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EMISSION POSSIBLE:

GREEN DEAL & WESTERN BALKANS

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(E)mission Possible: Green Deal & Western Balkans

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Introductory remarks

Knowledge speaks, wisdom listens, goes the quote.

But wisdom not only listens, wisdom *learns*.

In the path towards European Union (EU) membership, and as part of the enlargement process, the countries of the Western Balkans – Bosnia and Herzegovina, Serbia, Montenegro, Albania, Kosovo, and North Macedonia – have demonstrated a strong commitment to the EU values of liberty, democracy, respect for human rights and fundamental freedoms, and the rule of law. Compliance with and alignment to these values are indispensable prerequisites for EU membership.

Alongside respect for these basic principles, further obligations and procedural steps that EU applicant/candidate countries must take into account include alignment with the EU's policy initiatives in several fields. Today, and into the future an essential role will be played by the *green transition*. The implementation of policies and strategies that foster environmental sustainability is crucial for a shared commitment toward the achievement of a climate-neutral European Union.

In this regard, the key package at the EU level is the 'European Green Deal' (EGD). The EGD, approved by the European Commission in 2020, consists of a set of initiatives with the ultimate goal of making the EU a climate-neutral region in 2050. This is to be achieved by reviewing existing laws and introducing new legislation, both at the EU and Member State levels, in fields such as circular economy, building renovation, farming, eliminating pollution, biodiversity, innovation, sustainable mobility, ecosystem health, climate change, and sustainable industry. Eventually, should steps and measures go as planned, the European Commission aims for the EGD to transform the EU into a 'modern, resource-efficient and competitive economy,'
(European Commission, n.d.), zeroing out net emissions of greenhouse gases and ensuring economic growth decoupled from resource use.

While the EGD involves all EU Member States, under its umbrella a specific document addressed to the Western Balkans region has been issued: the Green Agenda for the Western Balkans (GAWB). The GAWB was introduced by the European Commission in 2020 to include and aid the region in the alignment with the EGD. It establishes five pillars guiding the region towards the goal of climate neutrality: 1) *climate action* (including decarbonisation, energy, and mobility); 2) *circular economy* (including waste management and recycling); 3)

depollution (of air, water, and soil); 4) *sustainable food systems and rural areas*; and 5) *biodiversity*, the protection and restoration of the region's natural wealth. Side by side with the GAWB, the Regional Cooperation Council published a roadmap including several guiding measures, namely, the 'Agenda for the Implementation of the Sofia Declaration on the Green Agenda for the Western Balkans 2021-2030.'

A further organisation often recalled in this publication is the Energy Community (EnC). The international organisation was signed into existence in 2005 to bring together the Western Balkans (and other candidate or potential candidate countries) to create an integrated regional energy market based on legally binding commitments and to adopt and enforce EU rules on energy, the environment, competition, and renewables.

This publication offers a deep assessment of each country's domestic legislative, political, and social condition in relation to the EGD, the GAWB, and the EnC, including positive outcomes, challenges hindering their implementation, and a set of recommendations to foster speedy and fair compliance – that is, a just green transition.

The first chapter, '*The EU Green Deal in Serbia: Corporate capture vs. just transition – who will own Serbia's future?*', provides a comprehensive overview of the degree to which Serbia has implemented the EGD and the GAWB's pillars, highlighting key existing legislation as well as structural, political, and procedural barriers in each area of action. While formal alignment with EU environmental policies is acknowledged, several obstacles are identified: policy delays and opaque financing, hindrance from corporate and industrial interests, and limited citizen engagement (despite strong public support for the green transition) obstruct progress, 'leaving environmental commitments more symbolic than transformative.'

Despite North Macedonia's role as a regional frontrunner in implementing energy policies, the pace suddenly slowed down. Several strategic documents in key areas have not been renewed and vacuums affect existing legislation. It is the country's status quo that is highlighted in Chapter II, *'Accelerating North Macedonia's Green Agenda implementation through a just energy transition,'* which covers the country's alignment with the EGD and the GAWB. However, plans and actions towards a just transition are ongoing, and by implementing policies that are aligned with all pillars, and by leveraging their interconnectedness, the 'journey toward a climate-neutral and resource-efficient economy' appears less uncertain.

In Chapter III, '*Clear skies ahead: Decarbonisation challenges and opportunities in Bosnia and Herzegovina,*' the author focuses on two of Bosnia and

Herzegovina's urgent issues: coal dependency and poor air quality. The chapter shows how decarbonisation and depollution represent key drivers in the country's path to achieving both the EGD's objectives and, eventually, EU membership. Despite several policy commitments, there exists a 'profound implementation gap' with regards to actual environmental improvement. This stems from structural issues and fragmented governance, which pose obstacles to socio-economic progress and threaten the country's European integration.

Decarbonisation and waste management practices represent Albania's major challenges in terms of the EGD and GAWB, as well toward its path to EU membership. In Chapter IV, '*Greening Albania's path to EU accession: Navigating decarbonisation and circular economy reforms,*' the author stresses how, despite the positive outcomes of the country's green policies – including in electric mobility and waste management – there is still a need to address issues such as energy production diversification, inadequate infrastructure, and weak financial and technical capabilities. Actions to strengthen governance and green investments are necessary for Albania to reach its 'full potential in the green transition.'

Chapter V, '*The Green Deal in Kosovo,*' offers a panoramic overview of Kosovo's implementation of the EGD and the GAWB. Progress in policy adoption and a commitment to the Green Agenda are clear, however, several challenges affect the full implementation of these measures, namely, strong coal-dependence that negatively affects decarbonisation and air quality; limited financial resources; weak governance and institutional/planning capacities that lead to policy delays; and low public awareness about climate change. All these aspects currently prevent the country from achieving positive environmental outcomes. While Kosovo's foundation stone has been set, further efforts are essential to 'firmly [advance] its journey towards European integration.'

In the last chapter, the author analyses Montenegro's legislative progress with regard to the EGD and the GAWB, assessing the current situation pillar by pillar. '*Advancing the Green Agenda: Montenegro's path to climate neutrality*' highlights that, on the one hand, the country is successfully implementing measures and policies aiming at reaching climate neutrality. On the other hand, coal-dependence and pollution of the air and water are ongoing. As 'achieving sustainability in the green transition has proven to be an extremely complex task' due to bureaucratic delays and the need for significant financial investments, further measures and policy implementations are needed.

Just like Western Balkans' course towards EU membership is a *path*, this publication is a *journey*.

Let us embark.

Gian Marco Bovenzi

CHAPTER I

THE EU GREEN DEAL IN SERBIA:

CORPORATE CAPTURE VS. JUST TRANSITION – WHO WILL OWN SERBIA'S GREEN FUTURE?

Stevan Vujasinović

Abstract.

This research examines the prospects for implementing the Green Agenda for the Western Balkans in Serbia, whilst identifying structural, political, and procedural barriers. While Serbia has formally aligned with EU environmental policies, implementation remains slow, hindered by corporate capture and weak enforcement. Policy delays, opaque financing, and limited citizen engagement obstruct progress, leaving environmental commitments more symbolic than transformative. Despite declared political ambition, Serbia's green transition is increasingly shaped by entrenched industrial interests that suppress competition and sideline citizens from policymaking. However, public support for decarbonisation and sustainability is strong, indicating untapped potential for a more inclusive transition. This paper argues for a shift toward decentralised governance, transparent financing, and active citizen ownership, emphasising carbon pricing as a key financing tool. Serbia's Green Agenda must be reclaimed as a democratic movement rather than yet another elite-controlled framework.

1. Introduction.

The European Green Deal, introduced by the European Commission in 2019, is the EU's flagship policy framework aimed at transforming Europe into the first climate-neutral continent by 2050. The Green Deal attempts to integrate environmental sustainability into all areas of EU policymaking, from energy and transport to agriculture and finance, thereby offering a roadmap for change that infuses economic growth with environmental responsibility. Its ambition and purpose go beyond reducing greenhouse gas emissions. It endeavours to map and lead a journey to carbon-neutrality that is fair and inclusive, namely a just transition, whilst boosting innovation and long-term competitiveness.

Recognising the shared environmental and economic space between the EU and its neighbours, the European Commission extended the Green Deal principles to the Western Balkans through the launch, in 2020, of the Green Agenda for the Western Balkans (GAWB). The Agenda outlines five key pillars: 1) decarbonisation (climate action, energy, mobility); 2) circular economy; 3) depollution; 4) sustainable food systems and rural areas; and 5) protection of biodiversity. It calls for coordinated regional action to align environmental policies and practices with EU standards, backed by financial and technical support from the EU.

The Green Agenda is implemented through its Action Plan, devised and coordinated by the Regional Cooperation Council, which outlines specific actions and targets. The Action Plan includes 58 priority actions grouped into seven thematic roadmaps.

The Green Agenda has become the guiding tool for joint measures by the EU and each of the Western Balkans partners, based on the existing political and technical cooperation frameworks. For Serbia, aligning its development path with the Green Agenda is also a strategic milestone on its path toward EU membership. Namely, environmental protection and climate change are encapsulated by Chapter 27 of the negotiating process for EU accession, which Serbia opened in December 2021, as part of the cluster of chapters on 'green agenda and sustainable connectivity.' [1] Serbia is also a member of the Energy Community (EnC), an international treaty aiming to integrate energy markets across the EU and neighbouring countries. Given the dominance of the energy sector as a source of both carbon emissions and the main air pollutants (from coal-fired electric power plants and from heating fuels and technologies), the EnC process has been key to Serbia's progress in the areas of decarbonisation and air pollution (the 'depollution' pillar).

Of the three policy processes – EU accession negotiations, the EnC, and the GAWB – the Green Agenda is the youngest. The objective of this desk research is to examine the prospects for its successful implementation by identifying the structural, political, and procedural barriers to implementing the Green Deal in Serbia.

The thesis is simple yet urgent: the current Green Deal is *for* the Western Balkans and, consequently, *for* Serbia – as opposed to being the Green Deal *by* the region, and *by* Serbia. There is a lack of authentic policy ownership and, perhaps inevitably, this leads to piecemeal adoption and half-hearted implementation. Furthermore, it hampers the timely and inclusive engagement of all stakeholders – a *conditio sine qua non* for a transition that is *just* and successful. The Green Deal presents significant opportunities for economic transformation, environmental recovery, and social inclusion. However, in Serbia's case, these benefits remain concentrated rather than broadly shared. In the absence of genuine policy ownership and democratic participation, the transition has been captured by corporate interests. These actors reap financial advantages while externalising the costs of environmental degradation, energy poverty, worsening public health, or delayed systemic change onto the wider public. This skewed dynamic not only marginalises citizens from the decision-making process, but also undermines the long-term sustainability of Serbia's green transition.

[1] This cluster also includes Chapters 14 (Transport policy), 15 (Energy), and 21 (Trans-European networks).

Literature review.

This section is divided into three sub-sections:

2.1.) an overview of Serbian legislation designed for sustainability and alignment with the European Green Deal and the GAWB, informed by the 2023 Green Agenda Report on Implementation and supplemented by reports from the EnC and Chapter 27 of the EU accession negotiations;

2.2.) a focus on decarbonisation and air pollution, two areas central to Serbia's environmental transition; and

2.3.) an analysis of the Serbian public's attitudes toward environmental policies, informed by the most recent public opinion survey conducted by CeSID and UNDP Serbia, published in March 2025 .

2.1.) Overview of Serbian legislation.

To conduct a precise analysis of Serbian legislation in line with the European Green Deal and the GAWB, it is essential to separate the different areas of action.

1) Climate action.

Serbia has committed to aligning its policies with EU climate goals, but implementation remains uneven. The Climate Action Roadmap highlights continuous delays in adopting carbon pricing mechanisms. This has led to Serbian exports to the EU, its main trading partner, now facing levies through the Carbon Border Adjustment Mechanism (CBAM). Key legislative acts include: a) the Law on Climate Change (2021), which establishes Serbia's greenhouse gas inventory and adaptation framework; b) the updated Nationally Determined Contribution (NDC) (2022), which sets a 33.3% emissions reduction target by 2030 compared to 1990 levels; and c) an Integrated National Energy and Climate Plan (INECP) (2024), which defines Serbia's climate and energy targets for 2030 and beyond.

2) Clean energy transition.

Serbia has made strides in renewable energy adoption, with new solar and wind projects receiving financial backing through market-based mechanisms, or auctions, replacing outdated and arbitrary feed-in tariffs. However, fossil

fuel subsidies remain, slowing the transition away from coal. The Energy Roadmap emphasises the need for better grid infrastructure to accommodate renewables. Key legislative acts include: a) the Amended Energy Law (2014, updated 2018, 2021, 2023, and 2024) that introduced dynamic tariffs and recognised 'active consumers;' b) the Law on the Use of Renewable Energy Sources (2021, amended 2023 and 2024), which establishes market-based incentives for renewables; and c) the Energy Efficiency and Rational Use of Energy Law (2021), which introduces eco-labelling and financing mechanisms for energy-saving measures.

3) Circular economy.

The Circular Economy Roadmap identifies waste management and recycling as key challenges. Despite existing regulations, 77% of Serbian citizens still dispose of waste without sorting. The report calls for stronger enforcement mechanisms and public awareness campaigns. Key legislative acts include: a) the Waste Management Law (2009, amended 2021), which defines waste sorting and recycling obligations; b) the Law on Packaging and Packaging Waste (2009, amended 2021), which establishes extended producer responsibility for packaging waste; and c) the National Waste Management Strategy 2022–2032, which sets targets for reducing landfill dependency and increasing recycling rates.

4) Depollution.

Air pollution remains a critical issue, with industrial emissions and outdated coal plants contributing to poor air quality. The Depollution Roadmap stresses the need for stricter emissions regulations and investment in cleaner technologies. Key legislative acts include: a) the Air Protection Law (2009, amended 2021), which establishes air quality monitoring and emissions reduction targets; and b) the Low-Carbon Development Strategy 2023–2030, which outlines pathways for emissions reduction across all sectors.

Moreover, water pollution is an increasing concern, particularly due to untreated wastewater and industrial discharge. The GARI 2023 Report highlights delays in implementing EU- compliant water treatment facilities and insufficient investment in wastewater management systems. Key legislative acts related to water depollution include: a) the Water Law (2010, amended 2021), which defines regulations for wastewater treatment and surface water protection; and b) the National Water Management Strategy 2022–2032, which calls for upgrading wastewater treatment plants and improving river basin management.

Regarding soil pollution, the report notes threats from agricultural runoff, industrial waste disposal, and mining activities. Soil contamination remains a poorly regulated area, with limited monitoring of hazardous substances and ineffective enforcement mechanisms. Key legislative acts related to soil protection include: a) the Law on Environmental Protection (2004, amended 2021), which sets guidelines for pollution control but lacks stringent enforcement for soil contamination; and b) the 2025 draft Soil Protection Strategy, which aims to introduce systematic soil monitoring and land-use regulations to mitigate degradation.

5) Protection of biodiversity.

Serbia's biodiversity is under threat due to deforestation and habitat destruction. The Protection of Nature and Biodiversity Roadmap highlights the decline in forest cover and the impact of industrial expansion on ecosystems. Key legislative acts include: a) the Nature Protection Law (2009, amended 2021), which defines conservation measures for protected areas; and b) the Forest Law (2010, amended 2022), which regulates sustainable forest management and afforestation programs.

2.2.) In focus: decarbonisation and air pollution.

While Serbia's Green Agenda spans multiple pillars, this chapter focuses on decarbonisation and air depollution, two of the most urgent and structurally challenging issues across the Western Balkans. These issues not only dominate Serbia's domestic environmental policy landscape, but also mirror common struggles among its neighbours, including coal dependency, outdated energy infrastructure, and poor air quality. Their relevance to EU alignment, public health, and regional civil society advocacy makes them particularly instructive for understanding systemic barriers to green transition.

1) Decarbonisation.

Serbia's decarbonisation strategy is shaped by its high dependence on coal, which still accounts for a majority of electricity generation. Despite commitments under the 2024 Integrated National Energy and Climate Plan (INECP) and the Low-Carbon Development Strategy 2023– 2030, the transition away from fossil fuels faces structural, financial, and political barriers.

Key challenges include: 1) coal reliance – the country's energy mix remains dominated by lignite, one of the most polluting fossil fuels; 2) slow renewable uptake – while solar and wind auctions have been introduced, grid infrastructure limitations and investment bottlenecks hinder expansion; 3) carbon pricing

delays – Serbia has yet to implement an Emissions Trading System (ETS), leading to CBAM levies on exports to the EU, its main export market; and 4) industrial resistance – large energy-intensive industries lobby against stricter decarbonisation policies, fearing loss of competitiveness.

To address these barriers, Serbia has adopted several strategic frameworks:

a) the Energy Development Strategy 2024–2040, which prioritises coal phase-out and economic diversification in mining regions;

b) the draft Just Transition Action Plan (2025), which supports workforce retraining and green job creation in coal-dependent areas; and

c) the Renewable Energy Auctions (2023–2025), which aims for an expansion of 1,000 MW of wind capacity and 300 MW of solar capacity.

However, despite these efforts, fossil fuel subsidies persist, slowing the transition. The EU Commission has repeatedly urged Serbia to phase out subsidies and accelerate carbon pricing mechanisms to align with EU standards.

2) Air pollution.

Air pollution remains one of Serbia's most pressing environmental challenges, with industrial emissions, coal-fired power plants, and inefficient heating systems contributing to poor air quality. The GARI 2023 Report highlights that 77% of Serbian citizens blame industries for air pollution, while 39% report health issues linked to air quality.

Key pollution sources include: 1) coal-fired power plants – Serbia's outdated coal infrastructure emits high levels of sulphur dioxide (SO_2), which is also suspected to cause secondary particulate matter (PM2.5 and PM10) pollution; 2) household heating – firewood and coal stoves remain widespread, exacerbating winter smog; 3) industrial emissions – steel, cement, and chemical industries contribute significantly to air pollution; 4) transport sector – aging vehicle fleets and low adoption of electric vehicles worsen urban air quality; and 5) moreover, although upgrades to district heating facilities have been subsidised over recent years, many continue to use polluting forms of fossil fuels, including even fuel oil and coal, whilst the initial wave of conversions to woody biomass now faces sourcing challenges.

Serbia has introduced several policy measures to combat air pollution: a) the Air Protection Law (2009, amended 2021), which establishes air quality monitoring and emissions reduction targets; b) the National Air Protection

Program 2020–2030, which calls for stricter industrial emissions controls and investment in cleaner technologies; c) subsidies for energy-efficient heating, which encourage district heating systems and household transition to cleaner heating solutions; and d) electric vehicle incentives, which aim to reduce transport emissions, though uptake remains low.

The National Emission Reduction Plan (NERP) (2020) is another critical policy instrument aimed at reducing emissions from large combustion plants, particularly coal-fired power stations. It aligns with the EU's Industrial Emissions Directive, setting limits on pollutants such as sulphur dioxide (SO_2), nitrogen oxides (NO_x), and particulate matter (PM10). However, its adoption and implementation has faced significant delays, with Serbia struggling to meet the required emission reduction targets. The EnC has flagged non-compliance issues in several facilities, highlighting the need for stricter enforcement and investment in cleaner technologies. Key aspects of the NERP include 'Investment in pollution control technologies' in order to upgrade coal-fired power plants and reduce their emissions (desulphurisation plants) and 'monitoring and enforcement mechanisms' to strengthen regulatory oversight and ensure compliance.

Despite its adoption, NERP enforcement remains weak, with nine out of 16 large combustion plants failing to meet emission limits. Serbia's coal plants, in particular, have significantly exceeded permitted sulphur dioxide (SO_2) levels, with some emitting more than five times the allowed threshold. The EnC Secretariat has urged Serbia to accelerate implementation, warning that continued non-compliance could lead to legal and financial consequences, including potential infringement procedures for breaching emission ceilings.

In January 2025, Serbia's Ministry of Environmental Protection launched a public debate on the new Air Quality Protection Law, with a public presentation held on 21 January 2025. The government opted for a new legal framework instead of amending the existing Air Protection Law, citing several key reasons:

a) *comprehensive restructuring*: the existing law was deemed insufficient to address Serbia's severe air pollution crisis, particularly in urban areas like Belgrade, Novi Sad, and Niš;

b) *alignment with EU directives*: the new law aims to fully integrate EU air quality standards, including stricter pollutant limits and enhanced monitoring requirements;
c) *improved enforcement mechanisms:* the existing law lacked effective enforcement tools, leading to weak regulatory oversight and non-compliance by industries; and

d) *public health concerns:* with 17,000 premature deaths annually in Serbia linked to air pollution, the government recognised the urgent need for stronger legal protections.

However, critics argue that the public debate process has been inadequate, with concerns that the new law may not sufficiently address enforcement gaps. Environmental groups have called for greater transparency and stronger commitments to air quality improvement.

4.3. Public attitudes.

Public support for environmental action in Serbia has grown significantly over the past decade, driven by awareness of local environmental degradation, especially air and water pollution. High-profile environmental protests such as those against air pollution, against the proposed Rio Tinto lithium mine, and against small hydro power plants, signal increasing civic engagement. However, the infrastructure and incentives to support wider behavioral change like recycling or household energy efficiency are still underdeveloped.

The most recent poll of public opinion on the Green Agenda was conducted in March 2025 by CeSID and the UNDP country office in Serbia. It covered a wide range of environmental issues, including public perception of environmental threats, climate change, energy and energy poverty, renewable energy sources, air pollution, transport, waste management, biodiversity, drinking water, and food safety.

Some key findings include:

- *Public perception of environmental threats*: compared to the previous survey from 2023, a higher percentage of citizens prioritise the environment over the economy (62% compared to 54% in 2023); fewer citizens have a positive perception of Serbia's environmental situation; air pollution tops the list of environmental concerns for 18% of respondents; and more than one-third of respondents (36%) say that the government is doing nothing to prevent the environmental protection issues they mentioned.

- *Climate change and natural resources*: 57% believe climate hazards will become stronger and more frequent (a gradual increase from 44% in 2021); the main cause of climate change, according to 45%, is the global development of energy and industry; and 41% blame Serbia's economy and

industries for worsening climate hazards, while 22% hold the government responsible.

- *Energy and energy poverty:* the most commonly used heating devices in households are solid fuel stoves (29%) and air conditioners (29%); electricity usage for heating has significantly increased compared to previous years; firewood remains the most favoured heating fuel; 68% of citizens say that energy costs have a major impact on their household budget.

- *Renewable energy sources*: 45% believe Serbia should fully transition to renewable energy sources, while 31% prefer a mix with traditional fuels; the most suitable renewable energy for Serbia is solar energy (38%); financial support and political will are seen as the biggest obstacles to transitioning to renewables.

- *Transport and air pollution*: citizens remain largely unaware of government subsidies for hybrid/electric vehicles; the number of people unwilling to buy an electric vehicle has increased significantly; 77% believe that Serbia's industries are most responsible for air pollution, followed by the government (64%) and local authorities (62%); and 39% know someone with medical issues due to air pollution.

- *Circular economy, waste, and recycling*: 77% dispose of their waste without sorting; a lower percentage of citizens believe they would sort waste if they had infrastructure; 42% affirm the government should increase fines for industries that pollute, while 33% think individuals should also be fined.

- *Drinking water:* 60% believe industry and local governments are largely responsible for poor drinking water quality; 34% report that nearby rivers now have lower water levels than 15-20 years ago; a growing concern surrounds pollution of rivers, failure to process wastewater, and pesticide contamination.

- *Biodiversity*: 61% say there are fewer forests now than in their childhood; most blame Serbia's industries (73%) and the government (65%) for deforestation; and 34% say wildlife species have declined due to shrinking habitat.

- *Food:* 37% of respondents believe Serbian food producers show moderate concern for food safety; 40% say they would pay slightly more for a healthier and safer product; and 81% report that food producers in their village have installed greenhouses, but fewer have irrigation systems or anti-hail nets.

Overall, the poll results suggest that Serbian citizens are increasingly concerned about environmental issues, climate change, energy efficiency, and air pollution. However, many feel that government action is insufficient, and financial concerns remain a major barrier to adopting greener solutions.

3) Methods.

The remaining sections of this desk research focus on shadow reporting by civil society organisations, namely on the 'Joint NGO proposals on the GAWB Action Plan,' published by the environmental NGO Bankwatch, and on the latest shadow report by Serbia's Coalition 27 about progress on Chapter 27 of EU accession talks, both of which were published in October 2024. These perspectives articulate a more concrete set of criticisms and recommendations which address some of the potential biases in institutional narratives.

This desk research will attempt to distil key obstacles and recommendations to a variety of stakeholders in Serbia, such as policymakers, the general public, activists, politicians, and journalists.

4) Results and policy analysis.

The Joint NGO Proposals highlight significant governance weaknesses in the implementation of the a genda. The Action Plan's governance structure remains unclear, with overlapping responsibilities between national governments and regional bodies, which leads to monitoring difficulties and accountability gaps.

A recurring concern is the lack of meaningful stakeholder engagement, particularly with civil society organisations (CSOs), which were consulted too late in the process to influence policy direction.

The NGO proposals call for the implementation of two strategies: country-specific annexes to the Action Plan, which would ensure clear national commitments and publicly consulted national-level action plans within six months of the Action Plan update; and stronger monitoring mechanisms to track whether actions are genuinely driven by the Green Agenda or would have happened independently.

4.1. Environmental policy implementation.

With regards to environmental policy implementation, the Coalition 27 Shadow Report (2024) provides a critical assessment of Serbia's progress with regards to Chapter 27 (covering the e nvironment and c limate c hange) of the EU accession talks. The report underscores a decade of persistent delays in adopting key environmental policies, particularly in air pollution control, waste management, and water protection. Key findings include: a) limited financial investment – Serbia has allocated only 30% of planned environmental funds since 2014, far below the necessary levels for meaningful progress; b) absence of a Green Fund – the discontinuation of Serbia's Green Fund has reduced transparency in environmental financing, making it difficult to track how available funds are allocated; and c) weak enforcement mechanisms – despite legal frameworks, pollution control remains ineffective, with industries frequently exceeding emission limits without meaningful sanctions.

The Air Quality Protection Law exemplifies this stagnation. It was first enacted in 2009, yet the corresponding National Air Protection Program was adopted only in 2022, over a decade behind schedule. Delays in NERP enactment, its enforcement failures, and the absence of a functional Green Fund reflect similar structural obstacles, where policies exist on paper but fail to deliver tangible or timely progress. It is also worth remembering that Serbia joined the EnC treaty as far back as 2006. Yet, from NERP to INECP and carbon pricing, delays remain the one constant in Serbia's energy transition and decarbonisation, with coal phase-out expected as late as permissible (2050).

Consecutive governments and policy makers slowed down the process, claiming to protect Serbia's citizens from a wide array of threats, ranging from higher energy prices to energy security, from rising costs of living to job losses. Yet, all of these materialised not because of the just green transition, but because of the maintenance of the unjust and unsustainable *status-quo*. Impressive management failures and misinformed investments continue to be paid for with public money, health, and other public goods and resources. It is hardly surprising, then, that Serbia's environmentally engaged public opinion surveys show strong support for air quality improvements, renewable energy expansion, and climate action, suggesting that citizens already recognise the urgency of the transition.

So what is the persistent and invisible force able to hold back Serbia's green transition for so long, despite political declarations and public understanding? At the heart of this inertia lies corporate capture, a system in which key sectors, from fossil fuels and metals to waste management and renewable energy investment, exert disproportionate influence over environmental policymaking.

Corporate capture is the central cause of these delays and governance failures. A web of state-owned enterprises, foreign government-backed industries, and private corporate monopolies in coal, oil and gas, metals, lithium mining, waste management, and energy utilities shape policy decisions not to serve a green transition, but to preserve their control over Serbia's energy system, infrastructure and finances.

4.2. Carbon pricing as a financing mechanism for green transition.

A key emerging policy tool for financing Serbia's energy efficiency, renewables deployment, and just transition initiatives is the introduction of carbon pricing. The governing body of the EnC, its Ministerial Council, has been discussing different potential carbon pricing models: a) a regional emissions trading system (ETS) similar to the EU ETS; b) a fixed-price ETS, a predetermined carbon price rather than relying on market fluctuations; c) a carbon tax, by imposing a direct levy on carbon emissions; and d) integration into the EU ETS by gradually aligning with the EU's existing framework.

The decision on the preferred model is expected by the end of 2025. The introduction of carbon pricing could provide a new revenue stream to support energy efficiency programs and renewable energy deployment: funding building retrofits and household energy-saving measures as well as accelerating solar and wind investments, especially through energy cooperatives and energy communities. Just transition initiatives could also receive a funding boost to support economic diversification and workforce retraining in coal-dependent regions.

Despite concerns about potential impacts on industrial competitiveness and energy affordability, without the introduction of carbon pricing, Serbia continues to talk the Green Agenda talk, without truly walking the walk.

5. Recommendations.

Shielded from democratic scrutiny – and from carbon pricing or other meaningful applications of the *polluter pays* principle – the concentration of economic and policy power in key industries suppresses competition, stifles innovation, and drives up costs, leaving citizens excluded from economic benefits while absorbing the environmental fallout. Unless Serbia finds ways to empower its citizens to shape, benefit from, and co-own the transition,

the Green Agenda will likely remain more symbolic than transformative. Breaking this cycle requires a shift toward decentralised, democratic, citizen-driven governance. There is an urgent need for governance reforms, financial transparency, and stronger enforcement mechanisms.

Key recommendations include:

a) Institutional strengthening – Serbia must increase administrative capacity for its agencies to ensure effective policy enforcement. The Ministry of Mining and Energy, though often treated as Serbia's *de facto* policy leader in green transition matters, cannot and should not operate in isolation. Accordingly:

- One option would be to create an inter-ministerial Green Transition Coordination Body tasked with streamlining oversight across energy, environment, finance, and planning ministries. Serbia already does this in other politically prioritised areas, most notably in transport infrastructure development.

- The lack of this practice for the Green Agenda, therefore, can also be taken to reflect the low level of authentic policy ownership or political prioritisation.

- Education must be brought to the fore for youth to become part of the group of stakeholders to develop their own sense of Serbia's green future and their own place in it.

- Crowdsourced environmental monitoring could allow real-time tracking of air and water pollution, thereby holding industrial actors accountable for environmental violations.

b) Transparent financing – the re-establishment of a Green Fund would improve budget tracking and fund allocation for environmental projects. Accordingly:

- Reinstating and modernising Serbia's Green Fund could be a step in the right direction.

- This should be coupled with mandatory reporting and public dashboards of fund allocations and/or other *green transition* allocations.

- Green budgeting committees could allow citizens to vote on local investments, ensuring funding is directed toward projects that support air quality, citizen energy, alleviating energy poverty, or reforestation.

c) Stakeholder inclusion and decentralised implementation – civil society must be integrated earlier in policy discussions to ensure true accountability and public engagement. Public consultations should not be announced on New Year's E ve when nobody's watching. Policies should be shaped through democratic deliberation rather than closed-door negotiations. Accordingly:

- Frameworks and financial and advisory support to municipal energy communities and cooperatives should be developed to allow more people and local communities, cities, and villages to co-own solar and wind installations.

- Community-owned energy cooperatives would enable households, small businesses, and municipalities to invest in renewables, preventing the monopolisation of green infrastructure.

- Future carbon pricing revenues could be linked to citizen budget consultations and channelled directly to social protection and energy poverty alleviation programs, such as retrofitting low-income households, which remain largely excluded from public subsidy programmes to date.

d) Role of the stakeholders – where there is a will, there are ways. To further solidify this transition, stakeholders must take on targeted roles:

- Policymakers need to ensure that enforcement mechanisms are strengthened, that financial transparency improves, and that institutional capacity is expanded to manage environmental policy.

- Citizens should demand greater participation in shaping Serbia's sustainability agenda.

- Activists and civil society organisations must continue pushing for structural reforms that prevent environmental monopolisation and ensure accountability in green investments.

- Politicians should integrate environmental policies into broader governance strategies, prioritising public ownership over elite-driven decision-making.

- Journalists and media must investigate transparency gaps in financing, report on environmental delays, and amplify grassroots environmental initiatives.

6. Conclusions.

Serbia's environmental policy continues to follow a familiar cycle of delaying, obscuring, and manipulating reforms. Years of strategies, commitments, and frameworks have achieved limited progress in Serbia's transition to a sustainable, clean, and carbon-neutral economy. While regulations are passed, their adoption is often delayed, and enforcement remains inconsistent, leaving environmental protection largely at the mercy of political expedience and external pressures. The future of Serbia's environmental transition depends on whether it remains in the hands of corporate and political elites, or whether it is reclaimed by its citizens.

Environmental and energy transitions are not just policy challenges, they are economic opportunities. The current monopoly-driven model locks Serbia into high-cost, inefficient energy systems, while a lack of transparency in financing mechanisms discourages market competitiveness and innovation.

Serbia should break free from existing monopolies by embracing transparency, competition, and decentralised ownership, ensuring the Green Agenda supports inclusive wealth creation instead of extractive, elite-controlled investments.

The Green Agenda, if democratically reclaimed, also holds the potential to cross-fertilise Serbia's EU accession efforts and inject new momentum into the Energy Community process, helping to (re)assure Serbia's future in Europe.

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CHAPTER II

ACCELERATING NORTH MACEDONIA'S GREEN AGENDA IMPLEMENTATION THROUGH A JUST ENERGY TRANSITION

Davor Pehchevski

Abstract.

North Macedonia endorsed the Green Agenda for the Western Balkans (GAWB) to align with the EU's Green Deal and speed up the accession process. Despite the country's ambitious strategies, actual implementation has been slow, and critical environmental projects face delays and appear to contradict decarbonisation goals. This paper highlights the need for North Macedonia to accelerate its green policy implementation by leveraging the interconnectedness of the five GAWB pillars. A just and transparent phase-out of coal use for energy production can kickstart positive changes across all these areas, and by synchronising efforts in sectors such as circular economy, sustainable agriculture, and eco-tourism, the country can create new green jobs, significantly improve environmental quality, and ensure a just transition for communities currently dependent on coal. This paper recommends a bottom-up, inclusive regional implementation plan translating national commitments into tangible local actions and accelerating North Macedonia's journey toward a climate-neutral and resource-efficient economy.

1. Introduction.

The endorsement of the Sofia Declaration on the Green Agenda for the Western Balkans (GAWB)[2] by the government of the Republic of North Macedonia was widely covered by national media and civil society organisations as a signal of the beginning of a new era when climate and environmental policies are becoming a driver, instead of an inhibitor, of the country's development.

The five pillars of the GAWB (namely: 1) decarbonisation (climate, energy, mobility); 2) circular economy; 3) depollution; 4) sustainable agriculture and food production; and 5) biodiversity) include actions that were direly needed by the country. This was clear from the EU's North Macedonia 2020 Report[3] published several days before the Sofia Declaration. In most of the relevant chapters, the country was assessed as low to moderately prepared to implement the EU acquis. The country was particularly lagging in the implementation of 'Chapter 27: Environment and climate change', but a lack of progress in key reforms in the transport and agriculture sectors were also reported.

Despite North Macedonia's role as a regional frontrunner in energy policies (as analysed in the following section)[4] their actual implementation has been delayed and, since the endorsement of the GAWB, there has been limited progress. In addition, none of the strategic documents arising from the air quality legislation have been renewed,[5] and legal vacuums pertain to the area

of waste management.[6] However, the plans for phasing out coal for energy production triggered the preparation of a Just Transition Roadmap (JTR),[7] which offers some actions that can drive the just energy transition forward, and the Climate Investment Fund included the country in its Accelerate Coal Transition programme, through which an Investment Plan[8] speeding up the coal phase-out was prepared.

Throughout this preparatory work, the need to diversify the overall economy, not just the energy sector, was only partially recognised. These processes require a deep societal change driven by a strong multi-stakeholder cooperation, and they need to be transparent and inclusive. If all stakeholders are not onboard, progress will remain slow and limited. Furthermore, only by acknowledging that the five pillars of the GAWB are interconnected, and acting accordingly, can the country get back on track and make swift progress. Moving the country sustainably towards the phase-out of coal use for energy production through a process that is just and inclusive can have a huge impact on the overall implementation of the GAWB. Investments in circular economy and rural development can produce a multitude of new jobs that are key for the just transition. The same is the case for eco-tourism, which can also lead to sustainable financing for biodiversity conservation. All this can then significantly reduce the pollution of the environment.

In light of the above, this paper will endeavour to prove that identifying synchronicities between the GAWB pillars and putting them *in service* of a controlled and just energy transition can lead to progress in the adoption and implementation of North Macedonia's green policies.

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2 Regional Cooperation Council (2020), *Sofia Declaration on the Green Agenda for the Western Balkans*, 10 November, https://www.rcc.int/files/user/docs/196c92cf0534f629d43c460079809b20.pdf.

3 European Commission (2020), 'North Macedonia 2020 report', 6 November, https://enlargement.ec.europa.eu/system/files/2020-10/north_macedonia_report_2020.pdf.

4 E.g., the Strategy for Energy Development of the Republic of North Macedonia, 2019 Government of the Republic of North Macedonia (2019), 'Strategy for Energy Development of the Republic of North Macedonia until 2040', 28 December, https://economy.gov.mk/Upload/Documents/Adopted%20Energy%20Development%20Strategy_EN.pdf); but also the National Energy and Climate Plan (NECP) (2020) (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (2020), *National energy and climate plan of the Republic of North Macedonia*, Ministry of Economy of the Republic of North Macedonia, https://www.economy.gov.mk).

5 The National Ambient Air Protection Plan and National Emissions Reduction Plan (as further analysed below in the literature review).

6 As the measure included in the 2008 Waste Management Strategy (Government of the Republic of North Macedonia (2008), ''Стратегија за управување со отпад на Република Македонија 2008 – 2020 година, , March, https://www.moepp.gov.mk/wp-content/uploads/2014/12/Final-Strategija-za-otpad-mak.pdf) have not been implemented before its expiry.

7 Ministry of Economy of the Republic of North Macedonia (2023), 'Just Transition Roadmap', May, https://economy.gov.mk/content/documents/Web%20strana%20zabeleshki%20od%20Agencija%20za%20prim ena%20na%20jazikot%20na%20RSM%2007.07.2021.pdf.

8 Government of the Republic of North Macedonia (2024), 'Accelerating Coal Transition Investment Plan for the Republic of North Macedonia', Climate Investment Fund, March, https://cif.org/sites/cif_enc/files/2024- 05/act_ip_north_macedonia_03202024.pdf.

2. Literature review.

As mentioned, North Macedonia was a regional frontrunner in energy policies. The recently adopted Strategy for Energy Development of the Republic of North Macedonia until 2040[9] signalled, for the first time in the region, the closure of coal-fired power plants in all scenarios. In the least ambitious (reference) scenario, only one of the two plants would close during the Strategy's implementation period, but in the other two (moderate and green), a complete coal phase-out was foreseen before 2025. This plan was somewhat delayed with the National Energy and Climate Plan (NECP),[10] which moved the coal phase-out to 2027, with a note that it must not be prolonged beyond 2029 in order not to jeopardise the achievement of the greenhouse gas emissions (GHG) reduction targets for 2030 (adopted by the government with the National Contributions to Climate Change from April 2021).[11] If implemented, it would have brought wide positive impacts on both the environment and the economy, eliminating two of the biggest environmental polluters, reducing GHG by the energy sector by more than 60%, triggering significant increase in investments in energy efficiency and renewable energy projects, and requiring economic diversification towards sustainable businesses and rural development in the regions hosting the plants. This would especially benefit the ambient air quality: the coal-fired power plants are the biggest contributor to overall emissions of sulphur dioxide, and second biggest of suspended particles and nitrogen oxides in the country.[12]

However, since the endorsement of the GAWB, there has been limited progress. The last National Ambient Air Protection Plan (covering 2013 to 2018)[13] appears as of today significantly outdated, and the implementation of the National Emission Reduction Plan (NERP)[14] is not going forward. According to reports to the European Environmental Agency, the country is emitting more than six times the legally established ceiling of sulphur dioxide and twice the limit for suspended particles.[15]

9 Government of the Republic of North Macedonia (2019), 'Strategy for Energy Development of the Republic of North Macedonia until 2040', *ibid*.

10 Government of the Republic of North Macedonia (2019), 'Strategy for Energy Development of the Republic of North Macedonia until 2040', *ibid*.

11 Government of the Republic of North Macedonia (2021), 'Enhanced Nationally Determined Contribution to the UNFCCC', April, https://api.klimatskipromeni.mk/data/rest/file/download/060cb9db7eeedc24bae3c127f2afb7139283bec07324b04956c364a7e9868f2b.pdf.

In the area of waste management, the need for a complete revamp of the infrastructure and the introduction of regional waste treatment centres was recognised in the Waste Management Strategy from 2008.[16] This was a priority intervention that would establish the foundation for circular economy measures in waste management, but it is not yet implemented in 2025. The strategy's validity ended in 2020 and the new strategy for the period 2024 to 2036 has not yet been officially adopted. At the same time, it has been announced that all legislation related to the management of different waste streams will be changed.

In addition, the lack of transparent and inclusive multi-stakeholder cooperation in diversifying the overall economy, not just the energy sector, is a barrier to progress. Consider, as an example, the recent actions by the state-owned electricity company Elektrani na Severna Makedonija toward the opening of a new open-cast coal mine,[17] or the governments' plans to build gas-fired power plants.[18]

Instead of investing in the other GAWB pillars that can lead to a sustainable and diversified economy, finances are still largely supporting the expansion of fossil fuel use. This is partially enabled by the lack of progress in adopting the Climate Law and its accompanying strategies and plans, as a law would introduce carbon taxes which might make investments in fossil fuel facilities economically infeasible. However, with the EU's Carbon Border Adjustment Mechanism (starting in January 2026),[19] electricity exports will be subject to charges based on the carbon intensity of the overall electricity mix, so the addition of any new fossil fuel plants will only increase these charges.

12 Ministry of Environment and Physical Planning of the Republic of North Macedonia (2024), 'Quality of the environment in the Republic of North Macedonia—Annual report for 2023, https://www.moepp.gov.mk/sites/default/files/alfa/reports/2023_vkupengodisen_final.pdf.

13 Ministry of Environment and Physical Planning of the Republic of North Macedonia (2012), **Национален план за заштита на амбиентниот воздух за Република Македонија**, https://www.moepp.gov.mk/wp- content/uploads/2014/12/Nacionalen-plan-za-zastita-na-vozduh.pdf.

14 Government of the Republic of North Macedonia, (2017), National Emission Reduction Plan, ibid.

15 I. Ciuta, P. Gallop, and D. Pehchevski (2024), 'Comply or Close 2024 update—Six years of deadly legal breaches by Western Balkan coal plants', CEE Bankwatch Network, September, https://www.complyorclose.org/wp-content/uploads/2024/09/2024_09_17_Comply-or-Close.pdf.

16 Government of the Republic of North Macedonia (2008), ibid.

1) National Energy and Climate Plan.

The National Energy and Climate Plan is the main planning document that offers the widest integration of different sectors towards the goal of reaching the EU and national climate targets. It addresses five dimensions: decarbonisation, energy efficiency, energy security, internal energy market and research, and innovation and competitiveness. In addition, it offers two scenarios – with existing measures (WEM) and with additional measures (WAM), the main difference relating to the energy sector, where WEM is based on the reference scenario from the Energy Strategy and WAM is based on the green scenario. The decarbonisation dimension is the only one that includes measures from other sectors, such as agriculture (livestock), forestry, land use, and waste management (common to both scenarios).

The main measure upon which reaching the 2030 climate targets depends is the closure of the coal-fired power plants. The WEM scenario offers the revitalisation of one of the power plants, thus falling short of the climate target. The WAM scenario foresees significant investments in new gas infrastructure, which can also prove problematic since it diverts essential investments from energy efficiency and citizen-owned energy.[20]

The non-energy measures, such as waste management, can be key to a just transition away from coal, since they have a high potential in creating new *green* jobs in the public sector and in small and medium enterprises. The International Labour Organisation estimates that recycling and repairing, which are only one segment of waste management and circular economy, can potentially create six million new jobs worldwide.[21] However, the measures in the NECP are limited to closing old substandard landfills and building new regional landfills for communal waste, and only primary selection of paper waste is mentioned in terms of recycling. This is a missed opportunity that must be resolved in the update of the NECP that is coming up in mid-2025.

17 **Живојно – клуч за стабилно домашно производство на струја** (2025), TV Telma, 12 May, https://telma.com.mk/2025/05/12/zhivojno-kluch-za-stabilno-domashno-proizvodstvo-na-struja/.

18 **Мицкоски најави изградба на когенеративни централи за затоплување на домовите како решение за загадувањето на воздухот** (2024), 360 Stepeni, 12 November, https://360stepeni.mk/mitskoski-najavi- izgradba-na-kogenerativni-tsentrali-za-zatopluvane-na-domovite-kako-reshenie-za-zagaduvaneto-na-vozduhot/.

19 European Commission (2023), Regulation (Eu) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, 10 May, https://eur-lex.europa.eu/legal- content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.130.01.0052.01.ENG&toc=OJ%3AL%3A2023%3A130%3ATOC.

20 P. Kotek (2023), 'Gasification plans and building heating options in North Macedonia', Center for Environmental Research and Information - Eko-svest Skopje, November, https://ekosvest.com.mk/wp- content/uploads/2024/01/EKOSVEST-Gasification-plans-and-building-heating-ANG-za-WEB.pdf.

21 UN Partnership for Action on Green Economy, International Labour Organization (2024), 'Publication launch: Measuring and Modelling Circular Jobs—Facilitating a just transition through circular economy strategies', 29 October, https://www.un-page.org/news/report-launch-a-just-transition-through-circular- economy-strategies/.

2) Just Transition Roadmap.

The second relevant framework is the Just Transition Roadmap (JTR),[22] which recognises the potential for intersectoral development of coal-dependent regions. The document suggests that the Regional Waste Management Plans in coal-dependent regions should be more ambitious than the national strategies. However, it is limited to primary selection and separation of communal waste and it does not recognise the potential for regional development through full transition to a circular economy. The JTR, in its Green and Smart Infrastructure chapter, also recognises a potential for sustainable development in smart transport infrastructure and waste- water management.

The document also includes chapters on Private Investments and Startup Economy, Clean Energy, and Skills Development, which are closely interconnected despite being developed as separate actions. The climate-neutral economic development of the coal-dependent regions can be significantly sped up if investments and startups are creating green jobs for the other chapters which can then be filled through targeted skills development. These can relate to the circular economy, construction sector (for energy efficiency retrofits), agriculture and rural development, pollution reduction infrastructure, and other fields. The IT sector can also play an important role through inclusion in digitalisation and smart infrastructure development. A newly established startup that uses drones for crop monitoring is a good example of how these sectors can work together.[23]

3) National Ambient Air Protection Plan 2013-2018.

Although significantly outdated (it uses baseline data from 2010), the National Ambient Air Protection Plan 2013-2018 offers important insights into the main contributors to ambient air pollution. The plan identifies coal-fired power plants as the main emitters of sulphur dioxide in the air with 88% of the emissions. This remains relevant for 2025 considering that both plants do not have desulphurisation equipment yet. Nitrous oxides emissions are also mainly coming from the energy sector, but they have gone down since 2010. Transportation is also a significant contributor to nitrous oxide pollution. Suspended particles are mixed and come from energy production and industry, but in recent years it has been identified that household heating is also a big contributor. Ammonia pollution was and still is mostly related to activities from

22 Ministry of Economy of the Republic of North Macedonia (2023), 'Just Transition Roadmap'.

23 Avifly—Прецизно земјоделство со дрон, (n.d.), 'Avifly - Прецизно Земјоделство Со Дрон'; avifly.mk, https://avifly.mk/.

the livestock sector. Although not among the top air polluters at the time, waste is highlighted as an important source of GHG emissions. Further indicators stem from the annual report for 2023 on the quality of the environment in the Republic of North Macedonia, which offers more updated information; points out the residential sector as a separate category; indicates limited progress in the reduction of pollution from energy production, transportation, agriculture, and waste management; and highlights a slight improvement in terms of industry's contribution to air pollution (this can be attributed to improved pollution controls and/or to the closure of some industrial facilities).

It can be concluded that significant improvements in ambient air quality can be achieved through actions that are already identified in the NECP, such as the coal phase-out, changes in heating practices in the residential sector, improved manure management in agriculture, and improved waste management. These same activities are also contributing to reduction of GHG emissions and are in some form part of the JTR.

4) National Emissions Reduction Plan 2018-2027.

One of the key policies for reductions of emissions of pollutants was the National Emissions Reduction Plan, which was submitted to the Energy Community Secretariat with the purpose of enabling a gradual alignment of North Macedonia's energy capacities with the emission limit values of the EU's Large Combustion Plants Directive (LCPD).[24] The LCPD regulates emission limit values for sulphur dioxide, nitrogen oxides, and suspended dust particles. Subject to the NERP are two coal-fired power plants, one heavy oil plant, two gas-fired heating plants, and two boilers in the oil refinery.

During the six years of implementation that have passed, the country has made no progress in reducing overall emissions from these plants. The coal-fired plants are the main contributors to this situation since there have been no investments in pollution control equipment. The Integrated Pollution Prevention and Control permit for the Bitola power plant[25] was issued in December 2022 and contains deadlines to implement these investments by 2027. However, considering the impending closure of the plant in 2030 at the latest, these investments that are estimated at more than €160 million make little sense now. A new way forward is needed that will redirect any funding for coal facilities into other sectors of the GAWB in a way that it will support the regions in closing the power plants.

24 European Commission (2001), Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the Limitation of Emissions of Certain Pollutants into the Air from Large Combustion Plants, Official Journal L 309, 27/11/2001 P. 0001-0021, https://eur-lex.europa.eu/eli/dir/2001/80/oj/eng.

3. Methodology.

The main methodology of this desk research was to cross-check multiple national policies for similarities and how they fit into the GAWB pillars and priorities. The established synchronicities are then analysed against their potential contribution to the main thesis of the research, namely, of how they can be put into service of a controlled and just energy transition, eventually leading to swift progress in the adoption and implementation of North Macedonia's green policies.

4. Results and policy analysis.

As shown, many national policies call for overlapping actions in multiple sectors. The expected benefits differ from document to document, and include pollution reduction, climate change mitigation, increased employment opportunities, and overall sustainable development of the country. All these actions can also be easily linked to the GAWB goals and pillars.

4.1. General overview.

Policy analysis follows each pillar of the GAWB.

1) Decarbonisation.

Concerning decarbonisation, prioritising energy efficiency, supporting building renovations schemes, and increasing the share of renewable energy sources, are recognised as essential measures in the NECP to reduce energy use and the use of unsustainable fuels in buildings. They are also recognised as part of the just transition, in light of the big potential for new employment in the construction sector, but also as energy auditors and engineers.

[25] Ministry of Environment and Physical Planning of the Republic of North Macedonia (2022), 'А - Дозвола за усогласување со оперативен план', December, https://www.moepp.gov.mk/wp- content/uploads/2022/03/Final_TPP_REK_A_IPPC_BT..pdf.

2) Circular economy.

Construction and maintenance of waste management infrastructure is identified as a key step in achieving the second pillar, circular economy, identified in all analysed documents as one of the priorities. Current landfills are substandard, a prime example of linear economy, and they contribute to the pollution of the environment. Even the most basic standardised infrastructure can lead to reduced pollution and to new employment. Expanding this to modern waste management and recycling facilities can lead to further improvements.

3) Depollution.

The construction of wastewater treatment facilities is one of the key points of the depollution pillar. Only a few are operational now in North Macedonia and there is a lot of room for improvement. They can contribute significantly to reaching a good status for all water bodies, but they also open new opportunities for energy diversification through biogas power plants and for additional economic development as identified in the JTR.

4) Sustainable agriculture.

Reduced pollution of soil and water can create space for environmentally friendly and organic farming, which is key to achieving the goals of the fourth pillar, sustainable agriculture and food production. Innovative and sustainable farming, potentially even linked to rural tourism, is essential for overall development and economic diversification of rural areas. Good waste management practices and the introduction of renewable energy technologies in agriculture is only adding to the cross-cutting benefits.

5) Biodiversity.

Finally, sustainable heating in rural areas that does not use primary biomass, reduced pollution of rivers, and rural- and eco-tourism practices lead to huge benefits for better forest management and overall biodiversity conservation – the fifth pillar. At the same time, labelling and promoting products from protected areas can bring multiple benefits to rural development.

There are more examples that could be extracted as synchronicities between the policies and the GAWB, but also between the GAWB pillars themselves. This can help us look at the process from a broader perspective, rather than at individual measures in different strategies and action plans. However, all these processes can have limited impact unless they are linked to the phasing out of fossil fuels for energy production. Their impact on the climate and the environment cannot be mitigated through other sectors, but those other

sectors can certainly help with the socio-economic fallout from the phase out. These two processes go hand-in-hand, and they complement each other.

4.2. Discussion.

The Sofia Declaration on the GAWB, as an extension of the European Green Deal,[26] is first and foremost a political statement from the regions' governments that they will work towards modern, climate neutral, resource-efficient, and competitive economies in the region. However, while it includes a list of common priority interventions, it is lacking the details needed to translate this into action at a national level.

The GAWB Action Plan 2021-2030 is an extension of what is already stated in the Sofia Declaration, however, it mostly covers processes with a regional dimension. It provides some indication of what can be considered priorities on a national level, but because of the different national contexts, it does not dive deep into details on how those priorities can be addressed. There is also room for improvement in the Action Plan even with this limitation, as many CSOs in the region have highlighted in previous years.[27]

This situation allows the countries flexibility, but also creativity, in how to proceed with the implementation of the GAWB. However, it is certain that to make progress, it must become part of every policy, strategy, and action plan that touches upon its pillars. It also must be recognised that many aspects of society that are not directly mentioned must become part of this process, e.g., adjusting the educational system to include skills development towards implementation of green policies. This requires a strong political commitment towards the goals of the GAWB that will be translated into extensive intersectoral cooperation that includes national authorities, local self-governance, academia, businesses, trade unions, and civil society. Only in this manner the big political statement that is the Sofia Declaration be brought down to a local level where most of the actions need to take place.

26 European Commission (2019), 'The European Green Deal', https://eur-lex.europa.eu/legal- content/EN/TXT/?uri=CELEX%3A52019DC0640.

27 P. Gallop (2024), 'Joint NGO proposals on the GAWB Action Plan', CEE Bankwatch Network, 1 October, https://bankwatch.org/wp-content/uploads/2024/09/2024_10_Joint-NGO-proposals-on-the-GAWB-Action- Plan_Parts-1-and-2.pdf.

These principles can be a lot easier to apply in one region of the country in a somewhat controlled environment where the priorities and the stakeholders are mostly already identified. It must be considered that there needs to be a clear vision for the region that is developed from the bottom-up so that everyone's needs are considered and everyone's concerns are addressed early in the process.

The JTR and the situation in the Pelagonia region where the Bitola power plant is located offers such an opportunity. It is a fairly developed region with a skilled workforce and diverse economic opportunities. At the same time, it is a region that will feel the strongest consequences from the decarbonisation of the energy sector, especially in terms of socio- economic wellbeing. The JTR properly identifies multiple sectors that can be significantly developed to mitigate these consequences, and these sectors are all closely interconnected with the GAWB and its pillars.

The JTR offers several options and pathways to achieve this goal. This process now needs to be brought down to a local level where specific actions that are synchronised with the GAWB can be planned for the next several years. The region can become a kind of a pilot project of GAWB implementation, a case study that can be used across the region.

The list of opportunities is quite long. The conversion of the existing coal facilities into renewable energy projects can be one of the priorities, but the region is also home to the biggest agricultural surfaces in the country. It has two big towns with a developed economy, it has a fast-growing IT sector and several industrial zones, a national park and other protected areas, significant cultural heritage going back more than 10,000 years, as well as other features.

What is missing is a coordinated simultaneous action by national and local authorities, and local companies and communities, to take advantage of these opportunities for sustainable development. Swift decisive action towards energy efficiency, renewables projects, circular economy, depollution and transport infrastructure, sustainable farming, eco-tourism, and digitalisation can eliminate the need for continued operation of the coal-fired power plant, at least in terms of its socio-economic importance for the region. The controlled energy transition done in parallel with development of new green activities and jobs can become a pathway towards implementing the vision of the GAWB.

This must start with a strong political dedication to the process on a national and local level, and a non-retractable decision to phase out the use of fossil fuels for energy production in order to make room for a climate neutral and resource-efficient economy.

5. Recommendations.

Based on the analysis of challenges and opportunities related to GAWB implementation, several key recommendations that ensure a coordinated and bottom-up transition process can be identified:

a) Regional implementation plan – It is recommended that the authorities prepare a regional implementation plan for at least one of the coal-dependent regions that will closely be aligned with the GAWB pillars. The plan should:

- be done following a bottom-up approach, in a transparent and inclusive manner;
- include all the stakeholders: national authorities, local self-governance, academia, media, businesses, trade unions, and civil society.

b) National strategies –Namely:

- future national strategies and plans need to identify cross-cutting issues and measures that contribute to the overall greening of the economy;
- the upcoming revision of the NECP should further introduce clear and measurable actions from multiple sectors that contribute to the just energy transition.

c) Implementation of the GAWB –To support the implementation of the GAWB:

- new green skills development will need to be identified and incorporated in the educational system;
- priority should be given to skills related to energy efficiency, sustainable use of materials, circular economy, sustainable farming, and digitalisation of non-technology sectors.

d) Decarbonisation – Initiatives should include:

- cancelling all plans for new coal infrastructure;
- rethinking the plans for gas-fired power plants in order to simplify these processes and prevent longer fossil fuel lock-ins and stranded assets.

6. Conclusions

North Macedonia significantly progressed in the preparation of policies relevant for the GAWB, but their implementation has been limited. High priority environmental projects, such as waste management and wastewater treatment, are indefinitely delayed. The planned phase- out of coal for energy production was already postponed for four years, and with the opening of a new coal mine there is a chance that it will be further delayed. Reforms in other sectors, such as agriculture and nature protection, are moving at a snail's pace.

The GAWB is yet to be translated into action on a local level, where it is most needed. One option to move forward with this is to work with one region at a time, prioritising the regions with coal-fired power plants. There are obvious opportunities and synchronicities stemming from national plans, and the GAWB that can be used for accelerated implementation of green policies. Their interconnectedness can bring benefits in all pillars of the GAWB simultaneously, but this requires strong cross-sectoral and cross-stakeholder cooperation, especially with non-decision makers.

In North Macedonia, the biggest step that can be done to reach the 2030 climate goals and to achieve massive depollution of the environment is to proceed swiftly with a controlled coal phase-out. In parallel, other sectors can be developed that contribute to the greening of the economy, such as circular economy and sustainable farming. This way, progress towards a climate neutral economy can be accelerated while the socioeconomic situation in the coal-dependent regions is maintained or improved. Finally, upcoming national plans and strategies need to take this into account (especially the revision of the NECP that is happening in 2025) and the inclusion of the green economy transition in other non-energy and non-environment sectors, such as education, is also crucial for the process.

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%20primena%20na%20jazikot%20na%20RSM%2007.07.2021.pdf.

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CHAPTER III

CLEAR SKIES AHEAD:

DECARBONISATION CHALLENGES AND OPPORTUNITIES IN BOSNIA AND HERZEGOVINA

Vedad Suljić

Abstract.

This paper critically examines Bosnia and Herzegovina's (BiH) trajectory in embracing the European Green Deal's (EGD) objectives, with a focus on decarbonisation and air quality as part of its EU accession pathway. The paper reveals a profound implementation gap between extensive policy commitments and environmental improvements, indicative of a strategy trap where planning often undermines concrete action. The analysis shows how decarbonisation efforts are severely deficient, and air quality in urban centres constitutes a persistent public health emergency, implying significant economic costs. These failings stem from interconnected structural issues, including fragmented governance and the unresolved socio- economic dilemma of coal dependency, making a just transition a central, unaddressed challenge. BiH is at a critical juncture where inaction extends severe environmental hazards, impedes socio-economic progress, and threatens its European integration. The paper concludes that systemic reforms, backed by sustained political will and a commitment to a just transition, are essential to bridge the EGD implementation deficit and secure a sustainable future.

1. Introduction.

The European Green Deal (EGD) sets the EU's strategy for climate neutrality by 2050, and as a candidate country, Bosnia and Herzegovina (BiH) is expected to align with this agenda. Through the Green Agenda for the Western Balkans (GAWB), BiH has committed to EGD- inspired actions, with regional progress now under annual monitoring.[28] However, BiH's starting point is challenging, marked by legacy industries and a disproportionate environmental burden. The European Commission's 2024 report assesses BiH as being at an early stage

[28] Regional Cooperation Council (RCC) (2025), 'Report on the Implementation of the Green Agenda for the Western Balkans Action Plan (GARI)', Sarajevo.

[29] World Bank (2024), 'Bosnia and Herzegovina—Country Climate and Development Report'.

[30] *Id.*

[31] UNEP (2018), 'Coming up for clean air in Bosnia and Herzegovina', 2 January, https://www.unep.org/news- and-stories/story/coming-clean-air-bosnia-and-herzegovina.

[32] The Human Rights Watch (2022), 'Bosnia and Herzegovina: Deadly Air Pollution Killing Thousands', 29 August, https://www.hrw.org/news/2022/08/29/bosnia-and-herzegovina-deadly-air-pollution-killing-thousands.

[33] Climate Analytics (2024), 'Pathway summary report: Bosnia and Herzegovina', https://ca1- clm.edcdn.com/publications/BiH_Pathway_Workshop_report_042024.pdf?v=1727355551.

[34] UNEP – Climate and Clean Air Coalition (n.d.), 'Bosnia and Herzegovina', https://www.ccacoalition.org/partners/bosnia-and-herzegovina.

of preparation, still lacking a state-level climate law or a 2050 carbon-neutral target.[29] This inertia creates significant economic risks; the World Bank warns that climate-related damages could shrink BiH's economy by 14% by 2050 without action.[30]

The country's high intensity of greenhouse gas (GHG) emissions fuels a public health crisis. Severe air pollution in major cities contributes to an estimated 44,000 years of life lost annually, with economic costs from health impacts and lost productivity exceeding 21.5% of GDP.[31] In BiH, climate change and air pollution are tightly interlinked, as burning fossil fuels is a principal source of both GHG and harmful local air pollutants.[32] As a contracting party to the Energy Community Treaty (EnC), BiH is bound to adopt EU directives.[33] In response, authorities have developed policy documents like an updated Nationally Determined Contribution (NDC) and a draft National Energy and Climate Plan (NECP) 2021–2030, and joined global initiatives such as the Global Methane Pledge.[34] The country has also adopted a Climate Change Adaptation and Low-Emission Development Strategy 2020–2030, a National Adaptation Plan (NAP), and entity-level environmental protection plans (ESAP). This research paper examines BiH's progress on two core pillars of the GAWB: decarbonisation and air quality.

2. Literature review.

BiH's climate and energy policies have advanced in recent years, with strategies aligned to the Paris Agreement and EGD goals. The 2020 NDC sets unconditional GHG reduction targets by 2030 of 12.8% vs. 2014 levels and 33.2% vs. 1990 levels conditional targets of 17.5% and 36.8%, respectively.[35] For 2050, targets rise to 50.0% (unconditional) and 55.0% (conditional) vs. 2014, and 61.7% and 65.6% vs. 1990. These are modest compared to the EU's 2050 climate neutrality goal. The NDC spans sectors including energy, transport, industry, buildings, agriculture, waste, and forestry, and – for the first time – it includes short-lived climate pollutants (methane, N_2O, HFCs) alongside CO_2,[36] aligning with the EGD's focus on swift air quality and climate gains.
To meet its international climate commitments, BiH has drafted a National Energy and Climate Plan (NECP) for 2021–2030. The plan outlines measures

35 UNFCCC (2022), 'Bosnia and Herzegovina First NDC (Updated submission)', 2 June, https://unfccc.int/documents/497155.

36 UNEP (n.d.), ibid.

37 MoFTER BiH (2024), 'National Energy and Climate Plan (NECP) for BiH – draft', Sarajevo.
38 European Commission (2024), Bosnia and Herzegovina 2024 Report.

for decarbonisation, setting an ambitious target to raise the share of renewable energy (RE) in gross final consumption to 43.6% by 2030, supported by goals for energy efficiency (EE) and emissions reduction.[37] Although the draft NECP aligns BiH with EnC and EU requirements, it is still awaiting official adoption as of May 2025. This delay is a concern for the European Commission, as the NECP is the primary vehicle for implementing and financing the country's 2030 climate and energy targets.[38]

Another significant strategic document is the Climate Change Adaptation and Low-Emission Development Strategy 2020–2030, adopted in December 2020. This strategy provides a vision of transitioning BiH to a sustainable and advanced green economy by 2030 while significantly reducing emissions. It outlines cross-sectoral adaptation measures alongside mitigation actions.[39] The strategy and the NDC are complemented by BiH's National Adaptation Plan (NAP), which offers a detailed assessment of climate vulnerabilities in BiH and proposes medium-term adaptation measures across agriculture, water, forestry, biodiversity, and health sectors.[40]

Adopted in 2018, BiH's Framework Energy Strategy until 2035 sets long-term directions for energy transition. The strategy prioritises integrating RE sources with an average share in installed capacity from 46% in the indicative plan scenario to 59% in the entity scenario, with and without export limitations.[41] Additionally, BiH drafted a National Renewable Energy Action Plan (NREAP) in 2016, which guided BiH to reach a 40% RE share by 2020.[42]

BiH lacks a state-level climate law or unified 2050 decarbonisation target. These are gaps that have been repeatedly flagged by the European Commission and EnC Secretariat.[43] Such a law would formalise carbon targets and enable tools like carbon pricing, which the EU strongly supports. The EU's 2023 Growth Plan for the Western Balkans calls for carbon pricing by 2025 as a step toward joining the EU ETS.[44] BiH is now exploring emission trading or carbon fee options. Without action, it risks facing tariffs through the Carbon Border Adjustment Mechanism (CBAM). Although BiH has coal phase-out goals, they lack legal force. The new €6 billion Reform and Growth Facility (2024–2027) offers incentives for reforms, including decarbonisation.[45]

39 UNFCCC (2020), 'The Climate Change Adaptation and Low-Emission Development Strategy 2020–2030'.

40 UNDP (2022), 'UNDP BiH', December, https://www.undp.org/bosnia-herzegovina/publications/national- adaptation-plan-nap-bosnia-and-herzegovina.

41 MoFTER BiH (2018), 'Framework Energy Strategy to 2035', Sarajevo.

42 Climate Analytics (2024), *ibid*.

43 European Commission (2024), *ibid*.

In the specific domain of air quality, BiH's efforts to combat pollution are intertwined with its climate policies, and air quality management is further complicated by the country's governance structure. The Federation of BiH (FBiH), Republika Srpska (RS), and Brčko District have separate Laws on Air Protection, setting ambient pollutant concentration thresholds and emission limit values, and imposing obligations on authorities and polluters to monitor air quality and report emissions. The FBiH's law mandates technical measures to prevent or reduce emissions and requires that polluting facilities operate within prescribed limits, with public participation in air-quality planning ensured. Similarly, the RS and Brčko laws prescribe measures for controlling air pollution and improving air quality, including organisational rules and information transparency.[46] Despite the legal frameworks, implementation at the local level often falls short and BiH frequently exceeds EU ambient air quality limits for various pollutants during winter.[47]

Recognising the need for a coordinated approach, BiH has been developing a country-wide Environmental Strategy and Action Plan (ESAP 2030+). The BiH ESAP 2030+ defines long-term strategic goals for seven themes, including air quality, and concrete targets and measures beyond 2030. It provides a framework for actions on environmental protection nationwide, something that has been missing.[48] However, the ESAP 2030+ has not yet been adopted at the BiH level, despite being adopted at the entity level. The ESAP includes targets to meet EU Air Quality Directive standards and calls for upgrading monitoring networks, reducing emissions from major sources, and promoting cleaner household heating.[49] The Decarbonisation Roadmap (as part of GWAB) also stipulates stricter pollution standards for large combustion plants.[50]

BiH had a National Emissions Reduction Plan (NERP) to retrofit or retire old coal plant units by 2023, but progress has been slow. In 2022, environmental observers reported that instead of closing non-compliant units, authorities were considering extending the life of two ageing coal power blocks (Tuzla 4 and Kakanj 5), despite regulatory requirements in the Energy Community Treaty that these plants close by the end of 2023. Human Rights Watch criticised this decision, urging that BiH should be phasing out coal, not prolonging it, to protect public health and meet climate obligations.[51]

44 DENA (2024), 'Challenges and Opportunities of the EU Carbon Border Adjustment Mechanism (CBAM) for the Western Balkan Countries', https://www.berlinprocess.de/uploads/documents/factsheet-challenges-and- opportunities-of-the-eu-carbon-border-adjustment-mechanism-cbam_1729075153.pdf.

45 European Commission (2024), 'Enlargement and Eastern Neighbourhood', https://enlargement.ec.europa.eu/funding-technical-assistance/reform-and-growth-facility-western-balkans_en.

46 Government of FBiH, Law on air protection in FBiH, Sarajevo: Official Gazette of FBiH, 2024; Government of RS, Law on Amendments and Supplements to the Law on Air Protection, Banja Luka: Official Gazette of RS,
2017; Brcko District Assembly, LAw on air protection in Brčko District, Brcko District : Official Gazette of Brcko District , 2022.

47 European Environmental Agency (2023), 'Waste prevention country profile: Bosnia and Herzegovina'.

A World Bank study on Western Balkan air quality found that BiH has one of the highest per- capita mortality rates from ambient air pollution in the world.[52] The health burden is accompanied by staggering economic losses, over 21% of GDP by UNEP's estimates.[53] A 2019 HEAL report 'The Unpaid Health Bill' similarly highlighted that BiH's air pollution related health costs, expressed as a percent of GDP, are among the highest globally.

Key contributors are emissions from coal power plants, heavy industries, outdated vehicles, and households burning coal/wood in urban areas.[54]

Efforts to address these sources have begun. For example, CETEOR developed the 'Strategy for restricting the use of coal and other solid fuels in Sarajevo Canton for the period 2023 – 2033,' which was adopted in 2022.[55] The World Bank in 2023 approved a loan for the Air Quality Improvement project worth $50 million, focused on reducing pollution from heating and transport and strengthening air monitoring. This investment is expected to cut particulate and NOx emissions and yield climate co-benefits by promoting EE and cleaner energy in buildings.[56] BiH has also been party to the UNECE Convention on Long-Range Transboundary Air Pollution since 1993, committing it to gradually reduce emissions of sulphur, nitrogen oxides, VOCs and other pollutants under protocols. However, compliance has been partial.[57]

Recent studies highlight the link between decarbonisation and air quality in BiH. The World Bank's Country Climate and Development Report (CCDR) urges coal phase-out, scaling up renewables, and improving energy efficiency as priorities, estimating $6.8 billion in investment is needed over the next decade to support a just and low-carbon transition.[58] Without external support, such efforts may worsen inequality, as wealthier countries can invest more easily, an issue the EU's Growth Plan seeks to address by offering early funding and market access.[59]

The EU Joint Research Centre (JRC) notes slight air quality improvements and increased RE use across the Western Balkans but finds no major GHG reductions in BiH from 2015 to 2022.

48 Stockholm Environment Institute (SEI) (2025), 'ESAP', https://esap.ba/.

49 *Id.*

50 Regional Cooperation Council (RCC) Secretariat (2021), 'Action Plan for the Implementation of the Sofia Declaration on the Green Agenda for the Western Balkans 2021-2030', Sarajevo.

51 The Human Rights Watch (2022), *ibid*.

52 World Bank (2020), 'World Bank study on Western Balkan air quality', Washington D.C.

53 UNEP (n.d.), *ibid*.

Continued reliance on coal remains a central challenge.[60] Despite a strong strategic foundation, BiH's climate and air quality progress remains slow and uneven.

3. Methodology.

This paper employs a qualitative policy analysis and data synthesis approach to evaluate BiH's progress on decarbonisation and air quality improvements under the EGD framework. Table 1 shows key sources reviewed.

Table 1. Key sources reviewed.

TYPE OF SOURCE	EXAMPLES
NATIONAL POLICY DOCUMENTS AND LAWS	NDC, NECP, RELEVANT LAWS, CCA-LEDS, ETC.
INTERNATIONAL AND REGIONAL REPORTS	EU 2024 PROGRESS REPORT, RCC GARI, JRC WB, WB, CCDR, ETC.
HEALTH AND ECONOMIC IMPACT STUDIES	UNEP, HRW
CLIMATE AND ENERGY DATASETS	UNFCC, BHAS, ENERDATA, IRENA, EIA, ETC.

The analysis is primarily descriptive, supplemented with quantitative metrics to illustrate observed trends. Intended policy outcomes were compared with actual developments based on data available as of May 2025, enabling the identification of gaps between policy design and implementation.

54 The Health and Environment Alliance (HEAL) (2013), 'The Unpaid Health Bill'.

55 CETEOR (2021), 'Strategy for restricting the use of coal and other solid fuels in Sarajevo Canton for the period 2023 – 2033', Sarajevo.

56 World Bank (n.d.), 'Bosnia and Herzegovina - Air Quality Improvement Project (English)', https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099051023161097321.

57 UNECE (2019), 'Evidence Based Environmental Governance and Sustainable Environmental Policies in Support of the 2030 Agenda in South East Europe: Bosnia and Herzegovina', Geneva.

58 World Bank (2024), ibid.

59 DENA (2024), ibid.

60 European Commission (2024), 'Status of Environment and Climate in the Western Balkans', Joint Research Centre, Brussels.

A brief gap analysis was conducted, contrasting GHG emissions per unit of GDP (PPP) with global and EU-27 averages, and assessing BiH's air quality using reported PM2.5 values in relation to WHO guidelines and national limit values. To enhance comprehensiveness, the study triangulates data from multiple sources. Most references cited originate from 2020 to 2025, with exceptions made for foundational documents and baseline datasets.

4. Results and policy analysis.

The following sub-sections analyse in detail implementation phases (also in the course of recent years) of decarbonisation and air quality management strategies, followed by a combined policy assessment.

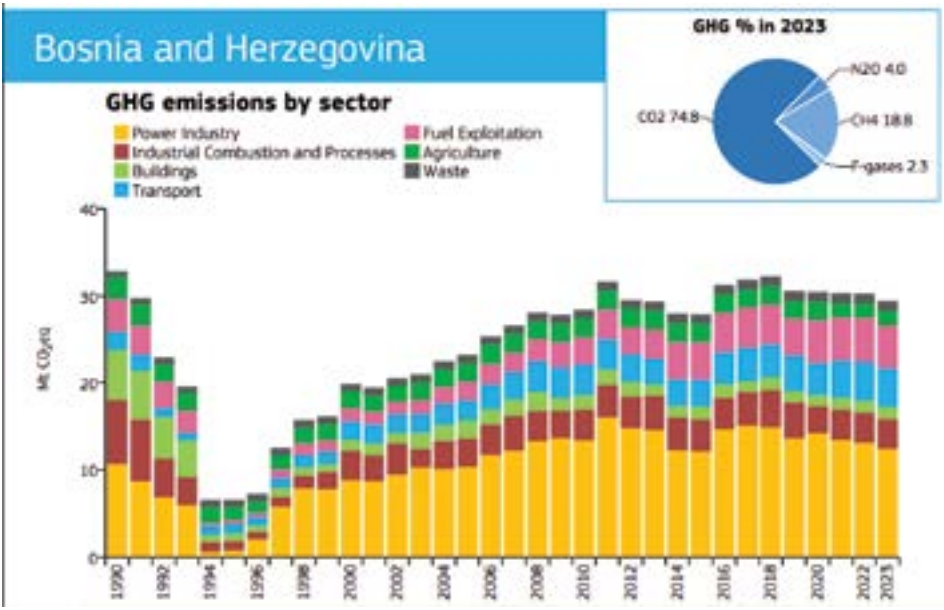
4.1 Decarbonisation.

BiH's GHG emissions have stagnated over the past decade, signalling the limited decarbonisation progress. In 2023, total emissions (excluding land use) were around 29. 4 Mt CO_2, or 11.6% below 1990 levels, mostly due to early 1990s economic decline.[61] At the current pace, BiH is unlikely to meet its 2030 NDC target without stronger policies. The energy sector remains the largest emitter, accounting for 60% of GHGs. Its share has risen from 61% (1990) to 64% (2014), pointing to a carbon-intensive energy mix. Transport emissions also grew, from 7% to 12%, while industry and agriculture declined due to structural shifts.[62]

61 European Commission (2024), J. S. F. P. REPORT, "GHG EMISSIONS OF ALL WORLD COUNTRIES.

62 UNFCCC (2022), ibid.

Figure 1. BiH's emissions by sector.



Source: EU Joint Research Centre (JRC)

Although BiH's economy has likely become slightly more efficient, the gap remains large. The land use, land-use change, and forestry sector (LULUCF) acts as a modest carbon sink. Forestry measures to increase carbon sequestration (BiH's NDC mentions planting to boost sinks by 93 Gg CO_2 annually) are underway, but these alone have marginal impact.

Table 2. GHG emissions per unit of GDP PPP.

Year	BiH	EU-27	World
2023	0,461	0,133	0,320
2015	0,548	0,183	0,369
2005	0,567	0,239	0,437
1990	3,104	0,343	0,543

Source: EU Joint Research Centre (JRC)

By the end of 2024, BiH had installed 219 MW of wind power and 607. 64 MW of solar power, of which 372 MW was at the distribution network.63 In May 2025, construction began on the largest solar photovoltaic plant, a 125MW project at Komanja Brdo.64 Hydropower remains the backbone of clean energy, providing 28% to 40% of total electricity generation in the last five years. The share of renewables in BiH's electricity production averaged 35% in recent years.65 This is above the EU average and gives BiH a relatively low-carbon power grid for half the year, especially during spring and summer when hydro output is high. However, during winter, coal plants ramp up and emissions spike. The draft NECP goals of 65% renewable electricity and 43.6% overall final energy from renewables by 2030 are ambitious and achievable if planned wind and solar projects materialise and if old coal generators are gradually retired or repurposed.

Coal remains the major energy source and BiH hosts five large thermal power plants which collectively generate 58% of electricity on average, but are also major polluters. Coal production in 1990 was 18.4 million tonnes and in 2006 it was close to 10 million tonnes.66 In 2014 it was around 15 million and declined to 13 million in 2023.67 Yet, new coal projects have effectively stalled, as the planned 450 MW Tuzla 7 replacement unit was cancelled due to financing issues, meaning BiH might avoid increasing coal capacity. Still, formally no coal phase-out date exists.

4.2. Air quality.

The WHO updated its stringent air quality guideline for annual average PM2.5 to 5 µg/m^3 in 2021, a significant change from the previous 10 µg/m^3 guideline. BiH's national annual limit value for PM2.5 is 25 µg/m^3. Many reported annual average PM2.5 concentrations for major cities are several multiples higher than the current WHO guideline and frequently exceed national limits.[68]

63 State Electricity Regulatory Commission (SERC) (2024), 'Annual Report 2024', Tuzla.

64 Energetika.net (2025), 'Počela izgradnja najveće solarne elektrane u BiH', 19 May, https://energetika.ba/obnovljivi-izvori/solarna-energija/pocela-izgradnja-najvece-solarne-elektrane/24326.

65 State Electricity Regulatory Commission (SERC) (2024), *ibid.*

66 MoFTER BiH (2008), 'Study of the energy sector - module 8 Coal mines', Sarajevo.

67 Agency of Statistics of BiH (2023). 'Energy Statistics 2023', BHAS.

68 Federal hydrometeorological institute (2023), 'Annual report on air quality in FBiH', Federal hydrometeorological institute, Sarajevo; and Republic Hydrometeorological Institute (2023). 'Air Quality Report for Republika Srpska', Republic Hydrometeorological Institute, Banja Luka, 2023.

Table 3. Annual average PM2.5 concentrations (μg/m^3) in major BiH cities vs WHO guideline and national limit values.

Entity	City / Station	Annual average	WHO guideline	National limit
FBiH	Sarajevo / Bjelave	24	5	25
FBiH	Sarajevo / Ilid a	28	5	25
FBiH	Sarajevo / Vogošća	27	5	25
FBiH	Zenica / Tetovo	37	5	25
FBiH	Tuzla / Skver	32	5	25
RS	Brod	38	5	25
RS	Banja Luka / Lazarevo	26	5	25
RS	Bijeljina / Toplana	37	5	25
RS	Prijedor	26	5	25

Source: Author's adaptation from: see note 44.

While some localised or temporary improvements in annual average air pollution concentrations have been noted in parts of BiH, these are often attributed more to meteorological variability, rather than to the successful implementation of systemic changes in emission sources. The most severe air pollution in BiH is consistently found in urbanised valleys and areas characterised by concentrated industrial activity. Key identified hotspots include Sarajevo, Tuzla, Zenica, and Lukavac.

A specific World Bank analysis estimated 3,300 annual premature deaths in BiH attributable to air pollution, alongside tens of thousands of cases of bronchitis and other illnesses.[69] This health burden has galvanised more public demand for action. Civil society campaigns and youth protests have put pressure on governments.[70]

69 World Bank (2020), ibid.

70 RadioFreeEurope (2020), 'Protesters In Bosnian Capital Hold Rally Over Choking Air Pollution', 21 January, https://www.rferl.org/a/protesters-in-bosnian-capital-hold-rally-over-choking-air-pollution/30388411.html.

In response, local authorities have begun to act. Sarajevo Canton, for example, has subsidised household conversions from coal stoves to cleaner heating, procurement of a new fleet, and other measures.[71]

4.3. Policy assessment.

While BiH has developed several strategic documents (NDC, draft NECP, CCA-LEDS, ESAP, etc.), the translation of these plans into measurable progress has been limited. Despite ongoing policy development, implementation remains weak.

The European Commission's 2024 report states that BiH's environmental and climate commitments from the previous year were only partially implemented, and in many cases no progress was made. The recommendation to adopt a climate law remains unfulfilled and the NECP adoption was delayed. BiH also fell short on creating a national emission inventory system compliant with EU rules, a fundamental tool for tracking decarbonisation.[72]

BiH had the option to use a Limited Lifetime Derogation (opt-out) for certain coal plants, meaning operate them a maximum of 20,000 hours after 2018 and then shut them down by the end of 2023. Tuzla-4 and Kakanj-5 fell under this category. While BiH initially agreed, it later signalled intent to keep these units running beyond 2023 due to electricity supply concerns. This breach of commitment led to criticism and potential infringement in the EnC.[73]

The EU JRC also reports no significant change in GHG emissions from 2015 to 2022. This points to a possible strategy trap, where externally driven policy-making obscures persistent gaps in enforcement. Key contributing factors include weak governance, limited capacity, economic structure, and insufficient financial and technological support.

71 TVSA (2024), 'Uk: Milionske investicije Vlade Kantona Sarajevo za zdraviji zrak i bolji život građana', 7 December, https://www.tvsa.ba/uk-milionske-investicije-vlade-kantona-sarajevo-za-zdraviji-zrak-i-bolji-zivot- gradjana/?fbclid=IwY2xjawKm5wZleHRuA2FlbQIxMQBicmlkETFHSFlXcmJ6ZlZzS0JpZHlHAR5xCP9Me6rK5HBfimDIUsCyWTuV5ekGUASDInSEXDnmWdIMtgKleCMxyj5BSw_aem_bNj30HPkqInqKM.

72 European Commission (2024), Bosnia and Herzegovina 2024 Report, ibid.

73 Energy Community Secretariat (2022), 'Energy Community Secretariat', 28 October, https://www.energy- community.org/news/Energy-Community-News/2022/10/28.html.

Environmental responsibilities lie mostly with the entities, FBiH and RS, which develop separate regulations. While coordination mechanisms exist, cooperation remains inconsistent. Weak vertical and horizontal coordination, along with limited capacity, hinders implementation. The lack of a central environmental or climate body leads to fragmented reporting and poor accountability. The 2024 EU report recommends adopting a state-level climate law and unified environmental strategy aligned with the EU acquis. The ESAP 2030+ could serve this role if jointly adopted and implemented.

Polluting state-owned industries have historically been given space due to their importance in local economies. Moving forward, improving compliance will require support for environmental inspectorates, imposing penalties for violations and enhancing transparency as environmental laws need to be backed by effective rule of law. Engaging civil society and citizens through mechanisms like the Aarhus Convention can also support better enforcement.

The coal sector directly employs thousands and supports entire communities (e.g. Tuzla, Kakanj, Zenica, Banovići, Gacko, Ugljevik, etc.). An immediate coal phase-out without alternatives would worsen unemployment and social instability which has made governments hesitant to set firm phase-out dates.

The concept of a just transition is therefore paramount.

BiH must plan to diversify economies of coal-reliant regions, retrain workers, and possibly use mechanisms like the EU's Just Transition Fund to cushion the impact.

BiH's limited development constrains its ability to finance green investments, especially given high upfront costs. The New Growth Plan for the Western Balkans aims to ease this by offering early access to EU funds and markets. Aligning with reform conditions could also attract foreign investment in clean industries, which BiH should actively pursue.

5. Recommendations.

So far, much of the drive has come from foreign external incentives and citizen activism (NGOs, protest movements). For lasting change, domestic political leaders must champion the cause, reframing the EGD not as an external obligation but as an opportunity for BiH to modernise its economy, create jobs, and improve citizens' quality of life.

Decarbonisation and air quality improvements are mutually reinforcing goals in BiH. Success will require breaking out of the inertia of the status quo. With good policy implementation, adequate support for those affected by the transition and utilisation of international aid, BiH can catch up in the green transition. The period 2025-2030 is critical and will show whether BiH merely drafts plans or delivers results akin to its European peers.

Following the results and policy analysis, several recommendations can be drawn.

a) Decarbonisation – BiH's total GHG emissions in 2022 were only 11.6% lower than 1990 levels, a reduction largely attributable to early 1990s economic contraction rather than recent climate action, and the energy sector remains the dominant source of emissions, indicating a deeply rooted carbon-intensive energy system. To accelerate the process of decarbonisation, BiH should:

- develop a clear roadmap to reduce coal power generation by 2030, which might involve a moratorium on new coal projects (already largely in effect due to financing difficulties), progressive closure of the oldest units, and scaling up of gas or biomass co-firing as interim solutions;

- continue the momentum in solar and wind investments. BiH's targets of 4.64 GW new renewables by 2030 (draft NECP) are ambitious but feasible. Improving permitting processes, enabling RE auctions, and expanding grid capacity for renewables are key;

- scale up EE in buildings and industry, as these measures also immediately improve local air quality by cutting fuel consumption for heating;

- start with a modest carbon levy on power and industrial emissions, using the revenue to fund RE projects and social support. This would internalise the cost of carbon and gradually shift the economy toward low-carbon choices, though careful design is needed to avoid excessive burden on consumers – e.g., free allocations or exemptions for most vulnerable sectors could be used initially. To mention similar examples, Montenegro introduced a CO_2 tax in 2020, directing revenues to its Eco-Fund for environmental projects, while North Macedonia is finalising its Law on Climate Action to establish a similar carbon pricing mechanism.

b) Air quality – the data on air quality demonstrate a continuing public health emergency, with PM2.5 concentrations in major urban centres consistently exceeding both the WHO guideline and national limit. The primary source of pollution is linked to emissions from coal-fired thermal power plants,

heavy industries, and widespread residential heating with solid fuels. Results suggest that any localised or temporary improvements in air quality are often attributable more to meteorological variability than to systemic changes in emission sources, which creates a deceptive sense of progress. While many solutions align with decarbonisation, additional recommendations for air quality include:

- expanding programmes to replace dirty heating stoves and boilers through options like subsidising efficient pellet stoves, heat pumps, or gas connections (in areas where a gas network exists), which can dramatically reduce winter smog. The health benefits and healthcare savings from such investments are substantial;

- encouraging public transportation, promoting electric vehicles, and improving fuel quality. Eliminating the import of very old used cars could prevent the dumping of high-polluting vehicles in BiH;

- ensuring that large industries comply with best available techniques (BAT) for emissions which may require investments in filters that may be supported by international funds tied to climate goals; regulatory pressure should be applied, e.g. enforce emissions limit values consistently: if an operator fails to meet standards, authorities should not grant continuous exceptions, as has happened in the past;

- both entities should make budget allocations to maintain stations and expand air quality measurement. Real-time public disclosure of data is necessary for accountability, involving citizens can complement official networks and spur action at local levels, and public awareness campaigns about the health harms of pollution create pressure for change, which needs to translate into political will.

c) Further opportunities – regional cooperation under the GWAB provides a platform to share best practices and possibly pool resources. The Western Balkans Regional Common Market initiative can also help by easing trade of green technologies and expertise, and the RCC's GWAB Action Plan monitoring ensures BiH's progress is measured alongside neighbours. Another opportunity lies in EU pre-accession assistance (IPA) funds increasingly prioritising the green transition. BiH, as an EU candidate from 2022, stands to benefit from IPA III which has a green agenda component. Smartly leveraging these funds for projects identified in key policy documents (NECP, ESAP, etc.) can accelerate outcomes that BiH couldn't finance alone.

6. Conclusions.

BiH's pursuit of the EGD's objectives, particularly achieving a low-carbon economy and clean air, is underway, but at a slow pace. Over the past five years, several commitments on paper and positive developments in practice have been made: the share of RE is rising and certain pollution metrics are decreasing. Moreover, BiH's integration into international frameworks further confirms a commitment to change.

Yet the implementation gap remains the central challenge. GHG emissions in BiH have not markedly decreased in recent years and are not currently on track to meet the country's own 2030 climate targets, let alone the EU's mid-century climate neutrality vision. Air quality still frequently poses severe health hazards, underscoring that policy measures to lower pollution have been insufficient, and existing problems cannot be resolved overnight. Adopting and enforcing a climate law, finalising the NECP without further delay, and empowering a national coordination mechanism for the green agenda would set the stage for more decisive action.

Importantly, any transition must be just and inclusive and the burdens and benefits of decarbonisation should be fairly distributed. This means ensuring alternative livelihoods for workers in high-emission sectors, involving local communities in planning, and maintaining affordability of energy for consumers even as fossil fuels are phased down. Public support for the green agenda in BiH will grow if people tangibly experience cleaner air, better public services, and new job opportunities in green industries. To build this support, targeted communication strategies are needed. For instance, public awareness campaigns could feature health professionals explaining the direct benefits of improved air quality on family well-being, while community outreach programmes could showcase success stories of workers transitioning to green industries and guide citizens on accessing funds for energy-efficient home renovations. In this regard, linking air quality improvements with climate action can build a broad constituency for change.

BiH stands at a crossroads where continued dependence on an outdated, polluting development model will increasingly hinder its prosperity and EU integration, whereas a pivot to sustainable development offers a path to long-term well-being and accession readiness. The upcoming period will be critical, while adopting key reforms and starting real emissions cuts, BiH can signal that it is serious about its commitments. The journey to climate neutrality and clean air is undoubtedly difficult, but it is also achievable with domestic strength, external support, and, above all, sustained political will. BiH's implementation of the EGD will not only determine its EU membership prospects but also improve the daily lives of its citizens by delivering bluer skies, healthier communities, and a modern economy fit for the 21st century.

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CHAPTER IV

GREENING ALBANIA'S PATH TO EU ACCESSION:

NAVIGATING DECARBONISATION AND CIRCULAR ECONOMY REFORMS

Fjona Kurteshi

Abstract.

This chapter provides a critical and fact-based assessment of Albania's advancements in environmental sustainability by examining the country's engagement in the European Green Deal (EGD) and the Green Agenda for the Western Balkans (GAWB) with a focus on decarbonisation and waste management practices. Bearing in mind the country's need to align with the European Union (EU) regulatory framework and strategies as a candidate for membership, it explores the national policy and legal framework, the extent of implementation, and the institutional, socio-economic, and governance-related challenges that continue to hinder Albania's green transition, such as implementation gaps, inadequate infrastructure, and weak financial and technical capabilities. Drawing from key legislation, strategy documents, and implementation metrics, the chapter identifies opportunities for policy reform and recommends concrete actions to strengthen governance. It concludes that to reach Albania's full potential in the green transition, it will be crucial to improve the integration of EU funding, strengthen green investments, cultivate public-private partnerships, and raise public awareness.

1. Introduction.

Since the early 1970s, when Europe started to institutionalise environmental policy – moving from discrete national actions to a concerted European action – environmental issues have taken on increasingly higher relevance. The European Economic Community adopted its first Environmental Action Programme in 1973, as a result of the global awareness raised by the previous year's UN Conference on the Human Environment. This paved the way for a unified environmental policy that integrated goals like resource conservation, pollution prevention, and public health. An important turning point was the Single European Act of 1987, which explicitly acknowledged environmental protection as a major issue of EU policy and dedicated a full chapter to the subject in the Treaty. This opened the way for the EU's institutional and legislative framework for environmental control.[74]

[74] European Environmental Bureau (2006), *EU Environmental Policy Handbook A Critical Analysis of EU Environmental Legislation Making it accessible to environmentalists and decision makers*, pp. 18-20, http://etko.com.tr/dosyalar/Belgeler/environmental-policy-handbook-eu_47089.pdf .

The subsequent EU Consensus on Development, adopted in 2017, harmonises EU and Member State development policies with the 2030 Agenda of the United Nations. The document reaffirmed the EU's commitment to advance the green economy, emphasising its significance in accomplishing important EU development goals such as addressing climate change and bolstering investment for growth and jobs.[75] Two years later, the European Comission launched the European Green Deal (EGD) as the EU's flagship plan to achieve climate neutrality by 2050 and the primary engine of its economic growth strategy. The EGD lays out a comprehensive framework for transforming EU economies and societies to become more sustainable, resilient, and inclusive by setting aggressive goals in the areas of energy, transportation, biodiversity, pollution control, and the circular economy.[76] Also considered as the EU's growth strategy, the EGD consists of a package of policy initiatives setting the EU on the path to a green transition, underlying the need for all policy areas to contribute to fighting climate change.[77]

In an effort to aid and include the Western Balkans in the alignment with the EGD, as well as to ease the region's transition to Union membership, in 2020 the European Union introduced the Green Agenda for the Western Balkans (GAWB). The GAWB encourages sustainable economic growth, regional collaboration, and the implementation of EU environmental standards by tackling common environmental issues such as pollution, energy inefficiency, and ecosystem deterioration.[78] The agenda also gives special attention to climate adaptation in agriculture, nature-based solutions, and climate-resilient transportation networks and infrastructure as a result of the Western Balkans' position as a current European hotspot for climate change and other natural hazards.[79] In fact, according to the European Commission, the EU considers it pivotal to aid its closest neighbours to make it possible for Europe's ecological transition to be completed. Through the Instrument for Pre-accession Assistance (IPA III), the EU provides financial support for the ambitious Green Agenda's implementation through specific implementing mechanisms such as the European Fund for Sustainable Development Plus (EFSD+) and the Western Balkans Investment Framework.[80]

75 European Commission (2017), *The new European consensus on development: Our world, our dignity, our future*, https://www.consilium.europa.eu/media/24004/european-consensus-on-development-2-june-2017- clean_final.pdf.

76 European Commission (2019), *Communication from the Commission. The European Green Deal*, https://eur- lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640.

77 European Council (n.d.), European Green Deal, https://www.consilium.europa.eu/en/policies/european- green-deal/.

78 Regional Cooperation Council (2021), Sofia Declaration on the Green Agenda for the Western Balkans, https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans.

79 GIZ (2024), Green Agenda: Supporting the Western Balkans in Adapting to Climate Change, https://www.giz.de/de/downloads/giz2024-en-factsheets-WBAdap.pdf.

80 European Commission (2020), Implementing a Green Agenda for the Western Balkans.

In the case of Albania (an EU candidate country since June 2014) the EGD and the GAWB represent both a necessity and an opportunity. As part of its accession process, Albania must progressively align its legal and institutional framework with the EU acquis, including Chapter 27 on the environment and climate change. This is the most complicated and costly chapter for candidate countries to implement[81] because a vast amount of legislation, including regulations on waste management, industrial emissions, climate adaption, and air and water quality, must be transposed and put into effect to complete this process. While the Green Deal places environmental sustainability at the very core of all social and economic policies, it emphasises how urgent these reforms are.[82]

In light of the above, this chapter discusses Albania's present position in relation to the EGD and the GAWB, focusing on decarbonisation and circular economy. It outlines specific reforms, assesses implementation obstacles and advancements, and critically analyses the country's legal and policy environment. Following this methodology, it demonstrates how environmental governance is not only a legal requirement. Instead, it can be considered as a strategic tool to modernise the economy, safeguard public health, and hasten EU membership.

2. Literature review.

National environmental legislation started proliferating after the 1990s, based on the principles of the Constitution of the Republic of Albania. As a result, environmental protection was eventually listed as one of the Council of Ministers' primary responsibilities in the Republic of Albania's 1991 Constitution. Environmental issues were incorporated into the framework of Albanian citizens' constitutional rights in the Republic of Albania's first Constitution, which was approved in 1998.[83]

81 European External Action Service (2019), Speech of EU Ambassador Luigi Soreca at *Preparing Chapter 27 negotiations: mobilising support for Albanian environment* Conference, Tirana, Albania, https://www.eeas.europa.eu/delegations/albania/speech-eu-ambassador-luigi-soreca-preparing-chapter-27- negotiations-mobilising_en?s=214&utm_source=chatgpt.com.

82 European Commission (n.d.), *Delivering the European Green Deal. Transforming our economy and societies*, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering- european-green-deal_en.

83 Academy of Security (2020), *Krimi Mjedisor, Siguria Mjedisore dhe Siguria Kombëtare* [translation from Albanian: *Environmental Crime, Environmental Security and National Security*], V International Conference, Vol. 1, Page 48. ISBN 978-9928-210-12-8, https://www.osce.org/files/f/documents/2/3/447898.pdf.

In its efforts towards integration, the country aimed to align its environmental legislation (as well as legislation in other fields) as completely as feasible with the EU regulatory framework.

Parallel to the legal framework, environmental priorities and concerns are incorporated into multi-dimensional strategies and plans, and articulated in a number of strategic documents. In accordance with the goals of sustainable development and the nation's European integration, the National General Plan (NGP) 'Albania 2030' – the foundational document for the integrated and sustainable development of Albania through 2030 – serves as an inter-sectoral framework that combines economic, social, and environmental development policies, while establishing environmental protection as one of the primary pillars of the sustainable development of the country.[84] Additionally, the environment is regarded as a crucial pillar for sustainable development and the fulfilment of international obligations in Albania's National Strategy for Development and European Integration 2021–2030 (NSDI), which is the country's primary strategic document that attempts to balance economic, social, and environmental development with the process of European integration.[85] Environmental protection and sustainable development are noted as priorities in the Governing Program 2021–2025 as well, which includes several green actions, such as transition to renewable energy, integrated waste management system, pollution monitoring and controlling, and sustainable agriculture.[86]

Further sectorial and inter-sectorial strategies also emphasise the integration of environmental objectives into broader policy domains, while reflecting the integration of EU environmental legislation. The country's formal commitment to the GAWB emphasises it s ambition to align with European environmental actions to decarbonise the region and experience economic growth through five main pillars, namely: 1) decarbonisation; 2) circular economy; 3) depollution; 4) sustainable food systems and rural areas; and 5) biodiversity.[87]

84 National Territorial Planning Agency (2016), *Plani i Përgjithshëm Kombëtar "Shqipëria 2030"* [translation from Albanian: *National General Plan "Albania 2030"*], https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=5154&token=da636af1a1a4ffe0d0973a5cfc7eedbca 62f49cc.

85 Government of Albania (2022), *Strategjia Kombëtare për Zhvillim dhe Integrim Evropian 2021–2030* [translation from Albanian: *National Strategy for Development and Integration 2021-2030*], https://konsultimipublik.gov.al/documents/RENJK_538_Draft-Strategjia-Kombetare-per-Zhvillim-dhe- Integrim-2021--2030-.pdf.

86 Council of Ministers of the Republic of Albania (2021), *Programi Qeverisës 2021–2025* [translation from Albanian: *Governing program 2021–2025*], https://kryeministria.al/wp- content/uploads/2021/10/Programi_Qeverises_2021-2025.pdf.

87 European Fund for the Balkans (n.d.), Green Agenda for the Western Balkans, https://www.balkanfund.org/podatci/uploads/Green_Agenda_ENG.pdf.

1. Decarbonisation.

Decarbonisation is linked with climate change, energy, and mobility. According to a 2021 European Parliament Report 'Decarbonising the energy system requires a fundamental transformation in the way societies provide, transport and consume energy.' [88] The report presents a thorough plan for the EU to become carbon neutral by 2050. It highlights three no- regret measures: a) a speedy phase-out of coal in electricity production; b) a large increase in the production of electricity from renewable sources; and c) a considerable electrification of final energy consumption, particularly in transportation and heating. In order to reach EU climate targets, the report criticises the current National Energy and Climate Plans (NECPs) of Western Balkan countries as being insufficient (calling for their improvement and standardisation), it emphasises the importance of implementing strong policy frameworks to direct private investments between 2021 and 2030 (especially in infrastructure), and recalls the crucial role of a robust knowledge infrastructure in order to facilitate well-informed decision- making and efficient policy execution.[89] With large gaps in electrification throughout rail networks, Albania's transportation sector is still largely dependent on antiquated infrastructure and fossil fuels. With a focus on rail revival and the integration of multimodal transport options, especially via connecting inland waterways and rail, the Green Agenda projects offer a strategic framework for modernising and decarbonising transportation.[90] According to the Fourth National Communication, Albania adopted several policies to tackle climate change in accordance with sustainable development goals and recognised it as a cross-sectoral concern. M easures include cutting emissions in areas including energy, transportation, agriculture, and waste in order to fulfil Paris Agreement commitments, even if Albania's GHG emissions are low compared to Europe.

87 European Fund for the Balkans (n.d.), Green Agenda for the Western Balkans, https://www.balkanfund.org/podatci/uploads/Green_Agenda_ENG.pdf.

88 European Parliament (2021), Decarbonisation of Energy. Determining a robust mix of energy carriers for a carbon-neutral EU, https://www.europarl.europa.eu/RegData/etudes/STUD/2021/695469/IPOL_STU(2021)695469_EN.pdf

89 Id.

90 European Commission (2020), Guidelines for the Implementation of the Green Agenda for the Western Balkans. Commission Staff Working Document, https://enlargement.ec.europa.eu/system/files/2020- 10/green_agenda_for_the_western_balkans_en.pdf.

The Strategic Document on Climate Change and its Mitigation Action Plan, which Albania adopted in 2019, outlined six key strategies: 1) integrating climate considerations across sectors; 2) establishing GHG monitoring systems; 3) integrating sustainable growth in line with emissions targets; 4) strengthening institutional capacity and cooperation; 5) building awareness and capacity; and 6) aligning with the EU climate framework.[91] The Law on Climate Change was adopted in 2020 to define the national policy for action on climate change.[92]

2. Waste management.

The waste management pillar represents one of Albania's biggest environmental challenges. [93] Waste management in Albania is still dominated by a linear collect-and-dispose approach, and the country is only in the very early stage of reuse and circular economy practices.[94]

Empirical analyses for the period 2013 to 2021 show a statistically significant relationship between the amount of generated waste and CO2 emissions, emphasising the crucial role the circular economy model has in decarbonisation.[95] In this context, the main goal of the Integrated National Waste Management Plan 2020–2035 is to shift from a linear to a circular economy. The zero waste concept envisions waste being collected and treated as raw material, with management carried out in line with circular economy systems to support the preservation and standardised use of raw material resources.[96] However, according to OECD,[97] despite admirable efforts, heightened public and governmental attention to the circular economy, and the creation of related strategies, current results of the circular transition are still lacking.

91 Ministry of Tourism and Environment (2022), The Fourth National Communication of Albania on Climate Change, United Nations Framework Convention on Climate Change (UNFCCC), https://unfccc.int/sites/default/files/resource/Fourth%20National%20Communication%20of%20Albania%20to% 20the%20UNFCCC_EN.pdf.

92 Assembly of the Republic of Albania, (2020), Law No. 155/2020 on Climate Change, https://turizmi.gov.al/wp-content/uploads/2021/10/1.-Ligji-nr.-155-dt.-17.12.2020_PER-NDRYSHIMET- KLIMATIKE-1.pdf.

93 L. Totoni, L. Vrugtman, D. Angjeli (2021), 'Waste management in Albania: An opportunity to demonstrate commitment to EU integration', Institution for Democracy and Mediation, https://idmalbania.org/wp- content/uploads/2021/11/IDM-Waste-Management-in-Albania-EN-1.pdf.

94 GIZ (2021), Albania is modernising its solid waste management systems, https://www.giz.de/en/worldwide/62845.html.; and GIZ (2024), *Opportunities for reusable packaging systems and women's participation*, https://www.giz.de/de/downloads/giz2023-en-albania-reusable-packaging-systems- and-women-participation.pdf.

95 L. Shahini, F. Kurteshi, B. Dosti (2022), 'Are our unlimited desires destroying the environment: An empirical analysis for the Albanian economy', The Albanian Journal of Economy and Business, 35,. ISSN: 2219-3200.

96 GIZ and Ministry of Tourism and Environment (2020), Dokumenti i Politikave Strategjike dhe Plani Kombëtar i Menaxhimit të Integruar të Mbetjeve 2020-2035 [translation from Albanian: Strategic Policy Document and National Integrated Waste Management Plan 2020-2035], https://climate- laws.org/documents/national-integrated-waste-management-plan-2020-2035_017a?id=national-integrated- waste-management-plan-2020-2035_aed0.

97 OECD (2024), A Roadmap towards Circular Economy of Albania, OECD Publishing, Paris, DOI: https://doi.org/10.1787/8c970fdc-en.

98 Id.

The effectiveness of actual laws, policies, and overall initiatives is hampered by a lack of coordination, restricted financing alternatives, inadequate infrastructure, and knowledge gaps. All these aspects contribute to preventing Albania from realising the full potential of the circular economy.[98]

Still, the European Commission recognises the country's partial progress toward conforming to EU standards in the areas of energy, transportation, trans-European networks, and environmental policies. The adoption and execution of national transportation and road safety policies, the advancement of railway reforms, and the improvement of maritime safety are among the main proposals – though initiatives such as increasing energy efficiency measures, operationalising the renewable energy operator, and completely integrating with the EU electricity market in the energy sector should be undertaken. Strengthening legislative alignment and expediting the implementation of TEN-T (trans-European transport networks) and TEN-E (trans-European energy networks) projects are also essential for trans-European networks. Regarding the environment and climate, it is crucial to enhance the implementation of environmental impact assessments, fight environmental crime, revise strategies for adaptation and climate change, and fortify civil protection and biodiversity preservation.[99]

3. Methodology.

This study adopts a mixed-methods approach to assess Albania's environmental governance and alignment with the EGD and the GAWB, providing a thorough assessment of the country's green transition by combining quantitative study of environmental and socioeconomic data with qualitative policy analysis.

Quantitative data was sourced from international and national databases, including the World Bank, INSTAT, and the General Directorate of Road Transport Services (DPSHTRR). Key indicators include carbon intensity of GDP, which measures how much CO2 is emitted per unit of economic output (adjusting for purchasing power parity (PPP) and inflation to 2021 dollars), electricity production, registrations of vehicles based on fuel type, and waste management practices.

The qualitative component involves desk research on national and international strategies and assessment reports, especially EU reports to assess policy alignment and implementation gaps. Findings are framed and focused around

98 Id.

99 European Commission (2024), *Albania 2024 Report. 2024 Communication on EU enlargement policy.* Commission Staff Working Document, https://enlargement.ec.europa.eu/document/download/a8eec3f9-b2ec-4cb1-8748-9058854dbc68_en?filename=Albania%20Report%202024.pdf.

the first two pillars of the Green Agenda for the Western Balkans. The availability of data and the dependence on secondary sources for certain qualitative insights are among the limitations (as further shown in the following section).

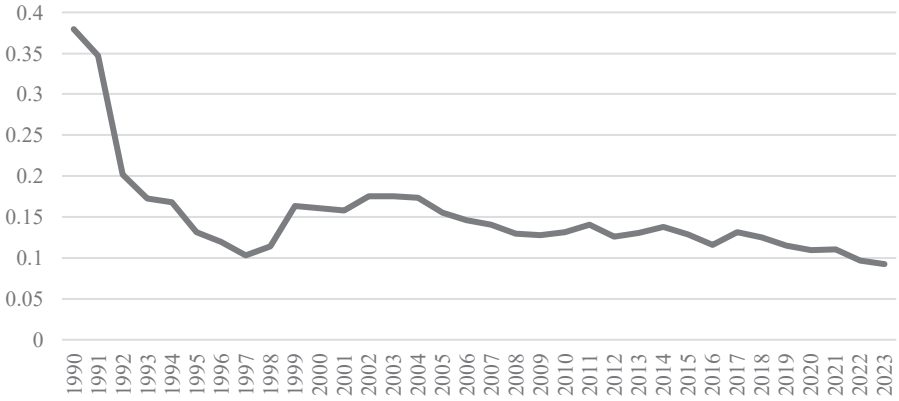
4. Results and policy analysis.

This section analyses the implementation status of the first two pillars of the GAWB in Albania, namely, decarbonisation and waste management (circular economy).

4.1. Decarbonisation.

For the period 1990 to 2023, World Bank data on carbon intensity of GDP show a decline in the amount of C02 emitted per unit of economic output, indicating good performance of the country in its transition to a low-carbon economy.[100]

Figure 1. Carbon intensity of GDP (kg C02 emissions per 2021 PPP $ of GDP), 1990-2023.



Source: World Bank, 2025.

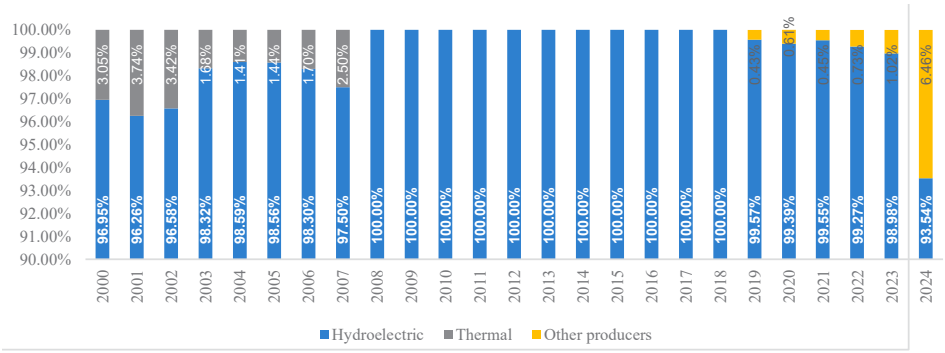
Albania has favourable conditions for producing green energy. The primary source of energy produced in the nation is hydropower which, according to INSTAT data, was the only source of domestic electricity production in Albania from 2008 to 2018.[101]

100 World Bank (2025), Carbon intensity of GDP (kg CO_2e per 2021 PPP $ of GDP) [Data set]. World Development Indicators, World Development Indicators, https://data.worldbank.org/indicator/EN.GHG.CO2.RT.GDP.PP.KD.

101 INSTAT (2025), Energy. Electricity balance 2000 – 2024.

The generation of electricity from other producers – e.g., solar sources – began only in 2019 and steadily increased since then, reaching a net domestic production value of 506,548 MwH in 2024, or 6.46% of the total energy produced in the country. Yet the scale of solar energy remains low and the lack of diversification into other sources (e.g., wind) makes the system vulnerable to climate change.

Figure 2. Share of Albania's net domestic production of electricity by source, 2000-2024.

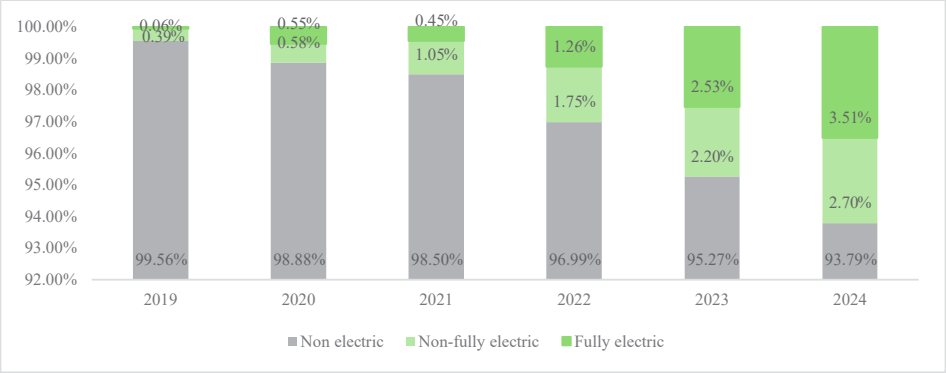


Source: INSTAT and author's calculations, 2025.

Regarding the connection between decarbonisation and mobility, data suggest that Albania is moving on a positive path towards the use of electric cars.[102] Electric car usage has grown not only in nominal terms, the growth rate is itself accelerating. Hybrid electric vehicles were more common as of 2022 compared to fully electric vehicles, however, in the past two years fully electric vehicles appear to have gained popularity, now accounting for 3.51% of all vehicles, totalling 2,918 vehicles registered for the first time.

102 DPSHTRR (2025), Regjistrimet. Mjetet e regjistruara sipas lëndës djegëse [translation from Albanian: *Registrations. Vehicles registered by fuel type*], https://lookerstudio.google.com/u/0/reporting/9d3905e3-6c6e- 446e-934e-d7a296158dd5/page/CU40B.

Figure 3. Distribution of vehicles registered for the first time in Albania by fuel type, 2019- 2024



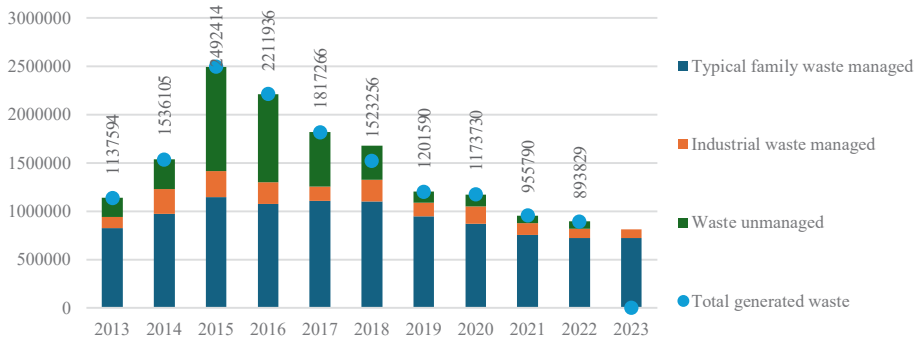
Source: DPSHTRR and author's calculations, 2025.

4.2. Waste management.

Concerning the second pillar of the GAWB, the 2025 INSTAT database [103] shows that most of the waste generated in Albania is managed. This is especially true for family waste. Even from 2015 to 2016, when the total amount of generated waste increased rapidly due to the administrative territorial reform implemented in the country, most of the waste was still being managed. After 2017, the managed amount of family waste decreased, while a clear trend on the management of industrial waste cannot be observed. Overall, the amount of waste that is being managed is on an increasing trajectory, and accounted for 92% of generated waste in 2021 and 2022.

103 INSTAT (2025), Total Generated Waste Database; INSTAT (2025), Origin of Waste Managed Database.
104 Total generated waste and Waste managed data is not yet published for the year 2023.

Figure 4. Waste (in tonnes), 2013-2023[104]



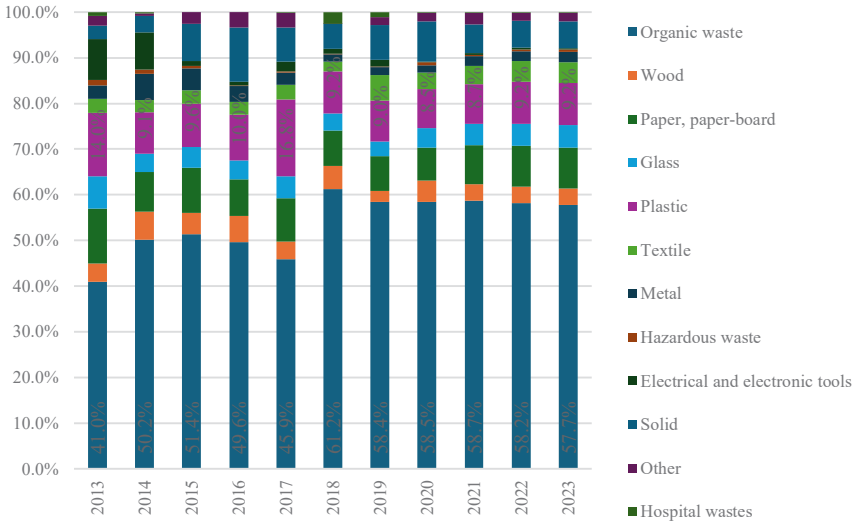
Source: INSTAT, 2025

Most of the managed waste is organic waste, counting for around half of it each year. This indicates that too much food and other organic products are being produced and consumed inefficiently. Other main categories being managed in 2023 include plastic (9.2%), paper and paper-board (9.0%), and glass (5.0%). This appears to be primarily waste generated from consumer packaging. As one of the three primary waste categories that the government prioritises preventing, the weight of electrical and electronic waste has significantly decreased since 2015.[105]

104 Total generated waste and Waste managed data is not yet published for the year 2023.

105 European Environment Agency (2021), *Overview of national waste prevention programmes in Europe*, https://www.eea.europa.eu/themes/waste/waste-prevention/countries/albania-waste-prevention-country-profile- 2021/view.

Figure 5. Composition of Managed Waste, 2013-2023



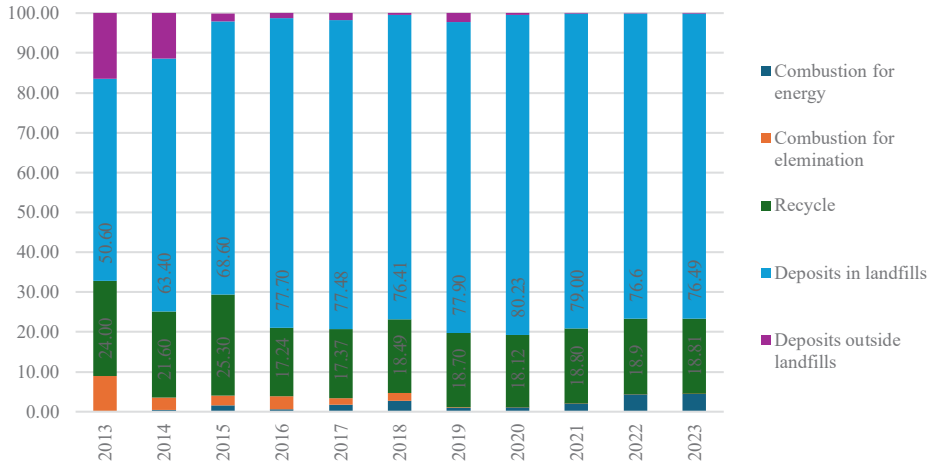
Source: INSTAT, 2025.[106]

Regarding managed waste, it seems that overall a sustainable waste management system is still lacking. Landfills receive the majority of managed waste, with 76.49% of total managed waste for 2023. The percentage of deposits outside landfills appears to be an outdated approach to waste management with 16.6% and 11.4% in the first two years of the period, and only 0.12% in 2023, or just 870.39 tonnes.

With percentages ranging from 17.24% to 25.3%, it appears recycling – Albania's most sophisticated waste treatment technique – is still not widely practiced . Neither the compound weights nor the compound nominal values indicate a particular trend in the use of recycling principles in an environmentally responsible manner.

106 INSTAT (2025), *Waste structure by component categories Database*.

Figure 6. Composition of Managed Waste by Treatment, 2013-2023.



Source: INSTAT, 2025 and author's calculations.[107]

Referring to the Co-PLAN Institute for Habitat Development, the National Integrated Waste Management Strategy's adoption and implementation are viewed as a critical step in improving the nation's waste management situation, which is in a dire condition. Only 89.7% of the population receives waste management services and there is no suitable infrastructure or type of landfill that complies with EU standards. Even though governmental strategies emphasise standardising national waste management directives in accordance with EU law, a significant gap between the strategy's objectives and reality exists. This might be due to the fact that Albania lacks the infrastructure and plan necessary to manage waste in an environmentally friendly way by reducing, reusing, separating, and recycling – practices that are considered to be the most ecological according to the waste hierarchy pyramid.[108] According to GIZ, even though the circular economy and reuse model is at a very early stage, there is an increasing trend of eco-friendly consumers and producers, with the country importing the European model of packaging.

107 INSTAT (2025), Urban waste treatment according to treatment method Database.
108 Co-PLAN Institute for Habitat Development (2021), Regional status report on circular economy: Written contribution for the 2020 annual report, https://www.co-plan.org/wp-content/uploads/2021/08/Circular-Economy-2020.pdf.

Notwithstanding obstacles such as supply constraints, a lack of technical expertise, and the requirements for funding for cleaning systems and workable business plans, companies consider reuse models as a component of their long-term sustainability strategies. While companies consider it the municipalities' responsibility to develop encouraging laws and incentives, in order for this support to become a reality, there is still a need to establish confidence.[109]

5. Recommendations.

Following the results and policy analysis, several recommendations can be drawn, specifically addressed to the sectors analysed so far.

1) Energy transformation – A s evidenced by the declining trend in the carbon intensity of GDP over time, the Albanian economy is becoming more emission-efficient. This suggests there has been progress towards decarbonisation, a key component of the nation's climate policies and commitments. The lack of diversification of energy sources and underdeveloped infrastructure calls for coordination with EU and GAWB objectives. A possible solution would be to increase energy production from renewable sources other than hydropower.

2) Mobility and infrastructure – Albania's electric vehicle charging infrastructure is in its early stages, lacking both a coordinated national network and the urban planning to integrate charging points. While main road networks are improved, and railways are planned to be constructed by 2030, urban areas often lack suitable spaces for chargers. Despite this, the number of charging units has increased from 26 in 2023 to 63 in 2024, reflecting growing demand and investment in electromobility.[110] Recommendations include:

- implementing infrastructure usage fees and utilising data technologies, which could enhance the nation's transportation sector's efficiency and environmental performance;
- concentrating on clean fuels, smart mobility, and innovative Intelligent Transport System (ITS) solutions, which can help lessen environmental impacts;
- in line with EU standards, the implementation and improvement of the National Energy and Climate Plan (NECP) should enhance coordination between central and local governments, so as to increase mobility

109 GIZ (2023), Circular economy in Albania. Opportunities for reusable packaging systems and women's participation, https://www.giz.de/de/downloads/giz2023-en-albania-reusable-packaging-systems-and-women- participation.pdf.

infrastructure capacities to help decarbonise the transport sector in the country (being the larger emission contributor sector of the country).

3) Circular waste management – recommendations include:

- along with obligatory waste separation rules and financial incentives for compliance, it is advised that Albania invest in separate collection and recycling infrastructure (which would further satisfy EU requirements) in order to close the large gap between its waste management policy and existing practices;

- the shift to circular waste management would be aided by the implementation of stronger enforcement tools such as mandatory waste separation at the source, regular compliance inspections, fines for non-compliance, and performance-based municipal contracts;

- implementing extended producer responsibility (EPR) programs, which obligate producers to take back or finance the recycling and disposal of their products and packaging;

- enhancing public-private partnerships and improved public awareness campaigns bridging the implementation gap and advancing sustainable waste practices across the country.

6. Conclusions.

As part of its accession process, Albania has demonstrated a strong commitment to environmental protection and integration with EU policy, embracing a thorough legislative and regulatory framework over the years, as well as integrating environmental preservation and sustainable development into its national strategies. The country's goal to strike a balance between economic growth, environmental preservation, and social development is reflected in important plans such as the National General Plan 'Albania 2030' and the National Strategy for Development and European Integration 2021–2030. This wider policy alignment with EU norms shows that environmental governance is seen as a chance to modernise the economy and enhance the well-being of citizens, in addition to being a legal requirement. The country's commitment to addressing environmental issues is further emphasised by its engagement with the European Green Deal and the Green Agenda for the Western Balkans.

110 ERE (2025), Raport Vjetor. Gjendja e Sektorit të Energjisë dhe Veprimtaria e Entit Rregullator të Energjisë gjatë Vitit 2024. [translation from Albanian: Annual Report. State of the Energy Sector and the Activity of the Energy Regulatory Authority during 2024], https://ere.gov.al/media/files/2025/04/10/media/files/2025/03/05/Raporti_Vjetor_2024.pdf.

Strides toward bringing legal and regulatory frameworks into compliance with EU environmental requirements have been made, particularly with regard to decarbonisation and waste management.

Concerning decarbonisation, although the nation's green energy output is dominated by hydropower, there is still room for improvement in terms of diversification into solar and wind energy. With regard to mobility, despite the growing popularity of electric vehicles, charging infrastructure is still in its infancy, and other types of transport infrastructure should as well be in focus.

As for waste management, the system is still primarily linear and landfill-dependent, with recycling rates falling short of EU standards despite policy frameworks that promote a circular economy.

Overall, stronger dialogue and cooperation between national and local governments, enhanced enforcement, and greater financial and technological capabilities will all be necessary to close the gap between policy and practice. This will be crucial to overcoming existing gaps and support Albania's green transition, helping the country move closer to EU environmental standards and realise its full potential in the process of accession.

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DPSHTRR (2025). Regjistrimet. Mjetet e regjistruara sipas lëndës djegëse, https://lookerstudio.google.com/u/0/reporting/70f605d5-f454-4776-af73-fdbbcd757bbb/page/VPËqB.

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CHAPTER V

THE GREEN DEAL IN KOSOVO

Shkumbin Spahija

Abstract.

This research-based publication analyses the implementation of the European Green Deal in Kosovo, a European Union (EU) strategic framework aimed at achieving climate neutrality and sustainable development. The report examines the status of Kosovo's green agenda, detailing the steps taken to align with the Green Deal's objectives. It identifies key challenges and obstacles hindering progress, assesses existing environmental policies and their alignment with EU standards, and proposes new green policies to accelerate the transition. Furthermore, the analysis underscores the critical importance of these policies for Kosovo's aspiration for EU integration, highlighting the interconnectedness of environmental sustainability and the EU accession process. The findings and key recommendations are based on comprehensive desk research focusing on policy documents, reports from international organisations, government strategies, and academic literature.

1. Introduction.

The European Green Deal (EGD), launched by the European Union, represents an ambitious roadmap to transform Europe into the first climate-neutral continent by 2050.[111] Recognising the interconnectedness of the European continent and the importance of regional cooperation in addressing climate change, the EU extended the principles of the EGD to the Western Balkans through the Green Agenda for the Western Balkans (GAWB), which was adopted in 2020.[112]

This commitment was formalised through the Sofia Declaration, signed by leaders from the Western Balkans, including Kosovo, as a signal of their intent to align national policies with the overarching goals of the EGD.[113] Namely, the GAWB provides a structured approach to the green transition in the region, built upon five key pillars: 1) decarbonisation; 2) circular economy; 3) depollution; 4) sustainable food systems; and 5) biodiversity.[114] This framework is not merely a symbolic gesture, but rather a strategic guide for concrete actions aimed at fostering environmental sustainability and economic development.

For the Western Balkans, and particularly for Kosovo, the adoption and implementation of the Green Agenda holds significant implications, especially in the context of their aspirations for European Union integration. Aligning with the EU's environmental objectives and the requirements of Chapter 27 of the EU Acquis Communautaire (which focuses on the environment and climate change) is a crucial step in the accession process for candidate countries.[115] The

Green Deal offers a tangible roadmap for this integration, providing a framework for harmonising national legislation and policies with EU standards.[116]

The EU's commitment to this process is further underscored by initiatives like the New Growth Plan, which includes a strong focus on the green transition and offers financial incentives to support necessary reforms in the region.[117] Kosovo stands to benefit substantially from this plan, highlighting the EU's strategic use of the Green Deal as a mechanism to promote reforms and facilitate closer integration with the Western Balkans.[118]

This chapter aims to provide a comprehensive analysis of the implementation of the Green Deal in Kosovo, assessing the current situation, outlining the steps already taken towards a greener economy, and identifying the key challenges and obstacles that need to be addressed. Furthermore, it will review existing environmental policies in Kosovo, evaluate their alignment with the EGD, and recommend new policies that can accelerate the green transition and strengthen Kosovo's path towards EU integration.

111 Meijburg' & Co, 'EU Green Deal', https://www.meijburg.com/specialism/esg-taxation/eu-green-deal.
112 European Commission, A Green Agenda for the Western Balkans, https://enlargement.ec.europa.eu/system/files/2023- 10/factsheet%20green%20agenda%20oct2023%20final.pdf.
113 Id.
114 Id.
115 European Council on Foreign Relations (2025), 'Geopolitical greenery: How decarbonisation can speed the Western Balkans towards the EU', https://ecfr.eu/publication/geopolitical-greenery-how-decarbonisation-can- speed-the- western-balkans-towards-the-eu/.
116 Id.
117 B. Gergi (2025), 'Kosovo's Reform Agenda: The gaps between planning and implementation', GLPS, https://legalpoliticalstudies.org/wp-content/uploads/2025/02/GLPS-Policy-Brief-Kosovo- RA-gaps-and- challenges-in-implementation.pdf.
118 European Council on Foreign Relations (2025), ibid.

2. Literature review.

Existing academic and policy literature provides a valuable resource for understanding the implementation of the Green Deal in the Western Balkans, including Kosovo. A recurring theme is the challenge of balancing economic development with environmental protection, particularly for developing nations like Kosovo.

Studies often analyse the broader impact of EU environmental policies on pre-accession countries, examining the processes of legislative alignment and the effectiveness of implementation.[119] This body of work highlights the institutional and economic adjustments required for these nations to meet EU environmental standards. Furthermore, research explores the perspectives of various stakeholders – including governments, businesses, civil society organisations, and the public – on the green transition in the region, revealing diverse levels of awareness, support, and engagement.[120]

While the existing literature offers valuable insights into the general trends and challenges in the Western Balkans, there appears to be a relative lack of specific focus on the unique context of Kosovo. Additionally, the country's specific energy challenges, stemming from heavy reliance on coal, and a distinct political and economic landscape, requires more dedicated scholarly attention. Detailed assessments of the effectiveness of the green policies that have already been implemented are also needed to identify best practices and areas for improvement. Moreover, understanding the level of public awareness and acceptance of green policies is crucial for ensuring successful implementation and requires further investigation.[121]

119 H. Bekteshi (2020), 'Environmental Laws in Kosovo: Implementation of the SAA', JMU Scholarly Commons, https://commons.lib.jmu.edu/cgi/viewcontent.cgi?article=1048&context=ese.

120 UNDP, 'Challenges and Opportunities in Transitioning to a Carbon Neutral Economy', https://www.undp.org/kosovo/press-releases/undp-launches-report-challenges-and- opportunities-transitioning- carbon-neutral-economy.

121 Id.

The global imperative for environmental sustainability has driven the development of extensive legislation aimed at boosting and promoting green practices. The EU, at the forefront of this movement, has established a comprehensive body of laws and directives under the umbrella of the EGD. These regulations span various sectors, including renewable energy targets,[122,123] energy efficiency standards,[124] and waste management directives promoting circularity,[125] air quality regulations,[126] and biodiversity conservation measures.[127] The EU's approach emphasises legally binding targets, monitoring mechanisms, enforcement, and economic and investment to ensure Member States and aspiring members adopt and implement these green practices effectively.[128] The GAWB mirrors these principles, urging the region to adopt similar legislative frameworks to facilitate a continent-wide green transition.[129]

Within Kosovo, notable initial steps have been taken towards implementing the Green Deal, demonstrating a commitment to aligning with European environmental standards and pursuing a sustainable future. In 2020, the country joined the other Western Balkan nations in signing the Sofia Declaration on the GAWB, marking a formal pledge to work towards the 2050 target of a carbon-neutral continent alongside the EU.[130]

Moreover, a foundational legal framework for environmental protection is in force that addresses environmental protection and climate change., These key laws and regulations represent steps towards aligning with EU environmental standards. These measures include:

a) The Law on Air Protection from Pollution, aligning with European Union environmental directives, aims to regulate air quality, enforce emission reductions, and hold polluters accountable. The law mandates continuous air quality monitoring, sets emission limits for industries and vehicles, promotes clean energy, and includes penalties for non-compliance.[131]

122 European Parliament, Renewable Energy Directive, https://www.eea.europa.eu/policy-documents/directive- eu-2018-2001.
123 European Commission (2022), REPowerEU Plan, https://commission.europa.eu/publications/key- documents-repowereu_en.
124 European Parliament, Directive (EU) 2023/1791 (Energy Efficiency Directive).
125 European Commission, 'Waste Framework Directive', https://environment.ec.europa.eu/topics/waste-and- recycling/waste-framework- directive_en.
126 Kosovo Official Gazette, Kosovo Law on Air Protection from Pollution, https://gzk.rks- gov.net/ActDetail.aspx?ActID=2669&langid=2.
127 Kosovo Official Gazette, Kosovo Law on Nature Protection, https://gzk.rks- gov.net/ActDetail.aspx?ActID=2716&langid=2.
128 European Commission (2020), Economic and Investment Plan for the Western Balkans, https://enlargement.ec.europa.eu/economic-and-investment-plan-western-balkans-0_en.
129 Id.
130 Carnegie Endowment for International Peace (2023), 'The Green Transition and the Western Balkans' https://carnegieendowment.org/research/2023/10/the-green-transition-and-the-western-balkans.
131 *Kosovo Law on Air Protection from Pollution*; *ibid*.; and Reko, 'Kosovo's Law on Air Protection from Pollution – A Comprehensive Overview', Reko, https://re-ko.org/kosovos-law-on-air-protection-from-pollution- what-you-need-to-know/.

b) The recently adopted Law on Climate Change (2024), represents a significant step forward, establishing duties and responsibilities for state authorities in mitigating climate change effects and aligning with international agreements.[132] The law incorporates elements of the EU's Governance of the Energy Union and Climate Action Regulation and sets the basis for the National Energy and Climate Plan (NECP).

c) Other important pieces of legislation include: the Law on Nature Protection (which prescribes measures for the conservation of biodiversity and natural resources),[133] the Law on Environmental Impact Assessment (which ensures that projects with significant environmental impacts are properly assessed before approval),[134] the Law on Environmental Protection (which provides a broader framework for environmental management), the law on waste management,[135] and other laws on Waters and Forests addressing the sustainable management of these vital resources.[136]

Additionally, the Energy Strategy of the Republic of Kosovo 2022-2031[137] further strengthens this framework. The strategy outlines the country's long-term vision for a sustainable and secure energy sector – including the phase-out of coal by 2050 and the promotion of renewable energy – and sets higher targets for the integration of renewable energy sources into the national energy mix.[138] Kosovo has adopted several key strategic documents aimed at guiding its green transition. These include the National Energy and Climate Plan (NECP), a crucial document that details the specific policies and measures to achieve its energy and climate targets,[139] and, beyond the energy sector, the Roadmap for Circular Economy. This indicates an intention to move towards more sustainable production and consumption patterns.[140]

However, the crucial aspect lies in the actual implementation and enforcement of these laws and regulations. Reports from international organisations and local NGOs often highlight a significant gap between the adoption of legislation and its effective application on the ground.[141]

132 EUKI, 'A Strong Climate Commitment Against the Odds: Kosovo's Path to Sustainable Governance' https://www.euki.de/en/news/a-strong-climate-commitment-against-the-odds-kosovos- path-to-sustainable- governance/.
133 Kosovo Law on Nature Protection.
134 RES Kosovo, 'Legislation', https://reskosovo.rks-gov.net/energy-overview/legislation/.
135 Kosovo Official Gazette, Kosovo Law on waste, https://gzk.rks- gov.net/ActDetail.aspx?ActID=2829&langid=2.
136 Climate Change Laws, 'Kosovo climate laws and policies', https://climate-laws.org/geographies/kosovo.
137 Office of the Prime Minister (2023), Kosovo Energy Strategy 2022-2031, https://kryeministri.rks- gov.net/en/energy-strategy-of-the-republic-of-kosovo-2022-2031/.
138 Balkans Policy Research Group (2023), 'Green and Digital: Where Does Kosovo Stand', https://balkansgroup.org/wp-content/uploads/2023/09/Green-Digital-Where-does-Kosovo- stand-3-1.pdf. 139 U. Haxha (2024), 'Green Deal, we have a problem', Kosovo 2.0, https://kosovotwopointzero.com/en/green-deal-we-have-a-problem/.
140 Balkans Policy Research Group (2023), ibid.
141 European Commission (2023), Kosovo Report 2023, https://enlargement.ec.europa.eu/kosovo-report- 2023_en.

Challenges such as weak institutional capacity, lack of financial resources for enforcement, and competing political priorities often impede the translation of legal frameworks into tangible environmental improvements.[142] Moreover, understanding public opinion and the extent to which green practices are integrated into everyday life is vital for the success of any environmental policy. Limited research indirectly suggests that public awareness of climate change and environmental issues in Kosovo is growing,[143] however, factors such as economic hardship and other immediate socio-political concerns can overshadow environmental priorities in public discourse and individual behavior.[144]

For these reasons, further research is needed to comprehensively gauge public attitudes, behaviours, and barriers to adopting green practices in Kosovo.

3. Methodology.

This publication employs a desk research methodology, which involves a systematic analysis of publicly available documents and reports to address the research question. The study draws upon a wide range of sources, including official policy briefs and reports published by the European Commission and other EU institutions. Reports and data from international organisations such as the World Bank, the United Nations Development Programme (UNDP), and the Energy Community Secretariat are also utilised to provide a comprehensive overview of the situation.

Furthermore, government documents from Kosovo, including national strategies, action plans, and legislative texts related to energy and climate, form a crucial part of the data. Analyses and publications from think tanks and non-governmental organisations (NGOs) operating in the Western Balkans and Kosovo provide valuable perspectives and insights into the challenges and progress of the green transition.

Finally, relevant academic articles and research papers are consulted to contextualise the findings within the broader scholarly discourse on environmental policy and EU integration.

This desk research approach allows for a thorough examination of the existing information and provides a solid foundation for analysing the current status, challenges, and future directions of Green Deal implementation in Kosovo.

4. Results and policy analysis.

The developments and the foundational legal framework highlighted in the literature review demonstrate Kosovo's clear initial commitment to the principles and goals of the Green Agenda. Yet, the actual implementation faces considerable hurdles and obstacles.

Generally speaking, while Kosovo has made progress in establishing environmental legislation, the level of alignment with the EGD varies across different areas. For example, the Law on Air Protection from Pollution is designed to align with EU directives on air quality,[145] the Law on Climate Change reflects aspects of the EU's climate governance framework,[146] and energy and climate strategies articulate goals that are consistent with the EU's broader decarbonisation objectives and renewable energy targets.[147] The EU has also actively supported Kosovo in aligning its waste management practices with EU standards through various programs.[148] However, the Energy Community Secretariat has pointed out that the Law on Climate Change missed an opportunity to fully incorporate all the 2030 Energy Community climate and energy targets, as well as the 2050 national-level climate neutrality objective, suggesting that while alignment is a clear priority, there are still areas where further harmonisation with the EU acquis is needed.[149]

145 Reko, ibid.
146 V. Spasic (2024), 'Kosovo* adopts first Law on Climate Change, Balkan Green Energy News, 21 January https://balkangreenenergynews.com/kosovo-adopts-first-law-on-climate-change/.
147 Balkans Policy Research Group (2023), ibid.
148European Commission (2020), 'EU4 Environment, Climate Action and Energy - Enlargement and Eastern Neighbourhood', https://enlargement.ec.europa.eu/system/files/2020- 08/ipa_2020_042090.04_eu4_environment_climate_action_and_energy.pdf.
149 V. Spasic (2024), ibid.

Financial support and investments play a crucial role in enabling the country's green transition. The country is poised to receive a substantial allocation of €883 million under the EU's New Growth Plan. This is specifically earmarked for areas including the green and digital transition. This allocation, the largest amount of funding on a per capita basis, recognises Kosovo's lower national income compared to other countries in the region.[150] Since 2021, the EU has committed a total of €1.25 billion to support the implementation of the Green Agenda across the Western Balkans, encompassing technical assistance and investments in energy efficiency, renewable energy, and environmental management.[151] The Western Balkans Investment Framework (WBIF) also provides support for various projects aimed at facilitating the green transition in the region.[152] Finally, a significant development in direct investment is the MCC-Kosovo Compact, a $202 million grant from the U.S. government focused on delivering modern, clean energy solutions, and improving electricity reliability in Kosovo.[153] This compact includes an additional contribution of $34.6 million from the government of Kosovo, highlighting a shared commitment to this initiative.

While these financial commitments are significant, the scale of investment required for a complete transition to a green economy, especially considering the country's existing economic challenges and the identified investment gaps within the EU itself,[154] suggests that further mobilisation of both public and private funds will be necessary to achieve the ambitious goals of the Green Deal.

4.1. Challenges and obstacles to implementation.

Despite the progress in policy adoption and the commitment to the Green Agenda, and besides financial/investment aspects, further significant economic and structural challenges hinder its implementation.

Kosovo's energy sector depends heavily on coal, which provides 87% of the country's electricity, while just 13% comes from hydropower, wind, and solar sources.[155] This dependence on outdated coal-fired power plants not only impedes decarbonisation efforts but also results in high levels of air pollution.[156]

150 B. Gergi (2025), ibid.
151 A Green Agenda for the Western Balkans, ibid.
152 A Green Agenda for the Western Balkans, ibid.
153 Millennium Challenge Corporation (MCC) (2024), 'Government of Kosovo Launches $202 Million', https://www.mcc.gov/news-and-events/release/release-050124-kosovo-compact-launch/.
154 U. Haxha (2024),, ibid.
155 ALB version, Energy Regulatory Office (2024), 'Evaluation of Competition in Energy Sector in Kosovo 2022-2023',https://www.eroks.org/zrre/sites/default/files/Lajmet/njoftimet/VLER%C3%8BSIMI%20I%20KONKUR RENC%C3%8BS%20N%C3%8B%20SEKTORIN%20E%20ENERGJIS%C3%8B%20ELEKTRIKE%20N%C 3%8B%20KOSOV%C3%8B%20202..._1.pdf; and H. Haxha (2024), ibid.
156 H. Haxha (2024) , ibid.

The energy infrastructure is often outdated, leading to significant energy losses and an unreliable supply.[157]

As a developing economy, Kosovo has limited financial resources to undertake large-scale investments in renewable energy and energy efficiency projects.[158] The country's economic structure, characterised by a reliance on remittances and high unemployment rates,[159] further complicates the allocation of resources towards environmental initiatives. Moreover, the upcoming implementation of the EU's Carbon Border Adjustment Mechanism (CBAM) poses a potential challenge to Kosovo's key export sectors, such as metal industries and cement production, as it will likely increase their production costs.[160] Overcoming these economic and structural barriers requires substantial financial support and a well-planned just transition strategy.

Institutional and governance limitations also present considerable obstacles to the effective implementation of the Green Deal in Kosovo. Weak planning capacities and the presence of competing priorities within the government can slow down the progress of green initiatives.[161] Insufficient coordination among various governmental bodies and agencies involved in environmental and energy policy can lead to inefficiencies and delays.[162] The institutional capacity for developing and implementing complex climate policies remains limited, hindering the translation of strategic goals into concrete actions.[163]

Although the government of Kosovo recently held a successful auction for a 100 MW solar photovoltaic project,[164] the overall pace of launching renewable energy auctions has been slow, delaying the deployment of much-needed clean energy capacity.[165] Furthermore, bureaucratic barriers and prolonged authorisation procedures for renewable energy investments can deter potential investors and slow down project development.[166] Addressing these institutional weaknesses and improving inter-ministerial coordination are crucial for accelerating the implementation of the Green Agenda.

Social and public awareness issues represent another layer of challenges for Kosovo's green transition.

157 Carnegie Endowment for International Peace (2023), ibid.
158 U. Haxha (2024),, ibid.
159 Balkans Policy Research Group (2023), ibid.
160 U. Haxha (2024),, ibid.
161 Balkans Policy Research Group (2023), ibid.
162 B. Gergi (2025), ibid.
163 Balkans Policy Research Group (2023), ibid.
164 RES Kosovo, 'Kosovo's First Solar Auction', https://reskosovo.rks-gov.net/auction/.
165 U. Haxha (2024),, ibid.
166 Balkan Green Foundation (2024), 'Navigating Solar Investment Challenges in Kosovo', https://www.balkangreenfoundation.org/uploads/files/2024/February/22/Navigating_Solar_Investment_Challen ges_in_Kosovo_ENG1708611328.pdf.

Public understanding of the risks and impacts of climate change is generally low, along with limited public willingness to accept potentially higher electricity tariffs to support the transition to cleaner energy sources.[167]
The potential for job losses in traditional coal- dependent sectors raises concerns among the population about the socio-economic consequences of the green transition, necessitating careful planning for a just transition that supports affected workers and communities.[168] Therefore securing broad public support for the Green Deal requires effective communication, awareness campaigns, and inclusive policy- making processes.

Specific sectors in Kosovo face unique challenges in aligning with the Green Deal objectives. The energy sector struggles with the slow pace of increasing the share of renewable energy sources in the overall energy mix.[169] Waste management remains a significant issue, with challenges including the prevalence of illegal dumpsites and low rates of recycling – although some progress has been made with the development of a circular economy strategy.[170]
Air pollution continues to be a major environmental problem, particularly in urban centres, largely due to the burning of fossil fuels and transport emissions (the Kosovo Environmental Protection Agency (KEPA) reported that approximately 18% of the days in 2023 experienced 'poor to hazardous' air quality).[171] And water scarcity and pollution are also pressing concerns with limited progress in modernising water monitoring infrastructure.[172] Addressing these sector- specific challenges requires targeted policies and investments tailored to the unique circumstances of each sector.

4.2. Discussion.

The analysis of the current situation reveals that Kosovo has embarked on the path towards Green Deal implementation by adopting key strategic documents and participating in regional initiatives.[173] The financial support received from the EU and other international partners is undoubtedly crucial for facilitating this transition.[174] However, a significant gap exists between policy commitments and tangible results on the ground, particularly within the energy sector, which as seen remains heavily reliant on coal.

167 UNDP, ibid.
168 Balkans Policy Research Group (2023), ibid.
169 U. Haxha (2024), ibid.
170 INDEP (2024), 'Kosovo's achievements four years after the Sofia Summit', https://indep.info/wp- content/uploads/2024/11/Green-Agenda_Kosova.pdf.
171 Id.
172 Id.
173 Balkans Policy Research Group (2023), ibid.
174 A Green Agenda for the Western Balkans', ibid.

The deep-rooted dependence on coal poses a substantial obstacle to Kosovo's decarbonisation efforts, contributing significantly to high levels of air pollution that negatively impact both public health and the environment. Furthermore, institutional weakness and a lack of effective coordination among government bodies hinder the efficient implementation of adopted policies and the optimal absorption of available EU funds.[175] The low level of public awareness regarding climate change and a potential resistance to increased energy costs present additional challenges to the widespread adoption of green technologies and practices.[176] Failure to effectively address these interconnected challenges will not only impede Kosovo's progress in its green transition but also significantly delay its aspirations for EU integration, as environmental standards constitute a fundamental aspect of the EU accession criteria.[177]

Several policy gaps require urgent attention to accelerate Kosovo's green agenda. Comprehensive national strategies for waste management and the promotion of a circular economy need to be strengthened with robust enforcement mechanisms to ensure effective implementation.[178]

Concrete and detailed plans are essential for the retraining and redeployment of workers currently employed in the coal industry, ensuring a just and equitable transition for all affected communities.[179] Establishing effective mechanisms for greater public and stakeholder involvement in the planning, implementation, and monitoring of green policies is crucial for building trust and ensuring their long-term success.[180] Finally, policy frameworks designed to incentivise private sector investment in renewable energy sources, energy efficiency measures, and zero-emission vehicles[181] need to be significantly strengthened to attract the necessary capital and expertise.

175 B. Gergi (2025), ibid.
176 UNDP, ibid.
177 European Council on Foreign Relations (2025), ibid.
178 INDEP (2024), ibid.
179 ECOZ, 'Just Transition in Kosovo - A Green and Economically Viable Solution', https://www.eco- zone.org/storage/posts/July2024/KYBfNmn5WjVKreehS0fw.pdf.
180 EUKI,, ibid.
181 Id.
182 U Haxha (2024),ibid.

5. Recommendations.

To accelerate EGD implementation and facilitate EU integration, Kosovo should foster the implementation of several green policies targeting key sectors, namely:

a) Renewable energy – overcoming the slow progress in expanding renewable energy capacity.

- Accelerate the implementation of clear and transparent auction guidelines for wind and solar energy projects, accompanied by a long-term auction plan that provides predictability for investors.[182]

- Kosovo's recent (first) 100 MW solar auction showed strong investor interest and competitive pricing. This underscored the need for a stable investment framework to support long-term projects and attract greater private sector participation.

- Introducing feed-in tariffs or premiums for small-scale renewable energy production by households and businesses can incentivise distributed generation and increase public participation.

- Streamlining the permitting processes for renewable energy projects will reduce bureaucratic barriers and attract more investment.[183]

b) Energy efficiency – reducing overall energy consumption and reliance on fossil fuels.

- Introduce mandatory energy efficiency standards for all new buildings and major renovations, coupled with financial incentives such as grants or low-interest loans to encourage compliance.[184]

- Develop comprehensive programs to support energy efficiency upgrades in existing residential and public buildings, including insulation and window replacement initiatives, to yield significant energy savings.[185]

182 U Haxha (2024),ibid.
183 Balkan Green Foundation (2024), ibid.
184 M. Jupolli (2024), 'Building a Greener Kosovo: A Path to Sustainable Growth', Helvetas, https://www.helvetas.org/en/switzerland/how-you-can-help/follow-us/blog/sustainable- economy/building-a- greener-kosovo-a-path-to-sustainable-growth.
185 A Green Agenda for the Western Balkans', ibid.

- Promote energy-efficient equipment and devices, along with providing information on their energy consumption, to enhance the efficiency and resilience of the energy infrastructure.[186]

c) Waste management – addressing the challenges of waste pollution and promoting a circular economy.

- Implement a comprehensive national waste management strategy with ambitious and legally binding recycling targets, along with specific measures for the safe management of hazardous waste.[187]

- Enforce a complete ban on single-use plastics and actively promote circular economypractices among businesses, through incentives and awareness campaigns.[188]

- Make significant investments in modern waste sorting and recycling infrastructure to achieve higher recycling rates.[189]

d) Sustainable transport – decarbonising the transport sector and improving urban air quality.

- Develop and implement a comprehensive sustainable urban mobility plan that prioritises public transport, cycling infrastructure, and pedestrian-friendly urban design [190].

Provide financial incentives for the adoption of electric vehicles, such as subsidies and tax breaks, along with the development of a widespread charging infrastructure, to encourage the transition to cleaner transportation options.[191]

e) Institutional capacity – enhancing institutional capacity and inter-ministerial coordination.

- Establish a dedicated inter-ministerial Green Deal working group, which would ensure better policy coherence and streamlined implementation across different sectors.[192]

186 Balkans Policy Research Group (2023), ibid.
187 Balkan Green Foundation (2024), '1st Green Forum Commitment Paper Kosovo Green Action', https://www.balkangreenfoundation.org/uploads/files/2024/October/30/Balkangreen_com mitmentpaper_ENG1730275434.pdf.
188 A. Barone et al. (2025), 'Rethinking single-use plastics: Innovations, policies, consumer awareness and market shaping biodegradable solutions in the packaging industry', Trends in Food Science and Technology, 158, https://www.sciencedirect.com/science/article/abs/pii/S0924224425000421.
189 A Green Agenda for the Western Balkans', ibid.
190 UN-HABITAT (2021), 'Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan (SUMP) in Kosovo's Cities', https://unhabitat.org/guidelines-for-developing-and-implementing-a-sustainable- urban-mobility-plan-sump-in-kosovos-cities.
191 The International Energy Agency (IEA) (2021), 'Policies to promote electric vehicle deployment', https://www.iea.org/reports/global-ev-outlook-2021/policies-to-promote-electric-vehicle-deployment.
192 Balkan Green Foundation (2024), '1st Green Forum Commitment Paper Kosovo Green Action', ibid.

- Strengthen the capacity of relevant ministries and agencies through targeted training programs and the recruitment of experts in environmental policy and climate science,[193] including building concrete expertise in areas such as carbon market design and implementation, emissions monitoring, reporting and verification, and carbon pricinginstruments.

- Develop clear and measurable monitoring and evaluation frameworks to allow for effective tracking of progress on Green Deal implementation and identification of areas needing further attention.[194]

f) Public awareness – promoting public awareness and fostering greater stakeholder engagement.

- Launch comprehensive public awareness campaigns highlighting the importance and benefits of the Green Deal and climate action for Kosovo's future.[195]

- Establish formal multi-stakeholder platforms to provide a structured mechanism for involving civil society organisations, businesses, local communities, and youth in the policy-making process related to the green transition.[196]

- Integrate environmental education into the national school curricula to help to build a foundation of environmental awareness and responsibility among future generations.[197]

g) Harmonisation policies – aligning national policies with the EGD and facilitating the EU integration process.

- Prioritise the full harmonisation of national environmental legislation with the EU environmental acquis, particularly in critical areas such as waste management, industrial emissions, and nature protection.[198]

- Develop a detailed and gradual roadmap for the introduction of carbon pricing mechanisms, with the long-term vision of potentially linking to the EU Emissions Trading System (ETS) to incentivise emissions reductions in key sectors.[199]

193 Balkans Policy Research Group (2023), ibid.
194 V. Spasic (2024), ibid.
195 A Green Agenda for the Western Balkans', ibid.
196 EUKI, ibid.
197 Balkans Policy Research Group (2023), ibid.
198 H. Bekteshi (2020), ibid.
199 U. Haxha (2024), ibid.

- Strengthen cross-border cooperation with neighbouring countries on shared environmental challenges, such as water resource management and biodiversity protection, to contribute to regional stability and facilitate EU integration.[200]

6. Conclusions.

In conclusion, Kosovo is laying the groundwork for deeper integration with the European Green Deal by adopting key strategies and engaging in regional cooperation. The financial and technical support from the EU and other international partners is playing a vital role in this process. However, the country faces significant economic, institutional, and social challenges that hinder the effective implementation of its green agenda. Overcoming the deep reliance on coal, strengthening institutional capacity, and fostering greater public engagement are crucial steps for accelerating the green transition.

The Green Deal is not merely an environmental imperative for Kosovo; it is inseparably linked to its aspirations for European Union integration. Progress in adopting and implementing green policies will directly impact Kosovo's ability to meet the stringent environmental standards required for EU membership. Embracing the green agenda will not only lead to a healthier environment and a more resilient society but will also foster sustainable economic development and improve the overall quality of life for Kosovans.

The path forward requires a concerted effort to move beyond policy adoption to effective implementation. A holistic and integrated approach, involving all levels of government, civil society, the business sector, and the public, is essential for the successful realisation of the Green Deal's objectives in Kosovo. The green transition presents a unique opportunity for Kosovo to build a more sustainable and prosperous future while firmly advancing its journey towards European integration.

200 A Green Agenda for the Western Balkans', ibid.

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CHAPTER VI

ADVANCING THE GREEN AGENDA:

MONTENEGRO'S PATH TO CLIMATE NEUTRALITY

Biljana Ivanović

Abstract.

The Green Agenda for the Western Balkans represents a strategic framework for sustainable development as a response to global climate challenges, including the alignment of environmental regulations in Western Balkan countries with European Union standards. Although Montenegro is a relatively small polluter, it strongly supports environmental protection reforms, aiming to implement them across all sectors of economic development, which would also formally fulfil obligations in the European Union (EU) accession process. However, achieving sustainability in the green transition has proven to be an extremely complex task. The greatest challenges in this regard have been recorded in the areas of decarbonisation and air, water, and land pollution, where reforms are characterised by lengthy processes and the need for significant financial investments.

1. Introduction.

Climate change is one of the biggest geopolitical challenges the world is facing today, with serious consequences for the environment, the economy, and citizens' everyday life. Montenegro is a predominantly mountainous country in southeastern Europe, but also a Mediterranean country with 623,633 inhabitants (according to the 2023 census), a GDP per capita in PPS in 2023 of 51 (EU = 100),[201] a total surface area of 13, 812 km^2, and an Adriatic Sea coastline 293 km long.[202]

Although a relatively small emitter of greenhouse gases (GHG), Montenegro has not remained immune to the negative impacts of global warming, which are reflected in the rising average air and sea temperatures. The country is particularly exposed and vulnerable to climate-related hazards such as droughts, floods, wildfires, and heatwaves.

Summers are becoming longer and drier, while winters are warmer and precipitation is falling in the form of rain instead of snow. Climate projections indicate that these extreme weather conditions will become more frequent and intense in the future, which will have adverse effects on agriculture, tourism,

201 EUROSTAT (2023), 'GDP per capita in PPS for 2023' (Database), http://ec.europa.eu/eurostat/web/products-datasets/-/tec00114.
202 Government of Montenegro (2015), 'The Second National Communication on Climate Change to the UNFCCC', 25, 2015.

and human health. For this reason, Montenegro has recognised the need to join forces with countries that share the same concerns and are actively engaged in the fight against climate change, thereby contributing to the global effort to halt and reduce its effects.

Montenegro became a party to the UN Framework Convention on Climate Change (UNFCCC) after becoming independent in 2006. On 11 October 2017, the Parliament of Montenegro adopted the Law on Ratification of the Paris Agreement, thereby committed to adhering to its goal of keeping global temperatures within safe limits. Montenegro has committed to reducing its GHG emissions by at least 1,572 kilotons, bringing them down to a level of 3,667 kilotons or less. Montenegro's contribution to the international community's efforts to combat climate change is expressed through its Nationally Determined Contribution (NDC) to the reduction of GHG emissions. In the last NDC (submitted in 2025) Montenegro set an ambitious goal to reduce GHG emissions by 55% by 2030, and 60% by 2035 compared to 1990 levels.[203]

In 2020, the country signed the Declaration on the Green Agenda for the Western Balkans (GAWB) at the summit in Sofia, which committed the country to become climate neutral by 2050. As the GAWB is a legally binding tool, it represents an important factor in the success of Montenegro's pre-accession process towards the EU. At the end of 2021, the Council for Regional Cooperation (RCC) prepared an Action Plan to fulfil the obligations of the Sofia Declaration through 2030. This consists of five main pillars: 1) decarbonisation (climate, energy, mobility); 2) circular economy; 3) depollution (of air, water, and land); 4) sustainable agriculture and food production; and 5) biodiversity.

In addition, as a member of the Energy Community (EnC) and a candidate for EU membership, Montenegro pledged to meet the goals of the EnC and the EU in the fields of renewable energy, energy efficiency, and GHG emission reduction. In line with the decisions of the EnC Ministerial Council,[204] Montenegro has committed to achieving 2030 targets related to reducing primary and final energy consumption, accelerating the deployment of renewable energy sources, and lowering GHG emissions, with the aim of reaching climate neutrality by no later than 2050. Table 1 presents the EnC targets, which are fully aligned with Montenegro's objectives.

203 Government of Montenegro (2025), 'Predlog ažuriranog nacionalno utvrđenog doprinosa Crne Gore za 2030. i 2035. godinu', 15 February, https://www.gov.me/en/documents/c0362fe5-2e4a-47c3-802d- 0f052483e36d.
204 Energy Community Ministerial Council (2022), Decision of the Ministerial Council of the Energy Community No 2022/02/MC-EnC.

Table 1: Overview of the key objectives for Montenegro by 2030

Key Objectives	EnC Targets for Montenegro[205]	National targets
Primary energy consumption	0. 92 Mtoe	0. 92 Mtoe
Final energy consumption	0. 73 Mtoe	0. 73 Mtoe
Share of renewables in the gross final energy consumption	50 %	50 %
GHG emission decrease[206]	55 % (total 2. 42 $MtCO_2eq$)	55 % (total 2. 42 $MtCO_2eq$)

Despite the steps taken, GHG reduction targets remain highly challenging. The largest share of GHG emissions comes from the energy and transport sectors, where mitigation measures involve significant financial costs, raising concerns about their long-term sustainability. The approach to achieving these targets is outlined in the National Energy and Climate Plan (NECP) for the period 2021–2030.

This chapter presents the level of implementation of each measure defined by the GAWB action plan, the existing potential barriers, and the recommendations for further implementation in Montenegro.

2. Literature review.

Montenegro's Action Plan for the GAWB outlines 58 actions needed to meet its commitments by 2030. Since the Sofia Declaration progress has been made: a 2022 analysis shows that over 45% of the obligations have been implemented, 28% partially transposed, and 27% omitted.[207] Many GAWB obligations are regional, requiring action beyond national frameworks. However, most national measures have already been addressed through Chapter 27 benchmarks and other legislation (62%), with 24% needing further strengthening. Let us analyse more in detail the measures taken for each pillar.

205 Energy Community (n.d.), https://www.energy-community.org/implementation/package/CEP.html.
206 This target excludes LULUCF (land use, land use change and forests) emissions and removals.
207 Ministry of Economic Development and Tourism of Montenegro (2022), PREDLOG NACIONALNE STRATEGIJE CIRKULARNE TRANZICIJE DO 2030. S AKCIONIM PLANOM 2023-2024, Circular Economy Hub, December, https://cdn.prod.website- files.com/64b267b2af31e414a41e6a23/6507f513e2428c5540f01a6a_predlog-nacionalne-strategije-cirkularne- tranzicije.pdf.

2.1. Decarbonisation.

Decarbonisation-related activities include the adoption of legal frameworks, the development of strategic documents, the investment in energy efficiency, the promotion of electric vehicle use, and the implementation of a just transition in industrial areas. Analyses show that implementing additional decarbonisation measures in the transport sector is necessary, particularly regarding alignment with EU regulations on alternative fuels, as well as improvements to electric vehicle charging infrastructure.

Bearing in mind that the largest amount of GHG emissions derives from coal-based electricity production[208] – highlighting the need for decarbonisation and a shift to renewables – Montenegro has taken important steps towards aligning with EU climate policy, notably by establishing the region's only national emissions trading system (ETS). The ETS is regulated by the Decree on Activities for which a GHG Permit is issued, defining sectoral coverage, trading rules, allocation, and market stability measures. This builds on the Law on Protection against Negative Impacts of Climate Change, and is complemented by the draft Low Carbon Development Strategy and National Adaptation Plan, demonstrating the country's commitment to reducing emissions and strengthening climate resilience. In the context of energy sector reforms, the Clean Energy Package should be fully transposed into national legislation by 2025, advancing alignment with the EU electricity market. This will improve energy efficiency, enhance supply security, and support renewable energy development.

Moreover, Montenegro is also actively working to enhance energy efficiency across public and private sectors. The regulatory framework is anchored in the Law on Efficient Use of Energy, under which various financial programs and projects have been launched. In cooperation with the Eco Fund, subsidies are provided for: purchasing energy-efficient appliances; thermal insulation, efficient joinery, biomass heating, and solar systems for households and rural tourism; energy efficiency upgrades in hotels; renewable energy and efficiency improvements for MSMEs in manufacturing; and installing photovoltaic and central heating systems in local government facilities. These activities contribute to reducing energy consumption, lowering CO_2 emissions, and transitioning to sustainable energy systems.

Despite its role in energy security, coal's environmental and climate impacts are creating pressure to transition to cleaner energy sources. In this context, just transition measures in the Pljevlja region have become a strategic priority.

208 Montenegro's main coal regions are Pljevlja (lignite) and Berane (brown coal, currently inactive).

This involves not only the gradual phasing out of coal-based energy but also ensuring social support, economic diversification, and sustainable development for workers and communities historically dependent on coal mining. Between March and May 2024, the Centre for Climate Change, Natural Resources and Energy at the University of Donja Gorica surveyed Pljevlja citizens on the just energy transition, covering nearly 1% of the adult population. Results showed that 67% opposed closing the Pljevlja Power Station (TPP) or ending mining due to economic concerns, while 33% supported closure for environmental reasons. Over 55% of energy and mining sector workers were unwilling to retrain, indicating a need for stronger motivational and educational programs. A separate Eco-Team survey of women employed at TPP and the coal mine found that 66% saw no future for Pljevlja without these facilities, and 56% could not imagine their own future there if they closed. Overall, despite environmental impacts, economic dependence drives support for continued TPP operations.

Finally, the country is modernising its transport sector through the development of intelligent transport systems (ITS), guided by the 2022–2026 ITS Programme. Efforts include creating a Traffic Data Collection System to improve planning and road safety, and a Road Traffic Safety Strategy (2023–2030), and Action Plan adopted by the Ministry of Interior. A Road Asset Management System (RAMS) is being established alongside a medium-term road infrastructure plan (2024–2027). Incentives for low- and zero-emission vehicles have been introduced, but a legal framework for electric vehicle charging infrastructure is still lacking.

2.2. Circular economy.

In the area of circular economy under the Green Agenda, the analysis concluded that approximately 43% of the obligations have already been fully incorporated into Montenegro's existing strategic documents, 14% have been implemented, 29% are partially incorporated, while 14% still need to be incorporated. While progress has been made in developing circular economy strategies and smart specialisation strategies, there are a lack of initiatives to raise public awareness on waste prevention, separation, sustainable consumption, and marine litter issues.

Through the Declaration on the Ecological State from 1991, its constitutional provisions, and the adoption of the National Strategy for Sustainable Development, Montenegro has committed to sustainability as one of the fundamental principles of its development. Additionally, the government's efforts are focused on branding Montenegro as an ecological state, which is directly linked to the future development of a circular economy model. The

Circular Transition Strategy, which runs until 2030, along with the Action Plan for 2023-2024, was adopted in July 2024. Of the activities outlined in the Action Plan, 23% have been fully implemented, 52% partially (with a deadline for completion by the end of 2024), and 25% remain outstanding.

Progress has been made in promoting and implementing the circular economy, waste management, and coordination for the effective application of the concept. A 2023 Hackathon on the topic of the circular economy was held, along with 11 workshops and seminars (329 participants), and a conference focused on the green economy (167 participants). The benefits of the circular economy were promoted through ten events, four training sessions, and 15 promotional activities involving 336 students from 11 schools. A handbook titled 'Good Service Practices in Refrigeration Technology' is being prepared. Additionally, 30 civil servants have been trained on legal possibilities for green public procurement, 40 products and one service from 11 companies have been labelled with the collective trademark 'Good from Montenegro', and the introduction of circular economy-related courses into university curricula is currently underway.

Some progress has been made in building and maintaining waste management infrastructure in cities and regions. In this sector, two measures were taken: 1) the National Waste Management Plan for 2024 to 2028, which aims to improve waste management in the country to achieve the circular economy goals adopted by the EU; and 2) a Regulation on the methodology to determine the composition and quantity of municipal waste on the territory of local self- government unit. According to data from the Statistical Office of Montenegro (MONSTAT), the amount of recycled waste increased by 22.1% in 2023 compared to the previous year.

In coordination with the Central Bank of Montenegro, the Roadmap to Sustainable Financing has also been adopted. Companies were provided with special support through the programme 'Line for the Promotion of Circular Economy', offering financing and assistance for the transition to green business practices. A total of €3 million has been allocated in 2024 for the implementation of the 'Competitiveness Improvement Programme.' Additionally, the Chamber of Commerce of Montenegro has established the Circular Economy HUB (CE HUB) as a central platform for promoting circular economy practices.[209] Following the adoption of the Action Plan (2023–2024) and the Roadmap toward a Circular Economy, the CE HUB serves as a knowledge centre for sharing best practices, accessing circular economy expertise, and supporting related initiatives and activities.

209 Circular Economy Hub Montenegro (n.d.), https://www.ce-hub.me.

Finally, Montenegro is the first non-EU country to adopt a Smart Specialisation Strategy (S3) for 2019 to 2024 and establish its implementation framework. The S3 identifies priority areas to boost economic competitiveness through innovation. In February 2024, a new S3 for 2026 to 2031 began to be developed to strengthen institutions and target sectors with high innovation and export potential, alongside the preparation of a 2025 Implementation Plan. These efforts aim to transform the economy towards resource efficiency, innovation, and climate sustainability.

4.3. Depollution.

Montenegro is actively implementing measures to reduce pollution within the GAWB, aiming to decrease emissions of harmful substances into the air, water, and soil. Most of the legislative framework was aligned with the EU standards, but it is crucial to make additional efforts to modernise municipal wastewater treatment infrastructure, as well as to advance the use of green technologies and innovations in soil protection.

TPP Pljevlja, along with its associated coal mine, continues to be one of the biggest air polluters in the country. Its closure presents significant energy, social, and ultimately financial challenges. To reduce TPP Pljevlja's environmental impact, an ecological reconstruction is underway to meet EU Large Combustion Plants and Industrial Emissions Directives. The project includes installing desulphurisation, denitrification, and filtration systems to cut SO_2, NO_x, and particulate emissions, improving energy efficiency, modernising waste and wastewater management, and protecting surrounding soil. It is also linked to district heating for Pljevlja, which will lower household coal use and GHG emissions.

Air quality monitoring is carried out by the Environmental Protection Agency within the framework of the National Air Quality Monitoring Network. The network for air quality monitoring in Montenegro consists of nine stations. Calibration of monitoring equipment is done by a laboratory in Croatia. Montenegro has prepared a draft Air Quality Strategy for the period 2021–2029, which received a positive opinion from the European Commission, along with conclusions on Best Available Techniques (BAT) for large combustion plants.

Water management in Montenegro is overseen by the government through the Ministries of Agriculture and Ecology, with implementation by public water companies, local governments, and utilities. Their coordinated action is crucial for sector development. Montenegro has fully transposed key EU directives,

including the Water Framework, Flood, Bathing Water, Urban Waste Water Treatment (UWWT), Nitrate, and Groundwater Directives, mainly through the Law on Waters and basin management plans. Implementation is still at an early stage. Montenegro aligned with the Marine Strategy Directive by completing its marine monitoring programme and GIS database. Transitional periods have been requested to fully comply with the UWWT Directive by 2035 and certain Water Framework Directive measures.[210]

Under the 10th call for the Western Balkans Investment Framework (WBIF), Montenegro was awarded grants for the implementation of projects aimed at modernising and expanding water supply infrastructure, thereby improving water supply systems and wastewater treatment across the country.

4.4. Sustainable agriculture and food production.

Within the field of sustainable agriculture and food production, Montenegro successfully implements support measures for agricultural development through the IPARD programmes (EU Pre-accession assistance for rural development), but further efforts are required to achieve a comprehensive reform of agricultural policy and to promote organic farming and offer guidance on reducing pesticide use.

In September 2023, the second update of Montenegro's Strategy for Alignment with and Implementation of the EU acquis, and the General Action Plan and Specific Action Plan for control and eradication of classical swine fever were adopted. Furthermore, the Administration for Food Safety, Veterinary and Phytosanitary Affairs implemented disease surveillance programmes. Eventually, Montenegro's request to be included in the list for residue monitoring was approved by the European Commission in June 2023.

After the government's adoption, Montenegro's Parliament confirmed the EU instrument for pre-accession assistance for rural development IPARD III for 2021-27 programmes in December 2022, by adopting the Law on Management and Implementation of IPARD III. Its aim is to help these sectors align with EU standards related to food safety, plant and animal health, as well as environmental protection and animal welfare. With the contribution of the beneficiaries, around €128 million will be invested in Montenegrin agriculture through the implementation of the IPARD III program.

[210] Regional Cooperation Council (2023), '2023 Report on the Implementation of the Green Agenda for the Western Balkans Action Plan (GARI)', 25 February, https://www.rcc.int/pubs/202/2023-report-on-the- implementation-of-the-green-agenda-for-the-western-balkans-action-plan- gari#:~:text=The%20Green%20Agenda%20for%20the%20Western%20Balkans%20(GAWB)%20Action%20Pl an,WB6%20and%20outlines%20priority%20actions.

Montenegro is also a beneficiary of the International Fund for Agricultural Development (IFAD), under which the Rural Clustering and Transformation Project (RCTP) is being implemented. This is IFAD's first project in Montenegro, and was designed to be carried out over a 72 month period starting in July 2017. Another project from the same fund is Adaptation to Climate Change and Resilience in Montenegrin Mountain Areas (GORA), launched in 2024, whose main goal is to improve living conditions in rural areas and enhance agricultural production, with a special focus on supporting households in mountainous rural areas in northern Montenegro. The project also aims to support the sustainable development of mountain regions by strengthening local capacities, protecting ecosystems, and integrating adaptation solutions into relevant policies.

4.5. Biodiversity.

Biodiversity protection is one of the key pillars of the Green Agenda, and is pivotal to achieving a sustainable future of Montenegro and the region. Forest ecosystems cover more than half of the total available land, and over 13% of the whole territory of Montenegro is under some form of protection (national parks, reserves, Natura 2000 sites). The Law on Nature Protection governs the conservation, protection, enhancement, and sustainable use of natural assets within Montenegro, establishing the legal framework for preserving biological, geological, and landscape diversity, as well as for the protection and management of natural resources. However, planning documents in the forestry sector are missing for adequate definition of biodiversity protection measures.

The Environmental Protection Agency of Montenegro is conducting revision studies for several protected areas within the country, which aim to provide a detailed assessment of the current protection regimes, identify existing and potential pressures on ecosystems, and propose concrete measures to improve conditions and ensure more effective management of natural assets. In parallel with these activities, the development of a new National Biodiversity

Strategy of Montenegro through 2030 is underway. This strategy will address strategic directions and priority measures for the protection and restoration of endangered ecosystems, the reduction of anthropogenic pressures on biodiversity, and the more sustainable use of natural resources, in line with the principles of the Green Agenda and Montenegro's international commitments.

In order to implement further measures from the Green Agenda, it is recommended to establish regional cooperation in line with the EU Biodiversity Strategy, adopt and implement management plans for all protected areas, and ensure financial resources for their functioning.

3. Methodology.

For the purposes of this chapter, a multidisciplinary study was conducted covering the fields of climate change and circular economy. A qualitative approach was used to analyse data on planned activities, objectives, and achieved results, sourced from official strategies and reports published by the government of Montenegro between 2020 and 2025. In addition, the analysis was complemented by activities carried out by environmental non-governmental organisations, whose projects and research provide insights into potential barriers to further implementation of the Green Deal. These sources also reflect public perceptions regarding the implementation of a just transition, thus contributing to a more comprehensive understanding of the challenges and opportunities in this area.

4. Results and policy analysis.

The need for significant effort in implementing the Green Agenda became clear from the overview conducted back in 2022. Such ambitious goals can be challenging even for more advanced and wealthier countries than Montenegro. However, regardless of the situation in the country, it is important to identify the weaknesses within the system and work towards strengthening them, as these weaknesses can become obstacles not only for the green transition, but also for other processes. In this context, the civil society sector plays a crucial role. Its representatives, through their work, can highlight and suggest how activities should be implemented to ensure the comprehensive and high-quality fulfilment of the undertaken obligations. One such example is the NGO Eco Team, which in 2023 conducted a study on the dynamics of Green Agenda implementation in Montenegro. The study[211] outlined potential barriers to further implementation, stating that: there is no clearly established functional mechanism for intersectoral coordination; roles and responsibilities for the implementation of the GAWB pillars are not clearly defined; there exists an insufficient involvement of local governments, local communities, and civil

211 Eco Team (2023), 'Conclusions and Recommendations for Improving the Implementation of the Green Agenda for the Western Balkans'.

society in the decision-making process; human resource capacities are inadequate; and there is no financial assessment for the implementation of obligations.

While it can be concluded that most of the remarks refer to institutional weaknesses, stemming from these weaknesses additional barriers may gradually emerge, including delays in the adoption of by-laws and a heavy reliance on external donations (which are not always guaranteed and could jeopardise the implementation of the plan).

In addition, public awareness campaigns may remain limited, leaving citizens underinformed about EGD benefits and resistant to behavioral shifts,

such as adopting circular economy practices and others. Despite facing significant challenges, on the one hand Montenegro continues to dedicate its resources and capacities towards meeting its ambitious environmental and climate commitments. On the other hand, substantial efforts are still required across all sectors covered by the Green Agenda. Montenegro stands at a pivotal point on its path towards alignment with European climate and energy standards. To accelerate the green transition and meet the obligations under the GAWB, a series of strategic and legislative measures must be implemented.

5. Recommendations.

Following the results and policy analysis, several recommendations can be drawn across the analysed sectors.

1) Decarbonisation – in this area, Montenegro should:

- gradually align CO_2 prices with those in the EU – although Montenegro is the first country in the region to have established an ETS mechanism, CO_2 prices per tonne are still too low to incentivise the implementation of decarbonised technologies;

- urgently adopt the NECP, which clearly defines national targets for 2030 in the areas of decarbonisation, energy efficiency, renewable energy sources, and security of supply. The adoption of this plan serves as a foundation for strategic planning and accessing funds from European and international sources.

2) Energy transition and renewable energy sources – one of the key challenges remains the energy transition in coal-dependent regions. It is necessary to:

- establish a roadmap for a just transition in the Pljevlja region, including a clearly defined deadline for phasing out lignite-based energy production, as well as concrete steps for socio-economic support to the local population and diversification of the local economy;

- significantly intensify and accelerate the just transition process, with the partnership support of the EU and international organisations;

- harmonise existing legislation, as the priority remains the implementation of the remaining obligations from the Third Energy Package and the Clean Energy Package, especially in the electricity and gas sectors, which is a prerequisite for Montenegro's integration into the single electricity market;

- continue with progress on renewable energy sources, and increase capacities through the construction of new and expansion of existing facilities. Part of these capacities will be realised by EPCG, while the state will continue to offer incentive mechanisms for private investors, including auctions for market premiums tariffs;

- adopt a regulation that precisely defines the concept of energy poverty. This is necessary for the development of targeted support measures for vulnerable households, especially in the context of rising energy prices and the need to introduce market mechanisms in the energy sector.

3) Transportation – an important milestone is the planned update of the Transport Development Strategy, which will integrate sustainability principles. This update represents a step towards aligning national policies with European and international standards. However, the extent to which this revised strategy will include a comprehensive package of measures to support transport decarbonisation and align fully with the GAWB and the EU's Sustainable and Smart Mobility Strategy remains to be seen.

4) Circular economy – to strengthen sustainable development and align with the principles of the EGD, Montenegro needs to take a series of steps towards the systemic integration of a circular economy into its strategic documents and development policies. It is necessary to:

- prepare and adopt Strategies/Action Plans for the circular economy in all sectors, in accordance with the adopted Circular Economy Roadmap;

- raise public awareness about the importance of proper waste management and choosing sustainable products;

- foster additional education and trainings by developing programs for all age groups, organising campaigns and workshops, and ensuring active participation of local governments and communities in promoting the circular economy.

5) Water – the new Law on Water Services should be adopted to regulate water supply services and municipal wastewater management in line with the EU Water Framework Directive. The implementation of the 2020-2035 Municipal Wastewater Management Plan is underway with international support, marked by the commissioning of two new municipal wastewater treatment plants in 2023 (Andrijevica and Petnjica).

6) Food production – several measures should be considered:

- strengthen local organic production by promoting environmentally friendly practices and reducing the use of synthetic chemicals in agriculture;

- establish effective control and traceability mechanisms for organic products, while simultaneously developing cooperation with scientific, educational, business, and agricultural stakeholders – this would support the transition towards innovative and sustainable technologies and farming methods;

- focus the main activities in the organic production sector on developing the Action Plan for Organic Production, drafting the remaining secondary legislation, and organising capacity building training for stakeholders. Recommendations from the European Commission (EC) Report noted that Farm Advisory Services have yet to be strengthened.

7) Biodiversity – to improve the biodiversity protection system, it is necessary to implement a range of strategic, planning, and institutional measures:

- develop a new Biodiversity Strategy with an accompanying Action Plan, aligned with the EU Biodiversity Strategy and global and regional strategic frameworks;

- adopt the missing planning documents for the forestry sector to adequately define biodiversity protection measures;

- prepare baseline biodiversity studies to serve as an input for the development

of the Spatial Plan of Montenegro;

- plan future development projects in accordance with the requirements for protecting potential Natura 2000 areas;

- adopt the Forest and Forestry Development Strategy of Montenegro for the period 2023 to 2028 as a key document for sustainable forest management and biodiversity conservation;

- adopt and implement management plans for all protected areas and ensure adequate financial resources for their operation;

- strengthen the capacities of the Public Enterprise for Coastal Zone Management to enable effective management of marine protected areas;

integrate biodiversity protection measures into all sectoral policies and raise awareness about the interrelation between climate change and biodiversity to ensure the sustainability of natural resources and ecosystems.

6. Conclusions.

As an EU candidate, EnC Member, and signatory to international environmental agreements, Montenegro remains committed to EU alignment and climate neutrality by 2050. Achieving this objective requires legislative reforms, the adoption of comprehensive climate strategies, and strong monitoring systems. Key tools include the NECP, just transition roadmaps, and circular economy plans. Priority areas are in renewable energy, biodiversity protection, sustainable transport, organic agriculture, and addressing energy poverty. Institutional strengthening and improved energy resilience are also needed for Green Agenda implementation. Ongoing major projects will reinforce Montenegro's ecological state status, but achieving these goals demands strong political will, active civil society engagement, and substantial financial resources, including better access to European funds and improved control of their use.

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Conclusions:

Key policy recommendations

- Are environmental violations punished by law?
- Can green practices and laws help boost a country's economy, or on the contrary, can the lack of green practices and laws destabilise a country's economy?
- How can countries motivate their people to care about the environment at all levels?
- What is the biggest green issue in each country, and how can it be tackled?

These are only a few of the questions addressed – and answered – in this publication. Each country in the Western Balkans has its own people, policies, and priorities; its own problems and challenges – in short, its own identity. As such, local responses to these challenges might differ, and so might the current status of domestic legislation and policies. Some face greater challenges in, for example, the path toward decarbonisation. Others face greater challenges in addressing poor air quality. Some struggle with slower bureaucratic processes, others with excessive interference from the private sector.

However, shared efforts in achieving the objectives of the EGD, the GAWB, and the EnC may help each country prove they deserve the status of EU Member State. But to achieve these objectives targeted policies and strategies are needed in order to address the existing gaps in each of the five pillars.

Let us provide a panoramic overview of the recommendations which, overall, represent the least common denominator to all the countries in the region.

1) *First pillar: decarbonisation (climate action, energy, and mobility):*

- reduce coal-dependence, implementing plans and investing in diversified energy sources such as solar and wind;
- strengthen public-private partnerships to encourage investors to invest in green energy projects and attract private-sector participation through tools such as auction plans, investment frameworks, financial incentives or grants, and fewer bureaucratic steps;

- under the perspective of the households, introduce feed-in tariffs or premiums or low- or 0%- interest loans, and develop targeted support measures for vulnerable/poor households;

- prevent the implementation of new coal infrastructure or projects, and close the existing ones;

- develop stronger infrastructure capacities (such as road networks, railways, charging points), sustainable urban mobility plans, and financial incentives for the adoption of electric vehicles – this would enhance the transportation sector's efficiency, eventually fostering the transition to greener mobility;

- mandate efficiency standards in the construction of new buildings and major renovations, as well as financial incentives to support efficiency upgrades in existing ones.

2) *Second pillar: circular economy:*

- enforce laws on compulsory waste separation, as well as financial incentives for compliance and harsher fines for non-compliance;

- invest in separate collection and recycling infrastructure;

- ban single-use plastics and improve public awareness campaigns accordingly.

3) *Third pillar: depollution*: in addition to the recommendations highlighted in the first pillar on transportation and mobility:

- implement programmes fostering greener heating options;

- contain emissions from large industries, fostering measures such as investments in filters or enforcing emission limits, and impose fines for non-compliance;

- launch public awareness campaigns about the health harms of pollution.

4) *Sustainable food systems and rural areas*:

- strengthen local organic production, reduce the use of synthetic chemicals, and promote the benefits of the 'from farm to fork' concept;

- support transition towards sustainable technologies.

4) *Biodiversity*:

- develop new strategies and define protection measures;
- implement management plans for all protected areas in the region and ensure adequate financial resources;
- launch public awareness campaigns on the interconnection between biodiversity and climate change.

The following are recommendations that go beyond specific pillars and address overall policy approaches:

1) *Legislative consistency* is necessary between domestic legislation and the EU climate policies, including enforcement, monitoring, and sanctions for non-compliance, as well as constant revision of existing legislation to ensure alignment.

2) *Institutional capacities* should be strengthened to ensure that policies, strategies, plans, and legislation are compliant and efficiently implemented. This can be achieved through constant monitoring mechanisms, evaluation frameworks, as well as via the creation of new institutional bodies, task forces, committees, and/or inter-ministerial *ad hoc* working groups and commissions ensuring coordination, consistency, and coherence.

3) *Transparent financing* in project implementation and management is necessary, achievable through constant and mandatory reporting.

4) *Stakeholder involvement* at all levels is necessary. Civil society organisations and citizens should be included in public consultations and policy discussions, community-owned energy cooperatives should be encouraged, the media has a role in public awareness, and private companies and investors involved in green agenda projects should be incentivised.

5) *Decentralisation* in green policies, through the involvement of local communities, cities, and villages, can ensure autonomy and self-governance.

6) *Public awareness and education* at all levels can underline and raise awareness of the benefits of the green transition. Environmental education programmes in schools and in the media can help cultivate a young generation

that understands these issues.

7) Inter-State harmonisation policies in the Western Balkans, to strengthen the alignment of national policies with the EGD and the GAWB, will contribute to regional stability and facilitate the EU integration process through cross-border cooperation on shared environmental challenges.

As the different chapters elaborate, delays in financing, gaps in institutional capacity, half- hearted follow-through in implementing legislation, and other problems are hindering the achievement of EGD and GAWB goals across the Western Balkans. Nevertheless it is clear there has been meaningful, if not fully satisfying, achievements over the last few years, leaving hope that with sufficient willpower, commitment, and public involvement, the Western Balkans will soon be many steps closer to a carbon-neutral and green future.

Gian Marco Bovenzi

About the authors

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Fjona Kurteshi is a Lecturer Assistant at the Faculty of Economics, University of Tirana, and a PhD candidate in Environmental Economics. Her research focuses on sustainability, energy efficiency, and the economic dimensions of environmental policy in Albania and the Western Balkans. Beyond academia, she has extensive experience as a political researcher, trainer, and project coordinator, contributing to national and international projects on environmental governance, sustainable development, and democratic participation. She has published and presented her work in international conferences across Europe and is actively engaged in civil society initiatives promoting environmental advocacy and youth engagement.

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She holds a bachelor's and a master's degree in electrical engineering from the University of Montenegro. From 2013 she's been working in the Montenegrin transmission system operator (CGES) as an expert for electricity market. In CGES she led working groups on financial settlement of imbalances, integration of cross-border connections with Kosovo and Italy into scheduling and accounting systems, and SCADA system implementation. She also contributed to working groups responsible for transposing EU energy regulations into national law and for drafting market rules and cross-border capacity allocation procedures. In addition to her regular professional duties, she conducts research in the field of renewable energy sources and their role in the electricity market. As a project leader, she headed the R&D projects funded by the EU research and science program in the field of green energy. In 2024 she was appointed as a secretary of state in the Ministry of energy and mining where she worked on the green agenda and reforms in the energy sector.
She is the author of several scientific papers and a participant in numerous conferences and events in the field of the electricity market and renewables. She is also a member of the national CG CIGRE committee and secretary of the Study Committee STK C4 on Power System Technical Performance.

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Stevan is a policy development and communications entrepreneur with a unique focus on stakeholder engagement and advocacy with 25 years of experience working at the highest levels of government, business and international development organizations in Serbia, Western Balkans and the EU.
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In addition, he has authored strategic reports and contributed to modernizing waste management services, contributing to policy innovation in Kosovo. He is committed to advancing regional cooperation on climate and health policy in the Western Balkans.

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Vedad Suljić is an accomplished consultant with 16 years of professional experience in the energy and environmental sectors. He holds a Master of Environmental Economics from the Faculty of Economics Ljubljana and the School of Economics and Business Sarajevo, as well as a Technical Science Specialist diploma from the Faculty of Mechanical Engineering in Sarajevo. Vedad has spearheaded numerous high-profile projects focused on energy efficiency, renewable energy, environmental protection and sustainable finance across the Western Balkans. His expertise includes conducting complex economic and financial analyses, feasibility studies and cost estimations. Vedad is adept at implementing sustainable practices, circular economy models and green financial products, all aligned with sustainability goals. He has successfully collaborated with major international organizations such as the World Bank, UNDP, GIZ, EBRD, OECD and the EU Commission. Fluent in English and German, he has authored numerous policy briefs and strategic reports and has led workshops and training sessions to promote sustainable development practices across multiple sectors.

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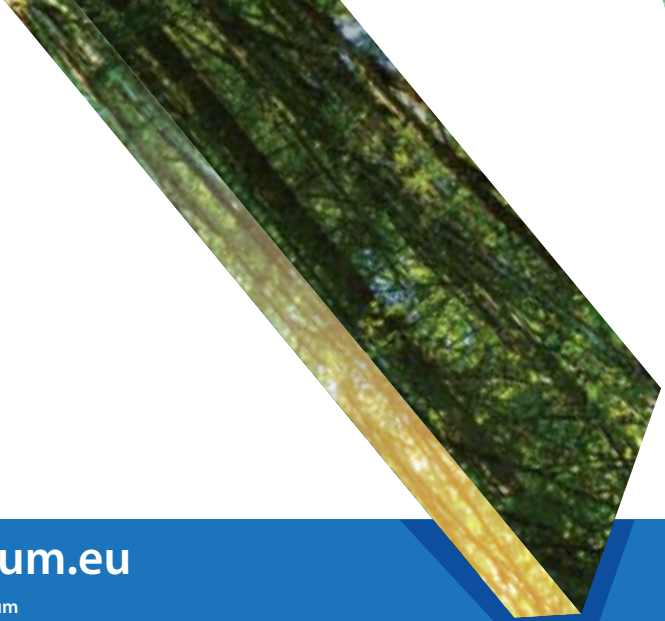

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