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Cover Photo: Wind turbines
and coal power plant in
Kosovo, Arben Llapashtica

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Two-speed energy transition in the Western Balkans

Overview

Transition to an energy-efficient, renewables-based power sector in the Western Balkans¹ should in theory be much easier than in many other countries. The region as a whole only has around 18 million inhabitants, most of it is not heavily industrialised, it has high solar and wind potential, most of the countries are quite well interconnected, and there is ample potential for saving energy.

Yet decades of underinvestment and a myopic focus on continuing the use of the region's traditional staples – coal and hydropower – have led to the region's energy sectors lagging ever-further behind their neighbours in the EU.

All except Albania are dependent on coal, and in 2016 their 16 lignite power plants emitted as much sulphur dioxide and dust as all the EU's 250 coal plants together.

All the countries also heavily regulate electricity prices as a social welfare measure and are wasting large amounts of energy due to high distribution network losses, the use of electrical heaters for space heating, and lack of household insulation, among other reasons.

Yet an important change has started to take place.

Just two years ago, all the Western Balkan countries except Albania still planned to build new coal power plants. Since then, three out of five have abandoned these plans. The region has split, creating a two-speed energy transition.

Montenegro, North Macedonia and Albania are clearly orienting themselves towards renewable energy and finally making steps to diversify beyond hydropower. These three countries have reached the stage where they see the benefits of the energy transition for themselves and are moving forward.

Kosovo, too, despite being almost totally coal-dependent, has a unique opportunity for change. The Kosova e Re coal power project has dominated its plans for over a decade, but the collapse of the project in March has finally opened up space for alternatives.

The Western Balkans' neighbours are also accelerating their transitions. Hungary and Greece have pledged to phase out coal power by 2030 and 2028 respectively. The fact that Greece made its announcement while the Ptolemaida V coal plant was still being built shows how risky it is to push ahead with major fossil fuel projects in spite of warning signals on changes in the sector.

¹ Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia.

A similar lesson must be learned from Slovenia, where the [loss-making Šoštanj unit 6](#) was completed in 2014. A corruption investigation is still ongoing and in May 2020 Slovene prosecutors [filed charges](#) including money laundering against 12 people and two companies.

[Croatia](#) and [Romania](#) have both abandoned plans for new coal power plants in recent years after it became clear that it would be impossible to build and operate them without subsidies, thus running afoul of EU State aid legislation.

Where once it was a resource, coal is now a liability. But Serbia and Bosnia and Herzegovina are still pinning their hopes on it.

This briefing gives a snapshot of the situation across the region, showing who stands where in the energy transition and highlighting potential pitfalls to be avoided in the coming years.

Moving up a gear

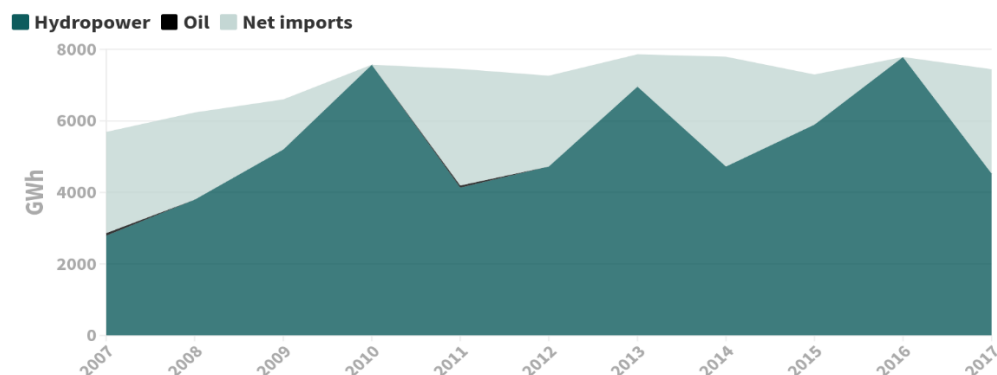
Albania

Albania, with a population of around 2.8 million, has for decades been almost entirely dependent on hydropower for its power supply. This is an advantage in decarbonising its energy sector but also makes it highly vulnerable to the changing climate, and means that it has to import electricity most years.

In 2012, Albania committed² to increase its share of renewable energy – not electricity – to 38 per cent by 2020. By 2017 it had managed [34.6 per cent](#) renewable energy, but had not diversified its electricity generation at all.

Until 2017, Albania only offered renewable energy incentives for hydropower, and as a result solar photovoltaic (PV) and wind have remained underdeveloped. Uncontrolled hydropower development has caused increasing [discontent and damage to protected areas](#), and incentives for hydropower up to 15 MW cost Albania no less than EUR 93.5 million in 2018³ – by far the highest amount in the region.⁴ Although it has added to installed generation capacity, its variability means that Albania often still has to import electricity.

Chart 1: Albania electricity mix and net imports



In 2017 Albania finally changed its legislation to allow incentives for solar and wind developments and to switch to an auction system for awarding them. A solar auction was held in 2018 and [won by India Power](#), which is set to build 100 MW of solar power near Vlora. The output from 50 MW will be purchased by the Government at EUR 59.9/MWh

² As part of its commitments under the [Energy Community Treaty](#)

³ Calculated from the [Albania Energy Regulatory Authority Annual Report](#) for 2018, 2019, p.161

⁴ CEE Bankwatch Network: [Western Balkans hydropower: Who pays, who profits?](#) September 2019.

over 15 years, and the electricity from the other 50 MW will be sold at market price. It is not clear how the project is progressing.

In May 2020 Albania [completed another solar auction](#), for 140 MW, in Karavasta, near Fier. Following a similar model as the previous auction, half will be supported via an offtake agreement at just EUR 24.89/MWh for a period of 15 years. Another 70 MW, without support, is to be sold at the market price.

While these are positive signs that Albania is finally diversifying, it should also do more to unlock the potential of smaller-scale renewable energy. It has adopted rules on net-metering schemes for consumers with renewable energy generation facilities up to 500 kW and development is starting, but much more can be done.

Energy efficiency is another area where action needs to be stepped up. Inefficient use of energy represents a major concern in the country, especially its [high distribution losses](#), which totalled 24.4 per cent in 2018.

As well as its continued construction of hydropower projects – including in highly valuable areas such as the Valbona National Park and the Vjosa river – the main issue threatening to distract Albania from its energy transition is gas.

Albania produces a small amount of gas, mostly used in oil production and the refining industry, but the country is not connected to international gas networks at the moment. The controversial [Trans-Adriatic Pipeline](#) (TAP) has been built on its territory, and Albania plans to make use of it, as well as participating in the construction of the [Ionian-Adriatic Pipeline](#) that would take gas from TAP through Montenegro to Croatia.

Unfortunately, Albania also plans to use gas in the power sector, thus undermining its decarbonised electricity supply. It has a 98 MW gas/oil fired power plant at Vlora, financed by the World Bank, EBRD and EIB, which has never operated due to technical faults. Not only does it plan to relaunch this plant, but it is also [considering building new gas power plants](#).

It is precisely the lack of widespread gas use which gives some of the Western Balkans countries an advantage in decarbonisation, allowing them to leapfrog straight to wind and solar, balanced by their existing hydropower fleet. Making new investments in gas therefore threatens to become an expensive distraction from decarbonisation. It will lock the countries into a source of energy which [only cuts greenhouse gas emissions by around 30 per cent](#) compared to coal, once fugitive methane emissions during extraction and transit are taken into account. This is far from the total decarbonisation of the energy sector needed to achieve the goals of the Paris Agreement.

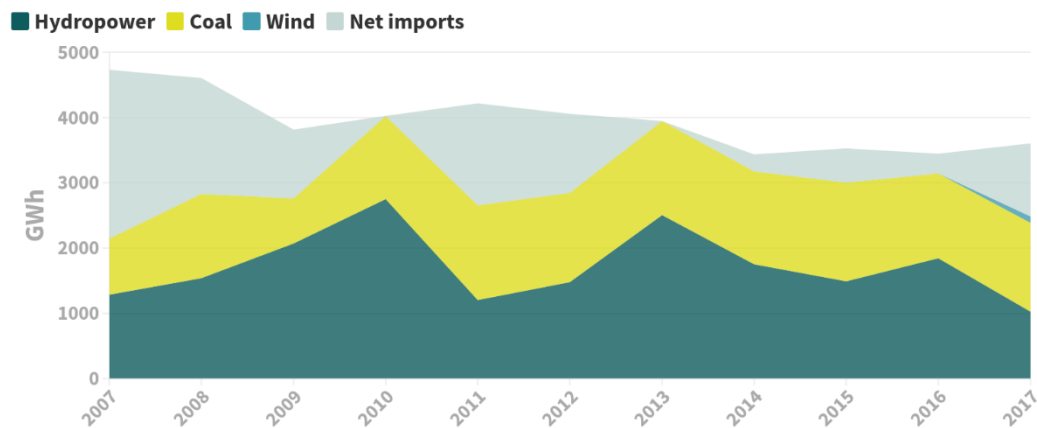
Albania is one of the few Balkan countries producing oil – [959,000 tonnes in 2017](#). The state-owned Albpetrol is active in the development, production and trade of crude oil, while the largest oil producer is Bankers' Petroleum, previously [supported by the EBRD and IFC](#) and now Chinese-owned. This sector will also need to be phased out in the coming decades, but the first step will be to avoid opening new oil fields.

Montenegro

With around 620,000 inhabitants, Montenegro's electricity needs are mainly met by the 225 MW lignite power plant at Pljevlja and the 307 MW Perućica and 342 MW Piva hydropower plants.

In the last decade, Montenegro's ability to meet its electricity demand domestically has varied according to the hydrological situation. In 2010 and 2013, both rainy years, it was able to meet demand domestically, while in dry years – 2011, 2012 and 2017 – it still had to import relatively large amounts of electricity. Montenegro's hydropower dependence is not as extreme as Albania's, but is still a serious issue.

Chart 2: Montenegro electricity mix



In 2014 the Montenegrin government adopted an [Energy Strategy](#) that planned no fewer than three large new power generation projects by 2022 – the [Pljevlja II](#) coal plant (254 MW), the Morača hydropower plants (238 MW), and the Komarnica hydropower plant (168 MW).

[Pljevlja II](#) received by far the most attention from the government and was presented as an imperative. But after the [Czech Export Bank declined](#) to finance the project, the story quickly changed.

In 2018 the Montenegrin government [de-prioritised](#) Pljevlja II in order to concentrate on rehabilitating the existing unit and in June 2019 declared that [Montenegro's future lies with renewable energy](#).

Neither the Morača hydropower plants nor the Komarnica plant have been built, although the Komarnica has recently [taken some steps forward](#). Both threaten valuable natural areas. [Research](#) on the Morača dam project predicts destruction of very rare and endemic fish and bird species as well as downstream impacts on the Skadar Lake National Park, which is protected under the Ramsar Convention. The Komarnica Valley is also nominated as an Emerald and Natura 2000 site, but remains poorly-researched.

As in other Balkan countries, the construction of small hydropower plants has caused widespread public outcry in recent years, especially as in 2018 they generated [just 2.8 per cent](#) of Montenegro's electricity.

However, Montenegro has progressed in the wind sector. In 2017 the 72 MW EBRD-financed [Krnovo wind farm](#) came online – the first in the country. It was followed in 2019 by the 46 MW [Možura](#).

The country has so far made little use of its solar potential, but in 2018 a tender for a [200 MW solar farm](#) was completed, with no operating support expected.

Montenegro will need to build additional electricity capacity in the coming years, in order to be able to phase out the existing Pljevlja coal plant, but this should be possible with the use of solar photovoltaics and wind. Different sources cite [varying levels of potential](#), but all show that a significant expansion of capacity is possible.

However, the country needs to do more to promote small-scale renewable energy use by households and small businesses to enable the public to directly benefit from it. Out of all the countries in the region, Montenegro has been among the most [heavily criticised](#) for allowing its renewables incentives scheme to benefit well-connected businessmen, [including the President's son](#), who owns part of a small hydropower company and a solar company. Much more effort is therefore needed to tackle nepotism in the sector and to assist ordinary households in using renewable energy.

Montenegro has great potential for reducing demand through more efficient energy use. Its [energy intensity](#) has been falling slightly in recent years but is still more than twice that of the EU-28. Inefficient practices such as using traditional electrical heaters and air conditioning for heating are widespread, while more innovative technologies such as heat pumps have high potential but are hardly known in the country.

Further potential for a decrease in demand comes from the KAP aluminium plant, which has at times accounted for up to 40 per cent of the country's electricity consumption. However, the plant is now in permanent crisis and running at lower capacity. Since 2011, its demand for electricity has decreased, and with it the whole country's demand. It is unlikely that KAP can survive in the long term, so demand will most likely further decrease.

Overall, Montenegro has made a relatively quick switch from a country bent on building a new coal plant to one that is clearly oriented towards renewables. It has also taken steps to adjust consumer electricity prices to gradually move towards market prices, as well as recently [introducing a carbon pricing system](#).



Krnovo, Montenegro. Photo: Miomir Magdevski

Threats do remain, though. Apart from its continued interest in building new hydropower plants in naturally valuable areas, and the integrity issues connected with its energy sector, the Montenegrin government's interest in gas is also a concern.

The country has no infrastructure for gas distribution and does not currently extract oil, though the government is interested in oil and gas production in the Adriatic Sea. Montenegro is interested in the [Ionian-Adriatic Pipeline](#), whose feasibility study states that it would only be profitable if Montenegro and Croatia build new gas power plants. This would be a worrying step in the opposite direction of decarbonisation for Montenegro and would almost certainly crowd out investments in solar, wind and energy efficiency.

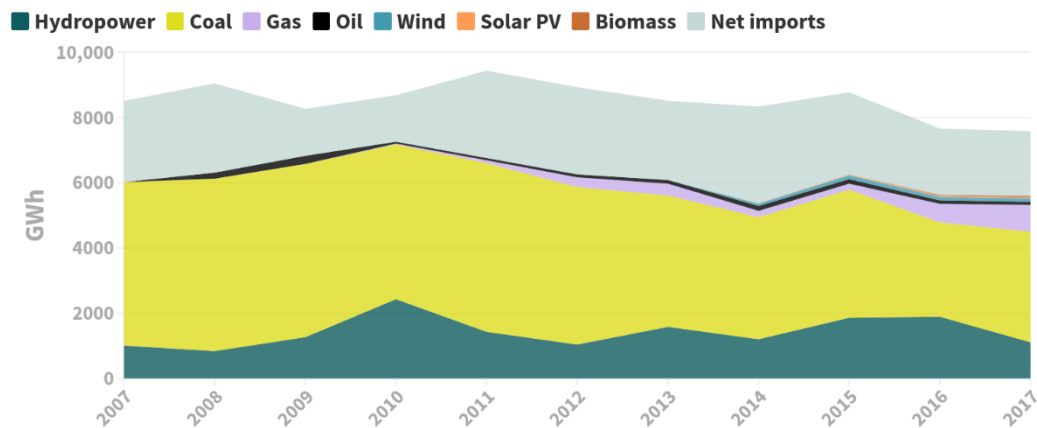
North Macedonia

North Macedonia, whose population is [somewhere between](#) 1.5 million and 2.1 million, relies predominantly on coal and hydropower, and to a lesser extent gas, for electricity generation.

The country was initially a frontrunner in wind and solar power in the Western Balkans. In 2015, it was the first country to put a wind farm into operation – the 36.8 MW Bogdanci plant. However, its progress stagnated for several years, with its project pipeline only picking up again in 2018.

Despite the fact that the country is dependent on electricity imports – [42 per cent](#) of electricity was imported in 2018 – in early 2020, North Macedonia became the first Western Balkan country to [put concrete coal phase-out date options on the table](#).

Chart 3: North Macedonia electricity mix



The country had already signalled its intention to step up its climate action by [supporting the High Ambition Coalition](#) at the UNFCCC COP meeting in Katowice in December 2018, and its new [Energy Development Strategy](#) builds on this.

The Strategy lays out three different scenarios, with the moderate transition and green scenarios both foreseeing coal phase-out in 2025. The final decision on which scenario will be implemented will be made later in 2020, but considering that the green scenario is found to be the least cost option in the Strategy, it is likely that the country will move away from coal sooner rather than later.

Even if some aspects of the country's new direction still need to be decided on, one thing is at least clear: plans for new coal plants and the reconstruction of the existing plant at Oslomej are off the table, after hanging in the air for years. North Macedonia has made a decisive turn towards renewable energy.

Under its 2012 Energy Community commitments to increase its share of renewable energy, North Macedonia originally had a target of 28 per cent of gross final energy consumption in 2020. An [amendment](#) lowering this to 23 per cent was approved by the Energy Community's Ministerial Council in November 2018, due to changes in the baseline data on biomass. However, this does not appear to affect North Macedonia's overall renewable energy ambitions.

Two more wind farms should be built in the next five years, since they already have most of the permitting process done. This should bring total installed wind capacity to around 86 MW.

Solar PV has developed only very slowly so far, but North Macedonia has plans to put energy transition into action very literally. With support from the EBRD, it plans to [build a 120 MW photovoltaic plant](#) on the now depleted lignite mine at Oslomej. In 2019 it also ran auctions for solar plants on [private](#) and [state](#) land that would be supported by feed-in premiums.

As with other countries in the region, the main pitfalls in North Macedonia's otherwise promising orientation towards renewables are hydropower, gas, and the need to step up energy efficiency measures.

Despite [discontinuing plans](#) for two major plants in the Mavrovo National Park, the country still has [big plans for hydropower](#). Around 80 small hydropower plants have gone online since 2010, bringing the total to 96 (total 106.32

MW). The new Energy Development Strategy still recommends a total of 998 MW in additional new hydropower capacity (all sizes) to be added by 2040 in all scenarios, which seems unrealistic.

Natural gas is currently imported from Russia through a single entry point at the Bulgarian border. Gas is mainly consumed by industrial customers and the three combined heat and power plants, while households have a negligible share of total consumption due to the very limited spread of distribution networks. However, the government is continuing with the gasification programme started several years ago, and is interested in investing in a new gas interconnection to Greece to diversify its supply routes. This risks diverting valuable resources from developing solar and wind, and improving energy efficiency.

North Macedonia has plenty of room for energy efficiency improvements. Electricity [losses](#) in the grid range from 14 to 16 per cent of the gross national electricity consumption, and practices such as heating on electricity have contributed to increasing energy costs for many households. According to the [State Statistical Office](#), a few years ago only 18 per cent of households had some insulation. The government has initiated several programmes aimed at increasing energy efficiency, but progress has been slow due to lack of structured funding.

On 30 January 2020, the World Bank approved the [Public Sector Energy Efficiency Project](#) which aims to reduce energy consumption in the public sector and to facilitate the implementation of a National Energy Efficiency Fund which should speed up investments in energy efficiency in the future.

Kosovo at a crossroads

The story of Kosovo's coal dependence is well known. It has very large lignite resources, and its 1.8 million inhabitants are almost entirely dependent on two ageing lignite plants: Kosova A and Kosova B, with a total current capacity of around 915 MW. They are [infamous for their contribution to air pollution](#) and Kosova B is the [highest emitter of dust](#) out of all the coal plants in the Western Balkans.

But what is less well-known is that Kosovo finally has a real chance to make a break with this legacy and change its energy future.

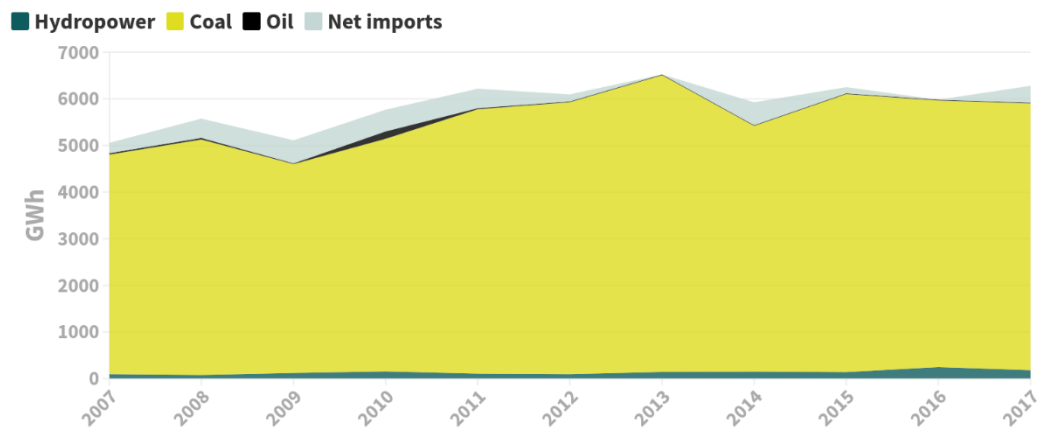
Until March this year, a new 500 MW lignite power plant (around 450 MW net) – [Kosova e Re](#) – had been under development for more than a decade. In December 2017 a series of [commercial contracts](#) were signed with ContourGlobal for the construction and operation of the plant. In autumn 2018, both the World Bank and EBRD [confirmed](#) that they would not finance the plant, which was plagued by [legal violations](#). It took until March 2020 for ContourGlobal to [finally quit](#) the project.

The extent to which this project dominated Kosovo's power sector policies during its lengthy gestation period cannot be overstated. Successive energy strategies were built almost entirely around it, and the closure of the decrepit Kosova A has been conditioned on it.

Like other Energy Community members, Kosovo has huge energy efficiency issues. It has massive distribution losses – nearly [28 per cent in 2018](#) through technical losses and non-payment (around half each). Combined with artificially high demand through poorly insulated buildings, there is enormous potential for the country to save energy. Progress has been made on [reducing distribution losses](#), but more on commercial losses and less on technical losses.

Instead of ramping up action to further reduce losses, successive governments left this to the privatised operator, KEDS, and concentrated on developing new generation capacity to feed this continued wastage. For years they also assumed that electricity demand would [continue to grow significantly](#) in Kosovo, whereas in reality it has stabilised.

Chart 4: Kosovo electricity mix



Efforts to move the Kosova e Re project forward also side-lined the development of renewable energy to a very large extent, despite Kosovo's commitments to reach a 25 per cent share of renewable energy in gross final consumption by 2020.

This was not helped by Kosovo's over-ambitious small hydropower plans, which also served as a distraction from developing solar and wind. Kosovo does not have plentiful water resources, but in 2013 it still [planned](#) an additional 240 MW of small hydropower plants by 2020, [later revised](#) down to a still-ambitious 120 MW.

By 2018, Kosovo [only had 11](#) hydropower plants under 10 MW, with an installed capacity of 83 MW, [producing just 2.7 per cent](#) of its electricity. However, the controversy surrounding them has been [just as high](#) as in the rest of the region.

Other renewables have been making inroads more slowly. As of the end of 2018, Kosovo only had [7 MW of solar PV](#) installed, even though the country has a manufacturing plant. In the same year, Kosovo did manage to commission its first major wind farm, the 32 MW [Kitka](#) plant, and in December 2019, the EBRD approved a loan for the 105 MW [Bajgora](#) plant.

Different sources estimate different potential for solar and wind in Kosovo and for many years a myth persisted that Kosovo had very little potential. However, a [2018 study by the World Bank](#), which had for years supported the construction of Kosova e Re, found that if taking carbon and pollution costs into account, a combination of renewables and battery storage would be the most cost-effective solution for Kosovo's electricity sector.

Intermittent renewables in Kosovo could also be combined with Albania's existing hydropower to make a much more flexible electricity system. In December 2019, Kosovo and Albania [agreed](#) to set up a common electricity market. A new 400 kV interconnection with Albania was also built several years ago, but political issues between Kosovo and Serbia prevented it from becoming operational.

However, in April 2020, the Regional Group Continental Europe, part of the [European Network of Transmission System Operators for Electricity \(ENTSO-E\)](#), voted to allow Kosovo's transmission operator, KOSTT, to operate independently and leave the Serbia, Montenegro and Northern Macedonia Regulatory Bloc to join the Kosovo-Albania Energy Regulatory Block.

This agreement [paves the way](#) for KOSTT to participate in the Albanian Power Exchange, and enables the Kosovo-Albania transmission line to become operational at last. As well as being politically important for Kosovo, the agreement strengthens its electricity interconnections and thus enables a more flexible electricity system and the easier integration of renewables.

What Kosovo needs to avoid is being seduced by gas, due to its potential availability via a branch pipeline from the TAP in Albania and from a pipeline in North Macedonia. It is true that Kosovo has little dispatchable capacity at the moment due to its dependence on lignite power. However, interconnections should be used, rather than investing millions of euros that will lock the country into gas pipelines and power plants that will have to be phased out in the coming decades.

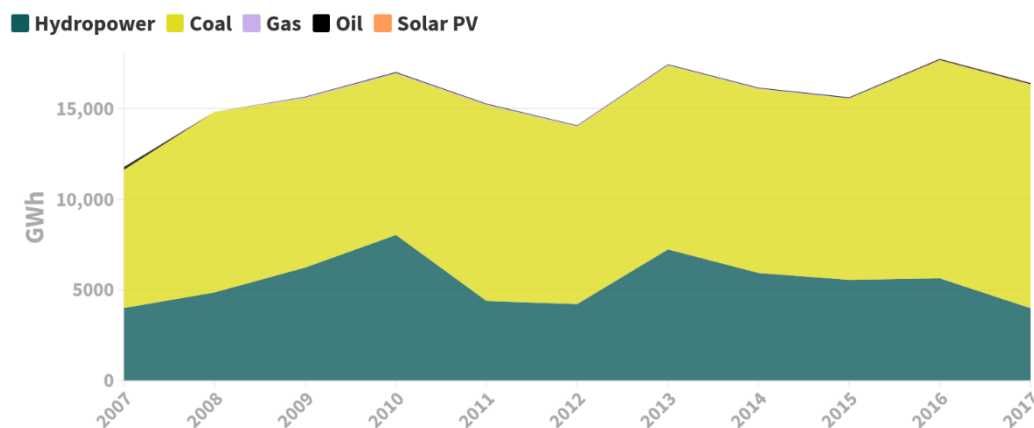
As of June 2020, Kosovo is undergoing significant upheaval due to the fall of the government earlier this year and the potential formation of a new government without elections. This is likely to dominate the agenda for some time, but whatever the outcome, any new government in Kosovo needs to recognise the opportunity that Kosovo now has. The collapse of Kosova e Re, together with ENTSO-E's recent decision, opens the door for Kosovo to finally move away from its dependence on coal, if there is political will to do so.

Stuck in the slow lane

Bosnia and Herzegovina

Bosnia and Herzegovina, with around 3.8 million people, is currently a net exporter of electricity. More than half of its [installed electricity generation capacity](#) – around 2.2 GW – is hydropower, while most of the remainder – around 2 GW – is made up of five lignite power plants at Tuzla, Kakanj, Gacko, Ugljevik and, since September 2016, [Stanari](#). Generation levels hover around two-thirds coal to one-third hydropower, depending on the hydrological conditions.

Chart 5: Bosnia and Herzegovina electricity mix



Like its regional peers, Bosnia and Herzegovina has a renewable energy target for 2020. Its relatively high target of 40 per cent by 2020 compared to 34 per cent of gross final energy consumption in 2009 is mostly due to hydropower and wood use in households. In 2017, renewable energy use [reached only 22.7 per cent](#), partly due to poor hydrology but also due to lack of investments.

In March 2018, Bosnia and Herzegovina's first wind farm – Mesihovina (50.6 MW) in the Federation entity, financed by Germany's KfW – started operating. The [36 MW Jelovača plant](#) also started test operations in early 2019.

[Several more wind farms are planned](#) in Bosnia and Herzegovina, with the Hrgud and Podveležje plants (48 MW each, both financed by KfW) among the most advanced, but the timeline for their commissioning is unclear.

Wind development in the Republika Srpska entity will not be helped by the fact that the government [hurriedly abolished incentives for wind plants](#) in early 2019. The Bosnia and Herzegovina state-level energy regulator has [put a cap](#) on connection of wind power plants to the grid of 460 MW and 400 MW for solar PV. These limits are still far from being reached, despite considerable investor interest.

Bosnia and Herzegovina has been slow to use its solar PV potential, presumably as a result of concerns about the high costs of incentives and impacts on the grid. By 2019, only [22 MW](#) had been installed, compared to 162 MW of small hydropower. Recently a concession has also been granted for a [60 MW solar plant](#) near Bileća.

Numerous concessions for small hydropower have been issued to private companies in the last two decades, but construction started very slowly. In recent years it has picked up, causing increasing resistance in places like [Fojnica](#) and [Kruščica](#) and on the [Bjelava](#) and [Neretvica](#).

The country could do a lot more to use energy efficiently. Electricity prices are kept artificially low and there is therefore limited incentive to make savings. Bosnia and Herzegovina is [more than four times as energy-intensive](#) as the average for EU countries and has the highest energy intensity in the Western Balkans. The residential sector is [among the highest energy consumers](#) and has high potential for improvements.



Preparation works for Tuzla 7. Photo: Denis Žiško

From the above, the country may not exhibit obvious differences from its regional peers. But the real difference lies in Bosnia and Herzegovina's plans, not so much on what it has done so far. The country's ambitious new coal power plant projects are out of all proportion to its population and demand:

- [Tuzla unit 7](#) (450 MW) – Engineering, Procurement and Construction contract signed with China's Gezhouba; financing deal signed with China Eximbank, preliminary works underway.
- [Banovići](#) – greenfield plant (350 MW) – Engineering, Procurement and Construction contract signed with China's Dongfang; financing expected from the Industrial and Commercial Bank of China but not signed yet.
- [Ugljevik III](#) (600 MW) – no contractor or financing sources yet – there is a possibility that Elektroprivreda Republike Srpske will take over the concession from the private company Comsar Energy that has so far failed to build the plant.
- [Gacko II](#) (350 MW) – no contractor or financing sources yet, but Chinese companies are interested.
- Kakanj 8 (300 MW) – no contractor or financing sources yet.
- [Kamengrad](#) – greenfield plant (430 MW) – no contractor or financing sources yet, but Chinese companies are interested.
- Other plants such as Kongora and Bugojno are also occasionally mentioned, but do not appear to be being actively developed.

The [Tuzla 7](#) plant has become [infamous](#) for being financed by a China Eximbank loan backed by an [illegal state guarantee](#), and for [underestimating](#) carbon pricing and coal prices in its feasibility study. But the plans for the other plants speed up and slow down, depending on which way the political wind is blowing. While not all of them will be built, the plans should not be underestimated, due to the high interest by Chinese companies and banks in participating in the projects.

In 2018 Bosnia and Herzegovina adopted a new [energy strategy](#) on the state level, compiled from two entity-level documents. The main goal of this UK-funded process was to unlock international funding, rather than to seriously rethink Bosnia and Herzegovina's energy sector. As such, the process unfortunately brought little enlightenment as to how the country could step up its energy transition.

It included four scenarios, none of which would bring the country to decarbonisation by 2050. Even the so-called 'moderate renewable' scenario involves building two new coal power plants, as shown in the table below. The Strategy did not select which scenario would be the most favourable, so the decision on how to proceed has been left hanging, and already now it is clear that none of them correspond to reality in terms of the real progress on the projects.

Table 1: Planned fossil fuel power plants in the Bosnia and Herzegovina energy strategy scenarios

Entity	Power plant	Power (MW)	Entity scenario	Indicative plan (IP) scenario	Cost optimised IP scenario	Moderate renewable scenario with EE
FBiH	Tuzla 7	450	2021	2020	2035	-
	Kakanj 8	350	2024	2024	2024	2024
	Banovići	350	2025	2020	2030	2028
	Kongora	2x275	2026	-	-	-
	Zenica (gas)	385	-	2020	-	-
RS	Ugljevik 3	600	2022	2019	2025 (300 MW)	-
	Gacko 2	350	2024	-	-	-

Source: Framework Energy Strategy of Bosnia and Herzegovina until 2035, p.69 (English version)

The drivers for these plans – at a time when most of Europe is [planning coal phase-outs](#) – are manifold. Resistance to change and scepticism about variable renewables play a role, as does [fear of job losses](#) in the lignite mines. But plans for new coal only persist because the public energy utilities are willing to tolerate financial losses and because the authorities are willing to subsidise coal.

The situation is similar in the hydropower sector, where Bosnia and Herzegovina has equally ambitious plans. It has been unsuccessful in building large plants in recent decades but is currently pushing controversial plants on the [upper Drina](#) and [upper Neretva](#), as well as the [Dabar](#) plant as part of the Gornji Horizonti project dating from the 1950s. All involve Chinese companies. As well as the environmental damage that would be caused to the country's stunning rivers by these plants, further expanding Bosnia and Herzegovina's already sizable hydropower fleet is misguided in view of the increasingly variable rainfall in recent years.

Bosnia and Herzegovina is currently in the process of developing a National Energy and Climate Plan, which should in principle pin down a specific strategy to be followed. However, decision-makers have shown very little willingness to prioritise a small number of projects. They tend to keep an unrealistically large number of outdated projects on the table, often including ones which have been under development for decades, never admitting that any of them have been cancelled.

Gas power plants have not been much discussed in Bosnia and Herzegovina yet, with the exception of a plant planned in Zenica, which has stagnated. The country does not have its own natural gas extraction so it is dependent on the Beregovo – Horgos – Zvornik import route from Russia via Ukraine, Hungary and Serbia. Gas use in the country is limited by the distribution network which is only present in Sarajevo, Zenica, Zvornik and Visoko, but there are [attempts to expand the network](#) by building new supply routes.

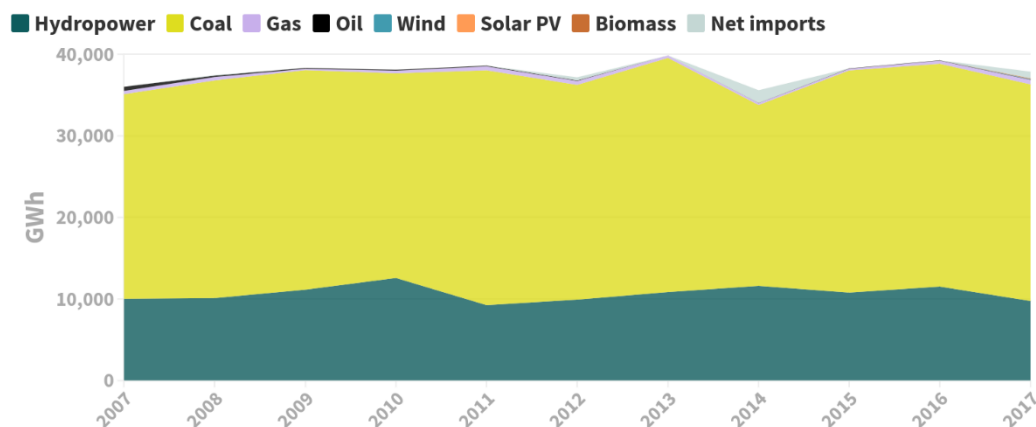
Given Bosnia’s obvious potential for increasing energy savings, and developing solar and wind, expanding gas infrastructure would serve as an expensive distraction and should not be considered as part of any energy transition.

The biggest challenge for now, however, is to get decision-makers in the country to commit to a transition at all. They must finally cancel the decades-old coal and hydropower projects that they continue to push at the expense of solar, wind and demand-side energy efficiency and establish a new plan, fit for the 21st Century. With the country’s antiquated coal plants needing to be phased out as soon as possible, new capacity is undoubtedly necessary, but it must be based on realistic demand projections and ambitious energy savings measures.

Serbia

Serbia, with a population of around 7.1 million, satisfies most of its electricity demand from domestic production. Electricity generation relies around 70 per cent on coal, while the remaining 30 per cent is mostly generated by hydropower plants, making Serbia second only to Kosovo in terms of coal dependence.

Chart 6: Serbia electricity mix



The electricity market in Serbia is dominated by the national power utility EPS (Elektroprivreda Srbije), which owns all large generation capacities and supplies most consumers, as well as mining coal in the country’s two main coal basins, [Kolubara](#) and [Kostolac](#).

In 2012, Serbia committed to increase the share of renewable energy to 27 per cent by 2020. By 2017 it had managed only [20.6 per cent](#) renewable energy – mostly wood used for space heating. In 2019 several wind plants came online, a trend expected to continue in 2020, but this will not be enough to meet the target. There is also likely to be a hiatus after this, as the country’s 500 MW quota for feed-in tariffs for wind projects was filled up years ago and no new support system has yet been agreed on after the feed-in tariff system [expired](#) at the end of 2019.

As in other countries in the region, a proliferation of small hydropower plants has caused conflicts as they are often [in or near protected areas](#). Inadequate planning and assessment of cumulative impacts means that they often cause [a large amount of damage compared to the 0.8 per cent of Serbia’s electricity](#) they generate.

As Serbia intends to join the EU, it should also be aiming for 80-95 per cent emissions reductions by 2050, in line with EU policy. However, the Serbian government and EPS plan to remain locked in to a carbon-intensive energy system, most notably through the construction of the 350 MW [Kostolac B3](#) lignite power plant currently being undertaken by the China Machinery and Engineering Corporation (CMEC).

No new coal plant is likely to be profitable, but the Kostolac B3 feasibility study [underestimates](#) carbon pricing in order to conceal this. [The China Eximbank](#), among the few sources still willing to finance coal, is unconcerned as long as it can obtain state loan guarantees.



Kostolac B3 under construction. Photo: Dan Wilton / ClientEarth

Although Kostolac B3 is the only coal plant [planned before 2025](#), the [2016 Serbian Energy Strategy](#) also proposes several more potential fossil fuel generation plants:

- Nikola Tesla B3 – 750 MW – lignite
- Kolubara B – 2 x 375 MW – lignite
- Novi Kovin – 2 x 350 MW – lignite
- Štavalj – 300 MW – lignite
- CHP Novi Sad – 340 MW – gas
- Other gas combined heat and power plants – 860 MWe – gas

Kostolac B3 for some time looked like the last gasp of new coal in Serbia, based on deals signed with China a decade ago. But in March this year, EPS [signed a preliminary agreement](#) with PowerChina to resurrect the long-dead [Kolubara B](#) coal power project as well.

Construction at the plant started in the 1980s, and was halted in 1992 by sanctions against Serbia. In 2013, a resuscitation attempt failed when the [EBRD decided not to back the project](#). But instead of letting sleeping dogs lie, the Serbian government has revived it, as part of a wider political project of ever-closer friendship with China.

Not only does new coal exacerbate climate change, but ironically, Serbia's open-cast coal mines have also suffered from its consequences. In May 2014 the [Kolubara mines were turned into polluted lakes](#). Each of the four mines was

flooded, two of them completely. In the biggest mine, Tamnava West, ten huge excavators used for mining were under water.

The Drmno mine also [suffered serious flooding in 2014](#). During these May floods, a heroic effort was mounted to save the mine, but between July and September of the same year more than 2 million cubic metres of water spilled into the mine, bringing with it around 800,000 cubic metres of sludge and mud, and engulfed mining machinery in mud.

Because its traditional forms of generation have not proved resilient to climate change, Serbia would do well to diversify its energy mix and work more on energy efficiency. Serbia has promising potential for renewable energy, but much more effort would have to be put into energy savings for it to cover the country's entire demand.

Serbia's [energy intensity](#) is nearly four times as much as the EU average, but incentives to save energy are limited due to artificially low electricity prices. This is going to have to change in the coming years as Serbia integrates into the European electricity market.

Serbia has produced oil and gas in small quantities since the mid-1950s, but is heavily reliant on imports, mostly from Russia. Serbia has been expanding its gas network for several years and due to its good relations with Russia, further use of imported gas is not politically problematic in the country as it is in some others in the region. Thus, although Serbia has not at all committed to move away from coal in the foreseeable future, a new lock-in of gas infrastructure has already started.

The most important step for Serbia now is to stop all plans for new coal projects and clearly decide on a coal-phase out goal. The time when coal was a resource has passed – it is now a liability, and Serbia's decision-makers need to realise this. Without this, EPS will continue to make losses, and energy savings investments and renewable energy will be constantly pushed aside by the demands of the coal sector. This is no longer a matter of targets or obligations set by the EU, but of cold economic logic.

Conclusions and recommendations

The Western Balkans have significant solar, wind and energy efficiency potential, which remains largely untapped. Yet for as long as energy utilities in the Western Balkans can access affordable loans for new coal projects and do not pay for carbon emissions, plans for coal power plants will continue to divert resources from more sustainable alternatives.

But as the case of Montenegro has shown, take one of these factors away, and the situation changes quickly. In just three years, Montenegro has turned from pushing a new coal plant to making a U-turn towards a renewable power sector. A similar, but less vivid process has taken place in North Macedonia, where declining coal reserves have also played a role, and **Kosovo too now has a major opportunity to turn its energy policies around. It needs to seize this.**

What is most important for Bosnia and Herzegovina and Serbia is to **decide and declutter**. If an energy-efficient economy based on sustainable forms of renewable energy is the goal, then **decades-old projects have to be decisively cancelled**. Allowing these to devour resources and divert attention from alternatives that can be built more quickly, cause less environmental damage, and in many cases be supplied more cheaply is a luxury the countries cannot afford.

No-one benefits from [false promises](#) that jobs in the coal sector can be maintained indefinitely - they cannot. **This needs to be publicly recognised and planned for in a participatory manner**, involving those directly affected and their communities.

The region's transition has a long way to go, and is paved with potential pitfalls. The countries are learning the hard way that **renewable energy is not always sustainable energy**, as their rivers are carved up by [numerous small hydropower plants](#). Albania, Bosnia and Herzegovina, Montenegro and North Macedonia are also persisting with

larger hydropower plants, often in sensitive locations. Instead of continuing with these destructive decades-old projects, **they need to concentrate fully on diversifying their renewable energy with solar and wind.**

Hydropower projects in sensitive locations not only harm biodiversity and further the countries' vulnerability to climate change, but they also generate strong public opposition to the energy transition and [particularly to renewable energy support schemes](#).

Gas, which has not been widely used across the region so far, threatens to be an [expensive and climate-damaging distraction](#) from the energy transition.

Unlike in most of Europe, in the Western Balkans, gas is not merely a question of continuing to use the fuel until climate science and/or economics dictates otherwise. It is a question of pouring millions of euros into brand new infrastructure that is likely to become stranded in a decade or two as carbon pricing ramps up and renewable energy becomes even cheaper.

Gas may seem attractive due to its lower contribution to local air pollution than coal, but it will lock the countries into a source of energy which [only cuts greenhouse gas emissions by around 30 per cent](#) compared to coal. This is because of fugitive methane emissions during extraction, processing and transit. Such a small reduction is far from the total decarbonisation of the energy sector needed to achieve the goals of the Paris Agreement.

All the countries need to immediately re-think their gasification plans, while the EU needs to halt any attempts to promote gas as a transition fuel in the region.

In any case, governments need to **greatly ramp up small-scale renewable energy and heat pumps** in households and small businesses and to **aggressively target energy savings**, both residential and in the distribution networks.

Raising the artificially low consumer electricity prices in the region is inevitable, but without massive energy efficiency efforts, politicians are justified in fearing its consequences. Political preferences for large prestige projects is not unique to the Western Balkans, but is nevertheless a trend that has to stop. **Governments need to tackle the nitty-gritty house-to-house changes that people can see.** If public support for the energy transition is to materialise, they need to experience the benefits directly.

Energy transition in the Western Balkans can be done, and with the prices of wind and solar lower than ever, it has a greater than ever chance of accelerating. Some countries are already leading the way, and it is up to all of us to make sure they succeed.