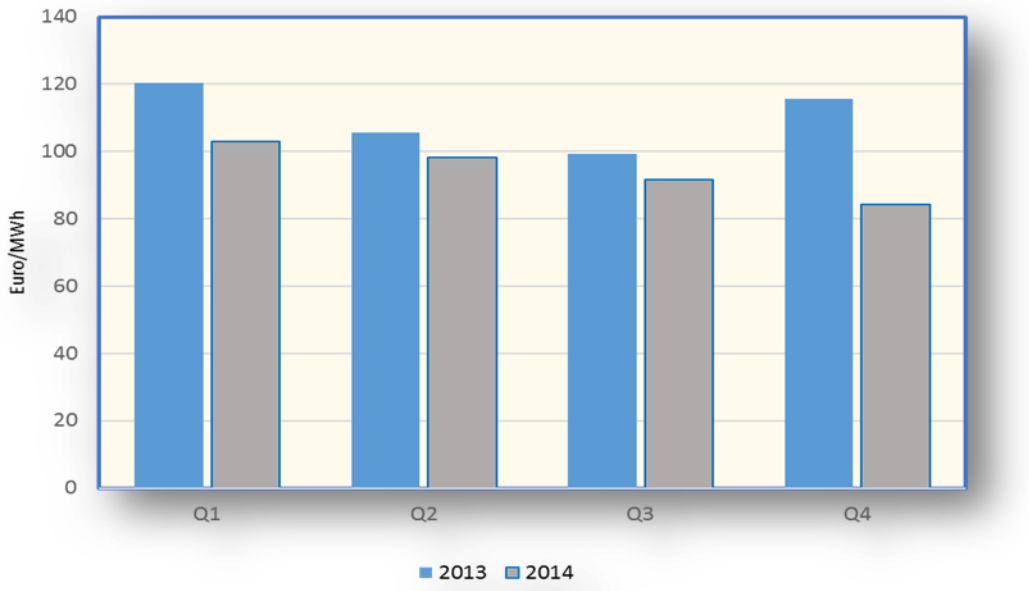
The balancing energy price increase in FYR Macedonia coincided with the increase of average prices paid for contracted balancing reserve capacity. The regulatory authority of

[12] Including losses; it is to be noted that losses are normally not part of balancing but balanced out before.

FYR of Macedonia in yearly price decisions approves prices for balancing capacity provided by the national generation company (ELEM) that is obliged to meet public services obligation and system services for the TSO. The main reason for the increase of balancing energy/capacity prices were an increase of fixed costs of ELEM for system services in recent years.

Figure 6 shows the quarterly average price differences between highest and lowest balancing prices in the Contracting Parties. Big differences indicate low balancing market cooperation between countries. Substantial price differences are caused by high balancing energy prices in Bosnia and Herzegovina[13].

Figure 6: Balancing electricity price differential in Contracting Parties 2013-2014 (Euros/MWh)



One of the main explanations for the price differentials is also that there is no separate procurement of balancing reserves and energy in the analysed countries, except Bosnia and Herzegovina. Consequently low balancing energy prices most probably result from either cross-subsidizing of the energy component through reserve payment or price regulation. Only the separate procurement of both elements in a competitive market can lead to competitive prices for both services.

[13] Data about the market share of the largest provider of balancing energy is not available for Bosnia and Herzegovina; therefore, no in-depth analysis on the correlation between high balancing prices and market concentration could be performed for the purpose of the present report. It is worth mentioning that Bosnia and Herzegovina does not carry out balancing energy/capacity contracting abroad.

2. Market concentration

Gross **electricity consumption in the Energy Community Contracting Parties decreased** on average from 2011 to 2014 by almost 6%, except Moldova. Reasons for such decrease may differ among countries[14] also following the general trend on EU level. The figures below present aggregate consumption and load characteristics together with the evolution of market participants in the EnC Contracting Parties.

Figure 7: Electricity load and consumption characteristics in Contracting Parties[15] – 2010-2014 (MW and MWh)

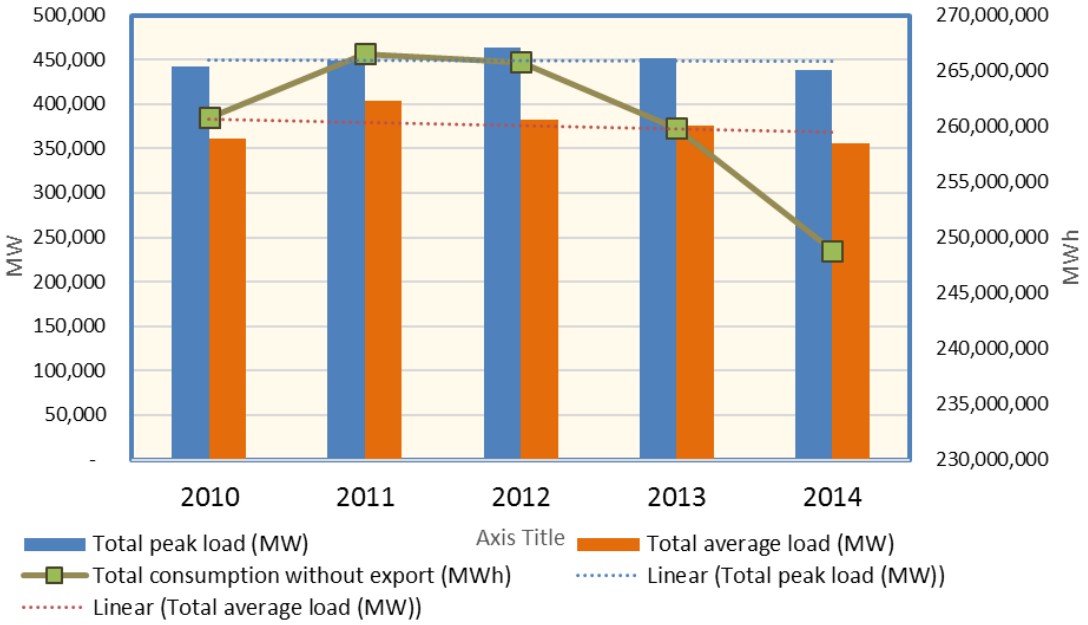


Figure 8 and table 3 provide an overview of the market participants. A **constant increase of market participants** is observed in all markets. In 2014, a rapid increase of eligible consumers was caused by partial market opening in FYR of Macedonia and increase of eligible market participants in Ukraine.

Figure 8: Evolution in numbers of electricity market participants in Contracting Parties[16] – 2010-2014

[14] Detailed related analysis for the individual assessed markets was not performed for the purpose of this report.
[15] Albania, Bosnia and Herzegovina, FYR Macedonia, Kosovo*, Moldova, Montenegro, Serbia and Ukraine.
[16] Albania, Bosnia and Herzegovina, FYR Macedonia, Kosovo*, Montenegro, Montenegro, Serbia and Ukraine.

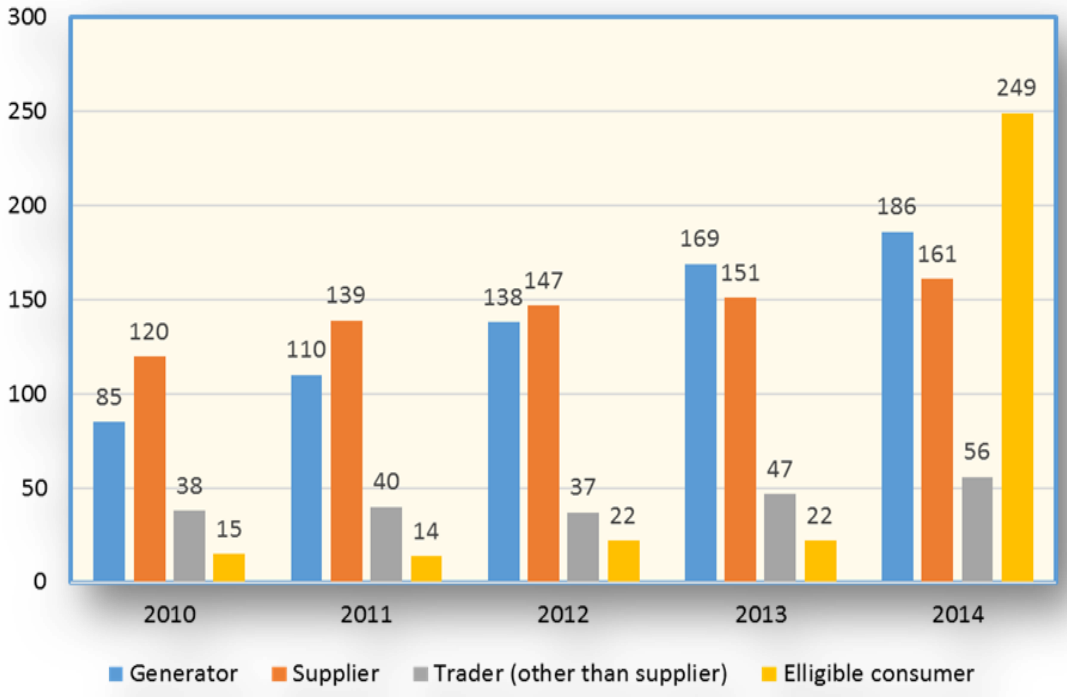


Table 3: Electricity market participants in Contracting Parties and Georgia – overview

		2010	2011	2012	2013	2014
Albania	Generator	0	1	2	6	7
	Supplier	1	9	10	15	14
	Trader (other than supplier)	1	9	10	17	20
	Eligible consumer	0	1	8	8	9
Bosnia and Herzegovina	Generator	3	3	3	3	3
	Supplier	3	3	3	3	3
	Trader (other than supplier)	10	10	11	15	15
	Eligible consumer	2	0	1	1	2

		2010	2011	2012	2013	2014
Georgia	Generator	56	56	57	61	67
	Supplier	3	3	3	3	3
	Trader (other than supplier)[17]	NAP[18]	NAP	NAP	NAP	NAP
	Eligible consumer	10	9	7	7	8
Kosovo*	Generator (>1MW)	5	5	5	6	6
	Supplier	1	1	1	1	1
	Trader (other than supplier)	18	14	12	7	4
	Eligible consumer	-	-	-	-	-
FYR of Macedonia[19]	Generator	1	1	3	3	3
	Supplier	2	2	2	2	7
	Trader (other than supplier)	9	7	4	8	17
	Eligible consumer	9	9	9	9	234
Moldova	Generator	4	4	4	4	4
	Supplier[20]	1	1	1	1	1
	Trader (other than supplier)	N/A	N/A	N/A	N/A	N/A
	Eligible consumer	4	4	4	4	4
Montenegro	Generator	1	1	1	1	2
	Supplier	2	2	2	2	2
	Trader (other than supplier)	0	0	0	0	0
	Eligible consumer	0	0	0	0	0
Ukraine	Generator	71	95	120	146	161
	Supplier	110	121	128	127	133
	Trader (other than supplier)	NAP	NAP	NAP	NAP	NAP
	Eligible consumer	N/A	N/A	N/A	N/A	N/A

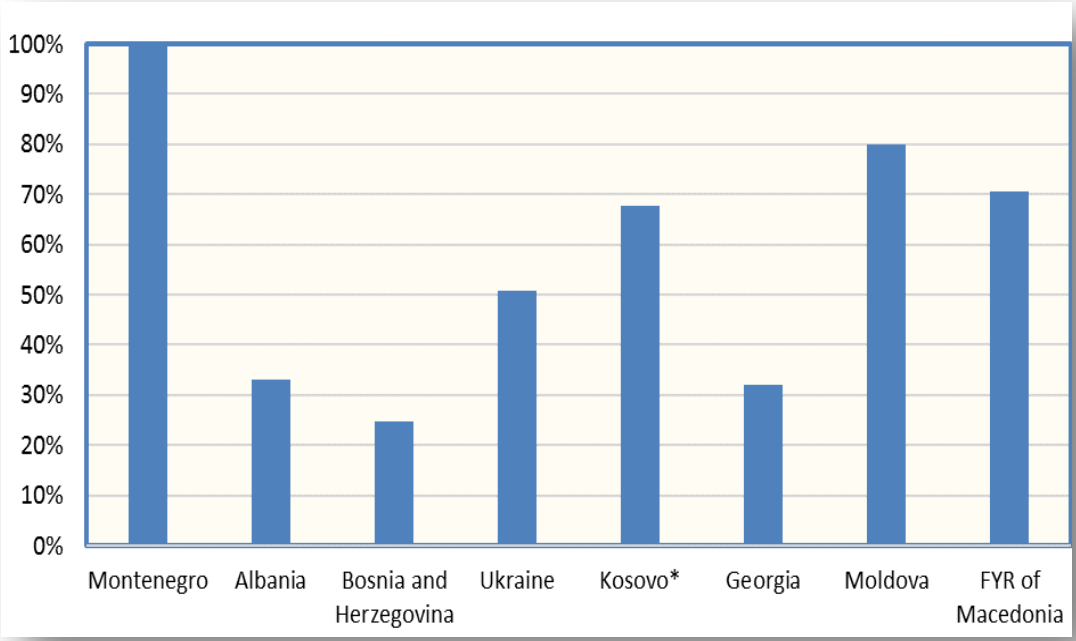
It is important to check the market share of the largest players in the industry. Figures 9 and 10 characterize the level of electricity production/reserve capacity market concentration in the Contracting Parties. Although a common academic standard on which percentage of a market share indicates a concentrated industry does not exist, general observation consider values higher than 20% a concern for the competition level. A value of > 40% may suggest a dominant position on the market. A value of > 50% can be understood as dominant position on market.[21]

[17] In Georgia distribution licensees (exists 3 distribution licensees) are the only supplier within their area. According to the secondary legislation small power plants are also authorized to supply electricity to retail consumers but in practice it doesn't work.
[18] Not applicable.
[19] Only shows active market participants in FYR of Macedonia.
[20] Holder of license for electricity supply other than non-regulated tariffs.
[21] Introduction to electricity markets, textbook developed by ERRA, 2008.

The market share of the largest generating company varies among the Contracting Parties, while the reserve capacity market is dominated by one balancing energy/capacity provider.

- According to the results, electricity markets in Montenegro, Kosovo*, Moldova and FYR Macedonia are dominated by one large generating company[22].
- As regards balancing energy and reserve capacity for all types of reserve, mostly only one provider in the market was reported by parties.

Figure 9: Market share of largest power generating company in Contracting Parties and Georgia – 2014 (%)[23]



Market concentration is one of the elements for assessing the performance of wholesale markets. The Herfindahl-Hirschman (HHI) index is more responsive to outstanding values than the simple market share figure above and its value ranges between 0 and 10,000. The usual trigger levels for the index are as follows: HHI≤1000 – not concentrated; 1000<HHI≤1800 - moderately concentrated; 1800<HHI – concentrated[24]. HHI is calculated as sum of squared market shares (in %) of all generating companies supplying a market for both – energy and capacity.

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[22] Annual production of the largest generator is compared to the gross production (import is not taken into account).
[23] Data for Serbia not available.
[24] Introduction to electricity markets, textbook developed by ERRA, 2008.

Figure 10: Herfindahl-Hirschman Index (electricity) - 2014

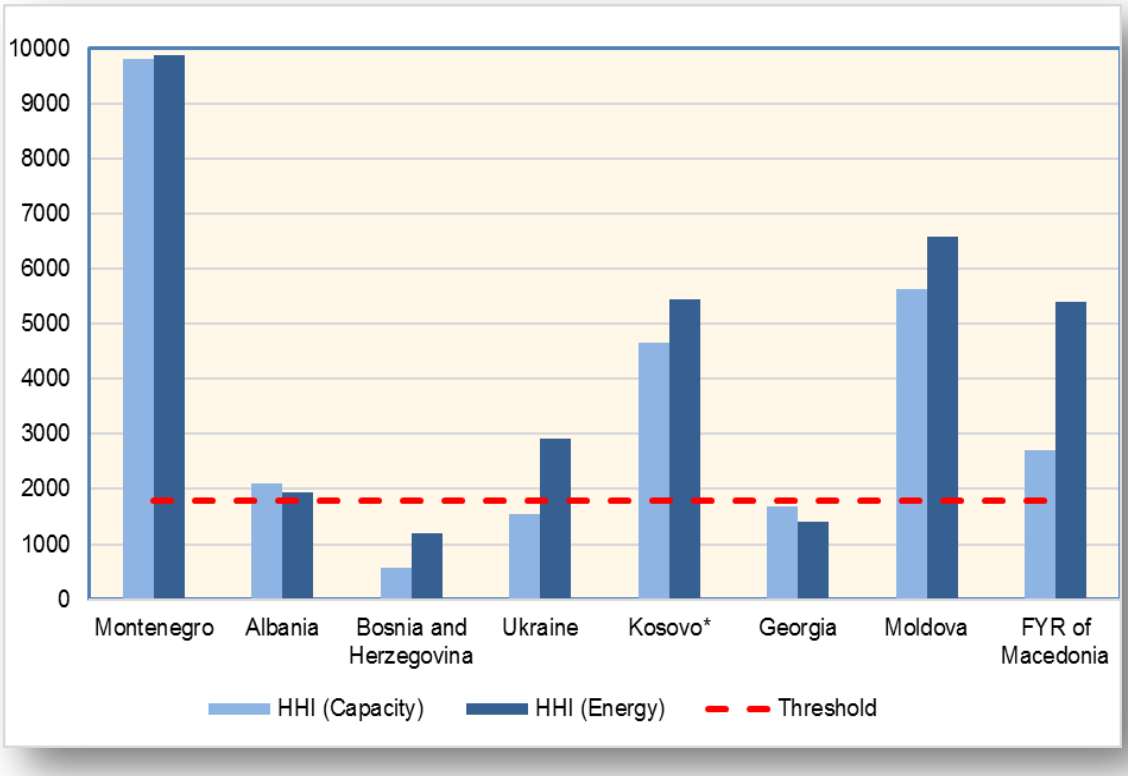
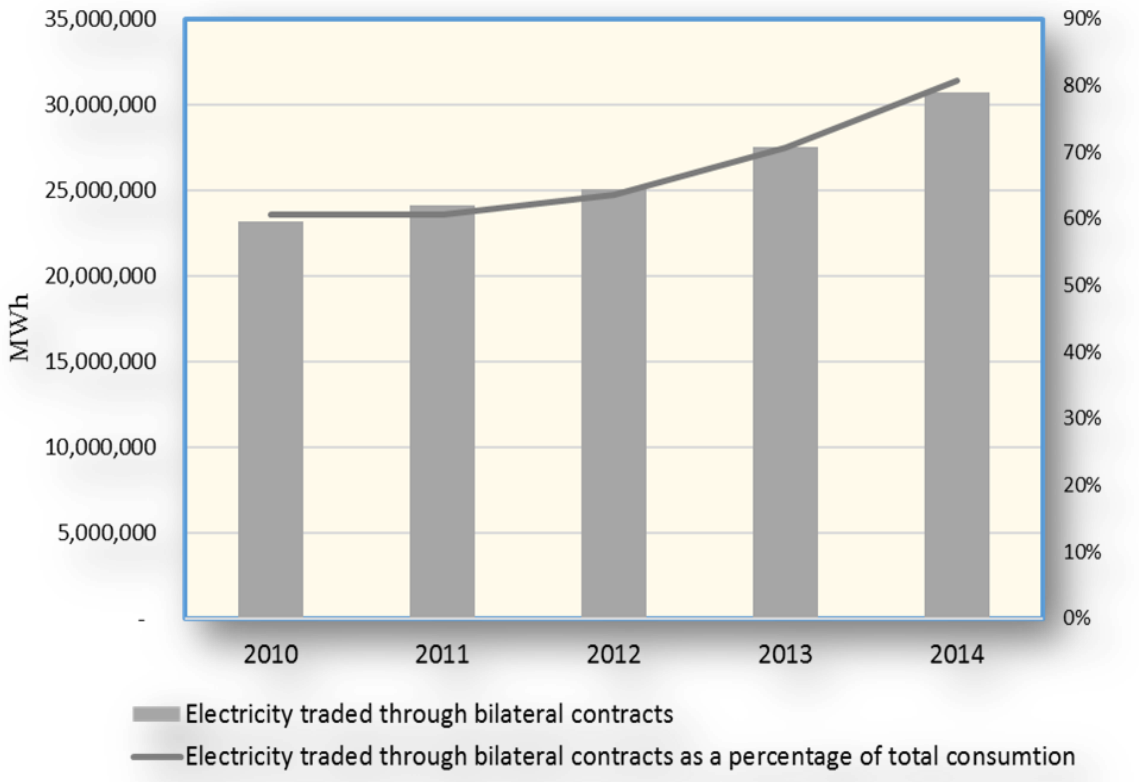


Figure 11 characterizes bilateral trading volumes in Contracting Parties and their share in overall transactions at the market. According to the data, **volumes traded through bilateral contracts increased** over the period[25]. Traded energy volumes through bilateral contracts have sharply increased in Albania in 2014 year and constituted 87% of wholesale trade. In Kosovo*, FYR Macedonia and Moldova almost 100% of electricity trade is based on bilateral contracts.

[25] Data from Serbia and Ukraine is not included.

Figure 11: Electricity traded through bilateral contracts as a percentage of the amount of total consumption in Contracting Parties 2010-2014 (MWh, %)



3. Cross border trade - utilization of cross border capacity

In order to achieve an efficient exchange of cross-border and balancing services, common standard products must be defined by TSOs and an adequate level of harmonization of core aspects of cross border capacities and balancing mechanisms should be defined. This would allow those products to achieve sufficient liquidity and adequate competition in the markets where they are traded. Coordinated allocation of cross-border capacities is one of the cornerstones for starting to harmonise market participation requirements in order to integrate national markets while aiming to reduce transaction costs, increase competition and transparency. It is important to analyze to which extent Contracting Parties are using harmonized methods or timeframes for cross-border transfer capacity calculation/allocation and to what extent the total transfer capability is utilized during commercial cross-border trade. In the following table the Contracting Parties' cross-border capacity calculation methods and timeframes are summarized.

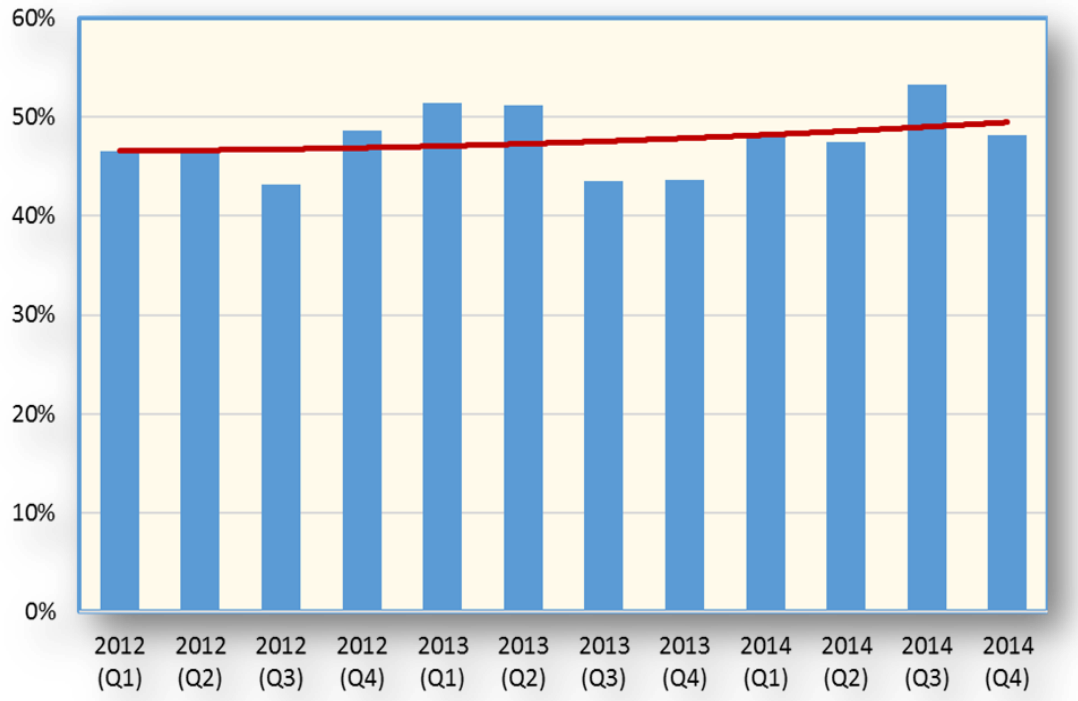
Table 4: Cross-border capacity calculation methods in electricity

Contracting Party	Frequency of capacity calculation	Capacity calculation methods	Limitation of cross-border capacity	TTC with neighbouring CPs (MW)
Bosnia and Herzegovina	Month ahead	Fully coordinated NTC[26]	No	4400
Montenegro	Year ahead, Month ahead and day ahead	Fully coordinated NTC	No	4810
Serbia	Year ahead Month ahead	Fully coordinated NTC	monthly NTC is calculated in order to solve congestion inside TSO control area	4822/5401[27]
Ukraine	Capacity is calculated for year ahead (month ahead and day-ahead in case of unscheduled change of network)	Pure bilateral NTC	No	-
FYR Macedonia	year ahead, month ahead, week ahead, day-ahead	Fully coordinated NTC	-	5425

The following figures provide an update on the use of existing cross-border transmission capacity for several timeframes and thereby present the level of commercial use of interconnections. Figure 12 shows the evolution of the commercial use of cross-border capacities at the day-ahead timeframe (for both directions on each border) over the last 12 quarters[28]. According to this figure, the **use of cross border capacity has slightly increased**. This could be due to a combination of reasons but it does not necessarily imply an efficiency increase in cross-border capacity utilization as it also includes cross-border power flows against price differentials. Nevertheless, it highlights the **increasing importance of closer to real-time trade**, a trend that was already observed in the Energy Community's more developed electricity markets.

[26] Net Transfer Capacity, ie transmission capacity for import and export across borders which can be safely made available.
[27] Two values refer to summer/winter limits.
[28] The percentages of use of the interconnections are calculated for every border and direction as follows: all the hourly D-1 net nominations (which usually include the sum of nominations coming from day-ahead trade and long-term trade) are added and divided by the total amount of capacity offered to the market (NTC). The results are shown in aggregated form for all borders. The used methodology differs from the one used by ACER in its Market Monitoring Reports to the extent that ACER computes both directions of an interconnector, so in practice the maximum possible use would be only around 50%. According to the method used in the present report, calculation of capacity usage based on one average NTC was adopted due to lack of data for CPs compared to data availability for ACER´s methodology. For the methodology used in the present 100% use of the capacity would be possible as calculation assumption

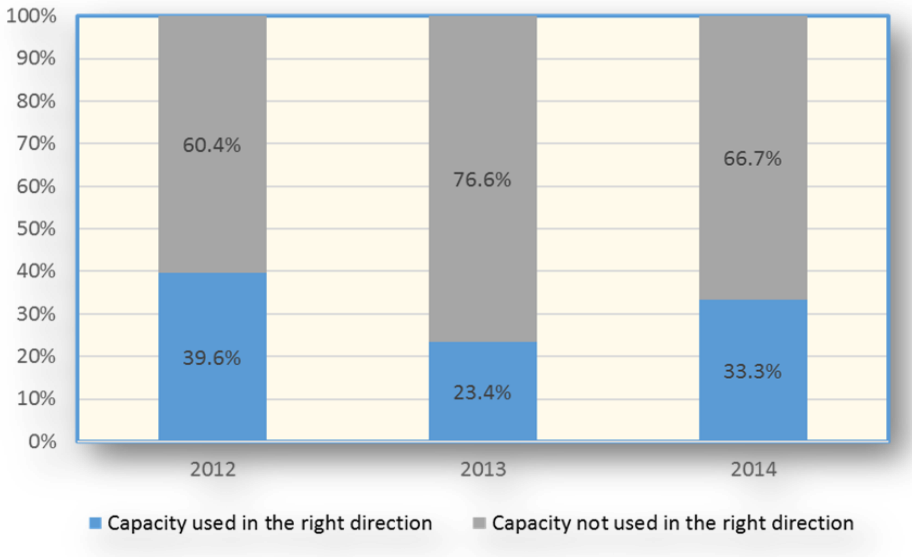
Figure 12: Evolution of the quarterly level of commercial use of electricity interconnections (day-ahead) as a percentage of NTC values – 2012-2014 (%)[29]



Price coupling eliminates "wrong way"[30] flows and hence improves the use of cross-border capacities for trade. In the Contracting Parties **market coupling has not been implemented yet**, hence when prices diverge across a border, the full utilization of the cross-border capacity in the "right direction" is essential for achieving efficient use of an interconnector. The graph below shows a slightly declining trend of this indicator over the recent years for the selected parties.

[29] Data from Albania, Kosovo*, FYR Macedonia and Moldova is not included.
[30] A "wrong-way flow" means the case where the final net nomination on a given border takes place from the higher to the lower price zone.

Figure 13: Percentage of NTC used in the "right direction" in the presence of significant price differentials - Bosnia and Herzegovina, Moldova, Montenegro and Ukraine borders – 2012-2014 (%)



Figures 14 and 15 show the evolution of **"wrong way" flows** across the selected Contracting Parties' borders that are used to describe utilization efficiency of cross-border transfer capacities. Despite the fact that this tendency has **decreased significantly** over years, it is still present at the Ukraine-Moldova border. "Wrong flows" on the Ukraine-Moldova border are due to the dependence of the Moldavian power system on electricity imports and partially also due to the absence of harmonized cross-border capacity allocation instruments.

Figure 14: Percentage of months in a year with net day-ahead nominations against price differentials per border – 2012-2014 (%)

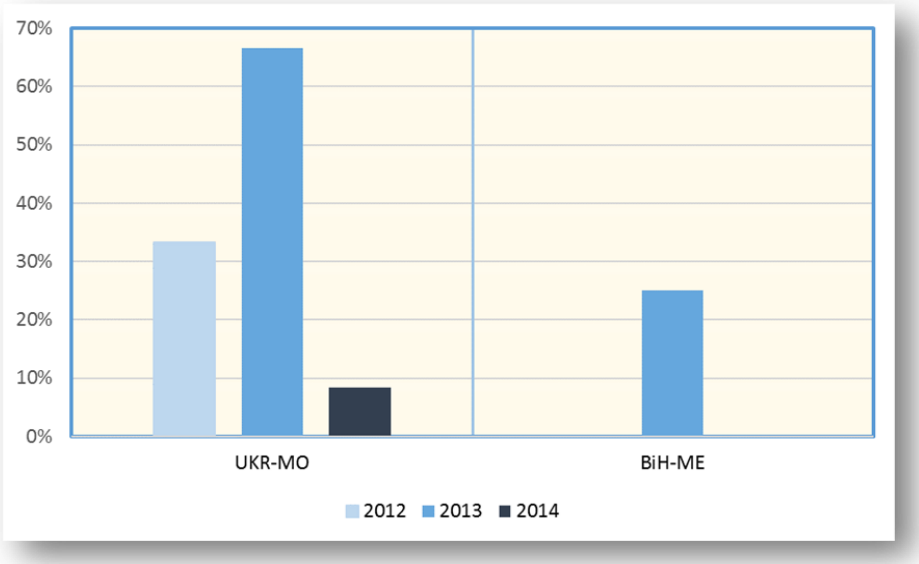
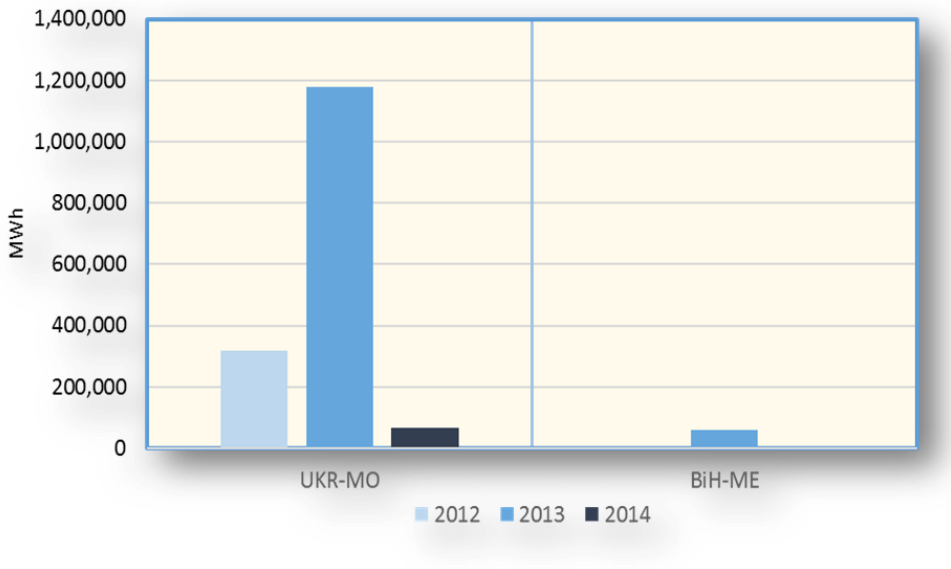
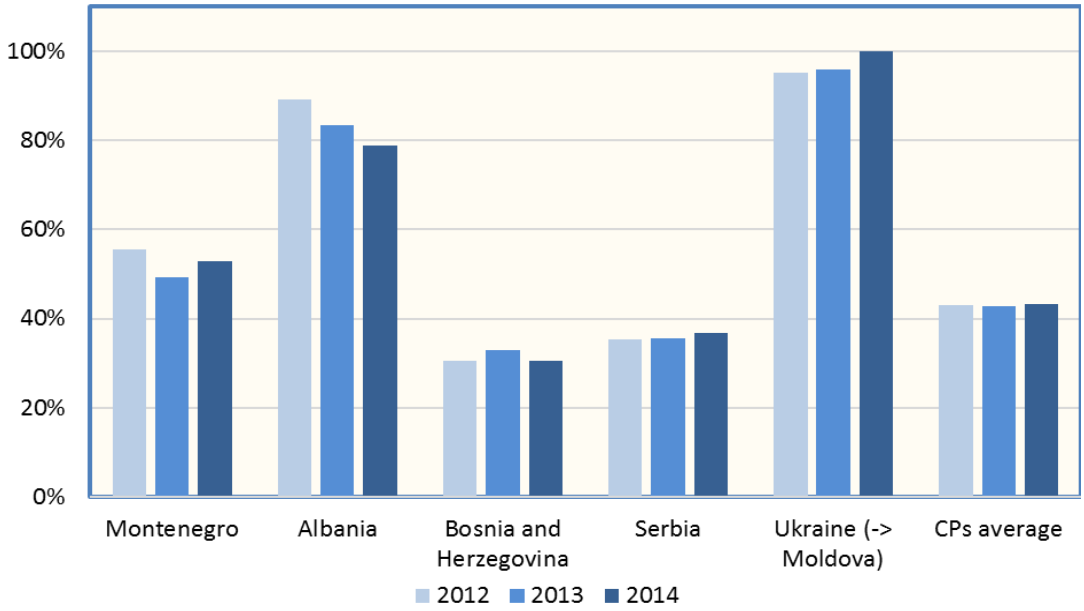


Figure 15: Volumes of net D-1 commercial nominations against price differentials per border – 2012-2014 (MWh)



Cross-border capacities are offered to the market and traded in different timeframes. After the forward and day-ahead timeframes, remaining capacities are offered for trade during the intraday timeframe and for exchanges in the balancing timeframe. This section presents a review of capacity use in these timeframes in order to identify remaining barriers for further integration of national electricity markets. First, it evaluates the impact of different capacity allocation methods on cross-border trade. Secondly, it assesses the potential use of the remaining cross-border capacity after the day-ahead timeframe to increase intraday cross-border trade. Figure 16 shows the **level month ahead allocation of cross-border NTC**. According to the data provided, cross border transfer capacity allocation from Ukraine to Moldova reached almost 100%, highlighting the need for further analysis under the light of at the same time reportedly decreased electricity imports in Moldova from Ukraine since 2014.

Figure 16: Month-ahead cross-border electricity transmission capacity allocation as a percentage of declared NTC – 2012-2014



The level of liquidity in intraday trade is a key element in achieving well-functioning intraday markets and efficient cross-border intraday trading. Figures 17 and 18 show the day-ahead and intraday cross border trade level for Serbia and Bosnia and Herzegovina. According to the figures, **low utilization levels of intraday cross border capacities compared to the day-ahead timeframe** are obvious, despite increasing volumes at intraday timeframes. Increasing intraday trade is also essential for the development of intermittent power sources in order to incentivize them in the same way as conventional generation to reduce their imbalances.

Figure 17: Level of electricity intraday cross-border trade: absolute sum of net intraday nominations for a selection of Contracting Parties– 2012-2014 (MWh)

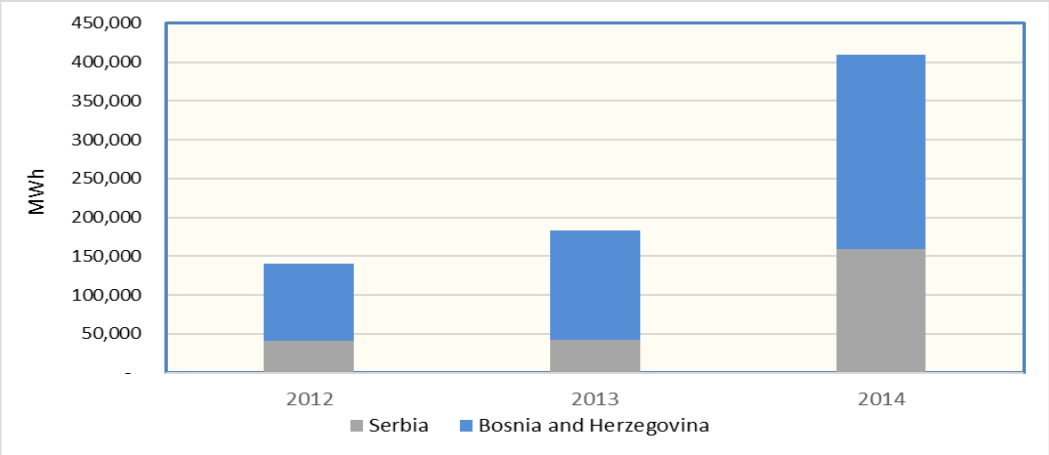


Figure 18: Level of electricity day ahead cross-border trade: absolute sum of net day-ahead nominations for a selection of Contracting Parties– 2012-2014 (MWh)

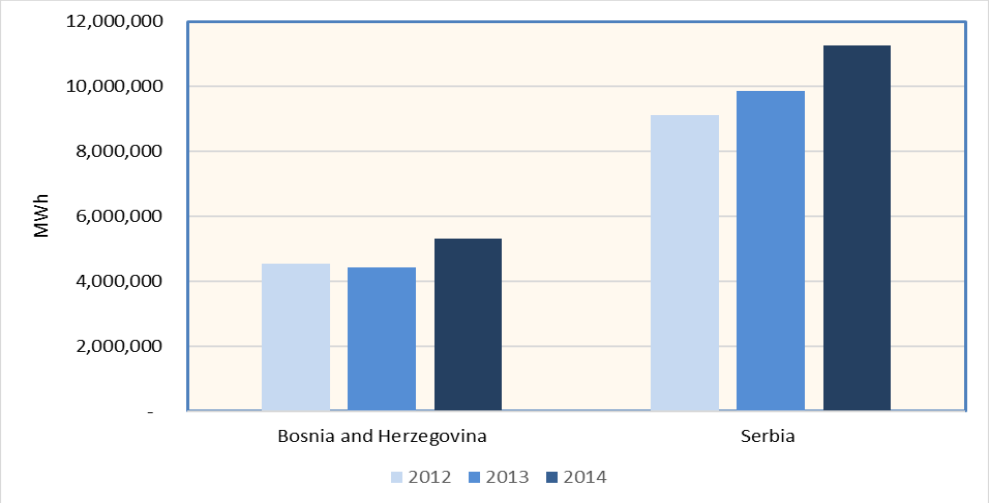
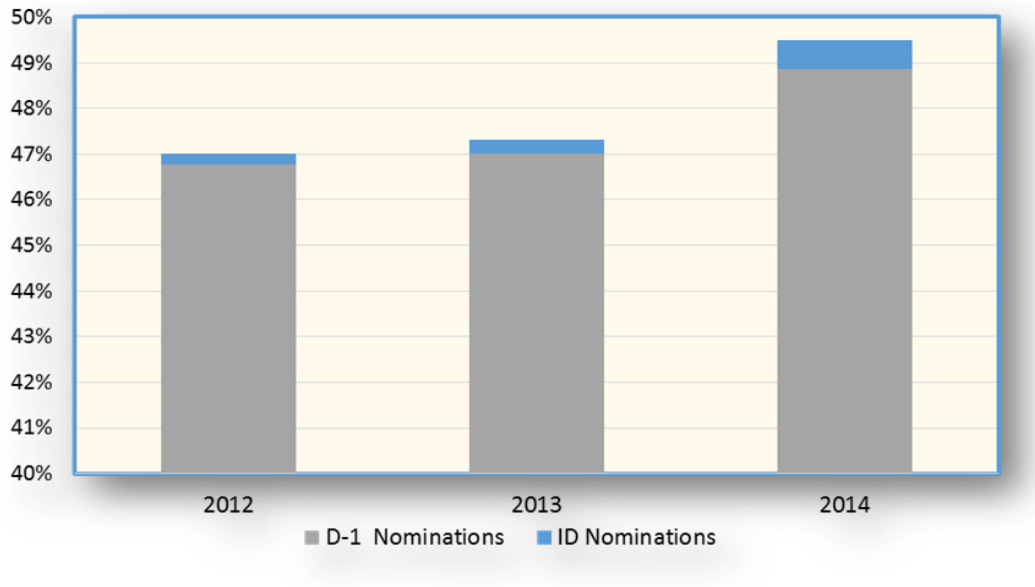


Figure 19: Evolution of annual level (average values) of commercial use of electricity interconnections (day-ahead and intraday) as a percentage of NTC values for Contracting Parties'[31] borders – 2012-2014 (%)



The figures below show information about balancing energy contracted abroad and the percentage of balancing energy activated abroad compared to total balancing energy activated at national balancing markets. They illustrate that **the exchange of balancing services across the analysed borders are currently limited**[32].

Figure 20: Total amount of electricity balancing energy contracted abroad by Serbia, FYR of Macedonia and Montenegro – 2010-2014 (MWh)

[31] Ukraine, Montenegro, Bosnia and Herzegovina and Serbia.
[32] The data used to calculate the percentages presented in this figure refer to balancing energy activated from all types of reserves. Data regarding such service sharing across border are not available for parties other than Serbia, FYR of Macedonia and Montenegro

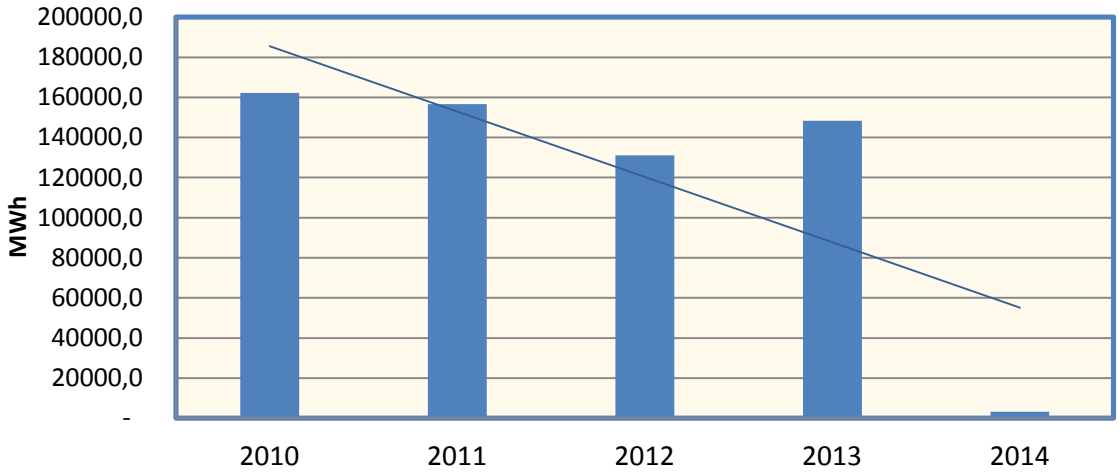
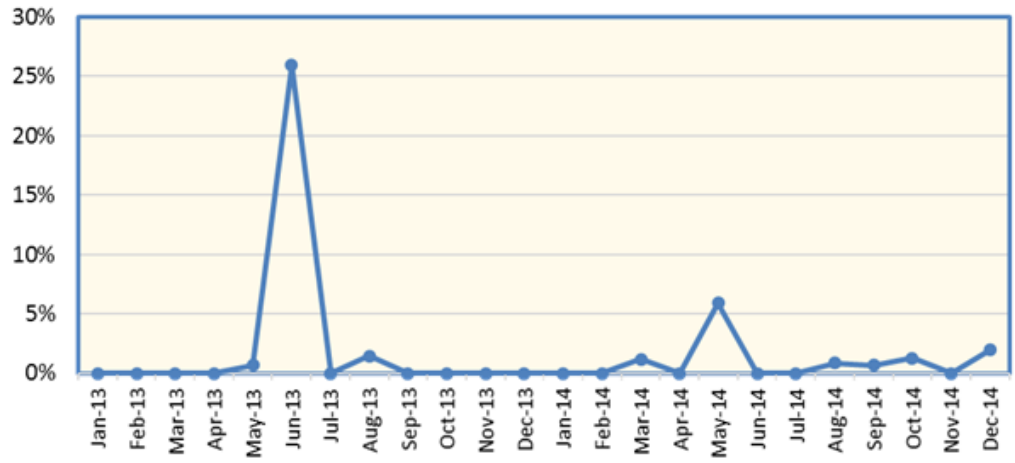


Figure 21: Electricity balancing energy activated abroad as a percentage of the amount of total balancing energy activated in national balancing markets of Serbia and Montenegro 2013-2014 (%)



The following figures show curtailed capacities, the number of curtailment cases and congestion revenues. Capacity curtailment, if implemented by a TSO, is followed by compensation payments paid to the holders of cross-border transmission rights. However, **despite existing curtailment cases in Contracting Parties, compensation information is not available**. According to the data reports from Contracting Parties, all congestion revenue was taken into account as income by the NRAs when calculating network tariffs.

Figure 22: Electricity - congestion revenues (Euros) – 2012-2014

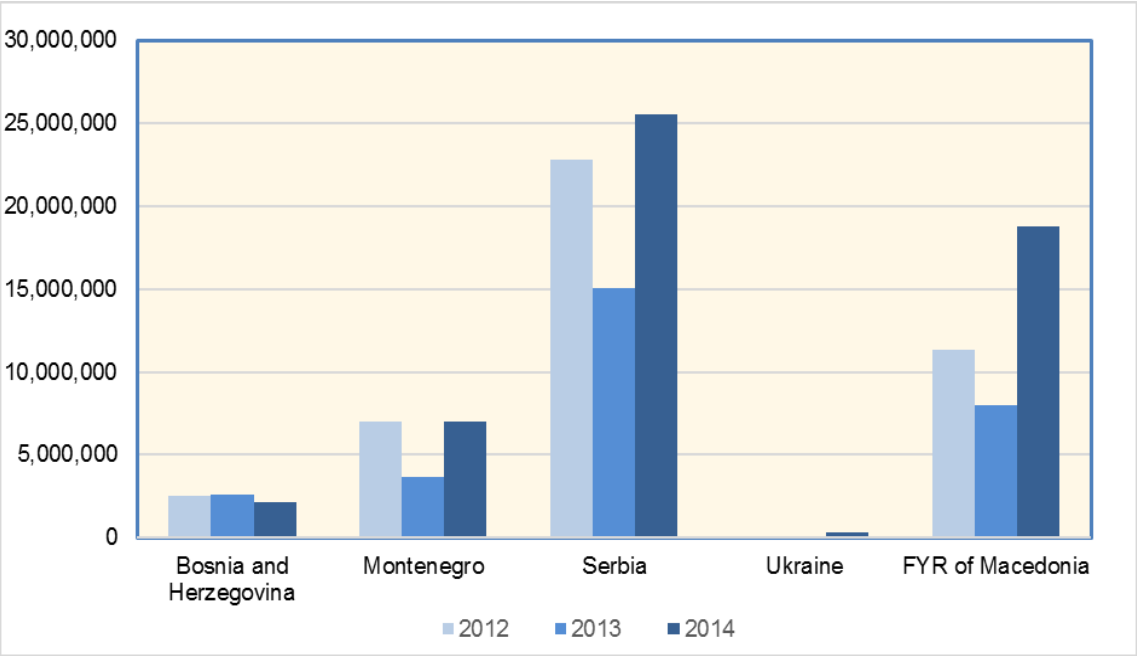
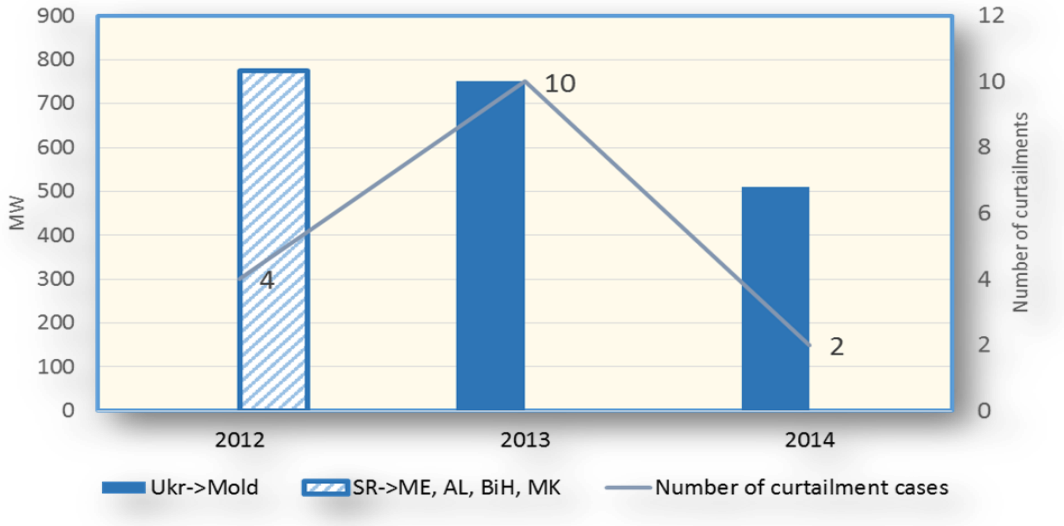


Figure 23: Curtailed capacities and number of curtailment cases per year - 2012-2014



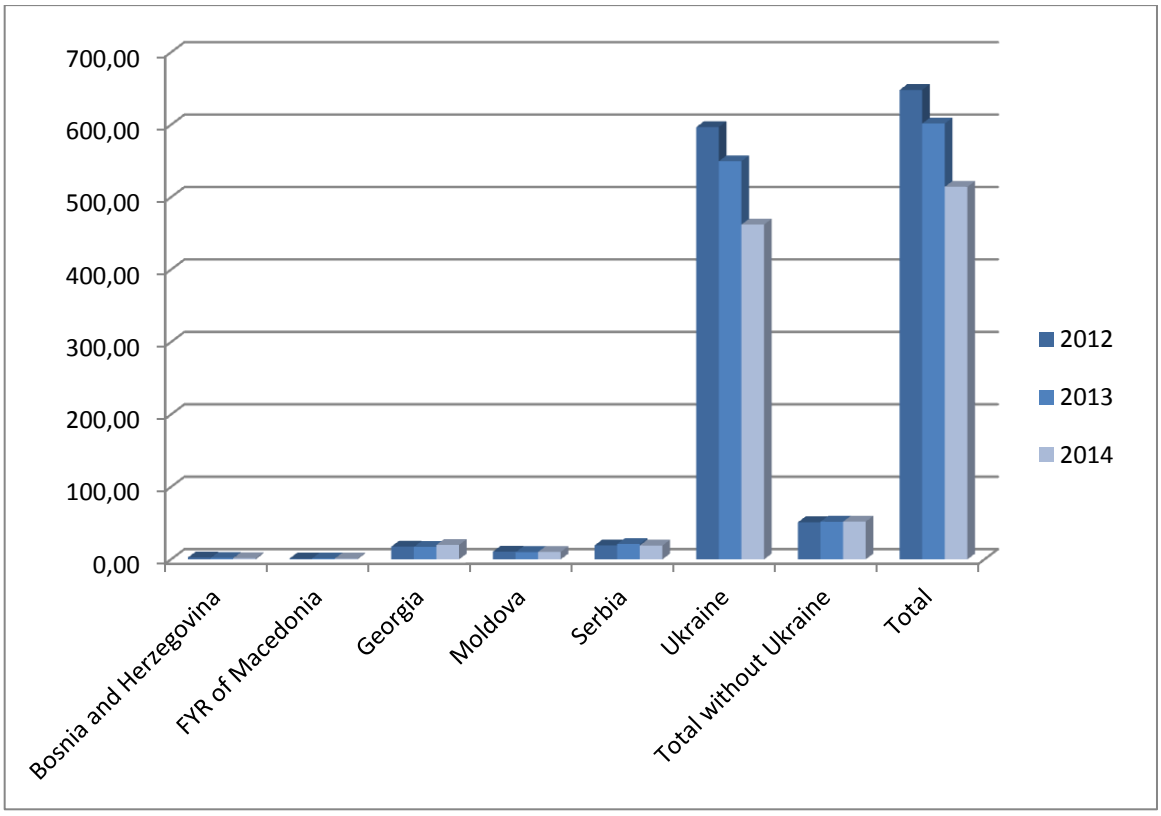
B. GAS

1. Wholesale gas market characteristics and prices

The gross inland gas consumption[33] in the Contracting Parties and Georgia decreased on average from 2013 to 2014 by almost 15%. The gas **consumption substantially decreased** in all countries, except Moldova and Georgia.

However, the reasons for consumption decrease differ between the countries. In Ukraine, decrease of consumption was mainly initiated on purpose with the aim of lowering import (dependence). In other countries decline of industry consumption and mild autumn / winter temperatures contributed to the lower gas consumption. The figures below present the gross inland gas consumption in the period 2012- 2014 – including and excluding Ukraine[34] – as well as consumption growth rates by country.

Figure 24: Gross inland gas consumption (in TWh[35]/year)



[33] Calculated as follows: Gross Inland Consumption = production + imports - exports + storage variations.
[34] With a view to provide comparability having in mind the size of the Ukraine gas market compared to those of the other analyzed markets.
[35] Terra Watt Hour.

Figure 25: Gross inland gas consumption without Ukraine (in TWh/year)

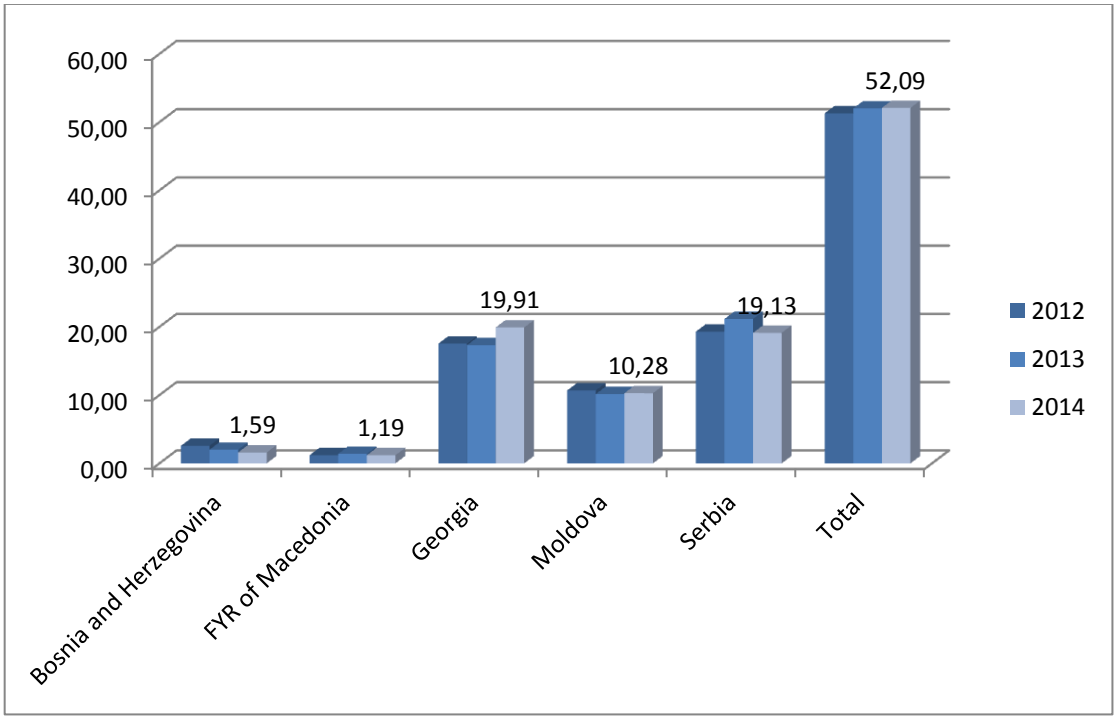
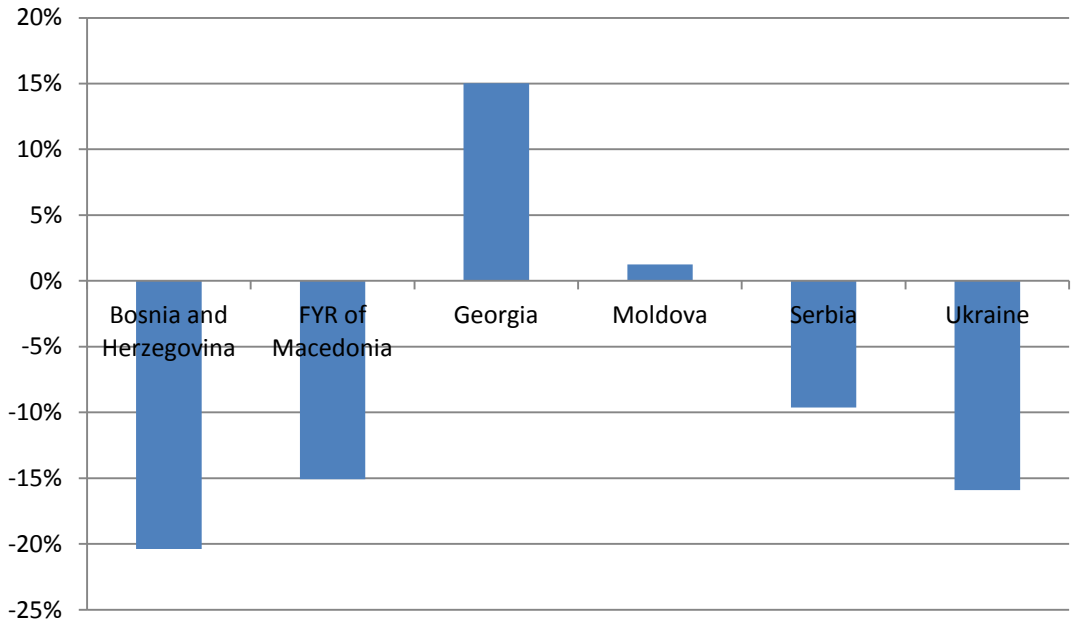


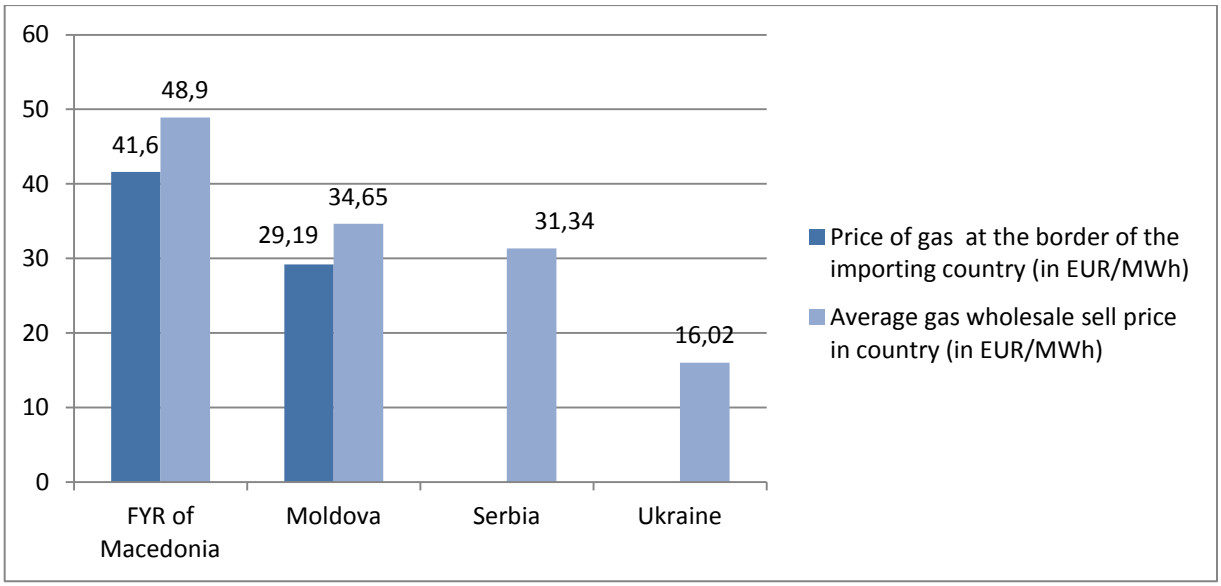
Figure 26: Gas consumption growth rates 2014/2013



Natural gas is mainly imported to the Contracting Parties and Georgia. In Bosnia and Herzegovina and FYR of Macedonia import represents 100% of the final consumption, in Georgia and Moldova more than 99%, in Serbia between 70% and 80%. In Ukraine 46% of the gas consumed in 2014 depended on imports with the majority of gas imported from Russia, 25% of imported gas in 2014 originated from EU countries. In the case of Georgia 90% of total imports originated in 2014 from Azerbaijan, the rest was imported from Russia.

For the countries where related information is available, average yearly prices at the borders of the importing countries as well as the average wholesale sell prices for the years 2013 and 2014 are shown in the figures below. The average weighted price of gas imported from EU countries to Ukraine in the last quarter of 2014 amounted to 26,7 EUR/MWh[36]. Unsurprisingly, in countries with 100% import dependence, wholesale prices are higher than border prices; in Serbia these two prices are almost the same, while in Ukraine the average wholesale price is substantially lower due to the low price of domestically produced gas. Average border prices decreased from 2013 to 2014 only in FYR of Macedonia, while in Moldova it slightly rose.

Figure 27: Gas wholesale prices in 2013 (in EUR/MWh)



[36] Recalculated based on the information published at http://naftogaz-europe.com/article/en/StatisticsGasPrices.

Figure 28: Gas wholesale prices in 2014 (in MWh)

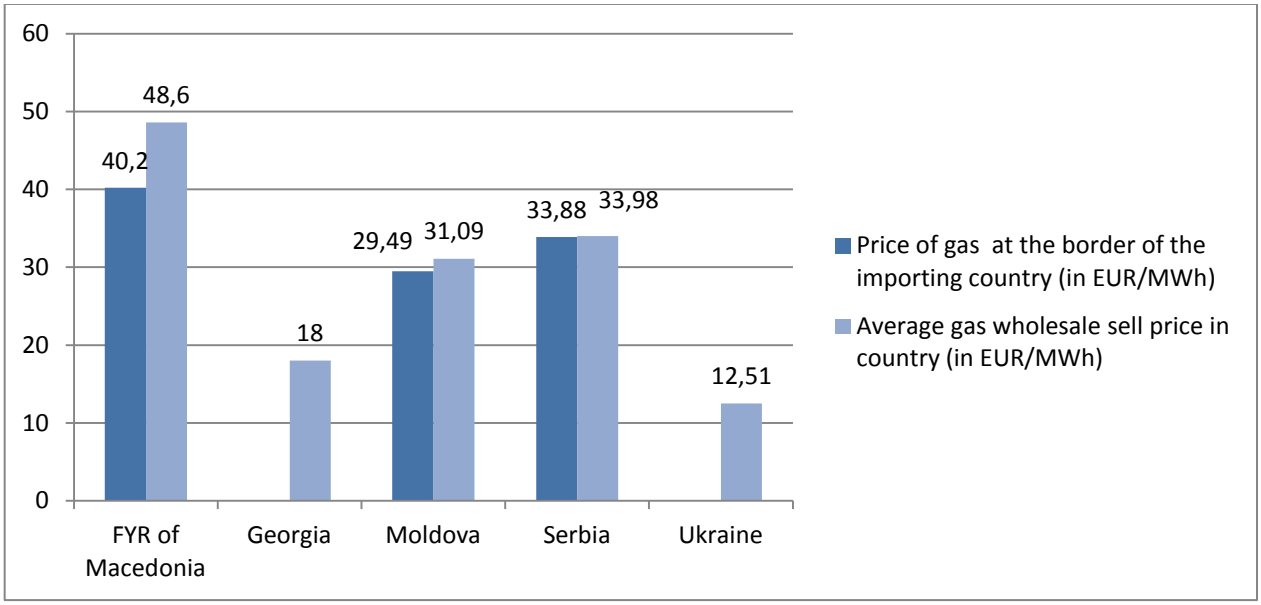


Figure 29: Average gas wholesale price (in EUR/MWh)

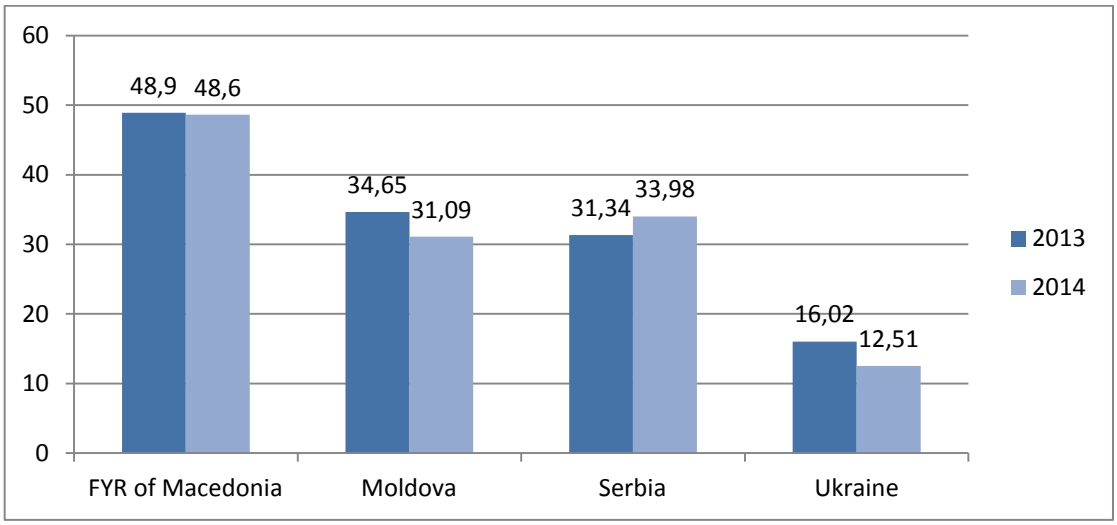
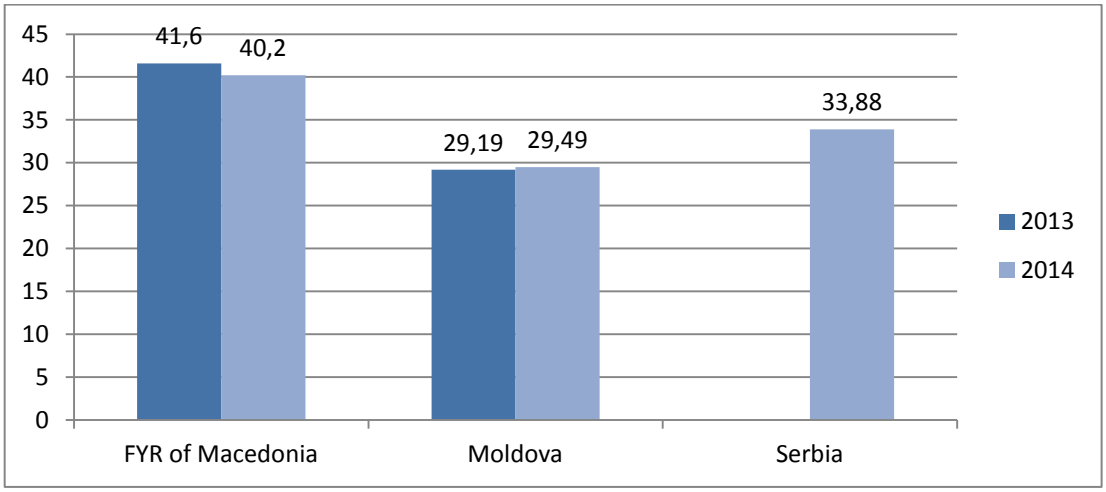


Figure 30: Average yearly price of gas at the border of importing countries (in EUR/MWh)



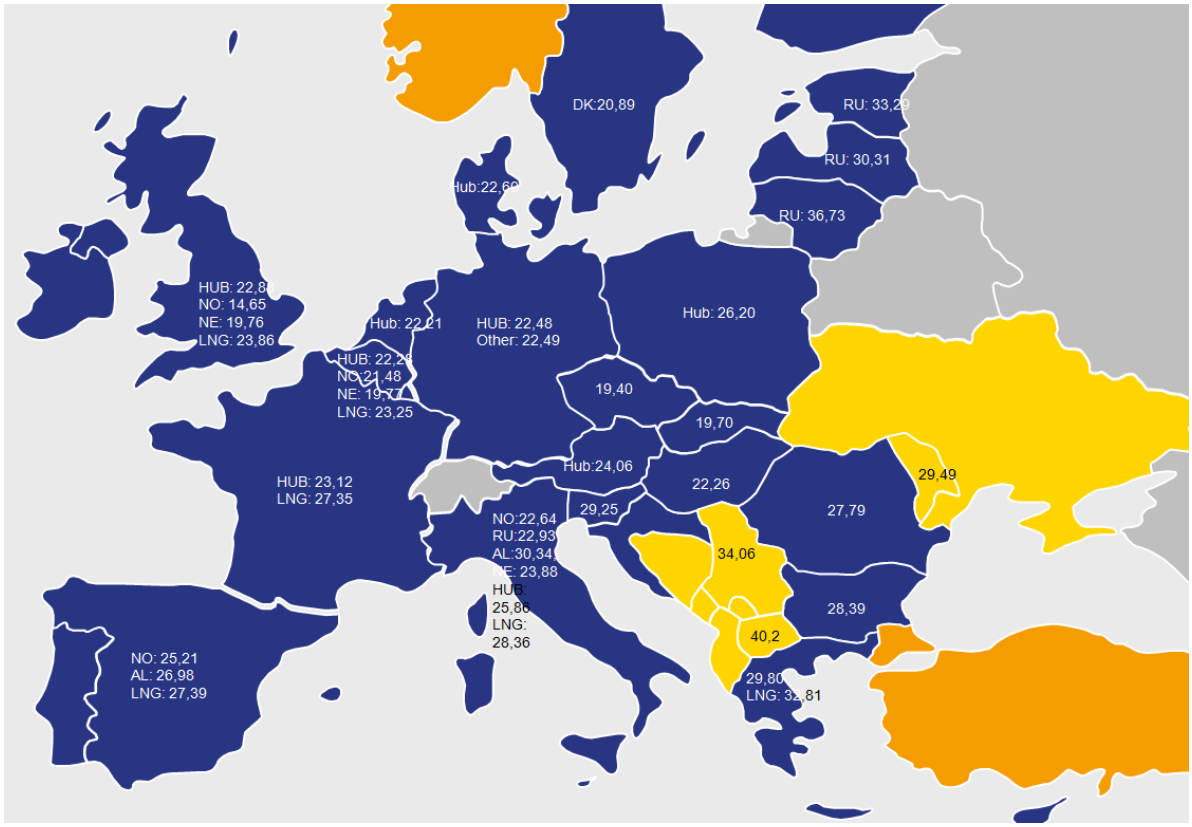
Wholesale price regulation is abandoned in all analyzed markets with the exception of Ukraine where prices for gas produced in state owned production companies are regulated by the national regulator, NEURC, and updated once a year[37].

Gas exchanges do not exist in the analyzed markets. Traders and suppliers active on those markets also do not buy gas on any other gas exchanges but all gas is provided via long-term and short-term bilateral supply contracts[38]. The exact quantities of gas provided via such contracts are usually not available to the regulatory authorities[39]. However, it is known that 50% of gas demand in Georgia is covered by long-term contracts. The number of shippers active at the interconnection points varies from one in Bosnia and Herzegovina and Moldova to two in FYR of Macedonia (where also two customers buy gas directly at the interconnection point), three in Serbia, five in Georgia and 17 in Ukraine.

Underdeveloped competitive market conditions – caused by lack of interconnection infrastructure and diversification of sources on one side but also by not fully developed legislative and functional preconditions on the other side – contribute to **higher average yearly prices at the borders of importing countries** compared to wholesale gas prices in the neighboring EU countries. The figure below presents the average yearly border prices for Contracting Parties in 2014 in comparison with estimated border prices for gas from Russia in the period September to November 2014 in a number of neighboring EU countries[40].

[37] With the application of the new Gas Law implementing the 3rd Energy Package this practice changed in 2015: only production price of gas dedicated to fulfilling public service obligation is regulated.
[38] Long- term contracts are those with duration of more than 1 year.
[39] With the exception of the Serbian NRA.
[40] Source for estimated border, hub and LNG prices in EU countries is the Quarterly Report on European Gas Markets, published by DG Energy's Market Observatory for Energy, for the fourth quarter of 2014: https://ec.europa.eu/energy/sites/ener/files/documents/quarterly_report_on_european_gas_markets_2014_q4.pdf. The comparison is only provisional, due to the lack of comparable data for the Energy Community Contracting Parties. Additionally, it has to be noted that 9 months time lag between oil and gas prices exists in the most of the long term gas contracts and gas hub prices mostly follow oil prices immediately.

Figure 31 Estimated border prices of gas imported from Russia, hub and LNG prices in selected EnC CPs and EU MSs[41] in 2014



Wholesale prices in neighboring EU countries also differ, showing the influence of growing spot markets and diversification on the reduction of prices. There is a *"steady, structural move away from oil indexation in many continental European companies' supply contracts. Contract renegotiations and a series of arbitration cases gave European buyers a reduced exposure to oil by more hub- related pricing or lower level of remaining oil- linked contracts."* [42] According to ACER[43], although the oil-indexed and semi oil-indexed long-term contract prices in CEE and SEE countries remain to be higher than gas hub spot prices, the gap between them narrowed in comparison to previous years.

Low gas market liquidity and high wholesale prices in the Contracting Parties are certainly indicators for **poor market integration**. Efforts towards better integration of the EU and

[41] For EU countries: period September-November 2014.
[42] SUND Energy Report to the Energy Community, How to get more fair gas prices?, February 2015, https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/3648167/Sund_Fair_Gas_Prices_with_cover..pdf.
[43] ACER/CEER, Annual Report on the results of monitoring the internal electricity and natural gas markets in 2013, http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2014.pdf, p.173.

Energy Community gas markets should contribute to increased liquidity and convergence of prices.

Losses resulting from limited integration of national gas markets can be illustrated by a simplified example of calculating welfare losses: average annual consumption per household is multiplied by the difference between estimated average wholesale price in a country and a reference price of Austrian gas hub. This provides a rough estimate of the potential savings that could be achieved if wholesale markets of the Energy Community Contracting Parties would have similar liquidity and competition levels as Austria[44].

Table 3: Estimated wholesale gas level of gross welfare losses per EnC CP average household in 2014

Gas hub price in Austria for the period Sep-Nov 2014 24,06 EUR/MWh	Average annual household consumption in 2014 (in MWh)	Average price at the border in 2014 (EUR/MWh)	Difference between average price and gas hub price in Austria for (EUR/MWh)	Gross welfare losses per average household consumer in EUR/year
	1	2	3	4=1x3
Bosnia and Herzegovina	8,25[45]	40,68[46]	16,62	137,11
FYR of Macedonia	8,40	40,2	16,14	135,58
Moldova	4,1	29,49	5,43	22,26
Serbia	6,9	34,06	10,00	69
Ukraine	12,3	26,47[47]	2,41	29,64

This simplified exercise shows that **access to liquid gas markets would contribute to the welfare of household customers**, especially in countries where no gas transit routes are available, i.e. Bosnia and Herzegovina and FYR of Macedonia. Households would gain certain savings also in other Energy Community Contracting Parties - Moldova, Serbia and Ukraine - if gas supplies would be more diversified.

[44] Other factors such as transmission costs or capacity availability were not taken into account.
[45] Source: BHAS, Survey on Energy consumption in households in Bosnia and Herzegovina.
[46] Source: BH Gas, the sole importer of gas to BIH.
[47] http://naftogaz-europe.com/article/en/StatisticsGasPrices
Average price at the border in the 4th quarter 2014 = 360 USD/1000 m3.
Average exchange rate of EUR/USD in the 4th quarter 2014 = 1.2498

2. Market dominance

Market concentration is an important indicator for assessing the performance of wholesale markets. In its European Gas Target Model [48] ACER included the **Herfindahl-Hirschmann Index** (HHI) in the list of market health metrics and set a threshold of ≤ 2000 above which markets are considered as concentrated. HHI is calculated as sum of squared market shares (in %) of all different upstream companies supplying a market at import level (i.e. sourcing the gas into the country, not by the shares of the companies buying this gas in a country). The table below summarized HHIs for Contracting Parties.

Table 4 HHI for wholesale gas markets in the Contracting Parties and Georgia, calculated for shares in 2014

Country	Herfindahl- Hirschmann Index
Bosnia and Herzegovina	10.000
FYR of Macedonia	10.000
Moldova	9.980
Serbia	10.000
Ukraine	4.333[49]
Georgia	3.769

Other indicators showing dominance on the gas market are the number of companies selling at least 5% of available gas and the market share of the three biggest companies. Relevant results for the assessed markets are shown hereinafter.

[48] http://www.acer.europa.eu/Events/Presentation-of-ACER-Gas-Target-Model-/Documents/European%20Gas%20Target%20Model%20Review%20and%20Update.pdf.

[49] Calculated based on: http://www.theinsider.ua/rus/business/kto-i-otkuda-postavlyal-gaz-v-ukrainu; NRA cannot confirm this information.

Table 5 Dominance of wholesale supply companies in gas markets of the Contracting Parties and Georgia in 2014

Country	Number of companies selling at least 5% of available gas[50]	Shares of 3 biggest companies in the market (in %)		
		1	2	3
Bosnia and Herzegovina	1	100	-	-
FYR of Macedonia	3	34,3	32,4	29,52
Moldova	3	62,10	9,10	5,70
Serbia	2	75	25	-
Ukraine	At least 1, data not available	N/A	N/A	N/A
Georgia	4	45	37	11

Both market concentration indicators presented above show that the **gas markets of the Contracting Parties and Georgia are highly concentrated,** i.e. only very limited number of companies with substantial market shares are sourcing gas to the analyzed national markets.

3. Transmission tariffs and network access regimes

Tariffs for transmission network access as well as the methodologies used for their calculation significantly influence gas trade, liquidity and competition. Furthermore they also affect wholesale market integration. Directive 2009/73 [51] and Regulation 715/2009 [52] therefore require that network tariffs are transparent and non- discriminatory (avoiding cross- subsidies between network users), providing incentives for investments and interoperability of networks as well as created so not to restrict market liquidity or trade across borders of different

[50] Available gas calculated as: available gas = gross inland consumption (production + net imports + storage variations).
[51] Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, OJ L 211, p 94 et seq.
[52] Regulation (EC) 715/2009 of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) 1775/2005, OJ L 211 p 36 et seq.

transmission systems[53]. Still not obliged to set tariffs for each entry and exit point separately in 2014[54], TSOs and NRAs of the analyzed markets were implementing **post stamp methodologies** for calculation of transmission tariffs whereby all costs are allocated to system users at their exits from the transmission system and expressed in monetary unit per m3 or m3/day/year (the latter only in Serbia, where certain proportion of costs is allocated to capacity) on yearly basis. Average transmission tariffs in 2014 are presented in the table below.

Table 6 Average yearly gas transmission tariffs in 2014 (in EUR/GWh)

Country	Average transmission tariffs in 2014 (in EUR/GWh)	Share of transmission costs in the end-user price of gas (in %)	
		industry	households
FYR of Macedonia	2487	N/A	N/A
Moldova	110	0,38	0,34
Serbia	992	2,6	2,4
Ukraine	671,98	N/A	4
Georgia	564	1,7-2,2	3,6

Average **gas transmission tariffs** in 2014 **differ a lot** among Contracting Parties, starting from only 110 EUR/GWh in Moldova to 2487 EUR/GWh in FYR of Macedonia. Without detailed investigation of costs included in the allowed revenue or transmission tariff structures, it is not possible to explain precisely the reasons for such differences. However, in the case of FYR of Macedonia the huge investment costs in relation to still low usage of transmission network contribute to the very high transmission tariffs. The current shares of transmission tariffs in the end-user prices of gas are estimated to 2-4% in Georgia, Serbia and Ukraine. However the transmission network charges are *per se* more stable than gas commodity prices, i.e. the shares fluctuate with the changes in gas prices.

The main principles of transmission tariff settings as well as tariff structures are presented in the table below.

[53] In order to facilitate development of such tariffs and tariff methodologies, ACER published Framework Guidelines on harmonized Transmission Tariff Structure on whose ground ENTSO-G prepared and submitted to the European Commission a related Network Code.
[54] Contracting Parties were obliged to transpose the Third Energy Package by 1 January 2015.

Table 7 Principles of gas transmission tariffs calculation in the Contracting Parties and Georgia

Country	Cost allocation methodology		Price control mechanism		Role of NRA in tariff setting		Role of TSO		Tariff recovery basis	
	Post stamp	other[55]	Price cap	Revenue cap	Fixing methodology	Approval of tariffs	Methodology proposal	Calculation of tariffs	Capacity (%)	Commodity (%)
Bosnia and Herzegovina	x									
FYR of Macedonia	x			x	x	x	x	x	0	100
Moldova	x			x		x		x		100
Serbia	x			x	x	x		x	30	70
Ukraine	x		x		x	x		x	0	100
Georgia	x		x		x	x			0	100

[55] E.g. Locational signals considered, capacity weighted distance.

Capacities are not offered for periods shorter than one year, therefore there are **no multipliers for calculating short-period tariffs**.

In all countries except Moldova tariff methodologies are **fixed by the regulatory authorities**[56], tariffs are calculated by the TSOs and finally approved by the regulators. In the Contracting Parties there are no **dedicated transit pipelines** with particular conditions. The exception is the Ananiev – Tiraspol – Izmail (ATI) Pipeline in Moldova. In Georgia, a section of the South Caucasus Pipeline (or Baku - Tbilisi –Erzurum pipeline) is a transit pipeline that is operated by BP, not the Georgian TSO. Through one interconnection point the South Caucasus Pipeline is linked to the Georgian transmission system.

Beside capacity tarification, transparent and non-discriminatory **capacity allocation** harmonized on interconnection points between TSOs is another important prerequisite for having liquid and competitive wholesale gas markets. On EU level Regulation (EC) 984/2013[57] requires harmonized allocation procedures and standardized product duration at cross-border IPs to enhance hub liquidity and facilitate gas. Said Regulation, alongside with other EU Third Package related Network Code Regulations[58], is still not applicable for the interconnection points between EU Member States and Energy Community Contacting Parties[59] as well as between the Energy Community Contracting Parties. It goes without saying that capacity allocation harmonization among all European countries would bring benefits for gas trade and market development.

Before providing an overview of the capacity allocation and congestion management procedures implemented in the Energy Community Contracting Parties, it is worth noting the capacity utilization at interconnection points between those countries.

[56] In FYR of Macedonia the methodology is proposed by the TSO.
[57] Regulation (EC) 984/2013 establishing a Network Code on Capacity Allocation Mechanisms in Gas Transmission Systems and supplementing Regulation (EC) No 715/2009 of the European Parliament and of the Council (OJ L 273 of 15.10.2013, p 5 et seq)
[58] On balancing, interoperability as well as on congestion management mechanisms.
[59] Unless a NRA of an EU MS decides that at its particular IPs with EnC CPs NC provisions are implemented.

Table 8 Gas cross- border capacity utilization in the Contracting Parties and Georgia in 2014

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization[60] (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
Sudzha	RU-UA	3.565.923,29	80,03%	2.883.614,07	1.412.377,26	2.588.334,46
Pisarevka	RU-UA	1.608.811,88	50,59%	957.577,95	390.613,99	650.233,82
Sokhranovka	RU-UA	1.525.883,44	23,70%	245.773,56	120.361,05	277.485,79
Serebryanka	RU-UA	431.227,98	0,00%	18.123,71	0	0
Valuyki	RU-UA	845.870,16	65,99%	339.641,50	219.864,40	436.700,51
Mozyr	BY-UA	199.028,25	89,20%	127.969,14	16.977,92	110.254,20

[60] Calculated as peak daily import/export gas flow divided with technical import/export capacity

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization[60] (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
Kobryn	BY-UA	958.652,92	25,72%	132.172,28	76.835,95	162.583,78
Platovo	RU-UA	175.481,94	51,49%	36.068,67	13.514,09	67.504,32
Germanowize	PL-UA	46.784,91	107,93%	46.784,91	26.120,67	44.448,50
Beregdarog	HU-UA	182.787,57	58,24%	182.787,57	17.457,52	77.738,79
Uzhgorod	UA-SK	2.517.708,00	61,94%	2.303.415,53	935.286,57	1.126.907,13
Budince	SK- UA	435.208,50	83,19%	109.710,00	105.936,06	328.089,33
Beregovo	UA-HU	437.862,19	64,34%	386.918,20	193.804,77	271.095,62
Dozdovichi	UA-PL	165.856,87	94,75%	142.784,18	103.273,67	144.539,27

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization[60] (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
Orlovka	UA-RO	888.993,01	88,68%	603.628,21	536.137,38	669.921,13
Tekovo	UA-RO	149.271,18	37,85%	48.290,30	1.324,67	8.825,27
Moldova (all)[61]	UA-MD	116.099,81	152,59%	94.493,88	84.740,21	137.967,41
ACB (Aneniev-Cernauti-Bogorodceni)	UA-MD	267.000[62]	10,32%	28.490,37	27.542,60	4.504,28

[61] Data provided by Ukrainian NRA and TSO.
[62] Used in direction UKR-MD, 82.6% of volume is for the national market, the rest for transit.

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
RI (Razdelinaia – Izmail)	UA-MD	390.000[63]	16,16%	65.154,76	62.987,32	8.853,74
ŞDKRI (Şebelinka – Dnepropetrovsk – Krivoi Rog – Razdelinaia – Izmail)						
ATI (Ananiev – Tiraspol – Izmail)	UA-MD	534.000[64]	80,57%	444.962,79	430.160,65	43.508,58

[63] 7% of transported volume are for country consumption, 93%- for transit

[64] Exclusively for transit

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
ACB (Aneniev-Cernauti-Bogorodceni)	MD-UA	266.963,31[65]	1,74%	4.189,12	4.655,84	593,61
RI (Razdelinaia – Izmail)	MD-UA	389.766,43[66]	15,03%	60.480,46	58.585,10	8.151,55
ŞDKRI (Şebelinka – Dnepropetrovsk – Krivoi Rog – Razdelinaia – Izmail)						
ATI (Ananiev – Tiraspol – Izmail)	MD-UA	533.926,62[67]	80,43%	444.171,93	429.415,82	43.384,98

[65] Used in direction UKR-MD, 82.6% of volume is for the national market, the rest for transit.
[66] 7% of transported volume are for country consumption, 93% for transit.
[67] Exclusively for transit.

IP	Border and direction	Pipeline technical import/export capacity (in MWh/day)	Maximum import/export pipeline utilization (in %)	Average yearly firm contracted capacity (in MWh/day)	Average yearly used capacity (in MWh/day)	Peak capacity utilization on monthly average (in MWh/day)
Kyustendil-Zidilovo	BG-MK	1.267,32	41,66%	1.894	3.637	9.096
Horgos	HU-SRB	125.525	81,62	92.936,65	65.050,69	72.759
Zvornik	SRB-BIH	17.863	70,14	17.863,15	4.891,88	9.161
Zvornik[68]	SRB-BIH			19.450,00	4.149,00	11.359,00

[68] Data provided by BH Gas.

In 2014 transmission capacity was still allocated bundled with gas quantities transported.

Rules for **congestion management** were also not in place in 2014. However, as shown in table 8 in many Contracting Parties network capacities are underused. On the other hand, on several interconnection points between Ukraine and its neighboring gas markets, namely Poland and Moldova, available capacities were utilized more than 100% in 2014 in peak situations which strongly calls for efficient congestion management procedures.

No market based **balancing** rules were implemented in the Contracting Parties and Georgia in 2014. Furthermore imbalance charges were not calculated and only linepack was used as source for balancing gas.

Transparency of network access conditions is a crucial prerequisite for well functioning gas markets - only when access to relevant information is provided in fair and non-discriminatory manner to all existing and potential network users, entry barriers can be avoided and competition increased. ECRB therefore developed an analysis of compliance of TSOs and NRAs with the transparency requirements of Regulation (EC) 715/2009. The results revealed very low degree of TSOs' compliance with the legal requirements: only applicable network codes are published on the web pages of TSOs. NRAs in general comply with transparency: methodologies for transmission tariffs calculation as well as applicable tariffs[69] are published in all cases.[70]

4. Utilization of underground gas storage

Gas storages play an important role in meeting gas demand. They may be used to cover base load demand, seasonal swings, short-run peak requirements and disruptions and are also a central security of supply tool.

Among the Energy Community Contracting Parties, only Serbia and Ukraine have gas storage facilities, namely:

- One gas storage facility, Banatski Dvor, in Serbia with capacity (working gas) of 4.345 GWh, maximum injection capacity of 26.070,53 MWh/day and maximum withdrawal capacity of 43.450,89 MWh/day;
- 12 storage facilities in Ukraine with a total capacity of 336.742,58 GWh, maximum injection capacity of 2.883.256,32 MWh/day and maximum withdrawal capacity of 3.046.459,51 MWh/day;

Total yearly withdrawals in 2013 covered on average 24,40% of gas demand in Ukraine and 12,20% in Serbia. These percentages would be even higher when calculated only for winter months (up to 50%). The related dynamics can be seen in the graphs below.

Figure 32 Monthly gas demand in comparison to storage withdrawals in Ukraine

[69] Where the NRA provides approval.
[70] Details of the analysis are available from : ECRB, Compliance review – transparency of the Energy Community gas markets, 2016.

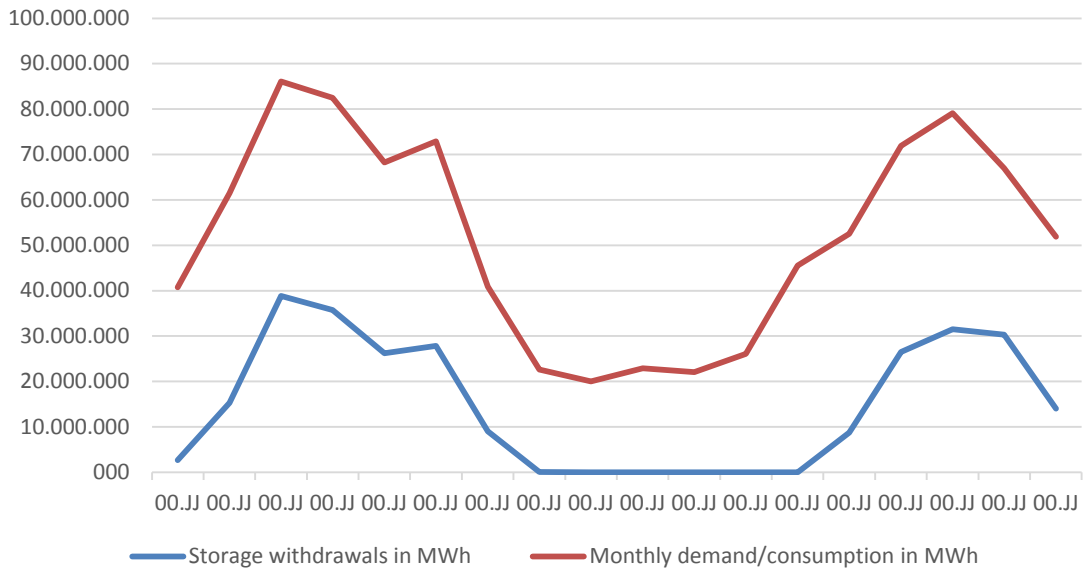
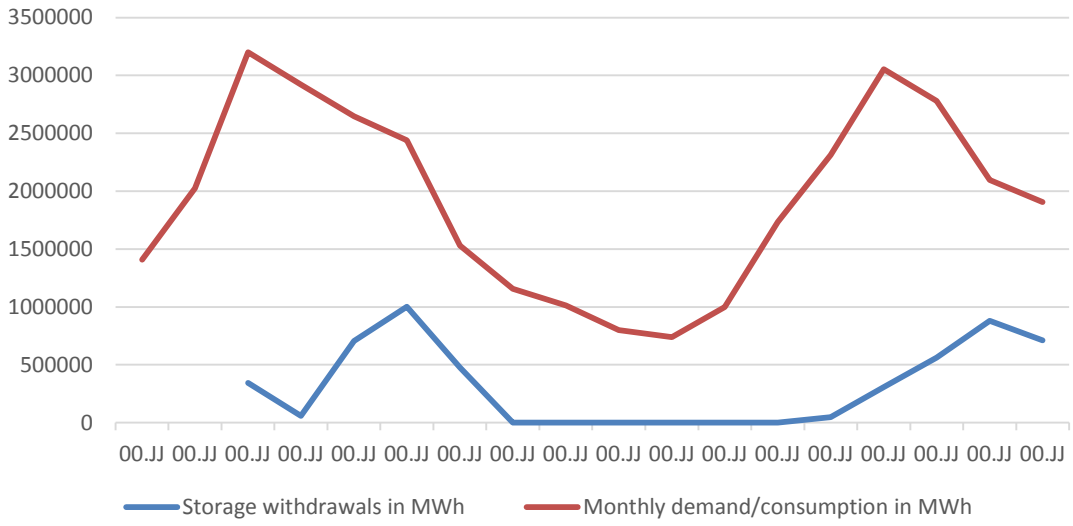


Figure 33 Monthly gas demand in comparison to storage withdrawals in Serbia



Availability of gas storage has positive effects on the liquidity of gas markets, not only because it offers necessary flexibility but also can put downward pressure on gas prices during autumn/winter months.

RETAIL MARKETS

A. ELECTRICITY

This chapter provides a status review of the analyzed retail electricity markets, namely demand data, the supply market structure, switching behavior of end-customers as well as end- user electricity prices and their regulation.

1. Electricity retail market characteristics

Total sale of electricity to final customers in the Contracting Parties and Georgia decreased in the period 2013-2014 by 4,96%, mainly because of drop in electricity consumption in the biggest analyzed market, Ukraine (7,47%). Other markets had either small decline in consumption over the same period (Bosnia and Herzegovina, FYR of Macedonia, Montenegro and Serbia) or even an increase of demand (Kosovo* 2,1% and Albania 9,83%). The main reasons for the observed **decrease in electricity consumption** laid in a combination of the economic crisis leading to decline in industry consumption and warm winter temperatures in 2014 allowing households to use less electricity for heating. In Albania, however, two big industry customers entered the electricity market in 2014 and contributed to the substantial increase of electricity consumption in Albania. The figures below show the total electricity sales to final customers in the period 2011-2014, presented with and without data for Ukraine.

Figure 34 Total electricity sale to final customers in GWh 2011-2014

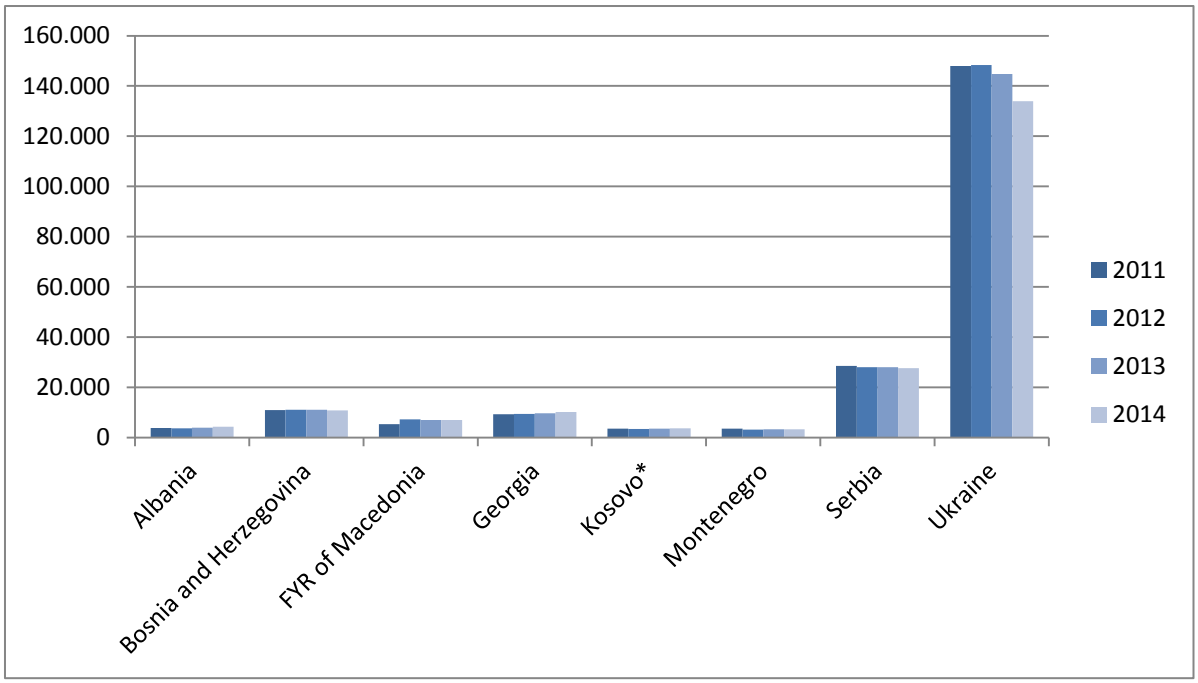


Figure 35 Total electricity sale to final customers in GWh 2011-2014 (excluding Ukraine)

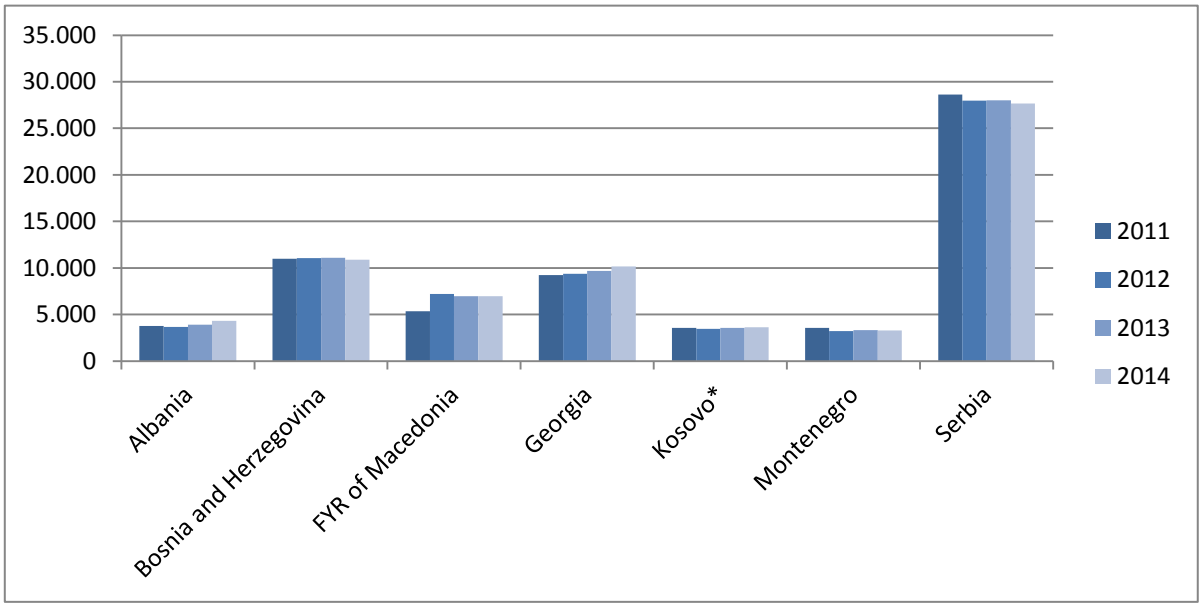
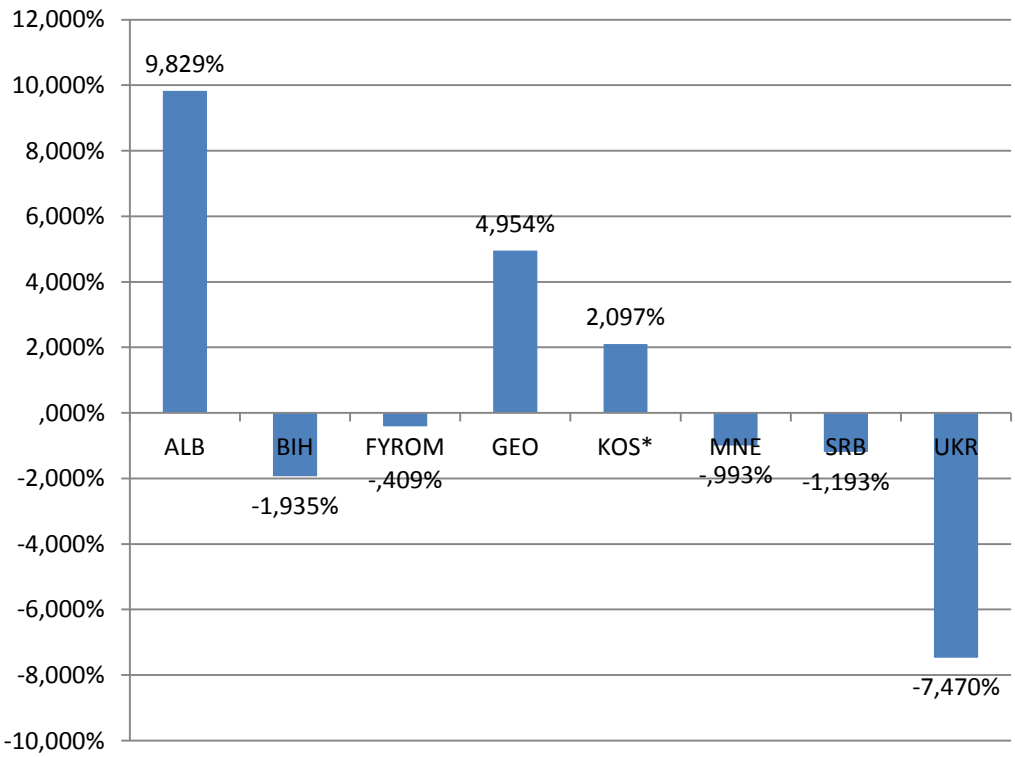


Figure 36 Electricity demand growth rate 2013 to 2014



With the exception of Ukraine, where a large number of both local and nationwide suppliers are active in the retail market, supply to electricity end-users in the majority of Contracting Parties and Georgia was offered by **one or several suppliers** in 2014, that are at the same time in majority of cases also **nationwide** suppliers[71].

Table 9 Number of active suppliers in retail electricity markets in 2014

	Number of active electricity suppliers	Number of active nationwide suppliers	Number of net new active nationwide suppliers[72]
Albania	1	1	0
Bosnia and Herzegovina	17	17	3
FYR of Macedonia	8	7	0
Georgia	3	0	0
Kosovo*	1	1	0
Montenegro	2	2	0
Serbia	7	7	5
Ukraine	116	76	9

As of 1st January 2014 electricity customers in Serbia, except households and small non-household customers, are not entitled any longer to be supplied by the incumbent supplier at regulated prices. As a consequence new suppliers entered the market. However some of the customers obliged to follow public procurement procedures for buying electricity failed to complete the process by prescribed deadline[73] and therefore had to be supplied by the supplier of last resort (back- up supplier/reserve supplier)[74]. This shows that customer information and all **rules** regulating the functioning of the energy sector **need to be prepared in a coordinated way** to allow measures to exploit the expected effects.

In FYR of Macedonia the government in October 2014 by an amendment to the Law postponed market opening for all small and medium enterprises and household customers until 2020. [75]

[71] Nationwide supplier means suppliers offering their products on the whole territory of a country.
[72] Net means number of entries minus number of exits in the market.
[73] They were not aware that they had to buy electricity on the market and did not organize public procurement procedure on time.
[74] Annual Implementation Report of the Energy Community Secretariat, August 2014.
[75] Annual Implementation Report of the Energy Community Secretariat, September 2015.

It is worth noting that all new suppliers active in the market indeed operate as nationwide suppliers; this proofs that **both transmission and distribution networks were effectively opened** for suppliers other than incumbent and the first steps towards creating level playing field in the retail markets have proven success. The figures below show detailed information on transmission and distribution network use by more suppliers in 2014. It is obvious that more suppliers were active in the part of market supplying customers connected to the transmission network, not only because these customers are with higher quantities and sensitivity to price changes, but also because in many of the Contracting Parties those customers were forced in several previous years to leave the regulated market and conclude a contract with a supplier offering electricity at non- regulated prices.

Figure 37 Are electricity TSO networks used by more than one supplier?

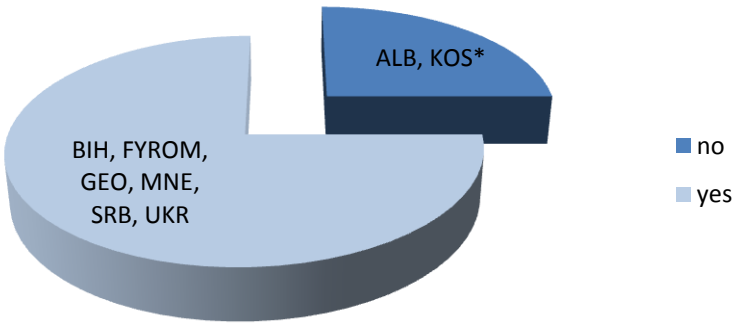
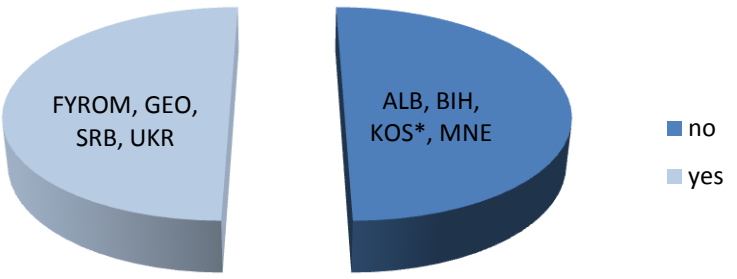


Figure 38 Are electricity DSO networks used by more than one supplier?



In order to accomplish the picture of retail electricity markets from supply side, **concentration and openness of markets** have been investigated. Results are presented in the table hereinafter. The analyzed markets may be grouped in the following way:

- In Albania and Kosovo* there is only one retail public supplier of electricity, namely the incumbent with a **100% market share**;
- In Georgia the electricity retailers are regional and incumbent suppliers with the market share of **three largest companies being equal or close to 100%.** Similarly, in Bosnia and Herzegovina three dominant electricity suppliers with market shares adding up to 98% act as a regional suppliers, although having nationwide licenses;
- In Montenegro there are **two retail electricity suppliers** in the market: one of them supplies only one industrial customer accounting for around 20% of total consumption. All other customers are with the incumbent supplier;
- In Serbia, the great majority of customers are supplied by an incumbent supplier with a market share close to 100%. Although market shares of the largest companies were still extremely high in 2014, **new market entrants improved** slightly the competitiveness of retail markets;
- In FYR of Macedonia there were 8 active suppliers (2- regulated market, 6- liberalized electricity market). The market share of the biggest electricity supplier (active on regulated market) was 64,40%;
- The large number of electricity retailers in **Ukraine** and their low market shares[76] might indicate a competitive and open market. However, **household customers were still supplied by local utilities**[77] **at regulated prices, like in all other Energy Community Contracting Parties.** According to the Law on functioning of electricity market of Ukraine of 2013 non-household customers are eligible as of 1st January 2014[78], household customers are eligible from 1st January 2015[79].

[76] The market share of the largest supplier in the whole market was 17,2% in 2014, while the market share of the same company in supplying households was only 8,79%.
[77] There are 40 DSOs in Ukraine performing also retail supply function.
[78] Non- household customers had the right to choose supplier also before 2014 but without using the term “eligible”.
[79] In order to realize such a provision of the Law relevant secondary legislation on switching is under preparation.

Table 10 Electricity retail market concentration and market opening in 2014

	Number of electricity retailers selling at least 5% of total electricity consumed by final customers	Market share of the 3 largest companies in the retail market (aggregated) in %	Estimated incumbent market share in the household market, in % of annual consumption
Albania	1	100%	100%
Bosnia and Herzegovina	3	98,01%	100%
FYR of Macedonia	3	91,40%	100%
Georgia	2	100%	100%
Kosovo*	1	100%	100%
Montenegro	2	100%	100%
Serbia	1	99,36%	100%
Ukraine	4	30,06%	100%

2. Switching behavior

The switching rate is one of the commonly used indicators for measuring market competitiveness. However, its interpretation has to be done carefully and by taking into consideration relevant legislative and regulatory provisions as well as the structures of the markets.

In the monitoring period not all customers in the Contracting Parties had the right to choose their supplier:

- Household customers in none of the markets were eligible in 2014. Nevertheless national legislation in all cases provides for complete market opening as of January 2015. The exemption is FYR of Macedonia where the Government in October 2014 by an amendment to the Law postponed market opening for all small and medium enterprises and household customers until 2020.
- Non-household customers were eligible to switch their suppliers in more than half of the Contracting Parties, namely in Kosovo*, FYR of Macedonia, Montenegro, Serbia and

Ukraine. However, effective market opening in Kosovo* is subject to the assessment of market conditions by the regulatory authority who decided that regulated supply prices remain applicable to all customers. In some other countries granting the eligibility status was limited to consumption or voltage level thresholds[80].

In order to better understand switching rates in the analyzed markets, it is worth mentioning that in FYR of Macedonia in 2009 and in Montenegro and Serbia in 2013, customers connected to the transmission system were **obliged to leave the regulated market** and choose a new supplier[81]. Furthermore in Serbia as of 1st January 2014 and FYR of Macedonia as of 1st April 2014 all customers except households and small customers were forced to choose their suppliers. However, some legal obstacles stemming from non-energy related requirements - mainly public procurement procedures - slowed down the process of market opening.

The table below shows the switching rates in the analyzed markets in 2014. Data refers to the definition of switching as the free move of a customer from one to another supplier. Where displayed data deviates from this definition, specific reference is made in the table.

Table 11 Annual switching rates in electricity markets in 2014 (in %)[82]

	Number of eligible customers under national legislation[83]	Annual switching rate in the whole retail market (by number of meter points)	Annual switching rate of household customers (by number of meter points)	Annual switching rate of non-household customers (by number of meter points)	Annual switching rate in the whole retail market (by volume)	Annual switching rate of household customers (by volume)	Annual switching rate of non-household customers (by volume)
Albania	9[84]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bosnia and Herzegovina	122.663	0,000133	n.a.	0,00163	6,95	n.a.	12,06

[80] According to the ECS Annual Implementation Report 2015, in Albania the eligibility is ensured by the Power Sector Law which explicitly grants rights for switching the supplier to all customers. However, until the new secondary legislation is approved, the eligibility status is limited. In Bosnia and Herzegovina the eligibility is being dealt with exclusively on entity level and different rules apply. For example, in Federation of Bosnia and Herzegovina the secondary legislation envisaged gradual implementation of eligibility rights according to voltage levels by end of 2014. Secondary legislation of Republika Srpska granted eligibility status to all customers except households. However all entities and SERC for Brcko District amended secondary legislation in the end of 2014 so to allow for full market opening as of 2015. For more details, please see Annual Implementation Report sof the Energy Community Secretariat, August 2014 and September 2015.

[81] This new supplier may also be the incumbent company, i.e. the customer's previous supplier, if holding a separate license for supplying under non- regulated conditions.

[82] "n.a." stands for "not applicable" and means that the market has not been opened to relevant group of customers or that there is only one supplier in the market (Albania and Kosovo*).

[83] Source: Annual Implementation Report of the Energy Community Secretariat, August 2014.

[84] Eligibility status linked to voltage level or annual consumption.

	Number of eligible customers under national legislation[85]	Annual switching rate in the whole retail market (by number of meter points)	Annual switching rate of household customers (by number of meter points)	Annual switching rate of non-household customers (by number of meter points)	Annual switching rate in the whole retail market (by volume)	Annual switching rate of household customers (by volume)	Annual switching rate of non-household customers (by volume)
FYR of Macedonia	All customers connected to the transmission network and small non-households connected to the distribution network	1,07	n.a.	10,13	7,05	n.a.	22,04
Georgia	all customers are allowed to purchase electricity directly from Small Power Plants (With installed capacity of less than 13 MW)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Kosovo*	All non-households (71.455)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Moldova	4	0	n.a.	0	0	n.a.	0
Montenegro	3	0	n.a.	0	0	n.a.	0
Serbia	All non-households (396.057 metering points)	Not available					
Ukraine	All non-households	0,0134	n.a.	0,1744	5,49	n.a.	9,56

During 2014 only a limited number of eligible customers freely changed their suppliers. Since those customers are large consumers of electricity, the switching rates in terms of volumes were high.

[85] Annual Implementation Report of the Energy Community Secretariat, August 2014.

Due to the fact that the all customers except households and small customers were forced to choose their suppliers in 2014 in FYR of Macedonia and Serbia, **switching activities increased** in these countries. The practice in FYR of Macedonia shows that all customers on the open market have chosen new suppliers which are not connected in any way with the incumbent supplier active on the regulated market. On the other hand, in Serbia most of the customers chose their previous (incumbent) supplier, i.e. did not effectively switch to another company. However the process still has to be seen positively both in terms of raising customers' awareness of their rights in the open market and abolishment of regulated supply prices.

3. End- user electricity prices

The following chapter presents the **levels and structures of end-user electricity prices** for both household and industry customers in the Contracting Parties and other analyzed markets, in the second semester of 2014.

End-user electricity prices for household customers **varied substantially** from around 2 EUR cent/kWh in Ukraine to almost 12 EUR cent/kWh in Albania, which is still much lower than the EU 28 average[86] price for households in the second semester of 2014 (20,52 EUR cent/kWh). In only two Contracting Parties, namely Albania and Montenegro, the household prices were close to 10 EUR cent/kWh. In Bosnia and Herzegovina and FYR of Macedonia they were slightly above 8 EUR cent/kWh, in other Contracting Parties much lower. Regulation of final prices for households, still applied in all Energy Community Contracting Parties clearly influences their cost reflectivity.

Table 12 Electricity prices for households in second semester of 2014, EUROSTAT Band DC: 2500kWh < consumption < 5000 kWh (EUR cent/kWh)

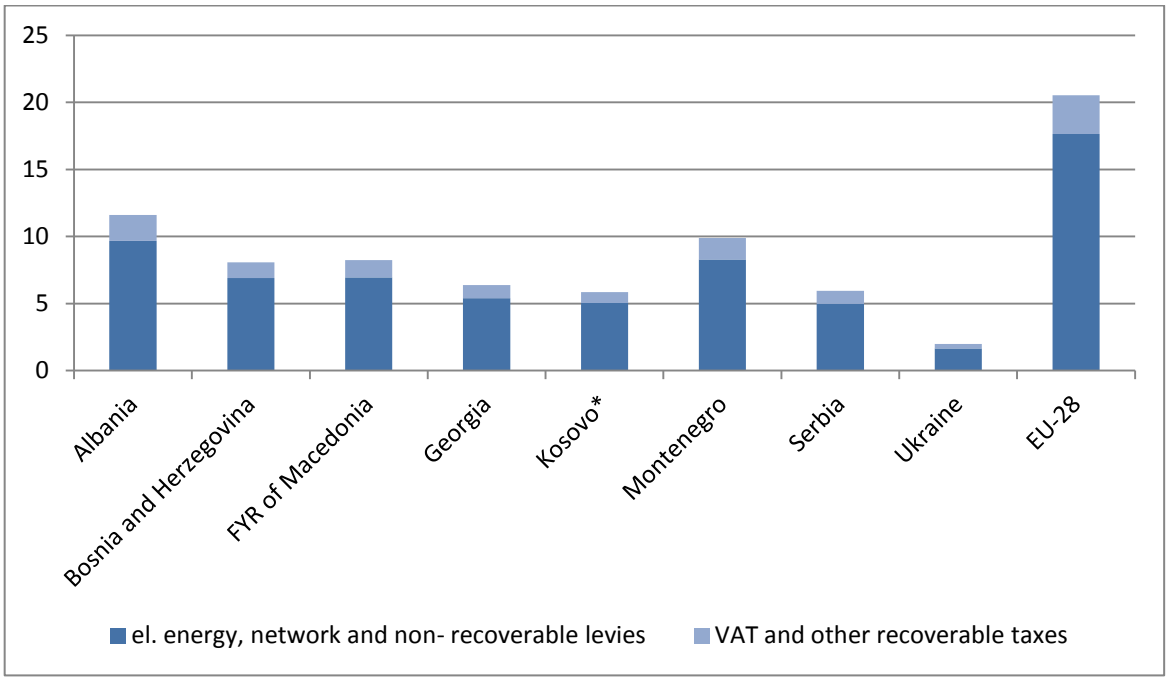
	Electrical energy, network and non-recoverable levies	VAT and other recoverable taxes	Price with all taxes and levies included
Albania	9,67	1,93	11,60
Bosnia and Herzegovina	6,90	1,17	8,07
FYR of Macedonia[87]	6,66	1,20	7.86
Georgia[88]	5,41	0,97	6,38

[86] EUROSTAT.
[87] Source: ERC, recalculated to EUR based on EUROSTAT average exchange rates EUR-DEN for Q3 and Q4 2014.
[88] Average electricity prices for all households, for Q4 2014 for capital city. Average price for other regions was slightly lower- 5,76 EURc/kWh.

	Electrical energy, network and non-recoverable levies	VAT and other recoverable taxes	Price with all taxes and levies included
Kosovo*	5,05	0,81	5,86
Montenegro	8,29	1,59	9,88
Serbia	4,97	0,99	5,96
Ukraine[89]	1,66	0,33	1,99
EU-28	17,64	2,88	20,52

Source: EUROSTAT and NRAs

Figure 39 Electricity prices for households in second semester of 2014, EUROSTAT Band DC: 2500kWh < consumption < 5000 kWh (EUR cent/kWh)



The structure of end-user electricity prices for household customers, to the extent available, sheds more light on the competition possibilities in those markets. While in most of the EU countries taxes and levies represent a substantial portion of final prices (approximately 20 to 30%) and therefore leave less space for savings potentially coming from changing supplier, in

[89] Actual average electricity tariff of all households, without VAT. Average exchange rate for the second semester 2014, source: http://www.investing.com/currencies/eur-uah-historical-data.

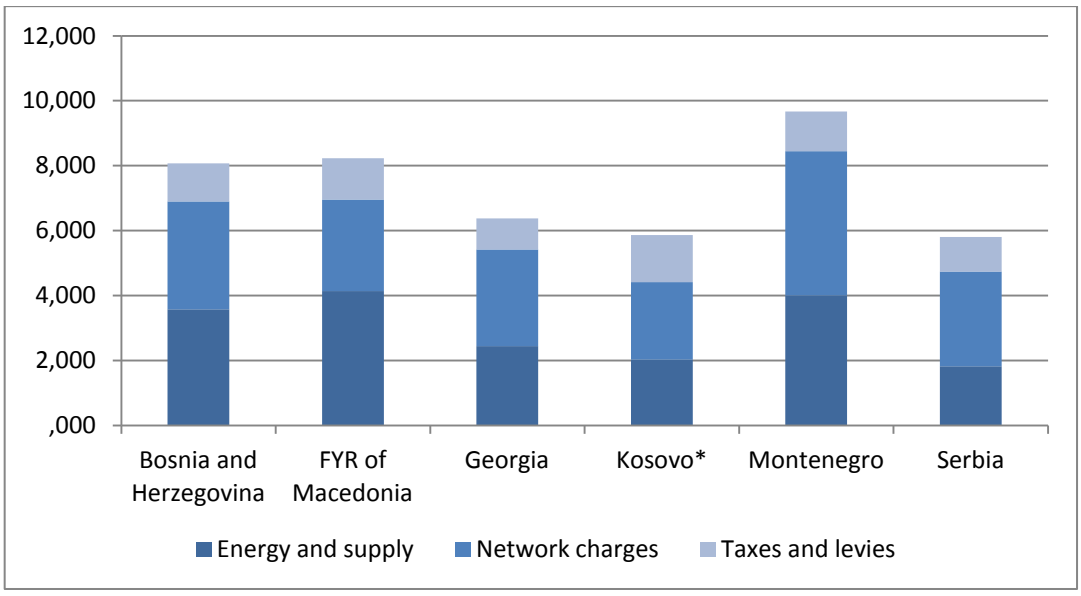
the Energy Community Contracting Parties the **network costs have larger shares, thus leaving contestable portions of end-user prices also on a very low level**.

Table 13 Breakdown of household electricity prices into their main components (Band DC: 2500kWh < consumption < 5000 kWh (EUR cent/kWh)

	Energy and supply	Network costs	Taxes and levies
Bosnia and Herzegovina	3.58	3,32	1,17
FYR of Macedonia	4,14	2,82	1,27
Georgia[90]	2,44[91]	2,98[92]	0,96
Kosovo*	2,03	2.38	1.45
Montenegro	4,00	4,45	1,22
Serbia	1,98	2,92	1,06

Source: EUROSTAT and NRAs

Figure 40 Structure of household electricity prices (Band DC: 2500kWh < consumption < 5000 kWh (EUR cent/kWh)



[90] All households.
[91] Including transmission charge.
[92] Distribution charge.

Electricity prices for industrial customer are more harmonized among Contracting Parties and Georgia, but still **lagging behind EU levels**. However it has to be noted that in the majority of the analyzed markets (4 out of 7 analyzed Contracting Parties; ref. Figure 8) **industry prices are higher than prices for households**, in cases of Ukraine and Kosovo* even substantially higher. Having in mind that household customers and part of industry customers were supplied under regulated prices, it may be concluded that some kind of **cross-subsidization** between these customer categories applied. On the other side, the fact that industry prices had been partially deregulated has already led to certain price harmonization across borders. If forthcoming market liberalization is to bring benefits to customers, not only by allowing choice of suppliers, but also by offering lower prices, **end-user price regulation has to abandoned.** Abandoning of end- user price regulation in countries where prices are regulated at levels below costs will, most evidently, not lead to lower prices in the first step. Only once all suppliers offer electricity at market prices, market liberalization and competition can bring benefits to customers in terms of lower prices. Cost-reflectivity of energy prices remains the only means for entry of new suppliers but also economic viability of the incumbent suppliers.

Table 14 Electricity prices for industry in second semester of 2014, EUROSTAT Band IC: 500MWh < consumption < 2000 MWh (EUR cent/kWh)

	Electrical energy, network and non-recoverable levies	VAT and other recoverable taxes	Price with all taxes and levies included
Bosnia and Herzegovina	6,22	1,05	7,27
FYR of Macedonia	7,84	1,41	9,25
Georgia[93]	3,24	0,58	3,82
Kosovo*	7,93	1,27	9,20
Montenegro	7,53	1,47	9,00
Serbia	6,66	1,33	7,99
Ukraine[94]	6,31	1,26	7,57
EU-28	12,01	2,9	14,91

Source: EUROSTAT and NRAs, for Albania: http://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/3164026/ECS_Performance_Report%20%2B%20cover.pdf

[93] Only final end- user price for industry available; for Q4 2014 capital city.
[94] Average electricity price for 1 and 2 classes of industry customers; Average exchange rate for the second semester 2014, source: http://www.investing.com/currencies/eur-uah-historical-data.

Figure 41 Electricity prices for industry in second semester of 2014, EUROSTAT Band IC: 500MWh < consumption < 2000 MWh (EUR cent/kWh)

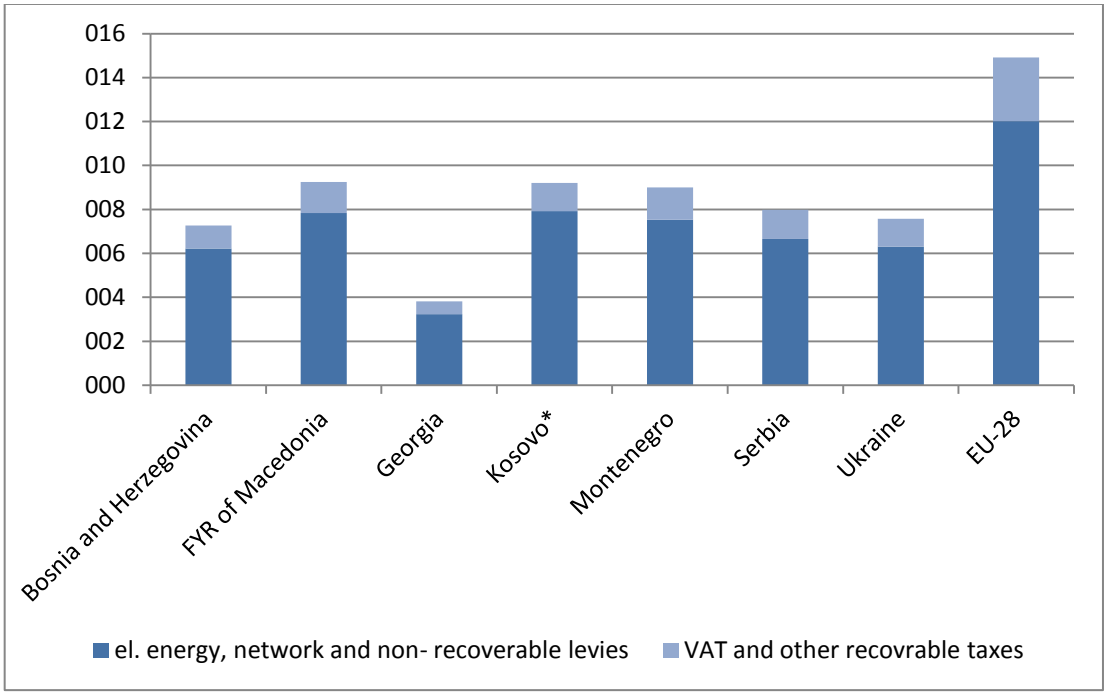


Figure 42 Comparison of end- user electricity prices for households (Band DC) and industry (Band IC)- second semester of 2014 (EUR cent/kWh)

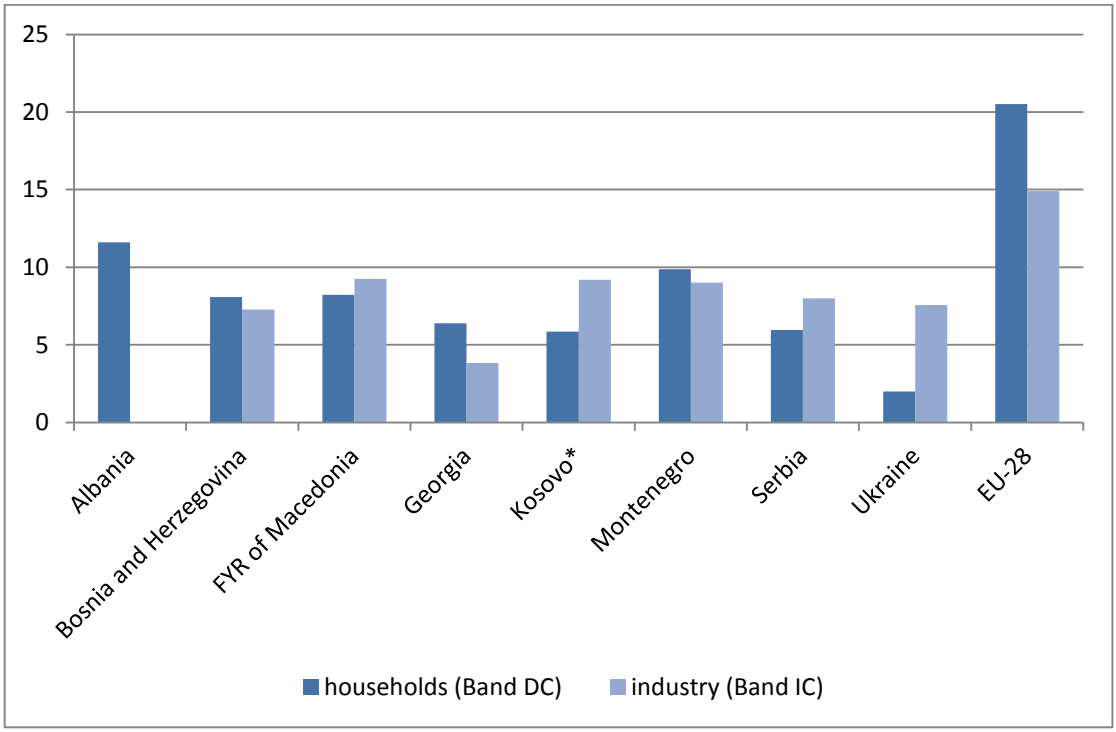
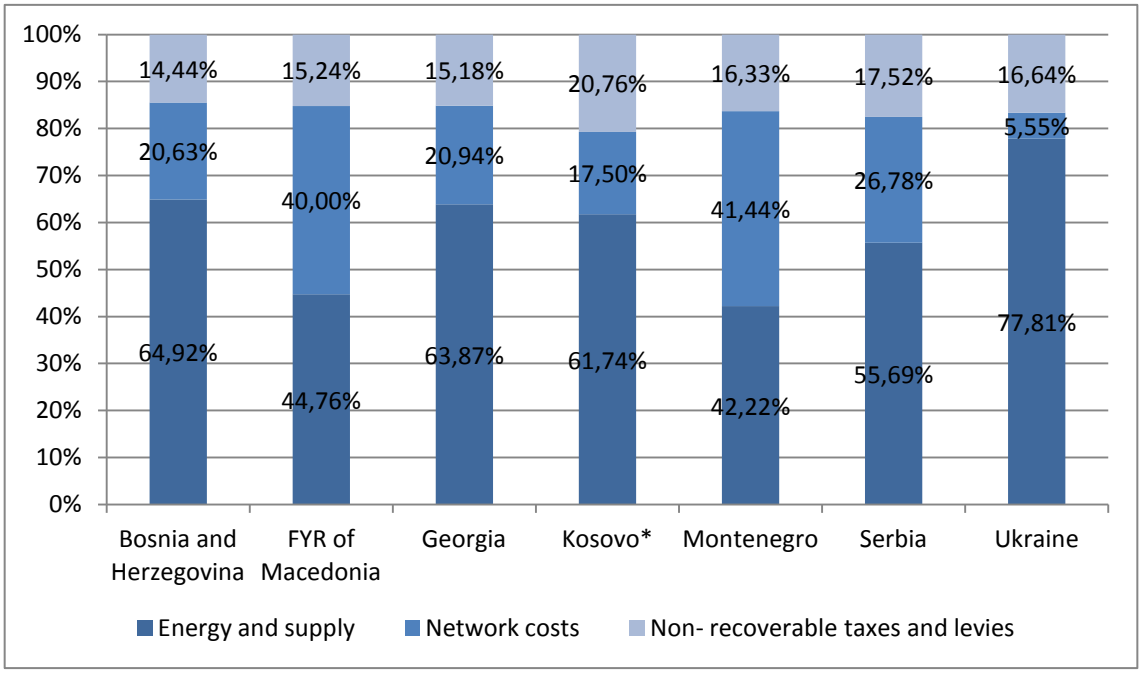


Table 15 Breakdown of industry electricity prices into their main components (Band IC: 500MWh < consumption < 2000 MWh (EUR cent/kWh))

	Energy and supply	Network costs	Taxes and levies
Bosnia and Herzegovina	4,72	1,50	1,05
FYR of Macedonia	4,14	3,70	1,41
Georgia	2,44[95]	0,80[96]	0,58
Kosovo*	5,68	1,61	1,91
Montenegro	3,80	3,73	1,47
Serbia	4,45	2,14	1,40
Ukraine[97]	5,89	0,42	1,26

Source: EUROSTAT and NRAs

Figure 43 Structure of industry electricity prices (Band IC: 500MWh < consumption < 2000 MWh (EUR cent/kWh))



[95] Including transmission charge.
[96] Only distribution charge.
[97] Breakdown of average price for 1 and 2 classes of industry customers.

4. Regulation of electricity end-user prices

Regulation of end-user energy prices is generally recognized as one of the main **obstacles to creating competitive and well-functioning retail markets**. This is especially the case when regulated prices are determined at levels below costs and/or when cross-subsidization between groups of customers applies.

End-user electricity prices for **household customers** were regulated in all Contracting Parties and Georgia[98] in 2014.

Also the great majority of **non-household customers** were still supplied at regulated prices in 2014. Although the relevant national laws proclaimed eligibility status for non-household customers in most of the Contracting Parties, in some of the markets the possibility to change supplier was limited by secondary legislation[99], namely in Bosnia and Herzegovina, Kosovo* and Albania. On the other side and as described earlier, in some countries, namely FYR of Macedonia, Montenegro and Serbia, final customers connected to the transmission network were forced to leave the regulated market and choose a new supplier and all non-household customers were allowed to choose their suppliers. The table below shows the number / percentage of non-household customers were supplied at non-regulated prices in 2014.

Table 16 Number of non- households supplied at non-regulated electricity prices in 2014

Number of non- households supplied at non-regulated prices in 2014	
Albania	0
Bosnia and Herzegovina	2
FYR of Macedonia	222
Georgia	Exact number not known
Kosovo*	0
Montenegro	1
Serbia	57.454
Ukraine	1376

[98] Household customers in Georgia are allowed to switch out of regulated prices and purchase electricity directly from Small Power Plants (With installed capacity of less than 13 MW) with price agreed upon between the parties.
[99] Annual Implementation Report of the Energy Community Secretariat, August 2014.

End- user electricity prices are regulated by using the following **methodologies**[100]:

- Rate of return/cost plus in Bosnia and Herzegovina, Serbia, Georgia and Ukraine;
- Revenue cap in FYR of Macedonia, Kosovo* and Montenegro;
- Price cap in Albania.

In the process of **phasing out** end-user price regulation it is important to prove to customers that the electricity price is a market-based commodity price that varies according to the wholesale market developments. One of the most efficient tools for doing so is frequent updating of the energy component, so to allow the final price to reflect changes in the wholesale market. This will also offer customers the possibility to estimate if retail companies, other than incumbent suppliers, provide cheaper energy. The energy component in the analyzed markets receives update once a year in all Contracting Parties and in Georgia[101].

- Ukraine: monthly for customers other than households,
- Serbia: no automatic mechanism, NRA decides upon request of a supplier;
- FYR of Macedonia: no automatic mechanism, the final prices are changed by new price setting proceedings; the need for a related price review is considered on annual basis;
- Bosnia and Herzegovina: no automatic mechanism, the final prices are changed in case of new price setting by the regulated initiated upon request of a supplier.

Another precondition for successful transition towards complete deregulation of end- user prices is allowing customers to **switch from and to regulated prices**. Customers, especially households, typically consider regulated energy prices as more stable. If customers are not allowed to return to regulated supply, they will most likely not be willing to change supplier at all. This tendency increases where regulated prices are set at levels below costs. Obviously such approach does not contribute to liquid and effective retail market development. Also the ACER/CEER Market Monitoring Report 2013[102] investigated the influence of the possibility to switch in and out of regulated prices on switching behavior and the results showed that in countries with regulated electricity prices where both[103] preconditions for efficient transition to deregulation are met, the switching rates were much higher.

In all Contracting Parties, except Albania, and in Georgia switching from and to regulated prices was allowed in 2014, in some cases only for households and small enterprises[104].

[100] More details on types of price regulation implemented in the Energy Community can be found in the 2013 ECRB report "Status Review of Main Criteria for Allowed Revenue Determination for transmission, distribution and regulated supply of electricity and gas", http://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/2768183/Criteria%20for%20Allowed%20Revenue%20Determination_approved%20by%20the%20ECRB.fin.pdf.

[101] The methodology in Georgia also allows one additional energy component review in emergency situations (in 2015 this option was used due to dramatic devaluation of the national currency).

[102] http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Market%20Monitoring%20Report%202013.pdf , pages 53-55.

[103] Namely frequent review of the energy component and the possibility of switching in and out of regulated prices.

[104] Bosnia and Herzegovina and Serbia.

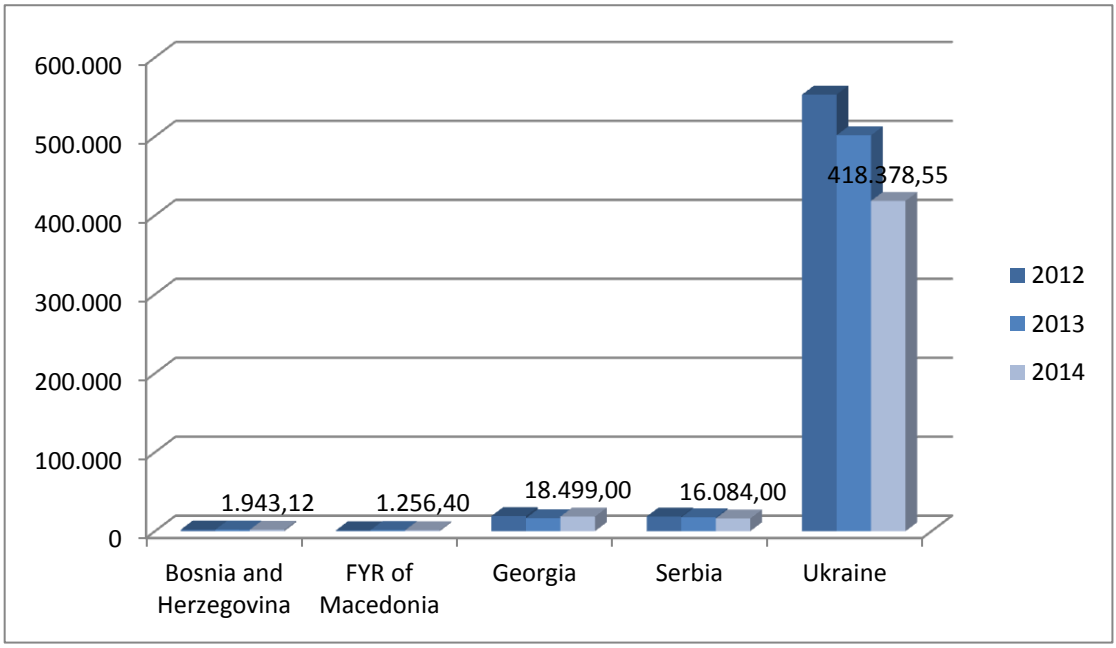
B. GAS

Having in mind that Albania, Kosovo* and Montenegro do not have gas markets, this part of the report does not include information on these three markets. For Bosnia and Herzegovina information has not been provided, therefore the analysis, where possible, relies on the information from 2014 and 2015 Annual Implementation Report of the Energy Community.

1. Gas retail market characteristics

The total sale of gas to final customers in the Contracting Parties decreased from 2013 to 2014 by 15,36%[105]. The decrease was the highest - 16,57% in Ukraine, followed by decrease of 15,09% in FYR of Macedonia. Decrease in Ukraine was mainly caused on purpose, with a view to lowering import (dependence). Decrease in other countries was mainly triggered by warm autumn/winter temperatures in 2014 and a decline of industry consumption. The figures below present the total gas sales to final customers in 2012, 2013 and 2014, expressed including and excluding Ukraine[106], as well as consumption growth rates by country.

Figure 44 Total sale to final gas customers in GWh



[105] Decrease from 2012 to 2013 was 10, 15%.
[106] With a view to provide comparability having in mind the size of the Ukraine gas market compared to those of the other analyzed markets.

Figure 45 Total sale to final gas customers in GWh (excluding Ukraine)

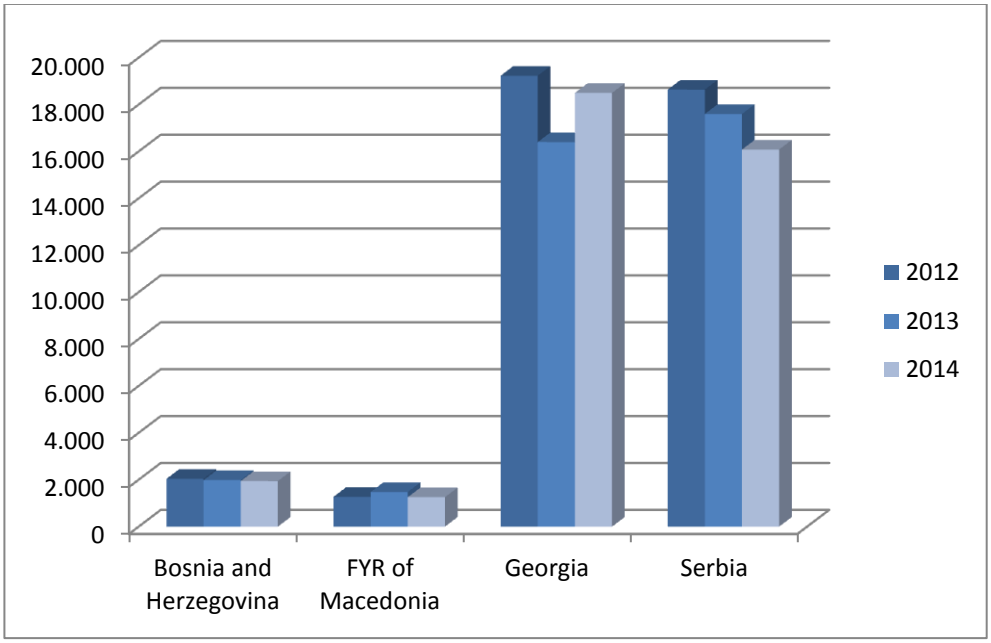
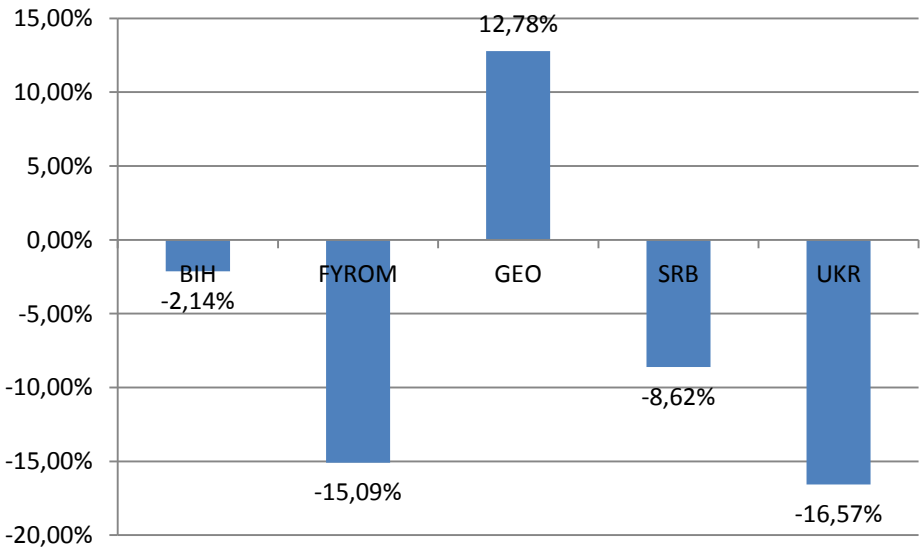


Figure 46 Growth rates of gas demand 2013 to 2014



The **consumption of natural gas at household level differs** among the analyzed markets. The percentages of households using gas are as follows:

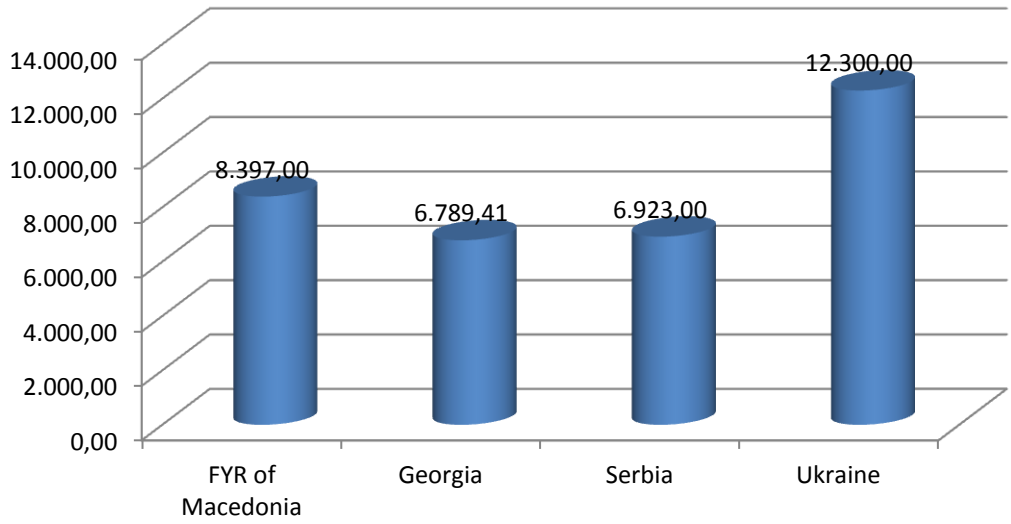
- Georgia 73%,
- Ukraine 70,76%[107],

[107] Source: The National Joint Stock Company Naftogaz of Ukraine.

- Serbia 10% and
- FYR of Macedonia 0,007%.

Also the **average consumption of gas per household varies** among countries. Relevant quantities are displayed in the figure below.

Figure 47 Average annual gas consumption per household in kWh



End-users of gas in the Contracting Parties and Georgia were supplied mainly by regional retail suppliers, i.e. suppliers offering gas only to a restricted area defined by their license and usually performing also a DSO function. The number of active suppliers ranged from 4 in Bosnia and Herzegovina and FYR of Macedonia to 36 in Serbia and 37 in Georgia. The number of suppliers in Ukraine (350) refers to the licensed suppliers but there is no information on number of retail suppliers practically active in the market. The number of active nationwide suppliers[108] was very low - only one in Serbia[109] and FYR of Macedonia; in Bosnia and Herzegovina all retailers supply gas regionally. In Georgia all retailers supply nationwide. The information on nationwide suppliers for Ukraine, again, refers only to number of nationwide licensed suppliers (301); it is expected that the number of retailers actually supplying customers nationwide is lower.

In only two countries, Ukraine and Serbia, transmission and distribution networks were used by more than one supplier. In FYR of Macedonia only the transmission network is used by more than one supplier. For the purpose of facilitating the forthcoming market opening, it is of utmost importance to enable efficient separation of supply and network activities, i.e. to allow gas retailers to supply customers on the whole territory of a country.

[108] Nationwide supplier means suppliers offering their products on the whole territory of a country.
[109] 40 suppliers were licensed as nationwide, but only one was nationwide active.

Table 17 Number of active gas suppliers in 2014

	Number of active gas suppliers	Number of active nationwide suppliers
Bosnia and Herzegovina	4[110]	0
FYR of Macedonia	4	1
Georgia	37	37
Serbia	36	1
Ukraine[111]	350	301

In order to accomplish the picture of retail gas markets from supply side, concentration and openness of markets have been investigated. The results are presented in the table below. The following conclusions can be drawn:

- Although most of the analyzed markets have a substantial number of retailers, only a very limited number of them have a market share (% of annual consumption) higher than 5%. This, however, does not prove immediately absence of monopolies, but, taking into consideration other relevant information provided in this report, rather points out to the existence of **regional or local monopolies**;
- In the same context, information on the aggregated market share of the three largest retailers in the market shows only that **there are several dominant incumbent suppliers**;
- There is **mostly no alternative to the incumbent gas suppliers** in the analyzed markets. However, obstacles to retail market entries mainly come from reasons other than retail market design-scarce infrastructure and the status of wholesale market development (e.g. single source of gas, poor access to liquid wholesale markets, long - term contracts).

[110] Energy Community Secretariat, Annual Implementation Report, September 2015.
[111] Information for licensed suppliers; not available for active suppliers.

Table 18 Retail gas market concentration in 2014

	Number of gas retailers selling at least 5% of total gas consumed by final customers	Market share of the 3 largest companies in the retail market (aggregated) in %	Estimated incumbent market share in the household market, in % of annual consumption
FYR of Macedonia	3	36,18%[112]	100%
Georgia	5	77%	100%
Serbia	1	71%	100%
Ukraine	1	43,8%	100%

2. Switching behavior

Not all customers in the Contracting Parties were eligible to choose their supplier:

- **Household customers** in none of the Contracting Parties were eligible in 2014. Formally, in FYR of Macedonia also households were eligible to choose their suppliers in 2014, however, this legislative provision was conditioned on implementation of secondary legislation and the eligibility could be exercised in practice only as of January 2015[113]. National legislation in all countries provides for complete market opening as of January 2015[114].
- All **non-household customers** were eligible to switch their suppliers in 2014 only in Georgia, Serbia and Ukraine. In Ukraine[115] the annual switching rate for 2014 in the whole retail market was 0,007% measured by number of metering points which equals to 4,64% measured by volume; the switching rate of non-household customers added up to 0,405% or 8,05% measured by volume. The information on switching was not available for Serbia. However, there were 60 active eligible customers in Serbia in 2014[116]. In FYR of Macedonia the eligibility status was de facto limited by secondary legislation.

Beside legal obstacles for changing the gas retail supplier, application of end-user price regulation, as it will be described in the following two chapters, and the poor access to liquid wholesale markets may be seen as the main reasons for low switching rates.

[112] Remaining 63,82% of the final gas consumption is used by energy companies BEG and TE-TO, which according to the Energy Law have permission to buy natural gas directly from abroad, as well as very small portion in this quantity is of DSO's in Strumica and Kumanovo.
[113] Annual Implementation Report of the Energy Community Secretariat, 1 September 2015.
[114] The exception is Bosnia and Herzegovina where gas related state level legislation as well as legislation of Federation BIH has not been finalized yet.
[115] Based on information for 36 companies supplying gas at regulated tariff.
[116] Annual Implementation Report of the Energy Community Secretariat, 1 September 2015.

3. End-user gas prices

This chapter presents the **levels and structures of end-user gas prices** for both household and industry customers in the Contracting Parties and Georgia in the second semester of 2014.

End-user gas prices for **household** customers in the Contracting Parties and Georgia **vary substantially**, from less than 1 EUR cent/kWh in Ukraine[117] to approximately 5 EUR cent/kWh in Bosnia and Herzegovina. The EU-28 average[118] gas price for households in the second semester of 2014 was 7,19 EUR cent/kWh. The household prices Serbia are similar to those in Bosnia and Herzegovina, and the gas prices for residential customers in Georgia are very low on average - 2,08 EUR cent/kWh. The main reason for low gas prices for household customers in Ukraine is the low price of domestic production that is dedicated to supply of households. The low import price in Georgia in comparison to higher import prices in Bosnia and Herzegovina and Serbia certainly also play an important role. Finally the regulation of end-user prices for households still applied in all Contracting Parties[119] and clearly influences their cost reflectivity.

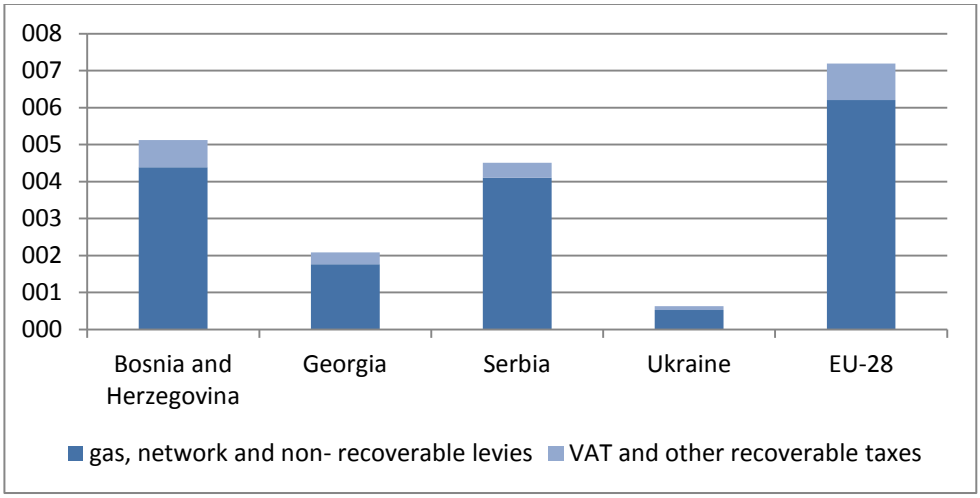
Table 19 Gas prices for households, EUROSTAT Band D2: 20GJ < consumption < 200 GJ (EUR cent/kWh)

	Gas, network and non-recoverable levies	VAT and other recoverable taxes	Price with all taxes and levies included
Bosnia and Herzegovina	4,39	0,73	5,12
Georgia[120]	1,76	0,32	2,08
Serbia	4,10	0,41	4,51
Ukraine[121]	0,53	0,10	0,63
EU-28	6,20	0,99	7,19

Source: EUROSTAT and NRAs

[117] It is worth noting that end-user prices for households substantially increased in 2015.
[118] Source: EUROSTAT.
[119] Details on end- user price regulation are described in the following chapter.
[120] Weighted average price for all households. Prices for the supplier of last resort in the capital city.
[121] Weighted average price for all households; Average exchange rate for the second semester 2014, source: http://www.investing.com/currencies/eur-uah-historical-data.

Figure 48 Gas prices for households, EUROSTAT Band D2: 20GJ < consumption < 200 GJ (EUR cent/kWh)



The **structure of end-user prices for gas household customers** is available only for Ukraine and, partially, Georgia. The share of network costs in the end-user price for households is 28,6% in Ukraine and 28,4% in Georgia, whereby the network share for Georgia refers only to distribution charge.

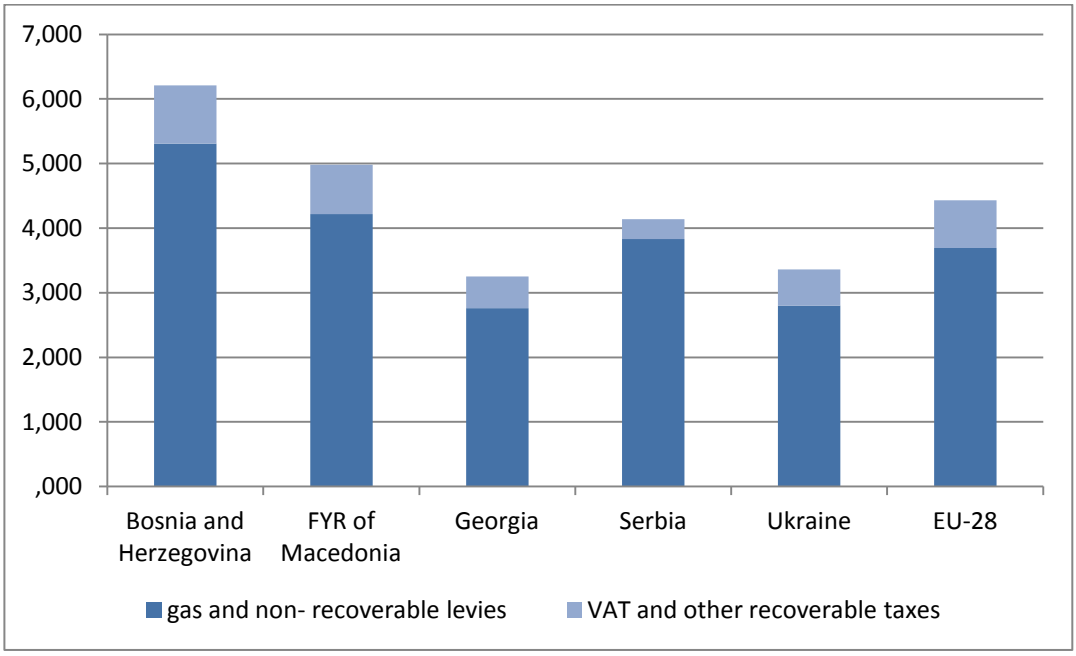
Gas **prices for industry were more harmonized** among analyzed markets, in some cases higher than EU average gas price. However it has to be noted that in majority of the analyzed markets (Bosnia and Herzegovina, Georgia and Ukraine) industry prices were higher than prices for households, in cases of Ukraine and Georgia even substantially higher. Having in mind that the great majority of customers, both household and industry, were supplied under regulated prices. It can be consequently concluded that a certain level of **cross-subsidization** between these customer categories applied. On the other side, the fact that industry prices had been partially deregulated has already led to certain price harmonization. If forthcoming market liberalization is to bring benefits to customers, not only by allowing choice of suppliers, but also offering the lower prices, **end-user price regulation has to be abandoned**. Abandoning of end- user price regulation in countries where prices are regulated at levels below costs will, most evidently, not lead to lower prices in the first step. Only once all suppliers offer gas at market prices, market liberalization and competition can bring benefits to customers in terms of lower prices. Cost-reflectivity of energy prices remains one the most important means for entry of new suppliers but also economic viability of the incumbent suppliers.

Table 20 Gas prices for industry, EUROSTAT Band I3: 10 000 GJ < consumption < 100 000 GJ (EUR cent/kWh)

	Gas, network and non- recoverable levies	VAT and other recoverable taxes	Price with all taxes and levies included
Bosnia and Herzegovina	5,31	0,90	6,21
FYR of Macedonia	4,22	0,76	4,98
Georgia[122]	2,76	0,49	3,25
Serbia	3,83	0,38	4,21
Ukraine[123]	2,80	0,56	3,36
EU-28	3,69	0,74	4,43

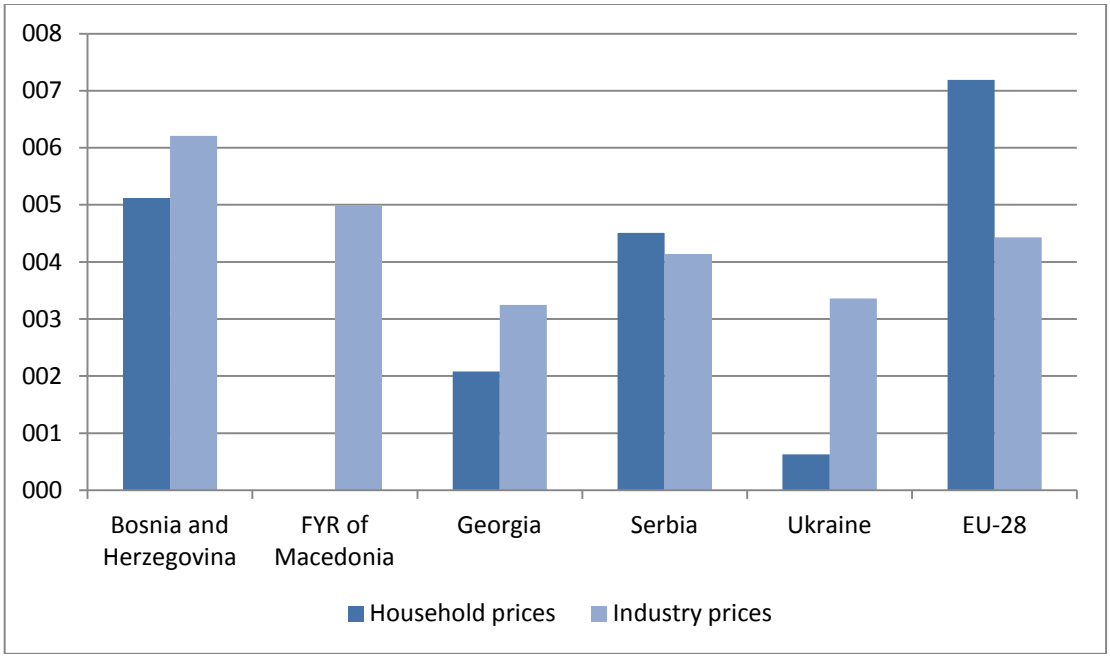
Source: EUROSTAT and NRAs

Figure 49 Gas prices for industry, EUROSTAT Band I3: 10 000 GJ < consumption < 100 000 GJ (EUR cent/kWh)



[122] Weighted average for all industry customers.
[123] Weighted average for all non- household customers.

Figure 50 Comparison of end- user gas prices for households (Band D2) and industry (Band I3)- second semester of 2013 (EUR cent/kWh)



The **structure of end-user prices for industry customers** is available only for Ukraine and, partially, Georgia. The share of network costs in the end-user price for all non- households is 5,39% in Ukraine and 2,39% in Georgia, whereby the network share for Georgia refers only to distribution charge.

4. End- user gas price regulation

Regulation of end-user energy prices is generally recognized as one of the main **obstacles to creating competitive and well-functioning retail markets**. This is especially the case when regulated prices are determined at levels below costs and/or when cross-subsidization between groups of customers exists.

End-user gas prices for household customers were regulated in all Contracting Parties in 2014, with the exception of FYR of Macedonia, where only a limited number of households[124] was supplied at non-regulated prices. In Georgia household customers connected to the grid after 2007 are supplied under non-regulated prices. However 84% of residential consumers were supplied under partly regulated prices, consuming 93% of gas supplied to residential consumers.

[124] 37 household customers.

Also the great majority of **non-household customers** were still supplied at regulated prices in all investigated markets, except Serbia, in 2014. The table below shows how many non-household customers were supplied at non-regulated prices in 2014.

Table 21 Number of non- households supplied at non-regulated gas prices

	2014
Bosnia and Herzegovina	not available
FYR of Macedonia	0
Georgia	not available
Serbia	12.227[125]
Ukraine	54.414

End- user gas prices are regulated by using the following methodologies:

- Rate of return/cost plus in Georgia, Serbia and Ukraine;
- Price cap in FYR of Macedonia.

In the process of **phasing out** end-user price regulation it is important to prove to customers that the gas price is a market-based commodity price that varies according to the wholesale market developments. One of the most efficient tools for doing so is frequent updating of the energy component, so to allow the final price to reflect changes in the wholesale market. This will also offer customers the possibility to estimate if retail companies, other than incumbent suppliers, provide cheaper energy. The energy component in the analyzed markets receives update as follows:[126]

- Monthly in FYR of Macedonia,
- Every 12 months in Georgia,
- In Serbia no automatic mechanism existed but suppliers are obliged to submit to the regulator price proposals in case of a more than 3% change in gas purchase price. The price was updated in 2014 approximately every 4th months.

Another precondition for successful transition towards complete deregulation of end- user prices is allowing customers to **switch from and to regulated prices**. Customers, especially households, typically consider regulated energy prices as more stable. If customers are not allowed to return to regulated supply, they will most likely not be willing to change supplier at all. This tendency increases where regulated prices are set at levels below costs. Obviously such approach does not contribute to liquid and effective retail market development. Also the

[125] Number of metering points
[126] Information not available for all relevant markets.

ACER/CEER Market Monitoring Report 2012[127] investigated the influence of the possibility to switch in and out of regulated prices on switching behavior and the results showed that in countries with regulated gas prices where both[128] preconditions for efficient transition to deregulation are met, the switching rates were much higher.

Among the markets analyzed in this report, only in Serbia[129] and Ukraine switching in and out of regulated prices was allowed.

[127] http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER%20Market%20Monitoring%20Report%202013.pdf , pages 53-55.

[128] Namely frequent review of the energy component and the possibility of switching in and out of regulated prices.

[129] Only for households and small customers.

CONSUMER PROTECTION AND CUSTOMER EMPOWERMENT

1. Background

Well functioning of retail electricity and gas markets means that consumers have continuous access to energy and benefit from competition, as well as that their rights are guaranteed and strengthened. Therefore 3rd Energy Package outlines a set of measures which aim to:

- Ensure continuous supply of electricity and gas and address energy poverty;
- Define concept of vulnerable customers and means for their protection;
- Ensure participation of customers in liberalized energy market by providing necessary information to customers, in a transparent way and free of charge, related to metering and billing, contractual terms and conditions, switching supplier, dispute settlement etc.

This chapter monitors **household** consumer protection according to the relevant provisions of the Electricity and Gas Directives. More precisely, it explores how these provisions have been transposed into national legislation, i.e. how the national legal frameworks protect household consumers.

The topics covered in this chapter are:

- Supplier of last resort and disconnections;
- Vulnerable customers;
- Consumer information;
- Complaint handling and dispute resolution.

2. Supplier of last resort and disconnections

The Electricity Directive requires that all household customers enjoy universal service, namley the right to be supplied with electricity of a specified quality at reasonable, easily comparable, transparent and non- discriminatory prices. This may be ensured by appointing a supplier of last resort. The Gas Directive does not recognize the term “universal service”. However, a supplier of last resort for customers connected to the gas system may be appointed. None of the Directives explains which functions the supplier of last resort has. The ACER/CEER Market Monitoring Report 2013[130] identified a list of functions that electricity and gas suppliers

[130] ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas markets in 2013, http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2014.pdf.

of last resort have in EU Member States. The table below summarizes which of these functions are applicable in the Energy Community Contracting Parties and Georgia.

Table 22 Functions of the supplier of last resort in the Energy Community – 2014

In which circumstances may a household customer turn to the "supplier of last resort" to ensure continuous energy supply?	Number of countries- electricity	Number of countries- gas
If a household customer does not find supplier on the market	5	2
If a household customer is dropped by its current supplier because of non- payment	3	1
The current supplier has gone bankrupt and is no longer doing business	5	3
The license of the current supplier has been revoked	4	3
If a final household customer does not choose a supplier at market opening	4	2
If a fix- term supply contract expires	4	2
Other reasons	1	
There is no supplier of last resort in the country	1[131]	0

A **supplier of last resort was appointed in 2014 for electricity and gas**[132] **in all Contracting Parties** but very often operated under another name (e.g. guaranteed supplier of electricity in Ukraine or reserve supplier in Serbia). In Albania the wholesale electricity supplier had functions of a supplier of last resort in 2014. The table above shows that the electricity supplier of last resort usually supplied customers in case they did not find an alternative supplier on the market or remained inactive after market opening (this function may be also considered as default supply) or in case their supplier did not perform its function any more (e.g. because of bankruptcy or the license has been revoked). In Montenegro, the function of a supplier of last resort was defined more generally.

Besides having secure energy supply, it is important for consumers to know under which circumstances they can be disconnected from the network and what is the procedure for connecting them again after the reasons for disconnection are removed. The Electricity and Gas Directives specify that a prohibition of disconnection may be a tool for protecting vulnerable customers but do not include disconnection related requirements for energy

[131] In Albania the wholesale supplier has the function of supplier of last resort.
[132] Where gas market exists.

suppliers. National regulatory authorities have an obligation to monitor, among others, disconnection rates[133].

Non-payment of energy bills is one of the main problems electricity and gas suppliers still face in the Energy Community Contracting Parties. Therefore easy and transparent procedures for disconnection that protect both suppliers and customers are very important. Here the minimum notice period to disconnect a customer was assessed and the results are presented in the table below.

Table 23 Minimum duration of disconnection process for non-paying consumers across Energy Community Contracting Parties and Georgia

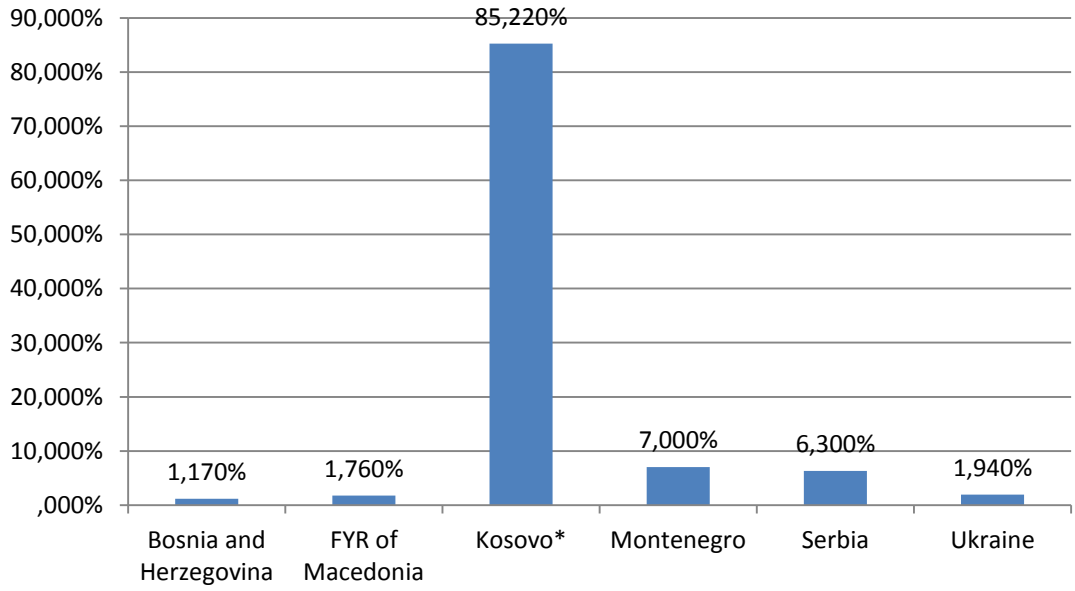
How many days (at least) does it take to disconnect a final household customer from the grid because of non-payment? Starting date is due date of payment	legal	In practice
Albania	If the customer does not pay the invoice within 30 days after the defined deadline, the supplier has the right to disconnect him, after the supplier has notified in writing the latter 48 hours in advance.	More than 30 days
Bosnia and Herzegovina	FBIH&BD approx. 30, RS 21 (8+8+5)	FBIH approx. 30, RS 8-25 days, BD approx 60
FYR of Macedonia	45	60
Georgia	for electricity, legally it takes at least 3 days. For gas – 10 days.	approximately 10 days for both electricity and gas
Kosovo*	30	mainly 30 days, sometimes longer
Montenegro	16 (8 days for payment plus 8 days additional deadline for payment after the warning has been issued)	More than 16
Serbia	15 - 30 days starting from the date when supplier warned the customer that his/her bill was not paid in due time	Not applicable
Ukraine	50 electricity, 20 gas	50 electricity, 23 gas

[133] Article 37 (1j) of Directive 2009/72/EC and 42 (1j) of Directive 2009/73/EC

The minimal number of days that are legally envisaged between the payment due date and actual disconnection of a customer is usually 30-50 days. This period includes deadlines for payment of the bill, warning after non-payment, usually with an extension of the payment deadline and, if applicable, announcement of disconnection[134]. The actual duration of a disconnection usually takes longer than legally binding deadlines.

Finally, for the countries where such information is available, a share of disconnections of household customers due to non-payment of electricity bills is shown in the figure below.

Figure 51 Share of household disconnections due to non-payment in % of household metering points[135][136]- electricity- 2014



The share of household **disconnections due to non-payment for electricity** in the Contracting Parties varies substantially among countries. While the percentages in Bosnia and Herzegovina, FYR of Macedonia and Ukraine are similar to those of the majority EU Member States[137], the shares of household disconnections in Montenegro and Serbia are higher. The rate of household disconnections in Kosovo* is extremely high[138], witnessing historically high rate of non-payments. In 2014 there were 4 888 607 electricity bills generated

[134] Announcement of disconnection is sometimes not sent separately, but it is part of a warning.
[135] For Macedonia the % refers to both household and non- household disconnections.
[136] The share is calculated by dividing the number of household disconnections in 2014 with the number of household metering points. It assumes that some households could be disconnected more than once during the year.
[137] Usually lower than 2% (ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas markets in 2013, p.208).
[138] For illustration reasons: number of household disconnections in Kosovo* was more than 350.000 in 2014, while in Ukraine this number was around 320.000.

to household customers. Total number of household disconnections for 2014 was 351 201. If one compares the total number of disconnections with the total number of bills generated for household the yearly disconnection percentage adds up to 7.18%.

The shares of household **disconnections due to non-payment of gas** were available only for Bosnia and Herzegovina - Republika Srpska entity (0,70%) and Ukraine (0,95%). These figures are similar to those in the EU Member States and generally prove the higher payment of gas bills in comparison to electricity bills.

3. Vulnerable customers

According to Article 3 of both the Electricity and Gas Directive adequate safeguards to protect vulnerable customers should be in place. In this context each country should define the concept of vulnerable customers and ensure that rights and obligations linked to vulnerable customers are applied.

The Contracting Parties in the majority of cases included a definition of vulnerable customers as well as the measures for their protection in the relevant legislative frameworks, even if not always precisely in line with the requirements of the Directives. Some of the Contracting Parties defined vulnerable customers in their energy related laws, while others have some kind of recognition of tvulnerable customers in their general social protection schemes[139]. There are different criteria applied for defining which customer categories have a right to use energy related support schemes. Typically, low level of income and health or disability of persons or their family members serves as criteria for obtaining the status of a vulnerable customer.

Different approaches to protecting vulnerable customers have been chosen. The table below summarizes measures used for protection of vulnerable customers in the Contracting Parties and Georgia in 2014.

[139] For more information see ECRB 2013 report "Treatment of vulnerable customers in the Energy Community", https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/2124179/Treatment_of_Vulnerable_Customers_2013_update_approved_by_ECRB.pdf .

Table 24 Measures to protect vulnerable customers in the Contracting Parties and Georgia - 2014

Measures to protect vulnerable customers	Number of countries- electricity	Number of countries- gas
Restrictions on disconnection due to non- payment	3	1
Earmarked social benefits to cover (unpaid) energy expenses	5	2
Special energy prices for vulnerable customers	-	-
Additional social benefits to cover (unpaid) energy expenses (non- earmarked financial means)	-	-
Free energy- saving advice to vulnerable customers	2	1
Right to deferred payment (if applied, please explain the way it is deferred)	3	1
Exemption from some components of final customer energy costs (e.g. energy price, network tariffs, taxes, levies…	-	-
Financial grants for the replacement of inefficient appliances	1	-
Free basic supply of energy (if applied, please explain how (e.g. how much energy is free of charge)	1	1
Other	2	-

Measures for protections of vulnerable customers were much more used for electricity than gas. The most spread measure was earmarked social benefit to cover energy expenses, applied in 5 out of 8 analyzed markets. Other measures often used were restrictions on disconnection due to non-payment and right to deferred payment.

Some details on specific protection measures are the following:

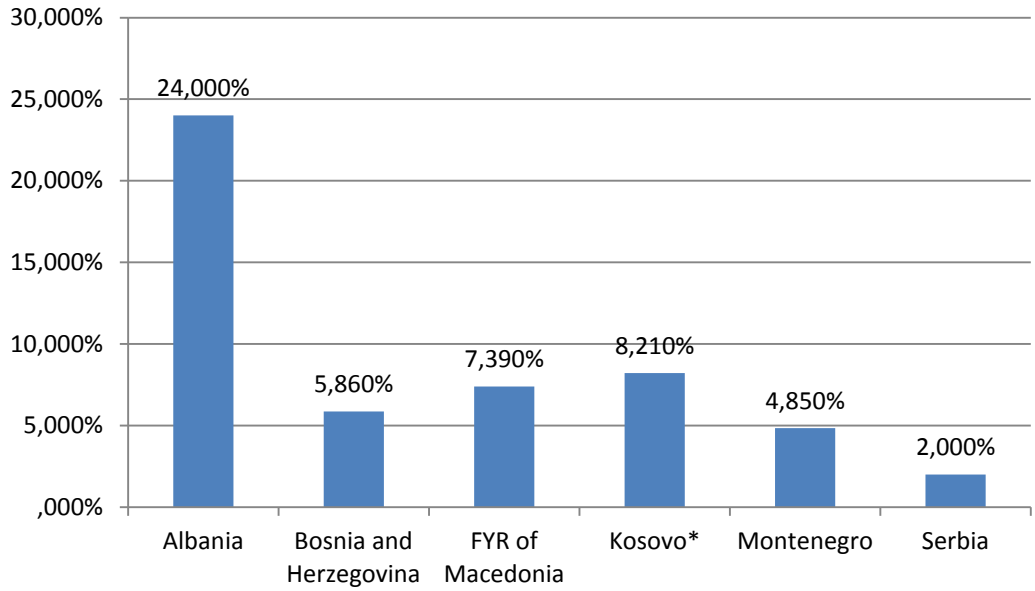
- Serbia: vulnerable customers were granted the right of free supply of 120-250 kWh of electricity and 35-75 m3 of gas, depending on number of household members (vulnerable customer have to chose only one support – for electricity or gas).
- Albania: the prices structure of 2015 removed the two blocks tariff system and the difference in price between the existing price (in 2014) and the price defined for 2015. (648 leke/month – 4,62 €/month[140]) was compensated from the state budget directly to the customers.

[140] Recalculated based on the exchange rate on 31st December 2014 (1EUR=140,14 leke), National Bank of Albania: https://www.bankofalbania.org/web/Exchange_Rates_2014_2.php.

- Kosovo*: when deciding on disconnections, electricity suppliers had to take into account the decision taken by the national regulator on the protection of vulnerable customers, in order to avoid disconnections during the winter period.
- Georgia: if disconnection would pose a threat to human health or life, a licensee must defer payment for a reasonable period of time (gas - no more than 3 months; electricity - at least 1 month).
- Ukraine: electricity related legislation has not defined the concept of vulnerable consumers. However for all household customers disconnections were prohibited before the weekend and holidays. Household customers also had the right to earmarked social benefits to cover energy bills for both electricity and gas (in case of compliance with the conditions of appointment and granting subsidies for reimbursement of payments for utility services). In case electricity customers did not have funds to pay the debt, they had to apply to the energy supplier for scheduling repayment or deferred payment period and provide a certificate confirming his insolvency. For gas, legislation approved in 2015 envisaged preparation of definition of vulnerable customers as well as adequate protection measures.
- Montenegro: supports for all endangered categories of 40% of the billed amount if below 60 €, for bills of more 60 the support was fixed with 24 € financed by the government.
- Bosnia and Herzegovina: distributor and supplier had to take appropriate measures to avoid the disconnection due to non-payment. In Republika Srpska and Brcko District restrictions on disconnection during the winter and extreme cold weather existed but the suspension of delivery can still be a final measure. In Federation BIH restrictions on disconnection of life supporting equipment existed. Also, there were restrictions on disconnection in the Federation BIH before and during public holiday, as well as on Friday and during weekends. In addition to this, the governments of Federation BIH and Brcko District had programs to support vulnerable customers from their budgets.

The share of vulnerable customers out of the total number of household metering points shows whether the definition of vulnerable customers is well targeted or not. The figure below shows these shares calculated for 31st December 2014.

Figure 52 Share of vulnerable customers in the Contracting Parties (in % of household metering points, status on 31st December 2014)



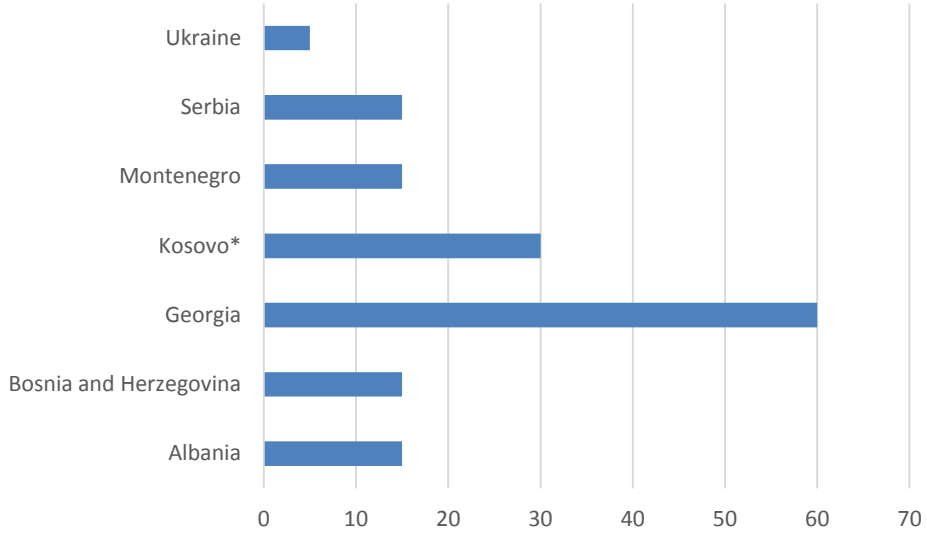
4. Customer information

Transparent and reliable information to customers is one of the most important preconditions for customers' active participation in energy market. The Electricity and Gas Directives comprise many provisions that require proper informing of customers on prices, bills, switching, dispute settlement and rights and obligations of customers in general[141]. This chapter deals not only with compliance with legal requirements of the Directives related to provision of information to consumers but also with good practices going beyond them.

Consumers should receive transparent information on applicable electricity and gas prices. This means also that they need to be informed in advance about the **change in energy prices**. In the majority of the analyzed markets there is a legal requirement for information to household consumers on price changes, including the provision on minimal number of days for informing consumers before the new prices apply. Only in FYR of Macedonia there is no such requirement. The figure below shows how many days in advance households have to be informed at minimum about the electricity and gas price changes.

[141] Article 3 and Annex I of Directives 2009/72/EC and 2009/73/EC.

Figure 53 Minimal number of days in advance that household consumers are informed about energy price changes[142]

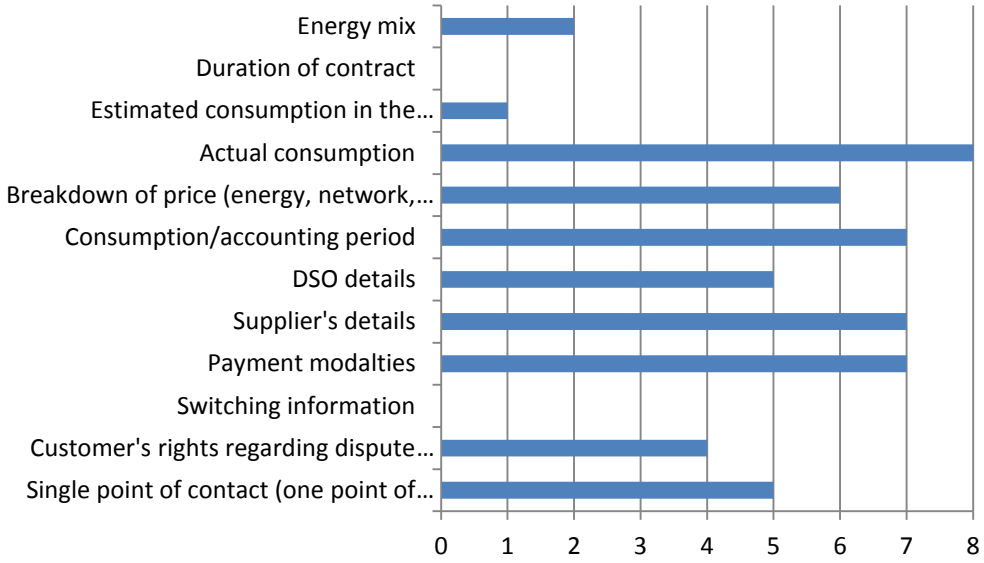


In most of the countries the household consumers have to be informed about the price change at least 15 days in advance. In Kosovo* and Georgia these deadlines are longer - 30 and 60 days respectively, while in Ukraine the legal requirement for informing households in advance about the price change was only 5 days. In order to allow consumers to actively participate in energy markets - in this case to investigate other offers and eventually change supplier, the information on price change should be provided in advance enough[143] (e.g.30 days).

Electricity and gas bills are the primary source of information to customers, therefore their content needs to be carefully prepared - relevant, clear and concise. In all analyzed Energy Community energy markets, except Ukraine, the **content of electricity and gas bills** was prescribed, usually by supply rules. In Kosovo* the supplier was obliged to prepare the standard form of bill that is to be approved by the regulator. The figure below shows which information can be found on energy bills in the Contracting Parties and Georgia.

[142] The information for Bosnia and Herzegovina refers only to Republika Srpska entity; in other entities the legislation requires only that customers are appropriately informed in advance about the price change.
[143] In some more developed EU markets, where consumers may conclude contracts with fixed or variable energy prices, legal requirements for informing consumers in advance differ according to the type of pricing chosen. Of course, if a consumer has chosen variable energy pricing, the prices will vary frequently and the information on price change may be provided only in a short term. For more information, please see ACER/CEER Market Monitoring Report 2014.

Figure 54 Information on electricity bills- 2014 (number of jurisdictions)



The only information available on all electricity and gas bills was actual consumption of a customer. In some cases there was also information on estimated consumption - in Ukraine[144] and Albania[145]. Information related to switching and contract duration was not visible on bills. Breakdown of price to its components, relevant for switching, was available in most of the countries, however not in Ukraine. Information on the energy mix - which is also an obligation specified by Article 3(9) of the Electricity Directive - was available on electricity bills only in Serbia and Ukraine. Other information mentioned as part of energy bills wre: payment due date, information about privileges and subsidies, balance of payments, cost of metering point, legal default interest, common area consumption (elevator, water pump), RES incentives etc.

Annex I of both the Gas and Electricity Directive requires that customers have to be offered a wide choice of **payment** methods. In all analyzed markets, this was indeed the case for both electricity and gas.

Establishing a **single point of contact** to provide consumers with all necessary information concerning their rights, current legislation and the available means of dispute settlement is another obligation for Contracting Parties[146]. With the exception of Albania, other countries reported that there is a single point of contact established in 2014; however this function was usually shared between several bodies. Only in Ukraine the single point of contact was clearly defined - supply companies had established call centers where consumers can receive all relevant information regarding their rights and dispute resolution.

[144] In case the supplier issues monthly bills not based on actual consumption with further reconciliation based on actual data (ones or twice a year).
[145] Where a meter is not installed.
[146] Article 3(12) of Electricity Directive and Article 3(9) of Gas Directive.

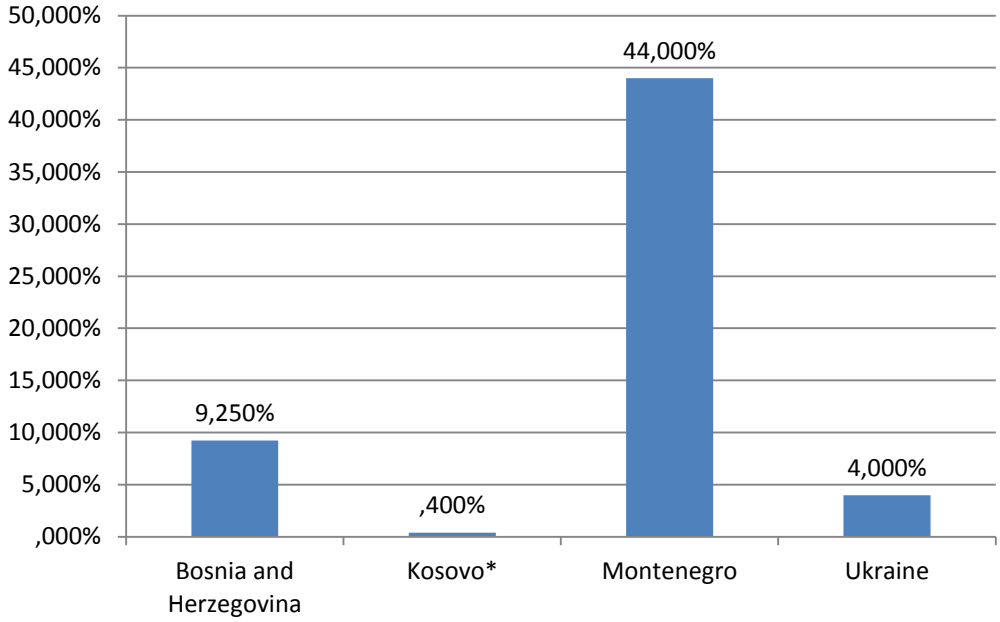
The possibility to efficiently **change electricity and gas supplier** is an important tool for consumers to exercise their power in the energy market and benefit from competition. Therefore it is not only crucial to enable and facilitate supplier switching, but also to provide information to consumers on how to do it. The Electricity and Gas Directive require that switching is done within 3 weeks and that the final closure account is available not later than 6 weeks after the switching is performed. Although in several Contracting Parties supplier switching is not possible because there is no alternative supplier in the market, the rules for switching have been approved in majority of them, usually correctly transposing the timing requirements of the Directives[147]. The switching process may be stopped due to some prescribed reasons in most of the countries[148] as the examples hereinafter illustrate:

- Serbia: non- payment of a bill and non-payment of damage claim in case of contract termination when duration of contracted supply is fixed;
- FYR of Macedonia: in the case if non-payment of electricity bills to the incumbent supplier and costs to DSO, TSO and Market Operator;
- Kosovo*: in cases when current supplier rightly considers that, in the proposed transfer date, the customer is not eligible customer or is still obliged under the contract with the current supplier;
- Ukraine: 1. debt of customer under the supply contract; 2. the system of commercial metering customer does not meet the requirements necessary to switch supplier; 3. failure to submit the necessary documents, the shortcomings in the documents; 4. new supplier didn't sign distribution contract with relevant DSO.
- Bosnia and Herzegovina: incomplete or inaccurate request for switching; provisions of previous contract between old supplier and a customer, withdrawal of customer request, force majeure.

According to Annex I of the Electricity and Gas Directive, Contracting Parties shall ensure implementation of **smart meters** that should assist the active participation of consumers in electricity and gas markets. The implementation of smart meters may be subject to cost-benefit analysis that is to be performed then by 1st January 2014. Electricity smart meters should be rolled-out to at least 80% of consumers by 2020, unless the result of a cost- benefit analysis is negative. There is no such a timeline envisaged for gas. In none of the Contracting Parties a cost-benefit analysis has been performed. The figure below shows the percentage of household customers with electricity smart meters [149] in Contracting Parties where implemented.

[147] In FYR of Macedonia prescribed number of working days for switching is 45 for both electricity and gas. This is also the time in which the switching is actually completed.
[148] In Montenegro switching process cannot be stopped.
[149] A smart meter is a new generation of device for energy metering that sends electronic meter readings to the energy supplier automatically and provides the customer with helpful functionalities in order to regulate own consumption.

Figure 55 Share of households with electricity smart meters (in %), status 31.12.2014.



Although smart meters are not yet widely implemented in the Energy Community Contracting Parties, **frequency of billing information based on actual consumption** in households was monthly in 2014 in all cases[150]. For comparison reasons it is worth noting that in the majority of EU Member States households receive information on actual consumption (if without smart meters) only once a year[151].

[150] Only in BIH- Republika Srpska electricity and gas billing based on actual consumption was annual.
[151] ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas markets in 2013, p.221

5. Customer complaints

Consumers may be properly protected and empowered only if their complaints are efficiently treated and if there are clearly defined dispute resolution procedures. When monitoring the level and effectiveness of market opening and competition, regulatory authorities should monitor also the complaints of household customers.

Table 25 Number of household customer complaints received by different companies/institutions, for both electricity and gas- 2014

	suppliers	DSOs	ADR	NRA
Albania	Not available	49.923	Not applicable	Not available
Bosnia and Herzegovina	6.865	962	Not applicable	303
FYR of Macedonia	25.114	Not available	Not applicable	125
Georgia	Not available	Not available	Not available	1239[152]
Kosovo*	17.367	288	Not applicable	234
Montenegro	8.000		Not applicable	125
Serbia	Not available	288.846[153]	Not applicable	201
Ukraine	174.228[154]		Not applicable	1.899

The table above shows the number of household complaints received during 2014 by electricity and gas suppliers, distribution system operators and regulatory authorities. The table also shows that there was no separate information on complaints received by an institution appointed as alternative dispute resolution body, mainly because the regulatory authority was tasked with these activities[155] together with other institutions[156]. It is also obvious that customer complaints can hardly be separated between suppliers and DSOs - they were still seen as single company by household customers even if legally unbundled. The majority of mentioned complaints referred to electricity and gas bills; only in Ukraine most of the electricity related complaints were complaints about quality of supply. An interpretation of the number of complaints is difficult: a high number of complaints may result from customers' dissatisfaction, but also from higher customers' engagement mixed with cultural differences and different levels of market maturity.

[152] 688 for electricity and 551 for gas. All complaints- households and commercial customers.
[153] Only electricity.
[154] Including 14674 complaints submitted to Information and Consultation Centers. Partially ICCs fulfill ADR function however they are established by electricity suppliers at regulated tariff and operating as its units.
[155] Activities of out-of-court dispute settlement.
[156] Ombudsman, consumer protection organizations, etc.

The legally permitted time for service providers to deal with complaints in the Contracting Parties and Georgia is relatively low, especially for complaints related to energy bills. Some regulators reported that, in practical terms, some service providers need more time for processing complaints (Albania and Ukraine, Montenegro for complaints related to connections). However, the in majority of cases it may be considered that the timelines for processing are reasonable. For more information on particular countries, please see the figures below.

Figure 56 Processing time set for service providers to deal with complaints related to electricity bills and time service providers usually need for processing these complaints

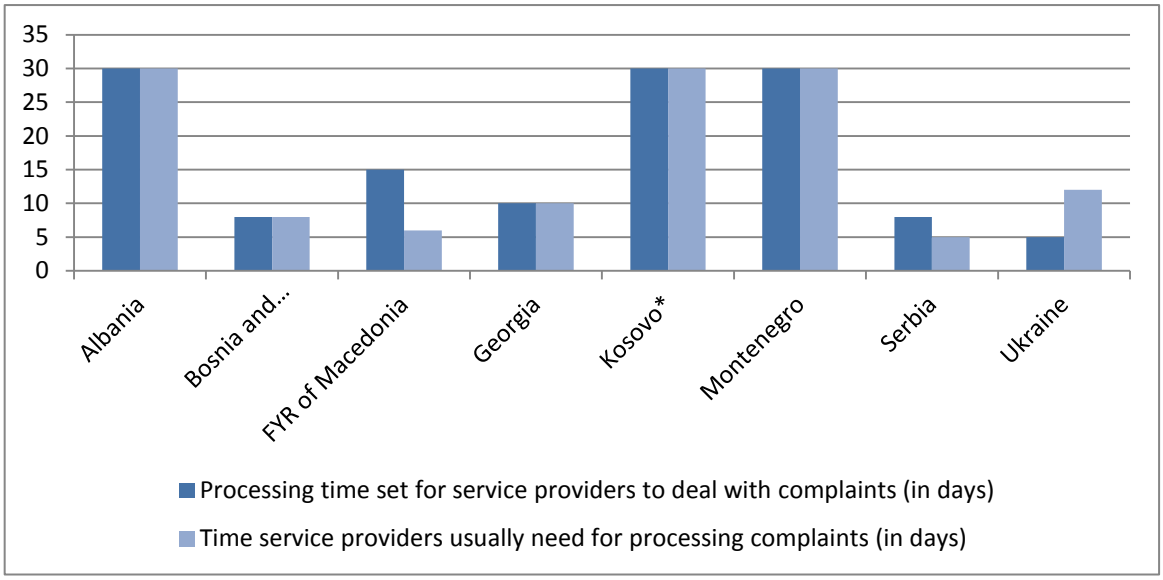


Figure 57 Processing time set for service providers to deal with complaints related to electricity connections and time service providers usually need for processing these complaints