

# Energy Crisis in the **Western Balkans:** Measures undertaken amid energy price shocks



# **Energy Crisis in the Western Balkans: Measures undertaken amid energy price shocks**

 **HEINRICH BÖLL STIFTUNG**

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# ABSTRACT

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The 'Energy Crisis in the Western Balkans: Measures undertaken amid energy price shocks' research paper presents an analysis of the navigation of the energy crisis and the appropriate measures taken by the respective governments to tackle the price increases in the Western Balkan region. The analysis first takes into account how the crisis is developing in the European and global contexts. It assesses the factors that may have contributed to the energy crisis in the Western Balkans and their impact on the population of the region. The study argues that the growing demand for energy and the price shocks have negatively impacted people, businesses, and especially women and communities affected by energy poverty. The increase in energy demand has also created uncertainty around each country's climate goals pledged under the Sofia Declaration's Green Agenda. With this in mind, the analysis aims to portray a picture of the countries most affected by the price surge and the countries that took the appropriate measures at the right time in the Western Balkans.

The analysis uses a mixed methodology consisting of meetings with government representatives of WB6 countries and international organizations, secondary data from the recent reports on the energy crisis, and an outreach to the national energy regulatory offices in the WB6 region to collect data. Collecting the necessary data from the WB6 countries' institutions for a comparative analysis has been quite challenging, thus a lot of times the contribution from the data made available by the Energy Community was important in deriving the results stated in the analysis.

Some of the recommendations that derive from the analysis include stronger regional cooperation among WB6 countries, support for

energy-poor consumers and energy-intensive businesses, increasing transparency and quality of information regarding the energy crisis, and working with full speed toward a just energy transition in the region.

## LIST OF ABBREVIATIONS

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<b>ACER</b>	Agency for the Cooperation of Energy Regulators
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CP</b>	Contract Party (of the Energy Community Treaty)
<b>DSO</b>	Distribution System Operator
<b>EGD</b>	European Green Deal
<b>EnC</b>	Energy Community
<b>ENTSO-E</b>	European Network of Transmission System Operators for Electricity
<b>ERO</b>	Energy Regulatory Office
<b>EU</b>	European Union
<b>EUR</b>	Euro
<b>FBiH</b>	Federation of Bosnia and Herzegovina
<b>GDP</b>	Gross Domestic Product
<b>HUPX</b>	Hungarian Power Exchange
<b>KEDS</b>	Kosovo Energy Distribution Company
<b>LNG</b>	Liquified Natural Gas
<b>MWh</b>	Megawatt Hour - amount of electricity produced in a time period
<b>NECP</b>	National Energy and Climate Plan
<b>RES</b>	Renewable Energy Sources
<b>RS</b>	Republic of Srpska
<b>SGC</b>	Southern Gas Corridor
<b>TAP</b>	Trans-Adriatic Pipeline
<b>TSO</b>	Transmission System Operator
<b>WB</b>	Western Balkans
<b>WB6</b>	Western Balkan's Six Countries



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# INTRODUCTION TO THE ENERGY CRISIS

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## *A. Global Perspective*

The energy crisis has become a serious bottleneck in the supply of energy resources required for normal GDP growth and it is becoming a severely limiting factor to any economy in the world. Due to high energy costs, there are fears of global economic recession, besides increased climate change worries due to the continuing growth of fossil emissions. Energy is a primary source for all economic activities and an indispensable input, adding value to all economic processes in the value chain. As such, any economy is prone to the fluctuating price of this vital resource. This fluctuation, particularly when it becomes more expensive or limited in amount, can be manifested in more spending concerning the production of certain services or products in the general economy, which in turn will cost more in the market, and the price increase for these products/services will increase the percentage of inflation in turn.

The second half of 2021 was marked by unprecedented price increases across European markets of electricity and energy, in general. In most of the EU countries, wholesale electricity prices have increased by 200% every year, since the crisis started. The Hungarian Electricity Power Exchange (HUPX) - taken as a reference due to its geographical proximity and liquidity of it, reached a record value of € 850/MWh on August 24th, 2022, which represents a new record high electricity price not seen before in the day ahead market.

Most European countries have undertaken a variety of measures to protect their economies and vulnerable social groups from the effects

of the crisis. Some of these measures include subsidies and social protection programs for energy poverty-prone segments of society, support for SMEs (e.g. Romania, Czech Republic), etc. Slovenia, for instance, has introduced a support package consisting of a temporary cut to excise duties for fuel, heating oil and gas, and an income of 150 EUR for individuals who receive social assistance, child support and workers with an income of less than 680 EUR and for families with four or more children, an income of 200 EUR.

Despite the numerous measures taken to alleviate the economic burden of the crisis, most households in the EU have been severely impacted by both these high energy costs and the economic crisis brought on by COVID-19. The energy transition required to prevent the catastrophic consequences of climate change and reduce the EU's dependence on fossil fuels and its sensitivity to changes in fossil fuel prices is being undermined by the impact the energy crisis has had on the EU.

## **Major Factors Influencing the Energy Crisis**

### ***Post-COVID Recovery***

The lockdown and anti-COVID measures during the pandemic had decreased economic activity globally, with demand, consumption, and supply dramatically lowered. After some time, this was followed by ease of lockdown measures, which in turn led to an increase in economic activity, combined with the inability of supply to follow a sharp rise in demand. Even though the renewable energy sector has been growing during the pandemic, the pandemic slowed its progress for a lot of countries, especially in Asia and Africa.<sup>1</sup>

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<sup>1</sup> World Health Organization, *Tracking SDG7: The Energy Progress Report*. 30 May 2022. Retrieved from: <https://www.who.int/publications/m/item/tracking-sdg7--the-energy-progress-report-2022>

## ***Depleted Fossil Fuel Energy Reserves***

Low fossil fuel energy reserves have further added to the energy crisis in Europe, mainly due to the lower production capacity of fossil fuels. Since 2010 there has been a downward trend for fossil fuels, natural gas, oil, and other non-renewables (-16.5% for fossil fuels; -21.2% for natural gas; and -5.2% for oil and petroleum products). Since 2010, natural gas had the sharpest decline of nearly 63%, and fossil fuels 43%. Renewable energy, on another note, has had a positive trend (+3.0%) together with non-renewable waste (1.6%).<sup>2</sup> Despite EU commitments, the energy transition did not happen fast enough.

## ***Extreme Weather Conditions***

A series of extreme weather conditions, mainly due to climate change, has further complicated the energy crisis. The winter in 2020-2021 was remarkably cold in Europe and Asia, the two main competing markets for natural gas LNG, and the summer was extremely hot across Europe, Asia, and the United States. This drove the demand for air conditioning and heating to unprecedented highs, which also increased electricity consumption<sup>3</sup>. The extreme weather conditions have been slowing regions' progress towards renewable energy, as well as causing *Russian Invasion of Ukraine* difficulties in providing energy supply to households.

## ***The Ukraine Invasion***

The ongoing Russian invasion of Ukraine has further exacerbated the global energy crisis. The attack drove oil and gas prices to

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<sup>2</sup> Eurostat, *Energy statistics - an overview*. February 2022. Accessible on: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy\\_statistics\\_-\\_an\\_overview](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview)

<sup>3</sup> European Union Institute for Security Studies, *Europe's Energy Crisis Conundrum Origins, impact and way forward*. 28 January 2022. Retrieved from: <https://www.iss.europa.eu/content/europes-energy-crisis-conundrum>

unprecedented levels, pushing many countries to rethink their energy mix. Russia, the world's largest exporter of oil and gas, exported 40% of its natural gas and 27% of oil to Europe in 2021, fulfilling their needs.<sup>4</sup> The EU, along with many other countries, have imposed strict economic sanctions on Russia and have committed to weaning themselves off Russian oil and natural gas. The US has introduced a complete ban on Russian oil and natural gas. This led to a shortage of many energy goods and increased prices.

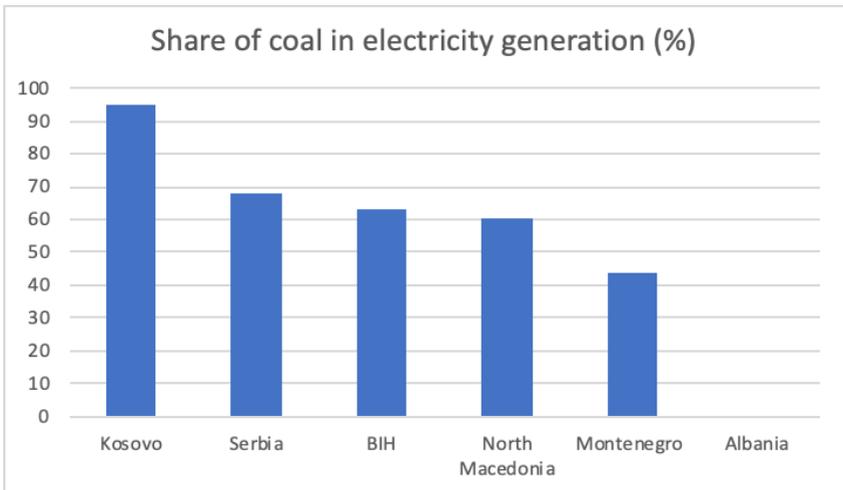
### ***B. The Western Balkans Perspective***

The Western Balkans is a particularly vulnerable region in terms of the impact of the energy crisis and the invasion of Ukraine. Most countries of the Western Balkans region are dependent on the use of fossil fuels, particularly brown coal for their energy needs, however, they are less dependent on Russian gas as a direct source of energy, compared to other European regions. It should be noted that according to ACER's 2020 data, dependence on Russian gas is 89% in Serbia; 100% in BiH; and 100% in North Macedonia.<sup>5</sup> Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia are countries heavily reliant on coal for electricity generation.

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<sup>4</sup> BBC News, *Russia sanctions: How can the world cope without its oil and gas?* September 2022. Retrieved from: <https://www.bbc.com/news/58888451>

<sup>5</sup> BNE IntelliNews, *North Macedonia, Bosnia and Moldova most dependent on Russian gas.* 8 February 2022. Retrieved from: <https://www.intellinews.com/north-macedonia-bosnia-and-moldova-most-dependent-on-russian-gas-234239/>



**Fig. 1. WB6 Share of coal in electricity generation**

Their share of coal in electricity generation ranges from around 44% for Montenegro, 60% for North Macedonia, 63% for BiH, 68% for Serbia to 95% for Kosovo.<sup>6</sup> While Albania’s electricity production is nearly entirely reliant on hydropower plants, with a very small percentage of solar. Even though gas runs through Albania, via TAP - it is not connected to this gas pipeline. The cities in the region continue to rank among the most polluted in Europe, where citizens lose up to 1.3 years of life to air pollution.<sup>7</sup> Estimated costs to public health in 2020 from coal-fired power plants ranged from 6 billion to 12.1 billion EUR. This cost is borne by WB6 as well as EU citizens through personal costs for treatments and increased national budgets for healthcare<sup>8</sup>.

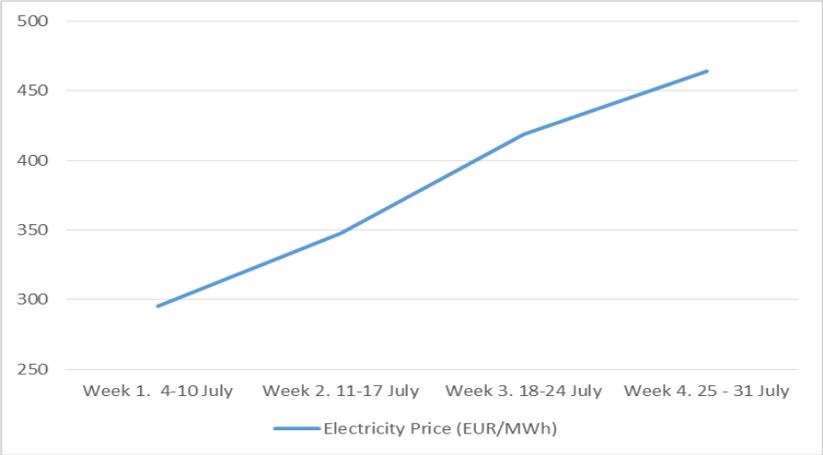
<sup>6</sup> EMBER, *Data Explorer, World electricity generation by source*. Accessible on: <https://ember-climate.org/data/data-explorer/>; 2021 Data from Kosovo’s ERO shows that the share of coal in electricity generation is now 93%

<sup>7</sup> UN Environment, *Air Pollution and Human Health: The Case of the Western Balkans*. May 2019. Accessible on: [https://www.developmentaid.org/api/frontend/cms/file/2019/06/Air-Quality-and-Human-Health-Report\\_Case-of-Western-Balkans\\_preliminary\\_results.pdf](https://www.developmentaid.org/api/frontend/cms/file/2019/06/Air-Quality-and-Human-Health-Report_Case-of-Western-Balkans_preliminary_results.pdf)

<sup>8</sup> CREA & CEE Bankwatch Network. *Comply or Close, 2021 round-up of legal breaches and health impacts*. September 2021. Accessible on: <https://energyandcleanair.org/wp/wp->

The WB6 is more prone to fluctuations in the electricity markets and this has been brought to light as a result of the energy crisis. The price for energy in the power exchange is increasing at record highs (as shown in Fig 1), setting unprecedented records in the region. Considering the trends and the limiting factors in the European continent for energy production, it is assumed that the prices during the winter will arrive at new record highs.

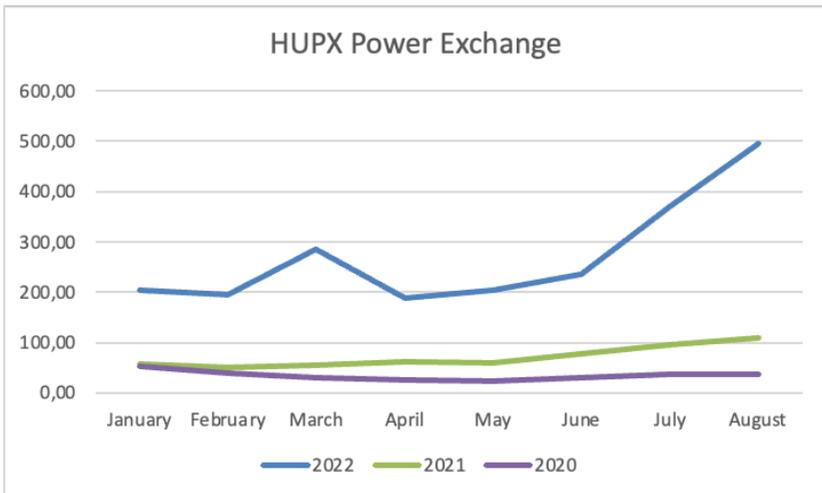
"The price of energy for a day earlier on the Hungarian exchange - HUPX, which was 295 EUR/MWh, for the week of July 4-10, increased to 348 EUR/MWh, while for the week of July 11-17 and to 419 EUR/MWh for the week of July 18-24. For the first three days of the week of July 25-31, the price was 464 EUR/MWh. On August 30 the record peak price was broken, reaching over 1047.1 EUR/MWh at 20:00 hours.



**Fig. 2. Average Electricity Price for July 2022 for WB6**

<content/uploads/2021/09/En-COMPLY-OR-CLOSE-How-Western-Balkan-coal-plants-breach-air-pollution-laws-and-cause-deaths.pdf>

Considering these price trends, prices might go even higher in the coming winter season. These enormous prices would create massive problems for producers and consumers, and an economic crisis and recession would ensue. Furthermore, blackouts, falling GDP, and rising inflation would be the new normal for at least the next two to three years until markets stabilize.



**Fig. 3. Monthly Electricity Price per MWh for 2020, 2021, 2022 in HUPX Power Exchange for Western Balkans<sup>9</sup>**

As such, especially, during the winter period, power facilities have been unable to meet demand, forcing the licensed usually state-run companies, such as TSOs to buy energy from other nations to prevent exorbitant costs to the general GDP of their respective countries and to try to avoid blackouts.

<sup>9</sup> Hungarian Power Exchange. September 2022. Accessible on: <https://hupx.hu/en/>

Measures were taken by the governments of the WB6 countries to alleviate the negative effects of the crisis ranging from government subsidies to blackouts. They will be analyzed more in- depth in the following chapters.

# THE IMPACTS OF THE ENERGY CRISIS IN THE WESTERN BALKANS AND MEASURES TAKEN

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## *Environmental Impact*

With the economic and energy crisis and the Ukraine war, the WB6 countries are hit the hardest. On the one hand, they have some commitments toward climate goals and decarbonization; on the other hand, they have a hard time maintaining energy security, given that these countries are heavily reliant on Russian gas. Serbia and North Macedonia are raising coal power generation in response to the crisis.<sup>10</sup> The EU clarified that it plans to speed up (not slow down) the energy transition, especially in developing renewable energy capacities.<sup>11</sup> WB6 countries should do the same. The EU market and WB6 are integrated, so it is necessary to consider EU plans when devising the region's national plans and strategies. In case of nonalignment with these goals, the WB economies, which are closely connected with the European Union, would be severely affected by the EU's environmental policies, including, for instance, the introduction of a Carbon Border Adjustment Mechanism. None of the countries in the region has yet adopted a long-term decarbonization plan nor just energy transition plans, besides North Macedonia, which has a coal phase-out date of 2030 and mentions a just transition program as one of the policy measures in its draft NECP.

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<sup>10</sup> Reuters, *Balkans turns to coal as energy crisis trumps climate commitments*. 19 April 2022. Accessible on: <https://www.reuters.com/article/north-macedonia-coal-idCAL5N2WH1FU>

<sup>11</sup> EURACTIV, *EU tables €300bn plan to ditch Russian fossil fuels, speed up green transition*. 18 May 2022. Retrieved from: <https://www.euractiv.com/section/energy/news/eu-tables-e300bn-plan-to-ditch-russian-fossil-fuels-speed-up-green-transition/>

Governments in the EU and Western Balkans could use the momentum of this energy crisis and the Ukraine war to accelerate the energy transition, keep emissions on track, and close the 2030 emissions gap.<sup>12</sup>

### ***Economic Impact: Country Energy Profiles***

#### **A. Albania**

- Albania's installed power production is 99% hydro-based. The total capacity is 2,496 MW hydropower, of which 98 MW is thermal capacity which is not in operation and is based on oil and around 20 MW is solar capacity.
- Relatively untapped and plentiful resources include solar power, which in Albania, due to its geographical setting, is abundant, and wind power which has not been used so far.<sup>13</sup>
- Net importer country of electricity - highly dependent on hydrological cycles. 5,313 GWh was the production in 2020, while consumption was 7,589 GWh.<sup>14</sup>

#### **Measures and Impact in Albania:**

- Declaration of state of emergency with regards to the energy crisis and energy supply was announced in October 2021 due to the alarming increase in electricity prices trend in international markets. The State of Emergency declaration by the government allows intervening with financial and

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<sup>12</sup> Climate Action Tracker, *Global reaction to energy crisis risks zero carbon transition*. June 2022. Retrieved from: [https://climateactiontracker.org/documents/1055/CAT\\_2022-06-08\\_Briefing\\_EnergyCrisisReaction.pdf](https://climateactiontracker.org/documents/1055/CAT_2022-06-08_Briefing_EnergyCrisisReaction.pdf)

<sup>13</sup> Dena, *UNECE Renewable Energy Uptake: Development of Renewable Energy in Albania*, June 2021. Retrieved from: [https://unece.org/sites/default/files/2021-07/UNECE-RE\\_Uptake\\_Factsheet\\_Albania.pdf](https://unece.org/sites/default/files/2021-07/UNECE-RE_Uptake_Factsheet_Albania.pdf)

<sup>14</sup> Energy Community Data, 2020. Accessible on: <https://www.energy-community.org/>

administrative instruments to deal with and prevent further exacerbation of the crisis.

- 200 million euros were allocated to cushion the effect of the energy crisis for 2021-2022.<sup>15</sup>
- Price tariffs increases for consumers that consume more than 700kWh are under consideration.<sup>16</sup>

## **B. Bosnia and Herzegovina**

- BiH's electricity mix is roughly 60-40% leaning toward thermal sources. The total production capacity is 4,529 MW, of which 2,156 MW is thermal power. The wind is 87 MW, and solar comprises 35 MW.
- Untapped extensive wind-power generation capability and solar power potential.<sup>17</sup>
- Net exporter of electricity in 2020, the production of electricity reached: 15,391 GWh while consumption was 11,330 GWh.

### **Measures and Impact in BiH:**

- In 2021, BiH adopted an amendment to the Law on Electricity that limits the price increase of electricity to a maximum of 20% for eligible customers.
- In 2022, RS adopted a conclusion that enables electricity supply to all schools.

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<sup>15</sup> Energy Community, "WB6 electricity markets", 2022. Accessible on: <https://www.energy-community.org/>

<sup>16</sup> Investigative Network Albania, *Basti i humbur për energjinë elektrike, si u thanë HEC-et e Drinit me sytë nga qielli*. 24 August 2022. Accessible on: <https://ina.media/?p=6259>

<sup>17</sup> IRENA, *Renewable energy prospects for Central and South-Eastern Europe Energy*, 2020. Retrieved from: [https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Oct/IRENA\\_REmap\\_CESEC\\_2020.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Oct/IRENA_REmap_CESEC_2020.pdf)

- An Increase in network tariffs. Market-supplied consumers are exposed to the price increase.<sup>18</sup>

### **C. Kosovo**

- The electricity mix in Kosovo is 95% based on thermal power plants. The total production capacity is 1,110 MW, of which 960 MW is thermal-based. Wind power capacity is 34 MW, while solar energy is at 10 MW (data for 2020).
- Big solar and wind power potential, most of which has been untapped (IRENA, 2020).
- Importers of electricity - especially during peak hours and in the winter period - produced 6,301 GWh, while consumption was 5,771 GWh in 2021.

#### **Measures and Impact in Kosovo:**

- The government of Kosovo declared a state of emergency in December 2021 and introduced a subsidy of 120 million EUR for energy.
- Change in the tariff structure: Consumers who consume more than 800 kWh per month pay higher prices.
- Increased revenues for USS (nearly 20% considering the subsidy).
- Daily two-hour electricity outages in December 2021. This measure has been resumed in August 2022.
- 20 million EUR to import electricity.

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<sup>18</sup> *ibid.*

## D. Montenegro

- The electricity mix of Montenegro is approximately divided in half between hydro and thermal production. The total production capacity is 921 MW, of which 225 MW is thermal-based. The wind power capacity is 118 MW.
- High solar and wind power production potential. No use of solar power - untapped potential (IRENA, 2020).
- Importer of electricity during peak demands. The electricity production in 2020 was: 3,225 GWh, while consumption was at a level of 3,311 GWh.

### Measures and Impact in Montenegro:

- An increase in network tariffs is expected to take place.
- As of March 2022, no specific measures were taken. Market consumers are directly exposed to the rise in prices.<sup>19</sup>

## E. North Macedonia

- The electricity mix is mainly in favor of thermal generation. It has a relatively large fleet of hydropower units. The total production capacity is 2,101 MW, of which 1,321 MW are thermal, coal, oil, and gas. It has 37 MW of wind capacity, 24 MW of solar, and 7 MW of Biogas.
- Significant wind and solar potential that has not been tapped at a sufficient level (IRENA, 2020).
- Net importer of electricity. The electricity production in 2020 was: 5,127 GWh, while the electricity consumption was 7,748 GWh.

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<sup>19</sup> Energy Community, “WB6 electricity markets”, 2022. Accessible on: <https://www.energy-community.org/>

## Measures and Impact in North Macedonia:

- The government of North Macedonia declared a state of emergency, 255 million EUR of support to producers and TSO, and around 10 million EUR for additional fuel supply from TPP Negotino (oil power plant).<sup>20</sup>
- Amendments to the VAT Law, reducing the tax on electricity supply for households from 18% to 5% (to be applied in June 2022).<sup>21</sup>
- Prices of commodities were first frozen until December, and then the government introduced a margin cap.
- 20% reduction of excise duties on fuel and one-off support of 50 EUR for those receiving a below-the-average pension<sup>22</sup>.

## F. Serbia

- The central part of electricity production is based on thermal units. It has the largest production fleet; the total installed capacity of Serbia is 7,927 MW, of which 4,412MW is thermal based, including gas. Wind power capacity is 398 MW, 30 MW is biogas/biomass, and solar is 11 MW.
- The country has a significant and favorable wind power potential and a high solar potential that has been minimally used (IRENA, 2020).

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<sup>20</sup> Energy Community, “WB6 electricity markets”, 2022. Accessible on: <https://www.energy-community.org/>

<sup>21</sup> *ibid.*

<sup>22</sup> Republic of North Macedonia, Ministry of Finances. *Energy Crisis, Price Increase And Government Policies: Timing, Scope And Targeting*. 13 March 2022. Retrieved from: <https://finance.gov.mk/2022/03/13/energy-crisis-price-increase-and-government-policies-timing-scope-and-targeting/?lang=en>

- It is a net exporter of electricity. The electricity production in 2020 was at the level of 35,626 GWh, while total consumption for that year was 32,318 GWh.

### **Measures and Impact in Serbia:**

- The government of Serbia introduced cap prices. The import gas price is set at the level it was in 2019. The surcharge was recovered in December 2021.
- Network tariff increases are expected.
- The government introduced a decree on Energy Vulnerable Customers to support 200,000 households in paying electricity bills. 1,500 homes can apply for subsidies for gas and 50,000 to get support with heating costs.<sup>23</sup>
- Early this year, the Ministry of Mining and Energy in Serbia announced a call for installing solar panels and replacing carpentry. The state has allocated 230 million euros to increase energy efficiency in 2022.<sup>24</sup>
- Measures to freeze the price of flour, sugar, sunflower oil, pork, and milk were also introduced.<sup>25</sup>

A comparative analysis is drawn in the next chapter by looking at the measures taken by each Western Balkan country concerning the impact the price shocks had on that country. The analysis attempts to shed light

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<sup>23</sup> Balkan Green Energy News, *Serbia to protect vulnerable households from jump in energy prices*. 10 May 2022. Retrieved from: <https://balkangreenenergynews.com/serbia-to-protect-vulnerable-households-from-jump-in-energy-prices/>

<sup>24</sup> Energetski Portal, *Energy Crisis And Changes In Serbia*. 13 July 2022. Accessible on: <https://www.energetskiportal.rs/en/energy-crisis-and-changes-in-serbia/>

<sup>25</sup> Republic of North Macedonia, Ministry of Finances. *Energy Crisis, Price Increase And Government Policies: Timing, Scope And Targeting*. 13 March 2022. Retrieved from: <https://finance.gov.mk/2022/03/13/energy-crisis-price-increase-and-government-policies-timing-scope-and-targeting/?lang=en>

on which country was hit the hardest and what went wrong in terms of measures taken by the government of that country.

### ***Economic Impact: Comparative Analysis of Impact and Measures***

Net importing countries of the Western Balkans are the ones most affected by the energy crisis, that is Albania, Kosovo, and North Macedonia. The countries that use other forms of electricity production, such as natural gas or oil, have been involved at a larger scale. The high import price means higher costs to the net importing countries and their economies, creating more problems with public spending, debt, and inflation. On the other hand, net exporting countries will make huge profits in this situation. Consumers that are regulated will see the growing pressure of high prices. At the same time, suppliers are negatively impacted immediately as they are obliged to sell at regulated prices while they buy on spot markets.<sup>26</sup>

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<sup>26</sup> Energy Community, “WB6 electricity markets”, 2022. Accessible on: <https://www.energy-community.org/>



COAL



HYDROELECTRIC



BIOMASS

## Electricity Production Type

<b>Albania</b>		Hydro	
<b>Bosnia and Herzegovina</b>	Coal	Hydro	
<b>Kosovo</b>	Coal		
<b>Montenegro</b>	Coal	Hydro	
<b>North Macedonia</b>	Coal	Hydro	Gas/Oil
<b>Serbia</b>	Coal	Hydro	

Country:	Net - Importer	Net - Exporter	Electricity subsidy	Vulnerable to electricity fluctuations
<b>Albania</b>	✓	✗	✓	✓
<b>Bosnia and Herzegovina</b>	✗	✓	✗	✗
<b>Kosovo</b>	✓	✗	✓	✓
<b>Montenegro</b>	✗	✗	✗	✗
<b>North Macedonia</b>	✓	✗	✓	✓
<b>Serbia</b>	✗	✓	✗	✗

**Table 1. WB6 energy profile, production, import/export, subsidies and vulnerability.**

Companies on the open market are impacted the most since they face difficulties operating with record energy prices. So they are forced to shut down operations and production and lay off workers. This has been the case with some of the plants in the WB6.

A pattern has been noted that the more the country imports electricity, the more measures are undertaken by the relevant governments in attempts to protect their economies and societies from negative impacts stemming from higher prices. Given that not all the Western Balkan six

countries are affected the same way by the energy crisis, the countries took various measures ranging from subsidies to electricity tariff regulations.

Except for Bosnia and Herzegovina, Serbia, and to a lesser extent, Montenegro, all other countries' network operators, and state budgets have incurred high monetary losses due to high import prices. No household electricity price changes were seen during the analysis reporting time in Serbia and BiH. In contrast, household consumers are not yet hit in Albania, although price increases seem inevitable. There are indications that Serbia might revise electricity tariffs as well.<sup>27</sup> In Kosovo, household consumers are impacted by the tariff reform, where consumers that consume more than 800 kWh per month pay a higher price. Households with a lower consumption are protected from the increase until the new revision of tariffs is foreseen in March 2023. In North Macedonia following problems with the production of electricity and the very high import price for electricity, the energy regulator decided to increase the electricity price by an average of 7.4%. A format of block tariffs will be followed to lower the electricity demand. It should be noted that this is the second time North Macedonia is increasing its electricity tariffs.<sup>28</sup> This is a clear reflection of the vulnerability of North Macedonia toward high-cost electricity imports. It is estimated that, if the situation with the energy crisis continues at this rate, there will be electricity outages in Albania and North

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<sup>27</sup> SeeNews, *Serbia to raise power prices for households by 6.5% from Sept 1*. 28 July 2022. Retrieved from: [https://seenews.com/news/serbia-to-raise-power-prices-for-households-by-65-from-sept-1-793122#:~:text=BELGRADE%20\(Serbia\)%2C%20July%2028,energy%20regulator%20said%20on%20Thursday](https://seenews.com/news/serbia-to-raise-power-prices-for-households-by-65-from-sept-1-793122#:~:text=BELGRADE%20(Serbia)%2C%20July%2028,energy%20regulator%20said%20on%20Thursday)

<sup>28</sup> SeeNews. *N. Macedonia hikes electricity prices for households*. 30 June 2022. Accessible on: [https://seenews.com/news/n-macedonia-hikes-electricity-prices-for-households-789991#:~:text=Macedonia\)%2C%20June%2030%20\(SeeNews,average%20for%2098.8%25%20of%20consumers](https://seenews.com/news/n-macedonia-hikes-electricity-prices-for-households-789991#:~:text=Macedonia)%2C%20June%2030%20(SeeNews,average%20for%2098.8%25%20of%20consumers)

Macedonia starting from November 2022. In Kosovo, two-hour electricity outages were recently introduced in August 2022.

Vendi:	Electricity tariffs regulation	Electricity tariffs to be increased	Electricity subsidies from state	Energy Poverty Measures	State of Emergency declaration	Affected by the Price surge
Albania	✗	✓	✓	✗	✓	✗
Bosnia and Herzegovina	✗	✗	✗	✗	✗	✗
Kosovo	✓	✓	✓	✓	✓	✓
Montenegro	✗	✗	✗	✗	✗	✗
North Macedonia	✓	✓	✓	✓	✓	✓
Serbia	✗	✓	✗	✓	✗	✗

**Table 2. WB6 countries measures undertaken in light of the energy crisis.**

The number of measures can be seen as a depiction of the depth of the energy crisis affecting a country, and not necessarily how proactive a country is in adopting new measures to improve the situation.

Industrial consumers in Albania, Kosovo, North Macedonia, and Serbia are directly hit by the price increases, whereas in BiH and Montenegro, no changes in electricity tariffs were noticed. This is linked to the fact that, except for BiH and Montenegro, all the other countries' industrial consumers operate in the free liberalized market, making them directly vulnerable to price fluctuations. Some of these consumers are pressuring the governments to return them to the regulated market; otherwise, it would make economic activity impossible, for instance, in North Macedonia.<sup>29</sup>

Seasonal variabilities in weather and hydrological cycles affect directly or indirectly all the countries of the WB6. However, the most affected is Albania, since most of its electricity derives from hydropower. Other

<sup>29</sup> *ibid.*

countries are also affected by weather cycles, but due to a more diversified energy production capability, they are not as affected. North Macedonia and Albania have a high vulnerability derived from their need to import electricity, while Kosovo is the least affected compared to other WB6 countries. BiH, Serbia, and Montenegro, on the other hand, are much less affected by high import prices and less influenced by international fluctuations in the electricity markets.

Seasonal variations in weather patterns are important in exacerbating the energy crisis as an internal factor because it lowers the electricity production capability of the countries. Forcing them to import electricity in order to meet their internal demand.



COAL



HYDROELECTRIC



BIOMASS

### Electricity production type

<b>Albania</b>		Hydro	
<b>Bosnia and Herzegovina</b>	Coal	Hydro	
<b>Kosovo</b>	Coal		
<b>Montenegro</b>	Coal	Hydro	
<b>North Macedonia</b>	Coal	Hydro	Gas/Oil
<b>Serbia</b>	Coal	Hydro	

Country:	Net - Importer	Under going drought	Dependence on Hydro on average	Vulnerable to weather fluctuations
<b>Albania</b>	✓	✓	99%	✓
<b>Bosnia and Herzegovina</b>	✗	✗	40%	✗
<b>Kosovo</b>	✓	✗	3%	✗
<b>Montenegro</b>	✗	✓	50%	✓
<b>North Macedonia</b>	✓	✗	30%	✓
<b>Serbia</b>	✗	✗	40%	✗

**Table 3. WB6 weather fluctuations and vulnerability.**

Natural gas variations affect mainly North Macedonia but to a lesser degree Serbia and BiH since they utilize natural gas for electricity and energy production. Bosnia and Herzegovina and Serbia are less affected by price increases in the international gas markets compared to North Macedonia, as the latter uses natural gas except for space heating also to produce electricity to a minor degree.

## ***Social Impact***

An increase in prices impacts the well-being of citizens as costs are borne mainly by them as well as businesses. The effects of the energy crisis touch all aspects of society ranging from higher inflation and a decrease in purchasing power to an increase in existing inequalities and dangerous health effects due to the slow down of the energy transition.

The energy crisis has increased household expenditures for energy and other products. According to the World Bank Study on Energy Crisis in 2022 and the Household Budget Survey, the average family in WB6 spends around 7-10% of their total budget on energy. This disproportionately weakens low-income households, those affected by energy poverty, and women.<sup>30</sup> Resorting to traditional cooking and heating methods at home is not only harmful healthwise for women, but it is also a high opportunity cost given that it becomes more difficult for them to participate in the labor market.

The Western Balkan region is one of the most affected when it comes to energy poverty. This observation is supported by the study *Addressing Energy Poverty in the Energy Community Contracting Parties* done by the Energy Community in 2021. The study points out that among WB6 countries, Kosovo has the largest share of households living in energy poverty (40%). Albania follows it with 37%, North Macedonia with 33%, Serbia with 22%, and Montenegro with 15%.<sup>31</sup>

High spending on energy increases households' vulnerability to tariff increases. This phenomenon is quite common in the WB6, where low-

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<sup>30</sup> World Bank. *Steering Through Crises, Western Balkans Regular Economic Report*, No.21, 2022.

<https://openknowledge.worldbank.org/bitstream/handle/10986/37368/P17720607706c30e90841607b7d53ee8106.pdf>

<sup>31</sup> Energy Community DOOR, EIHP, *Study on Addressing Energy Poverty in the Energy Community Contracting Parties*, 2021. Print.

income families are late paying their bills. For instance, 68% of lowest-income households in Kosovo and North Macedonia were behind with payments of their utility bills, 65% in Montenegro, 48% in Serbia, and 43% in Albania, compared to only 49%, 34%, 17%, 8%, and 27% respectively for households in the highest-income households.<sup>32</sup> This means that the ongoing energy crisis negatively affects the groups affected by energy poverty to disproportionate levels. This should be reflected in the measures taken by the WB6 governments.

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<sup>32</sup> *ibid.*



## CONCLUSION

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A confluence of interconnected factors has created an unprecedented and multifold energy crisis globally. The post-pandemic recovery led to a sharp increase in energy demand and slowed down the progress in renewable energy. The decrease in production capacities for fossil fuels in Europe further added to this equation. Moreover, the extreme weather conditions characterized by a hot summer and a freezing winter drove energy consumption even higher, and finally, the Russian invasion of Ukraine led to a shortage of energy goods, further exacerbating the crisis and thus, creating the perfect storm.

This storm found the Western Balkans' six countries unprepared and open to electricity price fluctuations. Most countries are dependent on fossil fuels for energy production, and most of the cities rank among the most polluted in Europe, which paints a picture of them lagging with their decarbonization goals. In light of the current energy crisis, Serbia and North Macedonia are raising their coal generation, slowing the energy transition even further. With the exorbitant price increases, net importing countries of the WB are the most affected (i.e. Albania, Kosovo, and North Macedonia). BiH and Montenegro remain relatively unaffected by the price increase, whereas Albania and Serbia, although not yet affected, will be hit by the price increases in the winter. North Macedonia and Albania remain the most affected countries from seasonal variabilities that put their electricity production capabilities at risk.

In an attempt to boost resilience to the price surges, WB6 countries have taken a variety of measures. It should be noted that the number of measures taken does not reflect the level of preparedness of a particular country, but rather the depth of the crisis in the region. The more a

country imports energy, the more measures are taken. Measures range from the state of emergency declarations caps to price increases, support for the energy-poor to increases in tariffs, electricity outages, etc.

The current price shocks offer a glimpse of a future that tells us the energy crisis is not going anywhere. Long-term plans and strategies for a rapid shift towards renewable energy sources ought to be in place. The delay in introducing new RES capacities, the failure to create an enabling environment for RES investors to develop projects, and the delay in the diversification of energy resources have brought forth a problematic situation for the Western Balkans.

Despite its attractiveness as an option for a secure supply of energy, the return to coal-fired power plants is not a viable option to tackle the crisis. A prolonged fossil fuel dependency will continue to leave the region open to supply-demand imbalances that can turn into future crises. It would hinder the trajectory toward clean energy, further harming the health, productivity, and the economy of the WB6 countries.

## RECOMMENDATIONS

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### **Stronger regional cooperation among Western Balkans six countries regarding the energy crisis (mid-term).**

Given that the implications of the energy price shocks were felt to varying degrees among the WB6 countries, stronger regional cooperation should be a priority for all their respective governments.

The government institutions should seek bilateral agreements, and possible market couplings to withstand the effects of the price increases.

The creation of a WB6 power exchange tied to HUPX would ease the exchange of power in the WB6 countries and further improve interconnectivity and internal cooperation.

Increase investments in energy infrastructure, particularly the grid and interconnectivity between countries.

### **Introduction of social schemes and/or advancing the current ones to support the energy-poor consumers and prevent further economic damage to certain businesses and industries (short-term)**

A social scheme where all medium to low-income households would get escalated one-time allowances, where the households on social assistance would receive a larger sum, followed by the vulnerable groups (the unemployed, students, women, and other marginalized communities).

Introduction of deferrals for utility bills for the communities affected by energy poverty during the crisis.

The support scheme should also include SMEs and entrepreneurs. Means to support energy intensive companies either through loans or subsidies should be further analyzed and developed.

Introduction of incentives to further expand the energy efficiency measures in the buildings and heating/cooling appliances. The incentives should further encourage the use of heat pumps by lowering customs duties for these products. Investments in the expansion of district heating systems to cover more consumers should be increased.

### **Increase transparency and quality of information regarding the energy crisis (short-term)**

Where there is a crisis, there is also misinformation. So, greater transparency regarding the energy crisis should be a priority for all WB6 governments. Consumers should be informed in a correct and timely manner on all the energy market trends and potential measures.

Awareness raising campaigns should be organized regarding energy efficiency measures and how to be adequately informed about the energy crisis from safe and competent sources only.

Institutional capacities should be built and strengthened to advance the collection of data in the energy sector and include gender-disaggregated data. This action is crucial in understanding correctly and then reflecting on the effects of the energy crisis on vulnerable groups. These data collections would further inform the social support schemes and should be provided in an open and transparently.

### **Commit and work towards the Sofia Declaration's Green Agenda and the Just Energy Transition (long-term)**

Work with full speed toward decarbonization goals. This is the right path toward preventing potentially devastating effects of future crises.

Diversifying the energy mix in favor of renewable sources of energy. This action does not contradict but rather complements energy security. Investments in renewables and alternative sources of energy are a safer alternative for coping with potential future crises and in the long-term, they are incremental to the energy security of WB6 countries. This includes actions such as:

- a) Streamlining and easing the bureaucracy in investing in RES generation - particularly for the private sector and households - ease their access to becoming prosumers. This would enable a fast increase in internal production and a slow-down of demand for electricity and energy (short-term).
- b) Create a better balancing structure for RES intermittency by incentivizing the creation of new balancing capacities within the WB6.
- c) Support regulations related to prosumers to increase their total share in the energy mix by streamlining the application procedure.
- d) Increase investments in energy storage.

