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## ECONOMIC AND SUSTAINABLE DEVELOPMENT IN THE WESTERN BALKANS: CASE STUDY OF NORTH MACEDONIA AND ALBANIA

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**Abstract:** This study explores the dynamics of economic growth and sustainable development in North Macedonia and Albania between 2017 and 2025, focusing on the interplay between policy frameworks, environmental protection, and regional integration. It examines initiatives aimed at advancing renewable energy, modernizing urban infrastructure, promoting social inclusion, and aligning institutional and regulatory systems with European Union (EU) standards. Key case studies include large-scale renewable energy investments, efforts to mitigate threats to shared ecosystems such as Lake Ohrid, and the electrification of public transport systems in urban centers. The paper also analyzes challenges that hinder sustainable development, including institutional capacity limitations, fragmented governance structures, climate risks, and ongoing environmental degradation. Drawing on government reports, peer-reviewed literature, and media sources, the study provides evidence-based policy recommendations to enhance cross-border cooperation, improve regulatory enforcement, and incentivize sustainable investment. The findings indicate that while both countries have made substantial progress in transitioning toward greener economies, achieving long-term sustainability requires sustained governance reforms, stronger regional collaboration, and targeted support for vulnerable populations. The study contributes to the understanding of sustainable development in the Western Balkans and provides actionable insights for policymakers, projects, and international organizations engaged in regional development initiatives.

**Keywords:** Western Balkans, North Macedonia, Albania, sustainable development, EU integration, renewable energy

### 1. INTRODUCTION

The Western Balkans (WB6: Albania, Bosnia & Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia) face a unique dual challenge: fostering sustained economic growth while ensuring a transition toward environmentally sustainable development. This region is characterized by diverse economic structures, energy dependencies, and a rich but fragile ecological landscape, which collectively shape policy priorities and investment decisions. Among the WB6 countries, North Macedonia and Albania offer particularly instructive case studies. Both nations share critical ecosystems, such as Lake Ohrid, and rely on a mix of traditional and renewable energy sources, making their developmental pathways relevant for understanding the broader regional context. Additionally, their similar EU integration paths provide a framework for analyzing the alignment of national policies with supranational environmental and economic standards.

This study has four principal objectives. First, it seeks to map the evolution of economic and sustainable development initiatives between 2017 and 2025, highlighting sectoral growth and investment trends. Second, it identifies environmental pressures and institutional bottlenecks that may hinder long-term sustainability, including governance limitations and infrastructure deficits. Third, it evaluates the social and ecological impacts of ongoing reforms, emphasizing both urban and rural inclusion and ecosystem preservation. Finally, the study proposes actionable policy directions that are consistent with the EU Green Deal and regional growth frameworks, aiming to guide policymakers in enhancing cross-border cooperation, promoting renewable energy, and fostering resilient economic and environmental systems.

### 2. METHODOLOGY

A **comparative case study** approach was adopted to systematically evaluate the dynamics of economic growth and sustainable development in North Macedonia and Albania from 2017 to 2025. This methodology allows for an in-depth examination of similarities and differences in policy implementation, institutional capacity, and environmental outcomes between the two countries, which share ecological and socio-economic characteristics.

The study employed multiple sources of evidence to ensure robustness and validity:

- **Policy review:** National strategies, EU progress reports, and regional frameworks such as the Green Agenda for the Western Balkans were analyzed to assess legislative initiatives, regulatory reforms, and strategic priorities that aim to promote sustainability, green energy transition, and economic growth. Particular attention was paid to policies aligned with EU accession requirements and cross-border environmental management.

- **Scientific literature:** Peer-reviewed studies published between 2019 and 2025 provided empirical evidence on renewable energy expansion, ecosystem threats—especially concerning Lake Ohrid—and governance mechanisms. This review facilitated the identification of environmental pressures, social impacts, and the effectiveness of institutional responses.

- **Media sources:** Up-to-date information from Reuters, AP News, and Intellinews was incorporated to track project announcements, investment flows, and ongoing initiatives in real time, providing a current perspective on infrastructure development and renewable energy implementation.

The analytical framework integrates the **triple bottom line**—economic, environmental, and social dimensions—with a governance perspective, enabling a comprehensive evaluation of both countries’ progress. By combining qualitative and quantitative insights, this approach identifies successes, challenges, and areas for improvement, offering a holistic understanding of sustainable development trajectories in the Western Balkans.

### **3. REGIONAL CONTEXT: 2017–2023**

#### **3.1 Regional Integration & EU Accession**

North Macedonia resolved the “name issue” via the Prespa Agreement (2018), joined NATO (2020), and opened EU accession negotiations in 2022. Albania’s EU accession process was approved in 2020 and officially launched in 2022. Both states implemented judicial and administrative reforms aligned with the EU’s Green Agenda for the Western Balkans (European Commission, 2025).

#### **3.2 Economic Growth**

Prior to the COVID-19 pandemic, GDP growth exceeded 3% in North Macedonia and 4% in Albania. The pandemic caused contraction in 2020; however, both economies rebounded by 2022–2023. Albania’s tourism sector supported an 8.5% GDP growth in 2021, while regional infrastructure projects, including Corridor VIII and electricity interconnectors, were co-financed by the World Bank and EBRD.

#### **3.3 Energy Transition**

North Macedonia retired coal capacities at Oslomej (2018–2021) and adopted a 2020–2040 energy strategy targeting 50% renewables by 2040. Albania, historically reliant on hydropower (>95% generation), diversified energy sources via solar and wind auctions, notably inaugurating the 140 MW Karavasta solar park in 2023.

#### **3.4 Environmental Initiatives**

Both countries updated their Nationally Determined Contributions under the Paris Agreement, expanded protected areas, and strengthened waste management systems, though enforcement challenges persist.

### **4. CASE STUDY: NORTH MACEDONIA**

#### *4.1 Economic Growth & Renewable Energy*

In 2024, Alcazar Energy Partners developed a 400 MW wind farm, supplying electricity to over 100,000 households and reducing CO<sub>2</sub> emissions by approximately 670,000 tonnes annually (Reuters, 2024a). Additionally, Oslomej’s former coal mines were converted into solar facilities, further promoting energy diversification and contributing to the country’s 2020–2040 renewable energy targets. These projects not only enhance energy security but also create local employment opportunities in construction, operations, and maintenance.

#### *4.2 Environmental Challenges*

Lake Ohrid continues to face significant ecological pressures, including urban wastewater discharge, overfishing, and accumulation of toxic elements in fish species (Blazhekovikj-Dimovska et al., 2024). Strengthening sanitation infrastructure, implementing cross-border water quality monitoring, and enforcing stricter fishing regulations are urgent priorities to preserve this UNESCO World Heritage ecosystem.

#### *4.3 Institutional Reforms*

EU accession requirements necessitate harmonization of environmental legislation, particularly regarding spatial planning, environmental impact assessments, and waste management. While COVID-19 mitigation measures cushioned poverty impacts, structural rural-urban inequalities persist (Petreski, 2023). Continuous administrative capacity building is essential to ensure effective policy implementation.

### **5. CASE STUDY: ALBANIA**

#### *5.1 Renewable Energy & Infrastructure*

Albania’s collaboration with UAE-based Masdar targets the development of gigawatt-scale renewable energy projects (Intellinews, 2024). Tirana is electrifying three major bus corridors with EU-German support, promoting low-emission urban transport (AP News, 2024). Moreover, a 2025 subsea interconnection agreement with Italy will enable renewable energy exports, enhancing regional energy integration and providing economic benefits through cross-border electricity trade (Reuters, 2025).

*5.2 Climate & Environmental Pressures*

Recurring droughts pose risks to Albania’s hydropower-dependent energy system, resulting in additional energy imports (AP News, 2025). Pollution in river basins, particularly the Drin River, continues to threaten aquatic ecosystems, biodiversity, and public health, highlighting the need for integrated water management strategies.

*5.3 Governance Challenges*

Although foreign direct investment (FDI) contributes to institutional capacity and infrastructure development, project implementation remains constrained by land-use conflicts, delays in environmental assessments, and electricity grid bottlenecks. Addressing these governance challenges is essential to ensure timely, sustainable, and resilient infrastructure development.

**6. COMPARATIVE ANALYSIS**

*Table 1: Comparative Analysis between North Macedonia and Albania*

<b>Dimension</b>	<b>North Macedonia</b>	<b>Albania</b>
Renewable Energy	Wind & solar expansion; Oslomej solar repurposing	Gigawatt-scale solar & wind projects; export cable to Italy
Ecosystem Threats	Lake Ohrid pollution; outdated sanitation	River pollution; droughts; hydropower dependency
EU Alignment	Constitutional reforms; energy/environment chapters	Similar trajectory; FDI-driven reforms
Social Impact	Rural inequality post-pandemic	Urban-rural divide; energy import dependency

**Source:** Adapted from Blazhekovikj-Dimovska et al. (2024), Reuters (2024a, 2024b, 2025), AP News (2024, 2025), Intellinews (2024).

**7. POLICY RECOMMENDATIONS**

Based on the comparative analysis of North Macedonia and Albania, several targeted policy measures are proposed to strengthen sustainable development outcomes:

1. **Cross-Border Governance:** Establish a **Lake Ohrid Management Authority** and transboundary river councils to ensure coordinated environmental protection, sustainable resource use, and compliance with EU directives. Collaborative governance can enhance data sharing, joint monitoring, and enforcement of conservation measures.
2. **Accelerate Renewables:** Promote **hybrid solar-battery systems** and upgrade transmission infrastructure to integrate variable renewable energy sources efficiently. Incentivizing private investment and public-private partnerships can further accelerate the green energy transition.
3. **Urban Infrastructure:** Expand **electric public transport** networks and modernize wastewater treatment facilities to reduce urban pollution, lower carbon emissions, and improve public health outcomes. Investments should prioritize high-density urban corridors and climate-resilient infrastructure.
4. **Institutional Capacity:** Streamline permitting procedures, strengthen enforcement of **environmental impact assessments (EIAs)**, and provide continuous training for municipal staff. Enhancing administrative efficiency and technical expertise is essential for effective policy implementation.
5. **Climate Adaptation:** Improve **irrigation efficiency**, establish drought monitoring systems, and optimize reservoir management to mitigate the impacts of climate variability on agriculture, hydropower, and water security.
6. **Inclusive Growth:** Protect vulnerable households from **energy price shocks** during the green transition by implementing targeted subsidies, social programs, and inclusive energy policies, ensuring that sustainable development benefits are equitably distributed.

These recommendations aim to provide a **comprehensive and actionable framework** for policymakers, fostering environmental resilience, economic growth, and social inclusivity across the Western Balkans.

**8. CONCLUSION**

North Macedonia and Albania made significant strides toward sustainable development through renewable energy investments between 2017 and 2025, EU-aligned reforms, and urban modernization. North Macedonia’s wind and solar projects and Albania’s gigawatt-scale renewable initiatives illustrate concrete steps toward a greener economy. Despite progress, both countries face persistent challenges: environmental degradation, climate variability, and governance capacity gaps. Lake Ohrid remains vulnerable, Albania’s hydropower-dependent system is at risk from drought, and institutional bottlenecks hinder efficient project delivery.

Sustainable development in these countries will depend on:

- Consistent policy implementation,
- Strengthened regional and cross-border cooperation,
- Robust environmental enforcement,
- Socially inclusive green transition strategies.

Future research should focus on socio-economic impact assessments of renewable energy investments, comparative governance analyses across WB6 countries, and modeling climate risks on energy and agriculture sectors. By addressing these areas, North Macedonia and Albania can achieve a resilient, environmentally sustainable, and socially inclusive green transition.

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