Visegrad Fund

Policy Brief

OPPORTUNITY FOR DECARBONIZATION OF THE ENERGY SECTOR IN SERBIA 2023

Author: Aleksandar Kovacevic

Co-Authors: Damir Dizdarevic, Marina Popovic, Milena Antic, European Movement in Serbia

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European Movement Serbia

EUROPEUM INSTITUT PRO EVROPSKOU POLITIKU INSTITUTE FOR EUROPEAN POLICY

SFPA Slovak Foreign Policy Association

INSTYTUT NA RZECZ EKOROZWOJU

Equilibrium Institute

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1. INTRODUCTION

1.1. Problem scope

Serbia is very high carbon intensive economy, which is a consequence of excessive carbon intensity in energy production, low efficiency of energy transformation and high energy intensity in GDP formation. The following table demonstrates the problem:

Table 1. Selected energy indicators, 2019

	TES/pop.	TES/GDP	Elec.cons./pop	CO2/TES	CO2/pop.	CO2/GDP
	GJ/capita)	GJ/000 2015 USD	(kWh/capita)	(tCO2/TJ)	(tCO2/capita)	(kgCO2/2015 USD)
World	79.1	7.21	3 265	55.44	4.39	0.4
OECD	165.6	4.38	7 773	50.35	8.34	0.22
Serbia	92.2	14.09	4 801	70.49	6.50	0.99

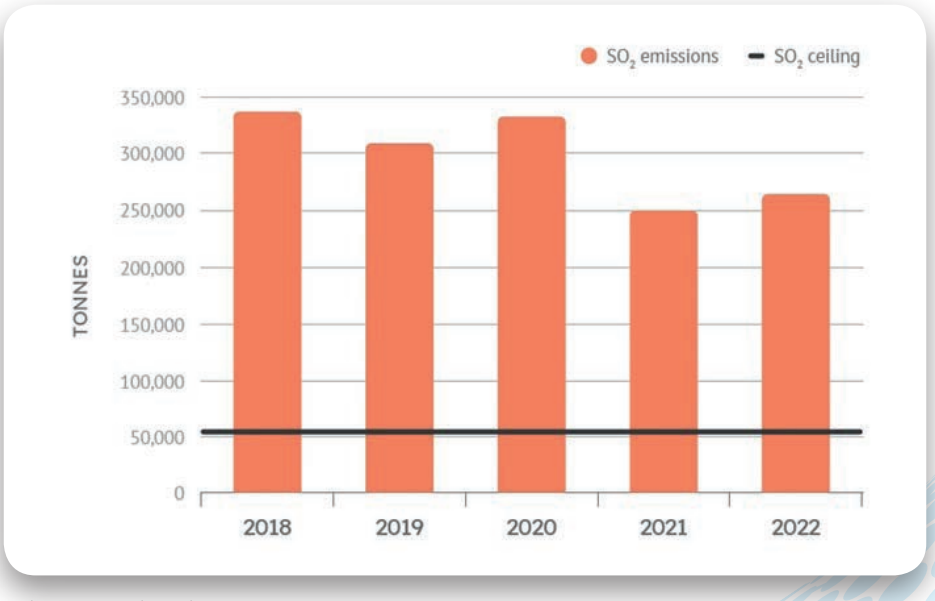
TES= Total Energy Supply

Source: IEA, World Energy Statistics 2021

Carbon intensity (CO2 emissions per USD of GDP) is nearly five times higher than the average intensity of OECD countries, and nearly 2.5 times higher than the World average.

Serbia's lignite-fired power plants are responsible for nearly half of CO2 emissions in the country, with about 27 million tons per year. At the same time, these power plants are among the largest emitters of sulfur oxides (SOx) in Europe. With more than 260000 tons of SOx emissions, Serbia's lignite-fired power generators are equivalent to about 42% of SOx of ALL 250-remaining coal-fired power plants in Europe with 37 times more installed capacity. These emissions exceed maximum emissions envisaged under the Energy Community Treaty (under the National Emissions Reduction Plan - NERP) for about 4.6 times. Deadline for full implementation of NERP is the end of 2023.

Figure 1: Sulphur dioxide emissions from Serbia's NERP coal plants, compared to the allowed emissions ceilings, 2018 to 2022



Source: Bankwatch, 2023 Update to "Comply or Close" Report

If Serbia continue investing into Sox reduction as it is doing now, exciding maximum of what the Energy Community Treaty declares, that will cause increase of CO2 emissions (for same amount of electricity production)

for over 0.5 million tons of CO2, causing further increase in carbon intensity and material intensity of economy. That may complicate Serbia's position in the context of the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement and its ability to follow EU decarbonization objectives.

1.2. Decarbonization and EU integration

High carbon intensity, low productivity, non-compliance with the Energy Community Treaty in key material obligations as well as persistent energy poverty and harmful emissions that affect basic human rights are critical impediments to eventual accession of Serbia into the EU.

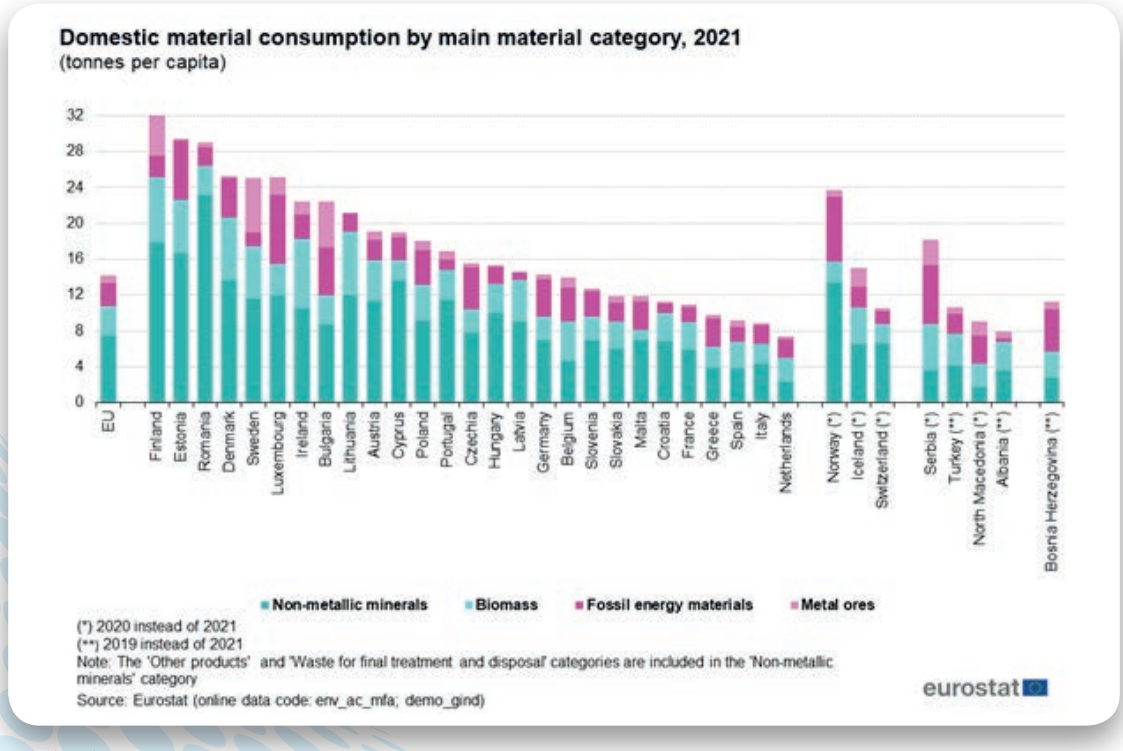
2. RATIONALE FOR DECARBONIZATION OF SERBIA'S ENERGY SECTOR

Beyond various international obligations stipulated by the UNFCCC Paris Agreement and political desire toward EU accession, it is to be considered that decarbonization is critical for Serbia economic development. That is, most probably, the most cost-effective way to increase productivity, reduce energy poverty, improve security of supply, enhance quality of governance, and create mutually beneficial trading patterns with Central Europe.

2.1. Productivity and economic development

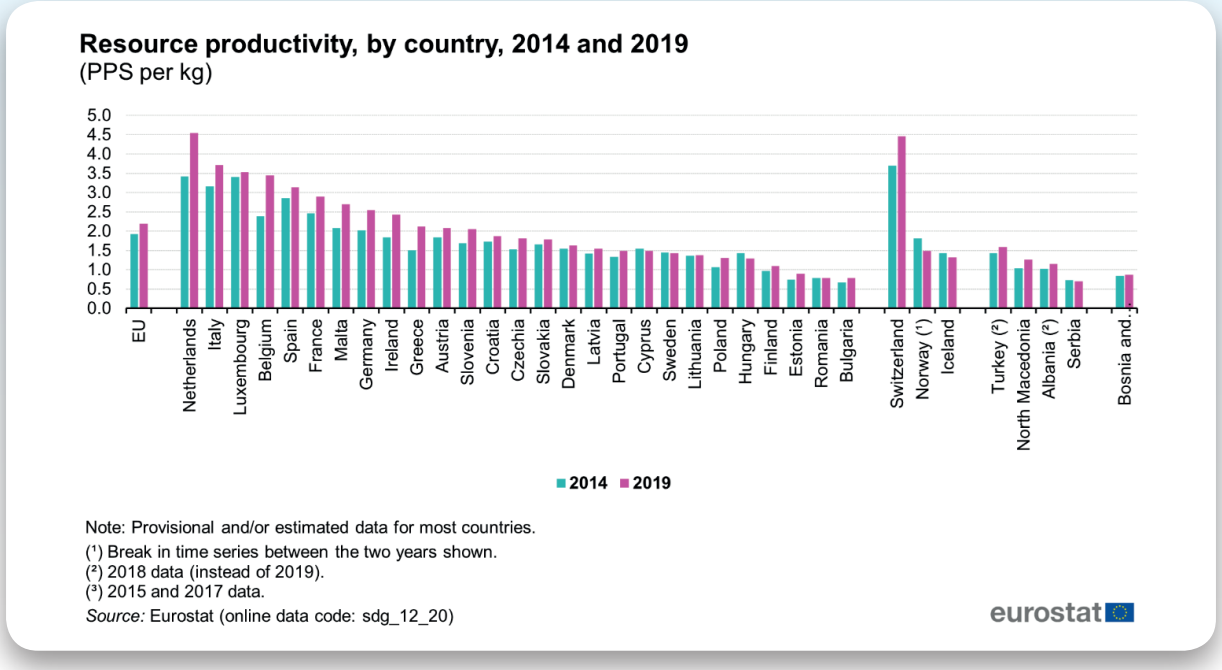
Lignite extraction and combustion, combined with usage of fuel wood and extensive road construction (non-metalic minerals), result in small economic outcomes and very low material and resource productivity in Serbia. Figures indicated below include only volume of lignite, without taking into consideration volume of overburden that is moved in open pit lignite mines.

Figure 2. Domestic material consumption per capita



Source: Eurostat (online data), 2023

Figure 3. Resource productivity in Europe 2014 and 2019 in PPS (purchasing power standards) per kg[1].

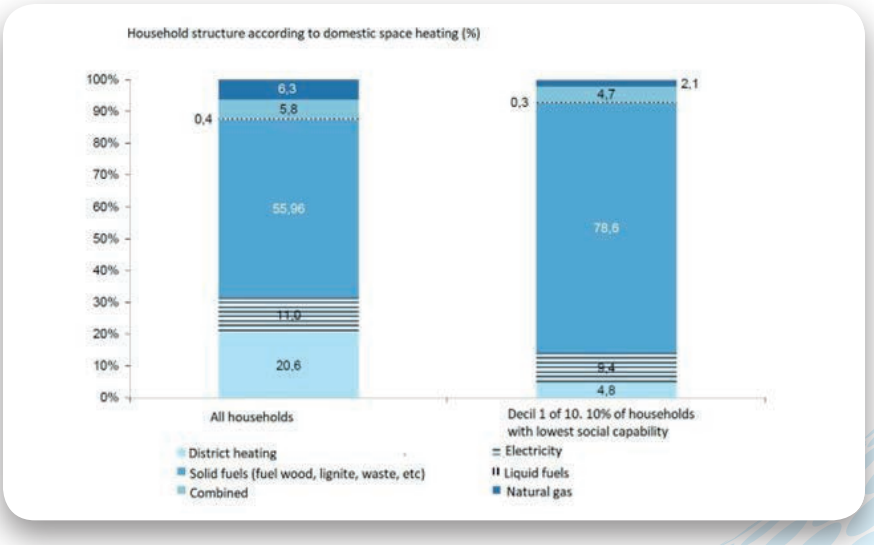


2.2. Energy poverty

Serbia's population is disproportionally exposed to energy poverty in more than one dimension. It is not only that quarter of households struggles to cover energy expenditures, while almost entire population spends more than 10% of available income for that purpose; but there are nearly 10% of households that are compromising between energy and other necessities (food, medicines), while being forced to reduce living space during winter months bellow health minimum.

Half of households are exposed to indoor and outdoor air pollution due to burning of solid fuels in residential stoves.

Figure 4. Domestic space heating by fuel and household social status



Source: Serbia National Statistical Office, Household Consumption Survey, 2022

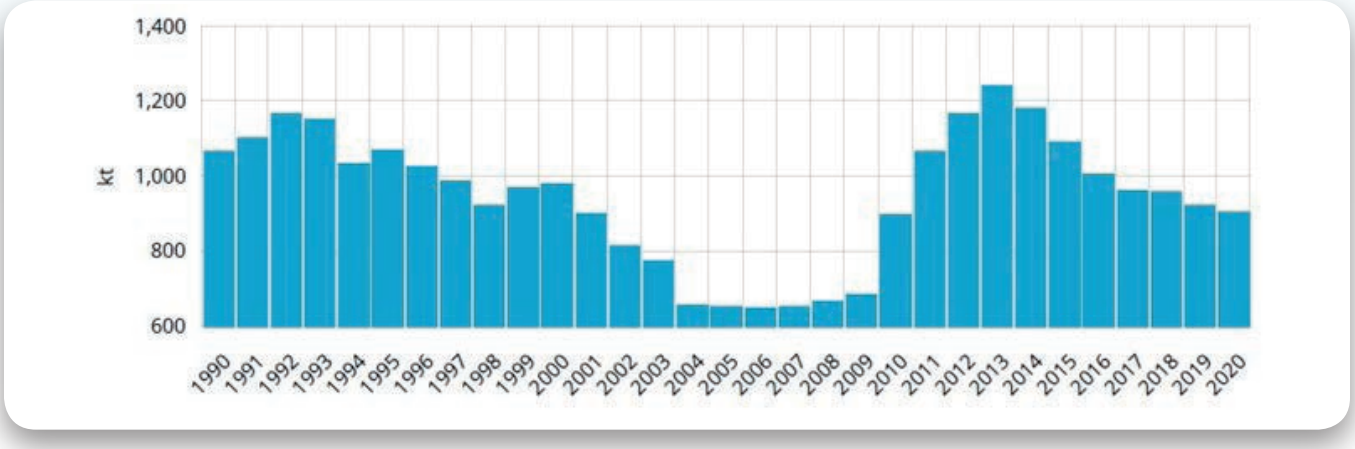
1 For more detailed analyses see "Evaluation of the Effective Material Use from the View of EU Environmental Policy Goals", Tausova et.al (https://www.mdpi.com/1996-1073/14/16/4759/htm)

2.3. Security of energy supply

Security of energy supply in Serbia is under serious threat by increased probability of failures in key lignite power plants that supply over 65% of electricity in the country. Beyond that, Serbia is heavily dependent on natural gas imports from the Russian Federation that cannot be considered as secure source of supply due to political and technical risks. Both supply routes are now in the areas (Ukraine, Black Sea) that are directly exposed to military conflict threats.

For the past 13 years, Oil industry of Serbia is owned by the GazpromNeft, which is in turn owned by the Government of the Russian Federation. During this period, domestic oil and gas extraction have dramatically increased, fostering additional fiscal revenues and depleting remaining reserves of oil.

Figure 5. Serbia Crude Oil Production



Source: EnerData, 2023[2]

2.4. Good governance

Serbia's GDP, energy security and fiscal revenues are heavily dependent on extraction of domestic resources and material intensity. Serbia is resource-rent economy to a very large extent. More than half of fiscal revenues are in one or another way linked to resource extraction. A good portion of domestic extractive industries are hardly competitive at the global scale: lignite is produced with very low productivity and many times bellow Central European average productivity, while combustion efficiency is below European standards. There is, however, some cross-subsidy with hydro power that allows relatively modest electricity prices.

As in most resource-rent economies, the quality of governance diminished, creating further impediment to EU integration.

2.5. Potential contribution to decarbonization process in Central Europe

Serbia's hydro power industry comprises of large-scale hydro power plants and large accumulation lakes, with great peak power capabilities. This includes the largest hydro power plant with accumulation lake in Europe at Iron Gates, which is one of the largest pump storage plants.

These resources are dedicated to respond to domestic requirements, including backing up other fragile thermal power plants in case of their failure and responding to domestic demand increase during very cold days; the latter particularly due to residential consumption's weather-sensitivity caused by widespread energy poverty.

2 Find out more on: https://www.enerdata.net/estore/energy-market/serbia/

Consequently, the Central European power market at large is deprived of these valuable resources that may facilitate further development of intermittent renewable energy in Central Europe.

3. VISEGRÁD GROUP (V4): LESSONS LEARNED

3.1. Decarbonization policies

Almost all the V4 countries have been relying on natural gas as coal replacement, to advance their national climate policies. After Russia's invasion to Ukraine commenced, the situation changed. Although policymakers from V4 countries agree that reducing dependence from Russian natural gas imports should be done by increasing the share of renewable energy sources (RES) in final consumption, they are still looking at other technologies as the baseload for the electrical grid. Green hydrogen is often mentioned, although cost competitive technology is not yet developed. Another option, more famous, yet controversial, is nuclear energy. Poland is aiming to build first nuclear power plant in Pomerania. Hungary and Czech Republic are planning to build new nuclear power plants, Slovakia as well. The problem is that this is not a short-term solution, as nuclear power plants require significant time for planning, preparation, and construction; hence, no capacities from such new plants could be expected before the 2030s. Moreover, none of the initial considerations and plans took into account the issue of nuclear radioactive waste. Finally, EU's "Energy efficiency first" principle prioritizes renovation of outdated building stock as one of the main policy areas aimed at decarbonization and investing in energy efficiency, rather than building new ones.

Hungary is one of the highest gas-intensive countries, with share of 35% in final energy consumption. Due to the gas-import dependence, policy makers aim to reduce this share to 20%, by the process of electrification, which will lead to surge of electricity demand. The surge in demand will be covered by installing an additional 8.3 GW of RES capacities, a new gas power plant and additional nuclear energy capacities. While coal phase-out date was first set for 2025, Matra power plant's operation was prolonged until 2029 due to energy crisis, with an argument that those capacities are necessary to serve as a baseload for electrical grid. New gas power plants should replace these capacities.

Coal share in the energy mix of Czechia is somewhat under 44%. The country planned to focus on natural gas as a transitional resource, but policy makers are departing from that resource after 2022. The solution is now seen in expanding RES capacities, where a significant step-up from the current target of 22% is expected by the end of 2023. Coal phase-out plan in Czechia faces uncertainty due to the extension of mining activities in the Bílina open-pit lignite mine, now projected to continue until 2035. This extension surpasses the Czech government's 2033 target for exiting coal usage.

Poland is most dependent on coal of all V4 countries, with the share of almost around 72% in electricity production, mostly of which is coal. In Poland's Energy Policy up to 2040, the objective is to reduce this share to 56% by 2030, along with the increase of RES and introduction of nuclear energy. Poland has not yet set the coal-phase out date. Notably, mines like Turow and Szczercow are scheduled for operation until 2044 and 2038 respectively, which is not in line with Paris Agreement. Uncertainty surrounds the closure date for the Bogdanka mine. To add to this, Poland is the only EU Member State not to commit to reaching climate neutrality by 2050.

In Slovakia, coal is not seen as a resource of great importance to energy security. By decommissioning Nováky and Vojany coal power plants, and opening additional capacities in nuclear power plant Mochovce, further decarbonization of electricity sector is expected, which should ensure sufficient supply necessary for decarbonization of steel industry and transport sector. When it comes to coal phase-out, Slovakia has set the target of ending the support for this resource in 2023.

3.2. Coal regions in transition: reality check

At present, V4 countries are among the primary recipients of the EU Just Transition Fund (JTF). Noteworthy among them is Poland, which stands as the largest beneficiary within the European Union, having received €3.85 billion. Czech Republic follows with €1.64 billion, accompanied by Slovakia with €459 million, and Hungary with €250 million. To continue to qualify for funding and remain aligned with the trajectory of energy transition, these countries must ensure successful execution of their Territorial Just Transition Plans (TJTP). As previously mentioned, Slovakia's Territorial Just Transition Plan is a sole example demonstrating conformity with suggested coal phase-out timetables. The just transition should be focused on early retirement programmes for miners, re-skilling and re-education programmes, support for the SMEs and alternative economic sectors, in order to increase the attractiveness of the region and prevent brain drain, as well as the support for RES energy cooperatives and decentralization of energy. The process of drafting TJTP should include representatives of all sectors and societal groups. Transparency and citizen's participation is imperative for these processes.

Poland is a country that is the most reliant on coal for the final energy use and many of Polish regions will be affected. According to five (5) TJTPs proposed by the government, coal mining is set to persist in multiple regions of Poland, well beyond 2030, as already mentioned in the text. In contrast to these examples, the TJTP outlines a coal phase-out for Eastern Greater Poland by 2030 and carbon neutrality by 2040. This strategy emerged from successful collaboration among various stakeholders: regional and local authorities, private enterprises, trade unions, civil society, and local representatives. Leading this shift is the regional private energy producer, ZE PAK S.A., which plays a pivotal role. Their shift to a green economy model is viewed as an opportunity to retain both finances and the workforce within the region. Significantly, former miners are expected to undergo retraining, transitioning into roles such as renewable energy technicians and energy grid experts.

3.3. Modernization fund and other support schemes

With the aim of supporting 10 least developed Member States in their decarbonization efforts, which also includes V4 countries, EU has developed the Modernization Fund. A total of EUR 2.4 billion was disbursed for 31 projects in 2023. Around EUR 1 billion was directed to Czech for improvement of energy efficiency in public buildings, while Poland will receive EUR 47 million for supporting cogeneration for district heating in the country. In previous years, Slovakia and Hungary received support for increasing RES capacities, while the former also received funds for the improvement of energy efficiency and district heating in the country.

"The total revenues of the Modernisation Fund may amount to EUR 48 billion from 2021 to 2030 (at EUR 75 / tCO2), depending on the carbon price. Out of this amount, around EUR 28 billion comes from allowances that beneficiary Member States have transferred to the Modernisation Fund from their resources under Article 102(b) and 10c, and around EUR 20 billion comes from the auctioning of 2% of the total EU ETS allowances from 2021 to 2030."[3] However, at actual EU ETS carbon prices, the volume of these funds may approach EUR 60 billion as evidenced bellow.

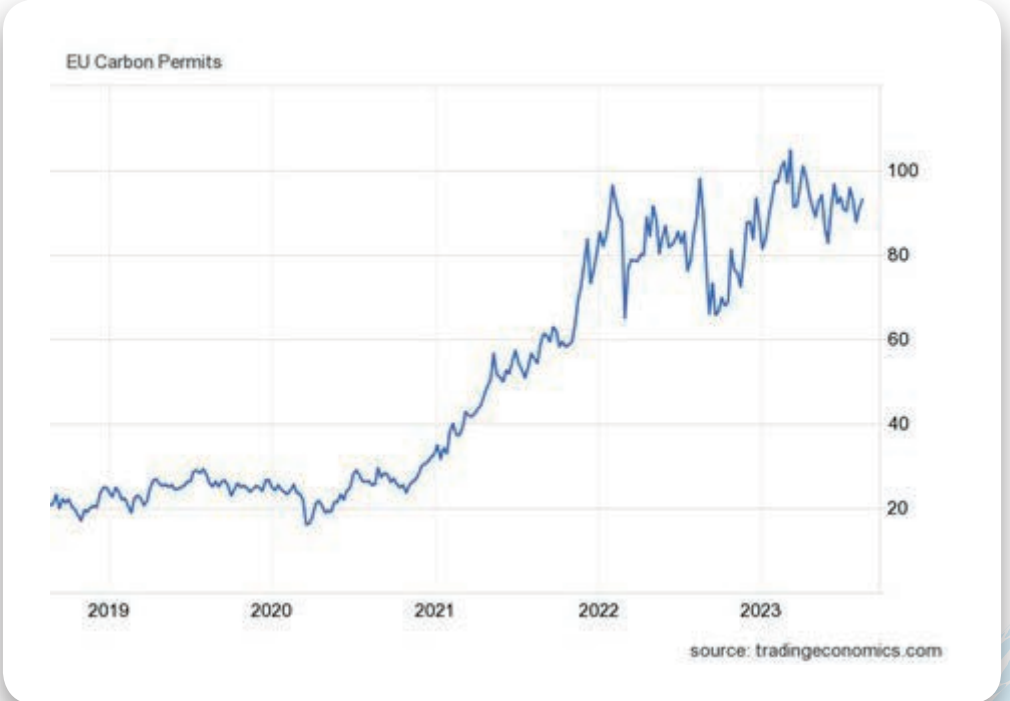
3 Find out more on: https://climate.ec.europa.eu/eu-action/funding-climate-action/modernisation-fund_en#:~:text=The%20Modernisation%20Fund%20is%20a%20dedicated%20funding%20programme,Estonia%2C%20Hungary%2C%20Latvia%2C%20Lithuania%2C%20Poland%2C%20Romania%20and%20Slovakia

Table 2: Total amount of allowances per beneficiary Member State for the period 2021-2030.

Member States	Share as per Annex IIb of ETS Directive	Allowances as per Article 10(1) of ETS Directive	Transfers from Article 10(2)(b) ETS Directive (solidarity)	Transfers from Article 10c ETS Directive	Total transfers Article 10(2)(b) (solidarity) & Article 10c	Total
Bulgaria	5.84%	16 095 825	0	0	0	**16 095 825**
Czechia	15.59%	42 968 135	38 722 276	111 462 281	150 184 557	**193 152 692**
Estonia	2.78%	7 662 054	0	0	0	**7 662 054**
Croatia	3.14%	8 654 262	0	5 978 852	5 978 852	**14 633 114**
Latvia	1.44%	3 968 834	0	0	0	**3 968 834**
Lithuania	2.57%	7 083 265	0	8 696 818	8 696 818	**15 780 083**
Hungary	7.12%	19 623 677	0	0	0	**19 623 677**
Poland	43.41%	119 643 793	0	0	0	**119 643 793**
Romania	11.98%	33 018 490	81 673 875	86 073 704	167 747 579	**200 766 069**
Slovakia	6.13%	16 895 104	1 783 231	33 228 414	35 011 645	**51 906 749**
Total	**100.00%**	**275 613 439**	**122 179 383**	**245 440 068**	**367 619 451**	**643 232 890**

Source: European Commission, EU Action – Funding climate action – Modernisation Fund4, 2023

Figure 6: EU Carbon Permits prices (EUR/t CO2)



Source: Trading Economics Platform[5], 2023

4 Find out more on: https://climate.ec.europa.eu/eu-action/funding-climate-action/modernisation-fund_en#:~:text=The%20Modernisation%20Fund%20is%20a%20dedicated%20funding%20programme,Estonia%2C%20Hungary%2C%20Latvia%2C%20Lithuania%2C%20Poland%2C%20Romania%20and%20Slovakia

5 Find out more on: https://tradingeconomics.com/commodity/carbon

3.4. Civil society role

Civil society role in V4 countries mainly reflects in raising awareness of the public about the topic and facilitating multi-stakeholder dialogue and citizen's participation in the policy processes. Besides that, Civil Society Organisations (CSOs) aim to provide constructive critique aimed **towards policies**, as well as expert support to the decision-makers. Despite CSOs efforts, they are often consulted inadequately and, if taking place at all, the consultations are mostly aimed to ensure only formal compliance with the rules - process of deciding on coal phase-out deadlines in Czech and Hungary being examples. On the other hand, local actors and CSOs were much more included into the processes of drafting the TJTPs, as seen in Poland and Slovakia. Shrinking civil space is notable in Hungary, where CSOs are often perceived negatively by the policy and decision-makers. One good example of CSO activities comes from Poland. More precisely, in 2022, the Shipyard Foundation in Poland took an impressive step towards addressing the pressing issue of energy poverty and the escalating energy costs. The Foundation organized a Citizen's wide assembly comprising approximately 90 randomly selected individuals, aiming to mirror the diversity of opinions within the country. This was followed up with a weekend workshop with experts and deliberated discussions, where the recommendations were formulated and selected, by voting process. These main findings and recommendations were later disseminated and presented to the policymakers.

3.5. European Union membership experience

Experience of V4 countries with EU membership is generally positive, despite the energy crisis propelling the energy security at the top of political agenda. The crisis did have consequences, as seen in pushing back the coal phase-out dates in some countries. On the other hand, long-term recovery from the COVID19 pandemic and crisis will be in the spirit of increasing the share of RES in final energy consumption. In the end, the EU role, with its climate leadership and financing mechanisms is seen mostly as positive and necessary to build sustainable, clean and climate neutral V4 countries.

4. CAPACITY FOR CHANGE IN SERBIA

4.1. Civil society

Civil society organizations (CSOs) in Serbia have been actively advocating for decarbonization of the energy sector in recent years. According to a report of the Center for Advanced Economic Studies (CEVES)[6] in 2022, several CSOs successfully campaigned for introduction of renewable energy incentives in the national energy strategy. However, the same report highlighted that many CSOs faced challenges in access to funds, with only a limited number of projects receiving financial support from the government or international donors. To overcome this, there is a need for increased collaboration between CSOs and private sector stakeholders to secure additional resources for scaling up civil decarbonization initiatives. CSOs in Serbia have a unique opportunity to act as catalysts for the decarbonization of the energy sector. Through their diverse and extensive networks, CSOs can effectively raise public awareness about the urgency of transitioning to renewable energy sources and the benefits of sustainable practices. CSOs are a reservoir of knowledge, experience, and practices that can build a bridge between decision-makers and citizens, but also between the media and the science - so that scientific discoveries and facts can be presented in a manner understandable and clear to the wider population, to have a positive impact on the whole society - not only on a narrow circle of experts. Also, by working with citizens (through workshops, seminars and other citizens-appealing events), CSOs can help the process of retraining itself by identifying with the problems caused by delaying decarbonization process (i.e. impact on health and the environment). They can also advocate for the adoption of ambitious renewable energy policies and more strict emissions regulations, influencing the design and implementation of effective decarbonization strategies.

6 "The contribution of the non-state sector to the official report on the progress of the implementation of the SDGs", CEVES, more information at: https://ceves.org.rs/vp-content/uploads/2022/12/Doprinos-nedržavnog-sektora-zvanicnom-izveštaju- on-the-progress-of-COR-implementation.pdf

Moreover, CSOs can play a proactive role in the actual execution of renewable energy projects, particularly in community-based initiatives and decentralized energy systems. However, challenges such as limited financial resources and capacity constraints hinder the full potential of CSOs, making it essential for the government and other stakeholders from the donor community to support their initiatives and involvement in the energy transition.

4.2. Professional associations

Professional associations in Serbia's energy sector have taken significant strides in promoting sustainable practices. For instance, the Association of Energy Efficiency, an influential industry body, collaborated with the Ministry of Energy and Mining to develop guidelines for energy-efficient building construction, as reported in the Serbian Energy Efficiency Action Plan of 2021[7]. However, despite these efforts, a gap remains in integrating renewable energy solutions into the country's industrial processes. The Serbian Chamber of Commerce and Industry (CCIS) reported in its 2023 Energy Sustainability Index that only 15% of registered companies have implemented renewable energy solutions, suggesting the need for stronger engagement between professional associations and businesses to foster widespread adoption. Professional associations in the energy sector hold substantial technical knowledge and expertise. By actively engaging with these associations, Serbia can harness their experience to promote sustainable practices and renewable energy adoption. Professional associations can collaborate with government agencies and industries to develop and implement initiatives that support the transition to cleaner energy sources. They can also contribute valuable insights into the development of renewable energy policies and provide technical advice on optimizing energy efficiency. To maximize the impact of these collaborations, the government should foster an enabling environment that encourages innovation and knowledge-sharing between professional associations and other stakeholders.

4.3. Labour unions and similar organizations

While workers' unions in Serbia may not have yet fully embraced the importance of transitioning to a low-carbon energy sector, there is a growing recognition of the need to involve them actively in the decarbonization process. It is essential to engage workers' unions in discussions and negotiations to safeguard the rights and interests of workers affected by the shift from fossil fuels to renewable energy. To ensure a just and inclusive energy transition, collaboration between workers' unions and other interest organizations, including environmental groups and community associations, is crucial. By considering the needs and aspirations of different stakeholders, Serbia can foster a smoother decarbonization process that minimizes social disruptions and ensures a fair distribution of the benefits arising from sustainable energy initiatives. While aligning energy and climate policies with the EU is a priority, it is equally important to activate workers' unions to actively participate in shaping the energy transition. By involving workers' unions, Serbia can create a more comprehensive approach to address socio-economic concerns and promote a sustainable and equitable energy future for the country. This collaboration can also lead to innovative solutions and ensure that the energy transition is well-balanced, considering both environmental and social considerations.

4.4. Notion of responsibility for global public goods

Serbia has demonstrated a commitment to international climate cooperation by ratifying the Paris Agreement in 2017. However, the Sustainable Development Report 2023[8] indicated that Serbia's efforts in decarbonization are still in the early stages, with limited progress achieved toward emission reduction targets. Embracing a stronger notion of global responsibility would require Serbia to accelerate its energy transition and align its decarbonization efforts with more ambitious climate goals to fulfill its commitment to global public goods. This may involve increasing the share of renewable energy in its energy mix, implementing energy efficiency measures, and setting more ambitious emission reduction targets. Embracing a stronger notion of global

7 FOURTH ENERGY EFFICIENCY ACTION PLAN OF THE REPUBLIC OF SERBIA FOR THE PERIOD UNTIL 31 DECEMBER 2021, Energy community

8 Find out more on: https://dashboards.sdgindex.org/static/profiles/pdfs/SDR-2023-serbia.pdf

responsibility would require Serbia to take more decisive actions and implement policies that contribute to mitigating climate change on a global scale.

It is essential for Serbia to continue collaborating with the international community, adopting best practices, and leveraging available resources to support its transition to a low-carbon economy. By embracing a proactive approach to decarbonization, Serbia can not only fulfill its international obligations but also reap the benefits of a cleaner and more sustainable energy sector.

4.5. Legislative process: the role of the parliament and national convention on EU in Serbia

The Serbian Parliament and the National Convention on the EU (NCEU) play a pivotal role in shaping the legislative framework for decarbonization of the energy sector in Serbia. The recent completion of the public consultation process for the "Integrisani nacionalni energetski i klimatski plan" (Integrated National Energy and Climate Action Plan) highlights the active engagement of various stakeholders, including the public, industry, and experts. Policy alignment with EU directives remains crucial, as it can unlock funding opportunities and enable access to expertise and best practices. This alignment ensures that Serbia's energy and climate policies are harmonized with European standards, facilitating regional collaboration on energy security and sustainable development. The action plan emphasizes setting ambitious targets for increasing renewable energy capacity and reducing harmful greenhouse gas emissions. Effective policy implementation and enforcement mechanisms are essential to create a stable and predictable environment for investors and industry players, encouraging investment in renewable energy projects and sustainable practices. The active role of the Parliament in reviewing and adopting legislation provides the opportunity to set a clear roadmap for the energy transition process. By embracing transparency and inclusivity, Serbia can lay a solid foundation for a just energy transition that considers the needs and aspirations of different stakeholders. Collaboration between the government, private sector, civil society, and workers' unions will be crucial in achieving a smooth and equitable energy transition in the country. By working together, Serbia can ensure a successful decarbonization of its energy sector while safeguarding workers' rights and promoting social and economic development.

4.6. Capacity building: needs assessment

To accelerate its decarbonization process, Serbia must conduct a comprehensive needs assessment to identify capacity gaps and needs, and tailor capacity-building programs accordingly. Such assessments should encompass various stakeholders, including government agencies, private sector players, CSOs, and workers unions. Capacity-building initiatives should focus on enhancing technical knowledge, skills development, and financial support for stakeholders engaged in the energy sector. This includes training programs for renewable energy project development, energy efficiency implementation, and knowledge-sharing platforms to promote best practices and innovative solutions.

It is to be considered that workers in lignite mines, with their unions, decades of experience, technical skills, cohesive local communities and strategic geographical location at major inland waterways and railway infrastructure, are valuable industrial resources capable to facilitate renewable energy development at a massive scale. In similar fashion, industrial eco-system related with oil and gas extraction provides appropriate potential for development of valuable deep geothermal potential. By adequately addressing capacity-building needs, Serbia can create a workforce and a broader ecosystem equipped to drive the energy sector's successful decarbonization.

5. ACHIEVING DECARBONIZATION

Key understanding that needs to drive the decarbonization policy is that rapid decarbonization is technically and socially feasible. In the same manner as lignite power industry has been introduced within 10 years (mostly from 1976-1986), it is equally feasible to replace this industry with more effective solutions and the most modern appropriate technologies within forthcoming 10 years.

The actual level of energy poverty has been introduced during winter 1992/1993 and persists until today because of the persistent policy failure – not as a matter of physical necessity. There are technical options, tools, resources to eliminate energy poverty as it was already achieved during 1954 – 1965 period with solutions available at that time. Reducing energy expenditures of average household to 5% of average revenue during period of 10 years provides for increase in demand for domestic goods and services (including health, education, building energy efficiency, etc.) with potential for persistent GDP growth of 5% per year.

Same applies to reforestation, land use, inland waterway transport, resource efficiency and other opportunities.

5.1. Objectives and targets

Key decarbonization objectives in Serbia are to be considered as follows:

1. Replacing lignite power generation and fossil gas-based district heating with massive deployment of biomass and geothermal renewable energy to: (1) enhance security of supply with use of indigenous energy sources and (2) shift labor and industrial assets from low productivity lignite industry to much higher productivity renewable energy industry. This would bring Serbia to comparable productivity and resource efficiency to those of the EU countries, and it would create important foundations for the EU integration.
2. Eliminating energy poverty, starting with the most vulnerable households, within 10 years – by 2034. Eliminating lignite from residential heating market as soon as possible.
3. Dismantling inefficient resource-rent economy and promoting advanced renewable energy industry to enable improvements in the quality of governance.

5.2. Tools and resources

Serbia's power generation utility combined with engagement of some private investors are major tools to implement renewable energy in power generation and district heating.

Serbia's civil society need to engage with the Extraction Industry Transparency Initiative and promote more substantially the efficiency and transparency of extractive industries and their fiscal impacts.

5.3. Integration to the European markets

Rapid integration into the EU ETS market, in addition to already well established (but insufficiently used) integration into the electricity market, may open an opportunity to a much wider integration into the EU financial markets. That may create an inviting opportunity for energy equipment industries from V4 countries and further trading opportunities.

Eventual modernization of the Danube Convention may improve transport efficiency of inland waterway transport both in Serbia and V4 countries as well as access to Black Sea and Mediterranean. This process is also critical for utilization of Serbia railway infrastructure.

5.4. Financing decarbonization process

Appropriate and rapid integration of Serbia (and entire Western Balkans region) into the EU ETS system and grant of free allocation of carbon credits for the purpose of decarbonization of power generation in the same fashion as it was granted to various Central European countries by article 10c of the EU ETS Directive from 2009 onwards, is to be considered as critical collateral that would allow for funding of major investments into decarbonization.

6. CONCLUSIONS

Energy security and energy poverty risks in Serbia constitute major fiscal risk. Political and social destabilization, which may result from sudden materialization of these risks, could push the country further away from EU integration and cause further regional and cross-border disputes. Problems with cross-border pollution and cross-border water resources, as well as electricity transit issues, could complicate the situation even further.

Rapid decarbonization with comprehensive plan and its effective execution is to be considered as the most effective way to prevent materialization of these risks and move decisively towards EU integration.

7. RECOMMENDATIONS

Serbia's National Energy Strategy and National Spatial Plan are in preparation. These two processes must be enhanced, redirected, and made far more ambitious, with the aim to create effective legal, political, and administrative instruments for rapid decarbonization of energy and transport sectors in Serbia. Inclusive involvement of civil society in drafting and adoption of these two strategic documents is a way to set up foundations for rapid and ambitious change as described hereby.

Forthcoming EU-Western Balkans Summit within the Berlin process provides an opportunity for the European Union to invite entire Western Balkans region, and Serbia in particular, into the EU ETS system, with grant of free allocation of carbon credits for the purpose of decarbonization of the energy sector. That would contribute to liquidity of EU ETS market and provide further trading opportunities, inter alia, for V4 countries. From a wider perspective, it is considered rational to rapidly replace lignite-fired power plants in Western Balkans with high carbon intensity and extraordinary emissions of SOx, while offering additional EU ETS credits to more effective plants elsewhere in Europe.

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