

REPORT NOVEMBER 2018

HIGH CARBON LOCK-IN VS. LOW CARBON OPPORTUNITY IN THE WESTERN BALKANS

CRITICAL INVESTMENTS AND THE EU ACCESSION PROCESS

SANDRA ESSER, SABRINA SCHULZ, TAYLOR DIMSDALE, ADA AMON, CHRIS LITTLECOTT & ALEXANDER REITZENSTEIN

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About E3G

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EXECUTIVE SUMMARY

The Western Balkans are home to the dirtiest coal-fired power plants and some of the highest levels of air pollution in Europe. If the region is to advance on its path towards EU accession, this issue must be addressed. But current developments in the energy sector are leading to high carbon lock-in in the region, with even more coal-fired power plants and other fossil infrastructure still in the pipeline. In addition to their adverse climate and environmental impacts, some of these projects are funded by unsustainable debt backed by sovereign guarantees, which raises macroeconomic risk. The EU has strong political, economic and security interests in the region and lessons to offer based on its own experience. It must do more to broker greater energy market integration and support a low carbon transition in its neighbourhood.

Some of the six Western Balkans countries have been in EU accession talks for as long as 15 years. With the announcement of the new EU enlargement strategy¹ in 2018 as well as the first EU-Western Balkans summit since the 2003 Thessaloniki summit taking place in May 2018, it seems there is some long-awaited momentum building.

For this reason, it is concerning that current developments in the energy sector in the region are not aligned with the requirements of the EU *acquis*.² Large-scale investments in recent years along with the current project pipeline jeopardise the Western Balkans' ability to fulfil several chapters of the EU *acquis*, the completion of which is necessary for EU accession. The finance behind these projects originates from multilateral development banks (MDBs) as well as Chinese, Russian and other third-party investors, who continue to fund gas, oil and hydropower infrastructure, and in the case of China, coal.

This undermines both Chapter 27 of the EU *acquis* and the goals defined under the Paris Agreement by locking in high carbon infrastructure for decades. In the worst case, this delays progress on EU accession, maintains and aggravates the alarming

¹ The European Commission adopted a Strategy for the Western Balkans in February 2018
https://ec.europa.eu/commission/news/strategy-western-balkans-2018-feb-06_en

² The EU's 'acquis' is the body of common rights and obligations that are binding on all EU countries, as EU Members.
<https://eur-lex.europa.eu/summary/glossary/acquis.html>

levels of air pollution, hinders sustainable economic growth and does little to abate energy poverty in the region. Even in the case of EU accession, it is highly likely that newly built coal capacity will have to be shut down early; not only to be aligned with the requirements of the EU *acquis*, but also as running coal-fired power plants would no longer be economical under the inclusion of CO₂ emissions in the EU's emissions trading system (EU ETS), competition from cheaper renewables, and the risk of litigation from climate and air pollution court cases. This could create additional problems with security of supply.

Many of these fossil-based projects are, or likely would be, funded by unsustainable loans at a time when public debt is historically high and still rising in the region.³ As a strategic transport corridor linking the Mediterranean to Central Europe, the region is a target for China's Belt and Road Initiative (BRI).⁴ But there is evidence that BRI may be raising the risk of debt distress in some borrower countries.⁵ Meanwhile, investors are becoming increasingly wary of high carbon projects given advances in climate risk disclosure and particularly the release of the EU Sustainable Finance Action Plan, which includes efforts to manage financial risks stemming from climate change, environmental degradation and social issues. EU companies remain the biggest investors in the Western Balkans.⁶ But high debt burden could lead to macroeconomic risks that European investors find unacceptable.

Investment flows to high carbon energy infrastructure are therefore inherently problematic. However, MDB lending for hydropower is not without its problems, including damage to the local environment and biodiversity as well as the impact on the public through resettlements. Additionally, reliance on hydropower is a risky bet in times of increasing and prolonged droughts such as the one seen in 2017 which dramatically drove up power prices and energy imports.⁷

The region has significant potential for non-hydro renewable energy sources (RES). Yet the expansion of RES is currently hindered by domestic legislative obstacles, such as lack of clarity on future support schemes, high cost of capital and unclear regulatory procedures. Energy efficiency measures remain largely neglected despite the availability of funds both through MDBs and the EU's Instrument for Pre-Accession Assistance (IPA). Taking account of the high energy intensity, large share of energy poverty and high energy bills in the region, implementing large-scale energy efficiency measures constitutes one of the simplest and most cost-effective ways of increasing energy security as well as lowering energy prices. Energy saving potential is up to 40% in the public sector and up to 35% in households.⁸ The expansion of RES as

3 EBRD (2016) **How the Western Balkans can catch up**. Working Paper No.186.

4 EUISS (2017) **China's Road Into the Western Balkans**.

5 CGD (2018) **Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective**.

6 European Commission: **A Credible Enlargement Perspective for Enhanced EU Engagement with the Western Balkans**.

7 Reuters (August 30 2017) **West Balkans' energy bills surge as drought curbs hydropower**.

8 WBIF (2016) **Financing Energy Efficiency Investments in the Western Balkans**.

well as the implementation of energy efficiency measures would create a significant number of jobs – a crucial prospect in a region which suffers from high unemployment.

Renewables become even more cost-effective with higher levels of grid interconnection. But while regional energy integration would be favourable for increasing RES deployment, efficiency and lowering costs, political frictions – most notably between Serbia and Kosovo⁹ – inhibit progress on creating a regional energy market. This is a missed opportunity. According to the IMF, the growth payoffs of infrastructure investment can be raised if it is implemented with a view to enhance regional connectivity and facilitate integration in European supply chains.¹⁰

Increased political will and funding for energy efficiency measures would also reduce energy poverty in the region. This is critical given that over a third of the population is estimated to be unable to keep their houses adequately cool or warm. As high utility bills (relative to average household income) place a real strain on the population, both electricity and gas prices are a politically sensitive issue. The expansion of RES and energy efficiency measures are promising opportunities especially for a region that is highly vulnerable to climate change – with 100 disasters since 1990 causing more than US\$ 3.5 billion in direct damages.¹¹

The European Commission has noted the growing risk that external investments made by the major powers are increasingly being driven by geopolitics rather than by economics¹² which may be favouring investments in fossil fuels over alternatives. But there is potential for deeper cooperation on issues including sustainable infrastructure and green finance that have relevance, for example for Chinese coal investment in the region, and there are several high-level diplomatic opportunities before 2020 for EU-China engagement. The EU can do more to engage China and other third-party investors on low carbon economic opportunities, while also ensuring that regional governments are aware of the risks of high carbon investments and offering support in finding alternative solutions. It should make sure EU standards are respected, including best available techniques and state aid, both through the Energy Community and through the accession process.

In addition, the EU can actively monitor funds flowing from MDBs, such as the European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), World Bank and International Finance Corporation (IFC), and illustrate the detrimental effects of further funding of fossil fuel capacity. Most importantly, the EU can regain credibility and ground in the region by demonstrating its commitment to

9 According to the UN, Kosovo is “under the United Nations Interim Administration Mission in Kosovo (UNMIK) established pursuant to Security Council Resolution 1244.” In this study it is referred to as “Kosovo”.

10 IMF (2018). **Public Infrastructure in the Western Balkans**.

11 World Bank (2018) **Western Balkans Regular Economic Report**

12 EPSC (2018) **Geopolitical Outlook for Europe**.

enlargement. It can also, through the Energy Community and Instrument for Pre-Accession Assistance (IPA), support the region when enforcing a more stringent mechanism on energy infrastructure investments and give guidance on steering financial flows into more sustainable avenues. The next EU Budget is an opportunity to support this agenda. The Commission plans to allocate €123 billion to overseas spending between 2021 and 2027, an increase of close to 30% which will include extra EU spending in the Western Balkans.

As the European Commission has noted, the Western Balkans are part of Europe and are surrounded by EU Member States. Developments in the region have consequences for the EU. For example, lower electricity production in Kosovo after the removal of subsidies in 2018 combined with the failure of Serbia to cover the shortfall led to an imbalance in the European grid.¹³ There are also broader geopolitical implications for Europe given the many competing political and economic interests in the region from other actors. By championing energy market integration and helping the countries of the Western Balkans deliver reforms that ensures their eventual accession, the EU will be investing in neighbourhood stability.

Political Recommendations

The European Union

- > The EU should provide more support and incentive for the Energy Community countries on the Western Balkans for enforcement and work through this venue to prioritise energy market integration and decarbonisation – including just transition - in its energy diplomacy with the region.
- > The Central and South Eastern Europe Connectivity (CESEC) High Level Group is another avenue for delivering these objectives – it began as a forum to address security of regional gas supply but has been expanded to include renewable energy, efficiency, electricity market interconnection.
- > EU investment in the Western Balkans should be consistent with the Paris Agreement and ensure gas is not crowding out renewables and energy efficiency. The EU should refrain from financing natural gas in the region and make a realistic assessment of its projected demand trajectories.
- > The EU should offer technical assistance to Western Balkans governments to help them stress test their long-term energy and climate plans against the Paris Agreement as well as EU climate and energy targets and policies. The EBRD, EIB could be key partners given their technical expertise.

¹³ Priday, Richard. The science that explains why a spat between Serbia and Kosovo made your oven clock run slow. Wired. 10 March 2018.

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- > The EU should support the Western Balkans countries in conducting a robust assessment of the debt burden being accrued by the current approach to infrastructure investments including Chinese financed projects. This could be done in part by applying the EIB's criteria for measuring fiscal sustainability.
 - > The EU should use strategic economic dialogues with China and other third-party investors to explore the potential of the region as a testing ground for new approaches to sustainable infrastructure and green finance, and addressing challenges including sovereign debt exposure and compatibility with the Paris Agreement on climate change.

Development Banks

- > Alongside important efforts to scale up climate finance and align their activities with the Paris Agreement, the MDBs have also continued to support fossil fuels. Development banks should rapidly phase out support for fossil fuel projects in the region including gas. The EBRD should keep its current commitments to not finance coal projects, as well as ensuring gas and oil investment is curtailed to avoid lock-in of fossil fuel investments and stranded assets in the region.
- > Development Banks should stress test gas infrastructure and the potential for energy efficiency and electricity alternatives against a range of demand scenarios and potential shocks and disruptions. This should consider all costs associated with gasification given there would be a need for significant new investments in pipelines. They should consider adopting an integrated approach that looks at gas, electricity and buildings efficiency together, keeping in mind the substantial emission reduction should take place by 2050 and beyond.
- > Considering their extensive support for hydropower projects in the region, MDBs should conduct analysis on the impact of variability in rainfall due to climate change on average annual hydropower output, and the potential carry-on effects on industry and other macroeconomic risks.
- > MDBs should address the issue of indirect lending to coal-intensive private sector clients, for example, by following IFC's example in requiring all new equity clients to publicly disclose their coal exposure and supporting private clients to shift away from coal¹⁴. This would be an opportunity to lead the way on climate-related disclosure and support the implementation of the recommendations of the Task-Force on Climate-Related Disclosures.
- > MDBs should offer technical assistance in the development of long-term pathways that align with the goal of achieving net zero greenhouse gas

¹⁴ <https://www.devex.com/news/opinion-a-new-ifc-vision-for-greening-banks-in-emerging-markets-93599>

emissions, including building the capacity of countries and partners to develop and implement long-term 2050 decarbonization strategies.

Western Balkans governments

- > Western Balkans governments have a responsibility to conduct their own due diligence on the medium to long term impacts of foreign aid and investment. Specifically, governments should work to ensure that no loan jeopardise their ability to comply with the EU acquis.
- > Renewable energy and energy efficiency can help address many of the problems facing the region including energy poverty, air pollution and high unemployment. But governments must work to reduce the regulatory barriers including complicated permitting processes and must make a smooth transition to an auction/premium-based support system. Governments also have a role to play in publicising the financial benefits of using renewable and energy efficiency funds.
- > Fossil fuel subsidies induce artificially low household energy prices, are barriers to a healthy energy market and are hindering the roll out of energy efficiency investments. Direct subsidies should be phased out urgently and indirect socially sensitive transfers should be restructured in the foreseeable future.
- > Western Balkans governments should acknowledge that interconnection and liberalized electricity markets are key towards their European integration and they should work to remove all existing obstacles.

INTRODUCTION¹⁵

The Western Balkans are home to the dirtiest coal-fired power plants and some of the highest levels of air pollution in the world.¹⁶ If the region is to advance on its trajectory to becoming part of the EU, it must address these issues. However, current developments are creating further high carbon lock-in in the region, with more coal and gas-fired power plants in the pipeline.¹⁷ The EU is not doing enough to undercut detrimental developments in this area.

Serbia and Montenegro are held up as leading candidate countries. Macedonia and Albania are also official candidates, with the opening of accession talks currently under debate. Kosovo and Bosnia & Herzegovina are potential candidates.¹⁸ Some of these countries have found themselves stuck in accession talks for well over a decade and a half, despite the creation of the Berlin Process in 2014 to propel the region's EU accession forward (see text box below).

Therefore, it was welcome that in February 2018, the EU's High Representative, Federica Mogherini, indicated 2025 as a concrete date for Serbia and Montenegro to potentially join the EU.¹⁹ In conjunction with the EU-Western Balkans Summit in May 2018 – the last one being held 15 years ago in Thessaloniki – it seems there may be some long overdue momentum behind the Western Balkans accession talks.²⁰

However, if there is to be any prospect of a swift EU accession of the six Western Balkans countries, efforts must be made now to ensure the feasibility of transposing – and more importantly, implementing - the mandatory *acquis communautaire* going forward. This also includes the compliance with Chapter 27, which focusses on environmental and climate change legislation, as well as full adherence to the Energy Community and Transport Community Treaties.²¹ While most criticisms on inadequate enforcement of the *acquis* in the region to date focus on corruption, weaknesses in following the rule of law and bilateral or border disputes²², energy and environment

15 Disclaimer: This report raises no claim to completeness with regards to regional and country data and the overall investment portfolio in either fossil fuels or renewables in the region. The focus is on high-carbon lock-in caused by non-EU investors and actors. For this reason, a wide range of commendable RES-related investments and projects by bilateral development banks (BDBs) and development agencies such as KfW have been left out or are not covered in depth.

16 Euractiv (2017) **Balkan coal power costing lives, urgent action is needed** ; BalkanInsight (2017) **Balkan Cities Top European Air Pollution Chart**

17 Energy Post (2017) **Western Balkans are massively expanding coal power – but the new plants may have to be closed again soon**

18 European Commission (2017) **Western Balkans Enlargement: Common Destination**

19 The Guardian (2018) **Serbia and Montenegro could join EU in 2025, says Brussels**

20 CEP (2017) **Possible Date for EU Accession and the Years Ahead**

21 European Commission (2018) **A credible enlargement perspective for and enhanced EU engagement with the Western Balkans**

22 CEP (2017) **Possible Date for EU Accession and the Years Ahead** ; European Commission (2018) **Enlargement: Candidate countries and potential candidates** ; Centre for Southeast European Studies (2017) **What the EU Enlargement Strategy should include and why** ; The Guardian (2018) **Serbia and Montenegro could join EU in 2025,**

are often overlooked in the context of accession – something which could prove problematic going forward. Current developments stand in direct contrast to much of the EU’s connectivity agenda particularly as it relates to the power sector and, thus, jeopardise the feasibility of the Western Balkans joining the EU.

The Berlin Process

Following Commission President Juncker’s statement in 2014 that no further EU enlargement would occur during his term, ending in 2019, the Berlin Process was created in order to keep the Western Balkans on the Commission’s agenda.²³ The Process was initiated by Germany and includes Austria, Croatia, France, Italy, Slovenia and the UK, with the aim of improving cooperation and connectivity in the region, mainly through annual high-level meetings. However, the resulting progress in accession talks has been limited; moreover, as a purely voluntary scheme it remains doubtful whether the Berlin Process will still allow any further leverage on environmental and energy policies as all of its parties currently face domestic problems of their own.²⁴ The EU needs a more consistent approach that signals the process will not simply drag on without a clear end point and that it is strongly supportive of accession of the Western Balkans countries.

Chinese banks and other MDBs are currently supplying the funds for new coal and gas-fired power plants in the region, thereby locking in high carbon capacity in the long-term. As coal plants usually have a lifetime of around 40 years, new capacity investments in the Western Balkans not only actively undermine the current and future ability of transposing the EU *acquis*, but also stand in direct contrast to fulfilling the emissions reduction goals to make the Paris Agreement a reality and the EU’s 2030 climate and energy commitments in this respect.²⁵ Moreover, these trends exacerbate the staggering levels of air pollution in the region, already the worst in Europe. Whilst the EBRD and EIB have made crucial progress in ending direct investment in coal, there is evidence that certain utilities investing in new and current coal capacity are benefitting from support by MDBs.²⁶

says Brussels ; German Institute for International and Security Affairs (2017) **EU Enlargement: A Six Percent Target for the Western Balkans**

23 European Parliament Think Tank (2016) **The Western Balkans’ Berlin process: A new impulse for regional cooperation**

24 CEPS (2017) **The ‘Berlin Process’ for the Western Balkans – Is it delivering?**

25 SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

26 See for example Bankwatch (2018) **The Long and Winding Road**

Alongside the main MDBs and China, the EU as well as other countries including Russia are also vying for greater influence in the Western Balkans predominantly through investments in large-scale gas projects.²⁷

Within this context, it is essential that the EU regains and then maintains a strong role in the region, both in terms of providing finance for sustainable energy as well as in rationalising its policy on gas. While EU financing institutions are ready to step up under the right circumstances, this is to date not enough to counterbalance the actions of foreign investors who demonstrate few hesitations with investing in projects causing high carbon lock-in.

In addition, current investment pipelines not only ignore European energy and environment policy, but also entail a myriad of negative economic, environmental and health impacts – a fact the EU cannot ignore, as air pollution does not respect national borders. It is thus high time for the EU to reassert itself in the region in order to maintain the credibility of the enlargement policy, but also for the Western Balkan states to reap the benefits of the global clean energy transition and strengthen the prospect of EU accession after so many years of waiting.

ENERGY SECTOR TRENDS IN THE WESTERN BALKANS

Key takeaways

- > Energy poverty and high electricity bills are major problems in the region and these issues hold substantial political leverage.
- > Current investment plans in coal capacity are not aligned with the EU *acquis* or the Paris Agreement, thereby causing a risk of stranded assets or of pushing back EU accession talks.
- > The goal of energy autonomy and export growth is prevalent among the EU accession candidates in the region, leading to nearly exclusive reliance on coal and hydropower, with future investment pipelines strengthening this trend.
- > Air pollution is among the worst on the European continent, if not in the world.

²⁷ Friedrich Ebert Stiftung (2017) **The EU and the Western Balkans after the Berlin Process: Reflecting on the EU Enlargement in Times of Uncertainty**

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- > The expansion of non-hydro RES is facing significant regulatory and political obstacles.
 - > Energy efficiency measures would help tackle regional energy challenges yet are greatly underdeveloped.
 - > Regional integration would carry enormous benefits but suffers from political disputes.

Overview of the Western Balkan power sector

Despite many differences, the Western Balkan countries share commonalities concerning their power sector and energy make-up. General trends concerning high carbon lock-in and the difficulties surrounding RES will be outlined here, with further details on the individual countries provided in the annex.

Interestingly, the Western Balkan countries show similarities in their comparatively low level of per capita emissions, lying at around a third below the EU average²⁸, alongside their very high energy intensity, which is over triple the EU average.²⁹ Energy consumption per capita, however, is just over half of that in the EU.³⁰ High energy intensity can, in part, be attributed to the industrial sector, the use of lignite and inefficient technology in the power sector and high energy losses. Carbon intensity is high due to the use of lignite.³¹

Energy poverty is a major challenge in the region; poverty here meaning the inability to keep houses adequately warm or cool.³² While exact numbers are hard to find due to differences in the definition of the term, it is estimated that up to 40% of the regional population may suffer from energy poverty, compared to 10% in the EU.³³ Energy poverty not only arises due to poor insulation and uneconomic heating methods, such as individual coal and wood burning, district heating or electric heaters which are common in the region; it also occurs due to the sheer inability to pay bills. This is worrying, as electricity prices are already lower than the real cost of production, as power generation is often subsidised,³⁴ and end-user prices are often regulated.³⁵ Energy prices are thus a matter of political strife and have already led to

28 World Bank (2014) **CO2 emissions (metric tons per capita)**

29 IEA (2015) **European Union – 28: Indicators for 2015**

30 IEA (2015) **European Union – 28: Indicators for 2015**

31 IEA (2008) **Energy in the Western Balkans**

32 SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

33 SEE Change Net (2016) **Energy Poverty in South East Europe: Surviving the Cold**

34 SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

35 Energy Community Secretariat (2018) **WB6 Electricity Monitoring Report**

protests in several of the Western Balkans countries, with households often spending more than 10% of their income on utility bills.³⁶

Critically, energy prices in the region would increase in the event of EU accession. This is because power generation would then be subject to CO₂ pricing through the EU's emissions trading system (ETS).³⁷ As will be shown in more detail below, current and planned coal capacity investments do not take adequate CO₂ pricing into account in their calculations, thereby either further stalling EU accession progress or producing extremely costly stranded assets.³⁸ Going forward, the EU therefore needs to place more emphasis on the affordability of energy for households, which should provide further incentives to undercut current and future fossil fuel investments in the region.

The emphasis on energy autonomy in the region and the desire to increase exports are expensive and often unrealistic conditions for energy policy-making, especially as the region's population counts only just over 18 million. Current infrastructure investment plans do not take into account actual export capacity.³⁹ This overly expensive approach to energy infrastructure projects is based on the goal of continued industrialisation and an inflated appraisal of the increase of energy demand, but also a lack of trust in neighbouring countries.⁴⁰ Through becoming Contracting Parties of the Energy Community, this has been changing, but problems remain; not only are the Western Balkans countries poorly politically integrated amongst themselves, they are also not well integrated with the EU Member States.⁴¹

The Western Balkans region displays a fragmented energy sector.⁴² None of the six countries has established well-functioning power exchanges, with cross-border cooperation within the region minimal despite the existence of the Coordinated Auction Office in South East Europe (SEE CAO) in Montenegro which is responsible for the allocation of cross-border transmission capacities.⁴³ In a recent publication, the Energy Community Secretariat estimated that EUR €45 million could be saved annually if Macedonia, Kosovo, Montenegro and Serbia formed an integrated

36 SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe** ; SEE Change Net (2016) **South East Europe: The EU Road or the Road to Nowhere?**. For Kosovo in 2015, see BalkanInsight (2015) **Kosovo Students Protest Electricity Price Hikes** and for Kosovo in 2017, see K2.0 (2017) **Protests Against an Increase in Energy Prices**.

37 CEE Bankwatch Network (2017) **Western Balkans are massively expanding coal power – but the new plants may have to be closed again soon**

38 CEE Bankwatch Network (2017) **Carbon costs for planned coal power plants in the Western Balkans and the risk of stranded assets**

39 CEE Bankwatch Network (2015) **Electricity export ambitions may prove risky for Western Balkans, shows new study**

40 CEE Bankwatch Network (2015) **Report on the long-term economic viability of constructing new electricity capacities for electricity exports in the Western Balkans countries**

41 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

42 CSD (2018) **Assessing Russia's Economic Footprint in the Western Balkans. Corruption and State Capture Risks**

43 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

electricity market.⁴⁴ This would not only decrease costs for households through more efficient generation and transmission infrastructure, but also ensure greater supply security and technical performance.⁴⁵

Lastly, the ongoing dispute between Serbia and Kosovo plays a key role in the context of regional power sector integration. Importantly, “[d]ue to the dispute, a signed connection agreement between the transmission system operator of Kosovo and the European Network of Transmission System Operators for Electricity (ENTSO-E) is still not in force”.⁴⁶ For this reason, the transmission line between Kosovo and Albania cannot be put in use.

Deep dive on coal: an ill-advised option for achieving energy autonomy

Given the context outlined above, it is especially problematic that most Western Balkans countries rely heavily on coal for their power generation, with no end to this trend in sight. Together with hydropower, coal dominates the regional electricity mix, with many new large-scale projects planned. Table 1 provides an overview of the scale of coal power generation in the region compared to EU member states. Currently, 8.8 GW of old lignite power plants are in operation in the region. Except for the Stanari plant in Bosnia & Herzegovina, which was put into operation in 2016, the power plants are state-owned, old and inefficient, but save money in the short term by delaying investments in pollution control measures (such as filters) and often by buying coal at artificially low prices that do not cover the cost of production. Moreover, mine productivity is very low compared to EU member states.⁴⁷ The level of subsidies to coal is difficult to calculate as most countries have non-functional state aid bodies which lack independence⁴⁸ and do not publish such statistics.

Table 1: Electricity generation mix in the non-EU Western Balkans compared to the EU-28 (in percent)

Country	Coal	Hydro	Oil	Gas	Nuclear	Wind	Solar	Biofuels
Albania	0	100	0	0	0	0	0	0
Bosnia & Herzegovina	68	32	0.3	0.1	0	0	0.1	0
Kosovo	95	4.5	0.3	0	0	0	0	0

44 Energy Community Secretariat (2018) [Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

45 Energy Community Secretariat (2018) [Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

46 Energy Community Secretariat (2018) [Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

47 CEE Bankwatch Network (2016) [The great coal jobs fraud](#)

48 Energy Community Secretariat (2018) [Secretariat’s latest WB6 electricity monitoring graphics](#)

Macedonia	51	34	2	10	0	2	0.4	6
Montenegro	41	59	0	0	0	0	0	0
Serbia	69	29	0.1	1	0	0.07	0.03	0.09
EU-28	23	12	2	19	26	9.5	3.5	5

Source: IEA (2016) *European Union-28: Electricity and Heat* ; IEA (2016) *Albania: Electricity and Heat* ; IEA (2016) *Bosnia and Herzegovina: Electricity and Heat* ; IEA (2016) *Kosovo: Electricity and Heat* ; IEA (2016) *Former Yugoslav Republic of Macedonia: Electricity and Heat* ; IEA (2016) *Montenegro: Electricity and Heat* ; IEA (2016) *Serbia: Electricity and Heat*

The construction of about 2.6 GW of new coal capacity is planned to begin by around 2020 – more than half of this in Bosnia & Herzegovina. Another 3.6 GW is due to start construction in the 2020s. A further 2.5 GW of potential new capacity has been discussed but is unlikely to be developed before 2025-2030, if at all.

Not only does current and future coal capacity pose problems in terms of fulfilling Chapter 27 of the EU acquis, but it also bears substantial costs on the region in terms of air pollution and subsequent health issues and costs to government budgets. For instance, Bosnia & Herzegovina is the second most deadly country in terms of air pollution in the world, which accounts for the premature deaths of up to 3,500 people annually.⁴⁹ Similarly, Macedonia is home to three of the most polluted cities in Europe, causing estimated premature deaths of 1,300 people each year⁵⁰, with Kosovo not far behind.⁵¹ Exact numbers for the resulting burden on the health system are hard to obtain, but in Kosovo alone the resulting medical costs are estimated at EUR €70 to 169 million per year.⁵² Air quality in the Western Balkans is a very real issue for the EU as pollution does not respect national borders.

Air pollution and associated health costs may seem like a high price to pay for power generation, especially given that renewables are now often lower cost than coal⁵³; however, the widespread desire to achieve energy independence is due to the lack of

49 EBL News (2016) *Severe air pollution reported in Bosnian industrial cities* ; HEAL (2018) *Health professionals demand clean air for Tuzla and Lukavac in Bosnia*

50 Reuters (2017) *Air quality in Pristina unhealthy, cold winter bites* ; the Guardian (2017) *Pant by numbers: the cities with the most dangerous air – listed*

51 Reuters (2017) *Air quality in Pristina unhealthy, cold winter bites*

52 The Guardian (2016) *World Bank broke own rules as coalmine left Kosovo village 'in limbo'*

53 Karl Mathiesen. *World Bank dumps Kosovo plant, ending support for coal worldwide*. Climate Home News. 10 October 2018.

trust in neighbouring countries as a result of the violent history of the region, and also the perception of energy exports as an easy means of revenue given the abundance of lignite reserves in the region. Due to its low efficiency, lignite as a resource is not economical to export and therefore only serves for domestic use. Kosovo in particular has lignite reserves of over 14 billion tonnes, the fifth largest known lignite deposit globally.⁵⁴ Serbia and Bosnia & Herzegovina also have significant lignite reserves, surpassing 3.5 billion tonnes⁵⁵ and 6 billion tonnes,⁵⁶ respectively.

Natural gas in the Western Balkans

Domestic gas production and demand are relatively low in the Western Balkans. Only some countries have developed gas networks. Most gas imports come from Russia. Albania, Kosovo, Montenegro and parts of Macedonia and Bosnia & Herzegovina are not connected to the European gas pipeline network and only Serbia produces any significant amount of gas – enough for about 20 to 25% of its consumption.⁵⁷ However, there are significant plans for gas pipelines in the region. Apart from in Albania, they are not matched by plans to dramatically increase the use of gas for power generation. Expansion of gas use in households would require significant expansion of the transmission and distribution network.

The high dependence on Russian oil and gas imports for heating and transport also helps explain the drive for energy security in some of the countries. As none of the countries in the region produce significant amounts of gas, dependency on Russia via the Ukraine pipeline creates substantial trade vulnerability, especially in Bosnia & Herzegovina, Macedonia and Serbia. These countries are under significant political pressure as their gas markets are essentially controlled by Russia through expensive long-term supply contracts, thereby hindering market liberalisation and the necessary de-politicisation while creating some of the highest prices for gas in Europe.⁵⁸ Moreover, gas supply cuts in 2006 and 2009 demonstrated the perils of such dependence, thereby further fuelling the desire for self-sufficiency.⁵⁹

The Trans-Adriatic Pipeline (TAP) is currently under construction in Albania and branches to nearby countries are under discussion, such as the Ionian-Adriatic Pipeline to Montenegro and Croatia⁶⁰ and the ALKOGAP pipeline to Kosovo.⁶¹ The Energy Community has prioritised the latter pipeline as a Project of Energy Community interest,⁶² along with the Serbia-Bulgaria gas interconnector⁶³ and the

54 Reuters (2017) [Kosovo, ContourGlobal sign deal to build 500 MW coal-fired power plant](#) ; Republic of Kosovo's Ministry of Foreign Affairs (2015) [Mining and Energy in Kosovo](#)

55 Euracoal (2018) [Serbia](#)

56 Foreign Investment Promotion Agency of Bosnia and Herzegovina (2015) [Bosnia and Herzegovina Energy Sector](#)

57 Republic of Serbia (2017) [Security of Supply Statement](#)

58 CSD (2018) [Assessing Russia's Economic Footprint in the Western Balkans. Corruption and State Capture Risks](#)

59 CSD (2018) [Assessing Russia's Economic Footprint in Macedonia](#) ; The New York Times (2014) [Gazprom Cuts Russia's Natural Gas Supply to Ukraine](#)

60 Energy Community Secretariat (2017) [Gas16 / Ionian Adriatic Pipeline \(Fier, AL – Split, HR\)](#)

61 Energy Community Secretariat (2017) [Gas_13 / Albania – Kosovo* Gas Pipeline \(ALKOGAP\)](#)

62 Energy Community Secretariat (2017) [List of 2016 Projects of Energy Community Interest](#)

Serbia- Macedonia interconnector.⁶⁴ Countries seeking access through the Trans-Adriatic Pipeline would be introducing a vulnerability. Given the prevalence of energy poverty and political sensitivity of high utility bills outlined above, it helps to explain why regional political leaders declare domestic lignite (and, to a lesser extent, hydropower) as being the key for a functional economy.

Considering the EU's climate commitments and the infrastructure costs associated with increasing the use of natural gas in the Western Balkans, such plans need to be revisited and alternatives considered. The regional energy scenario developed for the wider Southeast Europe region under the SEERMAP project has found, for example, that if TAP is built,

“All scenarios initially foresee an increase in natural gas use, but under a decarbonisation pathway in line with the EU target of 93-99% reduction in the electricity sector gas plays only a very minor role towards the end of the period, accounting for 1.5% of generation in 2050. In the ‘decarbonisation’ scenario total gas capacity declines from 2020, with the rate of newly added capacity lower than outgoing capacity.”⁶⁵

If capacity should start declining from 2020, investing in significant gasification seems likely to go in the opposite direction, locking the region into long-term dependency on imported gas and the price fluctuations that go with it. Stranded assets are also a real risk if the level of demand is not as high as expected.

The Buildings Performance Institute Europe has found that across the wider Southeast Europe region, *“a dedicated renovation programme could, within 20 years, address all gas-consuming buildings in South-East Europe and reduce the building stock’s gas consumption by as much as 8.2 bcm/a, or by 70% of the current consumption. The European institutions and countries in the region are therefore strongly encouraged to set energy efficiency as an infrastructure priority.”⁶⁶*

Of course, this applies only to those countries currently using gas for heating, while much of the Western Balkans uses electricity and firewood. But instead of replacing these with gas, other solutions such as heat pumps, solar thermal and more efficient wood-burners should be considered.

Renewables and efficiency: untapped potential vs. sustainability challenges

Renewable sources of energy are an obvious solution to reducing dangerous levels of air pollution as well as for making progress on transposing the EU *acquis*. However, as

63 Energy Community Secretariat (2017) **Gas_09 / Gas Interconnector Serbia-Bulgaria**

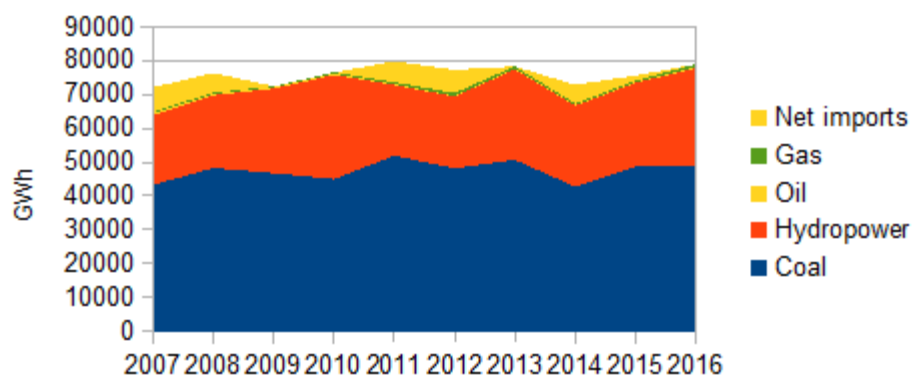
64 Energy Community Secretariat (2017) **Gas_11 / Gas Interconnector Serbia-FYR of Macedonia**

65 REKK, TU Wien, OG Research and EKC (2017) **South East Europe Electricity Roadmap: Regional report South East Europe**

66 BPIE (2016) **Safeguarding Energy Security in South-East Europe with Investment in Demand-Side Infrastructure: The Case for Energy Efficiency in Buildings**

exemplified by Figure 1, aside from hydro, RES do not feature prominently in the Western Balkans' power generation. Climate change is not a major public concern and decarbonisation is low on the political agenda.⁶⁷ This is exacerbated by a lack of capacity and awareness within the public sector with regards to the benefits of RES, energy efficiency (EE) measures and climate policy in general.⁶⁸

Figure 1: Western Balkans electricity mix (GWh)



Source : IEA Statistical Database

All Western Balkans countries have adopted RES targets for 2020 under the Energy Community Treaty⁶⁹ and have drawn up National Renewable Energy Action Plans (NREAPs). The national targets for the share of renewable energy in gross final energy consumption in 2020 are the following⁷⁰:

- > Albania 38%,
- > Bosnia & Herzegovina 40%,
- > Macedonia 24% by 2020, 28% by 2030⁷¹
- > Montenegro 33%
- > Serbia 27%
- > Kosovo 25%

67 Regional Cooperation Council (2017) **Balkan Barometer 2017**

68 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

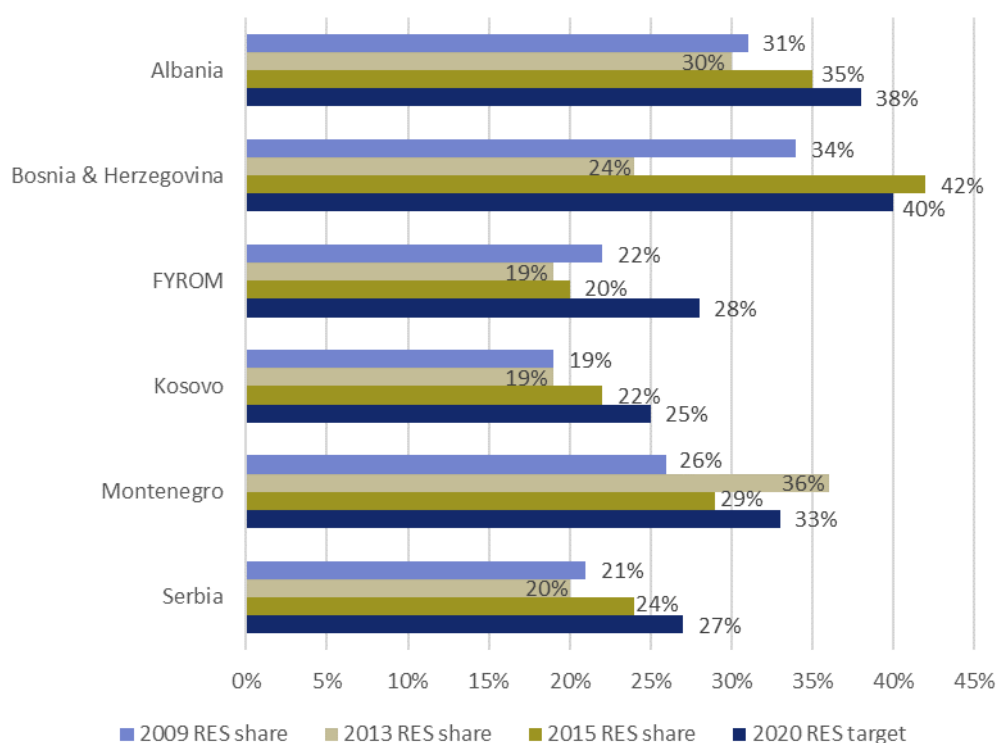
69 Energy Community Secretariat (2018) **Energy Community acquis**

70 Delegation of the European Union to Montenegro (2012) **Energy Community Ministerial Council adopts Renewable Energy 2020 targets**

71 Energy Community Secretariat (2018) **Renewable energy**

Figure 2 shows the share of RES in gross final energy demand. Montenegro's unusual value for 2013 can be attributed to a change in weighting of biomass in statistics; the same is true to a lesser extent for Bosnia & Herzegovina.⁷² In the remaining countries, a significant expansion of RES is still needed to achieve the 2020 goals, especially as recent trends have shown a tendency to backslide.

Figure 2: Progress on the implementation of RES in the non-EU Western Balkans in meeting gross final energy demand



Source: Energy Community Secretariat (2015) *Assessment of Renewable Energy Action Plan Implementation and Progress of Renewable Energy in Energy Community* ; Energy Community (2017) *Second Progress Report in the Promotion of Energy from Renewable Sources in the Energy Community*

Among renewables, hydro dominates the electricity mix in all countries except Kosovo and many more projects remain in the pipeline (see Table 2 in the annex). However, hydropower does not only have a detrimental impact on the local environment and public⁷³, but is also increasingly unreliable due to droughts.⁷⁴ This applies to both large

72 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

73 For more details, see CEE Bankwatch Network **Going through the mill** ; Freyhof, J. (2012) **Threatened freshwater fishes and molluscs of the Balkan, Potential impact of hydropower projects**

74 Balkan Green Energy News (2017) **Albania launches procedure for electricity import due to drought** ; SeeNews (2017) **Bosnia's EPBiH expects to turn to net loss of 11.1 mln euro in 2017** ; SeeNews (2017) **Montenegro's hydro**

and small hydropower plants; the significant number of small plants has a disproportionately negative effect on biodiversity compared to the benefits of its electricity generation. As a study in 2017 showed, the 387 small hydro power plants in the region were only responsible for 3% of annual electricity generation.⁷⁵ More information on current and future hydropower plans in the Western Balkans and associated challenges can be found in the annex.

Compared to hydropower, the Western Balkans countries have very low wind power ambitions and even lower solar PV ambitions by 2020. However, this is not due to the lack of potential, as all Western Balkans countries have huge solar potential, with some countries also having considerable potential for wind energy.⁷⁶ While the number of coal and gas jobs are often exaggerated⁷⁷, the expansion of RES as well as EE measures could increase employment figures in several sectors. For example, in Montenegro, in tourism alone up to 17,500 new jobs could be created through greening the economy.⁷⁸

Even though financial support for the development of RES by MDBs and Bilateral Development Banks (BDBs) is available, this cannot be sufficiently harnessed due to regulatory barriers within the countries. Major problems include complicated permitting processes even for small installations and Feed-in Tariff (FIT) quotas set at very conservative levels; for instance, the quotas for solar PV lie at 5 MW in Kosovo, 10 MW in Serbia and 16 MW in Bosnia & Herzegovina.⁷⁹ Other issues include the absence of post-2020 policy and incentives frameworks as well as high costs of capital.⁸⁰

Despite its many advantages, including alleviating energy poverty and keeping energy bills low, energy efficiency has not received much attention. This missed opportunity will soon become even larger, as household electricity prices would rise once Western Balkan countries implement EU electricity market rules. Energy efficiency measures could mitigate this problem, as well as potential rising electricity demand. Energy saving potential in the region is significant - up to 40% in the public sector and up to 35% in households.⁸¹ It is much cheaper to better exploit one unit of already produced energy than to create a whole new unit of power.⁸² In this regard, both the EU and MDBs have a critical role to play in demonstrating to the accession countries how they

power output nearly halves in Jan-Aug ; Renewables Now (2018) **Bosnia's Hidroelektrane na Drini net loss widens sharply in 2017** ; Renewables Now (2018) **Bosnia's Hidroelektrane na Vrbasu swings to net loss in 2017**

⁷⁵ Western Balkans Investment Framework and Mott MacDonald (2017) **Regional Strategy for Sustainable Hydropower in the Western Balkans**

⁷⁶ IRENA (2017) **Cost-competitive Renewable Power Generation: Potential across South East Europe** ; Energy Transition (2014) **Are the Western Balkans the new Desertec?**

⁷⁷ CEE Bankwatch Network (2018) **The great coal jobs fraud (2018 update)**

⁷⁸ Balkan Green Energy News (2016) **Montenegro can have 17,500 new jobs in green economy by 2020**

⁷⁹ See National Renewable Energy Action Plans of the respective countries.

⁸⁰ IRENA (2017) **Cost-competitive Renewable Power Generation: Potential across South East Europe**

⁸¹ WBIF (2016) **Financing Energy Efficiency Investments in the Western Balkans.**

⁸² SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

can better utilise available funds for RES expansion and EE measures through the IPA and MDB finance, respectively. The next EU Budget is an opportunity to support this agenda. The Commission plans to allocate EUR €123 billion to overseas spending between 2021 and 2027, an increase of close to 30% which will include extra EU spending in the Western Balkans.

The EU and MDBs can be more transparent about the fact that investments in solar PV and wind are increasingly cost competitive with coal, gas or hydropower infrastructure.⁸³ Aside from delivering supply security in the region, expansion of wind and solar PV and, importantly, regional interconnection will also greatly reduce the (future) economic burden of stranded investments in fossil and hydropower infrastructure and alleviate local and national air pollution problems. Crucially, a holistic approach is needed in which political solutions are linked to energy solutions, as greater regional interconnection requires overcoming disputes, as seen in the ongoing friction between Serbia and Kosovo.

The Western Balkans have yet to come close to reaching their potential in terms of RES deployment or energy efficiency. Thus, to be in line with EU energy targets, it will be crucial to resolve problems surrounding political will and regulatory uncertainty and secure financing from MDBs and other international actors.

DEVELOPMENT BANK FINANCING IN THE WESTERN BALKANS

Key takeaways

- > European banks have made important strides but could do more to steer financial flows into a sustainable direction to be in line with the EU *acquis*. This problem is exacerbated by Chinese investment in coal infrastructure and very high levels of European support for the Southern Gas Corridor.
- > While it has signed financing for just four energy projects in the region since 2010, China's committed financing volume for the period is larger than the EBRD's and EIB's put together.
- > Corruption and special interests are supporting unsustainable and unrealistic large-scale energy infrastructure projects that are not in the public interest.
- > Comparatively little financial support has been given to renewables and energy efficiency projects. Even where it has, it is extremely difficult to track

⁸³ REKK, TU Wien, OG Research and EKC (2017) **South East Europe Electricity Roadmap: Regional report South East Europe**

due to the involvement of various intermediaries and lack of clear project lists.

- > The EU must prioritise addressing detrimental financial investments in fossil fuels by enforcing more transparent procedures and state aid rules, and by engaging with third party investors to capture opportunities in sustainable infrastructure and green finance.

Fossil fuel financing from MDBs

In 2013, an analysis by the SEE SEP project consortium found that almost half of the EBRD's financial flows into the Western Balkans energy sector had supported fossil fuel projects during the period 2006-2012.⁸⁴ Given that the bank was the largest Western lender in the Balkans at the time, and with the long lifetime of fossil fuel infrastructure, this raised concerns of carbon lock-in and crowding out of energy efficiency and renewable energy investments.

Since then the situation has changed significantly, most notably with the rise of Chinese investment in the region (see below), but also with increases in the Western lenders' sustainable energy portfolios.

In 2013, the three main MDBs⁸⁵ operating in the region – the European Investment Bank (EIB), EBRD and the World Bank – took laudable decisions to virtually end financial support for new coal-fired capacities.

In 2018 this was followed by a long-awaited announcement that the World Bank would not finance the planned 500 MW Kosova e Re plant,⁸⁶ which had until then been considered an exception. The World Bank President announced in 2018 that coal in Kosovo could not be supported and that “renewables have now come below the cost of coal”.

The EBRD and World Bank do however still lend to coal-heavy utilities, such as Elektroprivreda Srbije (EPS), without any conditionality on diversification or decarbonisation. German development bank KfW, too, is financing an Elektroprivreda Srbije (EPS) ash disposal facility in Serbia.⁸⁷ This demonstrates that the MDBs need to ensure they are not indirectly lending to fossil-fuel intensive companies and clients. For example, the IFC recently announced that they would require new equity financial

84 SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

85 This does not include the China Development Bank.

86 Reuters (2018) **World Bank pulls out of Kosovo coal power plant project**

87 The EBRD approved a EUR 200 million “corporate restructuring loan” to the Serbian state-owned utility in October 2015, see EBRD (2015) **EPS Restructuring**. Elektroprivreda Srbije is also one of the targets in the World Bank's Serbia Public Expenditure and Public Utilities DPL 1 project signed in early 2017, see World Bank (2018) **Serbia Public Expenditure and Public Utilities DPL 1**. KfW also **signed a EUR 45 million loan contract for a new ash facility at the Nikola Tesla plant** in Serbia in 2017. Given the dominance of lignite in EPS's portfolio, providing such finance without emissions reductions conditions represents indirect support for coal.

intermediary clients exposed to coal projects to publicly disclose their total exposure in this sector, as well as supporting private sector clients to shift away from coal⁸⁸. The other MDBs are in an early stage of addressing this issue.

Moreover, gas also remains largely unrestricted in the MDBs' energy lending criteria.⁸⁹ The development of the new energy strategy of the EBRD (late 2018) and EIB (2019) provide an opportunity to address these issues. Until 2017, only two gas projects in the region had been financed by MDBs since 2010. However, in 2018, the EBRD and EIB have approved a total of EUR 2 billion in finance for the controversial Trans-Adriatic Pipeline (TAP) running through Greece and Albania to Italy.⁹⁰

Overall, we have identified around EUR 3 billion of Western financing for energy projects in the Balkans from 2010-2017. This emphasises the true scale of the EUR 2 billion support for TAP. The EIB's EUR 1.5 billion loan is particularly outsized given its minor role in the region's energy sector generally (EUR 112 million in direct lending between 2010-2017).⁹¹

The IFC has assisted in assessing the feasibility of a new 500 MW gas power plant in Albania,⁹² even though a 98 MW gas/oil power plant in Vlora financed by the World Bank, EBRD and EIB in the early 2000s is still not operating⁹³ and recently resulted in the World Bank debarring one of the companies involved.⁹⁴ More information on Western Balkan gas plans and the MDBs' role can be found in the annex.

To date, most Western finance for energy projects in the Western Balkans has stemmed from the EBRD, with EUR 1.08 billion in direct financing from 2010-2017, plus another EUR 119 million in credit lines for energy efficiency and renewables. The share of fossil fuels decreased to 13.5 percent, so before TAP the bank had been making good progress on reducing fossil fuel investments.⁹⁵ Renewables financing - other than for hydropower - has increased in recent years but still made up only 15.4 percent. It seems likely that this is not due to a lack of willingness from the bank but rather to barriers within the countries. Direct lending for energy efficiency made up around 10 percent but is somewhat augmented by energy-related credit lines whose final beneficiaries are more difficult to trace.

88 <https://www.devex.com/news/opinion-a-new-ifc-vision-for-greening-banks-in-emerging-markets-93599>

89 The World Bank has pledged to halt financing for upstream oil and gas but not downstream (World Bank, 2017: **Q & A: The World Bank Group and upstream oil and gas**). The EBRD's draft Energy Strategy 2018 does present some criteria aimed at preventing carbon lock-in in downstream projects, but as formulated at the time of writing, they appear too easily to manipulate to have a real impact.

90 EBRD (2018) **Trans Adriatic Pipeline Project** ; EIB (2015) **Trans Adriatic Pipeline**

91 This does not include indirect investments through the Green for Growth Fund or credit lines for small and medium enterprises which may be used for energy-related projects.

92 NL4WorldBank (2017) **ec2: Feasibility study (Regulatory and Market analysis) for a 500 MW Combined Cycle Gas Turbine**

93 Exit (2017): **The power plant in Narta: A history of failure.**

94 World Bank Group Integrity Vice Presidency (2018): **Republic of Albania Power Sector Rehabilitation and Restructuring Project and Power Sector Generation and Restructuring Project, Redacted report.**

95 Analysis of **EBRD project database** carried out by CEE Bankwatch Network for this report.SE

Germany's KfW has increased its activities in the region in recent years, and with almost EUR 778 million in financing from 2010-2017, plus another EUR 75 million in energy-related credit lines, it is now the second largest Western financier in the region's energy sector.⁹⁶ It is notable for its contribution to launching the wind energy sector in the region: wind financing made up 28 percent of its portfolio between 2010-2017. While it has not financed new fossil fuel infrastructure, it has supported Serbia's EPS in two coal-related projects which essentially serve to prop up the sector unless clearly conditioned on decarbonisation plans.

Similarly, the World Bank Group's otherwise relatively progressive EUR 532 million energy portfolio for the region⁹⁷ has been blemished by a EUR 157 million loan to EPS to put an open-cast coal mine back into operation after the catastrophic 2014 floods. A loan to Kosovar state energy company KEK also focused on cleaning up the impacts of existing lignite operations but did not use the opportunity to steer the company towards a decarbonised future.

Thus far, EU funds including IPA play a very limited role in infrastructure in the region, and mostly concentrate on project preparation rather than actual construction, although there are exceptions. They are also very hard to track due to the proliferation of different instruments and intermediaries, which makes their scope and impact difficult to assess.

Overall, Western public financiers have been slowly moving their portfolios in a more sustainable direction during the last few years, but the positive trend has been disrupted by TAP and some unsustainable renewable energy projects, mainly hydropower (see Annex). Looking forward, gas threatens to become a costly distraction from energy saving and decarbonisation in the region and the EU and its financing institutions need to take a much more coherent stance on this issue.

The role of China

Chinese state-owned banks are currently the dominant source of coal financing in the Western Balkans. Through the "One Belt One Road" and 16+1 initiatives, China is carving out its influence in the region. Currently, with EUR 1.75 billion in commitments in the region, Chinese financial involvement in energy projects is greater than the EU's and, importantly, is not based on political conditionality.⁹⁸ However, Chinese investments are not aligned with the EU's connectivity agenda nor the Paris Agreement, thereby effectively moving the region further away from

96 Analysis of **KfW project database** carried out by CEE Bankwatch Network for this report. It is not clear whether all projects have been captured as the project database does not include the year of project signing and it does not appear to include all projects (eg. the Kolubara environmental improvement project is not included).

97 Analysis of **World Bank** and **IFC** project databases carried out by CEE Bankwatch Network for this report.

98 Friedrich Ebert Stiftung (2017) **The EU and the Western Balkans after the Berlin Process: Reflecting on the EU Enlargement in Times of Uncertainty**

accession. Chinese investment is also raising the risk of debt distress in borrower countries.⁹⁹

China's domestic coal overcapacity crisis is fuelling the export of its coal technologies. Powered by the country's political ambition of connecting the world through energy infrastructure projects, Chinese finance is locking countries seeking to increase their electricity capacity into fossil fuel intensive energy infrastructure. Under-regulated policy loans are enabling the construction of coal projects that would not have qualified for loans from OECD Export Credit Agencies and MDBs.

Financing by the China Exim Bank and China Development Bank is usually preceded by the selection of Chinese companies as contractors in projects, and more rarely as participants in a special purpose vehicle for construction and operation. The banks have highly unclear and non-transparent internal procedures and financing criteria.

So far, one new plant – the EFT Group's 300 MW Stanari plant in Bosnia & Herzegovina – has been built by China's Dongfang with a EUR 350 million loan from the China Development Bank.¹⁰⁰ Additionally, a loan of USD 293 million was extended by China Eximbank to install desulphurisation equipment at the existing Kostolac B plant in Serbia by the China Machinery and Engineering Corporation (CMEC) but between entering operation in July 2017 until May 2018 it was predominantly non-functional. Evidence of this are the power plant's SO₂ reported emissions for 2017, ten times over the allowed limit value.¹⁰¹ Financing has been approved for two more projects: a USD 608 million China Exim Bank loan for Elektroprivreda Srbije's 350 MW Kostolac B3 and associated mine expansion,¹⁰² and a EUR 613 million loan for Elektroprivreda BiH's 450 MW Tuzla 7 power station in Bosnia & Herzegovina.¹⁰³ Further loans are likely given that Chinese companies have shown interest in projects like Banovići, Gacko II and Kamengrad (Bosnia & Herzegovina) as well as Pljevlja II in Montenegro. Interestingly, the Czech Export Bank withdrew its financing from the latter project.¹⁰⁴

Several of these projects have been subject to opaque procurement procedures. No tender took place for Kostolac B3 in Serbia: instead, a bilateral agreement was signed by Serbia and China agreeing that a tender would not be necessary in their joint projects.¹⁰⁵ In the case of Banovići in Bosnia & Herzegovina, the capacity of the plant

99 CGD (2018) **Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective.**

100 Foreign Investment Promotion Agency of Bosnia and Herzegovina (2012) **Loan Agreement for the Project of TPP "Stanari" Worth 350 Million Euros Was Signed**

101 EPS Environmental Annual report, page 106:

<http://eps.rs/En/Documents/energyEfficiency/The%20PE%20EPS%20Environmental%20Report%20for%202017.pdf>

102 National Assembly of the Republic of Serbia (2015) **Zakon** ; Elektroprivreda Srbije (2017) **New excavator for production increase at mine Drmno**

103 Reuters (2017) **Bosnia secures \$895 mln energy loan from China's Exim bank**

104 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

105 On 20th August 2009, the Serbian government signed a Memorandum of Understanding with the Chinese government on economic and technical co-operation in the field of infrastructure. Annex 2 to the 2009 agreement was

for which an EPC contractor was sought was changed from 300 MW to 350 MW during the tender procedure.¹⁰⁶

Chinese-backed coal projects in the region are predominantly driven by high-level political strategic planning, rendering economic feasibility secondary to political objectives. Similarly, the Chinese state-owned enterprises (SOEs) that are building the coal plants are not considered responsible for ensuring the economic feasibility of the projects, as they are not equity-holders but contractors, so they are not risk-averse. China Exim Bank shows concern about economic issues with projects, but in cases where a project is considered strategic to the government, appears to have little choice but to go ahead (for example the Kostolac B3 in Serbia).¹⁰⁷ There are several Chinese government institutions which should oversee the banks' activities, such as the National Development and Reform Commission (NDRC), China Banking Regulatory Commission (CBRC), the Ministry of Commerce, Ministry of Environment, Ministry of Finance, and People's Bank of China. But these bodies are currently undergoing restructuring.

The EU can use strategic and economic dialogues with third party investors including China to use the Western Balkans as a testing ground for new approaches to sustainable infrastructure and green finance. There are bilateral discussions already underway with the Chinese for example on greening the BRI that could serve as a foundation for this dialogue. These discussions should include a focus on sovereign debt exposure, corruption and Paris compatibility.

International public financing for renewables and energy efficiency

MDBs have committed to align their financial flows with the Paris Agreement, are scaling up their low carbon investment and are making positive contributions to a low-carbon transformation of the Western Balkans economies. However, this must be weighed against their significant backing for TAP and indirect support for coal within Elektroprivreda Srbije. Moreover, until recently, Western Balkan countries received very little support for renewable energy other than hydropower. Meanwhile, since 2005, no fewer than 56 hydropower projects have been financed by MDBs in the Western Balkans for a total of EUR 227.5 million.¹⁰⁸ Almost all of these are small plants with just a handful of larger projects, such as Ashta 1 and 2 in Albania.

signed on 26th August 2013. This annex includes a clause in Article 5 that states that *"agreements, contracts, programmes and projects carried out in accordance with Article 4 of the Agreement on the territory of the Republic of Serbia do not carry an obligation to publish a public tender for carrying out investment works and delivery of goods and services, except if it is otherwise specified in the commercial contract from paragraph 4 of this Article"* (own translation).

¹⁰⁶ Službeni Glasnik BiH (2014) **Oglasnik javne nabavke/nabave**, p.224 and Rudnici Mrkog Uglja "Banovići" D.D. Banovići And Dongfang Electric Corporation Limited (2015) **Sporazum s strateškoj saradnji Termoelektrana Banovići, Blok 1 - 350 MW**

¹⁰⁷ Discussions with anonymous Exim Bank employees.

¹⁰⁸ Calculated from database at CEE Bankwatch Network (2018) **Financing for hydropower in protected areas of southeast Europe: update**

Wind projects have finally started to pick up in the region in recent years. KfW was an early mover, backing the 36.8 MW Bogdanci wind farm in Macedonia which came online in 2014, with a EUR 48 million loan.¹⁰⁹ It also supported the 50 MW Mesihovina wind farm in Bosnia & Herzegovina with a loan originally signed in 2010.¹¹⁰ The plant finally came online in 2018. KfW has also signed financing for the Hrgud and Podveležje wind plants in Bosnia & Herzegovina.¹¹¹

In 2015, the EBRD signed its first wind loan in the region for the 72 MW Krnovo plant in Montenegro.¹¹² Since then, it has supported two more plants in Serbia,¹¹³ one of them together with the IFC.¹¹⁴ The IFC has also financed a plant at Alibunar in Serbia.¹¹⁵

The growth in wind projects in the region represents important progress, provided they are appropriately sited and implemented transparently. However, two issues need to be addressed:

- > Progress is not even across all the countries. Albania does not yet have any wind projects under construction.
- > Moreover, unless a post-2020 policy and incentives framework is agreed on soon, the current progress threatens to grind to a halt as the countries reach their pre-2020 FIT quotas (for example, 500 MW in Serbia by 2020, 350 MW in Bosnia & Herzegovina by 2019). This has happened in neighbouring Croatia where new incentive rules are stuck in limbo and the government is in no hurry because the country has met its 2020 targets.

The level of financing for smaller renewables projects is unclear as it is often channelled through intermediaries who do not, as a rule, reveal their final beneficiaries. The EBRD has disclosed some project information showing that some smaller biomass and geothermal facilities have been supported.¹¹⁶ It is not clear whether any solar PV projects have been supported by MDBs in the region, although the EBRD has announced its intention to assist Albania in launching PV auctions¹¹⁷ and has a solar PV project in Macedonia in its project pipeline.¹¹⁸

109 KfW (2017) **Project Information: Wind power – Macedonia**

110 Federal Ministry of Environment and Tourism of Bosnia and Herzegovina (2006) **Mehanizam Čistog Razvoja. Obrazac Projektnog Dokumenta (CDM-PDD)**; KfW (2016) **Project Information: Wind energy – Bosnia and Herzegovina**

111 KfW (2017) **Förderung Erneuerbare Energien (IKLU)**; KfW (2017) **Förderung Erneuerbare Energien III**; KfW (2017) **Windpark Podveležje**

112 EBRD (2018) **Project Finance**

113 EUR 50 million for 104.5 MW in Kovačiča, see EBRD (2017) **Kovacica Wind Farm**, and EUR 60 million for Dolovo (Čibuk 1), see EBRD (2017) **Dolovo Čibuk I Wind Farm**

114 USD 73.88 million for 158 MW in Dolovo, see IFC/World Bank Group (2017) **Dolovo Wind**

115 USD 25.5 million for Alibunar 42 MW, see IFC/World Bank Group (2013) **Alibunar WPP**

116 WeBSEFF (2014) **Project map**

117 EBRD (2017) **EBRD and Albania let the sunshine in**

118 EBRD (2018) **Project Summary Document for ELEM Solar Project – Photovoltaic Plant**

Energy efficiency financing is also difficult to track given its dispersed nature. There are numerous modest MDB and EU-financed energy efficiency projects across the region,¹¹⁹ but, as with renewable energy, demand from regional governments does not match the MDB resources available. In 2015, the Energy Community found that for energy efficiency, “[i]n 2015 there was about 700 million EUR available for the Western Balkan countries alone, of which only approximately one-third is being used.”¹²⁰

The role of the EU in setting policy

In the context of sluggish EU accession talks, alarming levels of air pollution and the prevalence of energy poverty in the Western Balkans, development banks should harness their financial flows to lead regional energy sectors onto a more sustainable pathway. Currently, most finance for new coal projects originates from China, whilst finance for gas infrastructure stems from the EU; MDBs such as the World Bank, EIB and the EBRD also continue to support high carbon infrastructure.

Given the politicisation of several coal investment projects, the inadequate due diligence and transparency by Chinese banks and the loopholes from Western investors, the EU needs to do more to undercut these developments. If the EU wishes to maintain internal and external credibility regarding the prospects of a timely accession of the Western Balkans countries, it will be crucial to rapidly improve the implementation and enforcement of environmental, state aid and public procurement legislation in the region.

The EU also needs to increase awareness in the Western Balkans of the need to account for legislative changes that will be necessary in the years leading up to joining the bloc. These could have serious impacts on the viability of existing infrastructure projects. For example, few coal projects planned in the region appear to have properly taken CO₂ prices into account during project planning¹²¹ or committed to apply the new Large Combustion Plants BAT Reference (LCP BREF) pollution control standards.¹²²

EU measures also have to include the enforcement of more transparent procedures to abate corruption, as large-scale energy projects so far have often been the result of (or at least influenced by) corrupt procedures.¹²³ Moreover, the weak enforcement of environmental legislation as well as the *acquis* can be traced back to corruption

119 See, for example, WeBSEFF (2014) **Project map** and EBRD (2017) **Increasing energy efficiency in Kosovo’s buildings**

120 Energy Community Secretariat (2015) **Energy Community – Tapping on its Energy Efficiency Potential**

121 CEE Bankwatch Network (2017) **Overlooked carbon costs could turn Western Balkans’ new coal power plants into white elephants – analysis**

122 CEE Bankwatch Network (2017) **Planned coal power in the Balkans will breach new EU pollution standards – analysis**. Since the briefing was published, the Kosovo e Re contracts include a commitment to adhere to the new LCP BREF standards.

123 SEE Change Net (2016) **South East Europe: The EU Road or the Road to Nowhere?**

throughout the various energy agencies and regulators as well as state authorities.¹²⁴ This is why, until now, fossil finance has generally been welcomed by national governments, who usually have a stake in energy companies and portray coal as being a source of employment and cheap energy supply.¹²⁵

The EU can do more to promote the application of the rule of law, EU legislation and strategic planning in the accession countries, as there is an imminent danger of several lignite power plants being built that will likely become stranded assets in the future. This will almost certainly give rise to the governments doing their utmost to defend their utilities' new investments within the Energy Community and eventually in the EU. The EU should also reconsider its approach to natural gas in the region in light of its broader climate change policies.

CONCLUSIONS AND RECOMMENDATIONS

For over fifteen years, the six Western Balkans countries have been waiting for progress on EU accession talks. Disillusionment with previous rounds of enlargement combined with rule of law and governance issues in Poland and Hungary has made the EU more cautious, keeping the Western Balkans discussions on hold.¹²⁶ Accordingly, the mood within the region has also changed, with Euroscepticism on the rise in some countries, fuelled by stagnant economies, political instability and youth unemployment.¹²⁷ It is within this context that there finally seems to be some movement on behalf of the EU, as of the publication of the new EU enlargement strategy in February 2018.

The relationship between the EU and the Western Balkans is an inter-dependent one; it is in the EU's interest to not only promote good diplomatic relations with the region, but also to actively support its EU accession process for political and economic stability. Inter-dependence also applies to energy and environmental policies as the EU is advancing on the transition path to a low-carbon economy as a bloc. Too many concessions on climate policy would therefore be detrimental to its credibility as a leader in international climate diplomacy. Moreover, air pollution does not respect borders; the EU cannot ignore rising greenhouse gas emissions on its doorstep.

124 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

125 CEE Bankwatch Network (2016) **The great coal jobs fraud**

126 Centre for European Reform (2017) **EU enlargement: Door half open or door half shut?** ; Clingendael Spectator (2017) **Prioritising Democracy? EU enlargement strategy at a crossroads**

127 Clingendael Spectator (2017) **Prioritising Democracy? EU enlargement strategy at a crossroads** ; Centre for Southeast European Studies (2017) **How to Reinvigorate the EU Enlargement of the Western Balkans? In search of Scenario E** ; European Council on Foreign Relations (2017) **What Europe can do for the Western Balkans**

The disconnect between current and planned finance for new coal capacity in the Western Balkans and progress on the transposition and implementation of Chapter 27 of the EU *acquis* as well as the Energy Community treaty is highly concerning. Not only does this actively delay progress on EU accession, but it also locks the region into expensive long-term energy infrastructure. This will lead to one of two bad outcomes: either these projects become stranded assets upon entrance into the EU, or the region remains trapped in its perpetual candidate status.

Strengthening the EU's involvement in the region would likely provide the necessary boost to the Western Balkans to deliver the necessary reforms.

Political Recommendations

The European Union

- > The EU should provide more support and incentive for the Energy Community countries on the Western Balkans for enforcement and work through this venue to prioritise energy market integration and decarbonisation – including just transition - in its energy diplomacy with the region.
- > The Central and South Eastern Europe Connectivity (CESEC) High Level Group is another avenue for delivering these objectives – it began as a forum to address security of regional gas supply but has been expanded to include renewable energy, efficiency, electricity market interconnection.
- > EU investment in the Western Balkans should be consistent with the Paris Agreement and ensure gas is not crowding out renewables and energy efficiency. The EU should refrain from financing natural gas in the region and make a realistic assessment of its projected demand trajectories.
- > The EU should offer technical assistance to Western Balkans governments to help them stress test their long-term energy and climate plans against the Paris Agreement as well as EU climate and energy targets and policies. The EBRD, EIB could be key partners given their technical expertise.
- > The EU should support the Western Balkans countries in conducting a robust assessment of the debt burden being accrued by the current approach to infrastructure investments including Chinese financed projects. This could be done in part by applying the EIB's criteria for measuring fiscal sustainability.
- > The EU should use strategic economic dialogues with China and other third-party investors to explore the potential of the region as a testing ground for new approaches to sustainable infrastructure and green finance, and addressing challenges including sovereign debt exposure and compatibility with the Paris Agreement on climate change.

Development Banks

- > Alongside important efforts to scale up climate finance and align their activities with the Paris Agreement, the MDBs have also continued to support fossil fuels. Development banks should rapidly phase out support for fossil fuel projects in the region including gas. The EBRD should keep its current commitments to not finance coal projects, as well as ensuring gas and oil investment is curtailed to avoid lock-in of fossil fuel investments and stranded assets in the region.
- > Development Banks should stress test gas infrastructure and the potential for energy efficiency and electricity alternatives against a range of demand scenarios and potential shocks and disruptions. This should consider all costs associated with gasification given there would be a need for significant new investments in pipelines. They should consider adopting an integrated approach that looks at gas, electricity and buildings efficiency together, keeping in mind the substantial emission reduction should take place by 2050 and beyond.
- > Considering their extensive support for hydropower projects in the region, MDBs should conduct analysis on the impact of variability in rainfall due to climate change on average annual hydropower output, and the potential carry-on effects on industry and other macroeconomic risks.
- > MDBs should address the issue of indirect lending to coal-intensive private sector clients, for example, by following IFC's example in requiring all new equity clients to publicly disclose their coal exposure and supporting private clients to shift away from coal.¹²⁸ This would be an opportunity to lead the way on climate-related disclosure and support the implementation of the recommendations of the Task-Force on Climate-Related Disclosures.
- > MDBs should offer technical assistance in the development of long-term pathways that align with the goal of achieving net zero greenhouse gas emissions, including building the capacity of countries and partners to develop and implement long-term 2050 decarbonization strategies.

Western Balkans governments

- > Western Balkans governments have a responsibility to conduct their own due diligence on the medium to long term impacts of foreign aid and investment. Specifically, governments should work to ensure that no loan jeopardise their ability to comply with the EU acquis.

¹²⁸ <https://www.devex.com/news/opinion-a-new-ifc-vision-for-greening-banks-in-emerging-markets-93599>

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- > Renewable energy and energy efficiency can help address many of the problems facing the region including energy poverty, air pollution and high unemployment. But governments must work to reduce the regulatory barriers including complicated permitting processes and must make a smooth transition to an auction/premium-based support system. Governments also have a role to play in publicising the financial benefits of using renewable and energy efficiency funds.
 - > Fossil fuel subsidies induce artificially low household energy prices, are barriers to a healthy energy market and are hindering the roll out of energy efficiency investments. Direct subsidies should be phased out urgently and indirect socially sensitive transfers should be restructured in the foreseeable future.
 - > Western Balkans governments should acknowledge that interconnection and liberalized electricity markets are key towards their European integration and they should work to remove all the existing obstacles.

ANNEX

Hydropower – not equipped to fulfil RES targets

Hydropower is set to increase substantially in the next years, as shown by the table below, indicating many large-scale hydropower investments to come. However, while hydropower may be beneficial in terms of adhering to CO₂ targets, its impact on the environment is not to be underestimated, as shown in section 2.1. Moreover, as climate change progresses and droughts become more common in the Western Balkans, hydropower will turn into an increasingly unreliable source of energy, as outlined in section 2.2.

Table 2: Installed hydropower capacity in 2016 and planned total hydropower capacity by 2020

* includes pumped storage plants

Country	Installed hydro <10 MW 2016 (MW) ¹²⁹	Planned installed hydro <10 MW 2020 (MW) ¹³⁰	Installed large hydro 2016 (MW) ¹³¹	Planned installed large hydro 2020 (MW)
Albania	231	490	1607	1834
Bosnia & Herzegovina	97	251	2083*	2449
Kosovo	31.3	108	40	240
Macedonia	141	141	560	569
Montenegro	25	97.5	649	728.5
Serbia	79	204	2934* ¹³²	2458*

Source: Energy Community Secretariat (2017) *Secretariat's Implementation Report 2017* ; The Republic of Albania's Ministry of Energy and Industry (2015) *National Action Plan for Renewable Energy Resources in Albania 2015-2020* ; The Federation of Bosnia and Herzegovina (2016) *National Renewable Energy Action Plan of Bosnia and Herzegovina (NREAP BiH)* ; The Ministry of Economic Development of the Republic of Kosovo (2013) *National Renewable Energy Action Plan (NREAP) 2011 - 2020* ; Government of the Republic of Macedonia, Ministry of Economy (2015) *Renewable Energy Action Plan for the Republic of Macedonia until 2025 with Vision until 2030* ; Government of Montenegro (2014) *National Renewable Energy Action*

¹²⁹ Energy Community Secretariat (2017) *Secretariat's Implementation Report 2017*

¹³⁰ The Republic of Albania's Ministry of Energy and Industry (2015) *National Action Plan for Renewable Energy Resources in Albania 2015-2020* ; The Federation of Bosnia and Herzegovina (2016) *National Renewable Energy Action Plan of Bosnia and Herzegovina (NREAP BiH)* ; The Ministry of Economic Development of the Republic of Kosovo (2013) *National Renewable Energy Action Plan (NREAP) 2011 - 2020* ; Government of the Republic of Macedonia, Ministry of Economy (2015) *Renewable Energy Action Plan for the Republic of Macedonia until 2025 with Vision until 2030* ; Government of Montenegro (2014) *National Renewable Energy Action Plan to 2020 Montenegro* ; Ministry of Energy, Development and Environmental Protection of the Republic of Serbia (2013) *National Renewable Energy Action Plan of the Republic of Serbia*

¹³¹ Energy Community Secretariat (2017) *Secretariat's Implementation Report 2017*

¹³² It is not clear why the 2016 installed capacity is larger than the 2020 planned capacity, as there has not been any major expansion of large hydropower in Serbia in recent years.

Plan to 2020 Montenegro ; Ministry of Energy, Development and Environmental Protection of the Republic of Serbia (2013) **National Renewable Energy Action Plan of the Republic of Serbia**

Hydropower: Damage to the Balkans' rich biodiversity

The Balkans¹³³ is a biodiversity hotspot and many of its rivers are still in outstanding condition. A 2012 study by Dr Jörg Freyhof found that there are:

1. 69 species of freshwater fish and lampreys endemic to the Balkans;
2. 52 species of globally threatened freshwater fish present in the Balkans, of which 39 species are endemic to the region.¹³⁴

The study also found that about 75% of the threatened fish and 70% of the threatened molluscs in the region are highly vulnerable to the habitat changes resulting from dams being built.

The impacts of small hydropower plants on small streams and rivers are similar to those of large hydropower plants on large rivers: blocking fish migration routes, degrading water quality, and often leaving too little water in the river below the dam for fauna to survive.

These represent large disruptions to river ecosystems for a small amount of electricity. Between 2001 and 2015, 57 large hydropower plants (>10 MW) contributed 95-97 percent of hydropower generation in the Western Balkans vs. 387 small hydropower plants¹³⁵ contributing the remainder.¹³⁶

While individual small plants vary in their impact, the sheer number of them leads to serious cumulative impacts, best described as “death by a thousand cuts”. For example, in Jošanička Banja in Serbia, on the borders of the Kopaonik National Park, there are already at least 15 small hydropower plants already built within just a few square kilometres, leaving hardly any river stretch undamaged.

In some cases, they also have clear impacts on local communities, for example by preventing the use of river water for irrigation or reducing the fish available for

133 In its wider sense: South of the Danube and north of Greece – Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Kosovo, Macedonia, Montenegro, Serbia and Slovenia.

134 Freyhof, J. (2012) **Threatened freshwater fishes and molluscs of the Balkan, Potential impact of hydropower projects**

135 Anything less than 10 MW is generally classed as a “small” hydropower plant, but in fact such plants can be quite large. For example, the planned Babino Selo plant on the river Vrbas in Bosnia & Herzegovina would have an installed capacity of 5-6 MW, but it would involve a dam nearly 10 m high and almost 100 m wide.

136 Western Balkans Investment Framework and Mott MacDonald (2017) **Regional Strategy for Sustainable Hydropower in the Western Balkans**, p.76

catching. Near Librazhd in Albania, a mill serving 200 people has been unable to operate since the Rapuni dams were built.¹³⁷

In the Western Balkans, Bankwatch has identified 318 hydropower plants starting operation since 2005, with 73 in protected areas (about 23%). Out of 842 actively planned plants, 205 are in protected areas (about 24%). In addition, there are numerous projects in protected areas not being actively pursued but which have never been officially cancelled and could come back to life if they receive sufficient political backing.

There are also many highly biodiverse areas that are not yet protected by law in any way, thus increasing the threat that hydropower plants will be built there before their true value is recognised.

Due to the large number of hydropower plants in pristine areas of the Balkans and poor environmental assessment and public participation procedures, hydropower is currently attracting widespread grassroots opposition. It is therefore highly important that efforts to promote decarbonisation in the region do not inadvertently promote more hydropower in biodiversity-rich areas.

Hydrological fluctuations are an increasing threat

Annual hydropower generation is already fluctuating heavily. While 2010 was an excellent hydropower year in the region, 2011 and 2012 were very poor,¹³⁸ as was 2017. This creates costly problems for overly hydropower-dependent countries like Albania, Montenegro and Bosnia & Herzegovina. Several utilities across the region reported having to either import electricity or suffering from losses as a result of low hydropower output in 2017.¹³⁹ Continuing such high levels of reliance on hydropower is becoming more and more risky given the changing climatic conditions.

In addition, hydropower's low periods do not necessarily coincide with periods of low demand. The highest generation tends to be between February and May when the snowmelt translates into increased river flow. And the lowest generation is, expectedly, in summer. However, more and more electricity is being used for cooling in the region, meaning that summer is not necessarily the season with lowest consumption.¹⁴⁰

137 For more details, see CEE Bankwatch Network [Going through the mill](#)

138 Western Balkans Investment Framework and Mott MacDonald (2017) [Regional Strategy for Sustainable Hydropower in the Western Balkans](#)

139 Balkan Green Energy News (2017) [Albania launches procedure for electricity import due to drought](#) ; SeeNews (2017) [Bosnia's EPBiH expects to turn to net loss of 11.1 mln euro in 2017](#) ; SeeNews (2017) [Montenegro's hydro power output nearly halves in Jan-Aug](#) ; Renewables Now (2018) [Bosnia's Hidroelektrane na Drini net loss widens sharply in 2017](#) ; Renewables Now (2018) [Bosnia's Hidroelektrane na Vrbasu swings to net loss in 2017](#)

140 Energy Regulator Authority of the Republic of Albania (2016) [Annual Report: Power Sector Situation and ERE Activity during 2015](#) ; Energy Regulator Authority of the Republic of Albania (2014) [Annual Report: Power Sector Situation and ERE Activity for 2013](#) ; NOS BiH (2017) [Indikativni plan razvoja proizvodnje 2018-2027](#)

The EU, Energy Community and international financial institutions therefore need to do more to emphasise the fact that diversification away from reliance on hydropower is needed, not only for environmental reasons but also financial ones.

Energy sector country profiles

This section outlines some of the most important information related to the general energy situation in each country, the role of coal and gas as well as the make-up of the low carbon energy sector. This section in no way aspires to be comprehensive, and merely seeks to give the reader an indication of the general trends in the energy sphere of the various Western Balkans countries. The six countries are grouped into three categories: those in negotiation for EU accession (Serbia and Montenegro), candidates waiting to start negotiations (Albania and Macedonia), and potential candidate countries (Bosnia & Herzegovina and Kosovo).

Serbia and Montenegro

General overview

Serbia and Montenegro are the two Western Balkans closest to EU accession, with the recent communication on the EU's Enlargement Strategy hinting at a possible 2025 accession of the two countries. However, further steps need to be taken to make this possible, especially as regards the implementation of Chapter 27 of the EU *acquis*. Chapter 27 focusses on environment and climate change and is arguably one of the most expensive and difficult chapters to complete for Serbia.¹⁴¹ Against this backdrop, current developments in Serbia and Montenegro's power sectors do not give reason for hope of a speedy accession.

Looking at the energy mix of both countries, Serbia produces around 70% of its electricity through lignite¹⁴² and the rest through hydropower, as well as a small variety of oil, gas and RES, whereas Montenegro produces around 40% of electricity through lignite and the remainder through hydropower.¹⁴³ This dominance of low-efficiency lignite is, in part, responsible for the very high levels of energy intensity in both economies, with Serbia's total primary energy supply per USD 1,000 of economic output even lying over four times above the EU average in 2016.¹⁴⁴ A further factor contributing to this are power distribution and transmission losses, with around 15% of electricity lost or stolen in Serbia and nearly a fifth in Montenegro.¹⁴⁵ Moreover,

141 Balkan Green Energy News (2018) **Trivan: Chapter 27 negotiation position in June but no hurry** ; Koalicija 27 (2017) **Chapter 27 in Serbia: Still under Construction**

142 WEA (2015) **Serbia: Electricity and Heat for 2015**

143 IEA (2016) Montenegro: Electricity and Heat for 2016 W

144 IEA (2015) **Serbia: Key indicators for 2016; IEA (2016): European Union – 28: Key indicators for 2016**

145 Snergy Community (2017) **Implementation Report 2017**

reliance on lignite causes Serbia to produce nearly six times as many CO₂ emissions for every USD 1 of GDP produced as the EU-28.¹⁴⁶

Table 3: Key energy sector data of Serbia and Montenegro compared to the EU-28 (2016)

	Serbia ¹⁴⁷	Montenegro ¹⁴⁸	EU-28 ¹⁴⁹
Energy intensity TPES/GDP (toe/thousand USD)	0.37	0.21	0.09
CO₂ per capita (in tonnes)	6	3	6
Electricity consumption per capita (in MWh)	5	5	6

Source: IEA (2016) *European Union - 28: Indicators for 2016* [https://www.iea.org/statistics/?country=EU28&year=2016&category=Key indicators&indicator=CO2ByPop&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true](https://www.iea.org/statistics/?country=EU28&year=2016&category=Key%20indicators&indicator=CO2ByPop&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true); IEA (2016) *Serbia: Indicators for 2016* [https://www.iea.org/statistics/?country=SERBIA&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true](https://www.iea.org/statistics/?country=SERBIA&year=2016&category=Key%20indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true); [https://www.iea.org/statistics/?country=SERBIA&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true](https://www.iea.org/statistics/?country=SERBIA&year=2016&category=Key%20indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true); IEA (2016) *Montenegro: Indicators for 2016* [https://www.iea.org/statistics/?country=MONTENEGRO&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true](https://www.iea.org/statistics/?country=MONTENEGRO&year=2016&category=Key%20indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true)

In terms of energy consumption, households account for a third of total energy consumption due to poor energy efficiency of both buildings and heating systems in Serbia.¹⁵⁰ It is particularly striking that households consume more total energy than industry.

Ironically, climate change is already negatively affecting the Serbian economy, providing a tangible incentive to not carry on with its future high carbon plans. The disastrous 2014 floods are estimated to have cost the Serbian economy up to 4.7% of GDP in losses and costs.¹⁵¹ Moreover, intense flooding forced lignite mines as well as

146 IEA (2015) *Serbia: Key Indicators for 2016* IEA (2016) *European Union - 28: Key Indicators for 2016*

147 IEA (2016) *Serbia: Key Indicators for 2016*

148 IEA (2015) *Montenegro: Key Indicators for 2016*

149 IEA (2016) *European Union - 28: Key Indicators for 2016*

150 IEA (2015) *Serbia: Balances for 2015*

151 *European Union, United Nations, World Bank (2014): Serbia Floods 2014*

coal-fired power plants to significantly reduce output. As climate change projections manifest, these costs will only rise.

Moreover, as in the other Western Balkans countries, poor public transport infrastructure and large-scale use of old vehicles in road transport further intensifies the overall use of fossil fuels and aggravates air pollution.

3.1.2. High carbon lock-in in Serbia and Montenegro

Lignite is key in both Serbia and Montenegro for electricity generation; this is especially true for Serbia, where current installed lignite capacity exceeds 4,400 MW¹⁵² and domestic lignite and brown coal reserves surpass 950 Mtoe.¹⁵³ Coal is thus seen as the natural choice for energy production and as the foundation of energy and supply security. However, this is incompatible with the EU's climate and energy policies. In particular, none of Serbia's coal power plants are compliant with the Large Combustion Plants Directive, which will force it to shut down eight units by 2024.¹⁵⁴ Similarly, in Montenegro, in order to be in line with the commitments to the Energy Community, the current lignite capacity of 225 MW must be either rebuilt or decommissioned by 2023.¹⁵⁵ A reconstruction project is currently under preparation.¹⁵⁶

Serbia has nearly 390 MW of gas plants, but these make up a small percentage of the electricity mix.¹⁵⁷ The state-owned company Srbijagas and Yugorosgaz¹⁵⁸ are its gas transmission companies. Its main gas extraction company Naftna Industrija Srbije (NIS) is majority-owned by Gazprom, with the rest of the shares owned by the Serbian state and individual shareholders.¹⁵⁹ Gas to Serbia (and Bosnia & Herzegovina) currently comes only via Hungary. Thus, although Serbia has otherwise sufficiently transposed the Third Energy Package, it is refusing to unbundle the transmission system operators for natural gas, in particular Srbijagas, which dominates the gas market.¹⁶⁰ To this end, the Energy Community Secretariat has tried employing the dispute settlement mechanism with little effect so far.

152 Coal Swarm (2018): [Global Coal Plant Tracker](#)

153 [Republic of Serbia Ministry of Mining and Energy \(2016\): Energy Sector Development Strategy of the Republic of Serbia for the period by 2025 with projections by 2030.](#)

154 Energy Community Secretariat (2018) [Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

155 REKK, TU Wien, OG Research and EKC (2017) [South East Europe Electricity Roadmap: Country Report Montenegro](#)

156 Elektroprivreda Crne Gore (2018): [60 million Euros for ecological reconstruction of the first unit of thermal power plant and reclamation of the Maljevac landfill.](#)

157 These consist of TE-TO Novi Sad 1 (135 MW) and 2 (110 MW), TE-TO Zrenjanin (110 MW) and TE-TO Sremska Mitrovica (32 MW).

158 Shareholders: Gazprom Moskva 50%, PE Srbijagas 25%, and Centrex Europe Energy and Gas, Vienna 25%. For more details, see [Yugorosgaz website](#)

159 NIS (2018) [Shares and ownership structure](#)

160 Energy Community Secretariat (2018) [Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

While Montenegro may not have gas infrastructure, it is considering oil and gas exploration in the Adriatic Sea.¹⁶¹ It is also currently planning the Adriatic-Ionian Pipeline (IAP).¹⁶²

In general, ties to Russia are very strong in Serbia, be they economic, political or religious. This is also exemplified by the general director of Srbijagas publicly advocating energy contracts with Russia, amplifying this message through his simultaneous position as a member of parliament.¹⁶³ Serbia officially maintains good relations with both the EU and Russia, and being friendly with both is not seen as antagonistic. Furthermore, contrary to the EU, Russia backs Serbia in its refusal to acknowledge Kosovo's independence, rendering it an attractive ally.¹⁶⁴

In this context, Energy Community membership must be better utilised to pressure a movement away from further fossil investments. Simultaneously, the EU needs to send clear signals that there is support for the low carbon transition, and to retain credibility by providing a genuine accession perspective.

3.1.3. Low carbon opportunities in Serbia and Montenegro

In terms of legislative transposition of the EU *acquis*, the Third Energy Package and the obligations of the Energy Community Treaty, both Serbia and Montenegro have formally adopted much of the necessary climate, energy efficiency, environment and renewables legislation, but actual implementation is still insufficient.¹⁶⁵

Due to its high share of lignite in the electricity mix, Serbia is one of the most difficult Western Balkan countries to decarbonise. Compared to its neighbours, Serbia possesses somewhat less hydropower, solar and wind power potential.¹⁶⁶ However, like its neighbours, it has vast potential for energy savings. Lack of political will also plays an important role: climate change and decarbonisation are not well-known topics and have been utilised by populists as an anti-EU narrative, i.e. framing the EU's push for decarbonisation as a manner of reducing the country's sovereignty.

Serbia has 66 MW of wind power in operation. More plants – bringing the total to around 500 MW of wind power - are expected to come online by 2020, reflecting the limit set on how much capacity would be eligible for feed-in tariffs. Nonetheless, Serbia is currently not on course for its 2020 RES targets. In Montenegro, the 72 MW Krnovo wind farm started operating in 2017, and it was recently announced that

161 The 2014 Montenegrin Energy Development Strategy estimates that by 2030 up to 7 billion barrels of oil and 425 billion cubic meters of natural gas could be discovered along the coast.

162 The pipeline will have a length of 516 km and a capacity of five billion cubic metres of gas per year. It will be connected with the Trans Adriatic Pipeline (TAP) near Fier (Albania), and shall cross Albania, Montenegro and Bosnia & Herzegovina, terminating in Spilit in Croatia, where it will be connected with the current gas distribution system. From Croatia, the gas will then be distributed to Hungary and other countries of Western and Central Europe.

163 CSD (2016) **The Kremlin Playbook: Understanding Russian Influence in Central and Eastern Europe**

164 CSD (2018) **Assessing Russia's Economic Footprint in Serbia**

165 Energy Community (2017): **Annual Implementation Report**

166 REKK, TU Wien, OG Research and EKC (2017) **South East Europe Electricity Roadmap: Country Report Serbia**

Elektroprivreda Crne Gore and Finland’s Fortum have won a tender to lease land near the coastal town of Ulcinj for 250 MW of solar power.¹⁶⁷ Montenegro already demonstrates significant hydropower capacity, with plans for further expansion. However, such plans would increase the country’s already noticeable vulnerability to changing hydrological conditions. The country has already met its 2020 RES targets, although this is mainly due to a change in the interpretation of biomass data.¹⁶⁸

Albania and Macedonia

General overview

Albania and Macedonia are also candidate countries for EU accession, with current discussions surrounding a possible opening of accession talks. However, both countries demonstrate disparate energy sector situations: whilst Albania’s electricity generation is based 100% on hydropower¹⁶⁹, Macedonia’s electricity generation consists of around 51% lignite, 34% hydropower, 10% gas, as well as smaller amounts of oil, wind, solar and biomass.¹⁷⁰ It is the only country in the region where coal generation has noticeably decreased in recent years, from more than 80% in 2007, down to around 50%.

While higher than the EU average, energy intensity in Albania is substantially lower than that of its neighbours – a fact linked to its power generation based exclusively on hydropower. This is also reflected in Albania’s low share of CO₂ per capita; yet, interestingly, the country still produces nearly 1.5 times as many CO₂ emissions for every USD 1 of GDP as the EU-28.¹⁷¹

Table 4: Key energy sector data of Albania and Macedonia compared to the EU-28 (2016)

	Albania ¹⁷²	Macedonia ¹⁷³	EU-28 ¹⁷⁴
Energy intensity TPES/GDP (toe/thousand USD)	0.17	0.24	0.09
CO₂ per capita (in tonnes)	1	3	6
Electricity consumption	2	3	6

167 Balkan Green Energy News (2018): [Fortum-EPCG consortium emerges as top bidder to build 250 MW solar plant at Briska Gora](#)

168 Energy Community Secretariat (2018) [Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market](#)

169 IEA (2016): [Albania: Electricity and Heat for 2016](#)

170 IEA (2016) [Former Yugoslav Republic of Macedonia: Electricity and Heat for 2016](#)

171 IEA (2016) [Albania: Key indicators for 2016](#); IEA (2016) [European Union - 28: Key indicators for 2016](#)

172 IEA (2015) [Albania: Key indicators for 2016](#)

173 IEA (2016) [Former Yugoslav Republic of Macedonia: Key indicators for 2016](#)

174 IEA (2016) [European Union - 28: Key indicators for 2016](#)

per capita
(in MWh)

Source: IEA (2016) *European Union* - 28: *Key*
<https://www.iea.org/statistics/?country=EU28&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators*
for 2016
<https://www.iea.org/statistics/?country=EU28&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true>;
IEA (2016) *Albania:* *Key*
<https://www.iea.org/statistics/?country=ALBANIA&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators*
for 2016
<https://www.iea.org/statistics/?country=ALBANIA&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> ; IEA (2016) *Former Yugoslav Republic of Macedonia:* *Key*
<https://www.iea.org/statistics/?country=FYROM&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators*
for 2016
<https://www.iea.org/statistics/?country=FYROM&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true>

Regarding total energy consumption in Albania, it is noteworthy that transport is responsible for over 40% of final energy consumption and that households consume over a quarter of total energy, thereby far surpassing industry needs.¹⁷⁵ With regard to transport, this can be explained by the high usage of fossil fuels in old, inefficient vehicles against a backdrop of poor public transport infrastructure, similar to many of the other Western Balkan countries. In terms of high energy consumption in housing, this can be explained by the lack of energy efficiency standards in housing as well as uneconomical heating methods. These provide attractive leverage points for low carbon options as well as wide-reaching energy efficiency measures.

High carbon lock-in in Albania and Macedonia

It is interesting to note that Albania has significant domestic oil and gas reserves, however there is uncertainty about the scale.¹⁷⁶ High carbon lock-in is a greater jeopardy to Macedonia than to Albania, due to the latter's dependence on hydropower. However, as will be shown below, the energy sector outlook for Albania is not without problems.

¹⁷⁵ IEA (2016) *Albania: Balances for 2016*

¹⁷⁶ *Albpetrol (undated) Website*; Lorenc Gordani (2017): *Albania, from the largest continental onshore oil reserves in Europe, to the new bridge between the Balkans and Italy*

Macedonia's coal industry causes intense air pollution. Together with other sources including household heating and transport, it renders the country home to three of the most polluted cities in Europe, causing an estimated 1,300 premature deaths each year.¹⁷⁷ Its thermal plants in Bitola and Oslomej comprise 824 MW, but as the coal reserves for Oslomej have mainly been depleted, its future is uncertain.¹⁷⁸ A reserve heavy fuel oil fired power plant in Negotino with a backup capacity of 210 MW has in reality not been used for years.¹⁷⁹ In this context it is noteworthy that, although Macedonia is a lignite producer, it has the highest energy import dependency in the Western Balkans – 58% in 2016, and this has been rising rather than falling.¹⁸⁰ This is presumably because of the increase in use of gas for power generation as well as electricity imports. As with Albania, in Macedonia a large amount of electricity is used for heating purposes – a situation which is not only aggravated through energy losses through inefficiency and uneconomical heating, but which also further deteriorates air quality.¹⁸¹

Although thus far nearly exclusively dependent on hydropower, Albania plans to make use of the Trans-Adriatic Pipeline crossing its territory, as well as the Ionian Adriatic pipeline, with its Gas Masterplan foreseeing around 780 MW of new capacity to come online between 2020 and 2025.¹⁸² Out of the six Western Balkan countries, Albania has so far been the only one to successfully unbundle electricity and gas transmission operators following the Energy Community rules.¹⁸³

In Macedonia, gas infrastructure is relatively undeveloped; however, it does have a gas power plant capacity of just under 300 MW, and the use of power generation has increased rather than decreased in recent years. The gas supply is fed by the GA-MA pipeline through Bulgaria,¹⁸⁴ owned by Macedonia's government and Makpetrol.

As is the case in other Western Balkans countries, high energy intensity, poor energy efficiency and high utility bills aggravate energy poverty in Macedonia and, to a lesser extent, Albania. This causes private households to rely on wood and – in Macedonia – lignite burning, thereby further deteriorating air quality.¹⁸⁵

177 Reuters (2017) **Air quality in Pristina unhealthy, cold winter bites** ; the Guardian (2017) **Pant by numbers: the cities with the most dangerous air – listed**

178 ELEM (undated): **TPP Oslomej**

179 Republic of Macedonia Energy Regulatory Commission (2018): **Annual report for 2017**.

180 Eurostat (2016) **Enlargement countries – energy statistics**

181 CSD (2018) **Assessing Russia's Economic Footprint in Macedonia** ; SEE Change Net (2013) **Invest in Haste, Repent at Leisure: Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe**

182 Energyworld (2018) **The electricity generation capacity development in Albania**

183 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

184 This is made up of TE-TO Skopje (227 MW), ELEM Energetika (30 MW) and KOGEL (30 MW). See Republic of Macedonia Energy Regulatory Commission (2018): **Annual report for 2017**, p.11

185 CSD (2018) **Assessing Russia's Economic Footprint in Macedonia**

Low carbon opportunities in Albania and FYR Macedonia

Albania is in the process of sufficiently transposing the Third Energy Package, with Macedonia set to begin transposition in 2018.¹⁸⁶ As mentioned above, Albania has made the most progress out of the six countries in unbundling transmission system operators; however, it has not yet commenced the unbundling of national distribution system operators in the electricity sector. Moreover, while Macedonia has made progress on energy efficiency plans, Albania lags behind on sufficiently transposing EE measures.¹⁸⁷

As indicated above, Albania has significant hydropower capacity, some of which has been funded by donors such as the EIB, EBRD and World Bank, also in protected areas, sparking controversy.¹⁸⁸ Although previously touted as an environmentally friendly source of energy, criticism is starting to grow in Albania with regard to hydropower, including court cases against new hydropower plants.¹⁸⁹ Over-reliance on fluctuating hydropower is likely one of the main reasons behind the country's recent interest in establishing a substantial gas infrastructure.

Macedonia also possesses significant hydropower capacity at 703 MW.¹⁹⁰ The EBRD has heavily supported hydropower development in the country. The most well-known loan, for the Boškov Most hydropower plant in the Mavrovo National Park was cancelled in 2017, but 20 small hydropower plants have been financed by the bank.¹⁹¹ The reasoning behind this strong investment in hydropower rests on Macedonia's high dependence on energy imports. Like its neighbours, national energy independence is seen as must. Hence, in combination with Energy Community and EU Accession requirements, hydropower has become increasingly attractive alongside the dominance of lignite. Nonetheless, this reliance on hydropower has stalled the expansion of wind and solar power, thereby causing both Albania and Macedonia to be off-track for their 2020 RES targets.¹⁹²

As shown in section 2.2, reliance on hydropower renders Western Balkan countries susceptible to altered water flows through climate change. Droughts have already and will continue to reduce energy output, as seen for instance in 2017, when Macedonia's hydropower plants reported a 73% fall in production from a year earlier.¹⁹³ Given Macedonia's high potential for the expansion of RES to safeguard a more sustainable energy generation, such as via solar and wind,¹⁹⁴ it is high time for

186 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

187 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

188 CEE Bankwatch Network (2018) **Financing for hydropower in protected areas of southeast Europe: update**

189 Save the Blue Heart of Europe (2018) **Vjosa River: Europe's Unknown Wild Jewel**

190 Energy Community (2017): **Annual Implementation Report**

191 CEE Bankwatch Network (2018) **Financing for hydropower in protected areas of southeast Europe: update**

192 Energy Community Secretariat (2017): **Second Report of the Secretariat to the Ministerial Council on the Progress in the Promotion of Renewable Energy in the Energy Community**

193 Reuters (2017) **West Balkans' energy bills surge as drought curbs hydropower output**

194 REKK, TU Wien, OG Research and EKC (2017) **South East Europe Electricity Roadmap: Country Report Macedonia**

the government and MDBs to redouble their efforts in this field, as well as in energy efficiency.

In the transport sector, Albania seems to be fairly progressive and has implemented several schemes to reduce pollution through vehicles, such as through a new scheme for replacing vehicles more than 28 years old.¹⁹⁵

Kosovo and Bosnia & Herzegovina

General overview

Particularly in terms of natural gas, Bosnia & Herzegovina has been seen to systematically violate the EU *acquis*. Nor has the country properly complied with the energy efficiency *acquis*, the Sulphur in Fuels Directive or the Environmental Impact Assessment Directive.¹⁹⁶

Kosovo generates around 96% of its electricity from coal and the rest from hydropower¹⁹⁷, while Bosnia & Herzegovina produces around 64% of electricity from coal, 35% from hydropower and small amounts from oil and gas¹⁹⁸. Lignite is therefore significant in both countries and, worryingly so, is still on the rise. Moreover, both Kosovo and Bosnia & Herzegovina display the highest energy intensities in the Western Balkans at around four times higher than the EU average.¹⁹⁹ Tellingly, both countries need nearly six times as many CO₂ emissions to produce USD \$1 of economic output compared to EU Member States.²⁰⁰

Table 5: Key energy sector data of Kosovo and Bosnia & Herzegovina compared to the EU-28 (2016)

	Kosovo ²⁰¹	BiH ²⁰²	EU-28 ²⁰³
Energy intensity			
TPES/GDP (toe/thousand USD)	0.38	0.36	0.09
CO₂ per capita (in tonnes)	5	6	6

195 Tema (2017) **Ministri Blendi Klosi: Makinat e para 2009-s do dalin nga qarkullimi në Shqipëri, ja si do të bëhet zëvendësimi i tyre**

196 Energy Community Secretariat (2018) **Knocking on the EU's Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

197 IEA (2016) **Kosovo: Electricity and Heat**

198 IEA (2016) **Bosnia and Herzegovina: Electricity and Heat**

199 IEA (2016) **European Union - 28: Key indicators for 2016**

200 IEA (2016) **European Union - 28: Key indicators for 2016**

201 IEA (2016) **Kosovo: Key indicators for 2016**

202 IEA (2016) **Bosnia and Herzegovina: Key indicators for 2016**

203 IEA (2016) **European Union - 28: Key indicators for 2016**

Electricity consumption per capita (in MWh)	2	4	6
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Source: IEA (2016) *European Union - 28: Key*

<https://www.iea.org/statistics/?country=EU28&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators for 2016*

<https://www.iea.org/statistics/?country=EU28&year=2016&category=Key indicators&indicator=TPESbyGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> ; IEA (2016) *Kosovo: Key*

<https://www.iea.org/statistics/?country=KOSOVO&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators for 2016*

<https://www.iea.org/statistics/?country=KOSOVO&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> ; IEA (2015) *Bosnia and Herzegovina: Key*

<https://www.iea.org/statistics/?country=BOSNIAHERZ&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true> *indicators for 2016*

<https://www.iea.org/statistics/?country=BOSNIAHERZ&year=2016&category=Key indicators&indicator=CO2ByGDP&mode=chart&categoryBrowse=false&dataTable=INDICATORS&showDataTable=true>

The situation for total energy consumption is similarly bleak. In Bosnia & Herzegovina, just under half of total electricity consumption can be attributed to households, thereby surpassing industry needs. Moreover, housing and transport together make up nearly 66% of total final energy consumption, which is vast – especially when taking into account that industry consumption lies at 20.5%.²⁰⁴ The situation in Kosovo is similar, with housing and transport together consuming nearly 64% - much higher than industry at 19%.²⁰⁵ Thus, similar to their neighbours, electricity bills consume a significant chunk of household income.²⁰⁶

In addition to air pollution through large-scale lignite burning, air pollution is worsened by domestic use of lignite and firewood for heating as well as poor environmental standards of vehicles.

204 IEA (2016) *Bosnia and Herzegovina: Balances for 2016*

205 IEA (2016) *Kosovo: Balances for 2016*

206 KOSID (2014) *Efficiency for Development: Economics of Energy Efficiency in Kosovo*, p. 4

High carbon lock-in in Kosovo and Bosnia & Herzegovina

Kosovo has huge lignite reserves of over 14 billion tonnes, thereby rendering it the fifth largest known lignite deposit globally.²⁰⁷ As it perceives itself as a politically isolated country predominantly due to the ongoing dispute with Serbia, energy security is of utmost importance, hence explaining the almost exclusive power generation through lignite. Similarly, Bosnia & Herzegovina also has vast domestic lignite resources of around six billion tonnes.²⁰⁸ Nonetheless, both countries are dependent on gas and oil imports.

Similar to some of their neighbours, air pollution arising through burning lignite in both Kosovo and Bosnia & Herzegovina has disastrous effects on health, causing up to 800 deaths in the former and up to 3500 in the latter annually.²⁰⁹ Bosnia & Herzegovina demonstrates the second highest relative mortality rate globally from air pollution, with Tuzla considered the second deadliest city in Europe in terms of air pollution.²¹⁰ Aside from the obvious health costs, the economic burden of this is enormous; in Kosovo, for instance, resulting medical costs are estimated at EUR €70 to €169 million per year.²¹¹ Aside from lignite, the use of coal and firewood in domestic heating as well as road transport of old, inefficient vehicles further aggravate the air pollution.

Thus far, Bosnia & Herzegovina is the only Western Balkans country to produce a sustained electricity surplus, thereby acting as a regional exporter. The artificially suppressed costs of its lignite industry through the neglect of sufficient pollution standards keep utility bills low. Kosovo mostly generates enough electricity, but it is vulnerable due to its poor network, ancient lignite power plants, and limited transboundary interconnections. Moreover, energy usage is highly inefficient due to losses in the distribution and transmission processes. For instance, over 30% produced was lost or not paid for in Kosovo in 2016; in Bosnia & Herzegovina, this number was 12% in 2016.²¹²

Like Serbia and Macedonia, Bosnia & Herzegovina is completely dependent on Russian gas and mostly dependent on Russian oil. The country's only oil refinery is owned by Russian company Zarubezhneft.²¹³ This is part of the reason why Bosnia & Herzegovina plans on being part of the Adriatic-Ionian Pipeline. However, careful cost calculations are needed here; as seen in the failure of the South Stream project,

207 Reuters (2017) **Kosovo, ContourGlobal sign deal to build 500 MW coal-fired power plant**

208 Foreign Investment Promotion Agency of Bosnia and Herzegovina (2015) **Bosnia and Herzegovina Energy Sector**

209 Reuters (2017) **Air quality in Pristina unhealthy, cold winter bites** ; EBL News (2016) **Severe air pollution reported in Bosnian industrial cities**

210 HEAL (2018) **Health professionals demand clean air for Tuzla and Lukavac in Bosnia**

211 The Guardian (2016) **World Bank broke own rules as coalmine left Kosovo village 'in limbo'**

212 Energy Community (2017): **Annual Implementation Report**

213 Energy Community (2017): **Annual Implementation Report**

stranded assets are a real economic liability in this context, with apparently more than EUR €2 billion in total lost by all partners from the failure of the project.²¹⁴

In Bosnia & Herzegovina, the Swiss-based KTG has been planning a 300 MWe gas-powered cogeneration plant in Zenica together with Chinese Company KTG,²¹⁵ a subsidiary of SEPCO 3.²¹⁶ The project is going very slowly and, in a 2017 World-Bank analysis, it was concluded that *“Zenica gas plant is not needed in any of the scenarios including extreme ones that consider emissions constraints and no new coal projects.”*²¹⁷ In Kosovo, however, there are thought to be no plans for new gas plants in the short term.

Low carbon opportunities in Kosovo and Bosnia & Herzegovina

There is generally little investment or movement in the low carbon sector in Kosovo and Bosnia & Herzegovina. Bosnia & Herzegovina will meet its 2020 RES targets, but this can mostly be attributed to a change in accounting for biomass data.²¹⁸ In 2018, Bosnia & Herzegovina adopted a Framework Energy Strategy until 2035, but it only lays out several scenarios and does not select any of them. It also does not include any scenarios that come near to decarbonisation.²¹⁹ Moreover, Bosnia & Herzegovina has still failed to even implement the EU’s Second Energy Package.²²⁰

Kosovo, on the other hand, has had a new energy strategy since 2017, foreseeing a large expansion of wind power, yet very little solar.²²¹ In October 2018 it opened its first major wind farm, the 32.4 MW Kitka plant.²²² In terms of expanding RES other than hydropower, Bosnia & Herzegovina has high potential for expanding wind and solar power.²²³ In early 2018 its first wind farm started operating,²²⁴ and it looks set to be followed by several others.

214 CSD (2018) **Assessing Russia’s Economic Footprint in Bosnia and Herzegovina**

215 See KTG’s **website**

216 See SEPCO3’s **website**

217 Debabrata Chattopadhyay, Thomas Nikolakakis, Dzenan Malovic, Jari Väyrynen (2017) **Bosnia and Herzegovina Power Sector Note: Least-cost Power Development Plan**

218 Energy Community Secretariat (2018) **Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

219 **Okvirna energetska strategija Bosne i Hercegovine do 2035. godine.**

220 Energy Community Secretariat (2018) **Knocking on the EU’s Door through the Energy Community: Integration of Western Balkans into the Pan-European Energy Market**

221 PV magazine (2017) **Kosovo must do more for renewables, EU says**

222 Koha (2018): **Kompania turke ndërton central të erës në Kitkë të Kamenicës**

223 REKK, TU Wien, OG Research and EKC (2017) **South East Europe Electricity Roadmap: Country Report Bosnia and Herzegovina**

224 Balkan Green Energy News (2018): **Mesihovina, the first wind farm in Bosnia & Herzegovina connected to the grid**
