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# ENERGY SECURITY AND SUSTAINABILITY IN THE WESTERN BALKANS: CHALLENGES ON THE PATH TOWARD GREEN TRANSITION

**Abstract**

Energy security, as an essential dimension of national security, is deeply intertwined with economic, social, and geopolitical dynamics and represents one of the most pressing challenges facing the Western Balkan region at both national and supranational levels. At the national level, energy security is strongly connected to political stability and economic resilience, while at the supranational level, it is tied to the region's ongoing process of European integration. The Western Balkans face a complex and interdependent set of challenges in achieving energy security and sustainability, situated within the broader context of the European Union's Green Deal and the Green Agenda for the Western Balkans. This paper examines the evolving relationship between energy security, environmental sustainability, and regional cooperation, noting how certain structural and institutional limitations within the Western

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Balkan countries may slow the pace of the green transition. The study identifies key vulnerabilities in national energy systems while assessing the degree of alignment with EU climate objectives and the 2050 carbon neutrality target. The findings reveal that despite modest improvements in renewable energy integration, the Western Balkan region remains highly dependent on fossil fuels, particularly coal, and vulnerable to fluctuations in energy imports, which together hinder progress toward decarbonization and long-term stability. Strengthening regional cooperation mechanisms, alongside transparent and predictable regulatory frameworks, emerges as a prerequisite for advancing both energy security and sustainability. The paper concludes that achieving the 2050 climate neutrality objective will remain highly challenging for the Western Balkans unless regional cooperation is significantly strengthened and aligned with broader European efforts.

**Keywords:** Green Agenda, Energy Security, Western Balkans, Regional Cooperation, Sustainability.

## INTRODUCTION

In contemporary society, energy security and sustainable development stand out as two essential pillars of global stability and economic progress. According to the International Energy Agency (2023), energy security refers to the uninterrupted availability of energy sources at an affordable price, encompassing both short-term resilience to supply disruptions and long-term investments in sustainable energy infrastructure. Distinctly, the concept of sustainable development, as defined in the Brundtland Report (1987), emphasizes meeting the needs of the present without compromising the ability of future generations to meet their own, integrating three interdependent dimensions:

environmental protection, economic viability, and social equity (World Commission on Environment and Development 1987). Thus, these two concepts are inherently connected: achieving energy security through clean, low-carbon technologies is a prerequisite for ensuring long-term sustainability in a climate-constrained world. It is crucial to accentuate that the global climate crisis is no longer a distant threat and, without immediate action, the world risks failing to meet critical temperature targets. Nonetheless, the international community still has the capacity to accelerate climate action if it chooses to (United Nations Environment Programme 2025).

International responses aimed at climate issues have evolved over time, from the 1992 UN Conference on Environment and Development and its emphasis on sustainable development and prevention principles, to the 1997 Kyoto Protocol, which introduced binding commitments but failed to achieve global consensus due to non-ratification by key emitters (Arežina 2025, 220–224). The 2015 Paris Agreement marked a turning point, establishing a legally binding framework for limiting global temperature increases to below 2°C, with aspirational efforts toward 1.5°C, and requiring all countries to submit nationally determined contributions. Building on these global efforts, the European Green Deal (European Commission 2019) elevated climate ambition further, aiming to make the European Union climate-neutral by 2050 through comprehensive policy integration that decouples economic growth from greenhouse gas emissions. This, in turn, directly influenced the formulation of the Green Agenda for the Western Balkans, which represents a regional adaptation of the European Green Deal.

To be exact, the Agenda seeks to align the region's environmental and energy policies with EU standards while promoting sustainable development through the integration of ecological, economic, and social dimensions, providing a strategic roadmap for decarbonization and eventual EU integration (European Commission 2020). However, empirical data indicate that meeting these goals by 2050 will be particularly challenging

for the Western Balkans. Persistent structural obstacles, including high per capita $CO_2$ emissions and heavy reliance on coal, continue to hinder progress (Vukadinović 2025). Furthermore, limited institutional capacity and the slow modernization of energy systems exacerbate the gap between policy commitments and implementation. *Ergo*, these challenges highlight the complexity of the region's energy transition, demonstrating that achieving both energy security and sustainability requires not only technological solutions but also coordinated policy, institutional reform, and regional cooperation.[1]

Thus, this paper examines the interrelated challenges of achieving energy security and sustainability in the Western Balkans within the broader framework of the green transition. By analyzing the structural, institutional, and geopolitical dimensions of this process, this paper attempts to identify key barriers and policy opportunities, emphasizing the dual imperative of ensuring energy reliability and environmental sustainability in a rapidly changing regional and global context. The qualitative analysis conducted in this research aims to highlight the complex obstacles that hinder the Western Balkans' progress toward sustainability. The paper also seeks to indirectly appeal to political decision-makers in the Western Balkans, emphasizing the necessity of regional cooperation to achieve the ambitious goals of the Green Agenda. The structure of this paper is divided into three sections: the first examines structural and institutional barriers to the green transition; the second explores the energy security dilemma; and the third focuses on regional cooperation, including the social dimension, with particular attention to the evolving discourse on the *just transition*.

[1] Environmental diplomacy can serve as a critical tool in this process, fostering dialogue, transparency, and joint decision-making in areas such as cross-border renewable projects, energy interconnectivity, and environmental protection (see Vukadinović 2025).

## STRUCTURAL AND INSTITUTIONAL BARRIERS TO GREEN TRANSITION

In a time of global energy shifts and growing environmental challenges, this region finds itself at a critical juncture. The transition to a sustainable energy system is not merely a technical or economic issue; it is a question of regional stability, economic resilience, and social justice. While all countries have formally adopted national energy and climate plans aligned with EU objectives, enforcement remains inconsistent.[2] Serbia exemplifies these challenges, as its progress reflects both meaningful steps forward and areas where further alignment and enforcement are still required. One of the meaningful steps forward are depicted in the article "The Importance of Security Analytics for Preserving Environmental and Energy Security", where Vera Arežina notes that the 2009 National Security Strategy situates environmental protection within the sphere of general social concerns, acknowledging its growing relevance primarily in the context of post-conflict degradation and resource exploitation, while the 2019 Strategy, integrates environmental issues into the core of national security policy (Arežina 2025, 220). These changes in national strategies indicate Serbia's alignment with contemporary global and European understandings of security, where environmental risks are no longer peripheral but constitute a fundamental component of national stability and long-term development.

Moreover, Serbia has made progress in aligning with EU renewable energy policies, notably through the Renewable Energy Directive (RED II), by introducing mandatory certification for

[2] Even though the region shares similar constraints, the Montenegrin debt-for-nature swap exemplifies how innovative financial mechanisms can overcome structural and institutional barriers to sustainable development in the Western Balkans. By linking debt relief to investments in water supply and sanitation, and requiring the creation of a dedicated coordinating institution, the program demonstrates the importance of governance, accountability, and institutional capacity in translating financial resources into tangible green infrastructure (Pavlakovič et al., 2021).

renewable energy installers and strengthening regulations for energy communities and prosumers.[3] Additionally, the Regulation on sustainability criteria for biofuels, bioliquids, and biomass fuels was adopted. However, Serbia has not yet established a national traceability system for these fuels, and further alignment is needed regarding the implementation of energy communities and the introduction of advanced biofuels and Renewable Fuels of Non-Biological Origin (RFNBOs) (European Commission 2025a, 94). Furthermore, key institutional structures and strategic oversight mechanisms, such as the Project Steering Committee and Technical Advisory Bodies, remain underdeveloped, highlighting a persistent gap between operational outputs and sustainable governance necessary for full alignment with EU environmental standards (United Nations Climate Change 2025).

The energy sector remains a central component of economic development in the Western Balkans, yet it is largely dependent on lignite-fired thermal power plants and aging hydropower facilities. This structural reliance contributes to high carbon emissions, low energy efficiency, and significant environmental pressures and according to Knez, Štrbac, and Podbregar (2022), the region's energy systems are particularly vulnerable to climate-related impacts, such as reduced river flows, higher water temperatures, and extreme weather events, all of which can disrupt electricity generation, increase maintenance costs, and strain outdated infrastructure. The authors also highlight that adaptive capacity varies considerably among Western Balkan countries, reflecting differences in governance effectiveness, economic stability, and institutional strength, and point out that the transition toward sustainable and secure energy systems in the Western Balkans

[3] According to the *Community Energy Framework*, a *prosumer* is defined as an end-user who produces renewable electricity for their own consumption at a privately owned site within defined boundaries, with the possibility to store or sell surplus electricity. Electricity may be shared within a family unit, but prosumer activity must not constitute a primary commercial or professional occupation. Production systems must be powered by renewable sources and may not exceed a total installed capacity of 200 kW (LD 162/19; 318/2020/R/eel; MD 16/09/2020).

remains constrained by deep-rooted structural and institutional challenges (Knez, Štrbac, and Podbregar 2022).

Despite growing political commitment to decarbonization, the region continues to rely heavily on fossil fuels (particularly coal) as the dominant energy source and cities such as: Novi Pazar, Serbia (38.8), Bijelo Polje, Montenegro (32.4), Sarajevo, Bosnia Hercegovina (30.8), Tetovo, North Macedonia (29.3) frequently rank among the world's most polluted, with outdated coal plants and household heating systems exacerbating the issue (World Air Quality Report 2024, 25)[4]. Despite pledges to reduce emissions, tangible progress has been limited, and economic constraints pose significant barriers to transitioning away from coal. On another note, it is important to highlight that the challenges of applying a universal decarbonization monitoring model represent a significant institutional barrier to the green transition in the Western Balkans. Radovanović, Filipović, Vukadinović, Trbojević, and Podbregar (2022) emphasize that country-specific conditions, governance structures, and economic contexts mean that standardized EU monitoring frameworks may misrepresent progress, potentially leading to unfair assessments, misallocation of funds, and flawed policy decisions. Clearly, this is a real problem: without adaptive governance and robust institutional capacity, monitoring cannot accurately reflect national realities or effectively support decarbonization efforts.

The Western Balkan countries face a challenging energy transition, as previously noted, their electricity and heat production still rely heavily on coal, making electricity-sector reform a key priority, while renewable energy generation remains low (Hribar et al. 2021). Moreover, several Southeast European countries have not yet met the targets outlined in their strategic documents. The former EU 20–20–20 targets (aiming to reduce

[4] Kittilä, Finland (1.8 μg/m³), represents regions with very low air pollution, while Santa Maria, Peru (53.4 μg/m³), reflects areas with comparatively high PM2.5 levels. This contrast highlights the spectrum of air quality conditions worldwide and underscores the significance of PM2.5 as an indicator of environmental and public health risks.

emissions by 20%, increase the share of renewables to 20%, and improve energy efficiency by 20%) illustrate the nature of these commitments, though they have now been succeeded by the EU's 2030 climate and energy objectives (European Commission 2025b). Furthermore, Knez, Šimić, Milovanović, Starikova, and Županič (2022) argue that increases in coal prices have the largest negative impact on energy sustainability, that increases in solar energy prices have the smallest effect (implying that price changes affect developing countries more strongly), whereas a country's status as an energy exporter does not significantly influence outcomes. Importantly, the authors highlight that excessive increases in energy prices can push domestic consumers into energy poverty, a factor that undermines sustainable energy development and must be considered in policy design (Knez et al. 2022).

On the other hand, Bojović, Mrkonjić, and Vukelić (2024) highlight that the Western Balkans possess substantial forest and agroforestry resources with significant potential for clean energy, yet these resources remain largely underutilized, and argue that institutional barriers, including insufficient policies, planning, and infrastructure for systematic biomass collection and utilization, hinder the region's transition to sustainable energy (Bojović, Mrkonjić, and Vukelić 2024, 68). Environmental finance in Bosnia and Herzegovina is heavily concentrated in a few sectors, while areas such as biodiversity, resource management, and chemical safety remain largely neglected; moreover, nearly 40% of funding comes in the form of loans, increasing the country's indebtedness and highlighting institutional and financial barriers to sustainable development (Causevic et al. 2022). Additionally, projected reductions in precipitation and the increase in the number of dry days underscore how existing structural weaknesses (especially inadequate water-resource governance, limited agricultural resilience, and insufficient institutional preparedness) amplify the Western Balkans' exposure to climate risks. As Županič, Radić, and Podbregar (2021) emphasize, these climatic pressures further threaten both biodiversity and the economic stability of

agricultural communities, demonstrating that without stronger alignment with EU policies, improved local risk-management mechanisms, and more robust regional cooperation, institutional barriers will continue to impede the region's green transition (Županič, Radić, and Podbregar 2021).

Despite EU support and ambitious plans, the deployment of renewable energy in the Western Balkans has been hindered by administrative obstacles, outdated networks, unstable markets, and limited technical readiness. Small hydropower plants, which have received most EU funding, dominate new investments, while (except for Albania) no large hydropower projects have been completed in recent decades (Pavlakovič et al. 2021). This underscores the need for structured decision-making frameworks and stronger institutional capacity[5]. To overcome barriers and accelerate the green transition in the region. Large segments of the population in coal-dependent regions rely on traditional energy industries for employment and local revenue, and as a result, governments are frequently hesitant to phase out coal due to potential social unrest, rising unemployment, and increased energy poverty. Without comprehensive just transition measures (including worker retraining, social protection, and targeted regional development), the shift toward clean energy risks deepening socioeconomic inequalities (Velicu and Barca 2020, 265).

[5] The study by Ješić, Okanović, and Andrejević Panić (2021) shows that countries with stronger innovation performance tend to have significantly higher levels of research and development investment originating from the business sector, while states with weaker innovation outcomes typically lack sufficient investment from both public institutions and private companies. Their analysis further indicates that effective support for eco-innovation depends on a model in which private-sector investment plays a leading role, but only when governments ensure predictable legal conditions and clearly articulated intellectual property protections (Ješić, Okanović, and Andrejević Panić 2021).

## THE WESTERN BALKANS ENERGY SECURITY DILEMMA

Energy transition has become an arena of geopolitical competition as much as an environmental necessity, while the global reconfiguration of energy supply chains and the growing asymmetry between developed and developing economies have complicated the realization of green agendas (Blank 2022, 63). The energy crisis of recent years has exposed the risks of over-reliance on imports and the limitations of domestic production capacities; hence, the success of green reforms depends not only on domestic commitment but also on the stability of external partnerships and the predictability of global energy markets (Barišić 2025a, 124). These challenges demonstrate that the region's transition cannot be isolated from broader geopolitical realities. Thus, the Western Balkans occupy a vulnerable position, caught between competing geopolitical influences and dependent on external energy sources and technologies.

The European Union's diversification strategy[6] represents a central pillar of its broader vision for sustainable energy security. By promoting renewable energy, reducing dependence on external suppliers, and investing in interconnectivity, the EU seeks to ensure both decarbonization and resilience (De Rosa et.al. 2022). For the Western Balkans, this strategy offers a long-term framework for energy transition, but it also reveals a structural paradox: while integration with the EU's energy system is intended to enhance security and sustainability, it simultaneously exposes the region's economic and technological vulnerabilities. The adoption of the EU's nineteenth sanctions package against the Russian Federation, which includes a complete ban on Russian liquefied natural gas (LNG) imports by 2026, carries profound

[6] In this paper, the term "diversification strategy" is used in a general and collective sense. The European Union employs multiple strategies, initiatives, and policy frameworks related to energy diversification, making it impractical to enumerate each individually within the scope of this analysis. Accordingly, the term refers broadly to the EU's overall approach to reducing dependency and enhancing energy resilience.

implications for the Western Balkans (Council of the European Union 2025). According to the text of the Decision, the Union will "impose a prohibition on the purchase, import, or transfer, directly or indirectly into the Union, of liquefied natural gas originating or exported from Russia". While this measure aligns with the EU's long-term objectives of energy independence and climate neutrality, it simultaneously intensifies regional energy insecurity (Barišić 2025b).

The Western Balkans, which remain heavily dependent on Russian gas and domestic coal, now face a strategic dilemma: without access to affordable transitional fuels such as natural gas, the region's decarbonization process risks stagnation. In the absence of viable alternatives, states may be compelled to increase coal use as a short-term stabilization measure, undermining both the Green Agenda for the Western Balkans and the EU's broader decarbonization goals. This dynamic highlights a critical paradox at the heart of the EU's diversification strategy. While designed to enhance collective energy security, it inadvertently exposes and deepens structural vulnerabilities within candidate and neighbouring states that lack sufficient capacity for rapid energy diversification. Even before the adoption of this sanctions package, the Western Balkans' energy landscape was already marked by fragmentation and insufficient coordination. Equally, as one of the EU's most consequential climate policy instruments, the Carbon Border Adjustment Mechanism (CBAM) significantly affects production costs and market access for Western Balkan economies, creating strong incentives for alignment with the EU Emissions Trading System (ETS) or the development of similar carbon-pricing frameworks, an adjustment that is politically sensitive, economically demanding, and institutionally complex (Carbon Market Watch 2025).

This complex interplay between European integration and regional fragility defines what may be termed the "Western Balkans Energy Security Paradox". Integration with the EU energy framework is both necessary and destabilizing, necessary because it provides access to long-term stability and modern

energy governance, yet destabilizing because it exposes systemic weaknesses rooted in the region's economic and institutional structure. Some states have taken modest steps toward aligning with EU energy and climate objectives, while others have made little to no progress in developing concrete decarbonization pathways. Therefore, the EU's latest Decision further complicates the already fragile landscape. By restricting access to Russian gas (a resource that still plays a stabilizing role in regional energy systems), the measure not only undermines short-term national strategies but also intensifies the ongoing collective action problem among Western Balkan states.

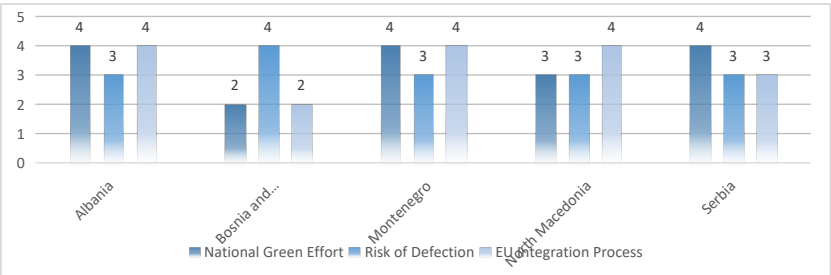
Building on the discussion of the EU's diversification and regional energy security paradox, this section examines how the Western Balkans' energy transition is shaped by the structural logic of the *Prisoner's Dilemma*. It explores how dependency, limited resources, and asymmetrical integration within the European energy framework produce a systemic trap that hinders collective progress toward sustainability. To be precise, the contemporary energy predicament in the Western Balkans can be interpreted as a geopolitical and economic version of the Prisoner's Dilemma (Axelrod 1984; Soroos 1994; Noll 1997; Stigka, Paravantis, and Mihalakakou 2014). Each state in the region (Serbia, Bosnia and Herzegovina, North Macedonia, Montenegro, and Albania) faces the same strategic choice: to cooperate in the collective transition toward sustainable energy sources, or to prioritize short-term national stability by maintaining reliance on fossil fuels, primarily coal and imported gas. The rational choice for each actor, given economic and political constraints, is often to defect rather than to cooperate. Yet, when all actors choose defection, the regional outcome is suboptimal: prolonged dependence, environmental degradation, and further delay in EU integration processes.

The analysis in this paper draws on a review of (previously addressed) relevant documents and available data, providing a structured qualitative perspective on the implementation of the Green Agenda across Western Balkan countries. To facilitate

comparison, a Scoring Legend was developed, evaluating three key parameters: (1) National Green Effort, which considers the strategies and policies each country has adopted toward the Green Agenda; (2) Risk of Defection, reflecting a game-theory perspective and the likelihood that a country may prioritize national interests over collaborative regional strategies; and (3) EU Integration Process, measuring the level of progress in aligning with European Union energy and environmental standards.

In the first section of this paper, the assessment of national efforts across the Western Balkan countries relied on insights derived from recent academic research, which served as indicative measures of each state's progress in key areas of the green transition. In contrast, the analysis of EU integration trajectories is grounded in the framework of the Reform and Growth Facility for the Western Balkans[7], which provides a systematic and policy-relevant basis for evaluating each country's alignment with EU requirements (European Commission 2025b).

**Graph 1**. Western Balkans Green Transition: Cooperation Dilemmas and Predicted Outcomes




*Source*: Author's qualitative assessment; values represent interpretative estimates, not empirical measurements.

[7] During the preparation of this paper, the European Commission's Enlargement Report (8 October 2025) became publicly available. To ensure the analysis reflects the most current data, the report's findings were incorporated. Comparative references to country performance are based on a systematic interpretation of the strategies and policies each country has adopted toward the Green Agenda and the Commission's findings; further methodological details are available from the author upon request.

Scoring Legend:

National Green Effort: 0 = none, 1 = minimal, 2 = some legislation/ projects, 3 = moderate effort, 4 = strong effort, 5 = fully aligned with EU Green Deal

Risk of Defection: 0 = very low, 1 = low, 2 = some risk, 3 = moderate, 4 = high, 5 = very high

EU Integration Progress: 0 = very low, 1 = low, 2 = limited alignment, 3 = moderate, 4 = high, 5 = near full integration

The scope of energy security in the Western Balkans is exceptionally broad and can be examined through multiple analytical lenses. One possible approach, adopted in this paper, is the use of the Prisoner's Dilemma as a conceptual framework for understanding strategic behavior among states. Although the limited scope of this study does not allow for a full mathematical application of game-theoretical modeling, the logic of the Prisoner's Dilemma nevertheless provides a valuable foundation for future research on regional energy security and sustainability. Regarding the results for the National Green Effort parameter, none of the Western Balkan countries achieved the highest score of 5. As demonstrated in the first section, all states face significant structural and institutional barriers that constrain progress in the green transition. Broadly speaking, most countries converge around a score of 3, reflecting the fact that their efforts to date have been driven primarily by formal alignment with EU legislative and regulatory requirements. However, as highlighted earlier, some states exhibit slightly more substantial advancements in specific areas, indicating differentiated but still moderate levels of commitment and implementation across the region. In short, the conceptual scoring underscores that without strengthened trust, shared governance mechanisms, and targeted EU support, the Western Balkans are likely to remain trapped in a suboptimal equilibrium, one marked by limited green progress, high vulnerability to external shocks, and delayed decarbonization.

The qualitative interpretation of the energy security dilemma demonstrates that addressing energy security and the green transition in the Western Balkans requires both structural

reforms and processes of meaningful deliberation. The solution proposed to address this problem draws on Jürgen Habermas's theory of communicative action, and it is subsumed by the concept of *deliberative legitimacy*, understood as the "non-coerced commitment of an actor to obey a norm adopted on the basis of the criteria and rules reached through a process of communicative action" (Bjola 2005). Habermas's framework introduces two key concepts: first, communicative rationality, which critically examines assumptions while resisting purely instrumental reasoning; and second, a two-level model of society that links the "lifeworld" with the "system" (Chriss 2022). Drawing on Habermas's theory of communicative action, it becomes evident that sustainable solutions depend not only on technical and economic measures, such as investing in renewable energy and improving efficiency, but also on creating mechanisms for deliberative legitimacy, in which actors commit to shared norms through reasoned, non-coerced dialogue.

Advancing the Green Agenda in the Western Balkans requires a perspective that goes beyond national energy security to encompass broader sustainability challenges. Habermas's framework of communicative action highlights that meaningful progress depends on aligning institutional systems with the lifeworld: policies and regulations must be informed by inclusive dialogue, regional cooperation, and shared understanding among stakeholders. Climate change, resource scarcity, and environmental degradation present challenges that cannot be addressed in isolation; the region's transition toward renewable energy, circular economy practices, and sustainable development must be coordinated and collectively implemented. Overcoming this paradox requires building credible mechanisms of trust and reciprocity among Western Balkan states, supported by consistent EU engagement and investment. Only through a cooperative approach, one that recognizes mutual interdependence rather than competition, can the region move beyond the logic of the Prisoner's Dilemma and approach a genuinely sustainable and secure energy future.

But then again, it could be argued that within the regional dynamics of the Western Balkans, the persistence of the Prisoner's Dilemma exemplifies a predominantly *I–It*[8] Orientation, where states relate to one another as instrumental entities within a matrix of strategic calculation and conditional trust (Wittwer 2025). Such interactional logic, rooted in self-interest and securitized rationality, inhibits the emergence of genuine regional solidarity. Here is where Martin Buber's dialogical philosophy offers a critical reconfiguration of this paradigm: the *I–Thou* relation introduces an ethical dimension of reciprocity that transcends utilitarian exchange and acknowledges the intrinsic worth of the other (Mendes-Flohr 2025). Applied to inter-state relations, this framework implies that durable cooperation cannot be achieved solely through institutional incentives or rational choice mechanisms, but through the cultivation of mutual recognition and dialogical trust. In this sense, the *I–Thou* encounter represents not a utopian ideal, but a necessary ontological shift, from a logic of strategic coexistence to one of relational coexistence, capable of reorienting the Western Balkans toward authentic and sustainable integration.

## REGIONAL COOPERATION AND THE SOCIAL DIMENSION OF THE JUST TRANSITION

Achieving a sustainable green transition in the Western Balkans requires not only technological and infrastructural investment but also a socially inclusive approach that mitigates the economic and social costs of decarbonization. The European Union has reinforced this approach through several strategic

[8] Through his *I–Thou* and *I–It* dialogical imperatives, Buber argues that the human being is not merely a thing, but possesses a value beyond any price (Buber 1958, 6–8). This insight can be extended to the relationship between humanity and the planet, particularly in the context of climate change and rising $CO_2$ emissions, suggesting that nature should not be treated solely as an "object of exploitation". From this perspective, the Western Balkan states, like the rest of the world, are compelled to rethink their environmental policies beyond short-term economic considerations.

funding mechanisms, which serve both as incentives and support structures for countries in the region. For example, recent revisions to the InvestEU programme have focused on strengthening its financial and administrative effectiveness. The revised Regulation increases the size of the EU guarantee by €2.9 billion, raising it from €26.2 billion to €29.1 billion, while also facilitating the combined use of the InvestEU guarantee with remaining capacity from legacy instruments, including the European Fund for Strategic Investments, the Connecting Europe Facility debt instrument, and the InnovFin debt facility supporting research and innovation. In addition to reinforcing financial capacity, the revised framework seeks to reduce the administrative burden for implementing partners, financial intermediaries, and final recipients, with estimated cost savings of approximately €350 million. This simplification is achieved, *inter alia*, through a revised definition of small and medium-sized enterprises and a reduction in reporting requirements for small-scale operations not exceeding €300,000 (Council of the European Union 2025).

The Just Transition Mechanism (JTM) emphasizes the need to support communities dependent on carbon-intensive sectors during the shift to cleaner economies (Komljenović 2022). As Komljenović (2022, 5) notes, "in 2020 the Polish coal region provided the initiative to ensure that those affected by the transition are socially included, as well as repurposing post-industrial and post-mining regions with new environmental purposes". This example illustrates that institutional mechanisms and targeted financial support are crucial for managing structural and social vulnerabilities in energy-dependent regions, a lesson directly applicable to the Western Balkans. Furthermore, the importance of integrating social equity into climate and energy transitions was recently reaffirmed in the Doha Political Declaration (United Nations 2025), that a socially just transition requires robust measures to ensure decent work, equitable access to education and skills development, and comprehensive social protection systems, highlighting the importance of labor rights, gender equality, and social dialogue as key mechanisms to foster inclusion and

cohesion during economic and environmental transformations. Therefore, by integrating these social dimensions, the Declaration underscores that a Just Transition must balance environmental sustainability with the protection and empowerment of all members of society. The shift toward a low-carbon economy necessitates a focus on social justice, ensuring that workers and communities dependent on fossil fuel industries are not left behind. However, the development of green jobs in the Western Balkans has been slow. The region's economic constraints and delayed implementation of National Energy and Climate Plans (NECPs) have hindered the creation of sustainable employment opportunities in renewable energy sectors. For instance, as of December 2024, only Serbia had adopted its NECP, while other countries lagged, reflecting a lack of political will and strategic planning essential for fostering green job growth (Todorović 2024).

No country can achieve energy transition in isolation. Hence, regional cooperation is crucial in optimizing energy production, enhancing grid connectivity, and fostering cross-border investment in renewable energy. Strengthening energy networks and market integration will contribute to energy security, affordability, and resilience against external shocks. For example, the *Open Balkan Initiative*[9] and other regional platforms could provide a foundation for enhanced collaboration in energy policy. However, these efforts must be reinforced with concrete action, shared commitments, and aligned national strategies. The EU's flagship investments in renewable energy, coal transition, and digital infrastructure under the Green Agenda further highlight the necessity of joint efforts. For the Western Balkans, these mechanisms provide a financial and policy framework to support national initiatives in energy efficiency, renewable energy

[9] The *Open Balkan Initiative* can be understood as an example of minilateral governance in the Western Balkans, facilitating regional cooperation in economic policies and building on this framework, the initiative could be further expanded to strengthen coordination and implementation of EU Green Agenda objectives across the region.

deployment, and green infrastructure. However, the effectiveness of these instruments is contingent upon regional coordination and adherence to agreed objectives. As highlighted in the previous section of this paper, the fragmented nature of national strategies in the region perpetuates the Prisoner's Dilemma, where individual countries may hesitate to invest or coordinate without assurance that neighbours will reciprocate.

In this sense, a just transition in the Western Balkans is both a technical and political challenge: it requires leveraging EU financial instruments, fostering regional cooperation, and balancing short-term national interests against the long-term collective benefits of a sustainable and socially equitable green transition. While structural and institutional barriers hinder the green transition, addressing the social dimension is equally critical to ensure a sustainable and equitable outcome. The concept of Just Transition emphasizes minimizing the social and economic costs of decarbonization, particularly for communities historically dependent on fossil fuel industries. In the Western Balkans, coal-dependent regions in Serbia, Bosnia and Herzegovina, and North Macedonia face significant employment risks, economic disruption, and potential energy poverty (Jelisavac Trošić and Arnaudov 2023, Muftić Dedović et al. 2025, Trbojević, Jovanović, and Đurđević 2024). Without targeted policies, these communities could bear the brunt of the transition, creating political and social resistance to sustainability initiatives. Energy justice complements the notion of just transition by framing energy access, affordability, and environmental impacts as matters of social equity. In other words, a successful transition is not solely a matter of decarbonization; it must integrate energy security, sustainability, and social equity, ensuring that no community or state is left behind.

## CONCLUSION

This paper highlights that one of the region's most pressing issues is its continued reliance on fossil fuels. The energy mix

in the Western Balkans remains heavily dominated by coal, which not only harms the environment but also limits economic diversification. Transitioning away from fossil fuels requires substantial investments, policy reforms, and a clear strategic vision. The region remains heavily reliant on coal for energy production, contributing to severe air pollution. As previously mentioned, cities in the region frequently rank among the world's most polluted, with outdated coal plants and household heating systems exacerbating the issue. This pollution not only endangers public health but also hampers prospects for European Union membership, as adherence to stricter emission standards is a prerequisite for accession. Despite pledges to reduce emissions, tangible progress has been limited, and economic constraints pose significant barriers to transitioning away from coal. Namely, due to internal economic and social constraints, it is not in actuality cost-effective for any of the Western Balkan countries to fully implement EU green policies. More specifically, consistent implementation of the EU Green Agenda could inflict a substantial blow on the long-term standard of living of the broadest segments of the population. The Western Balkans faces challenges not only related to employment in coal-dependent industries, but even more so in private households that rely on cheap and low-quality coal, even if members of such households may work in the green economy. This predicament constitutes an additional dilemma, which could possibly be addressed in one of two ways: either the EU drastically increases funding to support poor Balkan households in transitioning to cleaner, albeit more expensive, energy sources, or the Balkan countries themselves (or in coordinated regional efforts) raise the standard of living of their populations to a level that reduces dependence on polluting energy sources.

In a perfectly cooperative framework, regional states and the EU would coordinate a just and gradual transition, sharing technological resources, financial mechanisms, and risk-mitigation strategies, except that the asymmetry of capabilities and obligations incentivizes unilateral survival strategies. The

risk of each country, acting in its own perceived best interest, could undermine the collective goal, and the aggregated outcome is regional stagnation: no actor moves significantly forward, and all remain bound by inherited vulnerabilities. At a deeper level, this structural entrapment reflects the tension between agency and constraint described in contemporary social theory. This situation strikingly resembles the classic film *My Dinner with André*, in which André Gregory metaphorically likens New York to a "self-built prison" of routine and comfort. The resemblance is remarkable, as the film vividly illustrates how individuals can become trapped in habitual patterns, mirroring broader sociological and philosophical perspectives on modern constraints (see also Habermas 1984; Giddens 1991). Effective transition to sustainability requires trust in institutions, in regional cooperation, and in the fairness of European mechanisms. Yet, as illustrated by the Prisoner's Dilemma in this paper, "trust" is precisely what is lacking: rational choices favor self-preservation over collective action. The Western Balkans' path toward a green transition is thus caught between necessity and aspiration, dependence and autonomy, fear and freedom. It is a regional system that behaves like André's dinner table conversation: intellectually aware of the prison it inhabits, yet unable to escape it without a shared "leap of faith". The resolution of this dilemma, whether through renewed investment, deeper integration, or new forms of regional mini-lateral cooperation, will determine whether the Western Balkans remain observers of Europe's green future or become active participants in its realization.

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# ЕНЕРГЕТСКА БЕЗБЕДНОСТ И ОДРЖИВОСТ НА ЗАПАДНОМ БАЛКАНУ: ИЗАЗОВИ НА ПУТУ КА ЗЕЛЕНОЈ ТРАНЗИЦИЈИ

**Резиме**

Енергетска безбедност, као једна од кључних димензија националне безбедности, дубоко је повезана са економским и геополитичким процесима и представља један од највећих изазова са којима се регион Западног Балкана суочава, како на националном, тако и на наднационалном нивоу. На националном нивоу, енергетска безбедност је уско повезана са политичком стабилношћу и економском отпорношћу, док је на наднационалном нивоу тесно везана за текући процес европских интеграција региона. Западни Балкансесуочавасасложенимиузајамноповезаним изазовима у области енергетске безбедности и одрживости, који се посматрају у ширем оквиру Зеленог плана Европске уније и Зелене агенде за Западни Балкан. Овај рад анализира развој односа између енергетске безбедности, еколошке одрживости и регионалне сарадње, указујући на структурна и институционална ограничења која у појединим државама региона могу успорити темпо зелене транзиције. Применом квалитативног и компаративног оквира, истраживање идентификује кључне рањивости

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националних енергетских система и процењује ниво усаглашености са климатским циљевима ЕУ и циљем постизања климатске неутралности до 2050. године. Резултати показују да, упркос умереним помацима у интеграцији обновљивих извора енергије, регион Западног Балкана и даље у великој мери зависи од фосилних горива, посебно угља, и остаје осетљив на поремећаје у увозу енергената, што додатно успорава процес декарбонизације и дугорочне стабилности. Јачање механизама регионалне сарадње, уз транспарентне и предвидиве регулаторне оквире, намеће се као предуслов за унапређење енергетске безбедности и одрживости. Рад закључује да ће постизање климатске неутралности до 2050. године остати изузетно изазовно за државе Западног Балкана уколико регионална сарадња не буде значајно ојачана и усклађена са ширим европским напорима.

**Кључне речи**: Зелена агенда, енергетска безбедност, Западни Балкан, регионална сарадња, одрживо

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