



Albania



BiH



Kosovo



Montenegro



N. Macedonia



Serbia

# **Western Balkans Energy Crisis Response Programmatic ASA**

(ID: P179826)

## **Completion Summary Note**

**December 2024**



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## Preface

This completion summary note presents the key activities undertaken under the Programmatic Advisory Services and Analytics (PASA) “Western Balkans Six Energy Crisis Response Program” implemented FY23-25 in the six Western Balkan countries Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. The PASA benefitted from grant support by the global trust funds (TFs) Energy Sector Management Assistance Program (ESMAP) and the Climate Support Facility (CSF), as well as World Bank budget (BB) allocated to the program. Generous support of the ESMAP and CSF is gratefully acknowledged: for more detail, please visit [www.esmap.org](http://www.esmap.org) and <https://www.worldbank.org/en/programs/climate-support-facility>.

This energy sector PASA project was approved in November 2022, building on the “Western Balkans Energy Transition Program” (P169389), with an expanded scope and scale, with additions including the financial stabilization of energy utilities (along with an enhanced emphasis on the protection of the energy vulnerable), and increased urgency for regional activities.

The original completion date was October 2024, which was extended into January of 2025. All allocated resources have been successfully disbursed against agreed deliverables. The program is closed with this final summary note (November 2024) reporting on the key findings and impact of the suite of activities undertaken.

The PASA team was led by Katharina Gassner (TTL) and Rhedon Begolli (co-TTL) with contributions from an extended ECA energy staff team including (in alphabetical order) Claudio Protano, Daniel Mayr, Elena Merle-Beral, Ferhat Esen, Gazmend Daci, Ivan Krofak, Kornel Drazilov, Luiz Gabriel Sucrmont Rodrigues Simoes, Matthias Konstantin Jochum, Talis Tebecis, Paula Tacke, Senjuty Bhowmik, Xavier Remi Daudey and Yuriy Myroshnychenko (all IECEE), and substantive contributions from the extractives unit, including Wolfhart Pohl and Helen Nguyen (IEEXI).

Collaboration with other global practice teams, notably the Poverty GP (Zurab Sajaia and Carlos Ospino, EECPV), Social Protection and Jobs GP (Marijana Jasarevic, HECSP), and the Climate Change Group (Yevgen Yesyrkenov, SCCSK), was successfully undertaken. A number of individual consultants carried out analytical studies on several topic areas, including Arben Kllokoqi, Biljana Mladenovic, Branislava Lepotic, Jelena Anicic, Mike McWilliams, Nebojsa Jablan, Rainer Behnke, Rozeta Karova, and Søren Krohn. Consulting firms procured under the PASA include CESI, ECA Consulting, Electricity Coordination Center (EKC), OMNIA, Macroconsulting, Moseley Infrastructure Advisory Services (MMM INFRA), and CES Clean Energy Solutions GmbH. The work was carried out under the guidance of Sudeshna Ghosh Banerjee (FY23-24) and Stephanie Gill (FY24-25), Practice Managers, ECA Energy and Extractives unit. Overall direction was provided by Xiaoqing Yu, Regional Director for the Western Balkans.

## **Acronyms and Abbreviations**

ACS – Administrative and Client Support  
ASA – Advisory Services and Analytics  
BB – Bank Budget  
BiH – Bosnia and Herzegovina  
CSF – Climate Support Facility  
CCDR – Country Climate and Development Report  
DPO – Development Policy Operation  
EEX – Energy and Extractives  
ECA – Europe and Central Asia  
EBRD – European Bank for Reconstruction and Development  
EE – Energy Efficiency  
EnC – Energy Community  
ESMAP – Energy Sector Management Assistance Program  
EVC – Energy Vulnerable Consumers  
FiT – Feed-in Tariff  
FY – Financial Year  
GP – global practice  
IPF – Investment Project Financing  
JT – Just Transition  
KEK – ‘*Korporata Energjetike e Kosovës*’ (Kosovo’s energy utility)  
LCGDP – Least Cost Power Generation Expansion Plan  
MAB – Multi-apartment building  
MoME – Ministry of Mining and Energy (in Serbia)  
MW – Megawatt  
PASA – Programmatic Advisory Services and Analytics  
PMI – Partnership for Market Implementation  
PPIAF – Public-Private Infrastructure Advisory Facility  
PPT – PowerPoint  
RE – Renewable Energy  
RSPV – Rooftop Solar Photovoltaic

SURCE – Scale Up of Residential Clean Energy

TF – Trust Fund

TSO – Transmission System Operators

TTL – Task Team Lead

US\$ – United States Dollar

VRE – Variable Renewable Energy

WBG – World Bank Group

WB6 – six Western Balkans countries: Republic of Albania, Bosnia and Herzegovina, Montenegro, Republic of Kosovo, Republic of North Macedonia, and Republic of Serbia.

# 1. PASA Overview

The "Western Balkans Six Energy Crisis Response PASA" (P179826) was approved in November 2022 with the development objective to 'support design and implementation of medium- to long-term strategies to ensure energy security and resilience while meeting the decarbonization and sustainability objectives in the six Western Balkan countries'. It was led by Katharina B. Gassner and Rhedon Begolli, and absorbed US\$783,000 Bank Budget and US\$1,290,000 World Bank administered Trust Fund grants, including US\$500,000 from the CSF (*Low-Carbon Response to the Energy Crisis - Western Balkans Green Recovery Support Grant*, TF0C0431), an ESMAP grant of US\$540,000 (*WB6: Supporting decarbonization and sustainability objectives*, TF0C4193), and another ESMAP grant of US\$250,000 for the Low Carbon Development Assistance to Montenegro (TF0C1499). The original completion date was October 2024, which was extended until January 2025.

This PASA program built on the "Western Balkans Energy Transition Program" implemented between October 2018-November 2022 (P169389), however the shift in the global energy debate that occurred in 2021-2022 with the energy crisis in the region, required an expansion of topics with additions including the financial stabilization of energy utilities (along with an enhanced emphasis on the protection of the energy vulnerable), a sharpened focus on innovative technologies such as battery storage, and increased urgency for regional activities. The PASA was implemented in coordination with other analytical activities, including the ECA-wide PASA 'ECA Energy Sector Decarbonization Support Program' (P177744), to take advantage of synergies. It was also implemented in parallel to the WB6 Countries Climate and Development Report (WB6 CCDR, P179205), informing priority engagement areas and allowing follow-up at the country level on specific issues.

Activities in the program were organized around three pillars (Figure 1):

## **Pillar 1. Energy sector financial sustainability and affordability**

Component 1.1. Financial stabilization of energy utilities

Component 1.2. Protection of the energy vulnerable

## **Pillar 2: Strategies for decarbonization**

Component 2.1. Informing government policy with respect to coal power plant retirements

Component 2.2. Carbon pricing

Component 2.3. Sustainable residential energy solutions as part of energy efficiency strategies

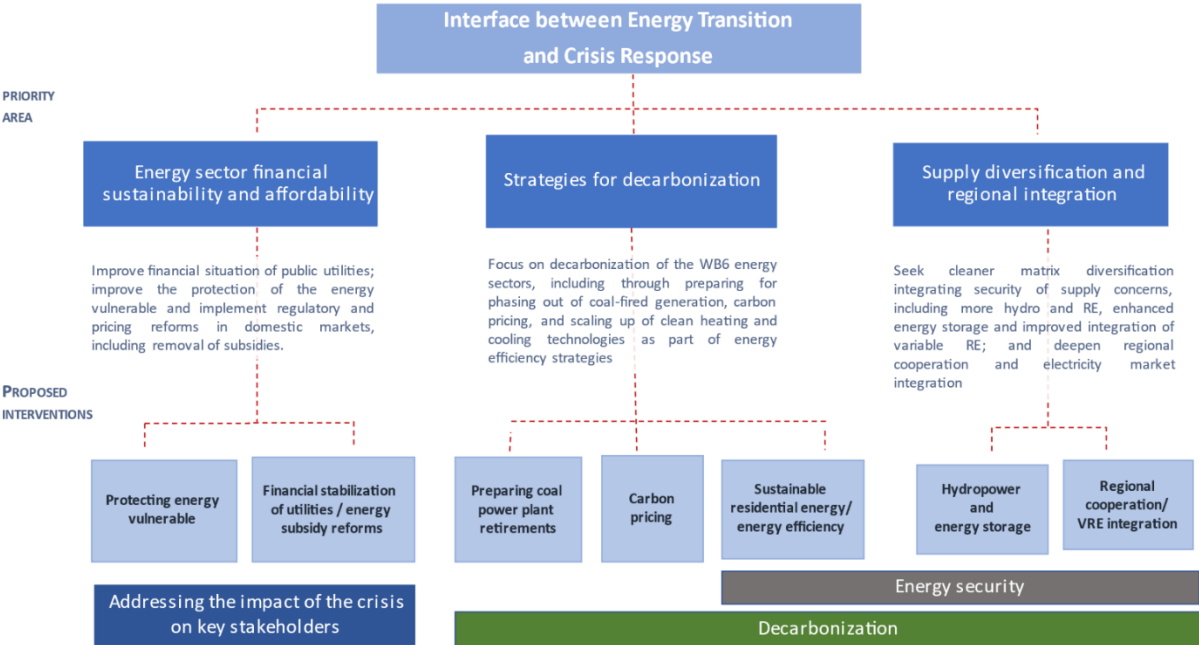
## **Pillar 3: Supply diversification and regional integration**

Component 3.1 Regional electricity market

Component 3.2. Hydropower, renewables and energy storage.

The outputs of the PASA aimed to support the decision-making process for approaches to mitigating the short-term impacts of the energy crisis while advancing the longer-term decarbonization and resilience agenda. Initially, renewable energy scale-up was not included in the PASA structure because an ECA-wide ASA, supported by ESMAP, and implemented jointly with IFC (P177744), analyzed the barriers and opportunities for RE in the broader ECA region. However, because of growing client demand during implementation, the program de-facto included RE in Component 3.2 under the "Supply Diversification" theme, providing targeted ad hoc assistance to individual client countries to complement the analytical work across the region.

Figure 1: Overview of the WB6 Energy Transition PASA FY23-25



In 2023, the PASA focus progressively shifted from urgent concerns related to sector stability to longer-term decarbonization topics as a priority in client requests. By the end of energy crisis, financial analyses of utilities and energy vulnerable programs had been integrated into government programs. However, new policy priorities had emerged, such as carbon pricing in response to the implementation of the CBAM, and challenges related to the regional electricity market integration. The formal adoption of the CBAM by the EU in May 2023 had implications on longer term choices for carbon pricing, increasing requests for the Bank’s technical assistance. There was also an increase in engagement in the Just Transition Agenda with rapid deployment of resources in Kosovo and North Macedonia as a result of collaboration with utilities exploring a diversification away from coal-based activities. In contrast, the topics of financial stabilization of utilities and consumer protection became less prominent, as discussed in more detail below. The adoption of a mandatory regional electricity integration package by the Energy Community ministerial council in December 2022 resulted in rapid commitment of resources to respond to client demand for assistance in transposing this ambitious set of market rules. This in turn led to additional US\$100,000 as an ESMAP grant being secured in May 2024, focusing on the transposition of the Energy Community regional electricity market framework.

A list of main deliverables under each of the program topics is provided in Annex 1. A shared folder with all documents is available here: [7. Deliverables](#)

## 2. Summary of Key Impacts

### 2.1 Impact on governments' agendas and policy dialogue

The program has substantially informed World Bank-led dialogue on energy in all WB6 countries. Expected outcomes related to policy dialogue and reforms have been achieved or overachieved, but completion has been delayed in one case responding to client request (Table 1).

*Table 1. Outcome indicators*

	Baseline	End target	Actual Result*
1. Government energy strategy / policy informed	0	3	3
2. Measures for financial stabilization of energy utilities adopted	0	2	3
3. Decarbonization reform measures informed	0	2	5
4. Measures for protection of energy vulnerable adopted	0	2	3
5. Government policy/strategy informed (development of LCDS in MNE)	Lack of data/analysis	LCDS developed based on the conducted analyses	Postponed by the client
6. Facilitated exchange of best practice with clients	0	1	2

\*Details on the actual results (numbering refers to the line numbers above):

1. Long-term buildings renovation strategy in MNE; decarbonization communication strategy in MNE; wind pipeline development strategy in KOS.
2. Tariff reforms in KOS, MKD, SRB.
3. Climate Law in MNE, RE laws in MNE, KOS; energy sector laws in SRB (to comply with the electricity market integration package); grid codes in KOS and ALB; Law on energy performance of buildings in KOS.
4. Energy vulnerable support programs in KOS, MKD and SRB.
5. The Low-carbon development strategy in Montenegro has been postponed to make it consistent with the National Energy and Climate Plan (NECP) that is still being developed.
6. 2 workshops on regional electricity market integration; Bank participation in EnC CBAM conference.

The program provided input into policy reforms helping the governments mitigate the short-term impacts of the energy crises while advancing the longer-term decarbonization and resilience agendas. In the first year of implementation, the PASA has contributed to the improvements in the national support programs for the energy vulnerable consumers in Serbia, Kosovo, and North Macedonia along with measures to improve the financial health of energy utilities in these countries (mainly through tariff reform).

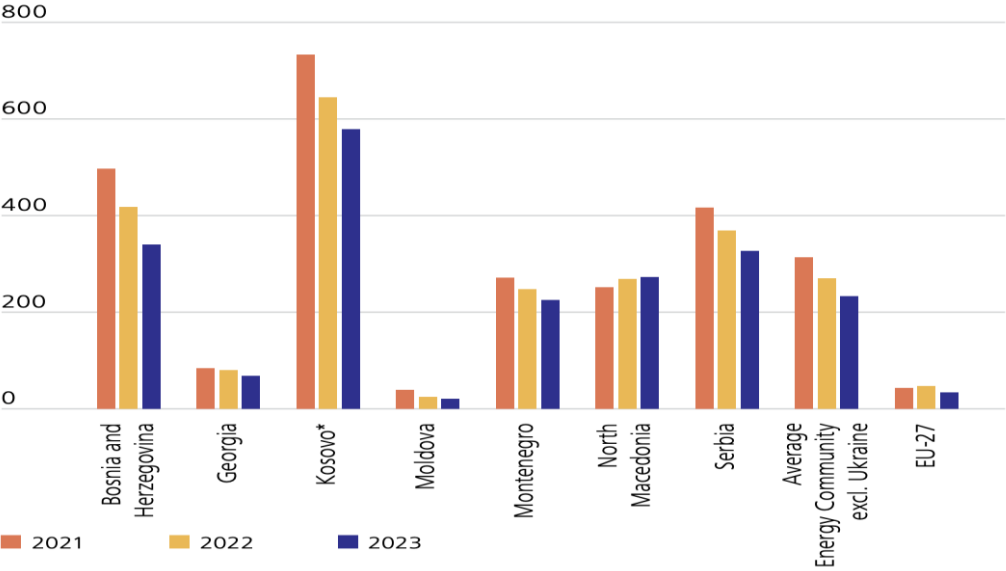
The program has allowed to provide ad-hoc input and analysis to several governments facing challenges and difficulties to comply with their international climate change commitments and to meet national policy priorities. An example of such flexible support is assistance related to the Just Transition (JT) agenda in Kosovo and North Macedonia. To help these countries engage in the coal phase down, the World Bank has conducted options studies and pre-feasibility assessments of clean energy projects on former mining lands (e.g. sustainable district heating in Kosovo). The government's requests for assistance related to hydro rehabilitation (BiH) have been also addressed as part of the broader JT agenda. In addition, region-relevant knowledge



has been developed and disseminated, and institutional capacity has been built on topics such as carbon pricing, regional energy market integration and Just Transition, which became more prominent in the second year of the PASA implementation. The activities carried out under this PASA have also informed the analytical and modelling work for the preparation of the WB6 CCDR, which will be used as the basis for future engagements with WB6 countries in the climate change space.

Pillars 2 and 3 of the program have contributed to the decarbonization trajectory in the WB6 region, although the exact impact can only be seen in a few years because of the lead time necessary for investments in energy efficiency and the replacement of coal-fired generation capacity. According to the latest assessment by the Energy Community (EnC) Secretariat,<sup>1</sup> carbon emissions from power plants in the Western Balkans and other Contracting Parties (excluding Ukraine) decreased by 1.37% (615 kt) in 2023 compared to 2022, reaching a total of 44.4 mt. These emissions were also 2.45% lower than the five-year average for 2019–2023. Electricity production from coal and oil-fueled thermal power plants saw a reduction of 1.2 TWh, while natural gas power plants increased their output by 1 TWh. Gross electricity consumption decreased by an average of 1.2%. A notable 4.9% decline in coal-generated electricity was observed in 2023 compared to its five-year average, while production from hydro and non-hydro renewable sources increased by 18.44% over the same benchmark. The carbon intensity of power production, relative to economic development (measured as CO2 emissions per unit of GDP), has declined in all WB6 countries except North Macedonia, but the EnC average remains nearly seven times higher than the EU-27 average (Figure 2). Nevertheless, the Contracting Parties achieved a 25% reduction in CO2 emissions per unit of GDP compared to the five-year average and a 13% reduction compared to 2022.

**Figure 2: CO2 emission from electricity production per GDP [kg CO2/EUR GDP]**



Source: compiled by the Secretariat based on reports from Contracting Parties, as well as data from Eurostat, the World Bank, the IMF and default emission factor values.

<sup>1</sup> ENERGY COMMUNITY (2024) CBAM-Readiness Tracker, Energy Community, October 2024. ([https://www.energy-community.org/dam/jcr:49614eb6-4596-492a-816a-31a6f86dda1f/EnC\\_CBAM-Readiness\\_Tracker\\_20242110.pdf](https://www.energy-community.org/dam/jcr:49614eb6-4596-492a-816a-31a6f86dda1f/EnC_CBAM-Readiness_Tracker_20242110.pdf))

The country-specific impacts are discussed in more details in Chapter 3. The following paragraphs summarize select examples of key impacts of regional and multi-country activities.

1. **Just Transition (JT)** engagements in BiH, Kosovo and North Macedonia, focusing on repurposing of coal mining lands and assets, and broader energy transition support to scale up renewable capacity to replace thermal plants in the mid- to long-term.
2. **Support of the regional electricity market integration** agenda:
  - the transposition of the key elements of the Energy Community framework documents at country level in Serbia, Kosovo, Albania and North Macedonia;
  - the initiation of a regional technical platform for TSO coordination in partnership with the Energy Community Secretariat.
3. **Analysis and policy advice on carbon pricing and CBAM:**
  - Internal briefings prepared by the PASA team on carbon pricing, CBAM and the linkages with the electricity market integration have informed ongoing policy dialogue with client countries.
  - PASA contribution to the comprehensive program supported by the Partnership for Market Implementation (PMI) in Montenegro, and additional analysis on the scope and ambition of a carbon pricing scheme undertaken in BiH have contributed to shaping the governments' policy in this area.
  - The input of the PASA team to the WB6 CCDR and coordination/dialogue with the Energy Community (including the WB presentation at an EnC conference on CBAM) have contributed to increased awareness of the issues related to carbon pricing in the WB6 region and beyond.

## 2.2 Impact on lending

The target indicator for the PASA, which is having one existing and at least two new lending operations informed, has been overachieved: the analytics conducted under the PASA have informed **five Development Policy Loans (DPLs)** and **four Investment Project Financing (IPF) operations**, including two at the preparation stage (for more detail, please see section 3):

### DPLs:

- First Albania Resilience and Green Development DPL (P178202)
- First Serbia Green Transition Programmatic DPL (P177410)
- North Macedonia Sustainability and Resilience DPL (P180587)
- Kosovo Fiscal Effectiveness, Competitiveness and Green Growth DPL (P179944)
- Second Serbia Green Transition Programmatic DPL (P178115).

### IPFs:

- Serbia Scaling-Up Residential Clean Energy (SURCE) Project (P176770) and additional financing in preparation
- Kosovo Air Quality Improvement Project Investment Project Financing (P176040)
- North Macedonia Air Quality Improvement Project Investment Project Financing (P177610)
- Just Transition in Select Coal Regions of BiH Investment Project Financing (P179990)

In addition, several advisory activities related to carbon pricing, regional integration and JT (described in section 2.1) have contributed to exploring new lending opportunities in these key areas of the energy transition agenda.

The program also contributed to and provided cross-fertilization to the Scaling-Up Energy Efficiency in ECA MPA (E3, P181518) and the ECA Renewable Energy Scale-Up MPA Program (ECARES, P176375), and several parallel ASAs:

- *ECA Energy Sector Decarbonization Support Program (P177744)*
- *Support to Energy Transition in Coal Regions (P171194), closed in FY24.*

## **3. Key Messages from the Program Activities**

### **3.1 Pillar 1: Energy Sector Financial Sustainability and Affordability**

#### **Component 1.1. Financial stabilization of energy utilities**

##### Background

This activity was designed to support the client countries in the recovery from the financial distress caused to their energy utilities by the international energy crisis from mid-2021 and to restore the basis on which sustainable investment strategies were formulated. Electricity utilities in net importing countries (Albania, Kosovo, North Macedonia, and, exceptionally in late 2021/early 2022, Serbia, which suffered unplanned outages at its coal-fired plants) were incurring large losses and facing liquidity issues because of skyrocketing costs of supplies purchased on the competitive market. In North Macedonia, the government was reportedly subsidizing imports or domestic electricity production in the amount of EUR 171 million of budgetary funds as of April 1, 2022. In Albania, the government planned to inject around EUR 550 million in 2022 to cover imported power. In Kosovo, unplanned outages resulting in seasonal imports during December 2021 and January 2022 increased system costs by EUR 55 million. In Serbia, the authorities estimated that the additional costs of emergency electricity imports in the 2021/22 heating season would be measured in the hundreds of millions of euros. Client demand for assistance was manifested by the governments of Serbia and North Macedonia and by the energy utility in Albania.

##### Outputs

In **Serbia**, financial modelling of the electricity utility was carried out to estimate required EPS tariff increases (in cooperation with IMF) as part of the Green Transition DPL series (P178115) (for more details see Comp. 1.2). **North Macedonia's** government has received support related to an energy tariff methodology: two analytical reports with recommendations on the Cost of Capital and Increasing Block Tariff were prepared for the government to provide input into policy decisions, as well as a report on energy subsidies (which is also relevant for Component 1.2). These just-in-time ASAs were provided in direct response to Government requests during the 2022 annual meetings to support their energy crisis response. Both ASAs informed and supported

IMF's program in North Macedonia. In **Albania**, background sector analysis was conducted for the First Resilience and Green Development DPL(P178202). In **Kosovo**, the WB evaluated the financial performance of the country's TSO KOSTT in Q3 2024 as part of the engagement aiming to improve KOSTT's bankability as the offtaker of electricity from renewable energy sources (Component 3.2).

### Key conclusions and recommendations

The analysis revealed that energy utilities in the WB6 were severely affected by the international energy price shocks. In the context of huge investment needs to renovate and replace the aging infrastructure and invest in carbon-free generation capacity (important for achieving the countries' decarbonization and energy security objectives), the energy companies needed urgent support to restore their financial viability. Because of governments' tariff policies (regulated tariffs for households, price caps for industrial consumers), the companies could not recover the rapidly growing costs in a timely manner, which led to their financial losses and liquidity issues. The key recommendations for all countries was to allow the energy sector companies recover their costs through tariffs, while simultaneously introducing targeted social protection schemes for the vulnerable consumers (the focus of Component 1.2).

### Outcomes and impacts

In **Serbia**, the Council of the Energy Agency approved an 8 percent increase of the electricity tariff for guaranteed supply in March 2023 (effective as of May 1, 2023) and another increase of equal size in September 2023 (effective as of November 1, 2023). These tariff increases led to a positive financial result of EPS JSC as evidenced by the financial statements of the company in 2024. Tariff reforms were also implemented in **North Macedonia** leading to improvements in financial situation of energy utilities; the reforms were implemented through adjustment of rulebooks for tariff settings for electricity, natural gas, and district heating, to ensure best practices in setting cost-reflective tariffs.. In parallel, social protection measures were put in place in both countries to mitigate tariff increases (see Component 1.2). In **Kosovo**, the World Bank analysis of the utility company has led to a strong interest of energy sector companies to continue working with the World Bank on other agendas. As a result, KEK has engaged deeper in Just Transition dialogue and activities to accelerate the decarbonization of the energy sector. In Albania, however, where lacking client engagement was experienced, the price surge in the electricity wholesale market did not lead to increases in retail prices for households and small commercial consumers as the Government absorbed the impact.<sup>2</sup>

As the severity of energy crisis diminished in 2023, the financial situation of energy utilities has improved significantly, leading to decreased client interest for World Bank assistance in the area. For example, in Serbia, the national utility JSC EPS recorded cumulative net losses of EUR 831million in 2021-2022; however, in 2023, it reported a net profit of EUR 972 million, driven mainly by the increase in electricity generation and exports, several increases in regulated electricity tariffs in 2022-23, and lower coal and electricity imports. In the long term, the financial stability of energy utilities remains a concern, with all countries exposed to potential risks resulting from energy imports. In the case of Serbia, JSC EPS continued to fail to timely implement its investment plan: in 2023, it invested about EUR 441m, compared to annual planned investments

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<sup>2</sup> ECRB, Impact of the energy crisis on electricity and gas price regulation in the Energy Community Contracting Parties, May 2023.

of EUR 982m (45% overall realization rate). Consistent underinvestment could increase the risk of new accidents, which could threaten JSC EPS's financial viability and Serbia's energy security and fiscal balance. In this context, the scale-up of domestic renewable energy capacity and demand reduction through EE in the WB6 countries are seen as the long-term solutions, and the WBG instruments, such as guarantees, as short-term tool to mitigate financial risks.

#### Coordination/outreach efforts

The results of the analysis were shared with the clients in the framework of the preparation of the DPLs and separate advisory activities. Coordination was ensured with the work on carbon pricing under Component 2.2 because energy subsidies effectively act as 'negative carbon pricing'.

### **Component 1.2. Protection of energy vulnerable**

#### Background

The topic of energy vulnerability became acute in the context of the 2021-22 energy crisis because residential consumers in the WB6 countries had a limited ability to absorb higher energy prices. Energy vulnerability was relatively widespread in the WB6. In 2019, North Macedonia had the highest share of households in Europe reporting that they could not keep their home adequately warm (33.1 percent), but Kosovo, Montenegro, and Serbia also rank among the top 10 countries.<sup>3</sup> The inability to keep their homes warm and the incidence of arrears and late payments of bills was more common among low-income households, suggesting that poor and vulnerable consumers often have more difficulty meeting their energy needs. For example, 48 percent of the lowest income decile households in Serbia and 65 percent in Montenegro had arrears in utility services, compared to only 8 and 17 percent, respectively, in the top decile. Forty-three percent of low-income households in Albania, 68 percent in Kosovo, and 68 percent in North Macedonia were in arrears on utility bills compared to 27 percent, 49 percent, and 34 percent on average in the country, respectively.<sup>4</sup> The relatively high spending on energy makes households in the region particularly vulnerable to tariff increases. According to available Household Budget Survey figures, the median household in the Western Balkan countries spends between 7 and 10 percent of their total budget on energy.

#### Outputs

The World Bank provided comments/recommendations on targeted support programs for energy vulnerable customers (EVC) in Kosovo, North Macedonia and Serbia. In **Serbia** the analysis included estimated coverage and required budget for the new expanded energy vulnerable program approved in 2022 (in collaboration of the IMF), as well as an assessment of – and the recommendations for – the implementation of the Decree on Energy Vulnerable Customers, following the 2022 changes, through the lens of three program effectiveness indicators: Coverage, Adequacy, and Targeting. Analysis of the poverty and social impact of reforms was carried out by the Bank to assess the effects of the revised EVC decree and increased tariffs on households, based on the data provided by the MoME (expected by the end of November 2024). Additional support for the EVC was offered in April 2024 with the introduction of a dedicated call for co-financing of energy efficiency measures in 44 cities and municipalities under the World Bank financed Scaling Up Residential Clean Energy (SURCE) project.<sup>5</sup> Households who obtained the

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<sup>3</sup> EUROSTAT, EU-SILC Survey. Data for Albania and Bosnia and Herzegovina not available.

<sup>4</sup> Energy Community report on Energy Poverty

<sup>5</sup> This initiative is implemented under the World Bank financed Scaling Up Residential Clean Energy (SURCE) project.



EVC status will be eligible to receive up to 90 percent of co-financing for replacement of windows, outer wall insulation, installation of efficient heating boilers. The TA provided to **North Macedonia** comprised a report on energy subsidies, which also included an assessment and recommendations related to vulnerable consumers in the energy sector. In **Kosovo**, a distributional impact assessment of energy shocks was done, and a review of the proposed vulnerable consumer program, supported under the DPL.

### Key conclusions and recommendations

The relatively high spending on energy made households in the region particularly vulnerable to tariff increases. The key recommendations were to improve the targeting of vulnerable consumers, and to expand the energy vulnerable protection programs to additional vulnerable population groups (e.g., via the increase of the income threshold needed to qualify for the program).

### Outcomes and impacts

In **Serbia**, the PASA has contributed to the definition of prior actions in the Green Transition DPO series (P177410) via advice to the Government on the revision of a targeted program for the protection of energy vulnerable households. Thanks to the Bank's support, the Government of Serbia adopted an amendment of the Energy Vulnerable Customers (EVC) Decree in October 2023 that has led to a temporary rapid increase of EVC beneficiaries from about 72,000 to about 160,000 EVC beneficiaries in the heating season 2023/2024 (October 2023-March 2024). The newly introduced category of pensioners with minimal pensions (about 96,000 new EVC) together with improved and automatized data processing and decision-making protocols contributed to this positive result during the heating season. However, the EVC data for April-July 2024 period indicate a decrease in the number of EVC back to the regular level to about 72,000 on average.

Utility-level modeling of the financial impact of the energy crisis on the state-owned utility EPS has also been used to provide insight into the needed tariff adjustments to absorb the international market developments, with complementary analysis of the distributional impact on vulnerable households. The affordability analysis has continued informing the clean energy operation in the residential sector (SURCE, P176770) and the grant element offered by the Government under the program.

In **Kosovo**, the comments and recommendations on EVCs supported the Kosovo Fiscal Effectiveness, Competitiveness and Green Growth DPL (P179944). In **North Macedonia**, the Bank provided a full report with analysis and recommendations on potential reforms of the EVC programs; its implementation has not materialized yet.

### Coordination/outreach efforts

The studies were carried out in collaboration with the Poverty global practice (GP) and Social Protection & Labor GP. In Serbia, all analytical activities were carried out in close collaboration with the Ministry of Mining and Energy (MoME) following its request for Bank support. The conclusions and recommendations were discussed with the MoME, and this dialogue continues. The World Bank's team also reached out to the Pension Insurance Fund, Ministry of Social Protection, National Power Utility Company, and several Municipalities to discuss possible reforms of the EVP implementation modalities. In North Macedonia, it was the Ministry of Economy that asked the Bank to support the Government in improving the vulnerable consumer program in the wake of the energy crisis, and the results of the analysis were presented to the Ministry to inform the reform of current subsidy schemes. Like in Serbia, the dialogue regarding

implementation of identified recommendations is ongoing and expected to go beyond the duration of the PASA.

## **3.2 Pillar 2: Strategies for Decarbonization**

### **Component 2.1. Informing government policy with respect to coal power plant retirements**

#### Background

Most Western Balkan countries are very carbon intensive because about 83 percent of their primary energy use comes from fossil fuels (compared to 70 percent in the EU, on average). At the time of designing this PASA, all Western Balkan countries except Albania relied on domestic coal (lignite) for power generation, and they were producing their own lignite to fuel power plants. Kosovo generated about 95 percent of its electricity from domestic lignite, followed by Serbia, Bosnia and Herzegovina, North Macedonia (about 60–70 percent), and Montenegro (44 percent). Of all types of coal, lignite has the lowest energy density, a low heating value and a high moisture content, which makes it uneconomical for long-distance transport and export. It is mainly used in the power plants that are integrated with the nearby mines, representing a reliable power source with low generation cost (assuming externalities are excluded) with predictable fuel prices. The commercial viability of lignite, however, deteriorates dramatically when the costs of environmental and health damage are added to the fuel price. Therefore, electricity systems based on lignite are strongly exposed to the risks of environmental regulations, citizen protests, and carbon pricing. In addition, tragic accidents, such as the one in the Resavica “Soko” mine in Serbia on April 1, 2022, which killed eight miners and injured many more, highlighted poor safety conditions. This component was designed to assist the governments of the WB6 countries in better managing the process of coal plants retirements.

#### Outputs

This component focused mainly on **Kosovo** as one of the most carbon-intensive WB6 countries, with a strong government interest in WB support. A comprehensive approach was developed to assist the government and other stakeholders in the development and implementation of Kosovo’s energy decarbonization strategy. This approach included a Just Transition (JT) away from coal, the development of RE and regional electricity market integration. A Land Repurposing and Use Assessment (LURA) was initiated in April 2023 as part of JT dialogue. A Pre-feasibility Study of Renewable Supply Options for District Heating in Coal Mining Regions in North Macedonia and Kosovo was initiated in July 2024 and preliminary results on a new independent DH system for the region Fushe Kosova were presented in September 2024; the final results for both countries are forthcoming. Another study identified opportunities for construction of a pumped storage hydro plant using the former mining land in Kosovo. In addition, an analytical report on public-private partnership (PPP) options, and the possible role of the national utility KEK in the development of future RE capacity was prepared in December 2023 as input for the GoK strategy. This and other activities related to the PPP framework are reported under Component 3.2.

In **North Macedonia**, following a similar engagement pattern of JT dialogue, a mining LURA assessment was initiated in September 2023 as part of the joint Investment Plan prepared under the CIF / ACT concessional financing managed jointly by EBRD/IFC/World Bank.

In **BiH**, early identification of new capacity generation potential on the basis of biomass, rooftop solar, and hydro rehabilitation has taken place. In all three countries, identification of new lending operations is ongoing on the basis of the analytical work.

### Key conclusions and recommendations

The World Bank's suggested approach to a coal phase down in the WB6 builds on a comprehensive coal transition framework putting people and communities at the center and with a high emphasis on governance and environmental remediation and land repurposing. In Kosovo, the overall main land repurposing options for the KEK mining complex are: energy production and light industry (55%), and agriculture (38%); the remainder will likely be water bodies (7%). No areas deemed ideal for forestry and natural habitats, or high value commercial or residential developments were identified.<sup>6</sup>

KEK's policy objectives of (i) attracting private sector investment in renewable energy; and (ii) working with the private sector to deliver Just Transition social benefits, can be achieved by either of the two approaches: Just Transition Public-Private Partnership (JT-PPA) model or the mutual investment PPA (JT-MIPPA) model. The JT-MIPPA model is even more attractive, since it provides (i) an increased ability to shape and enhance the delivery of JT benefits; and (ii) an opportunity to share profits generated by the Project Company. However, it would present even greater implementation challenges than the JT-PPA approach.

### Coordination/outreach efforts

The LURA assessment was carried out in close cooperation with KEK and the Government of Kosovo, and the results were presented to these stakeholders in September 2023, followed by a broader stakeholder workshop on November 6, 2023. All the other deliverables were also prepared in close coordination with the clients, and the preliminary and final results were discussed with the relevant stakeholders.

### Outcomes and impacts

Outputs from LURA may be used as inputs and supporting information to future spatial planning efforts for the various sectors and sites within the mining lands. Repurposing scenarios, underlying data and "heat maps" provide valuable factual information to support the spatial masterplan, which is currently being developed under the auspices of MESPI. On the basis of the LURA results, the needs for additional, more detailed assessments were identified, including (pre)feasibility studies for PV and district heating. Building upon the initial results of the DH options in mining regions, analysis in North Macedonia and Kosovo will continue under the new PASA.

## **Component 2.2. Carbon Pricing**

### Background

Carbon pricing is recognized as one of the economically most effective and efficient policies to reduce the consumption of fossil fuels; however, WB6 countries are lagging in the adoption/implementation of policies that internalize the social and environmental cost of carbon and incentivize the energy transition away from lignite and other fossil fuels. The EU Carbon

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<sup>6</sup> The proposed utilization categories are not compulsory and not the only possible use. There may be higher level strategic plans, or specific local or regional needs / interests that "override" LURA's outputs.



Border Adjustment Mechanism (CBAM) introduced by the EU is the first tangible manifestation of the costs that could be faced by countries that continue a business-as-usual growth model. The EU CBAM applies to the import of selected goods from the most emission intensive and trade exposed sectors covered by the EU's Emissions Trading System (EU ETS), such as electricity, cement, fertilizers, steel and aluminum. As the EU is the largest trading partner for the Western Balkan countries, the CBAM is expected to eventually affect the terms of trade for carbon-intensive goods exported to the EU, unless the Western Balkans levy comparable carbon pricing to producers at home. If the EU extends the CBAM to scope 2 emissions,<sup>7</sup> the carbon footprint of electricity generation may become a critical factor affecting the export competitiveness of Western Balkan products, because all producers use electricity from the grid. Whether they take on carbon pricing or deal with CBAM, the WB6 countries need the institutional setup for a robust monitoring, reporting and verification (MRV) framework for GHG emissions. Despite the dominant role the energy sector plays in the debate about carbon pricing and environmental taxation, practical implementation approaches are missing, including essential MRV frameworks.

### Outputs:

Carbon Pricing has been propelled to the forefront of policy work in the Western Balkans by the adoption of the CBAM regulation by the EU in May 2023. The team has carried out a regional-level analysis of interlinkages between the interrelated processes of (i) introducing national carbon pricing schemes in accordance with the countries' commitments as EnC parties, (ii) adapting to the EU CBAM regulation, and (3) preparing for regional electricity market integration (for which carbon pricing is a pre-condition). An internal PPT on carbon pricing setting out the different areas has been produced to serve as basis for engagement with clients. The World Bank team participated in the Energy Community (EnC) Athens Electricity Forum on 7-8 June 2023 and has since organized several discussions with the EnC Secretariat about a coordinated approach to carbon pricing-related technical assistance.

At country level, the World Bank has supported the preparation of the Low Carbon Development Strategy (LCDS) in **Montenegro**: two stakeholder workshops were held in December 2023 and in March 2024 and a draft strategy was produced. As the LCDS finalization and publication was delayed in Spring 2024 by the client due to a delay in the preparation of the National Energy and Climate Plan (NECP) that is closely linked to the LCDS work, the PASA funds were used to respond to the client request to support the Long-term Building Renovation Strategy (LTBRS), itself an input into the NECP. The finalization of the LCDS will continue under the new PASA. The complementary PMI grant secured by Montenegro supports an additional analysis that allows the finalization of the strategic documents and achievement of the expected outcomes. A carbon pricing impact assessment has been produced under the PMI project, with support from the PASA team regarding (i) the analysis of interactions of carbon pricing and power sector generation planning and (ii) recommendations on carbon pricing policy for the government of Montenegro and proposed further activities for the World Bank.

In **BiH**, the Bank team has done an analysis on Emissions Trading System Design Options. In **Serbia**, the team has produced a comprehensive summary of existing analytical work by the World Bank and other institutions to serve as input into client dialogue on carbon pricing in Serbia as part of a multi-GP effort (MTI, ENB, CC and EEX).

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<sup>7</sup> So that, for example, an exporter of vehicles would need to pay a carbon tax at the border for carbon content of electricity used to produce these vehicles.

## Key conclusions and recommendations

In **Montenegro**, the initial draft of the National Strategy of Communication for Decarbonization that has been prepared under the PASA seeks to effectively explain the significance and advantages of decarbonization in order to raise public awareness, facilitate the implementation of policies, and encourage active engagement from all societal segments in the shift towards a low-carbon, sustainable future. An initial draft of the Building Renovation Strategy has been developed with the objective to improve the energy efficiency of the national stock of public and private, residential and non-residential buildings, in a cost-effective manner.

In **BiH**, the introduction of a domestic ETS with a carbon price that gradually transitions to alignment with the EU achieves a balance between supporting emissions reductions while mitigating transitional risk for sectors most impacted by decarbonization. Further work is needed to outline a detailed pathway for an emissions cap to be imposed under the ETS, as well as on support activities related to electricity system impacts, sectoral and distributional impacts, and capacity building.

## Coordination/outreach efforts

The PASA team coordinated closely with the clients and also the Energy Community secretariat and other stakeholders active in this area. Internally within the World Bank Group (WBG), coordination with the climate change team, as well as cooperation with transport, agriculture, tourism, and other relevant sector teams was part of the activity, as well as linkage to Global Knowledge and Global Programs practices. Coordination was also ensured with the work on energy subsidies under Component 1.1 because fossil fuel subsidies, and electricity subsidies where power generation relies on thermal sources, are effectively negative carbon pricing, which creates distortions across the economy, incentivizes excessive consumption of fossil fuels, disincentivizes energy efficiency (EE) and renewable energy (RE) investments, and undermines any effort to price carbon.

## Outcomes and impacts

In Serbia, as part of the reforms supported by DPL-2, progress has been made towards creating a framework for measurement and reporting of carbon emissions at power plants and other energy facilities of “Elektroprivreda Srbije” JSC pursuant to the provisions of the Law on Climate Change. The Environmental Protection Agency (EPA) confirmed that a positive adequacy report for EPS JSC application for GHG emission permit, including the monitoring plans, was issued and submitted to the Ministry of Environmental Protection (MoEP) for further processing. Provided there are no additional requirements the MoEP is expected to issue the emission permit to EPS JSC by the end of 2024.

## **Component 2.3. Sustainable residential energy solutions as part of energy efficiency strategies**

### Background

The residential sector in the WB6 has a large untapped potential for energy efficiency improvements. For instance, in Serbia, the residential sector accounts for nearly 49 percent of total electricity consumption and about 55 percent of total heat consumption.<sup>8</sup> In Kosovo, households account for about 40% of the final energy consumption<sup>9</sup>. There is a huge potential for the installation of modern and efficient heating systems and/or distributed generation facilities, as part of broader housing renovations to improve thermal characteristics of the buildings to reduce their energy consumption.

In WB6 countries, the heating sector lags the electricity sector in terms of decarbonization and clean energy development: unsustainable coal- and wood-fired heating is a major contributor to local air pollution and GHG emissions. Heating systems (including district heating networks, centralized building heating systems and individual boilers) remain heavily reliant on solid fuels (firewood and coal), with often marginal service levels and weak cost recovery ratios. Individual boilers rely mostly on underpriced coal and unregulated firewood and are very inefficient and highly polluting. The heating sector exacerbated the impact of the energy crisis due to prevalent inefficient electric heating and dependency on imported natural gas for district heating. The energy crisis also heightened the interest of governments in policies that support self-generation and prosumers schemes. Several WB6 countries introduced a special support regime for small-scale renewable energy installations.

As contracting parties of the EnC, all WB6 countries have committed to transposing and implementing various key aspects of the EU *acquis communautaire* on energy, including on energy efficiency. Yet, the governments in most Western Balkans do not have a clear strategy and implementation plans with funding sources to meet medium and long term EE targets in the building sector. Government agencies and local authorities have limited capacity for implementation of building renovation programs.

### Outputs:

At the Berlin Process Summit on November 3, 2022, the European Commission announced a €1 billion Energy Support Package for the Western Balkans to address the region's immediate and longer-term energy needs amid the 2022/23 energy crisis. The package aimed to reduce dependence on Russian fossil fuels, accelerate decarbonization, and enhance regional energy security. As an immediate measure, €75 million was allocated as budget support for Kosovo. This funding was used to mitigate rising energy costs for vulnerable households and small businesses while supporting energy efficiency incentives to invest in efficient heating systems, thermal insulation of buildings and rooftop solar PV installations. Two consultants were hired to support the design, development, and implementation of optimal cost-efficient incentive schemes for subsidizing the shift to cleaner and more efficient heating systems, installation of rooftop solar, improve energy efficiency of residential dwellings in Kosovo. The consultant delivered its proposal for an EE program in the residential sector (in April 2023) that was discussed with the country's stakeholders. Another consulting firm was hired to conduct a study on district heating (DH) supply options based on renewable energy technologies on former mining lands in Kosovo and North Macedonia, and it presented the initial findings related to Kosovo in September 2024 with

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<sup>8</sup> Source: World Bank. 2020. "Serbia: Key Design Features for a Residential Energy Efficiency Program."

<sup>9</sup> Series 5: Economic Statistics, Annual Energy Balance in The Republic Of Kosovo in 2021, Ministry of Finance, Labor and Transfers, Kosovo Agency of Statistics. Prishtina 2022.

finalization by closure of the PASA. The Bank also provided comments to the government of Kosovo on the draft law on energy performance in buildings, which was a prior action for DPL-1.

As regards the prosumers agenda, the team delivered a Financial Impact Analysis of the Serbian decree on prosumers and an analytical document “Prosumer models and incentive measures implemented in three EU countries – Denmark, Germany, and the Netherlands” in late 2022. These deliverables were shared and discussed with the Serbian MoME, and the Bank continued supporting the prosumers agenda in Serbia as part of the preparation of DPL-1. Coordination and cross-fertilization occurred with the parallel activity in North Macedonia (supported by a PPIAF grant) on the assessment of RSPV potential across market segments (residential, commercial and industrial).

### Key conclusions and recommendations

Based on the results of the LURA assessment, two potential sites in the property of the Kosovo energy utility KEK were suggested for the implementation of renewable heating options to supply heat energy to the new to be developed district heating (DH) network Fushe-Kosova. Further analysis will continue under the new PASA.

The “prosumer” concept (i.e. those consumers “who both produce and consume electricity”) is new to the region. The national legal and regulatory frameworks need to be adapted to create an enabling environment to allow consumers produce electricity for their own consumption and to sell the excess to the grid. Different types of prosumers exist: households, citizen-led renewable energy cooperatives and associations, SMEs/businesses and public institutions. Support models vary across countries, feed-in tariff (FiT) and net metering being the two main types of compensation models used to incentivize prosumer growth in the initial stages of the market

### Outcomes and impacts

In Serbia, thanks to the support provided by the PASA for the preparation of DPL-1 and DPL-2, the government has finalized the regulatory framework (including rulebooks) that enables the licensing of energy auditors and implementation of the energy audit methodology.

In Kosovo, PASA is supporting the Government of Kosovo in rolling out its first large-scale incentive program for households, aimed at promoting energy efficiency retrofits, heating system upgrades, and rooftop solar PV installations. This initiative, along with related analytical work, will lay the foundation for a proposed new Bank-financed project to continue providing incentives for residential energy efficiency investments.

Additionally, the district heating assessments for Kosovo and North Macedonia will contribute to future Just Energy Transition plans. These plans aim to develop concrete projects that facilitate the transition to clean energy, create new business opportunities for energy utilities, and generate job opportunities for communities affected by the coal phase-down.

### Coordination/outreach efforts

The initial results of the DH options on KEK’s lands were presented to KEK in September 2024, and continuous cooperation with KEK has been ensured to proceed with this study.

## 3.3 Pillar 3: Supply Diversification and Regional Integration

### Component 3.1. Regional electricity market (multi-country)

#### Background

**Regional electricity market integration has emerged as a policy priority after the adoption of the electricity package by the EnC Ministerial Council meeting in December 2022.**<sup>10</sup> The Western Balkan region is connected internally and externally through 400 and 220kV transmission lines; however, the region is lagging in terms of full utilization of connected regional transmission networks and needs to reinforce a number of interconnection lines as well as to step up efforts to harmonize power sector legal and regulatory frameworks to align with the EU power markets and overcome existing political barriers.<sup>11</sup> The ambitious package adopted in December 2022 aims at full integration of the electricity markets of the WB6 and other EnC contracting parties (CPs) with the rest of Europe, allowing for full reciprocity between the EnC CPs and EU member states. The package includes new legal and technical requirements to enable regional market integration and ensure cross-border cooperation among transmission system operators (TSOs) and regulatory authorities. The CPs were expected to transpose it into national legislation by the end of December 2023. None of the WB6 countries managed to transpose the Electricity Integration Package in time and several countries asked the World Bank for assistance in this area.

#### Outputs:

The Bank has supported the Ministry of Mining and Energy (MoME) in **Serbia** and provided analysis and recommendations on the transposition of the electricity integration package into Serbia's legislation. The deliverables submitted to the MoME included:

- High-Level Gap analysis.
- Proposal of the amendment to the Energy Law to introduce a legal basis for the five technical regulations.
- Comprehensive tables of compliance for regulations 2019/942; 2019/943; 2016/1719; 2015/1222; 2017/2195; 2017/1485; 2017/2196.
- Assessment of draft text of the five technical regulations 2016/1719; 2015/1222; 2017/2195; 2017/1485; 2017/2196.
- Ad hoc assistance to MoME between September 2023 – June 2024 on specific legal and technical questions related to formulation of legal norms related to transposition of the EnC Electricity Market Package from December 2022.

Assistance was also provided to **Kosovo's** TSO KOSTT and **Albania's** TSO OST and analysis and recommendations were delivered to enable the transposition of the key element of the electricity package – the capacity Allocation and Congestion Management (CACM) network code – in both countries.

At the regional level, the team has produced an internal PPT on Electricity Market Integration to serve as the analytical basis for further engagements across the region. Jointly with the Energy Community Secretariat, a **Regional Coordination Platform** for the implementation of the Electricity Integration Package was launched with the first regional technical meeting held on

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<sup>10</sup> The December 2022 Ministerial Council has also taken other decisions related to green energy transition and energy security. Details: <https://www.energy-community.org/events/2022/12/MC.html>

<sup>11</sup> <https://www.worldbank.org/en/region/eca/publication/western-balkans-6-ccdr>.



November 8, 2023, with backing by EU-level entities including ENTSO-E and ACER, and attendance of TSOs and national regulatory agencies from the WB6 and neighboring EU countries (about 60 participants). Another technical workshop was held in January 2024 with about 30 participants, with the objective to establish the Capacity Calculation Region (CCR) for the WB6 countries (see details below).

### Key conclusions and recommendations

The transposition of the EnC electricity market integration package is a very complex and lengthy process, and the initial deadlines established by the EnC Ministerial decision have proven unrealistic. The transposition process requires actions at both national and regional levels. National actions include transposing the package provisions into national primary and secondary legislation to create a coherent and non-conflicting “enabling” legal framework. Technical implementation must be conducted in parallel with legal transposition, implying that the TSOs, national electricity market operators (NEMOs) and national regulatory authorities (NRAs) have to develop and approve technical codes, methodologies, plans and conditions aligned with the new EnC acquis communautaires and take steps to join existing European platforms. The relevant national stakeholders in the WB6 countries lack the necessary technical and institutional capacity and require support to transpose the complex package.

At the regional level, cooperation is required between the TSOs, NEMOs and NREs of the WB6 and the neighbouring EU countries to agree upon and adopt the so-called regional terms, conditions and methodologies (TCMs). The first necessary step to ensure further regional cooperation is the establishment and operationalization of a capacity calculation region (CCR), i.e. a geographical region with coordinated capacity calculation. The EnC legislative package defines the default configuration of the so called “Shadow CEE” (Central and Eastern Europe) CCR, which comprises 5 out of 6 Western Balkan countries, but the respective national stakeholders need to agree on the operationalization modalities.

### Outcomes and impacts

Thanks to the WB assistance, the TSOs of Kosovo and Albania have been able to transpose the key element of the electricity package – the capacity CACM network code, which is the first necessary steps towards creating the enabling framework for single day-ahead and intra-day market coupling. An efficient approach and methodology have been developed for the transposition of the remaining five network codes at the national level, which can be applied to other WB6 countries.

The transposition of the package at the regional level has been delayed by geopolitical tensions. The technical cooperation meetings organized by the World bank have revealed that there was no agreement amongst the Shadow SEE CCR parties whether the CCR can be made operational based on the configuration as foreseen in the legislation. Several alternative options have been discussed but there is no solution in sight that could be accepted by all parties involved. It has been agreed that the strategic discussions on the CCR(s) configuration will continue within ENTSOE and until this is resolved the World bank assistance will focus on supporting individual countries in transposing the national-level TCMs.

### Coordination/outreach efforts

Extensive discussions were held with countries’ stakeholders and the relevant regional bodies (EnC secretariat, ACER, ENTSO-E). Two workshops were organized, as discussed above.

## **Component 3.2. Hydropower, renewables and energy storage (including battery storage)**

### Background

Decarbonization of the Balkans requires substantial development of new hydropower plants and rehabilitation of existing ones, as the region heavily relies on local lignite for electricity generation (except for Albania, which is nearly 100% hydro). While solar and wind will be developed as priority, replacing traditional thermal power with solar and wind increases system variability, requiring firm capacity to support the coal phase-out. Natural gas, though available, is expensive, maintains fossil fuel dependency, and poses supply security risks, making hydropower essential for providing renewable generation and storage capacity to ensure energy system stability. Despite significant underutilized potential for large-scale and small hydropower projects, development is challenged by social and environmental impacts, risks to river biodiversity, water-energy nexus issues, institutional hurdles, and difficulties in monetizing investments and power system services. Properly planned hydropower projects, however, could offer a reliable, clean energy source benefiting the entire region. Expanding energy storage is also key to improving energy security, by supporting flexible grid operations and reducing the short-run variability of solar and wind. Integrating various storage technologies into sector analyses is necessary to manage variability in renewable energy and enhance grid flexibility as battery technology advances.

### Outputs:

The Bank provided input into the development of RE legislation in Montenegro, Serbia and Kosovo as part of DPLs preparation, and conducted a high-level review of renewable energy auctions held in Albania, Serbia and Kosovo in 2023, showcasing a regional commitment to advancing RE through different procurement schemes.

In **Bosnia and Herzegovina**, reports were prepared to explore RE investment opportunities, including potential projects in hydropower. This involved identifying and addressing barriers to bioenergy development and providing recommendations for a phased strategic approach, which includes pilot projects and capacity-building measures. To prepare a potential hydropower investment project, two scoping site visits and inspections of hydropower plants Jajce II and Salakovac were conducted to assess their conditions and plans for rehabilitation, with cost estimates for refurbishment.

In **Kosovo**, as part of the JT dialogue under Component 2.1, the World Bank team has responded to the Ministry of Economy request to assist in the development of a wind project pipeline. This effort involved field visits to pre-identified sites and identifying the technical studies required to feed into tender documentation for competitive procurement ([Field visits May 2024](#)). Furthermore, a proposal was developed for a potential regional energy project, a 400-450 MW wind farm on the border between Kosovo and Albania.

As part of its assistance to **Kosovo's national utility KEK** (see Components 1.1 and 2.1), the World Bank analyzed possible public-private partnership (PPP) options for attracting investment to develop RE projects on KEK's former mining lands. The Bank commented on the Draft Law on

Energy Regulator in October 2023 and suggested modification with the objective to improve the conditions for PPP arrangements.

The team also initiated the analysis of the bankability of renewable energy project investments in **Kosovo with a focus on KOSTT** as electricity purchase offtaker. The Bank has analyzed KOSTT financial situation and suggested possible mechanisms of credit enhancement for independent power producers (IPPs). Additionally, a study was initiated to estimate the needs for energy storage considering Kosovo's tentative plan for future RE auctions, and to assess the economic and operational benefits of the proposed USAID-funded energy storage project "Compact". The preliminary results were discussed internally, and the assessment will continue under the new PASA.

In **Montenegro**, an analysis of the Draft Law on the Use of Energy from Renewable Sources was completed, resulting in strengthened and clarified concepts. Recommendations were made for the swift adoption of the law to fulfill Energy Community Treaty obligations and support the EU.

### Key conclusions and recommendations

The studies conducted reveal that while the WB6 have substantial renewable energy potential, existing policies and regulatory frameworks have historically limited private sector engagement. To unlock this potential, comprehensive policy reforms, strategic investments, and targeted capacity building are essential. A consistent theme across the region is the need for clear, stable regulatory frameworks that foster investor confidence. For instance, regulatory uncertainties in Kosovo's Draft Law on Energy Regulator indicate that a "regulation by contract" approach is critical to secure competitive investments. Similarly, Montenegro's progress in refining its Law on Renewable Energy underscores the importance of swiftly adopting comprehensive legal frameworks supported by secondary legislation. The deployment of energy storage solutions, like Battery Energy Storage Systems (BESS), also demonstrates significant potential for improving grid flexibility and supporting variable renewable integration, though economic feasibility depends on many factors.

The studies conducted in BiH demonstrates the benefits of integrating technical assistance and financing, and highlight that environmental and logistical challenges must be managed carefully, particularly with hydropower development. The scale-up of biomass use in BiH also requires phased, strategic roadmaps to overcome policy and market barriers.

Renewable energy auctions in Albania, Serbia, and Kosovo have showcased a commitment to energy transition, yet diverse procurement schemes signal the need for harmonized practices that encourage robust competition. Moreover, scaling up prosumer participation, as seen in Serbia's prosumer models, points to the value of phased and adaptive incentives that support initial growth without fostering long-term dependence. A critical aspect for all WB6 countries is capacity building—improving technical expertise, data reliability, and institutional capability to manage modern RE technologies.

### Coordination/outreach efforts

The results of all studies were discussed with the relevant stakeholders in the target countries. For example, KOSTT financial overview and possible mechanisms of credit enhancement for IPPs were presented to KOSTT in October 2024.



A strong coordination within the WBG was ensured. The PASA team has been cooperating closely with the ECA-wide RE PASA (P177744) and with the ESMAP team that runs the Electricity Planning Model (EPM), particularly for the analysis of Kosovo storage needs in the context of future RE auctions.

### Outcomes and impacts

In **Bosnia and Herzegovina**, the identification of investment opportunities in renewable energy, such as hydropower, solar PV, and residential rooftop solar, has paved the way for potential projects and reinforced ongoing technical assistance efforts. The assessments and site visits to facilities like Jajce II and Salakovac hydropower plants have provided a clearer understanding of refurbishment needs and informed potential next steps for project development and financing.

In **Kosovo**, the assistance provided for developing a wind project pipeline and exploring PPP options has created a more robust framework for RE project implementation and investment. The analysis of reserve management strategies and the economic benefits of energy storage solutions has highlighted specific pathways to support energy reliability. Additionally, reviewing the Draft Law on Energy Regulator has contributed to refining the legal framework to attract more competitive bidding and investment in renewable energy. Similarly, the analysis and recommendations provided to **Serbia** have improved the legal and regulatory framework for auctions, and the second round of RE auctions is planned for the Q4 2024.

## 4. Lessons Learned and Way Forward

### 4.1 Lessons Learned

The PASA team has confirmed, reinforced and further nuanced several lessons that had emerged during the preparation and implementation of the previous Western Balkans Energy Transition PASA (P169389). In addition to these updated and re-formulated lessons (points 1 to 5 below), new lessons (points 6 and 7) have emerged from the current PASA experience, as described below.

**1) The benefits of the programmatic approach.** The programmatic approach spanning two years has provided flexibility to build engagement with governments in a stepwise manner, combining comprehensive region-wide analytical work with just-in-time response capacity and providing the basis to mobilize additional resources when faced with strong client demand. This inbuilt flexibility enabled the implementation teams to accommodate shifts in governments' priorities and has allowed the Bank to respond in a timely manner to client requests, most recently on new challenges triggered by the developments related to the regional market integration and carbon pricing agenda.

#### **2) Cooperation with development partners.**

Continuous collaboration with the Energy Community Secretariat, EU, EBRD, KfW, AFD, USAID and other development partners has proven fruitful from at least three points of view:

i) **Taking advantage of synergies and avoiding duplication of efforts to save resources.** For example, in Serbia, the World Bank's assistance focused on the transposition of 7 out of 9 legal documents<sup>12</sup> of the December 2022 electricity integration package. The remaining two regulations were within the scope of work of the EU-funded PLAC III consultants; and both WB and EU consulting teams coordinated closely. Similarly, in Albania, the transposition of the CACM network code was coordinated with EBRD-financed consultants that focused on the transposition of the primary legislation. A similar coordinated effort existed in Kosovo between USAID and the World bank legal and regulatory TA.

ii) **Enhancing the key messages (speaking in one voice).** For example, World Bank's participation in the CBAM conference organized by the Energy Community Secretariat in June 2023 reinforced the message that carbon pricing was an effective instrument to accelerate decarbonization of the energy sector, and that the WB6 countries should not delay the adoption of policies that would set the basis for integration with the EU ETS in the future.

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<sup>12</sup> Regulations 2019/942 and 2019/943; and five technical regulations 2016/1719; 2015/1222; 2017/2195; 2017/1485; 2017/2196.

iii) **Expanding the audience in disseminating the results of studies.** Several of the PASA deliverables have been disseminated and discussed at regional or local events co-organized jointly with the Energy Community Secretariat.

**3) Client demand.** Most PASA components have been designed in response to explicit requests from the WB6 governments. This explains that some countries (e.g. Kosovo where active cooperation with government and energy sector counterparts has been established), have more activities compared to others. Client demand, in turn, is driven by the specific country context, and the WB6 countries are at different stages of energy transition. For example, in Serbia, BiH and Kosovo, where domestic lignite dominates the power sector, there is a clear need for Bank support in diversification of electricity generation sources and switching to cleaner alternatives. In Albania, on the opposite, electricity generation is already carbon-free thanks to hydropower. Therefore, engagement in Albania on electricity market has been driven by the significant potential benefits of regional electricity market integration for both decarbonization and energy security in all WB6 and broader South-East Europe.

Even though several components have focused only on a specific country or a set of countries, the findings and recommendations are often relevant to other countries. For examples, the methodology developed for the transposition of the CACM grid code in Kosovo has been successfully applied in Albania and then in North Macedonia, and a similar approach will be used for the transposition of the other network codes across the three countries. This highlights the need for knowledge sharing, as discussed below.

**4) Knowledge management and strengthening the engagement.** The finding and recommendations developed under different activities benefit each other, contributing to economies of scale in the knowledge space. The parallel dialogues do not only benefit clients in terms of cross-fertilization, but also help keep TTLs abreast of developments in the region, generate readily available data that facilitates benchmarking, and positions the energy team as a reliable source of expertise with clients, regional entities such as the EnC and development partners such as the EU. Given that many countries face similar challenges, the PASA outputs produced for one WB6 country are also useful for its neighbors, and for some countries beyond the WB6 region, e.g. for small economies trying to transition to a more sustainable energy sector. Periodical regional meetings to discuss work in progress and final outputs is not only a way to disseminate the knowledge but also an impactful tool to strengthen local buy-in of the World bank assistance and of the solutions that are being developed. Such cross-country meetings further empower diverse stakeholders by demonstrating how their peers in neighboring countries address similar challenges.

**5) Development of original content and depth of analysis.** The PASA included several deliverables that provided original content for shaping the Bank's interventions the energy sector in WB6, e.g. the internal briefings on carbon pricing and electricity market integration. The deliverables under this PASA are not equal in terms of comprehensiveness of analysis and recommendations. Some activities, e.g. the Biomass to Energy study in BiH under Component 3.2, provides a comprehensive assessment of the issues with in-depth recommendations (within the scope of the study). Given the magnitude of the decarbonization challenges, some other deliverables (e.g. on carbon pricing) provide useful elements for decision makers but fall short of providing a comprehensive answer to the problem and reveal the need for additional analysis. Similarly, the most recent activities that started in response to new client demand (e.g. work on the transposition of the electricity package in several countries) try to respond to the complex

challenge in the most pragmatic manner, while recognizing the need for coordinated regional actions as well as significant additional assistance at the country level.

## **6) PASA implementation arrangements and cooperation within the WBG.**

The PASA implementation arrangements have proven successful and efficient in meeting the program's objectives. The PASA team consisted of: (i) a **small core team** working across the whole region and dealing with fund raising, reporting, coordination and other cross-cutting issues; (ii) **focal points** in each WB6 country who ensured collaboration at a country level on different strands of analysis and cross-fertilization; (iii) **activity leads** who created teams and activities across countries for specific topics such as residential energy efficiency or Mining Land Use and Repurposing assessments (LURA). The team had flexible terms for the collaboration with other GPs as a function of specific country-demand (e.g., work on concrete reform proposals in the context of DPLs) and effective collaboration was ensured with the extractives team and several GPs including MTI, Climate Change, Poverty and Social Protection & Labor.

The fact that a team of energy staff was brought together under the framework of one programmatic activity also led to greater knowledge exchange between team members and easier coordination of various activities and management of resources through the umbrella TTLship. Two team retreats that were organized for the WB6 energy team in May 2023 and November 2024 allowed for very productive discussions, constructive exchange of experiences and lessons learned, and facilitated the implementation of the PASA activities, among other objectives.

For future ASAs, it will be helpful to explore ways to disseminate the work beyond the WB6 region (e.g., via the annual progress reports and/or unit-wide BBLs), especially in areas which are relevant to other country clusters (e.g., regional integration), or for topics relatively new to ECA clients (e.g., the prosumer concept, sustainable heating).

## **7) Balance between the holistic approach and just-in-time activities ad hoc interventions**

The experience in Serbia has demonstrated the challenge of finding the right balance between the need for comprehensive studies to inform the governments' decisions and the necessity to take quick decisions to address urgent issues that the governments often face in the rapidly changing context. In April 2023, the Serbian Ministry of Mining and Energy (MoME) requested support to carry out a gap analysis of the domestic legal and regulatory framework to fully transpose the Electricity Market Integration package. The Bank suggested a comprehensive approach where the transposition in the primary legislation would be done in parallel with the implementation at the technical level by the TSO and the NEMO. However, the election cycle drove the government's priorities and timeframes; therefore, the MoME faced pressure to adopt legal amendments as quickly as possible. As a result, the Bank provided hands-on partial assistance to respond to the MoME's ad hoc urgent requests rather than the initially planned systematic approach to the transposition of the package. This assistance has allowed the government to meet its priorities and make significant progress in complying with the EnC requirements (contrary to many other WB6 countries that have seen slower progress). However, this approach has resulted in partial measures rather than a comprehensive overhaul of unwieldy legislation. The key lesson learned was that while addressing the urgent client requests it was important to remain realistic and keep in mind the bigger picture and the complex relationships between the primary legislation and the technical-level terms, conditions and methodologies to be developed by the TSO and the NEMO, so that the country could create a coherent legal, regulatory and institutional framework in a stepwise manner.

## 4.2 Next Steps

This PASA was designed when the WB6 countries were hit by a severe global energy crisis, and there was a risk that the short-term energy security concerns would undermine the progress towards longer-term decarbonization objectives. The PASA has helped the governments of WB6 countries address the urgent issues related to financial losses of utilities, energy poverty and the need to protect the energy vulnerable consumers. At the same time, the PASA continued supporting the governments in addressing the challenges related to decarbonization and transition to a more sustainable energy future and identified areas where additional analysis and capacity building are needed.

Two topics of particular significance have emerged: regional electricity market integration and carbon pricing. The World Bank has received requests from several WB6 governments for support in these areas, mobilized resources to respond to these demands and produced some impactful deliverables. However, these areas – as well as other decarbonization topics such as energy efficiency, replacement of coal-fired electricity by low-carbon generation sources, and system integration of variable renewable energy – still require substantial analytical assessments and technical assistance. For example, a recent Energy Community report<sup>13</sup> reveals that the WB6 countries have not yet fulfilled the preconditions for electricity market coupling with the EU (Table 2) and most of them still have significant efforts to make towards the introduction of carbon pricing.

**Table 2: Implementation of preconditions for electricity market coupling with the EU, as of October 2024**

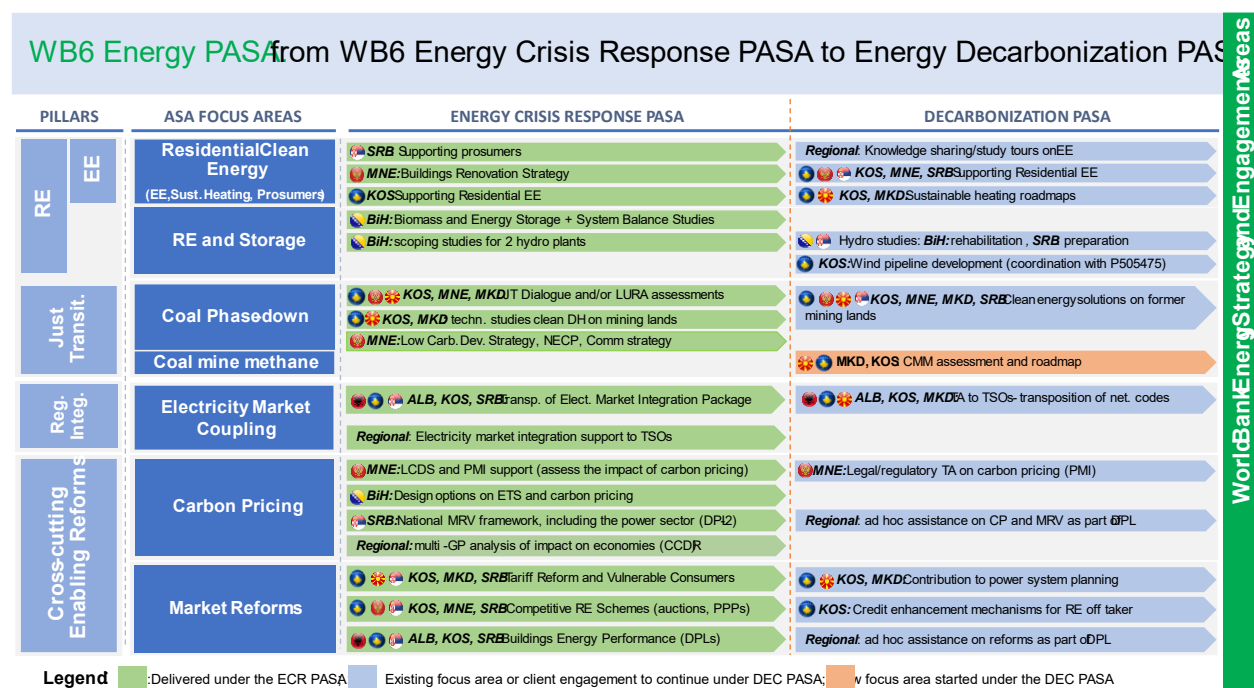
Last update 11.10.2024	Transposition of the Electricity Integration Package completed (YES/NO)	NEMO(s) <sup>3</sup> designated in compliance with the Electricity Integration Package (YES/NO)/ Designated NEMO	Day-ahead market operational (YES/NO)	Intraday market operational (YES/NO)
AL	NO	NO / ALPEX non-compliantly designated 17-Jul-23	YES	NO
BA	NO	NO	NO	NO
GE <sup>15</sup>	NO	NO	YES	YES
XK*	NO	NO / ALPEX non-compliantly designated 17-Jul-23	YES	NO
MK	NO	NO / MEMO non-compliantly designated 09-Sep-20	YES	NO
MD	NO	NO	NO	NO
ME	NO	NO MEPX non-compliantly designated 30-May-24	YES	NO
RS	NO	NO / SEEPEX non-compliantly designated 16-Jun-22	YES	YES
UA	NO	NO	YES	YES

Therefore, to accelerate decarbonization of the energy sector in the region while addressing the new challenges, a new PASA is being developed: **Western Balkans Six Energy Decarbonization Programmatic ASA (P506797)**. Its objective is to ensure continuation of

<sup>13</sup> ENERGY COMMUNITY (2024) CBAM-Readiness Tracker, Energy Community, October 2024. ([https://www.energy-community.org/dam/jcr:49614eb6-4596-492a-816a-31a6f86dda1f/EnC\\_CBAM-Readiness\\_Tracker\\_20242110.pdf](https://www.energy-community.org/dam/jcr:49614eb6-4596-492a-816a-31a6f86dda1f/EnC_CBAM-Readiness_Tracker_20242110.pdf))

relevant activities carried out under the Energy Crisis Response PASA, however, the topics will be expanded to reflect the ongoing shifts in the regional and national energy debates (Figure 3). The new PASA will include additional areas such as coalmine methane management, and a sharpened focus on regional market integration activities.

Figure 3: Transition to a new PASA



## Annex 1. WB6 Crisis Response PASA (P179826) – Deliverables by Pillars

A shared folder with all documents is available here: [7. Deliverables](#).

Note: Deliverables highlighted in grey were reported in the November 2023 progress report and the key ones were posted on the portal.

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 1. Energy sector financial sustainability and affordability</b>	
<b>Component 1.1: Financial sustainability of utilities (including energy subsidy reforms, tariff policies and investment planning with shadow carbon pricing)</b>	
<b>Albania:</b> ground-level support for First Resilience and Green Development DPL (P178202, Board Appraisal March 16, 2023)	Staff time for internal notes and briefs (deliberative documents)
<b>Albania:</b> ( <i>dropped</i> ) Wholesale Electricity Market Analysis, and financial modeling of Albanian power sector to determine the sector revenue gap caused by the crisis	Dropped because of insufficient client commitment
<b>North Macedonia:</b> Support for energy tariff methodology	1.1.2. Cost of Capital 1.1.3 Support for energy tariff methodology in North Macedonia 1.1.4. Energy Subsidy in North Macedonia (shared with the government, deliberative documents)
<b>Serbia:</b> financial modelling to estimate required EPS tariff increases (in cooperation with IMF) as part of the First Serbia Green Transition Programmatic DPL (P177410, Board Appraisal March 9, 2023)	1.1.1. Serbia Power Sector Model in Excel: (not public due to confidential nature of data; the findings were discussed with the government)
<b>Kosovo</b>	1.1.5. KOSTT financial overview (shared with client, deliberative)
<b>Component 1.2 Protection of the energy vulnerable</b>	
<b>Albania:</b> an impact assessment on vulnerable households and commercial customers	Dropped because of insufficient client commitment
<b>Kosovo:</b> World Bank comments on draft targeted support program for energy vulnerable customers linked to the Fiscal Effectiveness, Competitiveness and Green Growth DPL in preparation (P179944, Concept Note May 17, 2023)	1.2.5. Distributional Impact of Energy Shocks (PPT) (shared with the government, deliberative document)
<b>Serbia:</b> assessment of the expanded program for protecting energy vulnerable customers (estimated coverage and required budget) as part the above-mentioned Green Transition DPL-1	1.2.1 WB Comments on the Program for the Protection of Vulnerable Consumers 1.2.2. Serbia EVP summary update



	1.2.3. and 1.2.4 Overview of the implementation of the EVC Decree – identified challenges and areas for improvement (in 2 parts) (shared with MoME, deliberative documents)
<b>North Macedonia:</b> support for energy subsidy reform and protection of the energy vulnerable	1.1.4. Energy Subsidy in North Macedonia (draft shared with the government, deliberative document; also relevant for Comp. 1.1.)
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.1: Informing government policy with respect to coal power plant retirements</b>	
<b>Kosovo:</b> Just Transition (JT) dialogue, including Land Repurposing and Use Assessment (LURA) and support to government and national utility KEK on JT agenda	2.1.1.Repurposing Mining Brownfields for New Sustainable Uses
	2.1.3.The World Bank’s New Approach to Just Coal Transition (displayed at JT workshop organized by Coal Regions in Transition conference April 26, 2023)
	2.1.2.Kosovo Coal Sector Transition – Outline of Potential Activities (shared with Ministry of Economy and KEK, deliberative)
	2.1.4. Energy Sector Just Transition in Kosovo: recommended private sector participation options (shared with government and KEK, deliberative)
	2.1.5 and 2.1.6 Kosovo LURA Assessment – Support to Kosovo Coal Regions in Transition, Land Repurposing Assessment for the Kosovo Mines (main report and annex) (shared with government and KEK, deliberative)
	2.1.7.Pre-feasibility Study of Renewable Supply Options for District Heating in Coal Mining Regions in North Macedonia and Kosovo 2.1.7a LURA Land Options for RE Implementaton (shared with government and KEK, deliberative)
	2.1.8.Kosovo PSH Summary: Repurposing of Former Coal Mine Land in Kosovo for Pumped Storage Hydro (shared with government and KEK, deliberative)
<b>Kosovo:</b> WB energy sector support program	2.1.9 Kosovo WB energy sector support program: A framework for enabling Kosovo’s energy strategy (internal briefing, input into country dialogue)
<b>Montenegro:</b> initiation of LURA as part of JT dialogue	2.1.10 a,b,c,d. Introduction to land repurposing and the LURA tool in the Context of Montenegro’s Just Energy Transition Approach: Identification Mission July 2024 (4 documents: PPT and Annex in ENG and MNE) (shared with government, deliberative)
<b>North Macedonia</b> LURA/JT dialogue	2.1.11.Support to North Macedonia’s Transition Away from Coal: Land Repurposing Assessment for the Coal Mine Lands and Assets at Suvodol, Brod Gneo and Oslomej (shared with government, deliberative)
<b>Component 2.2: Carbon Pricing</b>	
<b>Regional:</b> Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU	2.2.1.Analytical PPT on carbon pricing in WB6 (internal document)



CBAM regulation and regional electricity market integration	2.2.2. Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
<b>BiH:</b> Analysis of ETS options	2.2.8. PPT on Emissions Trading System Design Options Paper: Scope and Cap Stringency (shared with government, deliberative) 2.2.9. Design options for a national emissions trading scheme in Bosnia and Herzegovina (Report) (shared with government, deliberative)
<b>Montenegro:</b> Preparation of the Low Carbon Development Strategy (LCDS)	2.2.3. Montenegro Low Carbon Development Strategy, LCDS Framework Development Workshop, 13 December 2023. (Shared with government, deliberative. Finalization of LCDS is delayed by the client to ensure consistency with the NECP that is still under preparation)
<b>Montenegro:</b> Carbon pricing impact assessment (PMI)	2.2.4. Carbon pricing impact assessment for Montenegro: Summary of findings 2.2.5. Task 1: Analysis of the Implications of carbon pricing 2.2.6. Task 2: Assessment of the interactions of carbon pricing and the power sector generation planning. 2.2.7. Task 3: Assessment of potential offset scheme in the forestry sector (shared with government, deliberative documents)
<b>Montenegro:</b> carbon pricing policy	2.2.10. Recommendations on carbon pricing policy for the government of Montenegro and proposed further activities for the World Bank's PMI project (shared with government, deliberative)
<b>Montenegro</b> Legal and Regulatory Support for Implementation of Carbon Pricing Instruments	2.2.11 and 2.2.12. Legislative gap analysis (report and PPT) 2.2.15. WB Comments on draft Climate Law related to accreditation of verifiers (shared with government, deliberative documents)
<b>Montenegro</b> Communication Strategy	2.2.13. National Decarbonisation Communication Strategy of Montenegro 2024-2027 (shared with government, deliberative)
<b>Serbia</b>	2.2.14 Carbon Pricing in Serbia (PPT) (internal briefing, input into country dialogue)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
<b>BiH:</b> Biomass study	See deliverable 3.2.4 under Pillar 3
<b>BiH:</b> Assessment of BiH rooftop solar potential	Dropped. Hydropower became a higher priority
<b>Montenegro:</b> Capacity building to EKO fund for implementation of long-term clean energy financing mechanism	Regular meetings with EKO fund to advise them on various aspects of the EE financing and the specifics of World Bank financed projects
<b>Montenegro:</b> Buildings renovation strategy	2.3.7. Montenegro Buildings renovation strategy, Draft v.0-2 (shared with government, deliberative)
<b>Kosovo:</b> Developing laws and bylaws for EE in building linked to the Fiscal Effectiveness, Competitiveness and Green Growth DPL	2.3.1 Comments on the draft law on energy performance in buildings (shared with government, deliberative)
<b>Kosovo:</b> residential energy efficiency	2.3.2. RESIDENTIAL ENERGY EFFICIENCY PROGRAM FOR KOSOVO (inception report) and 2.3.3. first PROPOSAL FOR EMERGENCY ENERGY EFFICIENCY PROJECT IN THE RESIDENTIAL SECTOR - A SINGLE HOUSE

<b>Kosovo:</b> District Heating in Coal Mining Regions in North Macedonia and Kosovo	See deliverable 2.1.7 under Pillar 2
<b>Serbia:</b> legal and regulatory support for prosumer agenda	2.3.4 and 2.3.5. Financial Impact Analysis of Prosumers (Word and excel) (shared with MoME, deliberative) 2.3.6. Prosumer models and incentive measures implemented in three EU countries – Denmark, Germany, and the Netherlands (shared with MoME, deliberative)
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
<b>Albania:</b> Transposition of electricity market package	Numerous technical, legal and regulatory documents to transpose the CACM network code: (available here: <a href="#">Albana Deliverables electricity market integration</a> ) (shared with client, deliberative)
<b>Kosovo</b> Transposition of the electricity market package	Numerous technical, legal and regulatory documents to transpose the CACM network code: (available here: <a href="#">Kosovo Deliverables electricity market integration</a> ) (shared with client, deliberative)
<b>Serbia:</b> Transposition of the electricity market package	3.1.1. Serbia Electricity Market Regulation Transposition TA Summary 3.3.1a Legal gap analysis 3.1.2. Technical meeting: New Electricity Package: towards Serbia’s Compliance at technical / operational level (shared with Serbian sector stakeholders) The numerous other deliverables are available here: <a href="#">Serbia Deliverables electricity market integration</a> (shared with client, deliberative)
<b>Regional:</b> Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8. Analytical PPT on Regional Electricity market integration (internal document) 3.1.3. Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS) 3.1.4. Regional governance roadmap 3.1.6. Draft MOU for Shadow SEE CCR TSOs 3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT 3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package
<b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b>	
<b>Bosnia and Herzegovina:</b> Concept formulation for a utility scale RE program, including hydro rehabilitation/greenfield preparation	3.2.1. BiH Renewable Energy Project Scoping mission AM 3.2.2. Jajce II HPP scoping report 3.2.3. Salakovac HPP scoping report (shared with government, deliberative)
<b>Bosnia and Herzegovina</b>	3.2.4. Biomass for Energy in Bosnia Herzegovina (report) (shared with government, deliberative)
<b>Bosnia and Herzegovina:</b> Energy Storage and System Balance Study for BiH	<i>Deliverable will be finalized by PASA closure</i>
<b>Kosovo:</b> DPL support	3.2.5. WB comments on DRAFT LAW ON THE PROMOTION OF THE USE OF RENEWABLE ENERGY SOURCES 3.2.5a. World Bank Comment of Draft Law on Energy Regulator (shared with government, deliberative)

<b>Kosovo:</b> RE offtake risk mitigation	3.2.6. Kosovo Renewable Energy Independent Power Producer Program (PPT) 3.2.7. Kosovo Solar PV - Main bankability issues memo (shared with government, deliberative)
<b>Kosovo:</b> RE as part of JT dialogue	3.2.15 Options for Public-Private Partnerships (PPPs) in Kosovo (shared with government, deliberative)
<b>Kosovo:</b> battery storage and system integration of VRE	3.2.8.Kosovo BESS project (PPT) 3.2.9. Comparison of BESS scenarios (excel)
<b>Kosovo:</b> wind project preparation	3.2.10.The border Ridge Project Additional Findings (ppt) 3.2.11.Site Review Selac 3.2.12.Site Review Ruica & Blakaj (shared with government, deliberative)
<b>Montenegro :</b> DPL support	3.2.13. Analysis of updated Montenegro’s Draft Law on the Use of Energy from Renewable Sources (shared with government, deliberative)
<b>Serbia:</b> DPL support	2.3.13.Review of the Serbian renewable auction See also deliverables 2.3.4-2.3.6 in Pillar 2 for the prosumers agenda
<b>Multiple Countries</b>	2.3.14. Review of renewable energy auctions in Albania, Serbia and Kosovo

## Annex 2. WB6 Crisis Response PASA (P179826) – Deliverables by Country

A shared folder with all documents is available here: [7. Deliverables](#).

Note: Deliverables highlighted in grey were reported in the November 2023 progress report and the key ones were posted on the portal.

### Albania

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 1. Energy sector financial sustainability and affordability</b>	
<b>Component 1.1: Financial sustainability of utilities (including energy subsidy reforms, tariff policies and investment planning with shadow carbon pricing)</b>	
Ground-level support for First Resilience and Green Development DPL (P178202, Board Appraisal March 16, 2023)	Staff time for internal notes and briefs (deliberative documents)
<i>(dropped)</i> Wholesale Electricity Market Analysis, and financial modeling of Albanian power sector to determine the sector revenue gap caused by the crisis	Dropped because of insufficient client commitment
<b>Component 1.2 Protection of the energy vulnerable</b>	
An impact assessment on vulnerable households and commercial customers	Dropped because of insufficient client commitment
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.1 (not relevant to Albania): Informing government policy with respect to coal power plant retirements</b>	
<b>Component 2.2: Carbon Pricing</b>	
<b>Regional (also relevant to Albania):</b> Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU CBAM regulation and regional electricity market integration	2.2.1. Analytical PPT on carbon pricing in WB6 (internal document) 2.2.2. Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
Transposition of electricity market package	Numerous technical, legal and regulatory documents to transpose the CACM network code: (available here: <a href="#">Albana Deliverables electricity market integration</a> )
<b>Regional (also relevant to Albania):</b> Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8. Analytical PPT on Regional Electricity market integration (internal document)

	<p>3.1.3. Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS)</p> <p>3.1.4. Regional governance roadmap</p> <p>3.1.6. Draft MOU for Shadow SEE CCR TSOs</p> <p>3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT</p> <p>3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package</p>
<p><b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b></p>	
<p>Renewable energy auctions</p>	<p>2.3.14. Review of renewable energy auctions in <a href="#">Albania</a>, Serbia and Kosovo</p>

## Bosnia and Herzegovina

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.2: Carbon Pricing</b>	
<b>Regional</b> (relevant to BiH): Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU CBAM regulation and regional electricity market integration	2.2.1. Analytical PPT on carbon pricing in WB6 (internal document) 2.2.2. Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
Analysis of ETS options	2.2.8. PPT on Emissions Trading System Design Options Paper: Scope and Cap Stringency (shared with government, deliberative) 2.2.9. Design options for a national emissions trading scheme in Bosnia and Herzegovina (Report) (shared with government, deliberative)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
Biomass study	See deliverable 3.2.4 under Pillar 3
Assessment of BiH rooftop solar potential	Dropped. Hydropower became a higher priority
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
<b>Regional</b> (relevant for BiH): Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8. Analytical PPT on Regional Electricity market integration (internal document) 3.1.3. Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS) 3.1.4. Regional governance roadmap 3.1.6. Draft MOU for Shadow SEE CCR TSOs 3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT 3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package
<b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b>	
Concept formulation for a utility scale RE program, including hydro rehabilitation/greenfield preparation	3.2.1. BiH Renewable Energy Project Scoping mission AM 3.2.2. Jajce II HPP scoping report 3.2.3. Salakovac HPP scoping report
Biomass assessment	3.2.4. Biomass for Energy in Bosnia Herzegovina (report)
<i>Storage and System Balance Study for BiH</i>	<i>Deliverable will be finalized by PASA closure</i>

## Kosovo

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 1. Energy sector financial sustainability and affordability</b>	
<b><i>Component 1.1: Financial sustainability of utilities (including energy subsidy reforms, tariff policies and investment planning with shadow carbon pricing)</i></b>	
Financial stabilization of utilities	1.1.5.KOSTT financial overview (shared with government, deliberative)
<b><i>Component 1.2 Protection of the energy vulnerable</i></b>	
World Bank comments on draft targeted support program for energy vulnerable customers linked to the Fiscal Effectiveness, Competitiveness and Green Growth DPL in preparation (P179944, Concept Note May 17, 2023)	1.2.5. Distributional Impact of Energy Shocks (PPT) (shared with the government, deliberative document)
<b>Pillar 2: Strategies for decarbonization</b>	
<b><i>Component 2.1: Informing government policy with respect to coal power plant retirements</i></b>	
Just Transition (JT) dialogue, including Land Repurposing and Use Assessment (LURA) and support to government and national utility KEK on JT agenda	2.1.1.Repurposing Mining Brownfields for New Sustainable Uses
	2.1.3.The World Bank's New Approach to Just Coal Transition (displayed at JT workshop organized by Coal Regions in Transition conference April 26, 2023)
	2.1.2.Kosovo Coal Sector Transition – Outline of Potential Activities (shared with Ministry of Economy and KEK, deliberative)
	2.1.4. Energy Sector Just Transition in Kosovo: recommended private sector participation options (shared with government and KEK, deliberative)
	2.1.5 and 2.1.6 Kosovo LURA Assessment – Support to Kosovo Coal Regions in Transition, Land Repurposing Assessment for the Kosovo Mines (main report and annex) (shared with government and KEK, deliberative)
	2.1.7.Pre-feasibility Study of Renewable Supply Options for District Heating in Coal Mining Regions in North Macedonia and Kosovo
	2.1.7a LURA Land Options for RE Implementaton (shared with government and KEK, deliberative)
2.1.8.Kosovo PSH Summary: Repurposing of Former Coal Mine Land in Kosovo for Pumped Storage Hydro (shared with government and KEK, deliberative)	
WB energy sector support program	2.1.9 Kosovo WB energy sector support program: A framework for enabling Kosovo's energy strategy (internal briefing, input into country dialogue)
<b><i>Component 2.2: Carbon Pricing</i></b>	
Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU	2.2.1.Analytical PPT on carbon pricing in WB6 (internal document)

CBAM regulation and regional electricity market integration	2.2.2.Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
Developing laws and bylaws for EE in building linked to the Fiscal Effectiveness, Competitiveness and Green Growth DPL	2.3.1 Comments on the draft law on energy performance in buildings
Residential energy efficiency	2.3.2.RESIDENTIAL ENERGY EFFICIENCY PROGRAM FOR KOSOVO (inception report) and 2.3.3. first PROPOSAL FOR EMERGENCY ENERGY EFFICIENCY PROJECT IN THE RESIDENTIAL SECTOR - A SINGLE HOUSE
District Heating in Coal Mining Regions in North Macedonia and Kosovo	See deliverable 2.1.7 under Pillar 2
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
Transposition of the electricity market package	Numerous technical, legal and regulatory documents to transpose the CACM network code: (available here: <a href="#">Kosovo Deliverables electricity market integration</a> )
<b>Regional:</b> Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8.Analytical PPT on Regional Electricity market integration (internal document) 3.1.3.Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS) 3.1.4. Regional governance roadmap 3.1.6.Draft MOU for Shadow SEE CCR TSOs 3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT 3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package
<b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b>	
DPL support	3.2.5. WB comments on DRAFT LAW ON THE PROMOTION OF THE USE OF RENEWABLE ENERGY SOURCES 3.2.5a. World Bank Comment of Draft Law on Energy Regulator
RE offtake risk mitigation	3.2.6. Kosovo Renewable Energy Independent Power Producer Program (PPT) 3.2.7. Kosovo Solar PV - Main bankability issues memo
RE as part of JT dialogue	3.2.15 Options for Public-Private Partnerships (PPPs) in Kosovo
Battery storage and system integration of VRE	3.2.8.Kosovo BESS project (PPT) 3.2.9. Comparison of BESS scenarios (excel)
Wind project preparation	3.2.10.The border Ridge Project Additional Findings (ppt) 3.2.11.Site Review Selac 3.2.12.Site Review Ruica & Blakaj



## Montenegro

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.1: Informing government policy with respect to coal power plant retirements</b>	
Montenegro: initiation of LURA as part of JT dialogue	2.1.10 a,b,c,d. Introduction to land repurposing and the LURA tool in the Context of Montenegro's Just Energy Transition Approach: Identification Mission July 2024 (4 documents: PPT and Annex in ENG and MNE) (shared with government, deliberative)
<b>Component 2.2: Carbon Pricing</b>	
Regional: Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU CBAM regulation and regional electricity market integration	2.2.1.Analytical PPT on carbon pricing in WB6 (internal document) 2.2.2.Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
Preparation of the Low Carbon Development Strategy (LCDS)	2.2.3.Montenegro Low Carbon Development Strategy, LCDS Framework Development Workshop, 13 December 2023. (Shared with government, deliberative. Finalization of LCDS is delayed by the client to ensure consistency with the NECP that is still under preparation)
Carbon pricing impact assessment (PMI)	2.2.4.Carbon pricing impact assessment for Montenegro: Summary of findings 2.2.5.Task 1: Analysis of the Implications of carbon pricing 2.2.6.Task 2: Assessment of the interactions of carbon pricing and the power sector generation planning. 2.2.7.Task 3: Assessment of potential offset scheme in the forestry sector (shared with government, deliberative documents)
Carbon pricing policy	2.2.10.Recommendations on carbon pricing policy for the government of Montenegro and proposed further activities for the World Bank's PMI project (shared with government, deliberative)
Legal and Regulatory Support for Implementation of Carbon Pricing Instruments	2.2.11 and 2.2.12. Legislative gap analysis (report and PPT) (shared with government, deliberative) 2.2.15.WB Comments on draft Climate Law related to accreditation of verifiers
Communication Strategy	2.2.13. National Decarbonisation Communication Strategy of Montenegro 2024-2027 (shared with government, deliberative)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
Capacity building to EKO fund for implementation of long-term clean energy financing mechanism	Regular meetings with EKO fund to advise them on various aspects of the EE financing and the specifics of World Bank financed projects
Buildings renovation strategy	2.3.7. Montenegro Buildings renovation strategy, Draft v.0-2 (shared with government, deliberative)
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	

<p><b>Regional:</b> Initiation of regional cooperation on regional market integration (WB6+EU members)</p>	<p>3.1.8. Analytical PPT on Regional Electricity market integration (internal document)                      3.1.3. Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS)                      3.1.4. Regional governance roadmap                      3.1.6. Draft MOU for Shadow SEE CCR TSOs                      3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT                      3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package</p>
<p><b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b></p>	
<p>DPL support</p>	<p>3.2.13. Analysis of updated Montenegro's Draft Law on the Use of Energy from Renewable Sources</p>

## North Macedonia

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 1. Energy sector financial sustainability and affordability</b>	
<b>Component 1.1: Financial sustainability of utilities (including energy subsidy reforms, tariff policies and investment planning with shadow carbon pricing)</b>	
Support for energy tariff methodology	1.1.2. Cost of Capital 1.1.3 Support for energy tariff methodology in North Macedonia 1.1.4. Energy Subsidy in North Macedonia (shared with the government, deliberative documents)
<b>Component 1.2 Protection of the energy vulnerable</b>	
Support for energy subsidy reform and protection of the energy vulnerable	1.1.4. Energy Subsidy in North Macedonia (draft shared with the government, deliberative document; also relevant for Comp. 1.1.)
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.1: Informing government policy with respect to coal power plant retirements</b>	
LURA/JT dialogue	2.1.11.Support to North Macedonia’s Transition Away from Coal: Land Repurposing Assessment for the Coal Mine Lands and Assets at Suvodol, Brod Gneozno and Oslomej (shared with government, deliberative)
<b>Component 2.2: Carbon Pricing</b>	
<b>Regional</b> (relevant to N. Macedonia): Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU CBAM regulation and regional electricity market integration	2.2.1.Analytical PPT on carbon pricing in WB6 (internal document) 2.2.2.Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
<b>Regional:</b> Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8.Analytical PPT on Regional Electricity market integration (internal document) 3.1.3.Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS) 3.1.4. Regional governance roadmap 3.1.6.Draft MOU for Shadow SEE CCR TSOs 3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT 3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package

## Serbia

Undertaken activities / links to lending operations & policy dialogue	Outputs (files in <a href="#">7. Deliverables</a> folder )
<b>Pillar 1. Energy sector financial sustainability and affordability</b>	
<b>Component 1.1: Financial sustainability of utilities (including energy subsidy reforms, tariff policies and investment planning with shadow carbon pricing)</b>	
Financial modelling to estimate required EPS tariff increases (in cooperation with IMF) as part of the First Serbia Green Transition Programmatic DPL (P177410, Board Appraisal March 9, 2023)	1.1.1.Serbia Power Sector Model in Excel: (not public due to confidential nature of data; the findings were discussed with the government)
<b>Component 1.2 Protection of the energy vulnerable</b>	
Assessment of the expanded program for protecting energy vulnerable customers (estimated coverage and required budget) as part the above-mentioned Green Transition DPL-1	1.2.1 WB Comments on the Program for the Protection of Vulnerable Consumers 1.2.2.Serbia EVP summary update 1.2.3. and 1.2.4 Overview of the implementation of the EVC Decree – identified challenges and areas for improvement (in 2 parts) (shared with MoME, deliberative documents)
<b>Pillar 2: Strategies for decarbonization</b>	
<b>Component 2.2: Carbon Pricing</b>	
<b>Regional</b> (relevant to Serbia): Analysis of interlinkages between the interrelated processes of introducing national carbon pricing schemes, adapting to the EU CBAM regulation and regional electricity market integration	2.2.1.Analytical PPT on carbon pricing in WB6 (internal document) 2.2.2.Bank participation in the EnC Athens Electricity Forum, 7-8 June 2023 ( <a href="#">link</a> ): (the Talking Points document is not public)
Carbon pricing analysis	2.2.14 Carbon Pricing in Serbia (PPT) (internal briefing, input into country dialogue)
<b>Component 2.3: Sustainable residential energy solutions as part of energy efficiency strategies</b>	
Legal and regulatory support for prosumer agenda	2.3.4 and 2.3.5. Financial Impact Analysis of Prosumers (Word and excel) (shared with MoME, deliberative) 2.3.6. Prosumer models and incentive measures implemented in three EU countries – Denmark, Germany, and the Netherlands (shared with MoME, deliberative)
<b>Pillar 3: Supply diversification and regional integration</b>	
<b>Component 3.1: Regional electricity market</b>	
Transposition of the electricity market package	3.1.1. Serbia Electricity Market Regulation Transposition TA Summary 3.3.1a Legal gap analysis 3.1.2. Technical meeting: New Electricity Package: towards Serbia's Compliance at technical / operational level (shared with Serbian sector stakeholders) The numerous other deliverables are available here: <a href="#">Serbia Deliverables electricity market integration</a>
Initiation of regional cooperation on regional market integration (WB6+EU members)	3.1.8.Analytical PPT on Regional Electricity market integration (internal document)

	<p>3.1.3. Facilitation of regional cooperation on new electricity package: WB proposal (deliberative, shared with EnCS)</p> <p>3.1.4. Regional governance roadmap</p> <p>3.1.6. Draft MOU for Shadow SEE CCR TSOs</p> <p>3.1.5. Draft Shadow SEE CCR TSO COOPERATION AGREEMENT</p> <p>3.1.7. Concluding report: Facilitation of regional cooperation on new electricity package</p>
<p><b>Component 3.2. Hydropower, large-scale RE and energy storage (including battery storage)</b></p>	
<p>DPL support</p>	<p>2.3.13. Review of the Serbian renewable auction See also deliverables 2.3.4-2.3.6 in Pillar 2 for the prosumers agenda</p> <p>2.3.14. Review of renewable energy auctions in Albania, Serbia and Kosovo</p>