

Impact of the energy crisis on electricity and gas price regulation in the Energy Community Contracting Parties

(Updated in May 2023)

This paper is prepared by the Electricity Working Group (EWG) and Gas Working Group (GWG) of the Energy Community Regulatory Board (ECRB) with input from its members national regulatory authorities (NRAs) and is taking stock of the impact of the price crisis in the electricity and gas markets and measures undertaken by regulators and policy makers.

This version provides updated information and substitutes and extends the previous version published in April 2022. It focuses on measures undertaken by Governments, Regulators and TSOs from the Contracting Parties to mitigate the impact of the electricity and gas price surge.

There is a special focus on Ukraine with the aim to provide information on the impact of Russia's war of aggression against Ukraine.

Part I of the report provides an introduction to the electricity and gas price surge and its general impact.

Part II of the report outlines general conclusions on the impact and measures undertaken in the Energy Community Contracting Parties and the need to further monitor the market.

Annex A represents an outline based on the input and view of the respective national regulatory authority through their representation at the EWG and GWG.

Additionally, in October 2022, Energy Community Secretariat has published a Position Paper on impact of recent energy crisis on the operation and viability of electricity distribution system operators in the Energy Community, which is based on the research of the ECDSO-E Task Force for Network Tariffs. This Position Paper can be found [here](#).

I. Introduction

As of the second half of 2021, an unprecedented increase in electricity and gas prices has been recorded in the energy markets. The natural gas price shock has been recognized as one of the main causes of the sudden electricity price increase, which is also outlined by the Agency for Cooperation of Energy Regulators' (ACER) in *Final Assessment of EU Wholesale Electricity Market Design*¹. Back in 2021, the fast economic recovery from the COVID-19 pandemic led to high gas demand which, combined with the constrained gas supply, resulted in high natural gas prices and consequently, as electricity production is dependent on natural gas, extremely high electricity prices. In February 2022, Russia's war of aggression against Ukraine exacerbated the situation in the electricity and natural gas market, leading to an additional increase in gas and electricity prices.

¹https://acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER's%2520Final%2520Assessm ent%2520of%2520the%2520EU%2520Wholesale%2520Electricity%2520Market%2520Design.pdf

In October 2021, the European Commission presented a toolbox of measures for European Union (EU) Member States (*Tackling rising energy prices: a toolbox for action and support*)² to address the price hikes through targeted, national short-term relief measures that help the most vulnerable consumers without endangering the operation of the energy markets. After that, in May 2022, European Commission presented REPowerEU Plan that focuses on saving energy, producing clean energy and diversifying the energy supply to gradually terminate EU dependency on Russian fossil fuels³. In October 2022, the Council of the European Union adopted *Regulation (EU) 2022/1854 on an emergency intervention to address high energy prices*⁴ which introduced several measures to tackle the energy crisis. One of such measures, inter alia, was introduction of a cap on revenues of inframarginal technologies, earned via the market mechanism, with subsequent redistribution of the excessive revenue to support the final customers.

The price surge in energy markets in the EU affected the energy markets in the Energy Community Contracting Parties differently, depending on their reliance on imports of electricity and natural gas. However, no such introduction of joint or unified measures in the electricity and gas markets at the Energy Community level has occurred. Individual, national measures to tackle electricity price surge were applied instead. On the other hand, as a measure to preserve the security of gas supply, in October 2022, Energy Community *acquis* was extended to include the adapted Regulation 2022/1032, which, inter alia, set targets for filling up gas storages in the Contracting Parties.

A high-level assessment outlined in the Annex follows the Contracting Party NRAs' updates and discussions at the ECRB working groups in relation to the impact of the energy price surge in the electricity and gas markets and measures undertaken by the transmission system operators (TSOs), NRAs and Governments in the Contracting Parties to mitigate the adverse impact.

II. Conclusions

The Energy Community markets, despite some level of correlation, remain fragmented when it comes to the utilisation of national resources for the purpose of supplying the end users. National electricity production is generally reserved for households and small commercial consumers at a price that does not reflect the regional prices and in some cases even individual country's internal total cost of service, unless it is imported and produced from coal or gas.

Energy Community gas import-dependent markets have been heavily impacted not only in terms of price increase but also in terms of the security of gas supply. This, in some cases, had a direct spill over effect to the security of supply and prices level also in the electricity sector.

Considering this, the following can be concluded for the Contracting Parties:

² https://ec.europa.eu/commission/presscorner/detail/en/IP_21_5204

³ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repower-eu-affordable-secure-and-sustainable-energy-europe_en

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022R1854>

Impact of war of aggression against Ukraine

- Due to Russia's war of aggression against Ukraine, Ukraine enacted the Martial Law which grants more powers to the Government in governing certain aspects of the energy market both in electricity and gas. Tackling the gas market crisis at time of war, called for respective legislative amendments;
- Additionally, Russia's war of aggression against Ukraine has increased uncertainties and risks related to the security of supply of electricity and gas in Moldova;

Impact on the electricity market

- A large segment of the electricity markets in the Energy Community Contracting Parties is still either regulated via public service obligation or isolated via intra-group/companies arrangements hence price impact in these market segment has been limited;
- Net electricity importing countries, namely Albania, North Macedonia, Moldova and Kosovo⁵, were impacted by the high import prices, whereas producers from net electricity exporting countries, namely Bosnia and Herzegovina, reported the highest revenues;
- Many countries, namely Albania, Kosovo*, Moldova and North Macedonia, declared state of emergency and opted for direct financial support to consumers through the incumbent companies;
- Brčko District of Bosnia and Herzegovina, Kosovo*, Moldova and North Macedonia have increased universal supply electricity tariffs. However, after the second tariff review in 2022, universal supply tariff in North Macedonia decreased a bit;
- Also, Bosnia and Herzegovina's entity Republika Srpska, North Macedonia and Kosovo* introduced incentives for electricity savings by consumers via block tariffs;
- On the other hand, the price surge did not impact the electricity wholesale and retail market segments in Georgia, which operate at bilaterally fixed prices and regulated tariffs.
- In Albania and Montenegro, price surge in the electricity wholesale market did not affect retail prices for households and small commercial consumers;
- Generally speaking, electricity imbalance prices were impacted by the price surge in wholesale market in Contracting Parties. However, at some point in North Macedonia, imbalance price was lower than the market price which caused undesirable behaviour of some market participants, i.e., increased imbalances;
- The Serbian TSO already did, and others are likely to, review the balancing rules and increase the level of financial guarantees to cover the exposure on balancing market;

Impact on the gas market

- Impacts on gas markets of the Energy Community Contracting Parties have been mitigated by Governments and NRAs via freezing end-user prices or allowing only

⁵ 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 Advisory Opinion on the Kosovo declaration of independence



gradual price increases to end users, while providing compensation to consumers, including from external sources.

The ECRB EWG and ECRB GWG invite regulators from the Contracting Parties to monitor the market and exchange experiences through ECRB Electricity Working Group and ECRB Gas Working Group on measures to improve market functioning.

ANNEX A: Update by Contracting Parties

Information comprised in this Annex is provided or confirmed by the NRAs from Contracting Parties through their EWG and GWG delegated members per each Contracting Party.

Information provided below represents the view of:

1. Energy Regulatory Authority (ERE)
 - a. For part (1) [Albania](#)
2. State Electricity Regulatory Commission (SERC)
 - a. For part (2) [Bosnia and Herzegovina](#)
3. Georgian National Energy and Water Supply Regulatory Commission (GNERC)
 - a. For part (3) [Georgia](#)
4. Energy Regulatory Office (ERO)
 - a. For part (4) [Kosovo*](#)
5. National Agency for Energy Regulation (ANRE)
 - a. For part (5) [Moldova](#)
6. Energy and Water Regulatory Authority of Montenegro (REGAGEN)
 - a. For part (6) [Montenegro](#)
7. Energy and Water Services Regulatory Commission (ERC)
 - a. For part (7) [North Macedonia](#)
8. Energy Agency of the Republic of Serbia (AERS)
 - a. For part (8) [Serbia](#)
9. National Energy and Utility Regulatory Commission (NEURC)
 - a. For part (9) [Ukraine](#)

1. Albania

Impact on the electricity market

- Albania has a high exposure on hydro resources and due to weather conditions (namely, dry summer and autumn) is importing significant amount of electricity at high prices. Albania is generally a net importing country, however in the case of the favourable hydrological conditions the country's exports are high during the spring season.
- Year 2021 resulted with production of electricity of 8.9 TWh and during 2022 the production reduced to 7 TWh, the import to cover the consumption in 2022 was 0.921 TWh.
- The universal service supply benefits from the public service obligation of the state-owned hydro producer, KESH, whose prices are based on costs, hence it is not directly affected by the global and regional prices but rather by weather conditions. Production by KESH is not sufficient to cover the demand from the universal service supply therefore the universal supplier will need to procure a proportion of its portfolio in the market which mainly comes from import. This exposes the universal supplier to price risk and revenue shortage.
- Industrial consumers and other consumers that are supplied in the free market are buying at regional market price, therefore their businesses are directly impacted by a significant increase in prices.
- The price surge in the market had a direct impact on the balancing services offered to the TSO and subsequently imbalance prices. This is an expected and desirable effect, which ensures that there is a financial incentive for market participants to provide a balanced portfolio.

Measures undertaken in the electricity market

- By Decision no. 584 of 8 October 2021, the Government of Albania declared a state of emergency effective until 15 April 2022, followed by an emergency public service obligation act, which dedicates all electricity produced by KESH to the universal supplier. Based on this act, the surpluses of KESH shall be stored via a commercial agreement and used by the universal supplier. The Government also announced EUR 100 million for 2021, in the form of a sovereign guaranty to the OSHEE Group to enable the import of electricity with high prices.
- Public generator (KESH sh.a.) in 04/04/2022 signed a contract for two Barge Mounted Thermal Power Plants. Total Capacity of Barge Mounted Thermal Power Plants installed in Vlora is 110 MW.
- Government of Albania supported the public entities to realize imports with high prices during 2021 and 2022. In 2021 the level of support provided by the Government was 100 million Euro, while in 2022 it reached 250 Million Euro.

- Due to the support of the Government the retail electricity prices in the regulated market did not change while import prices increased significantly and equalled 277.9 EUR/MWh in end of 2021, reaching 482.32 EUR/MWh during 2022.
- Albania imported 921 GWh in 2022 which is 11.6 % of its total energy needs and total cost of this import for 2022 reached EUR 446 million.
- In continuance, Government of Albania by Decision no. 650 of 10 October 2022 decided to extend the state of emergency situation for energy supplier until 30 June 2023.
- No specific measures have been undertaken so far by the NRA, ERE, however ERE is monitoring the market and assessing the potential impact on tariffs.
- The transmission and distribution system operator were requested pursuant to the above-mentioned Government's decision to review their investment plans and postpone their investments which are not urgent.

2. Bosnia and Herzegovina

Impact on the electricity market

- Bosnia and Herzegovina is generally a net electricity exporting country. Therefore, the surge in regional prices meant higher priced exports from production companies in Bosnia and Herzegovina.
- Electricity producers in Bosnia and Herzegovina have recorded the highest revenues ever during this period of price surge. The companies have benefited also from the fact that electricity produced from fossil fuels is not subject to a carbon price/tax making it more competitive in the surrounding EU markets.
- At the same time, Bosnia and Herzegovina still has been impacted by gas imports and high energy prices impacted industrial customers with price increase of 20%, which in turn incentivized record high level of PV installations reaching 101.52 MW in December 2022 (with total PV generation 117.05 GWh). At the same time, bad hydrology led to an overall production decrease to 15 TWh in 2022 (-11.8% less than in 2021).
- The retail market in Bosnia and Herzegovina is supplied mainly by the electricity sourced within the country and reserved for retail supply. The incumbents are vertically integrated companies with generation, supply and trade functions.
- Balancing market prices are correlated, hence reflecting the regional scarcity.

Measures undertaken in the electricity market

- At its session on October 27, 2022, on the proposal of the Federal Ministry of Energy, Mining and Industry, the Government of the Federation of Bosnia and Herzegovina passed a Decision limiting the increase in electricity supply prices for qualified customers to a maximum of 20% in 2023 compared to the previous year, whereby this applies to contracts with an annual duration or longer. The Federal Ministry of Energy, Mining and Industry is tasked with analysing the effects of its application within three months of the entry into force of this decision, and possibly proposing some corrections and submitting it to the Federal Government, in order to send it to the FBiH Parliament for discussion and comment or, if necessary, and earlier. (continued implementation of the Decision on limiting the increase in electricity supply prices from January 7, 2022)
- On December 15, 2022, the Energy Regulatory Commission of Republika Srpska, at the request of distribution system operators and public suppliers, made decisions on the approval of new tariff rates for users of distribution systems and public supply in Republika Srpska. Among other, this led to the application of different electricity prices depending on the range consumption (blocks) for end customers from the consumption category "Household" as shown in the following table:

Block	€/kWh
I: up to 500 kWh	0.0278
II: 501 to 1500 kWh	0.0467
III: more than 1500 kWh	0.1029

- In February 2023 the State Electricity Regulatory Commission adopted the decisions on tariffs for distribution services and electricity supply within the universal service in the Brčko District of BiH. As of 1st March 2023 an average electricity price for the customers supplied within the universal service was increased by 26.36%, amounting to 0.101 €/kWh for households and 0.111 €/kWh for other consumers, that is, commercial customers connected to the 0,4 kV and whose annual consumption does not exceed 35,000 kWh. An average tariff for electricity distribution was increased by 5.03% amounting to 0.030 €/kWh. The price change was caused by an increase in the electricity purchase price, which is 33.6% higher in comparison to the price in 2022, which is the consequence of the global and regional energy crisis. With the aim of mitigating the financial consequences due to the purchase price increase, the seasonal tariff rates have been equalised. In the decision-making process SERC, took into account the measures of the Brčko District Government under which a part of electricity costs for vulnerable customers is subsidised, which includes over 37% of households, and the possibility of other forms of assistance in line with applicable practice in the countries in the region and Europe during the current energy crisis.

No special measures were applied in the gas market.

3. Georgia

Impact on the electricity market

- Georgia is generally importing significant amount of electricity at a relatively high price. However, due to the good hydrological conditions, additional hydro energy that was generated at low costs by hydro power plants in Georgia is compensating for high electricity import prices.
- Along with imports, the thermal power plants are balancing the demand in the periods of insufficient domestic hydro generation. Gas supply for thermal power plants serving public obligation is purchased at fixed terms with a price lower than the wholesale market price. Hence, the price surge did not impact the wholesale and retail market segments, which operate at bilaterally fixed prices and regulated tariff.
- The day-ahead market is undergoing a dry-run operation preceding the expected go-live in July 2024.

Measures undertaken in the electricity market

- So far, no measure has been undertaken by the Government or the regulator, GNERC.
- GNERC has previously fixed Transmission and Distribution tariffs for 5 years, and currently there is no need to review the tariff.
- As for household consumers, GNERC has established temporary tariffs for electricity supply, the deadline for which was June 30, 2023. Accordingly, GNERC should set new supply tariffs for the period from July 1, 2023 until December 31, 2023.

No special measures were applied in the gas market.

4. Kosovo*

Impact on the electricity market

- Kosovo* generally is a net importer. Imports usually take place during winter periods when prices are higher due to higher demand. Currently, Kosovo* is importing through all its interconnection lines except the interconnection line with Serbia where the net transmission capacity is set at zero by the neighbouring TSO.
- Most of the universal service supply is covered by domestic generation at relatively low prices (cost plus), while electricity import is demanded on peak hours and mainly during cold weather. Immediately after the regular tariff review undertaken by the Regulator, the Universal Service Supplier requested an extraordinary tariff review due to the increase of energy wholesale prices.
- Few industrial customers that are supplied at market prices are directly impacted and already reported delays in payments, while one, the biggest industrial customer, has temporarily ceased activity.
- On January 2023, ERO has initiated the extraordinary review for regulated utilities which was concluded on March 2023. The extraordinary review process resulted in a linear increase in retail tariffs for 15.4% for all regulated consumers. The reason for an extraordinary is due to the increase in wholesale energy prices..

Measures undertaken in the electricity market

- Ministry of Economy and the Government of Kosovo* have issued some decisions which have had positive effects in managing the situation of the security of supply, reducing the electricity demand, respectively reducing the impact of the energy crisis.
- After the proposal of the technical committee for the state of emergency, the Ministry has made a decision:
 - It is recommended that the public generator KEK, should offer the energy that is received from the Albanian Energy Corporation KESH (in the form of exchange) to the Universal Service Supplier USS, DSO and KOSTT (for transmission losses), which is valid for the period of the state of emergency;
 - Kosovo* Energy Corporation JSC (KEK) is allowed to give coal free of charge to its employees.
- Also, the Government of Kosovo* has issued several decisions as follows:
 - Decision on mandatory energy saving measures in central, local institutions and public enterprises;
 - Decision to ban the export and re-export of wood products and fuels from Head 4401 of the Integrated Tariff of Kosovo* (TARIK) of 2022a;
 - Decision to allocate a subsidy in the amount of EUR 6 million for overcoming the energy crisis in order to subsidize final customers for the implementation of energy-

saving measures through the replacement of existing heating devices with high-efficiency devices;

- Decision to subsidize the electricity bill in relation to savings, for all households that reduce electricity consumption compared to the corresponding months of the previous year and that qualify for benefits, starting from the bill of September 2022;
 - Decision for imposing public service obligation on KEK to help in relation to the security of electricity supply and the avoidance of deviations in the energy system of Kosovo*, for the period 1 January to 15 March 2023;
 - Government Decision no. 04/118, dated on 11.01.2023, for emergency measures in energy supply.
 - Decision to allocate budget funds in the amount of EUR 24 million that will be used for the purpose of subsidizing electricity for final customers, in order to reduce the impact of electricity tariffs.
- The measures taken by the Government of Kosovo* to alleviate the energy crisis have been in force until March 2023.
 - ERO is continuously monitoring the situation and will act in line with its mandate.

5. Moldova

Impact on the energy market

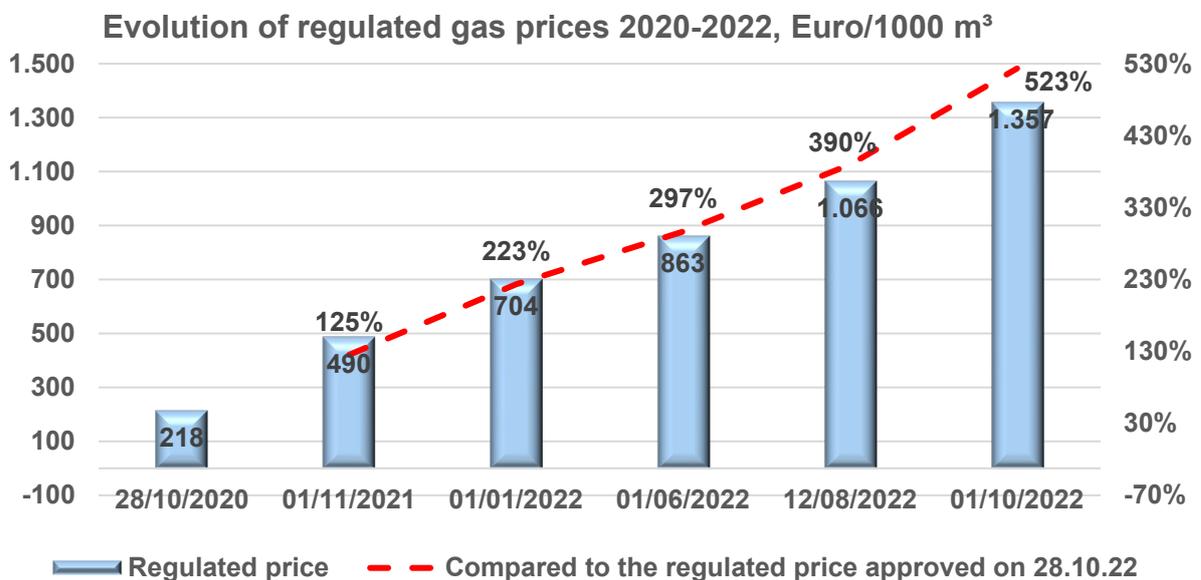
- As of 16 March 2022, the Moldovan electricity system (together with Ukraine) is synchronised with the electricity system of the Continental Europe. The so-called trial synchronisation means that no commercial exchanges are allowed until certain technical conditions are fulfilled. TSOs' however are able to exchange limited (in time and volume) emergency supplies. Currently Moldova can only have commercial electricity exchanges with Ukraine and Romania as well as other countries. Moldova is a net importer of electricity and furthermore it has a strong reliance on a gas-fired thermal power plant located in the Transnistria region.
- Due to strong reliance on gas for electricity production, the surge in gas prices has had impact in the electricity market. The shortage of natural gas during October 2021 led producers to switch to alternative sources of electricity generation (heavy fuel oil or coal). Taking into account the long period of operation with the use of alternative sources and their limited stocks, demand was met via an influx of unscheduled electricity withdrawn from the Ukrainian electricity system. The situation returned to normal with the restoration of natural gas supply in sufficient volumes, which also enabled compensation to the Ukrainian system.
- Russian aggression against Ukraine has increased uncertainties and risks related to security of supply with electricity and gas. This has stalled further the ongoing market reforms.

Measures undertaken in the energy market

- Due to the difficulties in contracting sufficient quantities of natural gas, on 22 October 2021 the Moldovan Parliament declared a state of emergency that is being prolonged every 60 days.
- On 25 November 2021, upon the proposal by the Government, the Moldovan Parliament approved a mechanism for compensating the price difference for natural gas and heating for household consumers. Compensations for the difference due to the increase in natural gas tariffs for each household consumer were:
 - Up to 50 cm/month of consumed gas: 67% of the difference following the increase of tariffs for natural gas consumption;
 - For the next 100 cm/month of consumed gas: 50% of the difference following the increase of tariffs for natural gas consumption;
 - Up to 1 gcal/month of consumed heat: 67% of the difference following the increase of the tariff for consumption of consumption of thermal energy.
- The price surge and state of emergency in Moldova coincides with the entry into force of the new electricity market model following the entering into force on June 1st 2022 of the Electricity Market Rules approved by the regulator, ANRE, in August 2020. The Electricity Market Rules entered into force after several postpones by the ANRE.

- Following the restoration of gas supply under the new terms, ANRE adjusted the prices of electricity produced at combined heat power plants (CHPs) and sold to suppliers. This increase in price for electricity produced by CHPs is below the 5% threshold set by law for extraordinary review of suppliers' revenues. A potential increase of the electricity retail prices may prove necessary later once the existing fixed terms bilateral agreements mature.
- On 20 January 2022, due to new increased price of gas and new conditions for advance payment, imposed by the supplier (Gazprom), the Parliament adopted a second decision about state of emergency for 60 days. Consequently, the Government updated the mechanism of compensation for final gas customers.
- The Emergency Situations Commission:
 - approved payment in advance and the compensations for the difference in price for gas and heating consumption granted to household consumers;
 - at the proposal of ANRE, by the Disposition nr. 68 from May 10, 2023 The Emergency Situation Commission approved for the period June – December 2022, the introduction of caps for the negative imbalance prices, and floors for the positive imbalance prices of the electricity market participants. This was implemented in order to ease the financial burden of balancing responsible parties, and upon the electricity sector as a whole, considering high prices for imbalance electricity caused by the total lack of balancing service providers within the country;
 - postponed until March 2021, the obligation of JSC Moldovagaz to pay the natural gas supplied by JSC Energoecom (state owned company) during October 2021;
 - imposed special terms for payment of the import rights for natural gas;
 - As of 28 January 2022 forbidden disconnection or penalization in case of non-payment on time of bills for electricity, heat, natural gas by household consumers;
 - as of 1 February 2022 amended the quotas of the difference in price to be compensated for gas as follows:
 - 1) In case of householders - up to 50 cm/month of consumed gas: 79.8% of the difference following the increase of tariffs for natural gas consumption;
 - 2) In case of householders - for the next 100 cm/month of consumed gas: 69.5 % of the difference following the increase of tariffs for natural gas consumption;
 - 3) In case of non-householders - 100% of the difference following the increase of tariffs for natural gas consumption for the first 500 cm/month.
- On 28 January 2022 ANRE approved a second adjustment of prices for gas, heating and electricity produced at combined heat power plants. The new conditions, pushed the wholesale price for electricity above the 5% margin set by Electricity Law, which is the threshold for extraordinary review. Following the request by the suppliers, on 18 March 2022, ANRE approved new electricity retails tariffs with an average increase of 18% and entry into force as of 1 April 2022.

- The TSO undertook measures to return to the Ukrainian system the significant quantities of unscheduled electricity withdrawn during mainly during October 2021.
- In 2022 ANRE modified several times the regulated prices for electricity supplied by the two universal service supplies and supplies of last resort, first increasing the regulated prices due to the increase of electricity purchase price and at the end of the year there was approved a decrease of regulated prices that applied starting with January 1st 2023. ANRE had to approve those decisions in order to make possible the continuation of electricity supply service to all final customers.
- Similar to the compensations provided for natural gas and heating to final consumers, for the period from November 2022 till March 2023 the Government implemented a compensation mechanism for the most affected citizens for the electricity consumption (direct within the bill issued by the regulated suppliers);
- At the moment the electricity consumption is covered mainly from natural gas-fired thermal power plant located in the Transnistria region („Moldavskaia GRES”), a small share of the electricity being bought from external sources (Romanian Day Ahead Market) during peak hours. The electricity supplied by the Moldavskaia GRES is subject of a negotiated bilateral contract between the S.A. „Energoacom” as the entity responsible for the acquisition of all energy necessary for universal service suppliers and last resort ones as well as system operators from Moldova.
- In 2022 the ANRE adjusted 4 times the regulated prices for the gas supply due to the increase of the import price.



- Starting with October 2021, Moldova is facing a significant increase of the gas prices as a consequence both of very tight global energy markets and contractual clauses signed with Gazprom (summer-winter formula).

- Starting with October 1st 2022, natural gas deliveries from PJSC „Gazprom” to Moldova were reduced by around 56% for December 2022, which makes it more difficult to manage the current energy crisis.
- The natural gas consumption was reduced in 2022 compared to 2021 by 30,8 % and constituted 847,3 mcm (due to the use of alternative sources of supply for the CHPs application of the security of supply measures).
- The amendments adopted to Law on Gas in July 2022 include provisions for the creation and maintenance of security stocks that will affect the final gas prices.
- Starting from December 2022, for the right bank administrative territories of Moldova are supplied by Energocom and not Gazprom, the traditional supplier. Also till now JSC „Energocom” purchased natural gas for ensuring security stocks for emergency situations.
- The Fund for the reduction of energy vulnerability and measures aimed at preventing and combating the energy vulnerability of the population was created.
- Following the ratification (July 2022) by the Parliament of the Republic of Moldova of the Loan Agreement between the Republic of Moldova and the EBRD of EUR 300 million which offer the possibility of accumulating some security natural gas stocks and/or the process of diversifying natural gas suppliers.

The Government created the fund of reducing the energy vulnerability that allowed providing monthly compensations for the consumption of natural gas, electricity and heating. The household's energy consumers were recorded in the register of energy vulnerability – an electronic system managed by the Labour and Social Protection Ministry, which allowed accumulating the data necessary for fitting the consumers in one of the categories of energy vulnerability.

6. Montenegro

Impact on the electricity market

- Based on the energy data of 2022, domestic production and consumption in Montenegro nearly matched.
- Electricity prices for households and small consumers remain unchanged since 2019. The Energy Law provides a specific type of protection for households and small commercial consumers – i.e. businesses with fewer than 50 occupied persons and an annual turnover or balance sheet not exceeding EUR 10 million - until the end of 2022 due to lack of competition in the retail market, by limiting the potential increase of electricity prices for these consumer categories up to 6%.
- Till the end of 2022, high energy prices on the wholesale market did not affect retail prices for households and small commercial consumers but they affected the TSO and DSO due to the increase of prices of electricity needed to cover losses in the transmission and distribution network.
- At the end of 2022, the regulator set network tariffs for period 2023-25 where higher prices of electricity for covering the losses affected tariffs for the usage of transmission systems. Distribution system operator withdrew its request for new tariffs for the period 2023-2025. Actual costs for covering the losses in the transmission and distribution system incurred during 2023-2025 will affect prices for usage of the system through ex-post adjustments.
- At the end of 2022, Montenegrin Parliament, on its own initiative, amended the Energy Law. The amendments stipulate that the delivery of electricity to cover losses to network operators that have a negative business result in conditions of market disruptions is declared a Public Service. This amendment is applicable from January 1, 2022. In addition, the amendments stipulate that the Government of Montenegro can introduce measures of mandatory energy delivery to network operators to cover losses in the systems at specially determined prices.
- The impact on prices related to balancing services and imbalance price could be expected. The price cap for reserve activation is set by *Methodology for determining prices, deadlines and conditions for the supply of ancillary and balancing service* and it correlates with day ahead prices on HUPX.

Measures undertaken in the electricity market

- The Government obliged EPCG to provide CEDIS with electricity for covering network losses at the price equal to the price used for the regulatory purpose, for the period 1 January – 28 February.

7. North Macedonia

Impact on the electricity market

- Electricity generation in the country has been gradually decreasing over the last years, mainly due to lower lignite reserves and its calorific quality. Hydro capacities depend on the hydrological conditions, which were also not favorable in the past several years. Therefore, the import of electricity in 2020 was at a level of 31,38% of the gross domestic consumption, while in 2021 the import rose to 33,15%. In 2022 the import was decreased to 20,7% due to the increased electricity generation and lower consumption.
- Small commercial consumers – i.e. businesses with fewer than 50 occupied persons and an annual turnover or balance sheet not exceeding EUR 2 million – and households benefit from the universal service obligation of the universal supplier which is a privately owned company. The regulator sets the prices for the universal supplier. However, the universal supplier is not highly exposed to wholesale electricity prices since most of the electricity offered by the universal supplier derives from the largest domestic electricity producer, a state-owned company that is obliged to offer electricity via tenders opened by the universal supplier in a percentage set in the Energy Law, which gradually decreases from at least 80% of the total annual needs of the universal supplier in 2019 to at least 30% of the total annual needs of the universal supplier in 2025. If the offered prices of the largest electricity producer are the lowest, the universal supplier has to conclude a power purchase agreement. The remaining electricity needed, but not covered by the largest electricity producer, is purchased by the universal supplier from other traders, suppliers or producers.
- Industrial consumers and other consumers that are supplied at market prices, are significantly exposed and directly impacted. Furthermore, some of the suppliers faced termination of their bilateral agreements for purchase of electricity from their foreign traders, as well as changes of prices, previously set in their bilateral agreements. These circumstances had large impact on the consumers of these suppliers. For instance, some of the consumers were left without a supplier, in most cases, with a very short cancellation period offered by their supplier. These customers had to return to the universal supplier or the supplier of last resort which, according to the regulations in place, is set at HUPX day a head price multiplied by 1,5. Other consumers received new offers at increased prices, although their purchase agreements with fixed term tariffs were still in force i.e. the contract period has not ended.
- The increase of the wholesale electricity price highly impacted the balancing market. The balancing price is set in accordance with the methodology for setting the balancing price regulated in the Electricity Balancing Rules. Usually, the Balance Service Providers (BSPs) submit offers on auctions performed by the TSO. At some point, the balancing prices were lower than the market prices due to the lack of correlation with market prices. Under such conditions, few market participants did not close their position in the market and supplied their customers, on short term or continuously, via imbalances, utilising therefore all the balancing capacity available to the TSOs within 24 hours. This brought hydro-accumulation at the historically lowest level.

Measures undertaken in the electricity market

- The Government of North Macedonia declared a state of emergency in the power sector on 9 November 2021 effective until 9 December 2021, followed by financial support for the incumbent producer, ESM JSC, and the transmission system operator, MEPSO. The Parliament extended the period for state of emergency in the power sector until 9 June 2022. As of 18 February 2022, the Government has allocated around 170 million Euro from the budget for implementation of measures to deal with the state of emergency in the supply of electricity.
- From January 2022 until 15 April several Decisions have been adopted by the Government according to which JSC TE-TO (CHP) is obliged to generate electricity of 160 MW every day of the week, and the generated electricity to be purchased by JSC ESM at a price not higher than EUR 190 per megawatt hour. This last Decision was valid until 15 April 2022. For the implementation of these decisions JSC ESM and JSC TE-TO concluded contracts.
- On 25 August 2022 the Government of North Macedonia declared a state of electricity crisis effective for the period from 1 to 30 September 2022. On 30 September 2022, the duration of electricity crisis was extended until 30 April 2023, by the Parliament.
- On 9 September 2022, Government adopted a Decision for limitation of the trade margin on the electricity market to 10%.
- On 30 October 2022 Government adopted a decision for providing electricity to food producers (meat, eggs, milk) to be supplied with electricity with prices on the level of 80 Euros/MWh.
- On 30 October 2022, the Government adopted a decision concerning electricity supply for public lighting, which is a responsibility of municipalities, that was transferred from the open market to the regulated market.
- On 30 October 2022 Government adopted a decision on elementary and secondary schools to be supplied under prices of 95 euros/MWh. Also, this applies to the water management public enterprises.
- In 2021, the Electricity Market Operator issued a decision for suspension of one market participant (trader) from the wholesale electricity market in accordance with the Electricity Market Rules, since the trader unilaterally cancelled an agreement with the TSO for delivering electricity for covering grid losses.
- Government in 2022 transferred to ESM around 193,56 million euros budgetary funds for dealing with the electricity crisis.
- Government in 2023 (January - July) has transferred to ESM around 48,78 million euros budgetary funds for dealing with the electricity crisis.
- The regulator has so far undertaken two types of measures:

- Decisions against suppliers that have not complied with their obligations set in their license, the Energy Law and Rules for Electricity Supply, for customer protection in respect of providing timely information and information of consumer's rights to choose another supplier or to be supplied by the supplier of last resort and asked for a retroactive application of new higher prices. These decisions also set a timeframe for regular reporting to the regulator of actions taken for a proper provision of relevant information to consumers.
- Decisions against suppliers that presumably abused the market and intentionally lowered their nominations to use balancing energy for supply of their consumers or did not have any bilateral agreements and used the entire balancing electricity for consumer supply. The regulator ordered these suppliers to end such practices and initiated a procedure for revoking their licences due to potential breaches with general requirements of suppliers to contract electricity for supplying their consumers and endangering the security of supply.
- For 2021, no price revision process was foreseen by the regulator. However due to the direct impact of the high retail prices, the regulator in 2022 reviewed the network tariffs and considered the impact on the costs of TSO and DSO for covering electricity losses. The regulator set new tariffs for electricity transmission, electricity distribution and prices for households and small consumers. The electricity transmission tariff was increased by 23,78%, electricity distribution tariff was increased by 40,37% and average price for households and small consumers was increased by 11,60%. The new tariffs and prices were in force since 1 January 2022.
- In 2022 there were two procedures for setting the tariffs and prices. One ordinary in June 2022 and one extraordinary in December 2022. In June 2022, ERC brought decisions, applied from 1 July 2022, according to which transmission price was decreased by -0,03%, distribution tariff was increased by 20,94% and the average price for universal supply was increased by 26,74%. This increase was mainly due to the changes of the tariff system and leaving the concept of all-in tariff for supply.
- In December 2022, ERC adopted a decision, applied from 1 January 2023 by which transmission tariff was decreased by -8,66%, distribution tariff was decreased by -19,75%, and the average price for universal supply was decreased by -4,085%.
- ERC adopted new Tariff System on Electricity Sale to Consumers Supplied by the Universal Supplier and the Supplier in Last Resort, adopted by ERC on 27 June 2022. The analysis of the consumption of households showed that some of the consumers drastically exceed the average consumption that is characteristic of this group of consumers. Bearing in mind that the Republic of North Macedonia is import dependent, i.e. over 30% of the necessary electricity is imported, as well as the lack of electricity that Europe in general faces, to protect consumers who save electricity, and to send a signal to the rest of the population that they should save electricity, block tariffs were introduced with the new tariff system.
- On 30 September 2022, ERC adopted the Tariff System for amending the Tariff system for the sale of electricity to consumers supplied by the universal supplier and the

supplier of last resort in order to change the price paid by consumers supplied by the supplier of last resort, i.e. instead of 50% higher than HUPX is 20% higher than HUPX.

- In 2022, ERC adopted new Electricity Market Rules in which stricter rules for electricity supplier were established, for signing bilateral agreements that will reflect their consumption portfolio. Moreover, concrete provisions were incorporated in the conditions for suspension from the electricity market if they misuse of the nomination procedure.
- In June 2023 there was a regular procedure for revision of the tariffs and prices for whole 2023. In June 2023, ERC adopted a decision, applied from 1 July 2023, by which transmission tariff was decreased by -17,06%, distribution tariff was increased by 2,12%, and the average price for universal supply was decreased by -1,77%.

Measures adopted in the gas market

- The Government of North Macedonia and NRA did not adopt any measures in the retail gas market. In this context, it is important to note that the natural gas market in the Republic of North Macedonia has been fully liberalized since 2015, but it is still underdeveloped with a relatively low consumption of natural gas and a small number of active traders and suppliers of natural gas. There are two entities as importers of natural gas, and in terms of consumption, the dominant share of 84% of the total consumption of natural gas in North Macedonia is by producers of electricity and district heating, i.e., cogeneration plants for electricity and district heating production. Industrial consumers follow, most importantly the metal industry connected to the transmission system with a share of about 14% in natural gas consumption, while the share of consumption within natural gas distribution systems is around 2%. During 2022 the transmitted natural gas quantities in the Republic of North Macedonia are 280,086 million nm³ and they are reduced by 34,28% compared to the previous year which represented a record year since the beginning of the use of the transmission system. The reason for the reduced transmission quantities is due to high prices of natural gas which did not allow economic profitability to consumers. Additionally, at the end of 2022, the ERC adopted new regulated natural gas transmission and distribution tariffs for 2023. The average natural gas transmission tariff for 2023 was increased by 13,05% compared to 2022, while the average distribution tariffs were increased by 21,77%.

8. Serbia

Impact on the electricity market

- Serbia relies on internal production for supplying end users. The incumbent producer offers its volume to the incumbent supplier for supplying tariff consumers.
- The prices on the day-ahead market in Serbia operated by SEEPEX remain highly correlated to the regional prices.
- An increase of price for industrial and business consumers is likely, in particular where supply contracts are to mature soon.

Measures undertaken in the electricity market

- In order to protect the consumers that will be directly impacted, the Government made a Conclusion to freeze certain prices at which consumers are supplied in an open market. This is done through the national supply incumbent, EPS (state owned generation and supply company). The TSO reviewed its procedures for increasing the financial security required by the balance responsible parties in order to mitigate the risk from the higher exposure in the balancing market. Other measures by the Government:
 - Initial measures:
 - 1) Consumers, whose supply agreement ended on 31 October 2021 are supplied until end of November 2021 under the same conditions by EPS.
 - 2) Consumers, whose last resort supply agreement ended on 31 October 2021 and have not yet signed the new agreement, EPS will offer an extension of last resort supply for another month.
 - 3) For consumers, who signed the new supply agreement as of 1 November 2021, the validity is extended to 1 December 2021.
 - Latest measures:
 - 1) It was recommended to EPS to conclude contracts with customers on the commercial market for the period 1 January – 31 August 2022 at the price of 75 EUR/MWh and with military industry at 68 EUR/MWh. This decision may lead to price increase for some customers while for some others it could lead to price decrease. For the period 1 September – 31 December 2022 those prices have been increased to 95 EUR/MWh for commercial market and 86.13 EUR/MWh for military industry. From 1 January 2023 EPS concluded contracts with customers on the commercial market at the price of 102.6 EUR/MWh. Based on the recommendation of the Government of the Republic of Serbia, EPS accepted that the price for customers of commercial supply from 1 May 2023 will be 110.81 EUR/MWh.⁶

⁶ <https://balkangreenenergynews.com/rs/cena-struje-za-privredu-u-srbiji-od-1-maja-110-evra-po-mwh>

- 2) The price of the supply-of-the-last-resort was increased from 67 to 97 EUR/MWh. A conclusion was also adopted related to the supply-of-the-last-resort where it was recommended to the EPS to enable the supply-of-the-last-resort to final electricity customers who are not entitled to the guaranteed supply after 1 January 2022 at the price of 97.50 EUR/MWh without VAT, from previously 66.72 EUR/MWh.

Measures adopted in the gas sector:

- Import price for gas or price of gas produced in Serbia is set by Government Decree on the level of November 2019, and any surcharge for procurement of gas is recovered by the Government as of 1 December 2021. After the first Decree there were several amendments that gradually increased prescribed wholesale gas price.
- No categories of final customers are affected.

9. Ukraine

Apart from the impact of energy price surge, Ukraine is facing an unprecedented military aggression, which has not only affected the electricity and gas markets but also the security and safety of critical infrastructure such as electricity and gas network and generation capacities (including nuclear power plants).

Russian aggression started on 24 February 2022, exactly on the day when Ukrainian electricity system (including Moldova) was unified and started a test operation in the so called 'isolated mode'.

Impact on the electricity market

- As of 16 March 2022, the Ukrainian electricity system (together with Moldova) is synchronised with the electricity system of the Continental Europe. The so-called trial synchronisation means that no commercial exchanges are allowed until certain technical conditions are fulfilled. TSOs' however are able to exchange limited (in time and volume) emergency supplies.
- Following the start of military invasion, the situation in electricity market aggravated in many segments. The drop of demand from around 35% combined with significant drop in collection of payments is endangering financial liquidity of the sector.
 - The assumed financial deficit to the sector with the collection rate of around 70% is around EUR 250 million with a potential to increase as the situation escalates further and collection of payments drop. This does not take into account losses of the companies due to unusual market conditions, such as price not covering all the costs, increase balancing costs, curtailments, etc.
- Bilateral market, day-ahead market and balancing mechanisms are functioning with certain protection measures. The points below outline the pre-war situation:
 - Due to price caps for the day-ahead, intraday and balancing market segments, the impact of price surge only started to be seen with a few months delay.
 - Prices for non-household (industrial) consumers are linked with the prices on the wholesale electricity market.
 - Before October 2021 the market price for electricity in the segment of universal supply service was based on the actual market price of electricity for three months preceding the bidding month. As of October 2021, the market price for electricity was based on the market price of electricity for two months preceding the bidding month, respectively one month preceding the bidding month, since November 2021. That is the reason why the price surge influenced the universal service consumers only with a few months' delay. From March 2022, the estimated electricity purchase price in the segment of universal supply service is calculated taking into account the monthly index of base load on day-ahead market in Ukraine for the month preceding the settlement month and the amount of electricity corresponding to the base schedule of small non-household consumers,

determined at 50% of actual consumption of small non-domestic consumers in the month preceding the two months before the settlement.

- As of today, the majority of suppliers operating at unregulated segment on the retail electricity market apply the formula for calculating the electricity price in the bidding month for a consumer instead of the electricity price in monetary (fixed) form.
- Meanwhile, the value of electricity is defined as the sum of the actual weighted average price of electricity purchased by the supplier on the wholesale markets (including imbalances settlement and mandatory taxes), the electricity transmission and distribution tariff and the premium on the supplier's services. Therefore, suppliers reflect the price fluctuations on the market of bilateral agreements and organized market segments to industrial consumers serviced at unregulated prices as well as non-household consumers serviced by universal supply.
- The prices for household consumers are stipulated by the public service obligation, fixed and enforced by the Government and have not increased.
- Due to established higher price caps, also the balancing market prices increased.

Measures undertaken in the electricity market

- Wartime measures:
 - Martial Law is imposed and certain powers on electricity market are transferred to the Ministry.
 - Authorities already introduced some stabilization measures under current market model to alleviate the significant financial losses:
 - 1) Supply of gas at a regulated price to TPPs (thermal power plants) to which coal cannot be transported;
 - 2) price cap methodology;
 - 3) amendments to Market Rules, implementing netting by mutual offsetting of financial obligations and claims of the same type for electricity market participants, performed under the Market Rules and according to conditions, envisaged by Electricity Imbalance Settlement and Balancing Market Participation Agreements.
 - Significant financial support is needed to maintain financial liquidity of the sector. This remains a major challenge as the collection rate is likely to drop.
 - For the period of martial law, the following participants in the electricity market do not acquire the "default status":
 - 1) electricity producers providing services in the balancing market;
 - 2) electricity suppliers that perform the functions of universal service providers;

- 3) electricity suppliers and traders, provided that the amount of receivables for electricity exceeds the amount of accounts payable.
- As of April 2023:
 - Maximum price on the DAM and IDM in the IPS of Ukraine is set:
 - for off-peak hours - 2000 UAH/MWh;
 - for peak hours - 4000 UAH/MWh;
 - Minimum price on the DAM is set at:
 - for off-peak hours - 1378.97 UAH/MWh;
 - for peak hours - 2646.25 UAH/MWh.
 - The upper price cap for Balancing Market is set at no higher than 120% of the DAM;
 - The lower price cap is set for IDM — 102% of the price of DAM;
 - The price cap methodology that determines the criteria for significant price fluctuations on the DAM, IDM, and the balancing market, as well as the procedure for establishing and revising price limits on the DAM, IDM, and balancing market is adopted;
 - Special obligations were imposed on electricity exporters, owing to which more than 2.8 bn UAH were allotted to affordability of electricity for households consumers.
 - Special regime for the electricity market functioning in cases when an emergency situation was declared by the TSO. It is stipulated that TSO in its capacity as Settlement Administrator in such cases shall: cancel registered volumes in the bilateral (forward) market as well as accepted offers in the balancing market during the emergency period, while the Market Operator (the MO) shall:
 - cancel the results of auctions on DAM and IDM on days when an emergency is existing.
 - not conduct any further auctions at DAM/IDM starting with the announcement of emergency.
 - return funds (contracted volume x price on D-1) to market participants for cancelled volumes of trade at DAM due to an emergency.
 - All electricity will be traded on the balancing market.
 - Starting from 01.03.2023 financial collaterals for imbalance settlements - not less than 50% of financial guarantee should be provided in cash, while the remaining 50% should be provided by a bank guarantee issued by any financial institution.
- The pre-war state of play was the following:
 - The Government introduced changes to the public service obligation mechanism that stipulates transition from commodity- to financially-based settling between the

market participants under the public service obligations. The regulator increased the price caps on the day ahead market in the IPS Ukraine and Burshtyn Island bidding zones. Consequently, following an increase in demand, retail market price went up as well.

- The regulator, further:
 - 1) encouraged market participants to avoid operations which result in a negative balancing value for the billing period in the IPS Ukraine bidding zone when purchasing/selling electricity under bilateral agreements;
 - 2) obliged the TSO as the balancing settlement administrator to conduct respective monitoring;
 - 3) reviewed and increased the price caps on the day-ahead market and intra-day market in the IPS Ukraine bidding zone, setting them at a level of 2 000 UAH/MWh for off-peak hours and a level of 4 000 UAH/MWh for the peak hours;
 - 4) reviewed and increased the price caps on the day-ahead market and intra-day market for the Burshtyn island bidding zone, setting them at a level of 1 650 UAH/MWh for off-peak hours and a level of 3 000 UAH/MWh for the peak hours;
 - 5) established a limitation of monthly electricity volumes to be sold under bilateral agreements between the producers and other electricity market participants that are affiliated or belong to the same vertically integrated undertaking at a level of 50%;
 - 6) initiated procedures for investigations on abuse of electricity market functioning;
 - 7) conducts electricity market monitoring on a daily, 10-day, monthly, and quarterly basis to ensure effective and reliable operation of the power system of Ukraine.

Measures adopted in the gas sector:

- When it comes to the interventions in gas sector, the measures included:
 - adoption of the law in the end of July 2022 by the Ukrainian Parliament No. 2479-IX of 29.07.2022 "On the peculiarities of regulating relations in the natural gas market and in the field of heat supply during martial law and their subsequent restoration of functioning", which stipulates certain prohibitions that ensure consumer protection during the period of martial law in Ukraine and six months after suspension or cancelation of the martial law,
 - adoption of the Resolution of the Cabinet of the Ministers of 5th of March 2022 № 206, which prohibited to accrue and collect penalties (fines), inflation accruals, interest per annum, accrued on debts formed for late and/or incomplete payment for utilities, termination/ suspension of the provision of utilities to the household

consumers in case of non-payment or incomplete payment until the termination or abolition of martial law in Ukraine.

- adoption of Regulation on imposing special obligations on natural gas market entities regarding the specifics of natural gas supply to heat energy producers and budget institutions. The Decision obliged Gas Supply Company “Naftogas Ukraine” LLC to supply from 1st of May 2022 natural gas to household customers included into the register of supplier of last resort on the terms of the Standard contract and basic annual offer,
- amendment of the Rules for the supply of natural gas and the Model Contract for the supply of natural gas to household consumers.