THE FUTURE OF ENERGY SECTOR REFORMS IN WESTERN BALKANS AND TÜRKIYE



EUROPEAN ENERGY MARKET TRENDS

The global energy landscape is undergoing a rapid transformation, and nowhere is this more evident than in the European Union (EU). This transition is driven by two powerful forces: the EU's lack of domestic fossil fuels (particularly oil and natural gas), and its strategic commitment to energy independence and full decarbonization by 2050. With coal being phased out and fossil fuel imports minimized, **renewables remain the EU's only abundant and sustainable energy source**.

Achieving this vision requires the electrification of nearly everything—transportation, heating, cooking, industrial processes, and more. While green hydrogen is set to replace natural gas in certain industrial applications and trucks, its adoption remains limited by economic feasibility. In the meantime, natural gas will continue to serve as a transitional fuel, while nuclear energy may become the EU's only significant imported energy source.

The energy transition was further catalyzed by the geopolitical shock of Russia's invasion of Ukraine in 2022. The resulting spike in gas and electricity prices, coupled with the abrupt end of long-standing Russian energy imports, forced Europe into crisis-mode policy responses and underscored the urgency of energy diversification.

This high-speed transformation brings unique challenges. The EU's seismic energy shift risks undermining its industrial competitiveness. European industries are facing higher energy costs compared to some global peers. Yet the **EU remains committed**

to its strategic path, supported by policy instruments such as carbon pricing, binding renewable energy targets, emissions reduction mandates, and efficiency measures. These are expected to remain stable for at least the next five years, during the current European Commission's (EC's) mandate, affecting the EU and closely linked economies like the Western Balkans and Türkiye.

While natural gas usage was once priced in relation to oil, it is now traded on hub-based pricing, heavily influenced by global LNG supply and surging demand from Asia. Price volatility is high. The EU is still constructing some LNG terminals, but otherwise no new major infrastructure is needed—only better use of existing assets, particularly cross-border connections.

In contrast, the electricity sector is experiencing a much more dynamic evolution. Nearly 47% of EU electricity generation now comes from renewable sources, up from just 29% in 2015–a remarkable leap in less than a decade. However, this growth brings complexity: intermittent renewable sources require

reliable balancing mechanisms, decentralized generation demands grid restructuring, and spatial constraints limit new infrastructure like high-voltage connections and wind or solar farms.

Electricity markets are evolving toward shorter-term products, such as 15-minute balancing services, and are increasingly reliant on cross-border coordination to ensure supply security. The EU proudly boasts the world's largest and most integrated electricity market-but it must continue adapting, particularly through digital innovation like smart meter deployment.

Despite falling wholesale prices thanks to abundant and cheap renewables, end-user electricity bills do not reflect this due to rising costs for grid maintenance, balancing, and system operation. This growing disconnect between wholesale and retail prices is difficult for policymakers to explainand even harder for consumers to accept, but this is the price of the technological revolution that we are witnessing today.





ENERGY MARKET TRENDS IN WESTERN BALKANS AND TÜRKIYE

All Western Balkan countries and Türkiye have partially liberalized their electricity markets over the last 20 years. Transmission and distribution system operators are unbundled, national regulatory authorities have been established, and the wholesale market is mostly liberalized.

Market operators are at least nominally established, except in Bosnia and Herzegovina. However, the retail market is still regulated in every country, and prices are not cost-reflective. No country is using flowbased cross-border capacity allocation, and none of their national markets is coupled with any EU national market. There are different initiatives (Serbia-Hungary, Montenegro-Italy, North Macedonia/ Kosovo*/Albania-Greece), but it the closest apepars to be market coupling between Montenegro and Italy, expected no earlier than in 2027. Substantial consumer benefits from market coupling are therefore being lost on account of national champions-electricity incumbents and transmission system operators.

Distribution network tariffs are not high enough to cope with the challenges of the energy transition. Decentralized generation requires putting more weight on capacity instead of flows, which is the general trend of reforms in Europe. In Albania and Kosovo*, network tariffs are still entirely flow-based.

In the gas sector, the situation is similar to electricity. Unbundling is in place, and wholesale trade is mostly liberalized in practice (except in Bosnia and Herzegovina and Serbia). However, the retail market is strictly regulated, and there is no competition.

The oil sector is liberalized. All Western Balkan countries and Türkiye are entirely, or to a very large extent, dependent on imports. Since imports are unrestricted, a competitive market for oil and oil derivatives exists in all countries. Oil subsidies, however, are still present in the whole region.

CARBON PRICING

Electricity generation mix in five out of six Western Balkan countries (except Albania) and in Türkiye is still heavily reliant on coal. This reliance ranges from 35.2% in Türkiye in 2024 to 92% in Kosovo*, making Kosovo* the most coal-reliant country for electricity production globally. Only Montenegro, already in 2020, introduced carbon pricing at a rate of €24 per ton of CO_a. Introducing a carbon price raises costs for consumers but also generates additional funds that can be used for good reasons: energy efficiency measures, renewables support schemes, coal region transition programs, and more. It is important that electricity incumbents have access to such funds as well, enabling them to restructure. If carbon pricing in Western Balkan countries matched the EU level. Serbia alone would generate around €1.5 billion annually, while Bosnia and Herzegovina and Kosovo* would collect close to €0.5 billion.

On January 1, 2026, the Carbon Border Adjustment Mechanism (CBAM) will enter into force for imports of electricity and certain industrial products into the EU. The payments will go into the EU budget, but any carbon price paid domestically can be deducted. Countries without carbon pricing will lose substantial revenue from their exporters. Türkiye is implementing pilot projects aiming to introduce an obligatory scheme to avoid CBAM-related losses. Currently, only Serbia and Türkiye have systems in place for monitoring, reporting, and verification of greenhouse gas emissions.



INTEGRATION OF RENEWABLES

Electricity generation from renewables depends on natural conditions. While hydropower generation fluctuates seasonally, wind turbines depend on wind intensity, and solar power generation varies daily or even hourly. The intermittence and dispersion of such generation require network adaptation and reserve capacity, such as reverse pump hydro plants, batteries, or gas power plants. An oversupply of solar electricity during summer days, particularly on weekends when industrial demand is low, has already led to regular occurrences of negative prices. This sends negative signals to investors in new renewables and prompts countries to adopt new policy measures, such as:

- Energy Sharing Initiatives (promoting local renewable energy consumption),
- Support for Power Purchase Agreements (PPAs),
- Obligatory Two-Way Contracts for Difference (CfDs),
- · Capacity mechanisms,
- National targets for non-fossil flexibility (demand response and energy storage),
- Capacity-based distribution network tariffs, etc.

^{*} This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.



Competition, including from abroad via market coupling, is **the most efficient tool for allocating scarce resources** and brings benefits to consumers.

Cross-subsidization of electricity prices for households and the prioritization of national champions undermine the competitiveness of domestic industry and overburden **electricity incumbents**, which **should serve as central pillars of the energy transition** but are left unable to invest in renewables.

Transposition and implementation of the EU acquis are prerequisites for EU membership and necessary to avoid the financial burden of the CBAM.

Carbon pricing affects final consumer prices and is therefore politically sensitive. The best approach is to introduce a **carbon tax with a clear roadmap for its gradual growth in the next few years**, providing predictability for industry and investors.

Electricity incumbents in the Western Balkans are not yet ready for market opening or active participation in the EU electricity market. They need capacity building, adaptation of company structure, and clearly defined rules on market transparency and greenhouse gas emissions monitoring, reporting, and verification as a first step toward carbon pricing.

Market coupling is a lengthy and institutionally complex process that should be started as soon as possible. A proper legal framework must be in place, and market operators will play a key role in its implementation.

Electricity distribution system operators lack sufficient investment capacity to meet the needs of the green transition. A primarily flow-based distribution network tariff is unfair and gives hidden subsidies to ineffective electricity consumers.

Wind and solar electricity generation, despite being far cheaper, still require state intervention to address significant price fluctuations, ensure stable investor returns, and attract further investment.

CONCLUSIONS FROM THE COMPARATIVE ANALYSIS OF THE ENERGY SECTOR REFORMS IN THE WESTERN BALKANS AND TÜRKIYE

Energy sector reforms were addressed in the Reform Agendas (RAs) 2024–2027 and Economic Reform Programmes (ERPs). The comparative analysis, presented at the workshop "Managing Structural Reforms in the Energy Sector and their Impact Assessment", covers five RAs–Albania, Kosovo*, Montenegro, North Macedonia, and Serbia–and two ERPs–Bosnia and Herzegovina (ERP 2024–2026) and Türkiye (ERP 2025–2027).

A review of previous ERPs,¹ their assessments by the European Commission, and the Joint Policy Guidance² show that all reforms followed the same structural reform process within a common policy framework, involving **obstacle analysis**, **prioritization**, and reform development.

All seven candidates share the strategic objective of EU membership, which requires full implementation of the Copenhagen criteria and alignment with European Economic Governance, which sets a common framework for energy market policy.

Successfully addressing obstacles—fossil fuel dependence, energy import risks, slow renewable expansion, regulatory barriers, weak energy efficiency, and environmental harmis essential for achieving sustainable growth and aligning with EU standards. According to the comparative analysis, the identified obstacles in the seven countries highlight an urgent need for stronger reforms in the energy sector. The analysis of obstacles³ is the most critical phase, as failure to realistically identify and thoroughly assess barriers will prevent the design of reforms capable of achieving sustainable growth and enhanced competitiveness.

The prioritization of energy sector reforms in the Western Balkan countries and Türkiye is based on natural resources and infrastructure, and is firmly anchored in a comprehensive policy framework shaped by EU and regional commitments. Each of the seven candidates can and should develop numerous energy sector reforms; the key question is which are priorities in the context of the RA/ERP. Comparative analysis shows that the structuring of reform areas largely stems from EU policy guidance, which forms the basis for prioritizing energy sector reforms in the RA/ERP. A significant number of prioritized reforms in the RAs are primarily aimed at supporting the Western Balkan countries' integration into the regional common market and, ultimately, into the EU single market, while aligning with the Green Agenda.

Prioritized reforms are presented under the Energy/Digital Transition policy area in the RAs and are distributed across five sub-policy areas: Market Reforms, Decarbonization, Renewables, Emissions Trading System (ETS), and Energy Efficiency and Air Pollution. Türkiye, meanwhile, focuses particularly on aligning its decarbonization strategy with EU climate goals and adapting to emerging carbon pricing mechanisms. Most of the prioritized energy sector reforms in the Western Balkan countries are strongly aligned with EU policy guidance, although several countries' RAs/ERPs still lack sufficient prioritization of carbon pricing mechanisms, underdeveloped energy efficiency investments in key sectors, and fail to adequately address air pollution mitigation, despite EU recommendations.

Energy sector reforms in the RAs and ERPs were developed mainly by following the EC-prescribed template, covering: analysis of challenges, identification of final beneficiaries, stakeholder involvement, implementation plans with clear responsibilities, required investments, expected achievements for each step, and methods for measuring progress. A certain level of inconsistency was evident both among countries and, in some cases, among energy sector reforms within individual RAs.

¹ ERPs for the periods 2023-2025 and 2024-2026.

² Agreed at the Economic and Financial Dialogue between the EU and the Western Balkan countries and Türkiye in May 2023.

³ According to the EC's assessment of the ERPs 2023-2025.

RECOMMENDATIONS FOR DRAFTING A GOOD STRUCTURAL REFORM IN THE ENERGY SECTOR BASED ON COMPARATIVE ANALYSIS

CONSISTENCY AND CLARITY

- The way a reform is written reflects the depth of understanding; use straightforward, focused language, prioritizing actionable content over lengthy historical overviews.
- Follow the EC's structured approach and templates to ensure clarity, consistency, and easier monitoring of implementation.
- Appoint a dedicated reviewer to maintain consistency across all reforms within the RA, ensuring that all required elements of structural reform are clearly addressed, not merely implied.
- Present prioritized reforms concisely, specify beneficiaries clearly and consistently, and avoid mixing generic references with overly detailed lists across different reforms.

DEFINING REFORM OBJECTIVES

- State a single, clear objective per reform, formulated as a concise, outcome-focused statement in one sentence.
- Avoid overly general or abstract objectives, as they weaken the reform's focus and complicate monitoring.

CHALLENGES VS. OBSTACLES

- Clearly distinguish between challenges and obstacles; many countries tend to analyze obstacles instead of defining forward-looking challenges.
- Writing about challenges: avoid unnecessary information and excessive historical context; focus on future-oriented challenges and potential solutions-the EC is already aware of your accomplishments.

IMPLEMENTATION PLANNING

- Present qualitative and quantitative steps in clear, structured tables rather than lengthy paragraphs.
- Ensure that each reform includes a clearly defined action plan-avoid inconsistency, such as presenting some reforms with detailed actions and others without.
- Always include the responsible institutions for each activity-successful implementation depends on their engagement and accountability.

FISCAL AND ECONOMIC IMPACT OF REFORMS

- Clearly define the estimated costs and funding sources for reforms, as these provide essential evidence of implementation and strengthen credibility.
- Apply the CEF's <u>methodology for reform costing and budgeting</u>, based on additional cost criteria.
- Actively participate in the impact assessment of energy sector reforms, recognizing the sector's integral role in economic and social processes.
- Collaborate with macroeconomists from the Ministry of Finance to generate robust, datadriven insights that enhance the quality, relevance, and credibility of reform outcomes in the Annual Report⁴.

OWNERSHIP

- The EU provides the policy framework, but the reforms are yours, along with the challenges and benefits they bring to the energy sector, the economy, society, and EU accession.
- People are the key. Strengthen your administrative capacities-this is the best path to ownership of reforms and reform programs.
- Design does not end with preparation. Implementation has proven to be the greatest challenge. Build a system for coordination, and develop institutional and human capacities to support timely execution and allow for finetuning, if needed.
- Start preparation and implementation early-begin within your ministry, directorate, or department. Do not wait for general instructions; aligning with them later will be easier.

4 Annual Report on Achievement of Reform and Growth Facility Objectives.

COMPARATIVE REVIEW OF OBSTACLES IN THE ENERGY SECTOR BASED ON EC'S ASSESSMENT 2023–2025

Reform categories	Albania	Bosnia and Herzegovina	Kosovo*	Montenegro	North Macedonia	Serbia	Türkiye**
Energy security and supply challenges	Hydropower dependency, climate vulnerability	Fragmented regulatory framework, supply issues	Unreliable supply, frequent outages	Overreliance on Pljevlja coal plant	30% import dependency, no domestic gas/oil	Outdated infrastructure, 60% coal dependency	Heavy Russian gas & nuclear dependency
Dependence on fossil fuels	100% renewable but overreliant on hydropower	Heavy lignite dependence, slow decarbonization	Outdated lignite plants, Kosovo* A still active	Pljevlja TPP exceeds EU legal CO_2 emission limits	57% electricity from lignite, continued coal investments	Investing in new coal plants (Kostolac B3)	High coal reliance
Renewable energy expansion barriers	Slow solar/wind diversification, missing laws	Slow renewable investments despite high potential	Only 5% renewable share, delayed legal reforms	Delays in solar projects due to land issues	Renewables at 17.3%, hindered by administrative barriers	Only 3% from wind/ solar, slow auction system	Stagnant renewable growth (33% of electricity generation)
Market liberalization and investment issues	Electricity prices not liberalized, ALPEX delayed	No single energy market, low private investment	90% market controlled by KEK & KESCO	Weak investment strategies, unclear transition pathways	Highly regulated market, subsidies distort competition	EPS dominates 97% of the market	State-owned gas company limits competition
Energy efficiency and green transition	Non-functional energy efficiency agency, unmet savings targets	No building renovation strategy, EU directive not implemented	High efficiency potential, slow fund rollout	Funding cuts weaken household programs	Delayed efficiency fund, weak renovation plan	Large-scale efficiency measures missing	Weak incentives for energy efficiency and green investment
Environmental risks and pollution	Hydropower harms biodiversity	Coal plants generate extreme emissions	Severe lignite & fuelwood pollution	Pljevlja plant breaches EU pollution limits	High coal-related air pollution	14,400 coal-related deaths (2020)	High fossil fuel emissions, continued fossil fuel subsidies
Regulatory and institutional weaknesses	Incomplete NECP, outdated oil stock laws	Political disputes delay key energy laws	Delayed renewable energy law, no carbon pricing	Slow EU alignment, delayed NECP	Institutional complexity delays policy implementation	No gas unbundling, restricted third-party access	No climate law or ETS, no decarbonization roadmap, weak adaptation strategy
Other obstacles	No low-carbon transport systems	Slow EU support implementation	Slow permitting processes for renewables	Unclear plans for energy sector restructuring	Outdated legal framework for energy efficiency	Low electricity pricing blocks investment	Workforce skills gap for green transition

** 2024-2026

EU POLICY GUIDANCE TO WESTERN BALKAN COUNTRIES (2023) AND TÜRKIYE (2024) FOR THE PRIORITIZATION OF ENERGY SECTOR REFORMS

Country	Energy market reforms	Decarbonization policy	Renewables deployment	Energy efficiency	Preparation for carbon pricing mechanism	Institutional strengthening and governance
Albania	Strengthen regulatory frameworks for renewable investment. Support smart grids & energy storage	Implement the Green Agenda by transitioning to renewables. Implement NECP climate targets	Ensure full alignment with electricity, energy efficiency, and climate acquis	Develop incentives for businesses & households to adopt energy-efficient practices	Ensure Renewable Energy Operator is fully functional (2023)	
Bosnia and Herzegovina	Establish a day-ahead electricity market. Harmonize state-level electricity and gas market legislation	Develop an integrated plan for carbon reduction through renewables and efficiency	Increase renewable energy use. Encourage private sector and household participation	Design and execute a comprehensive renovation strategy at all levels	-	Prevent delays in market operations. Regulatory harmonization
Kosovo*	Develop wholesale and intra-day electricity price markets for market liberalization	Strengthen energy resilience through efficiency measures	Finalize energy legislation, initiate first renewables auction	Promote sustainable energy investments & grid modernization. Improve grid reliability	-	
Montenegro	Streamline procedures for SMEs in the energy sector	Ensure smooth transition to green energy	-	Enhance cybersecurity, data protection, business continuity for digital energy services	-	Strengthen energy policy institutions. Develop a roadmap for SOE reform in the energy sector
North Macedonia	Strengthen Energy Department & Energy Agency capacity	Develop a strategy for phasing out coal while ensuring socio-economic stability	Establish a Renewable Energy Guarantee of Origin scheme to boost investor confidence	Pass the biofuels law, secondary energy efficiency legislation, and long-term renovation strategy	-	Establish operational inter-ministerial energy committee. Strengthen technical capacity in the Energy Ministry and Agency
Serbia	Unbundle energy utilities in compliance with EU regulations. Improve SOE efficiency & financing	Align with the Green Agenda and international commitments. Strengthen energy transition strategy for CBAM	Launch auctions for renewable energy sources	-	Ensure regulatory compliance in gas sector (Gastrans, market liberalization action plan)	
Türkiye**	-	Implement low-emission strategy, decarbonize heavy industries, enhance climate resilience	Expand renewable hydrogen and alternative fuels	Implement stringent efficiency standards for buildings. Prioritize sustainable reconstruction	Establish ETS aligned with EU ETS	Adopt & implement Climate Law. Strengthen climate governance. Ensure sustainable urban development

PRIORITIZED ENERGY SECTOR REFORMS IN RA 2024-2027

Albania	 4.1.1: Align with electricity integration package to enable market coupling with the EU; establish intraday electricity market; operationalize the package in line with the market coupling operator integration plan by 2025 4.1.2: Implement gradual tariff adjustments to market prices accompanied by energy poverty measures 4.2.1: Develop a transparent, competitive, quantity-based action plan for renewable energy (3-year planning in place) 4.2.2: Implement the Renewable Energy Directive: adopt RES legislation, streamline permitting, establish renewable energy communities, operationalize guarantees of origin 4.3.1: Work on carbon pricing with the aim of having an ETS in place by 2030; focus on Monitoring, Reporting, Verification and Accreditation (MRVA) package 4.4.1: Adopt and implement a long-term building renovation strategy and energy efficiency scheme
Kosovo*	 2.3.1: Transpose and implement the Clean Energy Package 2.4.1: Implement NECP-aligned climate and energy actions 2.5.1: Develop transparent, competitive procedures for deployment of renewable energy 2.6.1: Implement the Energy Efficiency Directive and Energy Performance in Buildings Directive
Montenegro	 2.1.1: Fully implement the electricity integration package 2.1.2: Implement gradual tariff adjustments to cost-recovery levels accompanied by energy poverty measures 2.2.1: Implement NECP priority policies and measures 2.2.2: Improve the national ETS in accordance with the EU ETS 2.3.1: Develop transparent, competitive procedures for deployment of renewable energy and foreseeing the entry of new ones 2.3.2: Implement the Renewable Energy Directive (permitting, guarantees of origin, prosumers) 2.3.3: Increase electricity production capacity through greater use of RES and more efficient use of existing power plants 2.3.4: Implement energy efficiency and air pollution legislation
North Macedonia	 2.1.1.1: Align with electricity integration package for EU market coupling: establish day-ahead electricity market, operationalize the package in line with the market coupling operator integration plan by the end of 2025 2.1.1.2: Implement gradual electricity price adjustments to market level accompanied by energy poverty measures 2.1.2.1: Implement NECP climate and energy policies and measures 2.1.3.1: Deploy renewable energy: implement the Renewable Energy Directive (permitting, guarantees of origin) and transparent and competitive procedures for the deployment of renewable energy 2.1.4.1: Work on carbon pricing with the aim of having an ETS in place by 2030: development, adoption and full implementation of the MRVA package 2.1.5.1: Implement the Energy Performance in Buildings and Energy Efficiency Directives
Serbia	 7.1.1: Implement the Third Energy Package for gas and transpose and implement the electricity integration package 7.1.2: Implement gradual tariff adjustments to cost-recovery levels accompanied by energy poverty measures if needed 7.1.3: Ensure transparent, competitive procedures for the deployment of renewable energy 7.1.4: Implement the Just Transition Action Plan 7.1.5: Implement the Renewable Energy Directive (permitting, guarantees of origin, prosumers) 7.1.6: Implement MRVA 7.1.7: Implement the Energy Efficiency Directive, Energy Performance of Building Directive, Ecodesign and energy labelling legislation

TÜRKIYE: ENERGY SECTOR REFORMS IN ERP 2025–2027

	 Energy market reforms and liberalization: Strengthen electricity and gas markets, integrate with the EU framework, expand futures markets, and adjust consumer eligibility thresholds
	 Renewable energy expansion and green transition: Increase installed capacity from 63.5 GW (2023) to 91 GW (2028), expand solar and wind power, raise renewable electricity share to 50%, and continue YEKA projects
	 Energy efficiency measures: Implement the Energy Efficiency 2030 Strategy, target 16% energy savings and 100 million tons CO₂ reduction, invest \$20.2 billion, and expand building renovations
e	 Alternative fuels development: Advance the Hydrogen Technologies Strategy, expand green hydrogen production, develop carbon capture and storage, and increase R&D funding
	 Carbon pricing and emissions control: Establish a national ETS aligned with the EU ETS, implement stricter emission reduction strategies, and develop a CCUS framework
	 Natural gas and energy security: Expand underground gas storage, increase Northern Marmara and Tuz Gölü capacities, and enhance Floating Storage and Regasification Units
	 Institutional strengthening and governance: Adopt the Climate Law, align policy framework with the European Green Deal, and enhance transparency through improved market surveillance mechanisms

BOSNIA AND HERZEGOVINA: ENERGY SECTOR REFORMS IN ERP 2024–2026

Bosnia and Herzegovina

Türkiy

Reform measure 1: Energy transition, including the provision of energy security, implementation of market reform, increased efficiency, and a greater share of renewable energy sources

REFERENCE

The discussion above derives on the workshop "Managing Structural Reforms in Energy Sector", delivered on February 18-20, 2024 in Ljubljana, Slovenia. It welcomed participants of Western Balkans and Turkiye, gathering representatives from ministries and other state institutions dealing with energy sector strategic planning. The workshop had two parts: energy sector reforms and their impact. This knowledge product deals with the first part including the variety of expertise which enabled fruitful debates and peer-to-peer learning, based on shared presentations by the participants about main challenges in their parties. The workshop was part of the multi-beneficiary capacity development project "Structural Reforms Better Integrated Within Fiscal Frameworks" (FISR2), funded by the European Union.

AUTHORS: Tijana Stanković and Janez Kopač